WALTER
Achieve Greatness™

# SOLUTIONS DESIGNED TO HELP YOU WORK BETTER

## METALWORKING

## CUTTING TOOLS

## SAFETY SOLUTIONS

ALLEGRO ALLSTEEL™ ARCONE® DRILLCO TRIUMPH TWIST DRILL

# HELPING METALWORKERS ACHIEVE GREATNESS

WALTER was created thanks to a man's will to help. Walter Somers, a mechanical engineer from Germany arrived in Canada in 1939 when World War II started. After noticing Canadian workers' limited tooling and training, he saw the opportunity to contribute to greater industrial successes.

In 1952, WALTER Surface Technologies was founded driven by a will to outperform and improve productivity. The WALTER team visited end users one by one to help them work better. This unique customer-centric approach provided significant and measurable improvements to metalworkers output and set WALTER apart.

At WALTER, we believe that everyone has the potential to build, fabricate, construct, finish and erect great projects. With safe tools, productive consumables and the right recommendations, workers are enabled to do better work. We provide the means to achieve greatness through three pillars: productivity, safety and customer experience.

We help our customers achieve greatness by asking ourselves every day: how can we help them work better? It's the only question that matters and the reason why we exist.

At WALTER, we help our customers Achieve Greatness™.

# OUR SOLUTIONS
AT A GLANCE

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## PRODUCT LISTING p. 649

# **NEW** PRODUCTS

## PAGE 20

### SURFOX™ WELD CLEANING SYSTEMS

**Fastest, safest, and easiest-to-use weld cleaning systems on the market**

All units have increased output to clean welds faster than ever before and some even include dual-user capabilities so multiple users can work with the same machine. All units also include improved functionality with digital display and multiple language settings.

## PAGE 74

### FLEXCUT XX™ GRINDING DISC

**Fast, efficient grinding for steel, stainless steel, and mill scale removal**

FLEXCUT XX™ uses SMART RESIN™ Technology to deliver ultra-fast grinding by exposing fresh grains at the optimal moment, ensuring a perfect balance of sharpness and extended wheel life, all while preventing clogging. It's designed for steel, stainless, and tough mill scale removal, providing consistent results and a clean finish.

## PAGE 93

### XTRACUT XX™

**Self-sharpening ceramic disc with exceptional removal rates**

XTRACUT™ XX is engineered to deliver unmatched stock removal and an extended service life, making it the ideal choice for working with steel, stainless steel, and hard alloys. Its optimized shape and self-sharpening grains, this disc ensures consistent, high-efficiency material removal throughout its use. It boasts a very strong service life and toughness due to its V-STRONG™ backing.

## PAGE 118

### BLENDEX™ FLAP DISC

**The longest life & highest overall material removal**

WALTER's BLENDEX™ flap discs offer aggressive material removal with a smooth finish, combining the benefits of a flap disc and a surface conditioning disc for consistent results and less downtime. Featuring WALTER's Eco-Trim™ backing for up to three times longer life and MAX-LIFE™ glue for maximum grain freshness.

## PAGE 137

### BRASS BRUSHES

**For working in hazardous or extremely sensitive environments**

WALTER's brass brushes are made with 100% brass wire and are the perfect choice for spark-free brushing in hazardous environments or in operations where cleaning is needed without removing the base material. The perfect combination of productivity and efficiency without compromising on safety.

## PAGE 142

### SCRATCH BRUSHES

**Versatile scratch brush for wide range of applications**

A curved metal-core design combined with high-quality crimped wire allows for comfortable and productive brushing in a wide variety of applications, using only one brush. To reduce the number of brushes needed in your operation, turn to WALTER's new line of scratch brushes.

## PAGE 193

### SC 400™ LOW VOC

**High-Strength Citrus-Based Degreaser**

When you need a powerful degreaser for the most challenging jobs, SC 400™ LOW VOC is the solution you can rely on. Formulated with citrus peel extracts, this heavy-duty cleaner effectively removes tar, bitumen, grease, lubricants, and oils. The slow evaporation rate ensures extended contact time, allowing thorough removal of contaminants with minimal cleaning liquid needed.

## PAGE 181

### AF-PL LOW VOC™

The AIR FORCE AF-PL LOW VOC™ is a powerful industrial cleaner and degreaser designed to remove grease, oil, and dirt without leaving residue. It's safe on most plastics, rubber compounds, and metals, and it also displaces moisture, making it ideal for applications on electronic devices, gaskets, and assembly lines. Featuring a low-VOC formulation, it offers an effective, environmentally conscious solution for heavy duty cleaning.

## PAGE 559

### SUPER SINGLES® VARIABLE ADF LENS

**Get superior optical clarity and variable shades**

The new and improved SUPER SINGLES® welding lens boasts all the same features as the SINGLES® lineup, including HD technology, but with variable shade and delay settings as well as grind mode so you get all the bells and whistles from the most premium welding lenses in one affordable retrofit lens. Compatible with most 2x4 welding helmets.

## PAGE 566

### SPY™ HELMET

**Experience ultimate versatility and a superior view**

The ARCONE® SPY™ helmet is a versatile, go-to option for students and industrial welders, offering top performance and advanced features. It combines a large viewing area with a wide shade range for exceptional visibility. Designed for all-day comfort, the SPY™ helmet ensures welders stay productive in any environment.

## PAGE 586

### HIGH-VIZ COOLING VEST

**Stay Cool & Visible**

This vest is ideal for wearing where Hi-Viz safety apparel is needed in high-heat conditions. It features four pockets for inserts, a zippered front, hook and loop adjustment straps over the shoulders, and side straps to help achieve a perfect fit.

## PAGE 629

### 8" EX-PROOF MANHOLE VENTILATION PASSTHRU (MVP)

The first explosion proof manhole system that combines the low-profile manhole air vent, 90° elbow, and built-in mounting all in one unit. This unit comes with a collapsible duct for easy entry, stored in a small storage bag that can be dropped into the manhole with a quick release of the drawstring.

# STAR PRODUCTS

## METALWORKING SOLUTIONS

### PAGE 47

**ZIP WHEEL™**
**Setting the industry standard for cut-off wheels**

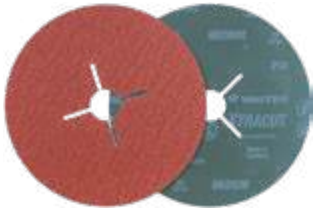
Faster, cooler, freer cutting and heavily reinforced for added safety, the ZIP WHEEL™ provides premium performance while resisting twisting and bending. This allows for a true, straight cut, every time. The end result is a wheel that improves worker safety while delivering unrivaled value.

### PAGE 66

**XCAVATOR XX™**
**Ultra-fast material removal and comfort**

With its unique ceramic-grain blend and SMART RESIN™ technology, which allows the wheel to expose the fresh grains at the optimal moment to maximize longevity and sharpness, the ferrous-free XCAVATOR XX™ is the most productive wheel for heavy-duty grinding on steel and stainless steel.

### PAGE 93



**XTRACUT™**
**Highest performance sanding disc in steel**

Optimized self-sharpening ceramic grains enable consistent, high performance making it most productive sanding disc for steel production. Plus, the exclusive V-STRONG™ backing, which has 14% more layers of vulcanized fibers, delivers increased durability and resistance to wear and tear, allowing the disc to withstand high-speed abrasive action in the most demanding applications.

### PAGE 84

**ENDURO-FLEX™ FLAP DISC FAMILY**
**The longest life and highest overall material removal in the industry**

Assembled with MAX LIFE™ cold-curing glue, which maintains the moisture levels of the abrasive, the ENDURO-FLEX™ flap disc family lasts longer and delivers more consistent performance than competitive flap discs. This exclusive glue prevents exposure to excessive heat during manufacturing, avoiding micro-cracking and drying out, ensuring you get the freshest and most productive abrasive possible.

### PAGE 35

**E-WELD 3™**
**Dual-purpose, high-temperature anti-spatter and cleaning solution**

E-WELD 3™ is a high-performance anti-spatter solution that both cleans the workpiece and protects it from high-energy spatter, eliminating an extra step in the welding process while avoiding costly rework. The E-WELD 3™ is often the preferred solution for use on stainless steel.

### PAGE 183

**CB 100™**
**Industrial-strength part cleaner and degreaser**

Powered by our exclusive Nature Boost™ formula, CB 100™ is unsurpassed in its ability to remove the most stubborn industrial contaminants.

## CUTTING TOOL SOLUTIONS

### PAGE 401

**CARBIDE BURRS**
**Fast material removal and longest life**

High-performance carbide burrs are made with the highest grade of tungsten carbide and are manufactured with the highest degree of accuracy for perfect concentricity and balance.

### PAGES 252 AND 253

**NITRO® DRILLS**
**Heavy-duty HSS drills with Black & Gold surface treatment**

Manufactured from a premium-grade of M2 high-speed steel, these drills are designed for use in stainless steel and other hard-metal drilling.

## PAGE 436

### ICECUT MINI™ MAGNETIC DRILL

**Low-profile magnetic drilling unit for confined spaces**

Measuring in at only 7 inches tall, the ICECUT MINI™ is the ultimate compact, low-profile magnetic drilling unit for making holes in tight spaces from H-beams to truck frames, and other applications where space may be limited.

## PAGE 430

### TCT HOLE CUTTERS

**Ultra-hard teeth**

Tungsten Carbide Tipped (TCT) Hole Cutters are a cost-effective alternative to bi-metal hole saws. Designed for drilling large-diameter holes in both ferrous and non-ferrous materials. Excellent performance and portability makes them ideal for a wide range of trade professionals.

## PAGE 634

### MAGNETIC MANHOLE LID LIFTER

**Designed for quick and safe removal and replacement of manhole covers by yourself**

Minimizes stress and strain on the back and body while eliminating the need for pry bars. Collapsible for easy storage and transport.

## PAGE 585

### VORTEX COOLING OR HEATING VEST

**Continuous cooling or heating for maximum comfort**

Delivering constant and adjustable cooling or heating, the VORTEX Vest is especially popular for workers in confined spaces as well as foundries, steel mills, asbestos abatement, and paint-baking operations. This vest offers full range of motion and can be worn under protective clothing.

## PAGE 452

### NITRO® SAFETY FIRST REAMERS

**Protects against the danger of a falling reamer**

Ideal for use with air impact tools, two NE040 magnets are placed in the hex nut to reduce the risk of the reamer falling out of the socket while in use.

# SAFETY SOLUTIONS

## PAGE 559

### SINGLES® RETRO-FIT WELDING LENS

**Upgrade your view with the best optical clarity in the industry**

Retro-fit your welding helmet with superior optical clarity with an ARCONE® SINGLES Lens. Upgrade your welding experience as well as the quality of your work, all while keeping your eyes protected.

## PAGE 552

### VISION® BFFVX PAPR SYSTEM

**Breathe easy with accessible respiratory protection solutions**

Weld and breathe easy with the ARCONE® AIRPLUS® PAPR System. This unit boasts a 17-square-inch viewing area in addition to an 8-setting airflow control and long battery life. This unit comes equipped with a new flexible breathing hose, pre-filter, and spark arrestor.

## PAGE 603

### 8” AXIAL AC PLASTIC BLOWER W/ COMPACT CANISTER & DUCTING

**Compact canister is the lightest and shortest on the market!**

Keeps workers comfortable, while keeping them safe. Lightweight, portable, compact, durable, and quiet. Made from corrosion-, UV- and chemical-resistant “safety orange”-colored polyethylene for high visibility.

WALTER Automation

Automation has become essential in improving productivity and maintaining consistent quality across metalworking operations. WALTER's automation solutions streamline labor-intensive tasks like grinding, deburring, drilling, and more, allowing for faster production cycles while reducing the need for manual intervention.

*Book Your Automation Consultation today*

## Why Choose WALTER?

- **Expert Guidance:** Our team provides comprehensive support for evaluating and optimizing your material removal tasks, whether you're automating existing processes or considering new solutions.
- **Complete Solutions:** WALTER offers a full range of high-performance abrasive and tooling solutions to increase productivity in automated processes. Now with the addition of PUSHCORP, you can combine WALTER solutions with force control devices, spindles and other end of arm solutions to further maximize performance.
- **Customized Testing:** In one of our demo labs, we demonstrate what's possible for your parts, building a proof of concept to help achieve the desired finish, consistency, or validation of what you could actually achieve robotically.

## Reducing Uncertainty Around Automated Processes

At WALTER, we are dedicated to helping you find the right automation solution for your operations. Our new automation demo lab showcases what's possible on your actual parts, using the right abrasives, tooling, and material removal solutions, paired with robotic equipment tailored to your project's needs. By testing directly on your components, we design a tailored process that includes selecting the right abrasives, setting optimal operating parameters, and configuring equipment to maximize performance.

**DISCOVER AUTOMATED SOLUTIONS FOR YOUR OPERATIONS!**

TALK TO OUR TEAM TODAY AND SEE HOW YOU CAN WORK BETTER WITH WALTER AUTOMATION SOLUTIONS

# BRINGING THE METALWORKING INDUSTRY **TOWARD A MORE SUSTAINABLE FUTURE**

Helping you work better by reducing your carbon footprint, energy consumption, and waste all while ensuring VOC-compliance and increasing the health and safety of metalworkers.

WALTER meets the challenge of sustainability with environmentally safe, productive, and long-lasting products that outperform the competition. At WALTER, we implement and regularly monitor internal initiatives to ensure we work more safely, responsibly, and sustainably.

| ICONS | INITIATIVE | WHAT WE DO AT WALTER |
|---|---|---|
| VOC free<br>LESS THAN 10% VOC | **Safer Solutions** | • Deliver products that meet customer needs and goals with the least amount of impact on the environment such as through low-VOC or VOC-free chemicals.<br>• Provide end-users and distributors with the tools to do crossovers when looking for solutions with environmental benefits.<br>• Minimize packaging, make it reusable or find recyclable alternatives to reduce waste. |
| | **Manufacturing Waste** | • Reduce the amount of waste created during the manufacturing process<br>• Minimize the disposal of hazardous materials by recycling resources and allocating them efficiently.<br>- Our USA-made drill bits utilize blanks produced from more than 90% recycled HSS and more than 80% recycled cobalt steel.<br>- At least 15% of boxes from our suppliers are re-used for outbound shipments and 45-50% of our shipping cardboard boxes is recycled fibers. |
| $CO_2$ | **Reducing GHG (Green House Gas Emissions)** | • Focusing on larger impact operations first, such as, consolidating our outbound shipments to deliver products responsibly, reduce costs, and help our customers meet their emission reduction goals. |
| ECO-TRIM Backing | **Reduce Waste** | • Expand our product's lifespan as much as possible.<br>• Offer after-sales repair services for our power tools and a resharpening service for our annual cutters to extend the life of the product so less waste is sent to landfill.<br>• Extend product life via design:<br>- Our SURFOX™ brushes can be trimmed to expose new bristles.<br>- Our ENDURO-FLEX™ flap discs can also be trimmed to expose more abrasive flaps. |

## Our Ethics

We continuously promote ethical values and principles within the company. These principles seek to serve and protect others above the organization's self-interest and demonstrate strong moral character from our leaders and employees. We ensure our employees commit to, represent, and embody our company values by ensuring they align with our many initiatives, goals, and procedures through training.

# PARTNERSHIP IN **PRODUCTIVITY PROGRAMS**

## CHEMICAL AUDITS AND PROCESS OPTIMIZATION

*Increased productivity and safety through professional audits*

WALTER technicians analyze your contaminants and cleaning processes and recommend ways to improve efficiency and productivity. We provide a detailed cost analysis report to help you make informed decisions, consolidate product requirements and optimize inventory. Our trained professionals make suggestions, demonstrate products, and let you see for yourself how well WALTER products work. Chemical audits help consolidate product requirements and optimize inventory.

## SAFETY SEMINARS AND INDUSTRY TRAINING

*Because health and safety are top priority*

As an addition to WALTER's value-added services, we offer FREE Safety Seminars to encourage a safer work environment. Whether it is the Abrasives Safety Seminar or the Chemical Safety Seminar that you are interested in, WALTER works with you to customize the perfect training for your team. We provide hands-on training at our fully-equipped campus so your team can innovate and operate safely. While training, you will work with our professional Product Management Team.

## PRODUCT DEMONSTRATION

Our team is trained to listen and provide innovative solutions that answer your specific needs. With our mobile product demonstration trucks, WALTER's team can easily go to your facility and help make the fabricating and finishing process more efficient, reducing both abrasive spend and overall production costs.

## THE BUCKET PROGRAM

*Evaluation of cost savings potential and improved worker safety*

WALTER will assist in optimizing your workflow and cost savings by analyzing your abrasive and tooling usages and work processes through our Bucket Program. Based on our analysis, we will be able to make recommendations on how you can improve efficiency, reduce abrasive costs, improve productivity and encourage safer working habits, maximizing every dollar spent on consumables.

## PRODUCTIVITY REPORTS

*Working to positively impact your business*

Accompanying every Bucket Program analysis, a detailed productivity report comparing WALTER products versus competitive products in terms of yearly usage, removal, labour time and cost, product life and product cost. The goal of the productivity report is to provide you with all the facts in hand, so that you can optimize your productivity and make adjustments that will positively impact your business.

## TRADESCHOOL PROGRAM

*Helping instructors and providing future welders with the right tools*

Turn a portion of your spending as well as your students' purchases into scholarships with our reward program. Our instructors provide customizable and interactive on-site training seminars to support welding instructors and their classrooms. WALTER also offers educational videos, mobile apps, posters, technical guides and more!

## THE MONEY MAKER GUARANTEE

WALTER Money Maker Guarantee certifies that all WALTER products are designed, manufactured and sold with our total commitment to saving time, lasting longer and making money for you. Your total satisfaction is paramount to us, which is why we will reimburse you for your original purchase price*. That is our guarantee.

** WALTER will reimburse up to $1000 via free products if you are not completely satisfied.*

## YOUTUBE VIDEOS

Access product trainings and spotlights, anywhere, anytime:

YouTube
*Visit the WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

YouTube
*Visit the ALLEGRO INDUSTRIES Channel*
**www.youtube.com/user/AllegroIndustries**

# SPOTLESS

## ANDREW OVERING

FOREMAN & TECHNICAL SUPERVISOR

> "Stainless steel is a very difficult material to work with. Working with the right tools is crucial to making sure that all of our tanks come out spotless."

Andrew has always been a very curious person. From an early age, he's been fascinated by how things are put together. Not surprisingly, his favourite toys were Legos and K'nex.

One day, he met a welder. He immediately found his calling as he watched the metalworker form, cut, and join. Within 3 weeks, he was registered at his local trade school. After completing the program, he accepted a welding job at a newly opened tanker manufacturer, and he's been working there ever since.

Sixteen years later, Andrew has learned and mastered every single process in the tanker industry. He's the go-to person for technical assistance. He enjoys "teaching others various methods as well as sharing tips and tricks that you might not have learned in school. I'm always willing to help people."

He is now the shop's foreman. He loves his job, and it shows. Cutting corners is not an option for him. "Stainless steel is a very difficult material to work with. Working with the right tools is crucial to making sure that all our tanks come out of here spotless." He's also responsible for signing off on every tank. "I consider myself a perfectionist. I will always try to outdo my last tank and I make sure that everybody else that works with me follows the same desire to do better every single time."

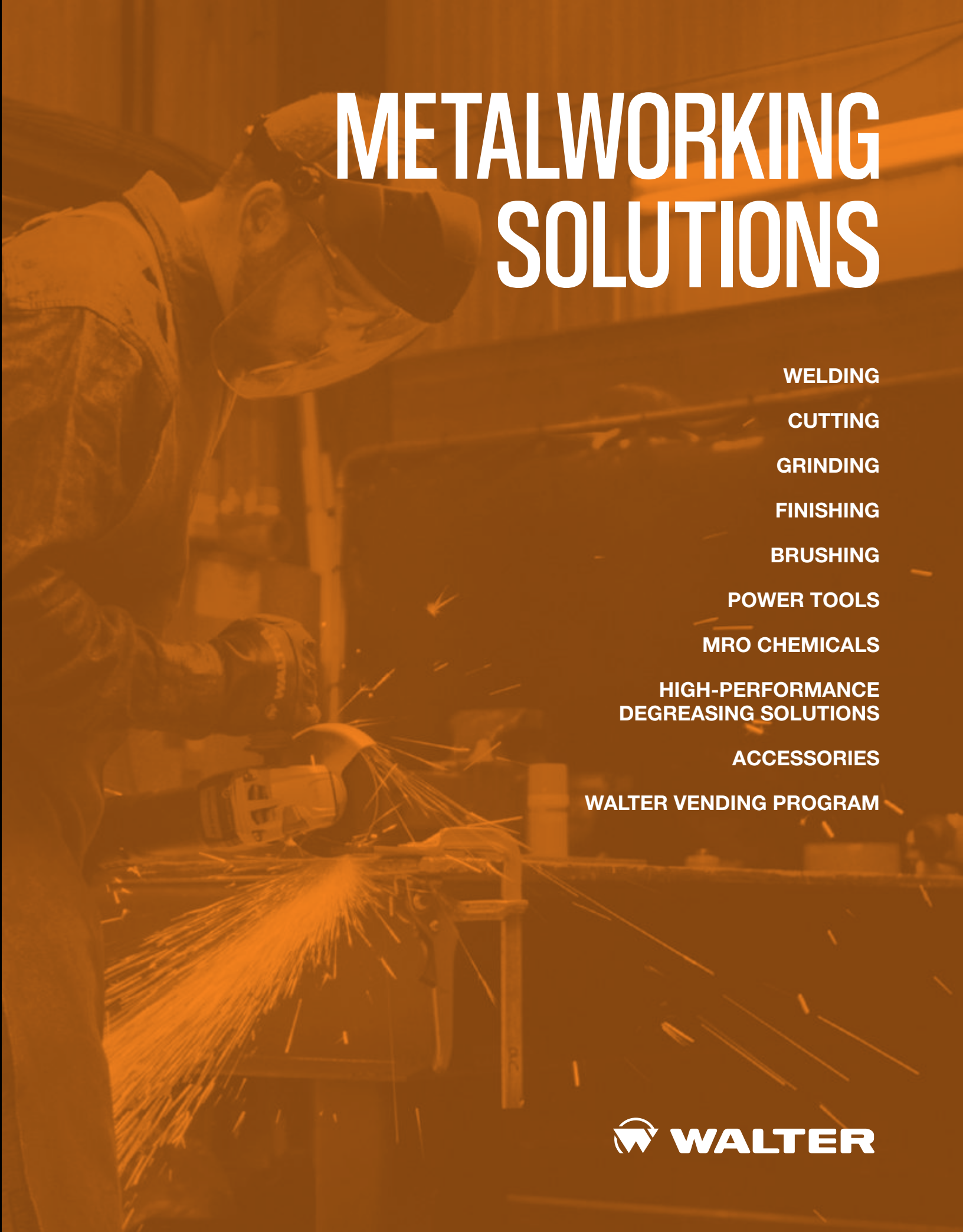
His motto is "I can fix just about anything that is broken." This also applies to his hobbies outside of work. He has renovated his house by himself and hasn't paid a mechanic to repair his cars in over ten years.

Getting an impeccable finish on tanks is not an easy feat. According to Andrew, using the right tools is key: "When it comes to abrasive work, you want to do as little manual labor as possible. A long day of grinding can be hard on your hands and hard on your back. The better your tool is, the faster you're going to remove material and the better your product is going to be." Andrew wants to continue repairing and building tanks. "It's such a rewarding industry that I don't picture myself anywhere else."

Perhaps a new generation of tank builders is in the works. His 3-year-old is always on the lookout for large tanks when in the car with his dad. Andrew always makes sure to say, "daddy built this!" when seeing a tank on the road. That's how proud Andrew Overing is of what he does. To him, they are more than just tankers, they are pieces of art.

WALTER

Achieve Greatness™



# METALWORKING SOLUTIONS

WELDING

CUTTING

GRINDING

FINISHING

BRUSHING

POWER TOOLS

MRO CHEMICALS

HIGH-PERFORMANCE DEGREASING SOLUTIONS

ACCESSORIES

WALTER VENDING PROGRAM

WALTER

# **SAFETY** FIRST

## Tips on the safest and most effective use of abrasives and power tools*

- Disconnect the power tool prior to changing abrasives.
- Inspect the abrasive for any sign of damage. Do not use if damaged.
- Check MAX. RPM on abrasive and check the spindle speed of the tool. Never run an abrasive faster than its MAX. RPM (or M.R.S. = Maximum Rated Speed).
- Mounting: Use only approved mounting hardware for the abrasive at hand. Above all, the clamping hardware must center the wheel securely and provide the required support to the abrasive.
- Abrasives must be used with safety guards in place as indicated on the label. Adjust guards to protect the operator.
- Always wear eye protection. Wear face, body, ear and dust inhalation protection as needed.
- Practice safe working methods: Secure the workpiece, hold the tool firmly, avoid cluttered and badly lit work areas.
- Ensure adequate protection of other workers in the vicinity.
- Do not use abrasives and tools over their rated capacity, follow manufacturer's instructions.
- Service power tools regularly and according to manufacturer's instructions to keep them in good working condition and maintain their performance. Do not use if damaged.

*WALTER abrasives are designed for use as directed in all applicable safety codes, such as CSA, WHMIS, ANSI, OSHA and other regulatory bodies. Always work within these applicable rules and regulations.

## **SAFEST** AND **MOST EFFECTIVE** WORK METHODS

### GRINDING

Type 27 depressed center grinding wheels are designed to be used at a 15° to 20° working angle.

### FLEXCUT

FLEXCUT flexible grinding wheels are best used with a working angle of 10° to 15°.

### FLAP DISCS

Flap discs are designed to be used at a working angle of 4° to 10°. Never use flat.

### SANDING DISCS

Fiber backed sanding discs work best at a working angle of 4° to 10°. They must be used on a full size flexible backing pad.

### CUT-OFF WHEELS

Choose direction of cut to present the narrowest cross section of the material to the wheel.
Cut large solids with a moderate rocking motion. Avoid twisting and bending of the wheel in the cut. Do not use a cut-off wheel for deburring unless otherwise specified.

### FLAP WHEELS

Apply moderate working pressure when working with flap wheels – let the tips of the flaps do the work.

### WIRE BRUSHES

Work with the face of a wire brush. Apply moderate working pressure to let the wire tips do the work and prevent excessive bending of the wire.

### STORAGE TIPS FOR ABRASIVE PRODUCTS

- Keep abrasives in their original packaging, to protect them from water and excessive heat.
- Coated abrasives, such as fiber discs, flap discs and cloth belts perform best when stored in an area with 50% humidity at 22 °C (70 °F).

### SAFETY SEMINAR

WALTER offers free in-plant safety seminars to promote the safe use of abrasives. Reserve your safety seminar today by calling: **1-888-592-5837. For more information, visit walter.com/safety**

IMPORTANT

# METALWORKING SOLUTIONS
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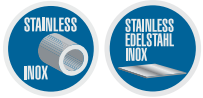
# WALTER ICONS LEGEND

## Materials

Red for steel

Blue for stainless steels and nickel-based alloys



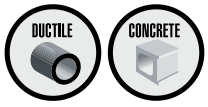

Green for aluminum and non-ferrous metals

Gold for brass

Black for plastic

Purple for cast iron

Gray for concrete and ductile metal




Charcoal for carbide

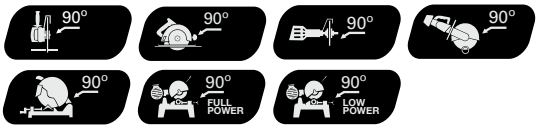
Titanium

Dark gray for mill scale

Light gray for hard metal

## Working angle

The only permitted angle for cutting wheels is 90° to the material (Type 1 (EN 41) – flat)




Type 27 / (EN 42) – (depressed centered)

Type 27 combo (cutting and grinding) wheels ideal angle is 90° or 20°

Type 27 grinding ideal angle varies from 15° to 30°

Type 28 ideal angle is lower than 10°

Type 29 ideal angle is 10°

## Simple numbering system

Makes it easy to reorder. Also present in the center of bonded wheels to be readable when wheels are worn-out.

## Maximum speed

**RPM** (rotations per minute) and **m/s** (meters per second)

## Compliance

Products manufactured in compliance with European regulation EN 12413 and US regulation ANSI B7.1

## Traceability

Internal code to monitor production for safety

## Wheel grade

Bond type, grain type and grain size

## Warning

When using SPIN-ON quick mounting system

## Dimensions

Diameter, thickness, bore

## More information

Consult WALTER website for complete safety information

## Restrictions

**DO NOT** use if damaged

**NOT** suitable for hand-held grinders

**NOT** suitable for grinding

**DO NOT** use for wet grinding or cutting

## Safety

Eyes, face, ears and lungs protection

Hand protection

Always use safety guard

## SURFOX weld cleaning systems - Legend

**MIG icon**
Cleans MIG welds

**TIG and spot icon**
Cleans TIG and spot welds

## WALTER products - Legend

**California Proposition 65 Warning**
The products identified with this symbol can expose you to chemicals that are known to the State of California to cause cancer and / or reproductive harm. For more information, go to www.P65Warnings.ca.gov or **www.walter.com**

**Nonfood Compounds Program**
The global food industry relies upon nonfood compounds to facilitate the efficient processing, handling and storage of food throughout the supply chain. Nonfood compounds include such substances as cleaners, sanitizers, boiler compounds and lubricants. NSF International Nonfood Compounds Registration Program provides beneficial product information to three important stakeholder groups.

**Low Volatile Organic Compounds**
Consumers today are far more knowledgeable regarding products containing potentially toxic levels of volatile organic compounds, commonly known as VOCs. Paints, stains, and varnishes have long contributed considerably to the prolific release of VOCs, sometimes known as off-gassing. This explains the growing popularity of low-VOC and VOC-free products. Products where you see the VOC-free logo guarantee that they contain no volatile organic compounds.

# 01
# WELDING

# SURFOX™ WELD CLEANING

## SURFOX™ is a safe, effective, and fast electrochemical weld cleaning system.

- *Fast and uniform weld cleaning*
- *Guaranteed passivation*
- *NSF registered solutions*
- *Minimal PPE Requirements*
- *SURFOX™ Systems meet ASTM standards to guarantee passivation of workpieces*
- *Validated by stringent third-party testing to comply with the exacting ASTM specifications for passivation.*

### Why is passivation important?

Stainless steel can resist corrosion thanks to a passive chromium oxide layer that forms on its surface. The formation of this protective layer is called passivation.

Passivation occurs when the chromium contained in the stainless steel meets the oxygen in the air. This chemical reaction forms a passive chromium oxide layer, which will protect the surface of stainless steel. Mechanical abrasion, thermal treatment, welding, salt, strong acids, and galvanic contamination will destroy this protective layer and expose the metal to corrosion. To fully restore the corrosion resistance of stainless steel and avoid any interference in the passivation process, the heat tint as well as other surface contaminants must be removed.

### Safe:

SURFOX™ CLEANING electrolytes are NSF registered to be used in food plants and pose no health hazards for operators.

### Easy to use:

Depending on your model, either pour your SURFOX™ electrolyte cleaning solutions into the reservoir, or dip the wand into the solution and drag to clean.

### Fast:

Uniform cleaning and passivation at a rate of 3 to 5 feet per minute.

### Which SURFOX™ is right for your weld cleaning needs?

| **Usage** | **Fieldwork/Occasional Use** | | **Heavy-Duty/Industrial & Field Work** | **Heavy-Duty/Industrial Use** | |
|---|---|---|---|---|---|
| **Process** | **Weld Cleaning** | **Cleaning, Marking, Etching** | **Cleaning, Marking, Etching** | **Cleaning, Marking, Etching** | |
| | | | | | |
| | **SURFOX™ TURBO** | **SURFOX™ MINI** | **SURFOX™ MAX** | **SURFOX 206™** | **SURFOX 306™** |
| **Application** | • Cleans TIG and Spot welds and light MIG welds. | • Cleans TIG, SPOT and light MIG welds.<br>• Excellent for repairs, touch-ups and small jobs. | • Stick, MIG, TIG and Spot welds.<br>• Heavy-duty weld cleaning.<br>• More than one user. | • Cleans TIG, Spot and MIG welds. | • Stick, MIG, TIG and Spot welds.<br>• Heavy-duty cleaning.<br>• More than one user. |
| **Features** | • Powerful and compact.<br>• Dip & work weld cleaning.<br>• Simple to use.<br>• AC only (cleaning). | • Uses refillable cartridges; compatible with dip & work wand.<br>• AC/DC option for marking and etching.<br>• LCD panel with multilanguage and precise functionalities. | • Dual-user capabilities.<br>• Dip & work weld cleaning.<br>• LCD panel with multilanguage and precise functionalities.<br>• Portable for field work.<br>• AC/DC option for marking and etching.<br>• Most versatile unit in the industry. | • Built-in fume elimination system (requires a compressed air line).<br>• AC/DC option for marking and etching.<br>• Integrated reservoir with Dynamic Flow for precise liquid dispersion.<br>• LCD panel with multilanguage and precise functionalities. | • Built-in fume elimination system (requires a compressed air line).<br>• AC/DC option for marking and etching.<br>• Integrated reservoir with Dynamic Flow for precise liquid dispersion.<br>• LCD panel with multilanguage and precise functionalities.<br>• Dual-user capabilities.<br>• Most powerful unit in its class. |
| **Marking & Etching** | N/A | Stainless steel, aluminum, titanium | Stainless steel, aluminum, titanium | Stainless steel, aluminum, titanium | Stainless steel, aluminum, titanium |

# HEAVY-DUTY/INDUSTRIAL USE

## SURFOX™ 306

The most powerful heavy-duty production unit

The SURFOX™ 306 is the most powerful electrochemical weld cleaning unit on the market and WALTER's most powerful production unit when it comes to cleaning and passivating stainless steel welds. The 306 can clean Spot, TIG, and even the dirtiest of MIG and Stick welds. This unit is equipped with a flow-through tank and Dynamic Flow, a new feature that ensures the right amount of weld cleaning liquid is dispersed to the work piece as soon as contact is established. This unit also includes a port for dip & work weld cleaning, which allows two users to work using the same SURFOX™ machine.

### Features and benefits

- *2550 Watts of maximum cleaning output*
- *Includes dual-user functionality so two users can work with the same machine*
- *LCD panel with multi-language settings and more precise settings*
- *Threaded brush system to easily change out accessories and reduce downtime*
- *Ability to clean larger and hard-to-reach areas thanks to a variety of compatible accessories*
- *Flow-through reduces the risk of contaminating or spilling the electrolyte solution*
- *Dynamic Flow ensures the right amount of liquid is dispersed to the work piece*
- *Marking and etching capabilities*
- *Built-in fume dispersion system*

MIG · Stainless Steel · Alu. · TIG & Spot

| Model | Order No. | Electrical | | Dimensions | | | Dual User | Tank capacity | Length of hose | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Input | Output | Length | Width | Height | | | | |
| 306 | 54D316 | 120V - 50/60 Hz, 10A | 3-30V AC/DC 85A Max | 19” | 10” | 15” | YES | 64.2 oz | 20’ | 47 lbs |

**Each unit comes with:** *1 x SURFOX™ 306 carbon fiber brush (54B606), 1 x brush adaptor (54B149), 1 x Ground Cable (48R136), 1 x user guide, 1 x carrying case, 1 x 10mm key*

## SURFOX™ 206

Durable production unit for everyday use

The SURFOX™ 206 packs a serious punch when it comes to cleaning output and it is the most powerful unit in its segment. This unit cleans Spot, TIG, and MIG welds on stainless steel. The 206 is equipped with a flow-through tank with Dynamic Flow to the wand.

### Features and benefits

- *1500 Watts of maximum cleaning output*
- *LCD panel with multi-language settings and more precise settings*
- *Marking and etching capabilities*
- *Flow-through tank reduces risk of contaminating or spilling the electrolyte solution*
- *Dynamic Flow ensures the right amount of liquid is dispersed to the work piece*

MIG · Alu. · TIG & Spot · Stainless Steel

| Model | Order No. | Electrical | | Dimensions | | | Dual User | Tank capacity | Length of hose | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Input | Output | Length | Width | Height | | | | |
| 206 | 54D216 | 120V - 50/60 Hz, 5.5A | 3-30V AC/DC 50A Max | 19” | 10” | 15” | NO | 64.2 oz | 13’ | 44 lbs |

**Each unit comes with:** *1 x carbon fiber brush (54B601), 1 x brush adaptor (54B149), 1 x Ground Cable (48R136), 1 x user guide, 1 x carrying case*

# SURFOX™ MAX

Lightweight and ultra powerful; the most versatile unit in the industry

The SURFOX™ MAX is the industry's most versatile weld cleaning unit. It is powerful enough to tackle Spot, TIG, MIG, and even STICK welds on stainless steel, and is the lightest heavy-production unit on the market, making it ideal for tough fieldwork and heavy-duty industrial use. This unit is equipped with two dip & work ports, so two users can be cleaning welds using the same machine to maximize efficiency.

### Features and benefits

- *2550 Watts of maximum cleaning output*
- *Includes dual-user capabilities so two users can work with the same machine*
- *LCD panel with multi-language settings and more precise settings*
- *Dip & work weld cleaning*
- *Marking and etching*
- *Lightweight and portable*

MIG TIG & Spot Stainless Steel Alu.

| Model | Order No. | Electrical | | Dimensions | | | Dual User | Tank capacity | Length of hose | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Input | Output | Length | Width | Height | | | | |
| MAX | 54D096 | 120V, 50/60 Hz, 10.0A | 3-30V AC/DC 85A Max | 16” | 6” | 11” | YES | -------- | 11’ | 22 lbs |

**Each unit comes with:** *1 x D&W carbon fiber brush (54B604),1 x D&W brush sleeve (54B605), 1 x brush adaptor (54B149), 1 x Ground Cable (48R136), 1 x user guide, 1 x carrying case*

# FIELDWORK

## SURFOX™ MINI

The ideal unit for field or repair work

Ultra-light and portable, the SURFOX™ MINI is designed for weld cleaning, marking, and etching in the field. It is the most powerful fieldwork unit with marking and etching functionality and cleans Spot, TIG, and light MIG welds with ease.

### Features and benefits

- *900 Watts of maximum cleaning output*
- *Comes with the SURFOX™ cartridge wand*
- *Can be used with the SURFOX™ dip & work wand kit*
- *Marking and etching*
- *Weighs only 16 lbs*

MIG Alu. TIG & Spot Stainless Steel

| Model | Order No. | Electrical | | Dimensions | | | Dual User | Tank capacity | Length of hose | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Input | Output | Length | Width | Height | | | | |
| MINI | 54D076 | 120V - 50/60 Hz, 5.5A | 3-30V AC/DC, 30A Max | 16” | 6” | 11” | NO | -------- | -------- | 16 lbs |

**Each unit comes with:** *1 x carbon fiber brush (54B601), 1 x adaptor for micro-brush (54B150), 1 x Ground Cable (48R136), 1 x user guide, 1 x carrying case*

# SURFOX™ TURBO

Powerful, compact, and reliable; our most lightweight unit

The SURFOX™ TURBO is the easiest model to operate, on top of being the most lightweight and portable one, designed for quick weld cleaning and repair jobs in the field. Ideal for cleaning TIG, Spot and light MIG welds on stainless steel, this unit delivers hassle-free, quick weld cleaning and passivation.

### Features and benefits

- *Powerful and compact*
- *Dip & work weld cleaning*
- *Simple to use*
- *Weld cleaning unit only*
- *Lightweight and portable*

MIG Stainless Steel TIG & Spot

| Model | Order No. | Electrical | | Dimensions | | | Dual User | Tank capacity | Length of hose | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Input | Output | Length | Width | Height | | | | |
| TURBO | 54D066 | 120V - 50/60 Hz, 4A | 12V AC, 25A Max | 12” | 5” | 9” | NO | -------- | -------- | 15 lbs |

**Each unit comes with:** *1 x SURFOX™ D&W carbon fiber brush (54B601) 1 x D&W brush sleeve (54B603), 1 x brush adaptor (54B149), 1 x Ground Cable (48R136), 1 x user guide, 1 x carrying case*

# WIDE SURFACE DIP & WORK KIT

Clean larger surfaces, faster

The wide-surface dip & work wand kit is designed to tackle larger high surfaces. This kit includes a 300mm/12” insert with handles in addition to a telescopic lance for areas that are out of reach. Compatible with SURFOX™ MAX & 306.

**Order No.:** 54B611

# DIP & WORK WAND KIT

Speed and versatility, when you need it most

The dip & work wand kit is your go-to SURFOX™ accessory to make quick work from repair and touch-up jobs, or when two workers are leveraging the same SURFOX™ weld cleaning unit to get the job done. This kit is an add-on accessory and is compatible with the SURFOX™ 306, MINI, MAX, and TURBO.

**Order No.:** 54B610

# SURFOX™ SOLUTIONS

## SURFOX-G™

pH neutral electrolyte solution

Can be used with high conductivity pads and carbon fiber brushes. Specially designed for use in water treatment plants.

**NSF category A3, registration #146974**

***Great for cleaning MIG, TIG, and spot welds on stainless or aluminum***

- *pH neutral, non acidic*
- *Safe alternative to pickling paste and strong acids*
- *Non-corrosive*
- *Compatible with all SURFOX™ machines*
- *Lower environmental impact*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Cartridge | 100 ml | 3.4 oz | 54A061 | S-10E | 6 |
| Sprayer | 500ml | 16.9 oz | 54A063 | S-10E | 12 |
| Liquid | 1.5 L | 51 oz | 54A065 | S-10E | 1 |
| Liquid | 5 L | 1.3 gal | 54A066 | S-10E | 1 |
| Liquid | 20 L | 5.2 gal | 54A067 | S-10E | 1 |
| Liquid | 208 L | 55 gal | 54A068 | S-10E | 1 |

**Color:** Translucent

***Tech tip!***

*Use with SURFOX-T™ drum pump 54B106*

## SURFOX-T™

Heavy-duty formula

Provides faster cleaning action and more thorough cleaning on MIG welds.

**NSF category A3, registration #142984**

***Stronger solutions to clean even the dirtiest of MIG and TIG welds on stainless steel and aluminum***

- *Safe alternative to pickling paste and strong acids*
- *SCAQMD compliant*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Cartridge | 100 ml | 3.4 oz | 54A001 | S-01E | 6 |
| Sprayer | 500 ml | 16.9 oz | 54A003 | S-01E | 12 |
| Liquid | 1.5 L | 51 oz | 54A005 | S-01E | 1 |
| Liquid | 5 L | 1.3 gal | 54A006 | S-01E | 1 |
| Liquid | 20 L | 5.2 gal | 54A007 | S-01E | 1 |
| Liquid | 208 L | 55 gal | 54A008 | S-01E | 1 |

**Color:** Translucent

## SURFOX-N™

Cleaning and neutralizing formula

**NSF category A1, registration #142985**

- *Must be used to clean and neutralize SURFOX™ electrolyte solutions*
- *SCAQMD compliant*
- *Prevents the formation of salt deposits (hazy white discoloration) around welds cleaned with SURFOX™*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz | 54A023 | S-03E | 12 |
| Liquid | 3.78 L | 1 gal | 54A025 | S-03E | 1 |
| Liquid | 20 L | 5.2 gal | 54A027 | S-03E | 1 |
| Liquid | 208 L | 55 gal | 54A028 | S-03E | 1 |

**Color:** Translucent

# SURFOX™ PRE-WELD

## Fast drying surface cleaner

Formulated for preparing and degreasing metal surfaces prior to welding.

### Benefits

- *Reduced VOC content when compared to solvent-based surface cleaners*
- *Ready-to-use formula*

### Features

- *Replacement for surface preparation solvents such as acetone*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz | 54A073 | S-13E | 12 |
| Liquid | 3.78 L | 1 gal | 54A076 | S-13E | 1 |
| Liquid | 20 L | 5.2 gal | 54A077 | S-13E | 1 |
| Liquid | 208 L | 55 gal | 54A078 | S-13E | 1 |

**Color:** Orange

# SURFOX™ RENEW

## High strength stainless steel cleaner

Highly concentrated, gel-like cleaner for removing rust and mineral deposits from stainless steel. Removes contaminants without attacking the parent material. Must be neutralized with SURFOX-N™ after use.

### Benefits

- *Gel formulation allows the product to cling to inclined surfaces*
- *VOC-free, solvent-free, non-flammable, biodegradable surfactants*
- *Removes rust, oxidation, mineral deposits, and light grease*

### Features

- *Concentrated formula – can be diluted up to 1:40 with water*
- *Ideal for cleaning of food processing and pharmaceutical equipment*

***Tech tip!***

*Use with white BLENDEX™ hand pads (07A500) to easily remove rust and other surface contaminants*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz | 54A083 | S-11E | 12 |
| Liquid | 3.78 L | 1 gal | 54A085 | S-11E | 1 |
| Liquid | 20 L | 5.2 gal | 54A087 | S-11E | 1 |
| Liquid | 208 L | 55 gal | 54A088 | S-11E | 1 |

**Color:** Light orange

# SURFOX™ SHINE

## Cleaner and protector for stainless steel

An innovative, non-hazardous product that removes light contaminants from stainless steel in one easy step.
**NSF category A7, C1, registration # 152509**

### Benefits

- *Removes dust, dirt, finger prints, oils, and handling marks*
- *Leaves a uniform finish without streaking*
- *Brightens and protects stainless steel surfaces*
- *Not controlled under WHMIS or OSHA*

### Features

- *Ready-to-use formula*
- *Silicone-free, VOC-free, solvent-free, non-flammable, phosphate-free, biodegradable*
- *For cleaning of food processing and pharmaceutical equipment*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz | 54A093 | S-12E | 12 |
| Liquid | 3.78 L | 1 gal | 54A095 | S-12E | 1 |
| Liquid | 20 L | 5.2 gal | 54A097 | S-12E | 1 |
| Liquid | 208 L | 55 gal | 54A098 | S-12E | 1 |

**Color:** White

# SURFOX™ CONSUMABLES & ACCESSORIES

SURFOX™ accessories are specially designed to handle the toughest weld cleaning and electropolishing applications. Depending on your application you can choose from a variety of sizes of pad cleaning options or carbon fiber brushes.

| SKU | Product | Description | SURFOX™ 306 | SURFOX™ 206 | SURFOX™ MAX | SURFOX™ TURBO | SURFOX™ MINI |
|---|---|---|---|---|---|---|---|
| 54B143 | | Tungsten insert 90° | ✔ | ✔ | ✔ | | ✔* |
| 54B026 | | Standard cleaning pad | ✔ | ✔ | ✔ | | ✔* |
| 54B002 | | Clamp ring for cleaning pad, 10-pack | ✔ | ✔ | ✔ | | ✔* |
| 54B009 | | Large graphite insert, 45mm | ✔ | ✔ | ✔ | | ✔* |
| 54B043 | | Large pad for large graphite insert with O-ring, 10-pack | ✔ | ✔ | ✔ | | ✔* |
| 54B180 | | O-ring for insert | ✔ | ✔ | ✔ | | ✔* |
| 54B038 | | Narrow tungsten insert | | | | | ✔ |
| 54B028 | | Narrow cleaning pad with clamp ring, 10-pack | | | | | ✔ |
| 54B020 | | Narrow clamp ring for narrow pad, 10-pack | | | | | ✔ |
| 54B150 | | Spare brush adaptor for micro-wand | | | | | ✔ |
| 54B149 | | Reusable brush adaptor for large wand | ✔ | ✔ | ✔ | ✔ | ✔* |
| 54B048 | | Large graphite insert for micro-wand | | | | | ✔ |
| 48R294 | | Electrolyte straw | ✔ | ✔ | ✔ | ✔ | ✔ |

** Dip & Work applications only*

| SKU | Product | Description | SURFOX™ 306 | SURFOX™ 206 | SURFOX™ MAX | SURFOX™ TURBO | SURFOX™ MINI |
|---|---|---|---|---|---|---|---|
| 54B051 | | Large pad for large graphite insert with O-ring, 10-pack | | | | | ✔ |
| 54B092 | | Cartridge refilling pump | | | | | ✔ |
| 54B601 | | Threaded round brush | | ✔ | | | ✔ |
| 54B602 | | Dip & work (D&W) brush w/o sleeve, 5-pack | | | | ✔ | ✔* |
| 54B603 | | Dip & work (D&W) sleeve | | | | ✔ | ✔* |
| 54B604 | | Dip & work (D&W) brush w/o sleeve, 5-pack | ✔ | | ✔ | | |
| 54B605 | | Dip & work (D&W) sleeve | ✔ | | ✔ | | |
| 54B606 | | Threaded round brush, 5-pack | ✔ | | | | |
| 54B607 | | Graphite insert, 100mm/4” | ✔ | ✔ | ✔ | | |
| 54B608 | | Pad for graphite insert, 100mm/4” | ✔ | ✔ | ✔ | | |
| 54B609 | | O-ring for graphite insert, 100mm/4” | ✔ | ✔ | ✔ | | |
| 54B614 | | Dip & work (D&W) wide insert, 300mm/12” | ✔ | | ✔ | | |
| 54B615 | | Pad for wide insert, 300mm/12” | ✔ | | ✔ | | |
| 54B618 | | Brush extraction | ✔ | | ✔ | ✔ | ✔ |
| 54B619 | | SURFOX™ D&W Dual Ground | | | ✔ | | |

** Dip & Work applications only*

# COMPATIBLE WITH ALL **SURFOX™** MODELS

**Micro-Wand and brush kit**

With carbon fiber brush for cleaning corners and intricate areas.

**Not compatible with SURFOX™ TURBO.**

**Order No.:** 54B133

**Micro-Wand and tungsten insert kit**

With tungsten inserts and pads for cleaning corners and intricate areas.

**Not compatible with SURFOX™ TURBO.**

**Order No.:** 54B033

**SURFOX™ station**

With its sturdy and industrial design, the SURFOX™ station has been designed to make it easy to move your SURFOX™ system throughout your work environment while allowing for the storage of various cleaning agents and accessories.

**Order No.:** 54B050

**SURFOX™ Powercloth**

16 in. x 16 in.
10 per package.

**Order No.:** 54B090

**SURFOX™ RENEW refillable trigger sprayer**

Highly concentrated, gel-like cleaner for removing rust and mineral deposits from stainless steel. 500 ml (16.9 oz).

**Order No.:** 54A083

**SURFOX™ PRE-WELD refillable trigger sprayer**

Formulated for preparing and degreasing metal surfaces prior to welding. 500 ml (16.9 oz).

**Order No.:** 54A083

**SURFOX-N™ refillable trigger sprayer**

Identified with GHS compliant product specific labels showing product features, OSHA/WHMIS information and directions for use. 500 ml (16.9 oz).

**Order No.:** 54A023

**BIO-CIRCLE POWERCLOTH**

16 in. x 16 in.
10 per package.

**Order No.:** 57M001

## *Tech tip!*

*Keep different colour cloths for cleaning and neutralizing*

** Dip & Work applications only*

WALTER

# MARKING AND ETCHING UNITS

## Go ahead, make your mark!

SURFOX™ marking kits use a fast and simple electrochemical process to permanently mark stainless steel surfaces. The marking wand plugs directly into the SURFOX™ machine and is used with specially made permanent or disposable stencils.

## STANDARD MARKING KIT

**Order No.:** 54B080

The standard kit requires the use of permanent stencils available from WALTER, each of which can be used hundreds of times.

**Includes:**

- Marking wand and power cable
- Pack of 20 marking pads
- 5 O-rings
- Allen key 2.5 mm
- SURFOX-M™ marking solution 100 ml squeeze bottle for black marking (AC mode)
- SURFOX-E™ etching solution 100 ml squeeze bottle for white etching (DC mode)
- Packaged in a professional and sturdy case

### Permanent stencils

Can be used up to 200 times.

| | |
|---|---|
| 54 mm X 32 mm | 54B076 |
| 85 mm X 54 mm | 54B077 |
| 170 mm X 108 mm | 54B073 |
| 257 mm X 170 mm | 54B074 |
| 355 mm X 155 mm | 54B079 *Aluminum frame |

For more information: **stencil@walter.com**

## PRO MARKING KIT

**Order No.:** 54B081

The PRO kit is offered with a stencil thermal printer for the printing of disposable stencils to permanently mark stainless steel surfaces. The printer comes with software that allows the creation of stencils for barcodes, serial numbers, lot and batch numbers, text, company logos, and more.

**Includes:**

- Marking wand and power cable
- Pack of 20 marking pads
- 5 O-rings
- Allen key 2.5 mm
- SURFOX-M™ marking solution 100 ml squeeze bottle for black marking (AC mode)
- SURFOX-E™ etching solution 100 ml squeeze bottle for white etching (DC mode)
- Thermal printer and 20 m of stencil paper
- Packaged in a professional and sturdy case

# MARKING KIT ACCESSORIES

*For marking stainless steel and titanium*

**SURFOX-M™ marking solution**
100 ml squeeze bottle
NSF category P1, registration #146175
**Order No.:** 54A031

Also available in 5 L format
**Order No.:** 54A036

*For marking aluminum*

**SURFOX-M™ ALU electrolyte solution**
100 ml squeeze bottle
**Order No.:** 54A131

*For etching stainless steel*

**SURFOX-E™ etching solution**
100 ml squeeze bottle
**Order No.:** 54A041

**Marking pads**
Pack of 20
**Order No.:** 54B083

**Power cable**
**Order No.:** 54B063

**Graphite marking insert**
**Order No.:** 54B088

**O-rings**
Pack of 5
**Order No.:** 54B089

**Marking wand**
**Order No.:** 54B082

**Stencil paper roll**
100 mm x 20 m
**Order No.:** 54B086

100 mm x 50 m
**Order No.:** 54B087

## Marking on aluminum using customizable stencil paper rolls

# PASSIVATION MEASUREMENTS

## SURFOX™ SURFACE MEASURING SYSTEM

Quickly and easily guarantee passivated stainless steel

The importance of validating the passivation of your stainless steel surfaces cannot be stressed enough. Impossible to detect with the naked eye, passivation indicates that the protective layer of chromium oxide exists on your stainless steel surface – the essential ingredient that guarantees your stainless steel will resist corrosion.

The SURFOX™ Passivation Tester is a simple, compact, and portable testing device that allows you to quickly and easily ensure passivation of stainless steel anywhere, anytime – even on job sites!

### Applications

- ***Determine the degree of passivation of stainless steel 304 & 316***
- ***Testing device for passivation***

### Features

- ***Small probe allows testing in hard to reach areas***
- ***Measures the protective chromium passive layer on stainless steel surfaces***
- ***Based on a technology called "open circuit potential"***
- ***A value above zero indicates the surface is passivated***
- ***Minimizes costly downtime caused by the rework of pieces***
- ***Provides an instant reading to verify the quality of the protective layer***

### *Tech tips!*

- *Use on a clean surface*
- *Clean stainless steel surface with SURFOX™ PRE-WELD for a clean, residue-free surface prior to marking*

## SURFOX™ PASSIVATION TESTER

**Order No.:** 54T012

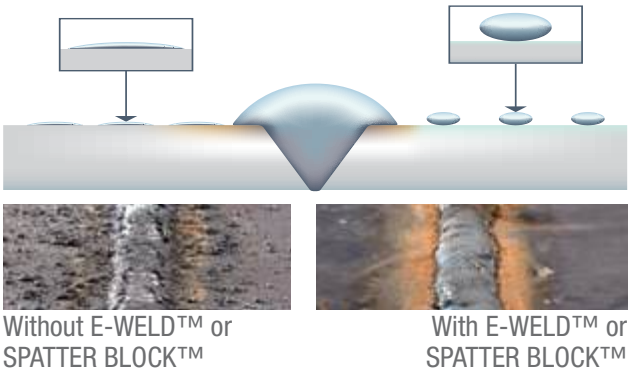
**Accessories**

| | Order no. |
|---|---|
| Replacement cartridge | 54A050 |
| White felt tip (Pkg. 5) | 54B046 |

# ANTI-SPATTER SOLUTIONS

## Why use anti-spatter solutions?

When small pieces of molten metal fly off the welding arc, the spatter, or slag, lands on weld surfaces around seams. As it cools and hardens on the surface on which it lands, it can be difficult to remove. Abrasives or chisels will then need to be utilized to remove the spatter to ensure a smooth surface for finishing the workpiece. However, by leveraging an anti-spatter solution before you begin welding, you can eliminate the time and cost of using abrasives or tools to remove weld spatter.



Without E-WELD™ or SPATTER BLOCK™

With E-WELD™ or SPATTER BLOCK™

## Why use WALTER E-WELD™ and SPATTER BLOCK™ anti-spatter solutions?

WALTER has developed a **safer and healthier line of anti-spatter solutions** to prevent spatter from adhering to surfaces. Our anti-spatter solutions are **biodegradable, non-flammable, and non toxic** so that you can improve your work process without sacrificing worker health and safety.

| REQUIRED PROTECTION | NOZZLE PROTECTION | | | ANTI-SPATTER | | | | CUTTING TABLE PROTECTION |
|---|---|---|---|---|---|---|---|---|
| APPLICATION | DIP APPLICATION | 8-HOUR PROTECTION SPRAY | PERMANENT COATING | GENERAL PURPOSE | | HIGH-PERFORMANCE | | CUTTING TABLE PROTECTION |
| | | | | | HIGH HEAT/AMPERAGE APPLICATIONS MULTI-PASS WELDING | | BEST OPTION FOR PAINT ADHESION | |
| | | | | | | | | |
| PRODUCT | SPATTER BLOCK GEL™ | E-WELD NOZZLE™ | E-WELD™ PRE-COATED NOZZLES | SPATTER BLOCK™ | SPATTER BLOCK HT™ | E-WELD 3™ | E-WELD 4™ | E-WELD PLASMA™ |
| FEATURES | Practical magnetic anti-spatter gel dispenser | Protects welding nozzles for up to 8 hours | Lasts up to 5 x longer than standard welding nozzles | Temporary Corrosion Protection | For high heat applications | 2-in-1 degreaser/ Anti-Spatter | Special heat dispersion technology guaranteed not to cause porosity | Prevents adhesions of slag to slats on cutting tables |
| CERTIFICATIONS | | | LOW VOC | LOW VOC | LOW VOC | LOW VOC NSF | LOW VOC | |

# SPATTER BLOCK™

General purpose anti-spatter emulsion

SPATTER BLOCK™ is a safe, natural solution that protects the workpiece from weld spatter to keep you from having to perform time-consuming removal processes.

### Features

- *Does not interfere with painting process*
- *VOC-free, solvent-free and silicone-free, biodegradable, non-flammable*
- *Formulation based on natural plant extracts*
- *Odorless*
- *Contains temporary corrosion inhibitors*
- *Up to 225 amps*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.55 oz | 53F002 | L-10 | 12 |
| Sprayer | 500 ml | 16.9 oz | 53F203 | L-21 | 12 |
| Liquid | 3.78 L | 1 gal | 53F205 | L-21 | 1 |
| Liquid | 20 L | 5.2 gal | 53F207 | L-21 | 1 |
| Liquid | 208 L | 55 gal | 53F208 | L-21 | 1 |

**Color:** Milky green

# SPATTER BLOCK HT™

High temperature anti-spatter solution

SPATTER BLOCK HT™ is a unique, high-performing anti-spatter solution that protects workpieces from adherence with high heat resistance spatter and eliminates costly spatter removal operations.

### Features

- *VOC-free, solvent-free, silicone-free, and biodegradable*
- *Odorless*

### Benefits

- *Allows multi pass welding*
- *Does not interfere with paint adhesion*
- *Contributes to a safer work environment*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.55 oz | 53F222 | L-61 | 12 |
| Sprayer | 500 ml | 16.9 oz | 53F223 | L-136 | 12 |
| Liquid | 3.78 L | 1 gal | 53F225 | L-136 | 1 |
| Liquid | 20 L | 5.2 gal | 53F227 | L-136 | 1 |
| Liquid | 208 L | 55 gal | 53F228 | L-136 | 1 |

**Color:** Clear/Amber

# E-WELD 3™

Dual purpose high-temperature anti-spatter and cleaning solution

E-WELD 3™ is a high-performance anti-spatter solution that both cleans the workpiece and protects it from high velocity spatter, eliminating an extra step in the welding process while avoiding costly rework. E-WELD 3™ is often the preferred solution for use on stainless steel.

**NSF category P1, registration #145451**

### Benefits

- *Cleans and degreases weld area*
- *Allows multi pass welding*
- *Does not interfere with paint adhesion*
- *Reduce consumable costs with a two-in-one solution*
- *Contributes to a safer work environment*

### Features

- *High-heat resistance allows to weld at high amperages*
- *Surfactants to clean surface before welding without affecting the quality of the weld*
- *Corrosion inhibitors*

**Tech tip!**
*Use E-WELD 3™ to clean and protect from spatter.*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.55 oz | 53F252 | L-176 | 12 |
| Sprayer | 500 ml | 16.9 oz | 53F253 | L-46 | 12 |
| Liquid | 3.78 L | 1 gal | 53F255 | L-46 | 1 |
| Liquid | 20 L | 5.2 gal | 53F257 | L-46 | 1 |
| Liquid | 208 L | 55 gal | 53F258 | L-46 | 1 |

**Color:** Clear blue

# E-WELD 4™

Premium anti-spatter emulsion

E-WELD 4™ is a unique anti-spatter solution which protects workpieces from the adherence of spatter. With the addition of special natural ingredients, E-WELD 4™ retracts in the presence of heat, leaving the welding area free of liquid. This means that unlike competitive products, E-WELD 4™ is guaranteed not to cause weld porosity or cracking, even when overapplied to work surfaces.

### Benefits

- *No weld cracking*
- *Corrosion resistant*
- *Does not interfere with paint adhesion*

### Features

- *Premium protection when working up to 225 amps*
- *Guaranteed not to contribute to weld porosity*

**Tech tip!**
*Best choice for welding on aluminum surfaces.*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.55 oz | 53F402 | L-177 | 12 |
| Sprayer | 500 ml | 16.9 oz | 53F403 | L-147 | 12 |
| Liquid | 3.78 L | 1 gal. | 53F405 | L-147 | 1 |
| Liquid | 20 L | 5.2 gal. | 53F407 | L-147 | 1 |
| Liquid | 208 L | 55 gal. | 53F408 | L-147 | 1 |

**Color:** White

## INDUSTRIAL PUMP SPRAYER

Tough industrial sprayers designed to quickly and effectively dispense anti-spatter products. The spray pattern can easily be adjusted from a pin point jet for accurate product dispensing to a wide fan for greater surface coverage. These thick-walled polyethylene bottles have regulatory-compliant labels and feature a wide neck for easy refilling.

| Description | Size | | Order No. | Std. Pkg. |
|---|---|---|---|---|
| | Metric | US Gal | | |
| Anti-Spatter | 900 ml | 30.4 oz | 53L108 | 1 |

## REFILLABLE TRIGGER SPRAYER

Sprayers equipped with precision mechanism – guarantees minimal constant spray mist / no dripping. Clearly identified with product specific labels showing product features, WHMIS HCS 2012 compliance and directions for use.

| Description | Size | | Order No. | Std. Pkg. |
|---|---|---|---|---|
| | Metric | US Gal | | |
| Spatter Block | 500 ml | 16.9 oz | 53L321 | 1 |
| Spatter Block HT | 500 ml | 16.9 oz | 53L308 | 1 |
| E-WELD 3 | 500 ml | 16.9 oz | 53L320 | 1 |
| E-WELD 4 | 500 ml | 16.9 oz | 53L338 | 1 |

# AIR FORCE SYSTEMS

**FOR SPATTER BLOCK™, SPATTER BLOCK HT™, E-WELD 3™, AND E-WELD 4™**

**The AIR FORCE aerosol can refilling station offers the convenience of using aerosol cans with the cost effectiveness of buying bulk packaging**

The AIR FORCE station automatically dispenses SPATTER BLOCK™, SPATTER BLOCK HT™, E-WELD 3™, and E-WELD 4™ solutions and compressed air into refillable spray cans helping you reduce costs associated with the disposal of harmful aerosol cans as well as your environmental impact.

**1X 208L DRUM = 520 CANS**

## Benefits

- ***Eliminates aerosol disposal costs***
- ***Reduces environmental impact***
- ***Perfect price to performance ratio***

**AIR FORCE refillable sprayer**
Durable and lightweight aluminum AIR FORCE sprayer comes with a specific label to clearly identify the contents.

*No more disposing of hazardous aerosol cans*

# AIR FORCE START-UP PACKAGES

## AIR FORCE SPATTER BLOCK™
208 L / 55 gal.

Order no.
**57D018**

*The start-up package includes:*

- 1 x 53F208 SPATTER BLOCK™ 208 L / 55 gal. drum
- 1 x 57D000 AIR FORCE Generic Orange Station
- 4 x 57B101 refillable bottle

## AIR FORCE SPATTER BLOCK HT™
208 L / 55 gal.

Order no.
**57D028**

*The start-up package includes:*

- 1 x 53F228 SPATTER BLOCK HT™ 208 L / 55 gal. drum
- 1 x 57D000 AIR FORCE Generic Orange Station
- 4 x 57B102 refillable bottle

## AIR FORCE E-WELD 3™
208 L / 55 gal.

Order no.
**57D038**

*The start-up package includes:*

- 1 x 53F258 E-WELD 3™ 208 L / 55 gal. drum
- 1 x 57D000 AIR FORCE Generic Orange Station
- 4 x 57B103 refillable bottle

**Air refilling pod**
**Order No.:** 53M010

| Accessories | Order No. |
|---|---|
| Air refilling pod | 53M010 |
| Replacement valve kit (includes 2 valves and 2 spray tips) | 57B000 |
| Brass screw cap | 53M037 |
| Drum adaptor | 53M038 |

## AIR FORCE E-WELD 4™
208 L / 55 gal.

Order no.
**57D048**

*The start-up package includes:*

- 1 x 53F408 E-WELD 4™ 208 L / 55 gal. drum
- 1 x 57D000 AIR FORCE Generic Orange Station
- 4 x 57B104 refillable bottle

# CUTTING TABLE **PROTECTION**

## E-WELD PLASMA™

Long lasting protection for laser and plasma cutting tables

E-WELD PLASMA™ is a ceramic anti-spatter solution that is applied to laser and plasma cutting tables to reduce the buildup of slag over time.

This simple preventative measure keeps the slag from adhering to the slats in cutting tables, allowing it to be easily removed before it builds up and becomes problematic. This significantly decreases the amount of time and effort needed to clean slag off cutting tables, which saves you a great deal of labor time – and associated costs – in plant maintenance.

**Also compatible with wet tables.**

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 500 ml | 16.9 oz | 53F603 | L-142 | 12 |
| Refillable sprayer | 1400 ml | 34 oz | 53L126 | | 1 |
| Liquid | 10 kg | 22 lbs | 53F605 | L-142 | 1 |
| Liquid (Drum) | 272 kg | 600 lbs | 53F608 | L-142 | 1 |

**Color:** White

### *Tech tip!*

*Stack multiple cutting tables behind one another and slightly offset them from one another so all the slats on each table are exposed. This will allow you to coat multiple cutting tables at once, saving even more time.*

### Benefits

- *Greatly reduces the amount of time required to remove slag from cutting tables*
- *Spend less time on equipment maintenance and more time on revenue generating activities*
- *Can also be applied to other equipment that is exposed to weld spatter or slag*
- *Spray gun applicator dispenses a thin, even layer to help prevent wasteful over application*
- *Can be applied to wet or dry cutting tables*

### Features

- *Ceramic formula provides long lasting protection, even in the presence of extreme heat*
- *Spray gun applicator allows you to quickly and easily dispense the product across large surface areas*
- *Each 10 kg (22 lbs) container provides enough antispatter to cover 50-100 $m^2$ (538-1076 $ft^2$)*
- *E-WELD PLASMA™ can be painted on manually or sprayed on with the applicator; just stir the solution prior to use*
- *Use a degreaser like SURFOX™ PRE-WELD to clean slats prior to use to ensure a strong, adhesive coating*

# NOZZLE **PROTECTION**

## E-WELD NOZZLE™

Ceramic nozzle spray for up to 8 hours of protection

Extend the life of welding nozzles and reduce downtime spent scraping out spatter with E-WELD NOZZLE™. This highly concentrated anti-spatter evenly coats the exterior and interior surface of your welding nozzle to prevent spatter from adhering to the nozzle. This prevents obstructions and allows the gas to flow freely, resulting in a higher quality weld. This is an extremely economical solution, as the easy applicator dispenses a thin layer that can provide protection for up to 8 hours. This is an ideal solution for MIG welding, plasma cutting and laser cutting as the E-WELD NOZZLE™ can withstand high temperatures (up to 1000° C) and reduce your consumable spend.

- ***No weld contamination***
- ***Helps prevent weld porosity***
- ***No time lost on scraping spatter from nozzle prior to welding***
- ***Improves weld quality and reduces rejection rate***
- ***Only a thin layer needed (up to 100 applications per can)***
- ***Superior life and more solution per can compared to competitive products***

*Nozzle using E-WELD NOZZLE™*

*Nozzle fully clogged (not using E-WELD NOZZLE™)*

### Unique self-dispensing applicator easily dispenses highly concentrated ceramic coating

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 fl. oz. | 53F212 | L-156 | 6 |
| Applicator | | | 53L121 | | 1 |
| Aerosol and applicator | 400 ml | 13.5 fl. oz. | 53F912 | L-156 | 6 |

**Color:** Orange

YouTube
*Video available at The WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

## SPATTER BLOCK GEL™

Anti-spatter gel

Superior anti-spatter gel for protecting the interior and exterior of welding nozzles and contact tips.

### Features

- ***Free of chlorinated compounds and silicone***
- ***Odorless***
- ***Packaging height is designed to prevent clogging of gas diffusers in welding nozzles***

### Benefits

- ***Extends welding torch life***
- ***Fast, easy cleaning of nozzles and contact tips***

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Metal tin | 200 g | 7.0 oz | 53F103 | L-12 | 12 |

**Color:** Translucent

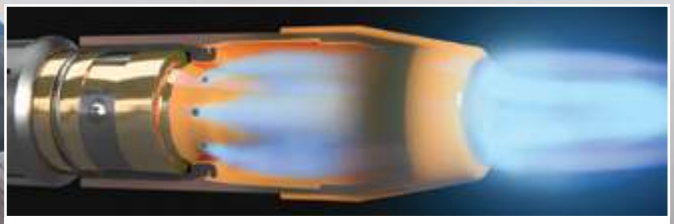
*Magnetic tin "sticks" to steel work tables and vertical surfaces*

# E-WELD NOZZLE™

## Total nozzle protection for up to **8 hours!**

- **UNIQUE APPLICATOR** ensures a thin, even protective coat.
- Extends nozzle life.
- Perfect for all types of welding, resists temperatures up to **1000 °C.**

Spatter build up obstructs gas flow, resulting in inconsistent weld quality.



Thin layer of E-WELD NOZZLE™ ensures gas flows freely for a clean, high-quality weld.

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

**walter.com/e-weld_nozzle**

# E-WELD PRE-COATED NOZZLES™

## Keeps nozzle cool and spatter-free

Reduce downtime spent scraping out spatter and replacing MIG nozzles. The special water-based ceramic coating prevents spatter from adhering to the nozzle and allows the gas to flow freely, ultimately providing a better-quality weld. The unique E-WELD PRE-COATED NOZZLES™ will reduce your welding operation costs.

### Features

- ***Reduce downtime scraping spatter and replacing nozzles***
- ***Lasts up to 5 times longer than standard OEM nozzles***
- ***Safe and non-flammable solution to nozzle spatter build-up***
- ***Prevents nozzle obstructions resulting in a higher quality weld***

| Brand compatibility | Model compatibility | Diameter (in) | Position | Order no. | Std Pkg |
|---|---|---|---|---|---|
| Lincoln style | KP3075-1-38S | 3/8" | Stick out 1/4 | 54C001 | 2 |
| | KP3075-1-38F | | Flush | 54C003 | 2 |
| | KP3075-1-50S | 1/2" | Stick out 1/4 | 54C011 | 2 |
| | KP3075-1-50F | | Flush | 54C013 | 2 |
| | KP2742-1-38S | 3/8" | Stick out 1/8 | 54C021 | 2 |
| | KP2742-1-38R | | Recess 1/8 | 54C022 | 2 |
| | KP2742-1-38F | | Flush | 54C023 | 2 |
| | KP2742-1-50S | 1/2" | Stick out 1/8 | 54C031 | 2 |
| | KP2742-1-50R | | Recess 1/8 | 54C032 | 2 |
| | KP2742-1-50F | | Flush | 54C033 | 2 |
| | KP2742-1-62S | 5/8" | Stick out 1/8 | 54C041 | 2 |
| | KP2742-1-62R | | Recess 1/8 | 54C042 | 2 |
| | KP2742-1-62F | | Flush | 54C043 | 2 |
| Miller style | 169715 | 1/2" | Flush | 54C113 | 2 |
| | 169724 | 1/2" | Recess 1/8 | 54C132 | 2 |
| | 200258 | | Flush | 54C133 | 2 |
| | 169727 | 5/8" | Stick out 1/8 | 54C141 | 2 |
| | 169725 | | Recess 1/8 | 54C142 | 2 |
| | 169726 | | Flush | 54C143 | 2 |
| Tregaskiss style | 401-4-50 | 1/2" | Recess 1/8 | 54C232 | 2 |
| | 401-4-62 | 5/8" | Recess 1/8 | 54C242 | 2 |
| Bernard style | 4491 | 3/4" | Flush | 54C301 | 2 |
| | 4492 | 9/16" | Flush | 54C302 | 2 |
| | N-3418-C | 3/4" | Recess 1/4 | 54C311 | 2 |
| | N-5814-C | 5/8" | Recess 1/4 | 54C312 | 2 |
| | N-5818-C | 5/8" | Recess 1/8 | 54C313 | 2 |
| | 4393 | 5/8" | Flush | 54C321 | 2 |

### *Tech tip!*

*Use E-WELD 4™ Premium anti-spatter emulsion to effectively protect welding pieces, welding jigs and tables against spatter.*

# 02
# CUTTING

# ZIPCUT FEATURES

## *Why are WALTER thin cut-off wheels the best in the industry?*

*NEW*

SMART RESIN™ TECHNOLOGY

### *Smart Resin™ Technology*

SMART RESIN™ Technology exposes fresh grains at optimal times to optimize the balance between sharpness & life.
**Only on ZIP™ XX**

### *Curved Stripes*

Look for curved stripes to be sure that you're getting an authentic WALTER Surface Technologies product. Like WALTER's distinctive orange, curved stripes distinguish our wheels.

# CUT-OFF WHEELS AT A GLANCE

| Cut-Off Wheel | ZIP ONE™ | ZIP WHEEL™ | ZIP+ XTRA™ | ZIP™ XX | |
|---|---|---|---|---|---|
| | | | | | |
| **Application Need** | For thin gauge cutting | For an optimal balance between speed & durability | For performance cutting in thicker metal with a focus on durability | For exceptional life and faster, longer-lasting, and more efficient cutting | |
| **Smart Resin™** | | | | ✓ | |
| **Durability** | • | • • | • • • | • • • • | |
| **Cutting Speed** | • • • • • | • • • | • • | • • • | |
| **Comfort** | • • • | • • • • | • • • | • • • • | |
| **Wheel Thickness** | 1/32" | 3/64" | 1/16" | 1/16" | |
| **Grain Type** | Zirconia (ZA) | Aluminum Oxide (AO) | Aluminum Oxide (AO) | Ceramic | |
| **Features** | • Thinnest wheel for speed & minimal heat generation<br>• Fe-S-Cl < 0.1%<br>• Narrow Crown with metal protective cladding | • Most versatile with a focus on speed<br>• SPIN-ON Available<br>• Narrow Crown with metal protective cladding | • Versatile wheel with a focus on durability<br>• Narrow Crown with metal protective cladding | • SMART RESIN™ Technology optimizes sharpness & life<br>• Self-sharpening ceramic grain blend<br>• Premium reinforcement for added safety | |

## Exclusive Packaging

WALTER's cut-off wheels are sold in a sturdy, unique, and reusable plastic container that keeps each wheel in the same condition as when it left the factory thereby enhancing performance, safety, and durability.

## Type 27 Narrow Crown and Metal Cladding

Exclusive patented technology that incorporates a metal cladding in the center hub for added safety, and allows for a deeper cutting depth, extending the life of the cutting wheel.

## Spin-On Wheels for Easy Mounting

Changing your cut-off wheels is quicker and easier than ever before, which results in minimal downtime during wheel changeout and less vibration when cutting.

# CUT-OFF WHEELS AT A GLANCE

| | | | Material-Specific | | |
|---|---|---|---|---|---|
| | **TOUGHCUT™** | **COMBO ZIP™** | **ZIP STAINLESS™** | **ZIP ALU™** | **ZIP™ TiTan** |
| | | | | | |
| | For the toughest, most demanding cutting applications | For fast, safe cutting and grinding with one wheel | For precise, clean cuts in stainless steel without contamination | For fast, free cutting of aluminum and non-ferrous metals without clogging | For optimal cutting of titanium and brass without overheating |
| | | | | | |
| | • • • • | • • • • | • • • | • | • • • |
| | • | • | • • • • | • • • • | • • |
| | • • • | • • • | | | • • • |
| | 3/32" | 5/64" | 3/64" | 3/64" | 3/64" |
| | Aluminum Oxide (AO) | Aluminum Oxide (AO) | Aluminum Oxide (AO) | Aluminum Oxide (AO) | Silicon Carbide |
| | • Extra tough reinforcements<br>• Maintains high RPM for clean cuts | • Cut & grind with the same disc<br>• Fe-S-Cl < 0.1%<br>• Metal protective cladding | • Metal hub cladding for extra strength, control, safety<br>• Fe-S-Cl < 0.1% | • Excellent wheel life<br>• Extra fast cutting on aluminum | • Optimal solution for cutting titanium and brass materials<br>• Lasts long and preserves mechanical properties and surface integrity of the piece being worked on |

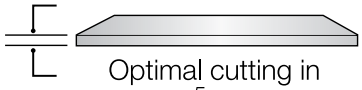
# ANGLE GRINDER **CUT-OFF WHEELS**

## ZIP ONE™

High performance cut-off wheel for thin gauge metal

ZIP ONE™ offers the quickest cuts and longest life in an ultra-thin 1/32" wheel. It is cool cutting to provide a burr-free cut with minimal discoloration. Best of all, it cuts extremely quickly and without vibration, making your job safer and easier when working with thin gauge steel or stainless steel.

Recommended: 8 ga (3/16") (4 mm)



Optimal cutting in <14 ga ( 5/64") (2mm)

- *Fast, free precision cuts*
- *Clean cutting for less rework*
- *Unique mix of abrasive grains ensures cool cutting for less discoloration and warping*
- *Fe-free formulation – guaranteed not to contaminate stainless steel*
- *Perfect for plunge cutting applications*

## *Ultra-Thin ZIP ONE™*

WALTER's thinnest cut-off wheel at 1/32'' is designed for maximum precision cutting. Thanks to an innovative technology exclusive to WALTER, ZIP ONE is not only long-lasting, but also allows you to more accurately cut sheet metal without creating burrs.

### TYPE 1

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 1/2" | 1/32" (.035) | 7/8" | 11T542 | ZA-60 | 13,300 | 25 | 400 |
| 5" | 1/32" (.035) | 7/8" | 11T552 | ZA-60 | 12,200 | 25 | 400 |

### TYPE 27

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 1/2" | 1/32" (.032") | 7/8" | 11T642 | ZA-60 | 13,300 | 25 | 400 |
| 5" | 1/32" (.032") | 7/8" | 11T652 | ZA-60 | 12,200 | 25 | 400 |
| 6" | 1/32" (.035") | 7/8" | 11T662 | ZA-60 | 10,200 | 25 | 200 |
| 7" | 3/64" (.045") | 7/8" | 11T672 | ZA-60 | 8,600 | 25 | 100 |

# ZIP WHEEL™

## Setting the industry standard for cut-off wheels

Faster, cooler, freer cutting and heavily reinforced for added safety, ZIPCUT™ provides premium performance while resisting twisting and bending. This allows for a true, straight cut every time. The end result is a wheel that improves worker safety while delivering great value.

### TYPE 1

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 3/64" (.045") | 7/8" | 11T042 | A-60 | 13,300 | 25 | 400 |
| 5" | 3/64" (.045") | 7/8" | 11T052 | A-60 | 12,200 | 25 | 400 |
| 6" | 3/64" (.045") | 7/8" | 11T062 | A-60 | 10,200 | 25 | 200 |
| 7" | 1/16" (.062") | 7/8" | 11T072 | A-30 | 8,600 | 25 | 100 |
| 9" | * 5/64" (.078") | 7/8" | 11T092 | A-30 | 6,600 | 25 | 100 |

** Must be used with 3" clamping flange No. 30B022 (according to ANSI B7.1)*

### TYPE 1

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 7" | 1/16" (.062") | 5/8" | 11T070 | A-30 | 8,600 | 25 | 100 |
| 8" | 1/16" (.062") | 5/8" | 11T080 | A-30 | 7,600 | 25 | 100 |

### TYPE 27

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 3/64" (.045") | 7/8" | 11T142 | A-60 | 13,300 | 25 | 200 |
| 5" | 3/64" (.045") | 7/8" | 11T152 | A-60 | 12,200 | 25 | 200 |
| 6" | 3/64" (.045") | 7/8" | 11T162 | A-60 | 10,200 | 25 | 200 |
| 7" | 1/16" (.062") | 7/8" | 11T172 | A-30 | 8,600 | 25 | 100 |
| 9" | 5/64" (.078") | 7/8" | 11T192 | A-30 | 6,600 | 25 | 100 |

- ***Significantly more cuts than the competition****
- ***Less friction and faster cutting***

** Against comparable 5" x 3/64" aluminum oxide cut-off wheels*

## INDUSTRY'S MOST TRUSTED WHEEL

SCAN TO WATCH VIDEO

YouTube
*Video available at The WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

### Mounting accessories

Complete set for a flush fit and minimal spindle exposure beyond the clamping nut, for other brands of grinders with: 5/8"–11 spindles
**30B021**

Thick backing flange for a flush fit and minimal exposure of spindle beyond the clamping nut for WALTER grinders with: 5/8"–11 spindles
**30B017**

Clamping flanges set to mount 9" cut-off wheels on 5/8"–11 spindles
**30B022**

### Accessory

| Description | Order No. |
|---|---|
| Reducer bushing 7/8" to 5/8" | 10A984 |

# ZIP WHEEL™ SPIN-ON

## High performance cutting with SPIN-ON system

A WALTER exclusive, our SPIN-ON mounting system takes your productivity to the next level with a ⅝"-11 threaded hub that reduces vibration and reduces the time spent on wheel change outs.

- ***Perfectly centered wheel for total operator comfort***
- ***Vibration-free cutting for maximum life, safety and productivity***

**TYPE 27S** SPIN-ON

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 3/64" (.045") | ⅝"–11 | 11T342 | A-60 | 13,300 | 25 | 100 |
| 5" | 3/64" (.045") | ⅝"–11 | 11T352 | A-60 | 12,200 | 25 | 100 |
| 6" | 3/64" (.045") | ⅝"–11 | 11T362 | A-60 | 10,200 | 25 | 100 |

**QUICK AND EASY**
WHEEL CHANGE FOR MINIMUM DOWNTIME

# WALTER INDUSTRIAL GLOVES

Protective, sleek, and tight fitting for comfort. WALTER's newly-designed work gloves are made to last in the toughest applications. They are made of 100% Black Goatskin leather, with a neoprene insert that reduces vibration. The thumb curve is made with Kevlar™, a natural anti-slip solution. Simply put, these gloves are the toughest and most comfortable for demanding industrial applications.

| | |
|---|---|
| Large | **Order No.:** 30B093 |
| Extra-Large | **Order No.:** 30B095 |

# ZIP™ XX

## Ceramic cut-off wheel for exceptional life and faster cuts

Achieve the ultimate gain in productivity and comfort with the new ZIP™ XX cut-off wheel. Made with a unique ceramic grain and WALTER's new SMART RESIN™ technology, it provides the most cuts without compromising on speed and safety. Not only does it cut up to 10% faster than aluminum oxide wheels, it lasts at least 30% longer than competitive ceramic wheels. Use ZIP™ XX to increase productivity and reduce your overall cost.

- ***SMART RESIN™ Technology exposes fresh grains at the optimal time to optimize the balance between sharpness & life***
- ***Experience faster, smoother, and safer cutting***
- ***Maximize productivity while reducing wheel changeovers***
- ***Self-sharpening ceramic grain blend***
- ***Premium reinforcement for added safety***
- ***Designed to exceed the highest industry safety standards***

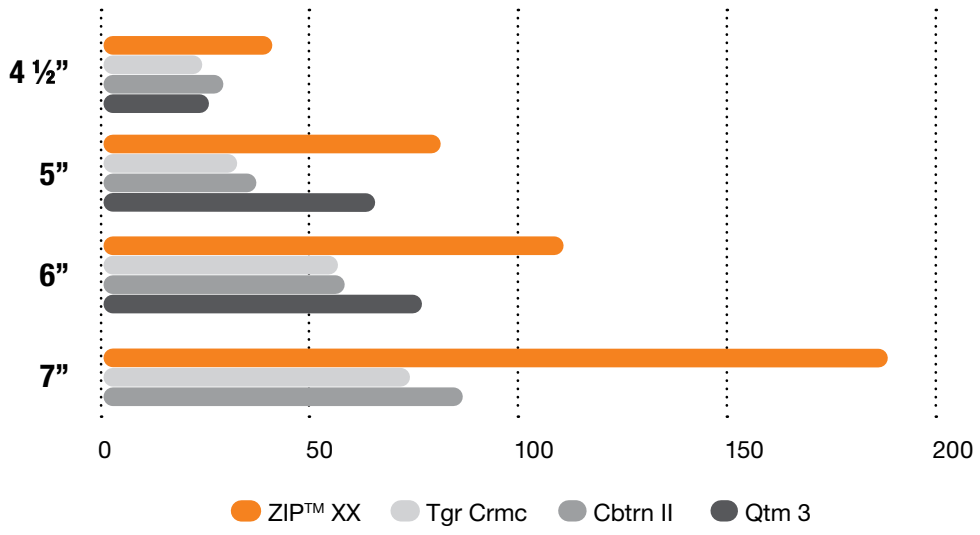
SMART RESIN™ TECHNOLOGY

**TYPE 1**

Acier Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/16" (.062") | 7/8" | 11X242 | CA-46 | 13,300 | 25 | 400 |
| 5" | 1/16" (.062") | 7/8" | 11X252 | CA-46 | 12,200 | 25 | 400 |
| 6" | 1/16" (.062") | 7/8" | 11X262 | CA-46 | 10,200 | 25 | 200 |
| 7" | 5/64" (.078") | 7/8" | 11X272 | CA-46 | 8,600 | 25 | 100 |

## THE MOST CUTS
PER WHEEL AVAILABLE TODAY




*Performed on mild steel ¼" x 2" flat bar*

# ZIP+ XTRA™

## Performance cutting in thicker metal

ZIP+ XTRA™ has a reinforced rib design for straighter cuts on metal that measures ⅛" thick or thicker. This feature also helps to cool the workpiece, preventing the large burrs and material discoloration often produced by competitive 1/16" cut-off wheels.

### TYPE 1

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/16" (.062") | ⅞" | 11T242 | A-36 | 13,300 | 25 | 400 |
| 5" | 1/16" (.062") | ⅞" | 11T252 | A-36 | 12,200 | 25 | 400 |
| 6" | 1/16" (.062") | ⅞" | 11T262 | A-36 | 10,200 | 25 | 200 |
| 7" | 5/64" (.078") | ⅞" | 11T272 | A-36 | 8,600 | 25 | 100 |
| 9" | 3/32" (.094") | ⅞" | 11T292 | A-36 | 6,600 | 25 | 100 |

** Must be used with 3" clamping flange No. 30B022 (according to ANSI B7.1)*

### TYPE 27

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/16" (.062") | ⅞" | 11T453 | A-36 | 13,300 | 25 | 200 |
| 5" | 1/16" (.062") | ⅞" | 11T503 | A-36 | 12,200 | 25 | 200 |
| 6" | 1/16" (.062") | ⅞" | 11T603 | A-36 | 10,200 | 25 | 200 |

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

## CHOOSE ZIP+ XTRA™ FOR THE TOUGHEST PROJECTS!

- *Excellent performance for cutting material ⅛" and thicker*
- *4 ½" and 5" Type 27 wheels feature an exclusive narrow crown design and metal hub cladding*
- *The preferred wheel for flush cutting in confined spaces*

# TOUGHCUT™

## For the toughest, most demanding cutting applications

These wheels cut fast and free without binding, and maintain high RPM for a clean cut and superior all-around performance.

### TYPE 1

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 3/32" | ⅞" | 11R042 | A-30 | 13,300 | 25 | 200 |
| 5" | 3/32" | ⅞" | 11R052 | A-30 | 12,200 | 25 | 200 |
| 6" | 3/32" | ⅞" | 11R062 | A-30 | 10,200 | 25 | 200 |
| 7" | 3/32" | ⅞" | 11R072 | A-30 | 8,600 | 25 | 100 |
| 9" | 3/32" | ⅞" | 11R092 | A-30 | 6,600 | 25 | 100 |

** Must be used with 3" clamping flange No. 30B022 (according to ANSI B7.1)*

### Accessory

| Description | Order No. |
|---|---|
| Reducer bushing ⅞" to ⅝" | 10A984 |

# ANGLE GRINDER
# CUT AND GRIND WHEELS

## COMBO ZIP™

Fast, safe cutting and deburring with one wheel

Safely cut and deburr with just one wheel. COMBO ZIP™ is the perfect fit when operators don't want the hassle of having to change out wheels to deburr, notch or chamfer immediately after cutting. Save time and improve worker safety with COMBO ZIP™.

- *Cutting and deburring combined for less wheel changeover and greater productivity*
- *Reinforced like a grinding wheel to improve operator safety*
- *ZIP formulation guarantees fast cutting time and long life*
- *Equipped with a metal protective hub for extra strength, control and safety*

TYPE 27

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 5/64" (.078") | 7/8" | 11T842 | A-60 | 13,300 | 25 | 400 |
| 5" | 5/64" (.078") | 7/8" | 11T852 | A-60 | 12,200 | 25 | 200 |
| 6" | 5/64" (.078") | 7/8" | 11T862 | A-60 | 10,200 | 25 | 200 |

### *Triple Reinforcement COMBO ZIP™*

Three layers of reinforcement and metal cladding on the cut-off wheel's hub provides maximum safety. This feature allows the cut-off wheel to bear the force of lateral pressure and allows users to light grind/deburr in a safe manner.

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

# SPECIAL APPLICATION **CUT-OFF WHEELS**

- *Free of iron, sulfur, and chlorine so as not to contaminate stainless steel*
- *Type 27 allows more clearance for flush cutting*
- *Metal hub cladding for extra strength, control and safety*

## ZIP STAINLESS™

Guaranteed not to contaminate stainless steel

The ZIP STAINLESS™ is better than ever. This cut-off wheel is free of iron, sulfur, and chlorine ensuring it will not contaminate stainless steel or other nickel alloyed steels. It offers cool, free cuts and the best overall performance on nickel alloyed steels.

### TYPE 1

Fe-S-Cl <0.1% Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½” | 3/64” (.045”) | 7/8” | 11F042 | A-60 | 13,300 | 25 | 400 |
| 5” | 3/64” (.045”) | 7/8” | 11F052 | A-60 | 12,200 | 25 | 400 |
| 6” | 3/64” (.045”) | 7/8” | 11F062 | A-60 | 10,200 | 25 | 200 |
| 7” | 1/16” (.062”) | 7/8” | 11F072 | A-46 | 8,600 | 25 | 100 |
| 9” | 5/64” (.078”) | 7/8” | 11F092 | * A-46 | 6,600 | 25 | 100 |

** Must be used with 3” clamping flange No. 30B022 (according to ANSI B7.1)*

### TYPE 27

Fe-S-Cl <0.1% Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½” | 3/64” (.045”) | 7/8” | 11F142 | A-60 | 13,300 | 25 | 200 |
| 5” | 3/64” (.045”) | 7/8” | 11F152 | A-60 | 12,200 | 25 | 400 |
| 6” | 3/64” (.045”) | 7/8” | 11F162 | A-60 | 10,200 | 25 | 200 |
| 7” | 1/16” (.062”) | 7/8” | 11F172 | A-46 | 8,600 | 25 | 100 |
| 9” | 5/64” (.078”) | 7/8” | 11F192 | A-46 | 6,600 | 25 | 100 |

**Best wheel life and extra fast cutting on aluminum and other non-ferrous alloys*

## ZIP ALU™

Fast and free cutting of aluminum without clogging

ZIP ALU™ is designed to provide long life and quick cuts on aluminum and other non-ferrous alloys. Our special abrasive blend provides smooth, cool cuts and is guaranteed not to clog, saving you time and money.

### TYPE 1

Alu. + n.f. metals

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½” | 3/64” (.045”) | 7/8” | 11U042 | A-60-ZIP-ALU | 13,300 | 25 | 400 |
| 5” | 3/64” (.045”) | 7/8” | 11U052 | A-60-ZIP-ALU | 12,200 | 25 | 400 |
| 6” | 3/64” (.045”) | 7/8” | 11U062 | A-60-ZIP-ALU | 10,200 | 25 | 200 |
| 7” | 1/16” (.062”) | 7/8” | 11U072 | A-30-ZIP-ALU | 8,600 | 25 | 100 |

### TYPE 27

Alu. + n.f. metals

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½” | 3/64” (.045”) | 7/8” | 11U142 | A-60-ZIP-ALU | 13,300 | 25 | 400 |
| 5” | 3/64” (.045”) | 7/8” | 11U152 | A-60-ZIP-ALU | 12,200 | 25 | 400 |
| 6” | 3/64” (.045”) | 7/8” | 11U162 | A-60-ZIP-ALU | 10,200 | 25 | 200 |
| 7” | 1/16” (.062”) | 7/8” | 11U172 | A-30-ZIP-ALU | 8,600 | 25 | 100 |

# ZIP TiTAN™

## Best solution for cutting titanium and brass

For the best solution when working with titanium and brass materials, trust ZIP TiTAN™. It cuts through titanium and brass without overheating these metals, delivering a longer lasting cut-off wheel while preserving the mechanical properties and surface integrity of the material being cut. Get more cuts per wheel and faster, freer cuts on some of the industry's most challenging metals, courtesy of ZIP TiTAN™.

- ***Longer life and optimal cutting performance on titanium and brass***
- ***Unique formulation which prevents metal from overheating 100%***

**TYPE 1**

Titanium Brass Ductile Cast Iron

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 3/64" (.045") | 7/8" | 11H042 | C-60 | 13,300 | 25 | 400 |
| 5" | 3/64" (.045") | 7/8" | 11H052 | C-60 | 12,200 | 25 | 400 |
| 6" | 3/64" (.045") | 7/8" | 11H062 | C-36 | 10,200 | 25 | 200 |

# STRAIGHT GRINDER **CUT-OFF WHEELS**

## ZIP™

Small diameter performance cutting & grinding wheels with straight shaft for die grinders

ZIP™ wheels offer the best performance available on straight shaft and die grinders. They are specially formulated to run cool for maximum life and are guaranteed not to contaminate stainless steel.

For notching applications, it is recommended that you use ≥⅛".

For grinding applications, ½" is recommended.

**EXCELLENT**
CUTTING SPEED
AND WHEEL LIFE

- *Fast, cool, and free cutting, allowing the operator to work with minimal pressure for best control*
- *Superior life and cutting speed compared to competitive wheels*
- *24 grit wheels for faster cutting speeds*
- *60 grit wheels for longer life*

### 2" TYPE 1

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 2" | 1/32" | 1/4" | 11L202 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/32" | 3/8" | 11L203 | A-60 | 30,600 | 25 | 200 |
| 2" | 1/16" | 5/16" | 11L211 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/16" | 1/4" | 11L212 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/16" | 3/8" | 11L213 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/8" | 5/16" | 11L221 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/8" | 3/8" | 11L223 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/4" | 5/16" | 11L231 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/4" | 3/8" | 11L233 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/2" | 5/16" | 11L251 | A-24 | 30,600 | 25 | 200 |
| 2" | 1/2" | 3/8" | 11L253 | A-24 | 30,600 | 25 | 200 |

### 2 ½" TYPE 1

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 2 ½" | 1/16" | 3/8" | 11L263 | A-24 | 30,350 | 25 | 200 |

### 3" TYPE 1

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 3" | 1/32" | 1/4" | 11L302 | A-60 | 25,470 | 25 | 200 |
| 3" | 1/16" | 1/4" | 11L312 | A-24 | 25,470 | 25 | 200 |
| 3" | 1/8" | 1/4" | 11L322 | A-24 | 25,470 | 25 | 200 |
| 3" | 1/32" | 3/8" | 11L303 | A-60 | 25,470 | 25 | 200 |
| 3" | 1/16" | 3/8" | 11L317 | A-60 | 25,470 | 25 | 200 |
| 3" | 1/16" | 3/8" | 11L313 | A-24 | 25,470 | 25 | 200 |
| 3" | 1/8" | 3/8" | 11L323 | A-24 | 25,470 | 25 | 200 |
| 3" | 1/4" | 3/8" | 11L333 | A-24 | 25,470 | 25 | 100 |
| 3" | 1/2" | 3/8" | 11L353 | A-24 | 25,470 | 25 | 100 |

## 4” TYPE 1

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4” | 1/32” | 3/8” | 11L403 | A-60 | 19,100 | 25 | 200 |
| 4” | 1/16” | 3/8” | 11L413 | A-24 | 19,100 | 25 | 200 |
| 4” | 1/16” | 3/8” | 11L417 | A-60 | 19,100 | 25 | 200 |
| 4” | 1/8” | 3/8” | 11L423 | A-24 | 19,100 | 25 | 200 |
| 4” | 1/4” | 3/8” | 11L433 | A-24 | 19,100 | 25 | 100 |
| 4” | 1/2” | 3/8” | 11L453 | A-24 | 19,100 | 25 | 75 |
| 4” | 1/32” | 5/8” | 11L405 | A-60 | 19,100 | 25 | 200 |
| 4” | 1/16” | 5/8” | 11L415 | A-24 | 19,100 | 25 | 200 |

- *Ideal for flush cutting*
- *Metal hub cladding for extra strength and safety*

## 3” & 4” TYPE 27

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 3” | 1/32” | 3/8” | 11L308 | * | A-60 | 25,470 | 25 | 200 |
| 4” | 1/32” | 3/8” | 11L408 | ** | A-60 | 19,100 | 25 | 200 |

** Use with 1/4” mandrel 11L007*
*** Use with 1/4” mandrel 11L003*

# ZIP ALU™

Fast and free cutting of aluminum without clogging

Thin cut-off wheels specially formulated to cut a wide variety of aluminum, aluminum alloys and non-ferrous metals without clogging.

- *Best wheel life and extra fast cutting on aluminum*

## TYPE 1

Alu. + n.f. metals

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 3” | 1/32” | 3/8” | 11U303 | A-60 | 25,470 | 25 | 200 |
| 4” | 1/32” | 3/8” | 11U403 | A-60 | 19,100 | 25 | 200 |

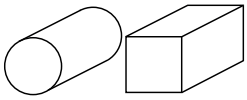
## Mounting accessories

| | |
|---|---|
| **Flush mandrels with 1/4” shaft for wheel thickness up to 1/8”** | |
| For 2 and 3” wheels, 1/4” and 3/8” arbor | **11L007** |
| For 2” wheels, 5/16” arbor | **11L001** |
| For 3” and 4” wheels, 1/4” arbor | **11L006** |
| For 3” and 4” wheels, 3/8” arbor | **11L003** |
| **General purpose mandrels with 1/4” shaft for wheel thickness up to 1/2”** | |
| For 2” wheels, 3/8” arbor | **11L008** |
| For 2” wheels, 5/16” arbor | **11L002** |
| For 3” and 4” wheels, 3/8” arbor | **11L004** |

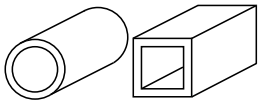
**EXTRA FAST**
CUTTING ON ALUMINUM
WITHOUT CLOGGING!

# CHOP SAW **CUT-OFF WHEELS**

## THE WHEEL OF CHOICE
FOR SOLIDS AND
STAINLESS TUBES



- *Reinforced center*
- *Optimized for use on low-power chop saws; reduces load on machine and creates fewer burrs*
- *The wheel of choice for solids and stainless steel tubing*



- *Double external reinforcement for extra safety*
- *The wheel of choice for tubing and extrusions*
- *Longer life for the toughest applications*

- *Fast and free cutting on all types of aluminum and non-ferrous metals*
- *Unique formulation which prevents clogging to extend wheel life*

- *Optimal cutting performance on titanium and brass*
- *Unique formulation prevents metal from overheating*
- *For portable and stationary saws*

## CHOPCUT™

Performance cutting with portable chop saws

These wheels have been developed specifically for use on portable chop saws. They put minimal load on the motor, making them easy on both the operator and the tool. Best of all, CHOPCUT™ wheels deliver quick cuts and exceptional lifespan.

### *CHOPCUT*
General purpose **TYPE 1**

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 12” | 3/32” | 1” | 10Q123 | A-30 | 5,100 | 10 | 50 |
| 14” | 3/32” | 1” | 10Q143 | A-30 | 4,400 | 10 | 50 |
| 16” | 7/64” | 1” | 10Q163 | A-30 | 3,800 | 10 | 30 |

### *CHOPCUT II*
High performance **TYPE 1**

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 12” | 3/32” | 1” | 10P123 | A-30 | 5,100 | 10 | 50 |
| 14” | 3/32” | 1” | 10P143 | A-30 | 4,400 | 10 | 50 |
| 16” | 7/64” | 1” | 10P163 | A-30 | 3,800 | 10 | 30 |

### *CHOPCUT ALU*
ALU **TYPE 1**

Alu. + n.f. metals

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 12” | 3/32” | 1” | 10L123 | A-30 | 5,100 | 10 | 50 |
| 14” | 3/32” | 1” | 10L143 | A-30 | 4,400 | 10 | 50 |

### *CHOPCUT TITAN*
Titanium **TYPE 1**

Titanium Ductile Brass Cast Iron

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 14” | 1/8” (.125”) | 1” | 10H143 | C-30 | 4,400 | 10 | 50 |
| 16” | 9/64” (.125”) | 1” | 10H163 | C-30 | 3,800 | 10 | 30 |

# STATIONARY SAW **CUT-OFF WHEELS**

## RIPCUT™

High performance cutting on stationary cut-off machines

Available in several styles, these heavily reinforced wheels can tackle anything from thin-walled profiles to heavy solids, while providing fast cuts and long life, to give you the lowest cost-per-cut in the industry.

**FOR THE LOWEST**
COST PER CUT!

### *RIPCUT*
General purpose **TYPE 1**

Fe-S-Cl <0.1% · Steel · Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 12" | 1/8" | 1" | 10B123 | A-24 | 5,100 | 10 | 50 |
| 14" | 1/8" | 1" | 10B143 | A-24 | 4,400 | 10 | 30 |
| 16" | 5/32" | 1" | 10B163 | A-24 | 3,800 | 10 | 30 |
| 18" | 3/16" | 1" | 10B183 | A-24 | 3,400 | 10 | 20 |
| 20" | 3/16" | 1" | 10B203 | A-24 | 3,000 | 5 | 10 |

- *The most versatile wheel*
- *Cuts thin-walled profiles to heavy solids*
- *The preferred wheel for low-power machines (<10 HP)*

### *RIPCUT II*
High performance **TYPE 1**

Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 12" | 1/8" | 1" | 10A123 | A-24 | 5,100 | 10 | 50 |
| 14" | 1/8" | 1" | 10A143 | A-24 | 4,400 | 10 | 30 |
| 16" | 5/32" | 1" | 10A163 | A-24 | 3,800 | 10 | 30 |
| 18" | 3/16" | 1" | 10A183 | A-24 | 3,400 | 10 | 20 |
| 20" | 3/16" | 1" | 10A203 | A-24 | 3,000 | 5 | 10 |

- *Outperforms all other comparable wheels*
- *Cuts almost anything from thin wall shapes to solid shafts*
- *For use on high power machines (>10 HP)*

### *RIPCUT STAINLESS*
Stainless **TYPE 1**

Fe-S-Cl <0.1% · Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 14" | 1/8" | 1" | 10C143 | A-36 | 4,400 | 10 | 30 |

- *Specially formulated to cut all types of stainless and alloyed steels*
- *Fast and cool cutting with less burrs and discoloration*

### Accessories

**Reducer bushings**

| From | To | Order No. | From | To | Order No. |
|---|---|---|---|---|---|
| 40 mm | 1 1/2" | 10A992 | 1" | 3/4" | 10A987 |
| 40 mm | 1" | 10A990 | 1" | 5/8" | 10A986 |
| 1" | 20 mm | 10A989 | 1" | 1/2" | 10A985 |
| 1" | 7/8" | 10A988 | | | |

# GAS SAW **CUT-OFF WHEELS**

## PORTACUT™

High speed cutting with gas and electric power saws

These premium wheels stand out as the most reliable cut-off wheels for all on-site cutting jobs. Reinforced for added safety and formulated for an optimal cutting speed and wheel life ratio, PORTACUT™ is the preferred choice for professionals who demand “only the best” in performance and jobsite safety.

- *General purpose cutting of steel and cast iron*
- *Designed for cutting of concrete, concrete blocks, stone, asphalt, etc.*
- *General purpose cutting of reinforced concrete pipes, ductile iron, PVC, and other plastic pipes*

### TYPE 1

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 12” | ⅛” | 20 mm STIHL | 11A121 | A-24 | 6,300 | 10 | 50 |
| 12” | ⅛” | ⅞” PARTNER | 11A122 | A-24 | 6,300 | 10 | 50 |
| 12” | ⅛” | 1” | 11A123 | A-24 | 6,300 | 10 | 50 |
| 14” | ⅛” | 20 mm STIHL | 11A141 | A-24 | 5,400 | 10 | 30 |
| 14” | ⅛” | ⅞” PARTNER | 11A142 | A-24 | 5,400 | 10 | 30 |
| 14” | ⅛” | 1” | 11A143 | A-24 | 5,400 | 10 | 30 |

### TYPE 1

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 12” | ⅛” | 20 mm STIHL | 11D121 | C-24 | 6,300 | 10 | 50 |
| 12” | ⅛” | 1” | 11D123 | C-24 | 6,300 | 10 | 50 |
| 14” | ⅛” | 20 mm STIHL | 11D141 | C-24 | 5,400 | 10 | 30 |
| 14” | ⅛” | 1” | 11D143 | C-24 | 5,400 | 10 | 30 |

# RAIL SAW **CUT-OFF WHEELS**

- *Made with premium abrasive grains and resin*
- *Heavily reinforced for maximum safety and smoothness*
- *Railcut II **Long Life** for longer life and use on softer (new) rail - Best option for **hydraulic saws***
- *Railcut II **Fast Cut** for faster cutting and minimal deflection on hardened (used) rail - Best option for **gas saws***

## RAILCUT II™

Premium wheels for cutting all types of rail

RAILCUT II™ wheels are designed for fast cutting on all types of rails without glazing. They are heavily reinforced for maximum safety, smooth cutting and more cuts per wheel than ever before.

### *RAILCUT II LONG LIFE*

TYPE 1

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 14” | 5/32” | 1” | 11V143 | ZA-24 | 5,400 | 10 | 30 |
| 16” | 5/32” | 1” | 11V163 | ZA-24 | 4,700 | 10 | 30 |

### *RAILCUT II FAST CUT*

TYPE 1

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 14” | 5/32” | 1” | 11V145 | ZA-24 | 5,400 | 10 | 30 |
| 16” | 5/32” | 1” | 11V165 | ZA-24 | 4,700 | 10 | 30 |

**Accessories**

**Reducer bushings**

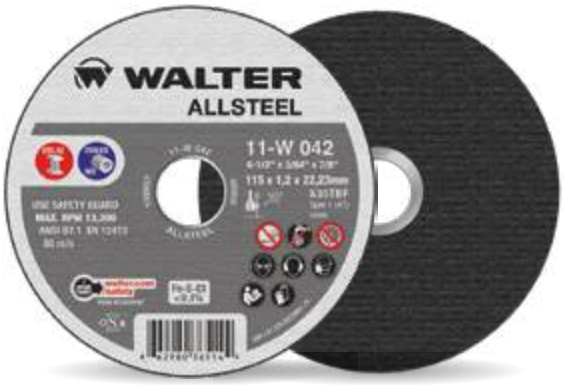
| From | To | Order No. |
|---|---|---|
| 1” | 20 mm | 10A989 |
| 1” | 7/8” | 10A988 |

# ALLSTEEL™

*New & Improved Formula Allows For 20% More Cuts*

## ALLSTEEL™ CUT-OFF WHEELS

ALLSTEEL™ high-performance cut-off wheels are specially formulated for fast cutting action for a superior performance-to-price ratio. Free of iron, sulfur and chlorine, they're guaranteed not to contaminate stainless steel or other nickel-alloyed steels.




- *The perfect choice for steel and stainless steel*
- *Excellent overall performance*
- *Free of iron, sulfur and chlorine - will not contaminate stainless steel*
- *Type 1 ensures longer life*
- *Type 27 allows more clearance for flush cutting*
- *OSA Certification*

TYPE 1

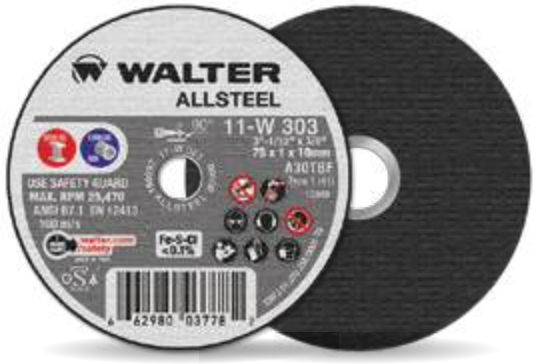
| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 11W042 | 4-1/2'' | 3/64'' (.045) | 7/8'' | A-30 | 13,300 | 25 | 400 |
| 11W052 | 5'' | 3/64'' (.045) | 7/8'' | A-30 | 12,250 | 25 | 400 |
| 11W062 | 6'' | 1/16'' (.062) | 7/8'' | A-30 | 10,200 | 25 | 200 |
| 11W072 | 7'' | 5/64'' (.078) | 7/8'' | A-30 | 8,500 | 25 | 100 |

TYPE 27

| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 11W142 | 4-1/2'' | 3/64'' (.045) | 7/8'' | A-30 | 13,300 | 25 | 400 |
| 11W152 | 5'' | 3/64'' (.045) | 7/8'' | A-30 | 12,250 | 25 | 400 |
| 11W162 | 6'' | 1/16'' (.062) | 7/8'' | A-30 | 10,200 | 25 | 200 |
| 11W172 | 7'' | 5/64'' (.078) | 7/8'' | A-30 | 8,500 | 25 | 100 |

## ALLSTEEL™ MINI CUT-OFF WHEELS

Made of bonded aluminum oxide grains, ALLSTEEL™ Mini cut-off wheels deliver excellent performance on straight shaft and die grinders, pneumatic or electric.




- *Fast cut rate*
- *Perfect for cutting steel and stainless steel*
- *Free of iron, sulfur and chlorine - will not contaminate stainless steel*

TYPE 1

| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 11W303 | 3'' | 1/32'' | 3/8'' | A-46 | 25,470 | 25 | 150 |
| 11W312 | 3'' | 1/16'' | 1/4'' | A-46 | 25,470 | 25 | 150 |
| 11W313 | 3'' | 1/16'' | 3/8'' | A-46 | 25,470 | 25 | 150 |
| 11W403 | 4'' | 1/32'' | 3/8'' | A-46 | 19,100 | 25 | 150 |
| 11W413 | 4'' | 1/16'' | 3/8'' | A-46 | 19,100 | 25 | 150 |
| 11W423 | 4'' | 1/8'' | 3/8'' | A-46 | 19,100 | 25 | 150 |

# ALLSTEEL™ CHOPSAW WHEELS

ALLSTEEL™ Chopsaw wheels offer optimal cutting rates. Made with a rigid and versatile body construction, these wheels are designed for the demands of portable chop saw applications.

- *Fast cuts on structural steel cross sections, pipes, and tubing*
- *Great performance - excellent control for added safety*
- *Optimized for long life - the economical choice*
- *OSA Certification*

TYPE 1

| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 10W123 | 12'' | 7/64'' | 1'' | A-30 | 5,100 | 10 | 50 |
| 10W143 | 14'' | 1/8'' | 1'' | A-30 | 4,400 | 10 | 30 |

Steel Stainless Steel

# ALLSTEEL™ GAS SAW WHEELS

ALLSTEEL™ gas saw wheels are engineered to cut all ferrous metals including steel and stainless steel, quickly and efficiently. These high-performance wheels are heavily reinforced for maximum operator safety. They run cool and provide clean cuts and a long wheel life.

- *Perfect for cutting steel and stainless steel*
- *Provides a cool, clean cut*
- *Excellent control for optimum safety*

TYPE 1

| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 11W321 | 12'' | 1/8'' | 20 mm (STIHL) | A-24 | 6,300 | 10 | 50 |
| 11W341 | 14'' | 1/8'' | 20 mm (STIHL) | A-24 | 5,400 | 10 | 30 |

Steel Stainless Steel

# THE **BUCKET** PROGRAM

## *A simple and easy way to gather data and make recommendations*

Today's competitive marketplace makes it essential for companies to adapt to new realities and evaluate ways to improve performance, productivity, safety and to make daily operations more cost-effective.

As the global industry leader in metalworking technologies, WALTER has developed the **Bucket Program** as a non-intrusive way to analyze usage and help you reach these targets in your abrasive and tooling operations.

*Done in **YOUR** working environment, based on **YOUR** challenges.*

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### *HOW DOES IT WORK?*

- **STEP 1:**
  Current process evaluation and data collection
- **STEP 2:**
  New process evaluation using only WALTER products
- **RESULTS:**
  Documented cost savings report and recommendations

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## If we can't prove savings, we will credit the difference!

*Contact your WALTER representative or distributor and ask how you can participate in the WALTER Bucket Program.*

# 03
# GRINDING

# GRINDING PRODUCTS AT A GLANCE

## NEW

SMART RESIN™ TECHNOLOGY

### Smart Resin™ Technology

SMART RESIN™ Technology exposes fresh grains at optimal times to optimize the balance between sharpness & life.

| | | | | | Material Specific |
|---|---|---|---|---|---|
| | **HP™** | **HP XX™** | **XCAVATOR™** | **XCAVATOR XX™** | **STAINLESS™** |
| | | | | | |
| **Application Need** | For general grinding applications requiring consistent performance and control | For heavy-duty grinding tasks requiring the longest wheel life and superior material removal | For high removal rate on steel, stainless steel, and hard metals with minimal vibration | For ultra-fast material removal and reduced operator stress in heavy-duty grinding on steel and stainless steel | For grinding stainless steel without contamination, ensuring a clean finish |
| **SMART RESIN™** | | | | ✔ | |
| **Durability** | • • | • • • | • • • | • • • • | • • • |
| **Material Removal Rate** | • • | • • | • • • | • • • • | • • • |
| **Comfort** | • • • • | • • • | • • • • | • • • | • • • |
| **Grain Type** | Aluminum Oxide (AO) | Alu Oxide + Zirconia (AO + ZA) | Zirconia (ZA) | Ceramic (CA) | Aluminum Oxide (AO) |
| **Features** | • High-performance wheel that grinds off metal swiftly<br>• Long wheel life | • Longest lasting grinding wheel<br>• Improved bonding technology and state-of-the-art manufacturing | • Comfort Max Technology<br>• Advanced design prevents edge flaking for better balance<br>• Fe-S-Cl < 0.1% | • Effortless grinding<br>• Highest removal rate<br>• Most durable<br>• Fe-S-Cl < 0.1% | • Excellent durability for stainless steel applications<br>• Won't contaminate stainless steel |

## EXCLUSIVE TO WALTER
## CONVENIENT AND SAFE!

***SPIN-ON quick-change mounting***

- Ultra resistant built-in threaded arbor for quick and easy disc changes while ensuring operator safety
- All the safety and comfort of using a wheel with a 5/8"-11 metal hub at just a fraction of the price

| Material Specific | | Application Specific | | | |
|---|---|---|---|---|---|
| **ALU™** | **CONCRETE™** | **FLEXCUT™** | **FLEXCUT XX™** | **FLEXCUT MILL SCALE™** | **PIPEFITTER™** |
| | | | | | |
| For grinding aluminum surfaces with a cool cutting action to prevent clogging | For effective grinding of concrete surfaces, providing a clean and smooth finish | For versatile grinding applications with excellent flexibility and handling on various materials | For ultra-fast removal of steel, stainless, and tough mill scale, delivering consistent, clean results on flat or curved surfaces. | For efficient removal of mill scale and other tough coatings on metal surfaces | For premium performance in pipeline construction, ensuring high removal rates and durability |
| | | | ✔ | | |
| • • • | • • • | • • | • • • • | • • | • |
| • • | • • | • • • | • • • • | • • • | • • • |
| • • • | • • • | • • • • | • • • • | • • • • | • • • • |
| Aluminum Oxide (AO) | Ceramic (CA) | Aluminum Oxide (AO) | Ceramic (CA) | Aluminum Oxide (AO) | Aluminum Oxide (AO) |
| • Fast and free cutting without clogging<br>• Suitable for cutting & intermittent light grinding<br>• Free of waxes and lubricants | • Fast material removal and smooth operation on concrete, masonry, stone, etc.<br>• Extra hard silicon carbide grain for superior life and performance | • Superior removal on all ferrous and non-ferrous metals without clogging<br>• Deep Diamond-Cut™ pattern for more flexibility and better handling on flat and curved surfaces | • Superior removal on all ferrous and non-ferrous metals without clogging<br>• Deep DiamondCut™ pattern for more flexibility and better handling on flat and curved surfaces | • Open diamond cut pattern that prevents clogging<br>• Extremely effective performance on heavily rusted plates, aluminum, galvanized metal, and painted materials | • Thin design for fast and free cutting<br>• Fe-S-Cl < 0.1%<br>• Essential for pipeline construction and pipe |

# ANGLE GRINDER **GRINDING WHEELS**

## XCAVATOR XX™

Ultra-fast removal, stress-free

WALTER's XCAVATOR™ XX delivers premium performance so operators can remove more material faster in a comfortable grinding experience. Its unique ceramic grain blend delivers ultra-fast removal rates while reducing operator stress. Its durability and long life contribute to fewer wheel changeovers. The all-powerful XCAVATOR™ XX is the most productive wheel for heavy-duty grinding on steel and stainless steel. Work better. Work less.

**ULTRA-FAST**
REMOVAL RATE
ON THE TOUGHEST
METALS

SMART RESIN™ TECHNOLOGY

- *SMART RESIN™ Technology exposes fresh grains at optimal times to optimize the balance between sharpness & life*
- *Ultra-fast removal rate*
- *Comfortable grinding experience that maximizes productivity*
- *Advanced design prevents edge flaking for better balance and safety*
- *Ferrous-free formulation (will not contaminate stainless steel)*

### 1/8" TYPE 27

Fe-S-Cl <0.1% · Steel · Stainless Steel · Hard

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/8" | 7/8" | 08X452 | CA-24 | 13,300 | 10 | 40 |
| 5" | 1/8" | 7/8" | 08X502 | CA-24 | 12,250 | 10 | 40 |
| 6" | 1/8" | 7/8" | 08X602 | CA-24 | 10,200 | 10 | 40 |
| 7" | 1/8" | 7/8" | 08X702 | CA-24 | 8,600 | 10 | 40 |
| 9" | 1/8" | 7/8" | 08X902 | CA-24 | 6,650 | 10 | 40 |

### 1/4" TYPE 27

Fe-S-Cl <0.1% · Steel · Stainless Steel · Hard

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/4" | 7/8" | 08X450 | CA-24 | 13,300 | 10 | 40 |
| 5" | 1/4" | 7/8" | 08X500 | CA-24 | 12,250 | 10 | 40 |
| 6" | 1/4" | 7/8" | 08X600 | CA-24 | 10,200 | 10 | 40 |
| 7" | 1/4" | 7/8" | 08X700 | CA-24 | 8,600 | 10 | 40 |
| 9" | 1/4" | 7/8" | 08X900 | CA-24 | 6,650 | 10 | 40 |

### 1/8" TYPE 27

Fe-S-Cl <0.1% · Steel · Inox. · Hard

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/8" | 5/8"-11 Metal hub | 08X457 | CA-24 | 13,300 | 10 | 40 |
| 6" | 1/8" | 5/8"-11 Metal hub | 08X607 | CA-24 | 10,200 | 10 | 40 |
| 7" | 1/8" | 5/8"-11 Metal hub | 08X707 | CA-24 | 8,600 | 10 | 40 |
| 9" | 1/8" | 5/8"-11 Metal hub | 08X907 | CA-24 | 6,650 | 10 | 40 |

### 1/4" TYPE 27

Fe-S-Cl <0.1% · Steel · Inox. · Hard

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/4" | 5/8"-11 Metal hub | 08X455 | CA-24 | 13,300 | 10 | 40 |
| 6" | 1/4" | 5/8"-11 Metal hub | 08X605 | CA-24 | 10,200 | 10 | 40 |
| 7" | 1/4" | 5/8"-11 Metal hub | 08X705 | CA-24 | 8,600 | 10 | 40 |
| 9" | 1/4" | 5/8"-11 Metal hub | 08X905 | CA-24 | 6,650 | 10 | 40 |

# XCAVATOR™

## High removal rate on steel, stainless steel, and hard metals

XCAVATOR™ has been redesigned to incorporate the latest innovation in Type 27 depressed center grinding wheels. The Comfort Max™ Technology in the hub of the wheel helps to minimize vibration, providing the operator with more comfortable, ergonomic work conditions without sacrificing productivity. XCAVATOR™ delivers premium performance, high removal rate in steel and stainless steel, and can confront some of the industry's toughest metals, such as tungsten carbide and quenched and tempered steel. Eliminate bottlenecks in your production process and reduce the amount of time spent grinding with the Xcavator™ with Comfort Max™ Technology, exclusive to WALTER Surface Technologies.

COMFORT MAX™ TECHNOLOGY

### ¼" TYPE 27

Fe-S-Cl <0.1% | Steel | Stainless Steel | Hard

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¼" | ⅞" | 08P460 | ZA-16 | 13,300 | 25 | 100 |
| 5" | ¼" | ⅞" | 08P510 | ZA-16 | 12,200 | 25 | 100 |
| 6" | ¼" | ⅞" | 08P600 | ZA-16 | 10,200 | 25 | 100 |
| 7" | ¼" | ⅞" | 08P700 | ZA-16 | 8,600 | 25 | 50 |
| 9" | ¼" | ⅞" | 08P900 | ZA-16 | 6,600 | 25 | 50 |

### ¼" TYPE 27S SPIN-ON

Fe-S-Cl <0.1% | Steel | Stainless Steel | Hard

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¼" | ⅝"-11 | 08P450 | ZA-16 | 13,300 | 20 | 80 |
| 5" | ¼" | ⅝"-11 | 08P500 | ZA-16 | 12,200 | 20 | 80 |

*Always use with flange 30B057.*

### ¼" TYPE 27

Fe-S-Cl <0.1% | Steel | Inox. | Hard

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¼" | ⅝"-11 Metal hub | 08P455 | ZA-24 | 13,300 | 10 | 40 |
| 7" | ¼" | ⅝"-11 Metal hub | 08P705 | ZA-24 | 8,600 | 10 | 40 |
| 9" | ¼" | ⅝"-11 Metal hub | 08P905 | ZA-24 | 6,600 | 10 | 40 |

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

## COMFORTABLE GRINDING, NO MATTER THE APPLICATION

- *Comfort Max ™ Technology provides a smoother, more comfortable grinding experience without sacrificing productivity*
- *Patented multi-layer technology*
- *Advanced design prevents edge flaking for better balance and added safety*
- *Optimal power transfer from operator to working surface*
- *Fe-Free formulation (guaranteed not to contaminate stainless steel)*

## SMOOTH GRINDING
WITH AN AGGRESSIVE, CONTROLLED BITE

- *High performance wheel that grinds off metal swiftly*
- *Smooth grinding with an aggressive, controlled bite*
- *Long wheel life*

# HP™

High performance and exceptional comfort for everyday grinding

The HP™ has set new industry benchmarks in general purpose grinding on steel and stainless steel. With an abrasive grain formula engineered for greater hardness and wear resistance, HP™ wheels remove metal faster and with less effort to provide one of the best overall values in grinding.

### ¼" TYPE 27S — SPIN-ON

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¼" | ⅝"-11 | 08B450 | A-24 | 13,300 | 20 | 80 |
| 5" | ¼" | ⅝"-11 | 08B500 | A-24 | 12,200 | 20 | 80 |
| 6" | ¼" | ⅝"-11 | 08B630 | A-24 | 10,200 | 20 | 80 |

*Always use ¼" wheels with flange 30B057.*

### ¼" TYPE 28S — SPIN-ON

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 5" | ¼" | ⅝"-11 | 08B501 | A-24 | 12,200 | 20 | 80 |

*Always use ¼" wheels with flange 30B057.*

### ¼" TYPE 27

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 3" | ¼" | ⅜" | 08B310 | A-24 | 20,000 | 25 | 100 |
| 4" | ¼" | ⅜" | 08B410 | A-24 | 15,300 | 25 | 100 |
| 4" | ¼" | ⅝" | 08B400 | A-24 | 15,300 | 25 | 100 |
| 4 ½" | ¼" | ⅞" | 08B460 | A-24 | 13,300 | 25 | 100 |
| 5" | ¼" | ⅞" | 08B510 | A-24 | 12,200 | 25 | 100 |
| 6" | ¼" | ⅞" | 08B600 | A-24 | 10,200 | 25 | 100 |
| 7" | ¼" | ⅞" | 08B710 | A-24 | 8,600 | 25 | 50 |
| 9" | ¼" | ⅞" | 08B910 | A-24 | 6,600 | 25 | 50 |

### ¼" TYPE 28

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 7" | ¼" | ⅞" | 08B701 | A-24 | 8,600 | 25 | 50 |
| 9" | ¼" | ⅞" | 08B901 | A-24 | 6,600 | 25 | 50 |

***GET DOUBLE THE LIFE OF YOUR HP WHEELS WHEN COMBINED WITH THE MINI PLUS!***
*See page 150*

# HP COMBO™

## High performance cutting and grinding; all in one wheel

These ⅛" wheels set new standards for performance in combined depressed center wheels (for portable angle grinders). They are specially reinforced to withstand the stress in off-hand cutting operations. Whether cutting, grooving, notching, or light grinding, these wheels are guaranteed to give you the longest wheel life, fastest material removal, and maximum safety.

**⅛" TYPE 27S** — SPIN-ON — Steel — Inox.

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ⅛" | ⅝"-11 | 08B452 | A-30 | 13,300 | 25 | 200 |
| 4 ½" | ⅛" | ⅝"-11 Metal hub | 08B457 | A-30 | 13,300 | 10 | 80 |
| 5" | ⅛" | ⅝"-11 | 08B502 | A-30 | 12,200 | 25 | 200 |
| 5" | ⅛" | ⅝"-11 Metal hub | 08B507 | A-30 | 12,200 | 10 | 80 |
| 6" | ⅛" | ⅝"-11 | 08B632 | A-24 | 10,200 | 25 | 100 |
| 7" | ⅛" | ⅝"-11 Metal hub | 08B717 | A-24 | 8,600 | 10 | 40 |
| 9" | ⅛" | ⅝"-11 Metal hub | 08B917 | A-24 | 6,600 | 10 | 40 |

*Always use ⅛" wheels with flange 30-B 057.*

**⅛" TYPE 27** — Steel — Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 3" | ⅛" | ⅜" | 08B312 | A-24 | 20,000 | 25 | 200 |
| 4" | ⅛" | ⅜" | 08B412 | A-24 | 15,300 | 25 | 200 |
| 4" | ⅛" | ⅝" | 08B402 | A-24 | 15,300 | 25 | 200 |
| 4 ½" | ⅛" | ⅞" | 08B462 | A-30 | 13,300 | 25 | 200 |
| 5" | ⅛" | ⅞" | 08B512 | A-30 | 12,200 | 25 | 200 |
| 6" | ⅛" | ⅞" | 08B602 | A-30 | 10,200 | 25 | 100 |
| 7" | ⅛" | ⅞" | 08B712 | A-30 | 8,600 | 25 | 100 |
| 9" | ⅛" | ⅞" | 08B912 | A-30 | 6,600 | 25 | 100 |

## IDEAL FOR BOTH CUTTING AND GRINDING WORK

- ***Hold its cutting edge longer to provide more cuts per wheel***
- ***Designed for maximum operator safety***

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

# HP XX™

## Premium grinding at the lowest overall cost

HP XX™ incorporates the latest advances in abrasive grain, bonding, and manufacturing technology to substantially lower your total grinding costs. With the longest life in our grinding wheel lineup and extremely aggressive material removal, HP XX™ will allow you to achieve the lowest overall cost of grinding on steel.

- ***Our longest lasting grinding wheel***
- ***Improved bonding technology and state-of-the-art manufacturing ensure a working life that is unsurpassed***

**SPIN-ON**

### Additional benefits of Spin-On

- ***Built-in threaded arbor ensures minimum vibration for maximum operator comfort***
- ***No need for a pin key***

All 7" × ⅛", 7" × ¼", 9" × ⅛" and 9" × ¼" depressed center wheels are available with threaded hubs ⅝"–11 mounted.

*Order numbers for mounted wheels are 5-numbers higher.*

*For example:*
08B712 + 5 = 08B717 = 7" × ⅛" × ⅝"–11 A-30-COMBO cutting/grinding wheel.
Std. Pkg.: 10.

***GET DOUBLE THE LIFE OF YOUR HP XX WHEELS WHEN COMBINED WITH THE PRO 5 GRINDER!***
*See page 151*

### ⅛" TYPE 27

Steel Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ⅛" | ⅞" | 08H452 | ZA-24 | 13,300 | 25 | 200 |
| 5" | ⅛" | ⅞" | 08H502 | ZA-24 | 12,200 | 25 | 200 |
| 6" | ⅛" | ⅞" | 08H602 | ZA-24 | 10,200 | 25 | 200 |

### ¼" TYPE 27S SPIN-ON

Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¼" | ⅝"–11 | 08K450 | ZA-20 | 13,300 | 20 | 80 |
| 5" | ¼" | ⅝"–11 | 08K500 | ZA-20 | 12,200 | 20 | 80 |

*Always use with flange 30B057 listed on page 207.*

### ¼" TYPE 27

Steel Inox.

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¼" | ⅞" | 08-H 450 | ZA-24 | 13,300 | 25 | 100 |
| 4 ½" | ¼" | ⅝"-11 Metal hub | 08-H 455 | ZA-24 | 13,300 | 10 | 40 |
| 5" | ¼" | ⅞" | 08-H 500 | ZA-24 | 12,200 | 25 | 100 |
| 6" | ¼" | ⅞" | 08-H 600 | ZA-24 | 10,200 | 25 | 100 |
| 7" | ¼" | ⅞" | 08-H 700 | ZA-24 | 8,600 | 25 | 50 |
| 7" | ¼" | ⅝"-11 Metal hub | 08-H 705 | ZA-24 | 8,600 | 10 | 40 |
| 9" | ¼" | ⅞" | 08-H 900 | ZA-24 | 6,600 | 25 | 50 |
| 9" | ¼" | ⅝"-11 Metal hub | 08-H 905 | ZA-24 | 6,600 | 10 | 40 |

### ¼" TYPE 28

Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 7" | ¼" | ⅞" | 08-K 701 | ZA-24-HPS | 8,600 | 25 | 50 |
| 7" | ¼" | ⅝"-11 Metal hub | 08-K 706 | ZA-16 | 8,600 | 10 | 40 |
| 9" | ¼" | ⅞" | 08-K 901 | ZA-24-HPS | 6,600 | 25 | 50 |
| 9" | ¼" | ⅝"-11 Metal hub | 08-K 906 | ZA-16 | 6,600 | 10 | 40 |

# STAINLESS™

## Superior performance on stainless steel

When you need a wheel that is guaranteed not to contaminate stainless steel, this is the wheel for the job. These wheels do not contain any iron, sulfur, or chlorine and are designed to hug the workpiece for controlled grinding and a smooth, high-quality finish.

### 1/8" cutting and light grinding:

- *High performance cutting and intermittent light grinding*
- *Maintain a superior cutting edge*

**1/8" TYPE 27S** — SPIN-ON — Fe-S-Cl <0.1% — Inox.

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/8" | 5/8"-11 | 08-F 452 | A-30 | 13,300 | 25 | 100 |
| 4 ½" | 1/8" | 5/8"-11 Metal hub | 08-F 457 | A-30 | 13,300 | 10 | 40 |
| 5" | 1/8" | 5/8"-11 | 08-F 502 | A-30 | 12,200 | 25 | 100 |
| 7" | 1/8" | 5/8"-11 Metal hub | 08-F 707 | A-30 | 8,600 | 10 | 40 |

**1/8" TYPE 27** — Fe-S-Cl <0.1% — Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/8" | 7/8" | 08F462 | A-30 | 13,300 | 25 | 200 |
| 5" | 1/8" | 7/8" | 08F512 | A-30 | 12,200 | 25 | 200 |
| 6" | 1/8" | 7/8" | 08F602 | A-30 | 10,200 | 25 | 100 |
| 7" | 1/8" | 7/8" | 08F702 | A-30 | 8,600 | 25 | 100 |

*Always use 1/8" wheels with flange 30B057.*

### 1/4" grinding:

- *Fast and easy changeover of wheel for minimum downtime*
- *High performance and superior control in the most demanding grinding applications*

**1/4" TYPE 27S** — SPIN-ON — Fe-S-Cl <0.1% — Inox.

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/4" | 5/8"-11 | 08-F 450 | A-30 | 13,300 | 20 | 80 |
| 4 ½" | 1/4" | 5/8"-11 Metal hub | 08-F 455 | A-30 | 13,300 | 10 | 40 |
| 5" | 1/4" | 5/8"-11 | 08-F 500 | A-30 | 12,200 | 20 | 80 |
| 7" | 1/4" | 5/8"-11 Metal hub | 08-F 705 | A-30 | 8,600 | 10 | 40 |
| 9" | 1/4" | 5/8"-11 Metal hub | 08-F 905 | A-30 | 6,600 | 10 | 40 |

**1/4" TYPE 27** — Fe-S-Cl <0.1% — Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/4" | 7/8" | 08F460 | A-30 | 13,300 | 25 | 100 |
| 5" | 1/4" | 7/8" | 08F510 | A-30 | 12,200 | 25 | 100 |
| 6" | 1/4" | 7/8" | 08F600 | A-30 | 10,200 | 25 | 100 |
| 7" | 1/4" | 7/8" | 08F700 | A-30 | 8,600 | 25 | 50 |

**WILL NOT**
CONTAMINATE
STAINLESS STEEL

- *Fast and cool stock removal*
- *High performance and superior control in the most demanding grinding applications*

**1/4" TYPE 28S** — SPIN-ON — Fe-S-Cl <0.1% — Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/4" | 5/8"-11 | 08F451 | A-30 | 13,300 | 10 | 80 |

*Always use 1/4" wheels with flange 30B057.*

## NO CLOGGING
IN ANY TYPE OF ALUMINUM

### ⅛" cutting and light grinding:

- *Formulated for cutting but may also be used for intermittent light grinding*
- *Fast and free cutting*

### ¼" grinding:

- *Fast removal rate and long wheel life*
- *Free of waxes and lubricants*

# ALU™

For use on aluminum and other soft metals

These wheels will not clog or glaze when working with aluminum or other non-ferrous metals. They are free of waxes and lubricants, so there is no need to clean the surface before welding or apply a surface coating, eliminating a time-consuming step in surface preparation.

**⅛" TYPE 27**

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ⅛" | ⅞" | 08-L 452 | A-24 | 13,300 | 25 | 200 |
| 5" | ⅛" | ⅞" | 08-L 502 | A-24 | 12,200 | 25 | 200 |
| 6" | ⅛" | ⅞" | 08-L 602 | A-24 | 10,200 | 25 | 100 |
| 7" | ⅛" | ⅞" | 08-L 702 | A-24 | 8,600 | 25 | 100 |
| 7" | ⅛" | ⅝"-11 Metal hub | 08-L 707 | A-24 | 8,600 | 10 | 40 |
| 9" | ⅛" | ⅞" | 08-L 902 | A-24 | 6,600 | 25 | 100 |
| 9" | ⅛" | ⅝"-11 Metal hub | 08-L 907 | A-24 | 6,600 | 10 | 40 |

**¼" TYPE 27**

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¼" | ⅞" | 08-L 450 | A-24 | 13,300 | 25 | 100 |
| 4 ½" | ¼" | ⅝"-11 Metal hub | 08-L 455 | A-24 | 13,300 | 10 | 40 |
| 5" | ¼" | ⅞" | 08-L 500 | A-24 | 12,200 | 25 | 100 |
| 6" | ¼" | ⅞" | 08-L 600 | A-24 | 10,200 | 25 | 100 |
| 7" | ¼" | ⅞" | 08-L 700 | A-24 | 8,600 | 25 | 50 |
| 7" | ¼" | ⅝"-11 Metal hub | 08-L 705 | A-24 | 8,600 | 10 | 40 |
| 9" | ¼" | ⅞" | 08-L 900 | A-24 | 6,600 | 25 | 50 |
| 9" | ¼" | ⅝"-11 Metal hub | 08-L 905 | A-24 | 6,600 | 10 | 40 |

- *Fast and free cutting*
- *Formulated for cutting but may also be used for intermittent light grinding*

- *Excellent control in demanding applications*
- *Extra hard silicon carbide grain for fast material removal and long wheel life*
- *Superior performance in hard facing and cast iron*

# CONCRETE™

High performance grinding and cutting

These wheels have multiple high-strength reinforcements and durable bonds for extra safety in tough grinding and cutting applications. They are designed for fast material removal and smooth grinding and cutting of concrete, masonry, stone, and other similar building materials.

**⅛" TYPE 27**

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ⅛" | ⅞" | 08D452 | C-24 | 13,300 | 25 | 200 |
| 5" | ⅛" | ⅞" | 08D502 | C-24 | 12,200 | 25 | 200 |

**¼" TYPE 27**

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¼" | ⅞" | 08E450 | C-24 | 13,300 | 25 | 100 |
| 5" | ¼" | ⅞" | 08E500 | C-24 | 12,200 | 25 | 100 |

# FLEXCUT™

## Premium performance on curved or uneven surfaces

FLEXCUT™, the leading flexible grinding wheel for over 25 years, is specially formulated to deliver superior removal on all ferrous and non-ferrous metals without clogging or loading.

**BLENDS IN PERFECTLY**
ON UNEVEN SURFACES
AND WILL NEVER CLOG
ON ALUMINUM

### TYPE 29

Fe-S-Cl <0.1% | Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Arbor | Grit | Order No. | | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 3” | ⅜” | A-36-X-FLEX | 15L303 | * | 20,400 | 25 | 200 |
| 4 ½” | ⅞” | A-36-X-FLEX | 15L463 | | 13,300 | 25 | 200 |
| 5” | ⅞” | A-36-X-FLEX | 15L513 | | 12,200 | 25 | 200 |
| 5” | ⅞” | A-60-X-FLEX | 15L516 | | 12,200 | 25 | 200 |
| 7” | ⅞” | A-24-X-FLEX | 15L702 | | 8,600 | 25 | 100 |
| 7” | ⅞” | A-36-X-FLEX | 15L703 | | 8,600 | 25 | 100 |
| 7” | ⅞” | A-60-X-FLEX | 15L706 | | 8,600 | 25 | 100 |

**Use with ¼” mandrel 11L007.*
*Always use SPIN-ON wheels with flange 30B057.*

Deep Diamond-Cut™ pattern and optimized formulation offer:

- ***More flexibility***
- ***Best handling on flat and curved surfaces***
- ***Cooler grinding***
- ***Better stock removal in all materials (steel, stainless steel, aluminum)***

### TYPE 29S

SPIN-ON | Fe-S-Cl <0.1% | Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½” | ⅝”–11 | A-36-X-FLEX | 15L453 | 13,300 | 25 | 100 |
| 4 ½” | ⅝”–11 | A-60-X-FLEX | 15L456 | 13,300 | 25 | 100 |
| 4 ½” | ⅝”–11 | A-100-X-FLEX | 15L460 | 13,300 | 25 | 200 |
| 5” | ⅝”–11 | A-36-X-FLEX | 15L503 | 12,200 | 25 | 100 |
| 5” | ⅝”–11 | A-60-X-FLEX | 15L506 | 12,200 | 25 | 100 |
| 5” | ⅝”–11 | A-100-X-FLEX | 15L510 | 12,200 | 25 | 200 |
| 6” | ⅝”–11 | A-24-X-FLEX | 15L602 | 10,200 | 25 | 200 |
| 6” | ⅝”–11 | A-36-X-FLEX | 15L603 | 10,200 | 25 | 200 |
| 6” | ⅝”–11 | A-60-X-FLEX | 15L606 | 10,200 | 25 | 200 |

SCAN TO WATCH VIDEO

YouTube
*Video available at The WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

# FLEXCUT MILL SCALE™

## Quick, consistent removal of mill scale

Are you tired of changing out wheels every few minutes as they glaze over or clog during mill scale removal? FLEXCUT MILL SCALE™ is a flexible grinding wheel designed to last longer and remove mill scale quicker than any other abrasive. That's because FLEXCUT MILL SCALE™ is the first abrasive ever designed exclusively for the purpose of removing mill scale from hot rolled steel. Save time and quit throwing away wheels every few minutes. Switch to FLEXCUT MILL SCALE™ today for easy removal of mill scale and rust.

- *Unique blend of highly refined abrasives allows ultra quick cutting action without glazing or clogging*
- *Open diamond cut pattern prevents clogging*
- *Extremely effective for heavily rusted plates, aluminum, or galvanized metal and painted material*
- *Fe-free formulation – guaranteed not to contaminate aluminum*
- *Cool cutting action*

## INDUSTRY FAVORITE
## FOR MILL SCALE REMOVAL

**TYPE 29S** SPIN-ON Fe-S-Cl <0.1% Mill Scale Alu. + n.f. metals

| Dia. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | 5/8"-11 | 15L843 | A-36-FLEX | 13,300 | 25 | 100 |
| 5" | 5/8"-11 | 15L853 | A-36-FLEX | 12,200 | 25 | 200 |
| 6" | 5/8"-11 | 15L863 | A-36-FLEX | 10,200 | 25 | 100 |

*Always use SPIN-ON wheels with flange 30B057.*

**TYPE 29** Fe-S-Cl <0.1% Mill Scale Alu. + n.f. metals

| Dia. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 7" | 7/8" | 15L873 | A-36-FLEX | 8,600 | 25 | 100 |

SCAN TO WATCH VIDEO

YouTube
*Video available at The WALTER Network*
www.youtube.com/user/TheWalterNetwork

# FLEXCUT™ XX

## Fast, efficient flexible material removal on steel, stainless steel

FLEXCUT™ XX is designed to deliver ultra-fast material removal on steel and stainless steel and is effective for removing tough mill scale. Its advanced grain blend, combined with SMART RESIN™ Technology, ensures that fresh grains are exposed at the optimal time, achieving the perfect balance between sharpness and extended wheel life. Whether working on flat or curved surfaces, FLEXCUT™ XX provides consistent results, with premium reinforcement for added safety and a clean finish on every job.

SMART RESIN™ TECHNOLOGY

- *Open diamond cut pattern prevents clogging for a smoother, longer-lasting performance*
- *Premium reinforcement enhances durability and safety during use*
- *Self-sharpening ceramic grain blend allows for a faster material removal rate*
- *SMART RESIN™ Technology exposes fresh grains at the optimal time to optimize the balance between sharpness & life*
- *Exclusive design for use on flat and curved surfaces*
- *Contains less than 0.1% of iron, sulfur, & chlorine (Fe, S, Cl) to guarantee no contamination of stainless steel*

**TYPE 29** Fe-S-Cl <0.1% Steel Mill Scale Alu. + n.f. metals

| Dia. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | 7/8" | 15L743 | CA-36 | 13,300 | 25 | 200 |
| 5" | 7/8" | 15L753 | CA-36 | 12,200 | 25 | 200 |
| 6" | 7/8" | 15L763 | CA-36 | 10,200 | 25 | 100 |
| 7" | 7/8" | 15L773 | CA-36 | 8,600 | 25 | 100 |

# PIPEFITTER™

## Designed for premium performance in pipeline construction

These wheels are specially formulated and reinforced for grinding the root pass and joint welds between passes in pipeline construction and pipe fabrication. They do not contain iron, sulfur or chlorine (Fe, S, Cl) and are guaranteed not to contaminate stainless steel.

- *Thin for fast and free cutting and grooving*
- *Can also be used for cutting sheet metal*

### 3/32" TYPE 27

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 3/32" | 7/8" | 08N453 | A-36 | 13,300 | 25 | 200 |
| 5" | 3/32" | 7/8" | 08N503 | A-36 | 12,200 | 25 | 200 |
| 6" | 3/32" | 7/8" | 08N603 | A-36 | 10,200 | 25 | 100 |
| 7" | 3/32" | 7/8" | 08N703 | A-36 | 8,600 | 25 | 100 |

- *Ideal for use with low-power angle grinders*
- *Grind joint welds with ease*
- *Can be used for intermittent light grinding, facing, and bevelling work*

### 1/8" TYPE 27

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 1/8" | 7/8" | 08N452 | A-36 | 13,300 | 25 | 200 |
| 5" | 1/8" | 7/8" | 08N502 | A-36 | 12,200 | 25 | 200 |
| 6" | 1/8" | 7/8" | 08N602 | A-24 | 10,200 | 25 | 100 |
| 7" | 1/8" | 7/8" | 08N702 | A-24 | 8,600 | 25 | 100 |

- *Formulated for light grinding, cutting, and notching*

### 5/32" TYPE 27

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 5/32" | 7/8" | 08N454 | A-36 | 13,300 | 25 | 200 |
| 5" | 5/32" | 7/8" | 08N504 | A-36 | 12,200 | 25 | 200 |
| 6" | 5/32" | 7/8" | 08N604 | A-20 | 10,200 | 25 | 100 |
| 7" | 5/32" | 7/8" | 08N704 | A-20 | 8,600 | 25 | 100 |
| 9" | 5/32" | 7/8" | 08N904 | A-20 | 6,600 | 25 | 100 |

### TYPE 27S SPIN-ON

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 5" | 3/32" | 5/8"–11 | 08N533 | A-36 | 12,200 | 25 | 200 |
| 6" | 3/32" | 5/8"–11 | 08N633 | A-36 | 10,200 | 25 | 100 |
| 6" | 5/32" | 5/8"–11 | 08N634 | A-20 | 10,200 | 25 | 100 |
| 7" | 3/32" | 5/8"–11 Metal hub | 08N708 | A-20 | 8,600 | 10 | 40 |
| 7" | 5/32" | 5/8"–11 Metal hub | 08N709 | A-20 | 8,600 | 10 | 40 |
| 9" | 5/32" | 5/8"–11 Metal hub | 08N909 | A-20 | 6,600 | 10 | 40 |

*Always use with flange 30B057.*

# CUP **STONES**

## HP CUP WHEELS

WALTER HP Cup Wheels are designed for rough grinding or snagging work. Each wheel has a deeply anchored wrap-around steel hub for maximum safety and long life. A 5/8"–11 threaded arbor for SPIN-ON mounting reduces downtime for wheel changes and helps you finish your toughest grinding jobs faster.

TYPE 11

Steel

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4" | 5/8"–11 | A-16 | 12A004 | 9,100 | 1 | 10 |
| 5" | 5/8"–11 | A-16 | 12A005 | 7,260 | 1 | 10 |
| 6" | 5/8"–11 | A-16 | 12A006 | 6,050 | 1 | 10 |

TYPE 11

Concrete

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4" | 5/8"–11 | C-16 | 12B004 | 9,100 | 1 | 10 |
| 5" | 5/8"–11 | C-16 | 12B005 | 7,260 | 1 | 10 |
| 6" | 5/8"–11 | C-16 | 12B006 | 6,050 | 1 | 10 |

- *For heavy-duty grinding*
- *Excellent wheel life*
- *Engineered for maximum operator safety*

# PLUGS, CONES AND **MOUNTED POINTS**

Very popular in foundries, steel mills, and fabricating shops for heavy stock removal in hard-to-reach areas. Each abrasive has an internal threaded arbor for direct mounting.

Steel Stainless Steel

| Shape | Dia. | Length | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 16 | 1 ½" | 2 ½" | ⅜"-24 | ZA16 | 12C101 | 24,200 | 10 | 10 |
| 16 | 1 ½" | 3" | ⅝"-11 | ZA16 | 12C111 | 24,200 | 10 | 10 |
| 16 | 2" | 3" | ⅝"-11 | ZA16 | 12C121 | 18,100 | 10 | 10 |
| 17 | 1 ½" | 3" | ⅝"-11 | ZA16 | 12C401 | 24,200 | 10 | 10 |
| 17 | 2" | 4" | ⅝"-11 | ZA16 | 12C421 | 18,100 | 10 | 10 |
| 18 | 1" | 2" | ⅜"-24 | ZA16 | 12C301 | 36,200 | 10 | 10 |
| 18 | 1 ½" | 3" | ⅝"-11 | ZA16 | 12C311 | 24,200 | 10 | 10 |
| 18 | 2" | 3" | ⅝"-11 | ZA16 | 12C321 | 18,100 | 10 | 10 |
| 18R | 1 ½" | 3" | ⅝"-11 | ZA16 | 12C201 | 24,200 | 10 | 10 |
| 18R | 2" | 3" | ⅝"-11 | ZA16 | 12C211 | 18,100 | 10 | 10 |
| 18R | 3" | 4" | ⅝"-11 | ZA16 | 12C221 | 12,100 | 10 | 10 |

- *For grinding, shaping, cleaning, blending, and deburring of internal and external contours*
- *Fast material removal, long life*

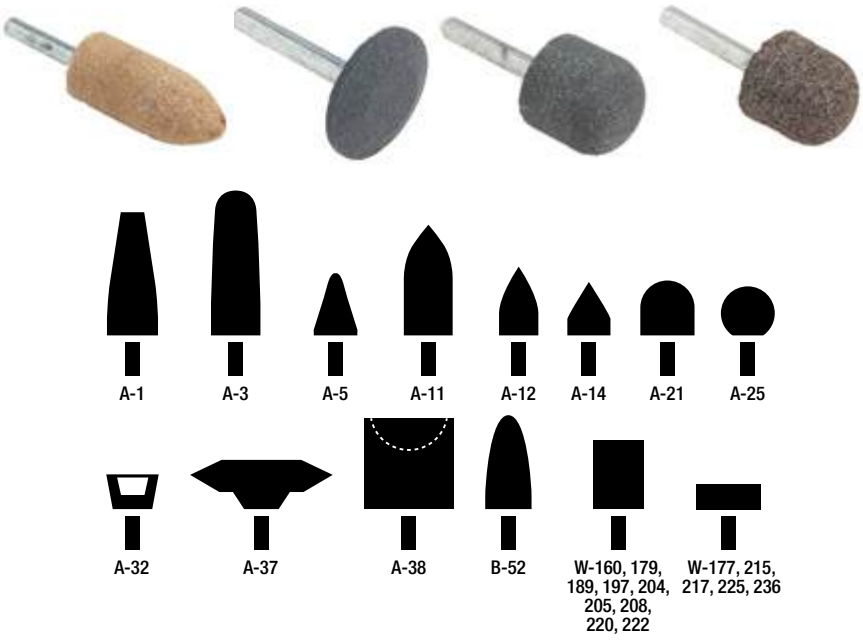
## MOUNTED POINTS

Versatile tools for fitting, shaping, and enlarging holes

These mounted points are ideal for finishing work in confined spaces. They are made from the finest grade of abrasive grains, and each is perfectly balanced to minimize vibration.

- *For fitting, shaping, enlarging holes and finishing work in confined spaces*
- *For use on die grinders, point grinders, flexible shaft machines, etc.*
- *A complete line to address all your specific needs*
- *Faster removal AND longer lasting*

***Blue-grey for mild steel and cast iron***
***Orange for tool and high tensile steel***
***Resin bond for stainless steel***



## BLUE-GREY

Steel Cast Iron

| Type | Dia. | Length | Shaft | Order No. | Grit | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| A-1 | ¾" | 2 ½" | ¼" | 12D002 | A36 | 19,800 | 10 | 10 |
| A-3 | 1" | 2 ¾" | ¼" | 12D012 | A36 | 16,100 | 10 | 10 |
| A-5 | ¾" | 1 ⅛" | ¼" | 12D022 | A36 | 45,000 | 10 | 10 |
| A-11 | ⅞" | 2" | ¼" | 12D032 | A36 | 19,800 | 10 | 10 |
| A-12 | 1 1/16" | 1 ¼" | ¼" | 12D037 | A36 | 48,000 | 10 | 10 |
| A-14 | 1 1/16" | ⅞" | ¼" | 12D047 | A36 | 48,000 | 10 | 10 |
| A-21 | 1" | 1" | ¼" | 12D057 | A36 | 34,500 | 10 | 10 |
| A-25 | 1" | 1" | ¼" | 12D077 | A36 | 35,600 | 10 | 10 |
| A-32 | 1" | ⅝" | ¼" | 12D092 | A36 | 38,200 | 10 | 10 |
| A-38 | 1" | 1" | ¼" | 12D122 | A36 | 34,500 | 10 | 10 |
| B-52 | ⅜" | ¾" | ⅛" | 12D232 | A36 | 45,370 | 10 | 10 |
| B-52 | ⅜" | ¾" | ¼" | 12D242 | A36 | 45,370 | 10 | 10 |
| W-179 | ⅜" | 1 ¼" | ¼" | 12D592 | A36 | 45,750 | 10 | 10 |
| W-197 | ⅝" | 2" | ¼" | 12D677 | A36 | 21,000 | 10 | 10 |
| W-205 | ¾" | 1" | ¼" | 12D722 | A36 | 34,500 | 10 | 10 |
| W-217 | 1" | ⅜" | ¼" | 12D782 | A36 | 38,200 | 10 | 10 |
| W-220 | 1" | 1" | ¼" | 12D797 | A36 | 25,500 | 10 | 10 |
| W-222 | 1" | 2" | ¼" | 12D807 | A36 | 15,900 | 10 | 10 |
| W-225 | 1 ¼" | ¼" | ¼" | 12D822 | A36 | 30,560 | 10 | 10 |

## ORANGE

Tool Steel

| Type | Dia. | Length | Shaft | Order No. | Grit | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| A-1 | ¾" | 2 ½" | ¼" | 12D001 | A60 | 19,800 | 10 | 10 |
| A-3 | 1" | 2 ¾" | ¼" | 12D011 | A60 | 16,100 | 10 | 10 |
| A-5 | ¾" | 1 ⅛" | ¼" | 12D021 | A60 | 45,000 | 10 | 10 |
| A-11 | ⅞" | 2" | ¼" | 12D031 | A60 | 19,800 | 10 | 10 |
| A-12 | 1 1/16" | 1 ¼" | ¼" | 12D036 | A60 | 48,000 | 10 | 10 |
| A-14 | 1 1/16" | ⅞" | ¼" | 12D046 | A60 | 48,000 | 10 | 10 |
| A-21 | 1" | 1" | ¼" | 12D056 | A60 | 34,500 | 10 | 10 |
| A-25 | 1" | 1" | ¼" | 12D076 | A60 | 35,600 | 10 | 10 |
| A-32 | 1" | ⅝" | ¼" | 12D091 | A60 | 38,200 | 10 | 10 |
| A-37 | 1 ¼" | ¼" | ¼" | 12D116 | A60 | 30,560 | 10 | 10 |
| A-38 | 1" | 1" | ¼" | 12D121 | A60 | 34,500 | 10 | 10 |
| W-179 | ⅜" | 1 ¼" | ¼" | 12D591 | A60 | 45,750 | 10 | 10 |
| W-197 | ⅝" | 2" | ¼" | 12D676 | A60 | 21,000 | 10 | 10 |
| W-205 | ¾" | 1" | ¼" | 12D721 | A60 | 34,500 | 10 | 10 |
| W-217 | 1" | ⅜" | ¼" | 12D781 | A60 | 38,200 | 10 | 10 |
| W-220 | 1" | 1" | ¼" | 12D796 | A60 | 25,500 | 10 | 10 |
| W-222 | 1" | 2" | ¼" | 12D806 | A60 | 15,900 | 10 | 10 |
| W-225 | 1 ¼" | ¼" | ¼" | 12D821 | A60 | 30,560 | 10 | 10 |

## RESIN BOND

Stainless Steel

| Type | Dia. | Length | Shaft | Order No. | Grit | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| A-1 | ¾" | 2 ½" | ¼" | 12D003 | A36 | 19,800 | 10 | 10 |
| A-3 | 1" | 2 ¾" | ¼" | 12D013 | A36 | 16,100 | 10 | 10 |
| A-5 | ¾" | 1 ⅛" | ¼" | 12D023 | A36 | 45,000 | 10 | 10 |
| A-11 | ⅞" | 2" | ¼" | 12D033 | A36 | 19,800 | 10 | 10 |
| A-12 | 1 1/16" | 1 ¼" | ¼" | 12D038 | A36 | 48,000 | 10 | 10 |
| A-21 | 1" | 1" | ¼" | 12D058 | A36 | 34,500 | 10 | 10 |
| A-25 | 1" | 1" | ¼" | 12D078 | A36 | 35,600 | 10 | 10 |
| W-179 | ⅜" | 1 ¼" | ¼" | 12D593 | A36 | 45,750 | 10 | 10 |
| W-197 | ⅝" | 2" | ¼" | 12D678 | A36 | 21,000 | 10 | 10 |
| W-205 | ¾" | 1" | ¼" | 12D723 | A36 | 34,500 | 10 | 10 |
| W-207 | ¾" | 1 ½" | ¼" | 12D729 | A36 | 24,000 | 10 | 10 |
| W-217 | 1" | ⅜" | ¼" | 12D783 | A36 | 38,200 | 10 | 10 |
| W-220 | 1" | 1" | ¼" | 12D798 | A36 | 25,500 | 10 | 10 |
| W-222 | 1" | 2" | ¼" | 12D808 | A36 | 15,900 | 10 | 10 |
| W-236 | 1 ½" | ½" | ¼" | 12D843 | A36 | 25,470 | 10 | 10 |

### *Tech tip!*

*Use dressing stones to extend product life and allow mounted points or bench grinding wheels to cut faster and produce a better surface finish.*

### Accessories

**Dressing stones**

| Dimensions | Order No. | Std. Pkg. | Std. Ctn |
|---|---|---|---|
| 1" x 1" x 6" | 12D900 | 1 | 10 |
| 1" x 1" x 8" | 12D901 | 1 | 10 |

** Max. RPM listed are for ½" free shaft.*

# BENCH GRINDING

## BENCH GRINDING WHEELS

Long lasting and dependable, our bench grinding wheels are perfect for general-purpose sharpening, shaping, or deburring on bench and pedestal grinders. All wheels are supplied with nested reducer bushings to fit on 1", ¾", ⅝" and ½" shafts.

TYPE 1

Steel

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 6" | ¾" | 1" | 12E324 | 36 coarse | 4,100 | 1 | 1 |
| 6" | ¾" | 1" | 12E325 | 46 medium | 4,100 | 1 | 1 |
| 6" | ¾" | 1" | 12E328 | 80 fine | 4,100 | 1 | 1 |
| 6" | 1" | 1" | 12E344 | 36 coarse | 4,100 | 1 | 1 |
| 6" | 1" | 1" | 12E345 | 46 medium | 4,100 | 1 | 1 |
| 6" | 1" | 1" | 12E348 | 80 fine | 4,100 | 1 | 1 |
| 7" | 1" | 1" | 12E444 | 36 coarse | 3,600 | 1 | 1 |
| 7" | 1" | 1" | 12E447 | 60 fine | 3,600 | 1 | 1 |
| 8" | ⅞" | 1" | 12E533 | 24 coarse | 3,600 | 1 | 1 |
| 8" | ⅞" | 1" | 12E537 | 60 fine | 3,600 | 1 | 1 |
| 8" | 1" | 1" | 12E543 | 24 coarse | 3,600 | 1 | 1 |
| 8" | 1" | 1" | 12E545 | 46 medium | 3,600 | 1 | 1 |
| 8" | 1" | 1" | 12E547 | 60 fine | 3,600 | 1 | 1 |
| 8" | 1 ¼" | 1" | 12E553 | 24 coarse | 3,600 | 1 | 1 |
| 8" | 1 ¼" | 1" | 12E557 | 60 fine | 3,600 | 1 | 1 |
| 10" | 1" | 1" | 12E643 | 24 coarse | 2,500 | 1 | 1 |
| 10" | 1" | 1" | 12E647 | 60 fine | 2,500 | 1 | 1 |
| 10" | 1 ¼" | 1" | 12E657 | 60 fine | 2,500 | 1 | 1 |

TYPE 1

Carbide

| Dia. | Thick. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 6" | ¾" | 1" | 12E329 | 80 fine | 4,100 | 1 | 1 |
| 7" | 1" | 1" | 12E449 | 80 fine | 3,600 | 1 | 1 |
| 8" | 1" | 1" | 12E549 | 80 fine | 3,600 | 1 | 1 |
| 10" | 1" | 1" | 12E649 | 80 fine | 2,500 | 1 | 1 |

# ALLSTEEL™

## GRINDING WHEELS

ALLSTEEL™ grinding wheels deliver fast removal rates on steel and stainless steel. High-strength abrasive grain ensures durability and aggressive grinding action with less effort, making even the toughest jobs easier.

- *Perfect choice for steel and stainless steel*
- *Excellent removal rate*
- *Heavily reinforced to optimize safety in tough applications*
- *Smooth grinding with less effort*
- *Minimizes work-surface gouging*

### 1/8" TYPE 27

Steel Stainless Steel

| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 08W452 | 4-1/2" | 1/8" | 7/8" | A-30 | 13,300 | 25 | 200 |
| 08W502 | 5" | 1/8" | 7/8" | A-30 | 12,200 | 25 | 200 |
| 08W602 | 6" | 1/8" | 7/8" | A-30 | 10,200 | 25 | 100 |
| 08W702 | 7" | 1/8" | 7/8" | A-30 | 8,600 | 25 | 100 |
| 08W902 | 9" | 1/8" | 7/8" | A-30 | 6,800 | 25 | 100 |

### 1/4" TYPE 27

Steel Stainless Steel

| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 08W450 | 4-1/2" | 1/4" | 7/8" | A-30 | 13,300 | 25 | 100 |
| 08W500 | 5" | 1/4" | 7/8" | A-30 | 12,200 | 25 | 100 |
| 08W600 | 6" | 1/4" | 7/8" | A-30 | 10,200 | 25 | 100 |
| 08W700 | 7" | 1/4" | 7/8" | A-30 | 8,600 | 25 | 50 |
| 08W900 | 9" | 1/4" | 7/8" | A-30 | 6,800 | 25 | 50 |

### 1/8" TYPE 27

Steel Stainless Steel

| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 08W457 | 4-1/2" | 1/8" | 5/8"-11 Metal hub | A-30 | 13,300 | 10 | 80 |

### 1/4" TYPE 27

Steel Stainless Steel

| Order No. | Dia. | Thick. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|---|
| 08W455 | 4-1/2" | 1/4" | 5/8"-11 Metal hub | A-30 | 13,300 | 10 | 80 |

# 04
# FINISHING

# FLAP DISCS AT A GLANCE

MAX LIFE™ GLUE

*MAX LIFE™ cold curing glue ensures the freshest grains possible by eliminating the need to apply heat during the manufacturing process, avoiding micro-cracking and drying out, improving consistency, and maximizing disc life.*

*HEATED ABRASIVE FLAPS*

*COLD CURED GLUE*

## BLENDING

| | | | Material Specific | | | |
|---|---|---|---|---|---|---|
| | **ENDURO-FLEX™** | **ENDURO-FLEX TURBO™** | **ENDURO-FLEX™ STAINLESS** | **ENDURO-FLEX ALU™** | **ALLSTEEL™** | **ALLSTEEL TURBO™** |
| | | | | | | |
| **Application Need** | General purpose for material removal, surface blending and finishing, deburring, and breaking edges. | Ultra-fast metal removal. For heavy-duty grinding, blending welds, and breaking edges. | For blending on stainless steel, hard alloys, and heat-sensitive metals. | For blending on aluminum or other soft and non-ferrous metals. | General purpose for low-powered tools for light-duty blending. | Fast-metal removal suitable for all levels of expertise for blending. |
| **MAX-LIFE™ Glue** | ✔ | ✔ | ✔ | ✔ | | |
| **Backing Material** | ECO-TRIM™ | Nylon | ECO-TRIM™ | ECO-TRIM™ | ECO-TRIM™ | Nylon |
| **Durability** | • • • • | • • • | • • • | • • • | • • | • |
| **Tool Power** | Mid-to-High | High | Mid-to-High | Mid-to-High | Low-to-Mid | Low-to-Mid |
| **Metals** | • Steel<br>• Stainless Steel | • Steel<br>• Stainless Steel | • Stainless Steel<br>• Hard Alloys | • Aluminum<br>• Soft Alloys | • Steel<br>• Stainless Steel | • Steel<br>• Stainless Steel |
| **Diameter** | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6” |

# FLAP DISCS AT A GLANCE

*Our* **ENDURO-FLEX™** *flap discs feature trimmable backings made with our proprietary ECO-TRIM™ wood fiber backing material. When the flaps wear down to the outer diameter of the backing, trim away 1/4" of the backing at a time (up to three times total) to expose fresh abrasive grain, extending disc life and giving you a fresh new cutting edge.*

New disc*

*After* 35 min.*

*After* 100 min.*

* Results based on a 5" ENDURO-FLEX™ used on steel. * Trimmed once

*Trimmed twice

## SURFACE FINISHING

| | ENDURO-FLEX 2-IN-1™ | ENDURO-FLEX 2-IN-1™ TURBO | BLENDEX™ | INSTANT POLISH™ | ULTIMATE SHINE™ |
|---|---|---|---|---|---|
| | | | | | |
| **Application Need** | Blend TIG welds, break edges, blend, and remove imperfections, oxidation, and discoloration. Mixture of sanding and BLENDEX™ flaps. | Blend MIG welds and achieve the desired finish in a single step. Mixture of ceramic sanding and BLENDEX™ flaps. | Ceramic BLENDEX™ flap disc for better material removal with consistent surface finish. Available in different grits | For polishing and mirror finishing applications. Achieves desired finish in 1 step. | Designed for polishing and mirror finishing jobs. Achieve the desired finish in a single step. |
| **MAX-LIFE™ Glue** | | | ✔ | ✔ | ✔ |
| **Backing Material** | Nylon | Nylon | ECO-TRIM™ | ECO-TRIM™ | ECO-TRIM™ |
| **Durability** | • • • | • • • | • • | • | • |
| **Tool Power** | Mid-to-High | High | Mid-to-High | Low-to-Mid | Low-to-Mid |
| **Metals** | • Steel<br>• Stainless Steel<br>• Aluminum | • Steel<br>• Stainless Steel<br>• Aluminum | • Steel<br>• Stainless Steel<br>• Aluminum | • Steel<br>• Stainless Steel<br>• Aluminum | • Steel<br>• Stainless Steel<br>• Aluminum |
| **Diameter** | • 4 ½"<br>• 5" | • 4 ½"<br>• 5" | • 4 ½"<br>• 5" | • 4 ½"<br>• 5" | • 4 ½"<br>• 5" |

# FLAP DISCS

## ENDURO-FLEX™

The longest life and highest overall material removal in the industry

ENDURO-FLEX™ outperforms all competitive flap discs thanks to its innovative design and exclusive abrasive grain blend. Featuring an ECO-TRIM™ backing that can be trimmed back to extend disc life, ENDURO-FLEX™ is the longest-lasting flap disc in the industry and removes more material than any competitive flap disc. Your employees will spend more time getting the job done and less time making trips to the tool crib, saving you time and money while maximizing your productivity.

- *Longest-lasting flap disc on the market*
- *Highest overall material removal in the industry*
- *ECO-TRIM™ backing is easier to trim and environmentally friendly*
- *Remove welds and finish surfaces in one step*
- *Quiet, vibration-free grinding*
- *Self-sharpening Zirconia Alumina grain*
- *Lightweight*

***INCREASE YOUR REMOVAL RATE BY A MINIMUM OF 25% BY COMBINING YOUR ENDURO-FLEX™ WITH THE PRO 5 OR BIG 6 GRINDER!***

*See pages 151 and 152*

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

## THE LONGEST LIFE FLAP DISC ON THE MARKET

MAX LIFE™ GLUE

ECO-TRIM Backing

### TYPE 27S — SPIN-ON

Steel Stainless Steel

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½” | ⅝”–11 | 40 | 06B454 | 13,300 | 10 | 40 |
| 4 ½” | ⅝”–11 | 60 | 06B456 | 13,300 | 10 | 40 |
| 4 ½” | ⅝”–11 | 80 | 06B458 | 13,300 | 10 | 40 |
| 4 ½” | ⅝”–11 | 120 | 06B462 | 13,300 | 10 | 40 |
| 5” | ⅝”–11 | 40 | 06B504 | 12,200 | 10 | 40 |
| 5” | ⅝”–11 | 60 | 06B506 | 12,200 | 10 | 40 |
| 5” | ⅝”–11 | 80 | 06B508 | 12,200 | 10 | 40 |
| 5” | ⅝”–11 | 120 | 06B512 | 12,200 | 10 | 40 |
| 6” | ⅝”–11 | 40 | 06B604 | 10,200 | 10 | 40 |
| 6” | ⅝”–11 | 60 | 06B606 | 10,200 | 10 | 40 |
| 6” | ⅝”–11 | 80 | 06B608 | 10,200 | 10 | 40 |
| 6” | ⅝”–11 | 120 | 06B612 | 10,200 | 10 | 40 |

*Always use with flange 30B057.*

### TYPE 27

Steel Stainless Steel

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½” | ⅞” | 40 | 15R454 | 13,300 | 10 | 40 |
| 4 ½” | ⅞” | 60 | 15R456 | 13,300 | 10 | 40 |
| 4 ½” | ⅞” | 80 | 15R458 | 13,300 | 10 | 40 |
| 4 ½” | ⅞” | 120 | 15R462 | 13,300 | 10 | 40 |
| 5” | ⅞” | 40 | 15R504 | 12,200 | 10 | 40 |
| 5” | ⅞” | 60 | 15R506 | 12,200 | 10 | 40 |
| 5” | ⅞” | 80 | 15R508 | 12,200 | 10 | 40 |
| 5” | ⅞” | 120 | 15R512 | 12,200 | 10 | 40 |
| 6” | ⅞” | 40 | 15R604 | 10,200 | 10 | 40 |
| 6” | ⅞” | 60 | 15R606 | 10,200 | 10 | 40 |
| 6” | ⅞” | 80 | 15R608 | 10,200 | 10 | 40 |
| 6” | ⅞” | 120 | 15R612 | 10,200 | 10 | 40 |
| 7” | ⅞” | 40 | 15R704 | 8,600 | 10 | 40 |
| 7” | ⅞” | 60 | 15R706 | 8,600 | 10 | 40 |
| 7” | ⅞” | 80 | 15R708 | 8,600 | 10 | 40 |
| 7” | ⅞” | 120 | 15R712 | 8,600 | 10 | 40 |

*Always use with flange 30B057.*

- *Exclusive flap configuration and Cyclone™ Technology for ultra fast metal removal*
- *Turbofan™ Cooling keeps the workpiece cooler for longer disc life*
- *Guaranteed cost savings!*

## MAX LIFE™ COLD CURING GLUE IMPROVES CONSISTENCY AND MAXIMIZES DISC LIFE

***INCREASE YOUR REMOVAL RATE BY A MINIMUM OF 30% BY COMBINING YOUR ENDURO-FLEX TURBO™ WITH THE PRO 5 OR BIG 6 GRINDER!***
*See pages 151 and 152*

SCAN TO WATCH VIDEO

YouTube
*Video available at The WALTER Network*
www.youtube.com/user/TheWalterNetwork

# ENDURO-FLEX TURBO™

The fastest cutting flap disc on the market

If time is money, then ENDURO-FLEX TURBO™ is worth its weight in gold. This extremely aggressive flap disc removes material like a 36 grit but leaves a 60 grit, paint-ready finish, saving you a valuable step in the finishing process. The innovative backing design allows air to cool the workpiece, increasing product life and minimizing heat transfer to the surface. Whether you are working with steel or stainless steel, ENDURO-FLEX TURBO™ will help you blend welds and break edges faster, guaranteed.

## HIGHEST REMOVAL RATE IN THE INDUSTRY

### TYPE 27S — SPIN-ON

| Dia. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅝"–11 | 06A452 | 36/60 | 13,300 | 10 | 40 |
| **4 ½"** | **⅝"–11 metal hub** | **06A457** | **36/60** | **13,300** | **10** | **40** |
| 4 ½" | ⅝"–11 | 06A458 | 80 | 13,300 | 10 | 40 |
| 5" | ⅝"–11 | 06A502 | 36/60 | 12,000 | 10 | 40 |
| 5" | ⅝"–11 | 06A508 | 80 | 12,200 | 10 | 40 |
| 6" | ⅝"–11 | 06A602 | 36/60 | 10,200 | 10 | 40 |
| **7"** | **⅝"–11 metal hub** | **06A707** | **36/60** | **8,600** | **10** | **40** |

*Always use with flange 30B057.*

### TYPE 27

| Dia. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅞" | 06A462 | 36/60 | 13,300 | 10 | 40 |
| 5" | ⅞" | 06A512 | 36/60 | 12,200 | 10 | 40 |
| 7" | ⅞" | 06A712 | 36/60 | 8,600 | 10 | 40 |

*Always use with flange 30B057.*

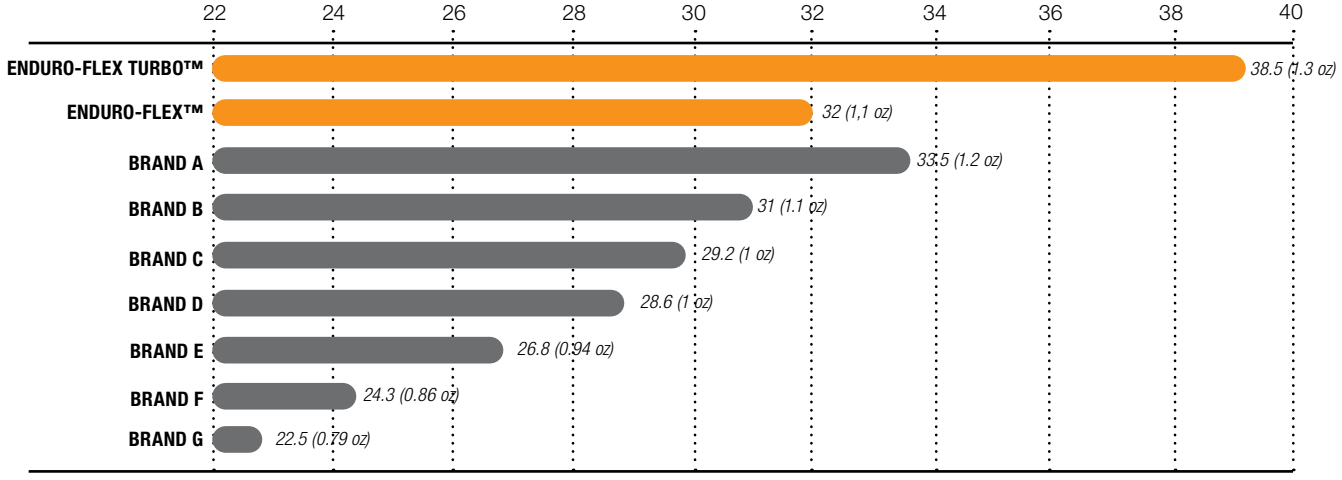
### TYPE 29

| Dia. | Arbor | Order No. | Grade | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅞" | 06A482 | 36/60 | 13,300 | 10 | 40 |
| 4 ½" | **⅝"–11 metal hub** | 06A487 | 36/60 | 13,300 | 10 | 40 |
| 5" | ⅞" | 06A532 | 36/60 | 12,200 | 10 | 40 |
| 5" | **⅝"–11 metal hub** | 06A537 | 36/60 | 12,200 | 10 | 40 |

*Always use with flange 30B057.*

## ENDURO-FLEX TURBO™ COMPARISON TESTS BETWEEN 5" FLAP DISCS

Tests were done using the PRO 5 grinder. **Removal rate on steel - gr. (oz.)/min.**



# ENDURO-FLEX™ STAINLESS

Guaranteed not to contaminate stainless steel

ENDURO-FLEX™ STAINLESS offers all the benefits of the standard ENDURO-FLEX™ with a formula free of iron, sulfur, and chlorine to meet quality control objectives in sensitive operations. ENDURO-FLEX™ STAINLESS is the flap disc of choice for workers nationwide for blending applications on stainless steel and other heat-sensitive alloys.

## CONSISTENT FINISH
WITHOUT DISCOLORATION

MAX LIFE™ GLUE

ECO-TRIM Backing

### TYPE 27S

SPIN-ON | Fe-S-Cl <0.1% | Stainless Steel | Hard

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅝"–11 | 40 | 06F454 | 13,300 | 10 | 40 |
| 4 ½" | ⅝"–11 | 60 | 06F456 | 13,300 | 10 | 40 |
| 4 ½" | ⅝"–11 | 80 | 06F458 | 13,300 | 10 | 40 |
| 4 ½" | ⅝"–11 | 120 | 06F462 | 13,300 | 10 | 40 |
| 5" | ⅝"–11 | 40 | 06F504 | 12,200 | 10 | 40 |
| 5" | ⅝"–11 | 60 | 06F506 | 12,200 | 10 | 40 |
| 5" | ⅝"–11 | 80 | 06F508 | 12,200 | 10 | 40 |
| 5" | ⅝"–11 | 120 | 06F512 | 12,200 | 10 | 40 |
| 6" | ⅝"–11 | 40 | 06F604 | 10,200 | 10 | 40 |
| 6" | ⅝"–11 | 60 | 06F606 | 10,200 | 10 | 40 |
| 6" | ⅝"–11 | 80 | 06F608 | 10,200 | 10 | 40 |
| 6" | ⅝"–11 | 120 | 06F612 | 10,200 | 10 | 40 |

*Always use with flange 30B057.*

### TYPE 27

Fe-S-Cl <0.1% | Stainless Steel | Hard

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅞" | 40 | 15Q454 | 13,300 | 10 | 40 |
| 4 ½" | ⅞" | 60 | 15Q456 | 13,300 | 10 | 40 |
| 4 ½" | ⅞" | 80 | 15Q458 | 13,300 | 10 | 40 |
| 4 ½" | ⅞" | 120 | 15Q462 | 13,300 | 10 | 40 |
| 5" | ⅞" | 40 | 15Q504 | 12,200 | 10 | 40 |
| 5" | ⅞" | 60 | 15Q506 | 12,200 | 10 | 40 |
| 5" | ⅞" | 80 | 15Q508 | 12,200 | 10 | 40 |
| 5" | ⅞" | 120 | 15Q512 | 12,200 | 10 | 40 |
| 7" | ⅞" | 40 | 15Q704 | 8,600 | 10 | 40 |
| 7" | ⅞" | 60 | 15Q706 | 8,600 | 10 | 40 |
| 7" | ⅞" | 80 | 15Q708 | 8,600 | 10 | 40 |
| 7" | ⅞" | 120 | 15Q712 | 8,600 | 10 | 40 |

*Always use with flange 30B057.*

- *Environmentally friendly*
- *Superior performance on all heat sensitive metals*
- *Will not load or glaze*
- *The coolest cutting action on stainless*
- *The fastest removal rate and best overall life on non-ferrous alloys*
- *High-performance aluminum oxide grain*
- *100% Ceramic & lubricant for best removal in stainless and hard alloys*

*For Fine Finishing, See Pages 117-122*

# ENDURO-FLEX ALU™

## High-performance flap disc for aluminum surfaces

ENDURO-FLEX ALU™ uses a superior zirconia alumina grain blend that is free of iron, sulfur, and chlorine to achieve maximum results when blending on aluminum surfaces. It's built using a special coating for extra long life. Thanks to its high removal rates and resistance to glaze buildup, ENDURO-FLEX ALU™ is the optimal choice for operators looking to enhance both quality and productivity when working with aluminum or other heat-sensitive metals.

SPIN-ON

### TYPE 27S

Fe-S-Cl <0.1% | Alu. | Stainless Steel | Alu. + n.f. metals

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4-½" | ⅝"–11 | 40 | 06U454 | 13,300 | 10 | 40 |
| 4-½" | ⅝"–11 | 60 | 06U456 | 13,300 | 10 | 40 |
| 4-½" | ⅝"–11 | 80 | 06U458 | 13,300 | 10 | 40 |
| 5" | ⅝"–11 | 40 | 06U504 | 12,200 | 10 | 40 |
| 5" | ⅝"–11 | 60 | 06U506 | 12,200 | 10 | 40 |
| 5" | ⅝"–11 | 80 | 06U508 | 12,200 | 10 | 40 |
| 6" | ⅝"–11 | 40 | 06U604 | 10,200 | 10 | 40 |
| 6" | ⅝"–11 | 60 | 06U606 | 10,200 | 10 | 40 |
| 6" | ⅝"–11 | 80 | 06U608 | 10,200 | 10 | 40 |

*Always use with flange 30B057.*

### TYPE 27

Fe-S-Cl <0.1% | Alu. | Stainless Steel | Alu. + n.f. metals

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 7" | ⅞" | 40 | 15U704 | 8,600 | 10 | 40 |
| 7" | ⅞" | 60 | 15U706 | 8,600 | 10 | 40 |
| 7" | ⅞" | 80 | 15U708 | 8,600 | 10 | 40 |

*Always use with flange 30B057.*

- *Specially formulated for performance and productivity on aluminum surfaces*
- *Special coating prevents load-up and glazing and extends disc life*
- *ECO-TRIM™ trimmable backing extends disc life by up to 3 times*
- *Zirconia and lubricant for best removal in aluminum and soft alloys*

MAX LIFE™ GLUE

ECO-TRIM Backing

# ENDURO-FLEX 2-IN-1™ FINISHING DISC

## One-step finishing

ENDURO-FLEX 2-IN-1™ flap discs remove TIG welds and finish the surface in just one step, substantially reducing your finishing costs. Save time and reduce your inventory by using just one disc instead of two or more to perform the same job.

## Long lasting

Developed to blend light TIG welds, break edges, blend, and remove surface imperfections, oxidation, discoloration, etc. One ENDURO-FLEX 2-IN-1™ disc will do the job of over twenty traditional discs while providing a smooth and consistent surface finish.

- ***Allows operators to achieve a food grade finish***

### Tech tip!

***SPEED*** *To ensure the longest life and best performance, use at optimal speed of 4,000 to 6,000 RPM.*

***PRESSURE*** *More pressure will increase removal rate while less pressure will improve the surface finish.*

***WORKING ANGLE*** *For best performance, always use at a working angle of 4˚ to 10˚. Never use flat.*

**TYPE 27S** SPIN-ON Steel Stainless Steel Al., + n.f. metals

| Dia. | Arbor | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅝"–11 | 15I453 | 13,300 | 4,000 to 6,000 | 10 | 40 |
| 5" | ⅝"–11 | 15I503 | 12,200 | 4,000 to 6,000 | 10 | 40 |

# ENDURO-FLEX 2-IN-1™ TURBO FINISHING DISC

## The most versatile and fastest finishing disc on the market

Achieving the ideal finish when blending welds has never been easier. With the ENDURO-FLEX 2-in-1™ TURBO, remove material faster and get the finish you want in fewer steps. Designed for steel, stainless steel, and aluminum, the ENDURO-FLEX 2-in-1™ TURBO provides unmatched versatility. Incorporating WALTER's Cyclone™ Technology and high-tech BLENDEX™ Technology, the result is a smooth finish and product life that is simply unsurpassed.

### Sanding flaps

- ***Special low heat generating top coat***
- ***Non-loading***
- ***High removal rate***

### BLENDEX™ flaps

- ***Combination that gives great performance on aluminum***
- ***Non-woven material, will not smear or contaminate the workpiece***
- ***Tear resistant for longest life***

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

**TYPE 27S** SPIN-ON Steel Stainless Steel Al., + n.f. metals

| Dia. | Arbor | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅝"–11 | 15I451 | 13,300 | 4,000 to 6,000 | 10 | 40 |
| 5" | ⅝"–11 | 15I501 | 12,200 | 4,000 to 6,000 | 10 | 40 |

*Always use with flange 30B057.*

WALTER

# ALLSTEEL™

## ALLSTEEL™ FLAP DISCS

ALLSTEEL™ features a unique zirconia alumina abrasive grain blend that self-sharpens with less pressure, providing a high removal rate with angle grinders. ALLSTEEL™ is an economical solution for operators who need a quality, industrial grade flap disc for a variety of applications.

- *Special zirconia alumina grain blend self-sharpens with less pressure*
- *Provides a high removal rate on steel*
- *Trimmable backing extends disc life*
- *The economical choice when blending sharp corners, heavy deburring, or blending in fillet welds*
- *The best option for use on low-powered angle grinders*

### TYPE 27S

SPIN-ON | Fe-S-Cl <0.1% | Steel | Stainless Steel

ECO-TRIM Backing

| Order No. | Dia. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|
| 06W454 | 4-1/2” | 5/8”-11 | 40 | 13,300 | 10 | 40 |
| 06W456 | 4-1/2” | 5/8”-11 | 60 | 13,300 | 10 | 40 |
| 06W458 | 4-1/2” | 5/8”-11 | 80 | 13,300 | 10 | 40 |
| 06W462 | 4-1/2” | 5/8”-11 | 120 | 13,300 | 10 | 40 |
| 06W504 | 5” | 5/8”-11 | 40 | 12,200 | 10 | 40 |
| 06W506 | 5” | 5/8”-11 | 60 | 12,200 | 10 | 40 |
| 06W508 | 5” | 5/8”-11 | 80 | 12,200 | 10 | 40 |
| 06W512 | 5” | 5/8”-11 | 120 | 12,200 | 10 | 40 |

### TYPE 27

Fe-S-Cl <0.1% | Steel | Stainless Steel

| Order No. | Dia. | Arbor | Grit | Max RPM | Std. Pkg. | Std Ctn |
|---|---|---|---|---|---|---|
| 15W454 | 4-1/2” | 7/8” | 40 | 13,300 | 10 | 40 |
| 15W456 | 4-1/2” | 7/8” | 60 | 13,300 | 10 | 40 |
| 15W458 | 4-1/2” | 7/8” | 80 | 13,300 | 10 | 40 |
| 15W462 | 4-1/2” | 7/8” | 120 | 13,300 | 10 | 40 |
| 15W504 | 5” | 7/8” | 40 | 12,200 | 10 | 40 |
| 15W506 | 5” | 7/8” | 60 | 12,200 | 10 | 40 |
| 15W508 | 5” | 7/8” | 80 | 12,200 | 10 | 40 |
| 15W512 | 5” | 7/8” | 120 | 12,200 | 10 | 40 |
| 15W604 | 6” | 7/8” | 40 | 10,200 | 10 | 40 |
| 15W606 | 6” | 7/8” | 60 | 10,200 | 10 | 40 |
| 15W608 | 6” | 7/8” | 80 | 10,200 | 10 | 40 |
| 15W612 | 6” | 7/8” | 120 | 10,200 | 10 | 40 |
| 15W704 | 7” | 7/8” | 40 | 8,600 | 10 | 40 |
| 15W706 | 7” | 7/8” | 60 | 8,600 | 10 | 40 |
| 15W708 | 7” | 7/8” | 80 | 8,600 | 10 | 40 |
| 15W712 | 7” | 7/8” | 120 | 8,600 | 10 | 40 |

# ALLSTEEL TURBO™

ALLSTEEL TURBO™ combines a self-sharpening zirconia alumina abrasive grain with an optimal flap configuration to maximize removal rate. ALLSTEEL TURBO™ is an economical solution for operators who need a quality, industrial-grade, flap disc that can get the job done quickly without sacrificing safety.

- ***Versatile, well-suited for a wide range of removal applications and skill levels***
- ***Flap configuration designed for aggressive removal***
- ***High-quality nylon backing***
- ***Fe-free formulation***

## TYPE 27

Fe-S-Cl <0.1% Steel Stainless Steel

| Order No. | Dia. | Arbor | Grit | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 15Y454 | 4-½” | ⅞” | 40 | 13,300 | 10 | 40 |
| 15Y456 | 4-½” | ⅞” | 60 | 13,300 | 10 | 40 |
| 15Y458 | 4-½” | ⅞” | 80 | 13,300 | 10 | 40 |
| 15Y504 | 5” | ⅞” | 40 | 12,200 | 10 | 40 |
| 15Y506 | 5” | ⅞” | 60 | 12,200 | 10 | 40 |
| 15Y508 | 5” | ⅞” | 80 | 12,200 | 10 | 40 |
| 15Y604 | 6” | ⅞” | 40 | 10,200 | 10 | 40 |
| 15Y606 | 6” | ⅞” | 60 | 10,200 | 10 | 40 |
| 15Y608 | 6” | ⅞” | 80 | 10,200 | 10 | 40 |

*Always use with flange 30B057.*

## TYPE 27S

SPIN-ON Fe-S-Cl <0.1% Steel Stainless Steel

| Order No. | Dia. | Arbor | Grit | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 06Y454 | 4-½” | ⅝”–11 | 40 | 13,300 | 10 | 40 |
| 06Y456 | 4-½” | ⅝”–11 | 60 | 13,300 | 10 | 40 |
| 06Y458 | 4-½” | ⅝”–11 | 80 | 13,300 | 10 | 40 |
| 06Y504 | 5” | ⅝”–11 | 40 | 12,200 | 10 | 40 |
| 06Y506 | 5” | ⅝”–11 | 60 | 12,200 | 10 | 40 |
| 06Y508 | 5” | ⅝”–11 | 80 | 12,200 | 10 | 40 |

*Always use with flange 30B057.*

### *Tech tip!*

*To achieve the fastest removal rate available, ask your Territory Manager about ENDURO-FLEX TURBO™. A ceramic flap disc with a unique 36/60 grit to achieve the ultimate removal rate while leaving a paint-ready finish.*

# SANDING PRODUCTS AT A GLANCE

### *Unique packaging for optimal performance*

- Best preservation of sanding disc with “Humidity Control” feature
- Shrink wrapped in quantities of 25 (2 x 25 discs) to keep discs’ shape intact
- Ensures the longest life, most aggressive removal rate, and best overall performance

V-STRONG™ BACKING TECHNOLOGY

V-STRONG™ backing technology improves durability for the most demanding applications. With more layers of advanced vulcanized fiber our sanding discs are the toughest, and longest-lasting available.

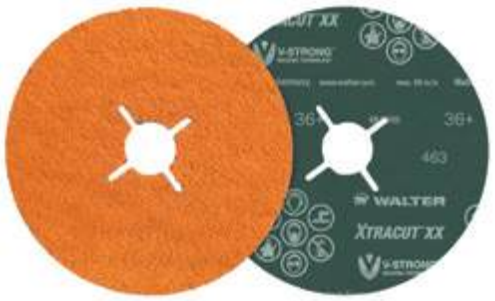
| | XTRACUT XX™ | XTRACUT™ | COOLCUT XX™ | TOPCUT™ | COOLCUT™ |
|---|---|---|---|---|---|
| | | | | | |
| **Application Need** | Provides high-efficiency, long-lasting material removal on steel, stainless steel, and hard alloys. | For high-speed and heavy-duty stock removal with long service life in the toughest conditions. Best paired with a high-powered tool. | For maximum material removal efficiency and longevity on all power tools. Ideal for all metal types. | Maintains a high removal rate, even with lower-powered tools. | Economical solution for general-purpose sanding, light weld removal, and surface cleaning on steel. |
| **V-STRONG™ Backing** | ✔ | ✔ | ✔ | | |
| **Grain** | Premium-shaped Ceramic | Premium Ceramic | Ceramic | Alumina | Aluminum Oxide |
| **Tool Power** | High | High | Mid-to-High | Low-to-Mid | Low-to-Mid |
| **Metals** | • Steel<br>• Stainless Steel<br>• Hard Alloys<br>• Aluminum | • Steel<br>• Stainless Steel<br>• Hard Alloys | • Steel<br>• Stainless Steel<br>• Aluminum | • Steel<br>• Stainless Steel | • Steel |
| **Diameter** | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 7” | • 4 ½“<br>• 5”<br>• 7” |

# FIBER DISCS

## XTRACUT™ XX

Self-sharpening ceramic disc with exceptional removal rates

XTRACUT™ XX is engineered to deliver unmatched stock removal and an extended service life, making it the ideal choice for working with steel, stainless steel, and hard alloys. With its optimized triangular shaped and self-sharpening grains, this disc ensures consistent, high-efficiency material removal throughout its use.




Steel Stainless Steel Hard

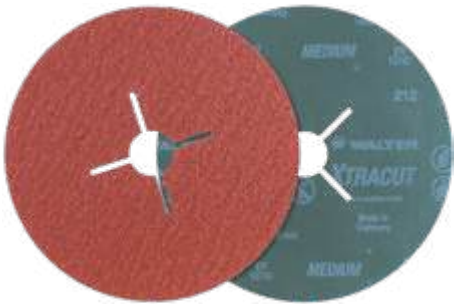
| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½” | ⅞” | 36 | 15N453 | 13,300 | 25 | 250 |
| 4 ½” | ⅞” | 60 | 15N456 | 13,300 | 25 | 250 |
| 4 ½” | ⅞” | 80 | 15N458 | 13,300 | 25 | 250 |
| 5” | ⅞” | 36 | 15N503 | 12,200 | 25 | 250 |
| 5” | ⅞” | 60 | 15N506 | 12,200 | 25 | 250 |
| 5” | ⅞” | 80 | 15N508 | 12,200 | 25 | 250 |
| 6” | ⅞” | 36 | 15N603 | 10,200 | 25 | 250 |
| 6” | ⅞” | 60 | 15N606 | 10,200 | 25 | 250 |
| 6” | ⅞” | 80 | 15N608 | 10,200 | 25 | 250 |
| 7” | ⅞” | 36 | 15N703 | 8,600 | 25 | 250 |
| 7” | ⅞” | 60 | 15N706 | 8,600 | 25 | 250 |
| 7” | ⅞” | 80 | 15N708 | 8,600 | 25 | 250 |

- *High removal rate sanding disc for all alloys*
- *Optimized triangular shaped and self-sharpening ceramic grains provide extremely high stock removal*
- *Contains cooling agents that ensure cool cutting to prevent burning and distortion increasing product durability*
- *Guaranteed cost savings and best for use on on steel, stainless, and hard alloys*
- *Very long service life and toughness due to its V- STRONG™ Technology*

## XTRACUT™

Highest performance sanding disc in steel

XTRACUT™ equals ultra-high stock removal and long service life. Optimized self-sharpening ceramic grains enable consistently high performance. Your quickest and coolest cutting sanding disc for steel production. Now with the Quick-Change attachment for even more efficiency.




Steel Stainless Steel Hard

| Dia. | Arbor | Grit | Equivalent Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½” | ⅞” | X-COARSE | 36+ | 15A453 | 25 | 250 |
| 4 ½” | ⅞” | COARSE | 60+ | 15A456 | 25 | 250 |
| 4 ½” | ⅞” | MEDIUM | 80+ | 15A458 | 25 | 250 |
| 5” | ⅞” | X-COARSE | 36+ | 15A503 | 25 | 250 |
| 5” | ⅞” | COARSE | 60+ | 15A506 | 25 | 250 |
| 5” | ⅞” | MEDIUM | 80+ | 15A508 | 25 | 250 |
| 6” | ⅞” | X-COARSE | 36+ | 15A603 | 25 | 250 |
| 6” | ⅞” | COARSE | 60+ | 15A606 | 25 | 250 |
| 6” | ⅞” | MEDIUM | 80+ | 15A608 | 25 | 250 |
| 7” | ⅞” | X-COARSE | 36+ | 15A703 | 25 | 250 |
| 7” | ⅞” | COARSE | 60+ | 15A706 | 25 | 250 |
| 7” | ⅞” | MEDIUM | 80+ | 15A708 | 25 | 250 |

### HIGHEST PERFORMANCE SANDING DISC IN STEEL

- *Highest performance sanding disc in steel*
- *Fastest cutting sanding disc in steel*
- *Optimised self-sharpening ceramic grain provides extremely high stock removal in steel*
- *Guaranteed cost savings in steel*
- *Extremely long service life*
- *Cooling agents to ensure cool cutting to prevent burning and distortion*

SCAN TO WATCH VIDEO

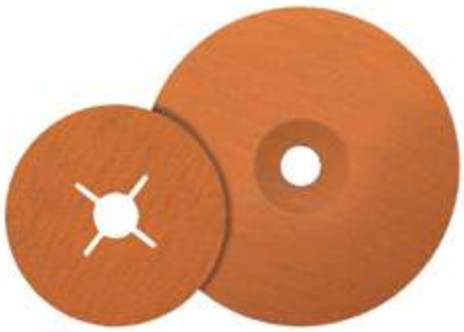
YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

V-STRONG BACKING TECHNOLOGY

WALTER's exclusive V-STRONG™ backing technology improves durability for the most demanding applications. With more vulcanized fiber than the competition, WALTER ceramic sanding discs last longer.



- *6 times more total stock removal than aluminum oxide sanding discs*
- *2 times faster cutting than aluminum oxide sanding discs*
- *Remove more material in less time, even when compared to some grinding wheels*
- *Provides a consistent surface finish, disc after disc*
- *Cooling agents ensure cool cutting to prevent burning and distortion*

### *Tech tip!*

*Use with Turbo backing pads to reduce heat built-up and prolong disc life*

## *Exclusive packaging!*

## COOLCUT XX™ 50 packs

Packaging that makes sense

Select grits and sizes of COOLCUT XX™ are now available in 50 packs. These specially designed packages are humidity-controlled to better preserve the sanding discs, essentially keeping them "factory fresh" and ensuring you get the best life and performance. Discs are also shrink wrapped to minimize warping.

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

# COOLCUT XX™

The longest lasting, most aggressive sanding discs

COOLCUT XX™ sanding discs are formulated with our exclusive Cyclone™ Technology abrasive grain blend to provide extremely aggressive material removal rates and the longest life in the industry. These discs allow you to remove more material faster while also lasting longer than traditional aluminum oxide or zirconia alumina sanding discs, making them ideal for use in a production environment.

## REDUCE YOUR CYCLE TIME
AND ELIMINATE BOTTLENECKS
IN THE PRODUCTION PROCESS

V-STRONG™ BACKING TECHNOLOGY

| Dia. | Arbor | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½" | ⅞" | 24 | 15X452 | 25 | 250 |
| 4 ½" | ⅞" | 36 | 15X453 | 25 | 250 |
| 4 ½" | ⅞" | 50 | 15X455 | 25 | 250 |
| 4 ½" | ⅞" | 60 | 15X456 | 25 | 250 |
| 4 ½" | ⅞" | 80 | 15X458 | 25 | 250 |
| 4 ½" | ⅞" | 100 | 15X460 | 25 | 250 |
| 4 ½" | ⅞" | 120 | 15X462 | 25 | 250 |
| 5" | ⅞" | 24 | 15X502 | 25 | 250 |
| 5" | ⅞" | 36 | 15X503 | 25 | 250 |
| 5" | ⅞" | 50 | 15X505 | 25 | 250 |
| 5" | ⅞" | 60 | 15X506 | 25 | 250 |
| 5" | ⅞" | 80 | 15X508 | 25 | 250 |
| 5" | ⅞" | 100 | 15X510 | 25 | 250 |
| 5" | ⅞" | 120 | 15X512 | 25 | 250 |
| 6" | ⅞" | 24 | 15X602 | 25 | 250 |
| 6" | ⅞" | 36 | 15X603 | 25 | 250 |
| 6" | ⅞" | 50 | 15X605 | 25 | 250 |
| 6" | ⅞" | 60 | 15X606 | 25 | 250 |
| 6" | ⅞" | 80 | 15X608 | 25 | 250 |
| 6" | ⅞" | 100 | 15X610 | 25 | 250 |
| 6" | ⅞" | 120 | 15X612 | 25 | 250 |
| 7" | ⅞" | 24 | 15X702 | 25 | 250 |
| 7" | ⅞" | 36 | 15X703 | 25 | 250 |
| 7" | ⅞" | 50 | 15X705 | 25 | 250 |
| 7" | ⅞" | 60 | 15X706 | 25 | 250 |
| 7" | ⅞" | 80 | 15X708 | 25 | 250 |
| 7" | ⅞" | 100 | 15X710 | 25 | 250 |
| 7" | ⅞" | 120 | 15X712 | 25 | 250 |

## COOLCUT XX™ 50 pack

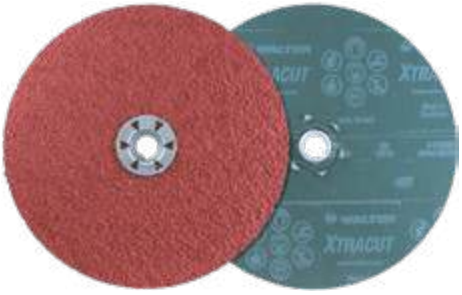
| Dia. | Arbor | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½" | ⅞" | 36 | 15X453B | 50 | 400 |
| 4 ½" | ⅞" | 50 | 15X455B | 50 | 400 |
| 4 ½" | ⅞" | 60 | 15X456B | 50 | 400 |
| 4 ½" | ⅞" | 80 | 15X458B | 50 | 400 |
| 5" | ⅞" | 36 | 15X503B | 50 | 400 |
| 5" | ⅞" | 50 | 15X505B | 50 | 400 |
| 5" | ⅞" | 60 | 15X506B | 50 | 400 |
| 5" | ⅞" | 80 | 15X508B | 50 | 400 |

# XTRACUT™ QUICK-CHANGE

## For faster disc changeouts

Our XTRACUT™ sanding discs are now available in a Quick-Change format for easier mounting and faster disc changeouts. Use with the new rubber backing pad for the best results.

New Quick-Change format allows you to save time on disc changes, significantly reducing lost time and associated labor costs over the course of the work day!



- *Ultra-fast removal rate*
- *Long life; high productivity*
- *Quick-Change attachment*
- *Ferrous-free formulation (will not contaminate stainless steel)*
- *V-STRONG™ backing improves durability for the most demanding applications.*

V-STRONG™ BACKING TECHNOLOGY

SPIN-ON

Steel Stainless Steel Hard

| Dia. | Arbor | Grit | Equivalent Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ⅝"–11 | X-COARSE | 36+ | 15A473 | 13,000 | 25 | 250 |
| 4 ½" | ⅝"–11 | COARSE | 60+ | 15A476 | 13,000 | 25 | 250 |
| 4 ½" | ⅝"–11 | MEDIUM | 80+ | 15A478 | 13,000 | 25 | 250 |
| 5" | ⅝"–11 | X-COARSE | 36+ | 15A523 | 12,200 | 25 | 250 |
| 5" | ⅝"–11 | COARSE | 60+ | 15A526 | 12,200 | 25 | 250 |
| 5" | ⅝"–11 | MEDIUM | 80+ | 15A528 | 12,200 | 25 | 250 |
| 6" | ⅝"–11 | X-COARSE | 36+ | 15A623 | 10,200 | 25 | 250 |
| 7" | ⅝"–11 | X-COARSE | 36+ | 15A723 | 8,600 | 25 | 250 |
| 7" | ⅝"–11 | COARSE | 60+ | 15A726 | 8,600 | 25 | 250 |
| 7" | ⅝"–11 | MEDIUM | 80+ | 15A728 | 8,600 | 25 | 250 |

# COOLCUT XX™ QUICK-CHANGE

## With SPIN-ON™ system

Our COOLCUT XX™ sanding discs are available in a Quick-Change format for easier mounting and faster disc changeouts. Use with new rubber backing pads for the best results.

***The Quick-Change format allows you to save time on disc changes, significantly reducing lost time and associated labor costs over the course of the work day!***

SPIN-ON

Steel Stainless Steel Alu. + n.f. metals

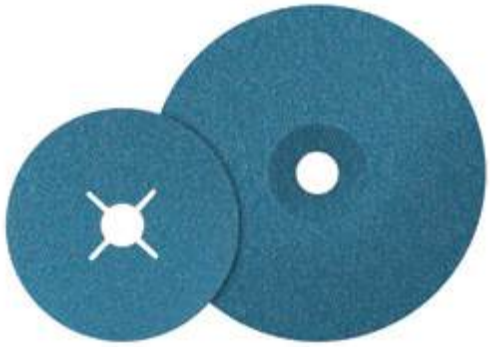
| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅝"–11 | 36 | 15X473 | 13,300 | 25 | 250 |
| 4 ½" | ⅝"–11 | 50 | 15X475 | 13,300 | 25 | 250 |
| 4 ½" | ⅝"–11 | 60 | 15X476 | 13,300 | 25 | 250 |
| 4 ½" | ⅝"–11 | 80 | 15X478 | 13,300 | 25 | 250 |
| 4 ½" | ⅝"–11 | 120 | 15X482 | 13,300 | 25 | 250 |
| 5" | ⅝"–11 | 36 | 15X523 | 12,200 | 25 | 250 |
| 5" | ⅝"–11 | 50 | 15X525 | 12,200 | 25 | 250 |
| 5" | ⅝"–11 | 60 | 15X526 | 12,200 | 25 | 250 |
| 5" | ⅝"–11 | 80 | 15X528 | 12,200 | 25 | 250 |
| 5" | ⅝"–11 | 120 | 15X532 | 12,200 | 25 | 250 |
| 7" | ⅝"–11 | 36 | 15X723 | 8,600 | 25 | 250 |
| 7" | ⅝"–11 | 60 | 15X726 | 8,600 | 25 | 250 |
| 7" | ⅝"–11 | 80 | 15X728 | 8,600 | 25 | 250 |
| 7" | ⅝"–11 | 120 | 15X732 | 8,600 | 25 | 250 |

V-STRONG™ BACKING TECHNOLOGY

***Tech tip!***

*Use with new rubber backing pads for ⅝"-11 threading*

**EASIER MOUNTING**
AND FASTER DISC CHANGE OUTS



# TOPCUT™

## Aggressive removal rate and extended disc life

TOPCUT™ sanding discs now remove material 50% faster than before, with a longer working life to help you maximize the efficiency of your production process. Designed using longer-lasting abrasive grains, TOPCUT™ is ideal for finishing applications on stainless steel and can improve your stock removal in more aggressive applications. Cooler sanding also guarantees your metal will not overheat, helping to preserve it and resulting in a higher quality finished product.

- *Highest performance zirconia alumina sanding disc*
- *Highest total removal in the industry for a zirconia alumina disc*
- *Fast removal rate with cooler cutting to reduce heat generation and prevent warping or discoloration*
- *The ideal option for use on heat sensitive metals*

Steel Stainless Steel

| Dia. | Arbor | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½” | ⅞” | 24 | 15P452 | 25 | 250 |
| 4 ½” | ⅞” | 36 | 15P453 | 25 | 250 |
| 4 ½” | ⅞” | 60 | 15P456 | 25 | 250 |
| 4 ½” | ⅞” | 80 | 15P458 | 25 | 250 |
| 5” | ⅞” | 24 | 15P502 | 25 | 250 |
| 5” | ⅞” | 36 | 15P503 | 25 | 250 |
| 5” | ⅞” | 60 | 15P506 | 25 | 250 |
| 5” | ⅞” | 80 | 15P508 | 25 | 250 |
| 7” | ⅞” | 24 | 15P702 | 25 | 250 |
| 7” | ⅞” | 36 | 15P703 | 25 | 250 |
| 7” | ⅞” | 60 | 15P706 | 25 | 250 |
| 7” | ⅞” | 80 | 15P708 | 25 | 250 |

# COOLCUT™

## General purpose sanding

COOLCUT™ is an economical solution for weld blending and finishing on steel surfaces.

- *Premium aluminum oxide abrasive grain blend*
- *High removal rate, cool cutting*
- *Most economical choice for finishing applications on steel*
- *The greatest selection of grit sizes of any WALTER sanding disc*

Steel

| Dia. | Arbor | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½” | ⅞” | 24 | 15C452 | 25 | 250 |
| 4 ½” | ⅞” | 36 | 15C453 | 25 | 250 |
| 4 ½” | ⅞” | 40 | 15C454 | 25 | 250 |
| 4 ½” | ⅞” | 50 | 15C455 | 25 | 250 |
| 4 ½” | ⅞” | 60 | 15C456 | 25 | 250 |
| 4 ½” | ⅞” | 80 | 15C458 | 25 | 250 |
| 4 ½” | ⅞” | 100 | 15C460 | 25 | 250 |
| 4 ½” | ⅞” | 120 | 15C462 | 25 | 250 |
| 5” | ⅞” | 24 | 15C502 | 25 | 250 |
| 5” | ⅞” | 36 | 15C503 | 25 | 250 |
| 5” | ⅞” | 40 | 15C504 | 25 | 250 |
| 5” | ⅞” | 50 | 15C505 | 25 | 250 |
| 5” | ⅞” | 60 | 15C506 | 25 | 250 |
| 5” | ⅞” | 80 | 15C508 | 25 | 250 |
| 5” | ⅞” | 100 | 15C510 | 25 | 250 |
| 5” | ⅞” | 120 | 15C512 | 25 | 250 |
| 7” | ⅞” | 24 | 15C702 | 25 | 250 |
| 7” | ⅞” | 36 | 15C703 | 25 | 250 |
| 7” | ⅞” | 40 | 15C704 | 25 | 250 |
| 7” | ⅞” | 50 | 15C705 | 25 | 250 |
| 7” | ⅞” | 60 | 15C706 | 25 | 250 |
| 7” | ⅞” | 80 | 15C708 | 25 | 250 |
| 7” | ⅞” | 100 | 15C710 | 25 | 250 |
| 7” | ⅞” | 120 | 15C712 | 25 | 250 |

### Tech tip!

*Use COOLCUT™ sanding discs with an orange backing pad to achieve a consistent scratch pattern for finishing operations.*

# ERGOFLEX™

## When employee safety and ergonomics are top priorities

ERGOFLEX™ is an abrasive that combines our proprietary Cyclone™ Technology grain blend with a Type 29 disc design to provide a solution for professionals looking to maximize workplace safety and ergonomics without sacrificing productivity. These wheels allow for a more comfortable working angle than Type 27 depressed center grinding wheels while minimizing the amount of noise and dust created during weld blending operations. The aggressive 36 grit abrasive grain blend also removes material quickly, allowing you to strike a perfect balance between comfort, safety, and productivity.

- ***Advanced Cyclone™ Technology abrasive grain blend removes material fast for improved productivity***
- ***Designed for extremely smooth, comfortable blending of both flat and curved surfaces***
- ***Reduces the amount of dust generated by 95% compared to traditional grinding wheels***
- ***Reduces the level of noise generated by 50% compared to a traditional grinding wheel***
- ***Less risk of gouging compared to traditional grinding wheels***

**TYPE 29**

| Dia. | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | ⅞" | 36 | 15T453 | 13,300 | 25 | 200 |
| 4 ½" | ⅞" | 60 | 15T456 | 13,300 | 25 | 200 |
| 4 ½" | ⅞" | 80 | 15T458 | 13,300 | 25 | 200 |
| 5" | ⅞" | 36 | 15T503 | 12,200 | 25 | 200 |
| 5" | ⅞" | 60 | 15T506 | 12,200 | 25 | 200 |
| 5" | ⅞" | 80 | 15T508 | 12,200 | 25 | 200 |
| 6" | ⅞" | 36 | 15T603 | 10,200 | 25 | 100 |
| 6" | ⅞" | 60 | 15T606 | 10,200 | 25 | 100 |
| 6" | ⅞" | 80 | 15T608 | 10,200 | 25 | 100 |
| 7" | ⅞" | 36 | 15T703 | 8,600 | 25 | 100 |
| 7" | ⅞" | 60 | 15T706 | 8,600 | 25 | 100 |
| 7" | ⅞" | 80 | 15T708 | 8,600 | 25 | 100 |

Fe-S-Cl <0.1% | Steel | Stainless Steel

*Always use with flange 30B030.*

### Tech tip!

*Use with backing flange set 30B030 for best results. (Each pack of 25 comes with one backing flange set for your convenience)*

*30B030*

*30B031*

**Accessories**

| | |
|---|---|
| Backing flange set | **Order No.** 30B030 |
| Ergoflange ¼" (6 mm) Pack of 5 | **Order No.** 30B031 |

# BACKING PADS

| Backing Pads | Backing Pad Assembly – Orange Backing Pads | Turbo Backing Pads - White | Turbo Backing Pads - Black | Rubber Backing Pad |
|---|---|---|---|---|
| **Application Need** | General purpose backing pad. Offers extra comfort and flexibility and is made from high-quality impact-resistant plastic. | Soft white pad for finishing where a wider contact area is required. Offers extra flexibility and longer life and is recommended for grit 60 and finer. | Hard black pad for weld blending and high stock removal. Offers longer life and is recommended for grit 50 and coarser. | Thick rubber orange pad for heavy-duty applications. Offers superior flexibility, exceptional resistance to wear and tear, and the longest lifespan. |
| **Durability** | • | • • | • • • | • • • • |
| **Flexibility** | • • • • | • • • | • | • • |
| **Diameter** | • 4“<br>• 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” | • 4 ½“<br>• 5”<br>• 6”<br>• 7” |
| **Works Best With** | COOLCUT XX™, TOPCUT™, COOLCUT™ | All Fiber Discs | XTRACUT XX™, XTRACUT™, COOLCUT XX™ | XTRACUT XX™, XTRACUT™, COOLCUT XX™ |

▷ *High-quality impact resistant plastic with maximum flexibility*

## *BACKING PAD ASSEMBLIES*

The economical choice for light-duty work and maximum flexibility.

| Dia. | Arbor | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4” | M10 × 1.25 | 15D030 | 15,000 | 1 | 10 |
| 4” | ⅜”–24 | 15D035 | 15,000 | 1 | 10 |
| 4 ½” | ⅝”–11 | 15D044 | 13,300 | 1 | 10 |
| 5” | ⅝”–11 | 15D054 | 12,200 | 1 | 10 |
| 6” | ⅝”–11 | 15D064 | 10,200 | 1 | 10 |
| 7” | ⅝”–11 | 15D027 | 8,600 | 1 | 10 |

# BACKING PADS

## *TURBO BACKING PAD ASSEMBLIES (Black and white)*

Special saucer-shaped backing pad with ribbed backing. Ensures a continuous stream of air between pad and disc for cool operation and long disc life. The ideal choice for COOLCUT XX™.

- *Hard black pad, for weld blending and high stock removal*
- *Excellent heat dissipation for longer life*
- *Recommended for grit 50 and coarser*

| Dia. | Arbor | Color | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½” | ⅝”–11 | Black | 15M044 | 13,300 | 1 | 10 |
| 4 ½” | ⅝”–11 | White | 15M045 | 13,300 | 1 | 10 |
| 5” | ⅝”–11 | Black | 15M054 | 12,200 | 1 | 10 |
| 5” | ⅝”–11 | White | 15M055 | 12,200 | 1 | 10 |
| 6” | ⅝”–11 | Black | 15M064 | 10,200 | 1 | 10 |
| 6” | ⅝”–11 | White | 15M065 | 10,200 | 1 | 10 |
| 7” | ⅝”–11 | Black | 15M007 | 8,600 | 1 | 10 |
| 7” | ⅝”–11 | White | 15M008 | 8,600 | 1 | 10 |

- *Soft white pad, extra flexible for surface finishing where a wider contact area is required*
- *Excellent heat dissipation for longer life*
- *Recommended for grit 60 and finer*
- *New nut – easier to tighten by hand*

## *HIGH-PERFORMANCE RUBBER BACKING PAD ASSEMBLIES*

High-performance rubber backing pad withstands pressure while providing superior flexibility. This backing pad can be used with sanding discs with 7/8” hole as well as Quick-Change sanding discs COOLCUT XX™, XTRACUT™, AND XTRACUT XX™.

SPIN-ON

| Dia. | Arbor | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½” | ⅝”–11 | 15D144 | 13,300 | 1 | 10 |
| 5” | ⅝”–11 | 15D154 | 12,200 | 1 | 10 |
| 6” | ⅝”–11 | 15D164 | 10,200 | 1 | 10 |
| 7” | ⅝”–11 | 15D127 | 8,600 | 1 | 10 |

- *Optimal flexibility*
- *Withstands high pressure*
- *Longest-lasting backing with medium flexibility*

### Accessories

**Clamping nuts for rubber backing pad**

For 4 ½” and 5” rubber backing pads
**Order No.** 15D024

For 7” rubber backing pads
**Order No.** 15H025

Pin key for rubber backing pad
**Order No.** 48Z149

# FLAP WHEELS

## TWO-IN-ONE™ FLAP WHEELS

Combine two steps in one. The TWO-IN-ONE™ Flap Wheels remove material nearly as fast as regular flap wheels while leaving a finer finish.

| Dia. | Width | Shaft | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 2” | 1” | ¼” | Fine | 15E124 | 12,000 | 8,400 | 1 | 10 |
| 2” | 1” | ¼” | Extra fine | 15E126 | 12,000 | 8,400 | 1 | 10 |
| 3” | 1 ¾” | ¼” | Medium | 15E162 | 8,000 | 5,600 | 1 | 10 |
| 3” | 1 ¾” | ¼” | Fine | 15E164 | 8,000 | 5,600 | 1 | 10 |
| 3” | 1 ¾” | ¼” | Extra fine | 15E166 | 8,000 | 5,600 | 1 | 10 |
| 3” | 1 ¾” | ¼” | Extra fine, flex. | 15E167 | 8,000 | 5,600 | 1 | 10 |
| 3” | 1 ¾” | ¼” * | Polishing | 15E168 | 8,000 | 5,600 | 1 | 10 |

** BLENDEX™ non-woven material only.*

| Dia. | Width | Arbor Hole | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 6” | 1” | 1 ¼” | Fine | 15E295 | 3,600 | 2,500 | 1 | 10 |
| 6” | 1” | 1 ¼” | Extra fine | 15E296 | 3,600 | 2,500 | 1 | 10 |

| GRIT - FEPA EQUIVALENT | |
|---|---|
| Medium | 150 |
| Fine | 180 |
| Extra fine | 220 |
| Extra fine, flexible | 220 |
| Polishing | 360 |

### Accessories

**Reducer bushing**
1” wide, from 1 ¼” to 1”, ¾”, ⅝”, ½”.
**Order No.** 12E010

**Mandrel for finishing wheels**
Plastic, 8 mm shaft, self-expanding, flush mounting for 1” thick wheels
**Order No.** 07C003

## COOLCUT™ FLAP WHEELS

Excellent for weld blending and general finishing work. Mounted with a pair of flanges for use on straight shaft or bench grinders.

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 6 ½” | 1” | 1” | 60 | 15G206 | 5,200 | 1 | 10 |
| 6 ½” | 1” | 1” | 80 | 15G208 | 5,200 | 1 | 10 |
| 6 ½” | 1” | 1” | 120 | 15G212 | 5,200 | 1 | 10 |
| 6 ½” | 2” | 1” | 60 | 15G306 | 5,200 | 1 | 10 |
| 6 ½” | 2” | 1” | 80 | 15G308 | 5,200 | 1 | 10 |
| 6 ½” | 2” | 1” | 120 | 15G312 | 5,200 | 1 | 10 |

### Accessories

**Steel flanges**
Reducer from 1” to ⅝” spindle
**Order No.** 15G962

# COOLCUT™ FLAP WHEELS

High quality and a consistent finish

COOLCUT™ Flap Wheels are ideal for general purpose blending, shaping, and deburring. They are made from the highest quality abrasive grains and are perfectly balanced to provide a uniform, grained satin finish. No matter the application, COOLCUT™ Flap Wheels provide consistently excellent results.

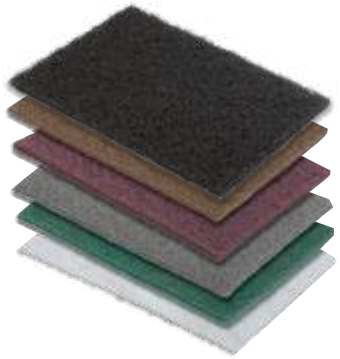
## ¼" SHAFT

Steel Stainless Steel Alu. + n.f. metals

| Dia. | Width | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg.* | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| ⅝" | ¾" | 60 | 15F016 | 30,000 | 15,000 | 10 | 100 |
| ⅝" | ¾" | 80 | 15F018 | 30,000 | 15,000 | 10 | 100 |
| ⅝" | ¾" | 120 | 15F022 | 30,000 | 15,000 | 10 | 100 |
| ¾" | ¾" | 180 | 15F028 | 30,000 | 15,000 | 10 | 100 |
| 1" | ⅜" | 40 | 15F054 | 30,000 | 15,000 | 10 | 100 |
| 1" | ⅜" | 60 | 15F056 | 30,000 | 15,000 | 10 | 100 |
| 1" | ⅜" | 80 | 15F058 | 30,000 | 15,000 | 10 | 100 |
| 1" | ⅜" | 120 | 15F062 | 30,000 | 15,000 | 10 | 100 |
| 1" | 1" | 40 | 15F154 | 30,000 | 15,000 | 10 | 100 |
| 1" | 1" | 60 | 15F156 | 30,000 | 15,000 | 10 | 100 |
| 1" | 1" | 80 | 15F158 | 30,000 | 15,000 | 10 | 100 |
| 1" | 1" | 120 | 15F162 | 30,000 | 15,000 | 10 | 100 |
| 1 ½" | ⅜" | 40 | 15F004 | 25,000 | 13,000 | 10 | 100 |
| 1 ½" | ⅜" | 60 | 15F006 | 25,000 | 13,000 | 10 | 100 |
| 1 ½" | ⅜" | 80 | 15F008 | 25,000 | 13,000 | 10 | 100 |
| 1 ½" | ⅜" | 120 | 15F012 | 25,000 | 13,000 | 10 | 100 |
| 1 ½" | 1" | 40 | 15F104 | 25,000 | 13,000 | 10 | 100 |
| 1 ½" | 1" | 60 | 15F106 | 25,000 | 13,000 | 10 | 100 |
| 1 ½" | 1" | 80 | 15F108 | 25,000 | 13,000 | 10 | 100 |
| 1 ½" | 1" | 120 | 15F112 | 25,000 | 13,000 | 10 | 100 |
| 1 ½" | 1" | 240 | 15F124 | 25,000 | 13,000 | 10 | 100 |
| 2 ½" | 1 ½" | 40 | 15F504 | 20,000 | 11,000 | 10 | 100 |
| 2 ½" | 1 ½" | 60 | 15F506 | 20,000 | 11,000 | 10 | 100 |
| 2 ½" | 1 ½" | 80 | 15F508 | 20,000 | 11,000 | 10 | 100 |
| 2 ½" | 1 ½" | 120 | 15F512 | 20,000 | 11,000 | 10 | 100 |
| 2 ½" | 1 ½" | 240 | 15F524 | 20,000 | 11,000 | 10 | 100 |
| 2" | ⅜" | 40 | 15F204 | 25,000 | 13,000 | 10 | 100 |
| 2" | ⅜" | 60 | 15F206 | 25,000 | 13,000 | 10 | 100 |
| 2" | ⅜" | 80 | 15F208 | 25,000 | 13,000 | 10 | 100 |
| 2" | ⅜" | 120 | 15F212 | 25,000 | 13,000 | 10 | 100 |
| 2" | 1" | 40 | 15F304 | 25,000 | 13,000 | 10 | 100 |
| 2" | 1" | 60 | 15F306 | 25,000 | 13,000 | 10 | 100 |
| 2" | 1" | 80 | 15F308 | 25,000 | 13,000 | 10 | 100 |
| 2" | 1" | 120 | 15F312 | 25,000 | 13,000 | 10 | 100 |
| 2" | 1" | 80 | 15F313 | 20,000 | 11,000 | 10 | 100 |
| 2" | 1" | 240 | 15F324 | 25,000 | 13,000 | 10 | 100 |
| 3" | 1" | 40 | 15F704 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1" | 60 | 15F706 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1" | 80 | 15F708 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1" | 40 | 15F709 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1" | 60 | 15F711 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1" | 120 | 15F712 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1" | 60 | 15F713 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1 ½" | 40 | 15F804 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1 ½" | 60 | 15F806 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1 ½" | 80 | 15F808 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1 ½" | 120 | 15F812 | 20,000 | 11,000 | 10 | 100 |
| 3" | 1 ½" | 240 | 15F824 | 20,000 | 11,000 | 10 | 100 |
| 3" | 2" | 40 | 15F904 | 20,000 | 11,000 | 10 | 100 |
| 3" | 2" | 60 | 15F906 | 20,000 | 11,000 | 10 | 100 |
| 3" | 2" | 80 | 15F908 | 20,000 | 11,000 | 10 | 100 |
| 3" | 2" | 120 | 15F912 | 20,000 | 11,000 | 10 | 100 |

** Can also be sold by the unit.*

# HAND ABRASIVES



Hand pads:

- *Pads are washable and can be reused*
- *Replace steel wool with no rusting, splintering, or contamination of the workpiece*

## BLENDEX™ HAND FINISHING ABRASIVES

Flexible rolls and sheets for general purpose sanding, deburring, surface cleaning, and finishing. They easily adapt to irregular surfaces making them indispensable in repair or maintenance applications.

### *HAND PADS*

Fe-S-Cl <0.1% | Stainless Steel | Alu. + n.f. metals | Brass

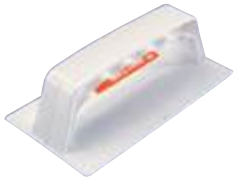
| Size | Order No. | Color | Type | Std. Pkg. |
|---|---|---|---|---|
| 6" × 9" | 07A100 | Maroon | Blending | 60 |
| 6" × 9" | 07A200 | Grey | Finishing/Polishing | 60 |
| 6" × 9" | 07A300 | Tan | Heavy-duty | 60 |
| 6" × 9" | 07A400 | Green | General purpose | 60 |
| 6" × 9" | 07A500 | White | Cleaning | 60 |
| 6" × 9" | 07A600 | Black | Finishing/Surface Preparation | 60 |

**Accessory**

**Hand pad holder**

With molded hook pattern for positive pad holding and easy grip handle
3" × 6"

**Order No.** 07A001



Rolls:

- *Can easily be cut into strips of desired size*
- *For manual or machine operations*
- *Ideal for removing rust and corrosion*

### *ROLLS*

Fe-S-Cl <0.1% | Stainless Steel | Alu. + n.f. metals | Brass

| Width | Length | Order No. | Color | Type | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4" | 30' | 07B104 | Maroon | Blending | 1 | 10 |
| 4" | 30' | 07B204 | Grey | Finishing/Polishing | 1 | 10 |
| 4" | 30' | 07B304 | Tan | Heavy-duty | 1 | 10 |
| 4" | 30' | 07B404 | Green | General purpose | 1 | 10 |
| 4" | 30' | 07B504 | White | Cleaning | 1 | 10 |

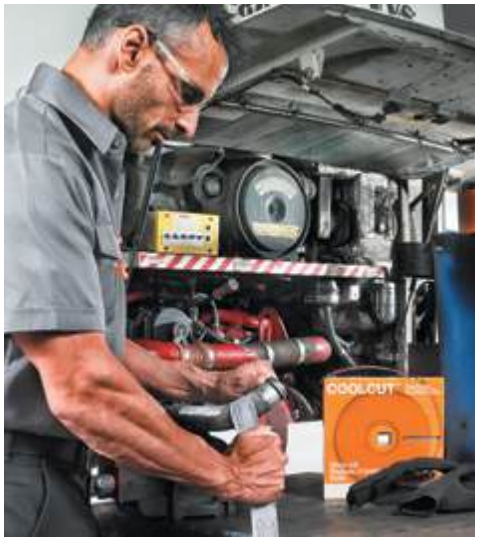
***Tech tip!***

*Use white hand pad (Order no.: 07A500) or roll (Order no.: 07B504) with SURFOX™ PRE-WELD to clean soiled surfaces.*

**SURFOX™ PRE-WELD**
**Order No.** 54A083

# COOLCUT™ SHOP ROLLS AND HAND SHEETS

COOLCUT™ cloth abrasives are made from fast-cutting aluminum oxide grain resin-bonded onto a wear-resistant high-quality cotton cloth backing for cool and effective cutting. Get through general sanding, light removal and deburring, surface cleaning, and finishing fast.



## SHOP ROLLS

Fe-S-Cl <0.1% | Steel | Stainless Steel | Alu. + n.f. metals | Brass

| Width | Length | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 1” | 50 yards | 60 | 14C106 | 1 | 10 |
| 1” | 50 yards | 80 | 14C108 | 1 | 10 |
| 1” | 50 yards | 100 | 14C110 | 1 | 10 |
| 1” | 50 yards | 120 | 14C112 | 1 | 10 |
| 1” | 50 yards | 180 | 14C118 | 1 | 10 |
| 1” | 50 yards | 240 | 14C124 | 1 | 10 |
| 1” | 50 yards | 320 | 14C132 | 1 | 10 |
| 1 ½” | 50 yards | 60 | 14C206 | 1 | 10 |
| 1 ½” | 50 yards | 80 | 14C208 | 1 | 10 |
| 1 ½” | 50 yards | 100 | 14C210 | 1 | 10 |
| 1 ½” | 50 yards | 120 | 14C212 | 1 | 10 |
| 1 ½” | 50 yards | 180 | 14C218 | 1 | 10 |
| 1 ½” | 50 yards | 240 | 14C224 | 1 | 10 |
| 1 ½” | 50 yards | 320 | 14C232 | 1 | 10 |
| 2” | 50 yards | 60 | 14C306 | 1 | 10 |
| 2” | 50 yards | 80 | 14C308 | 1 | 10 |
| 2” | 50 yards | 100 | 14C310 | 1 | 10 |
| 2” | 50 yards | 120 | 14C312 | 1 | 10 |
| 2” | 50 yards | 180 | 14C318 | 1 | 10 |
| 2” | 50 yards | 240 | 14C324 | 1 | 10 |
| 2” | 50 yards | 320 | 14C332 | 1 | 10 |

- *Premium J-weight cloth backing for long life and flexibility*
- *Ideal for use in maintenance shops, machine shops, manufacturing plants, and more*
- *Safe for use on all metals*

## HAND SHEETS

Fe-S-Cl <0.1% | Steel | Stainless Steel | Alu. | Brass

| Dimensions | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|
| 9” x 11” | 40 | 14A904 | 25 | 250 |
| 9” x 11” | 40 | 14A904A | 5 | 250 |
| 9” x 11” | 60 | 14A906 | 25 | 250 |
| 9” x 11” | 60 | 14A906A | 5 | 250 |
| 9” x 11” | 80 | 14A908 | 25 | 250 |
| 9” x 11” | 80 | 14A908A | 5 | 250 |
| 9” x 11” | 100 | 14A910 | 25 | 250 |
| 9” x 11” | 100 | 14A910A | 5 | 250 |
| 9” x 11” | 120 | 14A912 | 25 | 250 |
| 9” x 11” | 120 | 14A912A | 5 | 250 |
| 9” x 11” | 180 | 14A918 | 25 | 250 |
| 9” x 11” | 180 | 14A918A | 5 | 250 |
| 9” x 11” | 240 | 14A924 | 25 | 250 |
| 9” x 11” | 240 | 14A924A | 25 | 250 |
| 9” x 11” | 320 | 14A932 | 25 | 250 |
| 9” x 11” | 320 | 14A932A | 5 | 250 |

** 2 x 14A932, 2 x 14A918, 1 x 14A906*

- *Woven backing is extra tough but tears straight for easy sizing*
- *Wear resistant and high performing*
- *Long lasting and cool cutting*

# LINEAR SURFACE FINISHING SYSTEM

**The LINE-MATE linear surface finishing system** is the most versatile tool for applications that involve applying a linear scratch pattern. LINE-MATE features a complete range of innovative abrasives designed to match any linear finish and reduce your finishing costs. Whether you work with stainless steel, aluminum, brass, copper, or other alloys, LINE-MATE allows you to achieve the desired finish quickly and with minimal effort.

***This is the finish you get for each product if used on a 2B stainless steel surface.***

| | Product | Application | Product category | Type of finish / Ra / Grit size | Pre-finishing (>60 µin) | Coarse finish (60-50 µin) | Sanitary (40-25 µin) | Pharma (16-12 µin) | Light polish (8-4 µin) | Mirror finish (4-1 µin) |
|---|---|---|---|---|---|---|---|---|---|---|
| DRUMS | FX™ Drums @2000 RPM | Cleaning | 07-L | Coarse | | | | | | |
| | COOLCUT™ Flap Drums @2000 RPM | Graining | 07-J | 40 | | | | | | |
| | | | | 60 | | | | | | |
| | | | | 80 | | | | | | |
| | | | | 120 | | | | | | |
| | BLENDEX™ Drums @2000 RPM | Finishing | 07-M | Coarse | | | | | | |
| | | | | Medium | | | | | | |
| | | | | Fine | | | | | | |
| | | | | Super Fine | | | | | | |
| | | | | Ultra Fine | | | | | | |
| | 2-in-1 TURBO Drums @2000 RPM | Graining | 07-K | 60 | | | | | | |
| | 2-in-1 Drums @2000 RPM | Linear finishing | 07-K | 80 | | | | | | |
| | Buffing Drums and polishing pastes @2000 RPM | Applying a mirror finish | 07T+ paste | Instant Polish 1000-1500 | | | | | | |
| | | | 07T+ paste | Ultimate Shine 2000-2500 | | | | | | |
| BELTS | Cloth Drum Belts @2000 RPM | Removing deep scratches (stock removal) | 07-F | 40 | | | | | | |
| | | | | 60 | | | | | | |
| | | | | 80 | | | | | | |
| | | | | 120 | | | | | | |
| | BLENDEX™ Drum Belts @2000 RPM | Graining and finishing | 07-H | Coarse | | | | | | |
| | | | | Medium | | | | | | |
| | | | | Fine | | | | | | |
| | | | | Super Fine | | | | | | |
| | High Polish Drum Belts, Instant Polish Drum Belts and polishing pastes | Applying a mirror finish | 07T+ paste | Instant Polish 1000-1500 | | | | | | |
| | | | 07T+ paste | Ultimate Shine 2000-2500 | | | | | | |

# LINE-MATE LINEAR SURFACE FINISHING SYSTEM

The professional choice for applying a linear finish

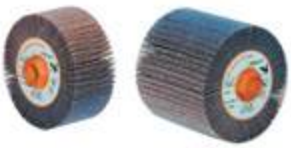
The LINE-MATE III™ surface finishing system is the most versatile method for all applications where a linear scratch pattern is required. Whether you need to grind, sand, clean, buff, or polish a metal surface, this system offers the most complete range of products to match the desired surface finish.

Drive roller and T-LOCK™ belts - for pipes, tubing and railings

**LINE-MATE III™ high efficiency drum sander**
See page 162 for details

Pneumatic drum and belts

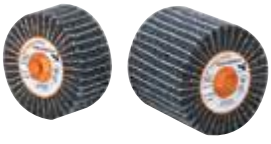
Drums



- *Ideal for graining and light metal removal and as a first step in the finishing process*
- *Will give a consistent and uniform finish*
- *Will not load or glaze*

## COOLCUT™ FLAP DRUMS

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ¼" | 2" | ⅝"–11 | 40 | 07J424 | 3,800 | 1 | 10 |
| 4 ¼" | 2" | ⅝"–11 | 60 | 07J426 | 3,800 | 1 | 10 |
| 4 ¼" | 2" | ⅝"–11 | 80 | 07J428 | 3,800 | 1 | 10 |
| 4 ¼" | 2" | ⅝"–11 | 120 | 07J432 | 3,800 | 1 | 10 |
| 4 ¼" | 4" | ⅝"–11 | 40 | 07J444 | 3,800 | 1 | 10 |
| 4 ¼" | 4" | ⅝"–11 | 60 | 07J446 | 3,800 | 1 | 10 |
| 4 ¼" | 4" | ⅝"–11 | 80 | 07J448 | 3,800 | 1 | 10 |
| 4 ¼" | 4" | ⅝"–11 | 120 | 07J452 | 3,800 | 1 | 10 |



- *Combine two finishing steps into one: The coated abrasive cloth cuts aggressively while the interweaved BLENDEX™ flaps produce a satin linear finish*

## TWO-IN-ONE™ DRUMS

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | 80 | 07K422 | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | 80 | 07K442 | 3,800 | 1 | 10 |

- *Removes like a grinding belt while the interweaved BLENDEX™ flaps produce a #3 finish*

## ALLSTEEL™ TWO-IN-ONE™ DRUMS

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ¼" | 2" | ⅝"-11 | 80 | 07K322 | 3,800 | 1 | 10 |
| 4 ¼" | 4" | ⅝"-11 | 80 | 07K342 | 3,800 | 1 | 10 |

## TWO-IN-ONE™ TURBO DRUMS

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | 60 | 07K421 | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | 60 | 07K441 | 3,800 | 1 | 10 |

## BLENDEX™ DRUMS

| Dia. | Width | Arbor | Grit | Order No. | | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | Coarse | 07M422 | | 3,800 | 1 | 10 |
| 4 ½" | 2" | ⅝"–11 | Medium | 07M423 | | 3,800 | 1 | 10 |
| 4 ½" | 2" | ⅝"–11 | Fine | 07M424 | | 3,800 | 1 | 10 |
| 4 ½" | 2" | ⅝"–11 | Super fine | 07M425 | | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Coarse | 07M441 | * | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Coarse | 07M442 | * | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Medium | 07M443 | * | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Fine | 07M444 | | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Super fine | 07M445 | | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Ultra fine | 07M446 | ** | 3,800 | 1 | 10 |

- *Can be used to polish, burnish, blend, deburr, clean, and brighten stainless steel, aluminum, brass, copper, and other alloys*
- *High quality non-wovens*
- *High flap density due to high compression during the manufacturing process*

## ALLSTEEL™ BLENDEX™ DRUMS

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ¼" | 2" | ⅝"-11 | Coarse | 07M322 | 3,800 | 1 | 10 |
| 4 ¼" | 2" | ⅝"-11 | Medium | 07M323 | 3,800 | 1 | 10 |
| 4 ¼" | 2" | ⅝"-11 | Fine | 07M324 | 3,800 | 1 | 10 |
| 4 ¼" | 4" | ⅝"-11 | Coarse | 07M342 | 3,800 | 1 | 10 |
| 4 ¼" | 4" | ⅝"-11 | Medium | 07M343 | 3,800 | 1 | 10 |
| 4 ¼" | 4" | ⅝"-11 | Fine | 07M344 | 3,800 | 1 | 10 |

** 07M442 and 07M443: Now with* **"Perfect Brushed Finish"** *technology. Exclusive to WALTER, this technology provides a shadow-free finish right from the start.*

*** Ultra-Fine HG (High Gloss) drums are ideal for enhancing and brightening existing finishes, taking out stains in metals and bringing out a new lustre in work surfaces.*

- *Foam impregnation makes the drums denser and longer-lasting*
- *Can be used in water*
- *For high-density applications such as deburring*

## BLENDEX™ FOAM DRUMS

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | Coarse | 07M411 | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Super Fine | 07P445 | 3,800 | 1 | 10 |

## INOX TAPE

Excellent for a perfect mitred corner finish

| Length | Width | Thick. | Order No. | Std. Pkg. |
|---|---|---|---|---|
| 16' ⅜" | 1 37/64" | 3/500" | 07T100 | 1 |
| 30' | ¾" | 1/100" | 07T105 | 1 |

- *Thin stainless steel tape with adhesive strip*
- *Use only on cool surfaces*

## BUFFING DRUMS

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 4 ¾" | 2" | ⅝"–11 | Multi-ply cotton | 07T425 | 3,800 | 1,700 to 2,200 | 1 | 10 |
| 4 ¾" | 2" | ⅝"–11 | Fold cotton | 07T427 | 3,800 | 1,700 to 2,200 | 1 | 10 |

*Use with polishing pastes.*

Multi-Ply (Harder)

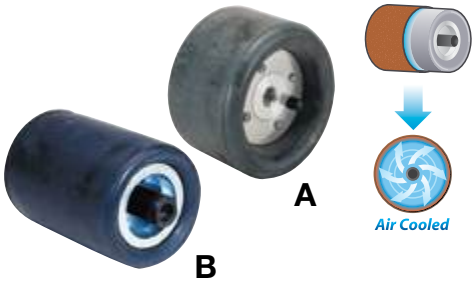
Fold (Softer)

- *Ideal for enhancing and brightening existing finishes, taking out stains in metals and bringing out a new lustre in work surfaces*
- *Use with polishing pastes for a mirror finish*

- *Popular applications include upgrading of #4 finishes, polishing to a food grade finish, repairing minor scratches, etc.*

## HIGH POLISH™ DRUM BELTS

| Width | Length | Dia. | Color | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 5 ⅜" | 11 ⅝" | 3 ½" | White | 07T530 | 1 | 10 |
| 5 ⅜" | 11 ⅝" | 3 ½" | Yellow | 07T534 | 1 | 10 |




## PNEUMATIC DRUMS

### Accessories

| Photo | Width | Dia. | Arbor | Max. RPM | Order No. |
|---|---|---|---|---|---|
| A | 3 ½" | 5" | ⅝"–11 | 3,800 | 07F037* |
| B | 5 ⅜" | 3 ½" | ⅝"–11 | 3,800 | 07F051 |
| *MUST USE extension for pneumatic drum A | | | | | 08B009 |
| **Replacement rubber bladder assemblies** | | | | | |
| 3 ½" x 5" (for drum A) | | | | | 07F093 |
| 5 ⅜" x 3 ½" (for drum B) | | | | | 07F095 |
| Valve core for both drums | | | | | 07F013 |

Put a cushion of air between your abrasives to:

- *Eliminate edge cutting and swirl marks*
- *Increase sandpaper life by reducing heat build-up*
- *Allow more flexibility – conforms to curved surfaces*

- *Improves productivity with 3 inserts to allow easy drum belt change*
- *Longer lasting due to its premium rubber material*
- *Eliminates the need to have access to an air line*
- *With metal spin-on arbor – 5/8"-11**

## EXPANDING DRUM

### Accessory

| Width | Dia. | Arbor | Max. RPM | Order No. |
|---|---|---|---|---|
| 5 ⅜" | 3 ½" | ⅝"–11 | 3,800 | 07F061 |

- *Allows you to create or restore linear finishes, level off small welds, round corners, remove deep scratches, etc.*
- *Equipped with taped butt-joints for longer life and higher removal rates*

## COOLCUT XX™ DRUM BELTS

Steel · Stainless Steel · Alu. + n.f. metals

| Width | Length | Dia. | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 3 ½" | 15 ½" | 5" | 40 TOPCUT | 07F364 | 5 | 100 |
| 3 ½" | 15 ½" | 5" | 60 COOLCUT XX | 07F366 | 5 | 100 |
| 3 ½" | 15 ½" | 5" | 80 COOLCUT XX | 07F368 | 5 | 100 |
| 3 ½" | 15 ½" | 5" | 120 COOLCUT XX | 07F371 | 5 | 100 |
| 5 ⅜" | 11 ⅝" | 3 ½" | 40 TOPCUT | 07F504 | 5 | 100 |
| 5 ⅜" | 11 ⅝" | 3 ½" | 60 COOLCUT XX | 07F506 | 5 | 100 |
| 5 ⅜" | 11 ⅝" | 3 ½" | 80 COOLCUT XX | 07F508 | 5 | 100 |
| 5 ⅜" | 11 ⅝" | 3 ½" | 120 COOLCUT XX | 07F511 | 5 | 100 |

- ***Coarse:** For tough cleaning or removing rust and small scratches*
- ***Medium:** For conditioning and removing surface imperfections*
- ***Fine:** For fine surface refinements*
- ***Super fine:** Use to produce decorative finishes or as a last step before applying a mirror finish*

## BLENDEX™ DRUM BELTS

Steel · Stainless Steel · Alu. + n.f. metals

| Width | Length | Dia. | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 3 ½" | 15 ½" | 5" | Coarse | 07H362 | 1 | 10 |
| 3 ½" | 15 ½" | 5" | Medium | 07H363 | 1 | 10 |
| 3 ½" | 15 ½" | 5" | Fine | 07H364 | 1 | 10 |
| 3 ½" | 15 ½" | 5" | Super fine | 07H365 | 1 | 10 |
| 5 ⅜" | 11 ⅝" | 3 ½" | Coarse | 07H502 | 1 | 10 |
| 5 ⅜" | 11 ⅝" | 3 ½" | Medium | 07H503 | 1 | 10 |
| 5 ⅜" | 11 ⅝" | 3 ½" | Fine | 07H504 | 1 | 10 |
| 5 ⅜" | 11 ⅝" | 3 ½" | Super fine | 07H505 | 1 | 10 |

## INSTANT POLISH™ DRUM BELTS

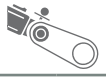
One-step solution for achieving a #8 mirror finish

Steel · Stainless Steel · Alu. + n.f. metals

| Width | Length | Dia. | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 5 3/8" | 11 5/8" | 3 1/2" | 07T536 | 1 | 10 |

- *Achieve a #8 mirror finish in just one step*
- *The polishing paste comes pre-applied on the belt*
- *Packed in a resealable bag that protects the belt from contaminants and drying*

## BLENDEX™ T-LOCK BELTS

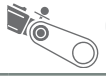


Steel · Stainless Steel · Alu. + n.f. metals

| Width | Length | Grit | Color | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 1 3/16" | 24" | Coarse | Tan | 07H242 | 3 | 48 |
| 1 3/16" | 24" | Medium | Maroon | 07H243 | 3 | 48 |
| 1 3/16" | 24" | Fine | Blue | 07H244 | 3 | 48 |
| 1 3/16" | 24" | Super fine | Grey | 07H245 | 3 | 48 |

- *Ideal for cleaning or finishing pipes, tubes, and railings*
- *Produces a new sheen on tarnished pipes*
- *T-Lock allows quick and easy access when finishing closed loop workpieces*

## T-LOCK POLISHING FELT BELT



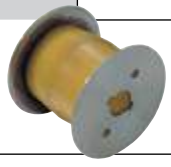
Steel · Stainless Steel · Alu. + n.f. metals

| Width | Length | Color | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 1 3/16" | 24" | White | 07T225 | 3 | 48 |

*Use with polishing paste.*

**Accessory**

**Belt drive roller**
3 1/4" x 2 3/4" x 5/8"-11
**Order No.** 07F002



- *Allows you to use T-Lock belts with the Line-Mate III tool for finishing pipes, tubing, and railing*

# HAND RAIL FINISHING KIT

**Order No.** 07H992

**Includes:**

- 1 belt drive roller (07F002)
- 4 BLENDEX™ strip belts:
  - 1 coarse (07H242)
  - 1 medium (07H243)
  - 1 fine (07H244),
  - 1 super fine (07H245).

# FX™ FLEX DRUMS

## Clean welds and finish the surface in one step

Use the FX™ FLEX drum to easily clean TIG and MIG welds while leaving a fine #4 finish on your metal surfaces. This product is ideal for cleaning uneven surfaces like checker plates. FX™ FLEX drums are made with a lower-density material which allows you to achieve a perfectly uniform fine #4 finish on your metal surfaces. Save time and replace multiple tools with just one with FX™ FLEX drums.

- *More flexible non-woven mesh – cleans any uneven surface*
- *Clean TIG and MIG welds and leave a fine #4 finish*
- *Perfect on stainless steel*

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | Flex coarse | 07L422 | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Flex coarse | 07L442 | 3,800 | 1 | 10 |

- *Open web-like construction assures cool operation that resists loading*
- *Will strip paint with ease, remove rust and scale*
- *Firm coarse non-woven flaps for tough cleaning applications*

## *FX™ DRUMS*

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | Coarse | 07L420 | 3,800 | 1 | 10 |
| 4 ½" | 4" | ⅝"–11 | Coarse | 07L440 | 3,800 | 1 | 10 |

## *FX™ DRUMS REVERSIBLE*

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Grit | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 4" | ⅝"–11 | Coarse | 07L441 | 3,800 | 1 | 10 |

- *Reversible for uniform wear on uneven surfaces*

## *LINEAR CRIMPED BRUSHES*

Steel

| Dia. | Width | Arbor | Wire size | Wire type | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | .01" | Tempered steel | 13M454 | 4,000 | 1 | 10 |

- *Perfect for a ready-to-paint finish*
- *Cleans large surfaces faster*
- *Provides a smooth linear finish*
- *The best solution to clean uneven surfaces*

## *LINEAR CRIMPED BRUSHES*

Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Wire size | Wire type | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | .01" | S/S 304 | 13M464 | 4,000 | 1 | 10 |

- *Follows the direction of the grain*
- *The fastest way to clean oxidized and discolored welds*

# LINE-MATE III™ SYSTEM

## Linear finishing made easy

The LINE-MATE III™ is a versatile variable speed tool that allows you to quickly and easily apply a wide range of linear finishes to metal surfaces. Its powerful motor will help you complete even the toughest jobs with ease. RPM remains constant under load for a consistent and uniform finish every time. When you have a project that requires a linear scratch pattern applied to the surface, trust LINE-MATE to get the job done quickly and efficiently.

**Includes:**

- 1 LINE-MATE III™ with standard equipment plus carrying case
- N • 1 expanding drum (07F061)
- 6 cloth drum belts (2 each grit: 60: 07F506, 80: 07F508 and 120: 07F511)
- 2 BLENDEX™ drum belts (Coarse: 07H502, medium: 07H503)
- 1 TWO-IN-ONE™ drum (4 ¼" x 4": 07K342)
- 1 BLENDEX™ drum (4 ¼" x 4" medium: 07M343)

Scan the QR code to learn how the Line-Mate™ III can help you achieve consistent linear finishes

| Model | Order No. | Spindle RPM | Thread | Motor | Amps | Weight |
|---|---|---|---|---|---|---|
| 6268 KIT | 30A269 | 1,000 –3,800 | ⅝"–11 | 120V A.C. only | 12.4 A | 16 lbs |

## FINISHING TUBES, RAILS AND PIPES

# RAIL-MATE™

Remove welds and finish pipes, tubes and railings faster

The RAIL-MATE™ allows you to use our premium abrasive products in a new belt format to finish pipes, tubes, and railings. This powerful finishing tool features variable speed settings so that you can tackle any job from blending welds or heavy stock removal all the way to polishing and finishing surfaces. Easily create a linear scratch pattern around the circumference of pipes, tubes, and rails with RAIL-MATE™.

*See page 161 for more details*

**TACKLE ANY APPLICATION**
FROM HEAVY STOCK
REMOVAL TO POLISHING

### Benefits

- ***Allows you to quickly switch between abrasives to take time and cost out of finishing jobs***
- ***Durable industrial tool that is built to last, saving you from having to replace your power tools every few months***
- ***Designed to exceed all safety standards, creating a safer work environment***

### Features

- ***Dialspeed™ variable speed control allows you to quickly go from 1,600-3,200 RPM to tackle any application from heavy stock removal to polishing***
- ***Powerful 1,200W industrial motor with Dynamax™ RPM monitoring to maintain constant RPM under load***
- ***Soft Start™ technology helps to avoid kickback when starting the tool***

### *Tech tip!*

*Use faster speeds for heavy stock removal and lower speeds for finishing.*

***Finish (roughness average) obtained when using each product on 2B stainless steel surface.***

| | | | Type of finish | Pre-finishing | Coarse finish | Sanitary | Pharma | Light polish | Mirror finish |
|---|---|---|---|---|---|---|---|---|---|
| Product | Application | Product category | Ra | (>60 µin) | (60-50 µin) | (40-25 µin) | (16-12 µin) | (8-4 µin) | (4-1 µin) |
| | | | Grit size | | | | | | |
| COOLCUT XX™ Drums | Blending | 14-X | 40 | | | | | | |
| | | | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 120 | | | | | | |
| BLENDEX™ Belts | Surface conditioning | 07-D | Coarse | | | | | | |
| | | | Medium | | | | | | |
| | | | Fine | | | | | | |
| High Polish Belts | Mirror finishing | 07T+ paste | Instant Polish 1000-1500 | | | | | | |
| | | 07T+ paste | Ultimate Shine 2000-2500 | | | | | | |

# COOLCUT XX™ BELTS

For heavy stock removal

These coated abrasive belts use our exclusive Cyclone™ Technology with a premium ceramic abrasive grain blend to provide an extremely aggressive removal rate and long working life. This means you can remove weld beads and finish surfaces faster, reducing cycle time and taking labor time and cost out of the operation.

## *COOLCUT XX™ RAIL-MATE BELTS*

Steel · Stainless Steel · Alu. + n.f. metals

| Width | Length | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 1 ½" | 30" | 40 | 14X154 | 3,200 | 2,900 | 5 | 100 |
| 1 ½" | 30" | 60 | 14X156 | 3,200 | 2,900 | 5 | 100 |
| 1 ½" | 30" | 80 | 14X158 | 3,200 | 2,900 | 5 | 100 |
| 1 ½" | 30" | 120 | 14X162 | 3,200 | 2,900 | 5 | 100 |

### Benefits

- *Reduce cycle time to take labor time and cost out of the job*
- *Long-lasting performance to avoid frequent belt changeouts and trips to the tool crib*
- *Consistent removal rate and surface finish throughout the life of the belt*

### Features

- *Premium Cyclone™ Technology ceramic abrasive grain blend for the fastest removal and longest life in the industry*
- *Flexible cloth backing for any curved surface*
- *Guaranteed not to contaminate stainless steel (Fe-S-CL free)*

# BLENDEX™ BELTS

For surface conditioning and removing fine scratches

Our proprietary BLENDEX™ belts outlast the competition and provide a consistent, uniform surface finish throughout the life of the belt. These non-woven belts excel at removing scratches and light corrosion or oxidation from stainless steel or aluminum tubes, rails, or pipes.

## *BLENDEX™ RAIL-MATE BELTS*

Steel · Stainless Steel · Alu. + n.f. metals

| Width | Length | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 1 ½" | 30" | Coarse | 07D152 | 3,200 | 2,500 | 5 | 100 |
| 1 ½" | 30" | Medium | 07D153 | 3,200 | 2,500 | 5 | 100 |
| 1 ½" | 30" | Fine | 07D154 | 3,200 | 2,500 | 5 | 100 |

### Benefits

- *Long lasting product that outlasts and outperforms the competition*
- *Quickly produces a new sheen on tarnished pipes*
- *Safe for use on all common metals and alloys*

### Features

- *Non-woven design ensures consistent performance from start to finish*
- *Premium abrasive grain blend for maximum performance*
- *Will not clog or load on aluminum and other non-ferrous metals*

# POLISHING BELTS

For applying a decorative or mirror finish

These durable belts are made of a special material that allows you to apply up to a #8 mirror finish with the use of our polishing pastes.

## *RAIL-MATE POLISHING BELTS*

Stainless Steel · Alu. + n.f. metals

| Width | Length | Color | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 1 ½" | 30" | Yellow | 07T220 | 3,200 | 1,600 | 5 | 20 |

### Features

- *Durable construction provides a long working life*
- *Extremely flexible to provide a superior surface finish*

# POLISHING PASTES

For use with felt, high polish, and instant polish discs

**NSF category A7, registration #152698 (Instant Polish)**
**NSF category A7, registration #154489 (Ultimate Shine)**

Steel · Stainless Steel · Alu. + n.f. metals

| Name | Order No. | Weight | Grit | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| White paste | 07T901 | 600 g | 1200-1500 | 1 | 10 |
| Blue paste | 07T905 | 650 g | 2000 | 1 | 10 |
| Instant polish paste | 07T907 | 1200 g | 1000-1500 | 1 | 5 |
| Ultimate Shine™ paste | 07T909 | 1300 g | 2000-2500 | 1 | 5 |

# COATED ABRASIVE FILE BELTS

WALTER offers a complete line of file belts for general purpose sanding, light weld removal, surface cleaning, blending, deburring, and finishing of intricate shapes and profiles. An extra heavy-duty backing (Y-polyester) with a special butt-joint and glue ensure the longest belt life even in the most demanding applications.

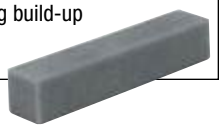
- *Made with premium abrasive grain blends for fast material removal on all metal surfaces*
- *Excellent for contour and shape sanding applications requiring flexibility and fray resistance*

TOPCUT+ INOX+

- *Made from top quality grain for sanding and finishing of stainless steel*
- *Leaves a smooth and bright surface finish*

**Accessory**

**Rubber cleaning stick**
Prolongs the life of drum belts by removing build-up
**Order No.** 14E001



## TOPCUT+ FILE BELTS

Steel Stainless Steel Alu. + n.f. metals

| Width | Length | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| ½" | 18" | 36 | 14D033 | 25 | 200 |
| ½" | 18" | 60 | 14D036 | 25 | 200 |
| ½" | 18" | 80 | 14D038 | 25 | 200 |
| ½" | 24" | 36 | 14D053 | 25 | 200 |
| ½" | 24" | 60 | 14D056 | 25 | 200 |
| ½" | 24" | 80 | 14D058 | 25 | 200 |
| ¾" | 18" | 36 | 14D103 | 25 | 200 |
| ¾" | 18" | 60 | 14D106 | 25 | 200 |
| ¾" | 18" | 80 | 14D108 | 25 | 200 |

## INOX+ FILE BELTS

Stainless Steel Alu. + n.f. metals

| Width | Length | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| ½" | 18" | 36 | 14B033 | 25 | 200 |
| ½" | 18" | 60 | 14B036 | 25 | 200 |
| ½" | 18" | 80 | 14B038 | 25 | 200 |
| ½" | 18" | 120 | 14B042 | 25 | 200 |
| ½" | 24" | 36 | 14B053 | 25 | 200 |
| ½" | 24" | 60 | 14B056 | 25 | 200 |
| ½" | 24" | 80 | 14B058 | 25 | 200 |
| ½" | 24" | 120 | 14B062 | 25 | 200 |
| ¾" | 18" | 36 | 14B103 | 25 | 200 |
| ¾" | 18" | 60 | 14B106 | 25 | 200 |
| ¾" | 18" | 80 | 14B108 | 25 | 200 |
| ¾" | 18" | 120 | 14B112 | 25 | 200 |

# NON-WOVEN ABRASIVE FILE BELTS

Assortment of non-woven abrasive file belts made with special reinforced nylon and abrasive grain to achieve a consistent and uniform finish. Conform to irregular surfaces with minimal smearing and discoloration of the workpiece.

- *Will not gouge or burn surfaces*
- *Specially formulated to resist loading and heat build-up*
- *Very flexible and suitable for edge finishing*
- *High performance butt-joint eliminates breakage*

## BLENDEX+™ FILE BELTS

Steel Stainless Steel Alu. + n.f. metals

| Width | Length | Grit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| ½" | 18" | Coarse | 07D032 | 10 | 50 |
| ½" | 18" | Medium | 07D033 | 10 | 50 |
| ½" | 18" | Very fine | 07D034 | 10 | 50 |
| ½" | 24" | Coarse | 07D052 | 10 | 50 |
| ½" | 24" | Medium | 07D053 | 10 | 50 |
| ½" | 24" | Very fine | 07D054 | 10 | 50 |
| ¾" | 18" | Coarse | 07D102 | 10 | 50 |
| ¾" | 18" | Medium | 07D103 | 10 | 50 |
| ¾" | 18" | Very fine | 07D104 | 10 | 50 |

# CIRCULAR FINISHING
# QUICK-STEP™ SYSTEM

## For all your surface finishing needs!

Whether you are blending in welds, cleaning surfaces, refining and enhancing existing finishes, or bringing out a mirror finish on stainless steel, steel, aluminum, or any other ferrous and non-ferrous metals, WALTER provides a complete line of tools for the art of metalworking!

***This is the finish you get for each product if used on a 2B stainless steel surface.***

| Product | Application | Product category | Type of finish | Pre-finishing | Coarse finish | Sanitary | Pharma | Light polish | Mirror finish |
|---|---|---|---|---|---|---|---|---|---|
| | | | Ra | (>60 µin) | (60-50 µin) | (40-25 µin) | (16-12 µin) | (8-4 µin) | (4-1 µin) |
| | | | Grit size | | | | | | |
| Quick-Step FX@5000 RPM | Cleaning | 07-X | Coarse | | | | | | |
| Quick-Step Flex@7000 RPM | Blending | 07-Q | 40 | | | | | | |
| | | | 60 | | | | | | |
| | | | 80 | | | | | | |
| | | | 120 | | | | | | |
| Quick-Step XX@5000 RPM | Blending and surface conditioning | 15-V | 120 | | | | | | |
| | | | 180 | | | | | | |
| | | | 240 | | | | | | |
| Quick-Step Blendex@5000 RPM | Surface conditioning | 07-R | X-tra Coarse | | | | | | |
| | | | Coarse | | | | | | |
| | | | Medium | | | | | | |
| | | | Fine | | | | | | |
| | | | Super fine | | | | | | |
| Quick-Step Felt and Quick-Step High Polish with polishing pastes@2000 RPM | Mirror finishing | 07T+ paste | Instant Polish 1000-1500 | | | | | | |
| | | 07T+ paste | Ultimate Shine 2000-2500 | | | | | | |

Learn how to achieve the perfect finish every time with our online videos at

**www.youtube.com/thewalternetwork**

# QUICK-STEP™ METAL SURFACE FINISHING SYSTEM

Reduce the number of steps required to achieve the desired finish. From sanitary to pharmaceutical to mirror finishes, our QUICK-STEP™ abrasives will help you to efficiently achieve the finish you are looking for in fewer steps, reducing your cycle time and saving you time and money.

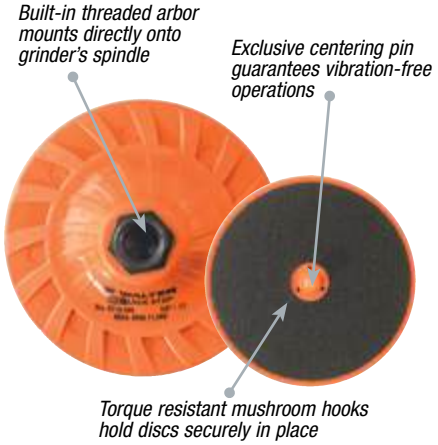
High Efficiency QUICK-STEP™ sander/polisher
*See page 159 for details*

Hook-and-loop fastening system for quick disc changeouts between finishing steps

Simply center pin on the backing pad and mount QUICK-STEP™ disc

# QUICK-STEP™ BACKING PADS

This patented backing pad is the heart of the QUICK-STEP™ system. It is made of industrial strength nylon that is guaranteed to retain its strength and flexibility even at elevated temperatures. Disc changes take only seconds.




## *QUICK-STEP™ MG BACKING PADS*

For maximum grip when working at high speeds. Use this backing pad with BLENDEX™ surface conditioning discs for best results

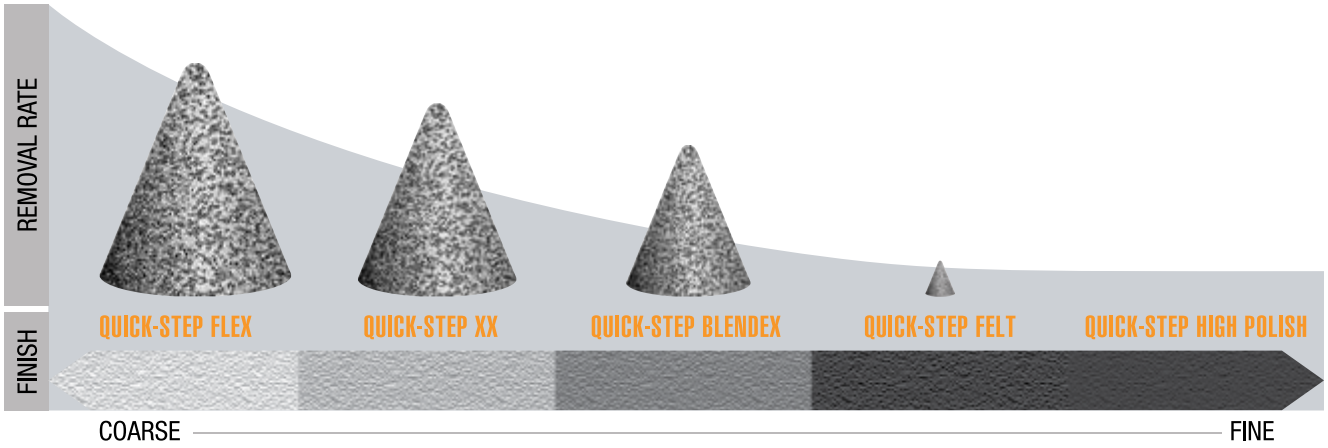
| Pad dia. | For disc dia. | Thread | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½" | 4 ½" | ⅝"-11 | 07Q149 | 1 | 10 |
| 5" | 5" | ⅝"-11 | 07Q154 | 1 | 10 |
| 6" | 6" | ⅝"-11 | 07Q164 | 1 | 10 |
| 7" | 7" | ⅝"-11 | 07Q174 | 1 | 10 |

## *QUICK-STEP™ BACKING PADS*

| Pad dia. | For disc dia. | Thread | Order No. | | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4" | 4 ½" | ⅝"-11 | 07Q044 | * | 1 | 10 |
| 4 ½" | 4 ½" | ⅝"-11 | 07Q049 | | 1 | 10 |
| 5" | 5" | ⅝"-11 | 07Q054 | | 1 | 10 |
| 6" | 6" | ⅝"-11 | 07Q064 | | 1 | 10 |
| 7" | 7" | ⅝"-11 | 07Q074 | | 1 | 10 |

** QUICK-STEP™ flap discs and FX™ cleaning discs can be used with backing pad one diameter size below for more flexibility, to reach into corners and to use up worn discs.*

# QUICK-STEP™ METAL SURFACE FINISHING SYSTEM




## *QUICK-STEP™ FX*

QUICK-STEP™ FX SURFACE CLEANING DISCS

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½" | 07X845 | 6,000 | 2,000 to 3,000 | 5 | 40 |
| 6" | 07X860 | 6,000 | 2,000 to 3,000 | 5 | 40 |

- *Extra strong non-woven construction for removing heavy paint, gaskets, sealing compounds, rust, and scale from all metals*
- *Cleans without gouging or damaging the surface*

## *QUICK-STEP™ FLEX*

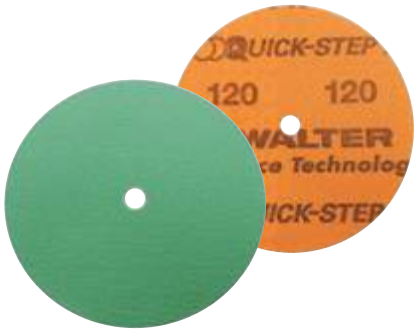
Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | 40 | 07Q454 | 11,000 | 8,000 | 10 | 40 |
| 4 ½" | 60 | 07Q456 | 11,000 | 8,000 | 10 | 40 |
| 4 ½" | 80 | 07Q458 | 11,000 | 8,000 | 10 | 40 |
| 4 ½" | 120 | 07Q462 | 11,000 | 8,000 | 10 | 40 |
| 5" | 40 | 07Q504 | 10,000 | 7,300 | 10 | 40 |
| 5" | 60 | 07Q506 | 10,000 | 7,300 | 10 | 40 |
| 5" | 80 | 07Q508 | 10,000 | 7,300 | 10 | 40 |
| 5" | 120 | 07Q512 | 10,000 | 7,300 | 10 | 40 |
| 6" | 40 | 07Q604 | 8,600 | 6,500 | 10 | 40 |
| 6" | 60 | 07Q606 | 8,600 | 6,500 | 10 | 40 |
| 6" | 80 | 07Q608 | 8,600 | 6,500 | 10 | 40 |
| 6" | 120 | 07Q612 | 8,600 | 6,500 | 10 | 40 |

- *For removing and blending in light welds, for deburring, breaking edges, and rounding corners*
- *Aggressive, cool cutting and provides a consistent uniform finish*
- *Abrasive flaps are secured onto a flexible backing making them ideal for working on curved surfaces*

### *Tech tip!*

*Use a backing pad one size below disc diameter for even more flexibility!*




# QUICK-STEP XX™ SANDING DISCS

This high-performance sanding disc leverages our Cyclone™ Technology, a high-tech blend of abrasive grains, and combines it with a special cooling agent. This allows you to blend and finish more pieces to improve productivity. Paired with an interface pad, this sanding disc allows for more flexibility, making it ideal for curved surfaces.

- *Extra long life – 6x the stock removal compared to aluminum oxide sanding discs*
- *Ultra High Removal Rate – twice as fast as Velcro or PSA (pressure sensitive adhesive) sanding discs*
- *Self-sharpening grain – consistently high cutting rate throughout lifetime*
- *Cooling agent – prevents burning and distortion*
- *Extra strong cloth backing – Resistant to ripping when catching an edge, unlike regular paper discs*

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½” | 120 | 15V412 | 7,400 | 5,000 | 25 | 250 |
| 4 ½” | 180 | 15V418 | 7,400 | 5,000 | 25 | 250 |
| 5” | 120 | 15V512 | 6,150 | 4,000 | 25 | 250 |
| 5” | 180 | 15V518 | 6,150 | 4,000 | 25 | 250 |
| 6” | 120 | 15V612 | 5,100 | 3,000 | 25 | 250 |
| 6” | 180 | 15V618 | 5,100 | 3,000 | 25 | 250 |

# QUICK-STEP™ INTERFACE PADS

Ideal for working on curved surfaces or when greater flexibility is required. It provides a soft foam cushion between the abrasive and the backing pad to increase flexibility and produce a better finish without gouging the work surface.

| Dia. | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 4 ½” | 07Q045 | 1 | 10 |
| 5” | 07Q050 | 1 | 10 |
| 6” | 07Q060 | 1 | 10 |
| 7” | 07Q070 | 1 | 10 |

## *SPACER WASHERS*

| | |
|---|---|
| For grinders with: ⅝”–11 spindle | 07Q001 |
| For grinders with: M14×2.0 spindle | 07Z005 |

- *Reclosable polishing paste tube with convenient push-through system to protect paste from contaminants*
- *Suitable for use in food processing industries*

- *Achieve a mirror finish with only one paste*
- *Packed in a resealable bag that preserves the paste from contaminants and drying*

## *POLISHING PASTES*

For use with felt, high polish, and instant polish discs

**NSF category A7, registration #152698 (Instant Polish)**
**NSF category A7, registration #154489 (Ultimate Shine)**

Steel | Stainless Steel | Alu. + n.f. metals

| Name | Order No. | Weight | Grit | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| White paste | 07T901 | 600 g | 1200-1500 | 1 | 10 |
| Blue paste | 07T905 | 650 g | 2000 | 1 | 10 |
| Instant polish paste | 07T907 | 1200 g | 1000-1500 | 1 | 5 |
| Ultimate Shine™ paste | 07T909 | 1300 g | 2000-2500 | 1 | 5 |

# QUICK-STEP™ BLENDEX™

SURFACE CONDITIONING DISCS

Steel Stainless Steel Alu. + n.f. metals

| Dia. | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4 ½" | X-TRA COARSE, brown | 07R450 | 11,000 | 4,000 to 6,500 | 10 | 100 |
| 4 ½" | COARSE, tan | 07R452 | 11,000 | 4,000 to 6,500 | 10 | 100 |
| 4 ½" | MEDIUM, maroon | 07R453 | 11,000 | 4,000 to 6,500 | 10 | 100 |
| 4 ½" | FINE, blue | 07R454 | 11,000 | 4,000 to 6,500 | 10 | 100 |
| 4 ½" | SUPER FINE, grey | 07R455 | 11,000 | 4,000 to 6,500 | 10 | 100 |
| 5" | X-TRA COARSE, brown | 07R500 | 11,000 | 3,000 to 6,500 | 10 | 100 |
| 5" | COARSE, tan | 07R502 | 11,000 | 3,000 to 6,500 | 10 | 100 |
| 5" | MEDIUM, maroon | 07R503 | 11,000 | 3,000 to 6,500 | 10 | 100 |
| 5" | FINE, blue | 07R504 | 11,000 | 3,000 to 6,500 | 10 | 100 |
| 6" | X-TRA COARSE, brown | 07R600 | 8,600 | 3,000 to 6,500 | 10 | 100 |
| 6" | COARSE, tan | 07R602 | 8,600 | 3,000 to 6,500 | 10 | 100 |
| 6" | MEDIUM, maroon | 07R603 | 8,600 | 3,000 to 6,500 | 10 | 100 |
| 6" | FINE, blue | 07R604 | 8,600 | 3,000 to 6,500 | 10 | 100 |
| 7" | X-TRA COARSE, brown | 07R700 | 6,800 | 2,500 to 5,000 | 10 | 100 |
| 7" | COARSE, tan | 07R702 | 6,800 | 2,500 to 5,000 | 10 | 100 |
| 7" | MEDIUM, maroon | 07R703 | 6,800 | 2,500 to 5,000 | 10 | 100 |
| 7" | FINE, blue | 07R704 | 6,800 | 2,500 to 5,000 | 10 | 100 |

**X-TRA COARSE:** *For blending*

**COARSE:** *For removing scratches*

**MEDIUM:** *For cleaning and eliminating superficial scratches*

**FINE:** *For fine striated finishes*

**SUPER FINE:** *Last step before decorative or polishing finishes*

## QUICK-STEP™ FELT DISCS

Steel Stainless Steel Alu. + n.f. metals

| Dia. | Order No. | | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½" | 07T450 | | 2,000 to 3,000 | 5 | 40 |
| 6" | 07T600 | | 2,000 to 3,000 | 5 | 40 |
| 6" | 07T602 | * | 2,000 to 3,000 | 5 | 40 |
| 7" | 07T700 | | 2,000 to 3,000 | 5 | 40 |

** For use with ULTI-MATE™ finishing tool (page 160)*

▷ ***Felt discs***
*Strong high-density Merino felt discs for all heavy-duty finishing and polishing job*



## QUICK-STEP™ HIGH POLISH DISCS

Steel Stainless Steel Alu. + n.f. metals

| Dia. | Order No. | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|
| 4 ½" | 07T454 | 2,000 to 3,000 | 10 | 100 |
| 5" | 07T504 | 2,000 to 3,000 | 10 | 100 |
| 6" | 07T604 | 2,000 to 3,000 | 10 | 100 |
| 7" | 07T704 | 2,000 to 3,000 | 10 | 100 |

▷ ***High polish discs***
*Special soft polishing disc produces high gloss and mirror finishes faster*

## QUICK-STEP™ INSTANT POLISH™ DISCS

One-step solution to achieving a #8 mirror finish

Steel Stainless Steel Alu. + n.f. metals

| Dia. | Order No. | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|
| 4 ½" | 07T456 | 2,000 to 3,000 | 10 | 100 |
| 4 ½" | 07T457 | 2,000 to 3,000 | 2 | 20 |
| 5" | 07T506 | 2,000 to 3,000 | 10 | 100 |
| 5" | 07T507 | 2,000 to 3,000 | 2 | 20 |

▷ *Achieve a #8 mirror stainless steel finish faster than ever*

▷ *The polishing paste is pre-applied on the disc*

▷ *Packed in resealable bag that preserves the disc from contaminants and drying*

# HOOK-AND-LOOP™ NON-WOVEN BLENDEX™

This open-structured polishing disc offers a cooler, less aggressive finish, ideal for fine finishing and polishing on soft metals while preserving the original surface profile. Perfect for use on angle grinders and adaptable for automated processes.

| Dia. | Grit | Order No. | Equivalent Grit | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 6” | MEDIUM, black | 07R613 | 320 | 8,600 | 3,000 - 5,500 | 20 | 100 |
| 6” | FINE, maroon | 07R614 | 600 | 8,600 | 3,000 - 5,500 | 20 | 100 |
| 6” | VERY FINE, grey | 07R615 | 1000 | 8,600 | 3,000 - 5,500 | 20 | 100 |

- *Open Structure: Resists loading and allows for cooler operation*
- *Fine Finishing and Polishing: Ideal for achieving a finer finish on soft metals*
- *Less Aggressive: Prevents over-grinding compared to surface conditioning discs*
- *Maintains Original Profile: Suitable for tasks where preserving the original surface profile is essential*
- *For use on angle grinders with a suitable speed range*
- *Can be used in automation processes*

# BLENDEX™ FLAP DISCS

WALTER’S BLENDEX™ flap discs combine the aggressive material removal of a flap disc with the smooth finish and versatility of a surface conditioning disc. This allows for more consistent results, while reducing operator downtime to switch discs. These discs are built with WALTER’s ECO-TRIM™ trimmable backing, extending the life of the product up to three times, as well as MAX-LIFE™ cold curing glue to maximize the abrasive grain’s freshness.

| Diameter | Arbor | Grade | Color Coding | Equivalent Grit | Order No. | Max RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 4.5" | 7/8" | X-Coarse | | 40 | 15I454 | 13,300 | 10 | 40 |
| 4.5" | 7/8" | Coarse | | 80 | 15I458 | 13,300 | 10 | 40 |
| 4.5" | 7/8" | Medium | | 180 | 15I468 | 13,300 | 10 | 40 |
| 4.5" | 7/8" | Fine | | 280 | 15I478 | 13,300 | 10 | 40 |
| 5" | 7/8" | X-Coarse | | 40 | 15I504 | 12,200 | 10 | 40 |
| 5" | 7/8" | Coarse | | 80 | 15I508 | 12,200 | 10 | 40 |
| 5" | 7/8" | Medium | | 180 | 15I518 | 12,200 | 10 | 40 |
| 5" | 7/8" | Fine | | 280 | 15I528 | 12,200 | 10 | 40 |

MAX LIFE™ GLUE

ECO-TRIM Backing

- *Combines woven nylon with aggressive grain blends for the most consistent results*
- *ECO-TRIM™ trimmable backing extends product life up to three times*
- *Flexible backing allows for better operator comfort*
- *MAX-LIFE™ Glue ensures the freshest abrasives possible to avoid micro-cracking and drying out, which improves consistency and can extend disc life by up to 25%*

WALTER

# BLENDEX U™

Superior finishes in less time

**BLENDEX™ Unitized Technology (BLENDEX U™)** is used for deburring, blending, and finishing any kind of metal, including stainless steel, titanium, aluminum, alloys and or plastic and fiberglass. These versatile abrasives are long-lasting and can replace many traditional abrasives, saving you steps in the finishing process and reducing your cycle time.

- ***Long-lasting*** *Incredible resistance even when working on sharp edges to ensure maximum life and productivity*
- ***Superb finish*** *Consistent and uniform; as close as possible to a mirror finish without the use of pastes*
- ***Non loading*** *Resists loading, which minimizes heat buildup and prolongs the life of the disc*
- ***Flexible*** *Choices of density: either soft for finishing or hard for demanding applications like deburring*

## BLENDEX U™ CUP DISCS

SPIN-ON

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Arbor | Grade | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ⅝"–11 | 3SF | 07U451 | 10,500 | 6,000 | 5 | 20 |
| 5" | ⅝"–11 | 3SF | 07U501 | 9,600 | 6,000 | 5 | 20 |

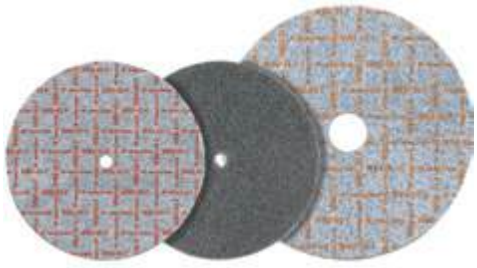
MAX LIFE™ GLUE

ECO-TRIM Backing

## BLENDEX U™ WHEELS

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Grade | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 3" | ¼" | ⅜" | 2SF | 07U321 | 15,100 | 20 | 200 |
| 3" | ¼" | ⅜" | 6SF | 07U322 | 18,100 | 20 | 200 |
| 3" | ¼" | ⅜" | 6AM | 07U323 | 18,100 | 20 | 200 |
| 6" | ¼" | 1" | 2SF | 07U621 | 5,000 | 5 | 40 |
| 6" | ¼" | 1" | 6SF | 07U622 | 7,500 | 5 | 40 |
| 6" | ¼" | 1" | 6AM | 07U623 | 7,500 | 5 | 40 |
| 6" | ½" | 1" | 2SF | 07U651 | 5,000 | 4 | 36 |
| 6" | ½" | 1" | 6SF | 07U652 | 7,500 | 4 | 36 |
| 6" | ½" | 1" | 6AM | 07U653 | 7,500 | 4 | 36 |
| 6" | 1" | 1" | 2SF | 07U611 | 5,000 | 2 | 16 |
| 6" | 1" | 1" | 6SF | 07U612 | 7,500 | 2 | 16 |
| 6" | 1" | 1" | 6AM | 07U613 | 7,500 | 2 | 16 |



- *For use on portable or stationary machines*
- *Can be used on the edge or on either side of the wheel*
- *Safe for use on all metals*

## BLENDEX U™ MOUNTED POINTS

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Grade | Color | Order No. | Max. RPM | Std. Ctn. |
|---|---|---|---|---|---|---|
| ⅜" | 1 ¼" | 2SF | Orange | 07U101 | 37,210 | 5 |
| ⅜" | 1 ¼" | 6SF | Red | 07U102 | 37,210 | 5 |
| ⅜" | 1 ¼" | 6AM | Black | 07U103 | 37,210 | 5 |

*Also see BLENDEX U™ Twist discs on page 127.*

- *These points are made with high-quality BLENDEX U™ material and offer a fast way to blend, clean, and polish in difficult to reach areas. ¼" shaft*

# POLISHING FLAP DISCS

High-performance flap disc optimized for polishing and mirror finish applications

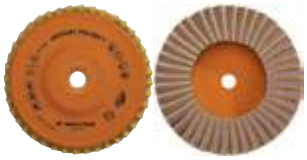
Get a professional shine efficiently and with the versatility of a flap disc. Strong removal rates and improved finishing capabilities ensure a consistent surface finish every time.

MAX LIFE™ GLUE

ECO-TRIM Backing

## *INSTANT POLISH FLAP DISC*

| Dia. | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½" | 07T452 | 8,300 | 2,000 | 5 | 20 |
| 5" | 07T502 | 7,600 | 2,000 | 5 | 20 |



- *To achieve a mirror finish in a single step*
- *For use on angle grinders with a suitable speed range*

## *ULTIMATE SHINE FLAP DISC*

| Dia. | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 4 ½" | 07T453 | 8,300 | 2,000 | 5 | 20 |
| 5" | 07T503 | 7,600 | 2,000 | 5 | 20 |

- *As a second step to achieve the best mirror finish*
- *For use on angle grinders with a suitable speed range*

## *FELT CUP DISC*

Hard density felt disc for polishing applications

SPIN-ON

Steel Stainless Steel Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 5" | ½" | ⅝"–11 | 07T505 | 10,500 | 2,000-4,000 | 5 | 20 |

- *To be used with polishing pastes*
- *For use on angle grinders with a suitable speed range*

## *POLISHING PASTES*

For use with felt, high polish, and instant polish discs

**NSF category A7, registration #152698 (INSTANT POLISH)**
**NSF category A7, registration #154489 (ULTIMATE SHINE)**

Steel Stainless Steel Alu. + n.f. metals

| Name | Order No. | Weight | Grit | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| White paste | 07T901 | 600 g | 1200-1500 | 1 | 10 |
| Blue paste | 07T905 | 650 g | 2000 | 1 | 10 |
| Instant polish paste | 07T907 | 1200 g | 1000-1500 | 1 | 5 |
| Ultimate Shine™ paste | 07T909 | 1300 g | 2000-2500 | 1 | 5 |

- *Reclosable polishing paste tube with convenient push-through system to protect paste from contaminants*
- *Suitable for use in food processing industries*

- *Achieve a mirror finish with only one paste*
- *Packed in a resealable bag that preserves the paste from contaminants and drying*

# FX™ CLEANING ABRASIVES

Quick, easy surface cleaning on all metals

FX™ abrasives quickly remove paint, rust, scale, coatings, burn marks, and gaskets without loading or clogging. Made from a high-density, non-woven material, they are incredibly durable and can replace wire brushes in a wide variety of applications.

MAX LIFE™ GLUE

ECO-TRIM Backing

*Only applicable to FX CUP DISCS*

## FX CUP DISCS

SPIN-ON

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ¾" | ⅝"–11 | 07X450 | 10,500 | 3,000 | 5 | 20 |
| 5" | ¾" | ⅝"–11 | 07X505 | 9,600 | 3,000 | 5 | 20 |

- *Outstanding life and performance*
- *For use on angle grinders with a suitable speed range*
- *No backing pad required*

## FX STAINLESS CUP DISCS

SPIN-ON

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4.5" | ½" | ⅝"–11 | 07X452 | 10,000 | 4,000 | 5 | 20 |
| 5" | ½" | ⅝"–11 | 07X502 | 8,000 | 4,000 | 5 | 20 |

## MOUNTED WHEELS

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 2" | 1" | ¼" | 07X120 | 11,000 | 6,000 | 1 | 10 |

- *Excellent for working in confined areas*

## CLEANING WHEELS

Steel | Stainless Steel | Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4" | ½" | ½" | 07X640 | 6,000 | 3,500 to 4,000 | 10 | 40 |
| 6" | ½" | ½" | 07X660 | 4,000 | 2,400 to 2,700 | 10 | 40 |

- *Use on edge — narrow contact area for maximum pressure*
- *Excellent for cleaning welds and stripping paint*

YouTube

*Video available at The WALTER Network*

www.youtube.com/user/TheWalterNetwork

SCAN TO WATCH VIDEO

### Accessories

**Mounting accessories for 4" FX wheels**

Mandrels for use on straight grinders and drills

¼" shaft — **Order No.** 07X004

8 mm shaft — **Order No.** 07X003

**Mounting accessories for 6" FX wheels**

Mandrels for use on straight grinders and drills

¼" shaft (½" arbor) — **Order No.** 07X006

¼" shaft (⅞" arbor) — **Order No.** 07X008

8 mm shaft (½" arbor) — **Order No.** 07X005

**Extension mandrels for use on angle grinders**

M14 thread — **Order No.** 07C005

⅝"-11 thread — **Order No.** 07C006

# FX™ STAINLESS

For cleaning welds on stainless steel

These specially formulated non-woven abrasives help to remove heat tint and discoloration from stainless steel surfaces while simultaneously leaving a #4 finish. They can replace wire brushes in many applications without any risk of contaminating stainless steel or aluminum surfaces.

| Dia. | Width | Arbor | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 6” | ½” | ⅞” | 07X661 | 4,000 | 2,400 to 2,700 | 5 | 20 |
| 6” | ¼” | ⅞” | 07X662 | 4,000 | 2,400 to 2,700 | 5 | 20 |
| 6” | 1” | ⅞” | 07X663 | 4,000 | 2,400 to 2,700 | 5 | 20 |
| 6” | ½” | ½” | 07X664 | 4,000 | 2,400 to 2,700 | 5 | 20 |
| 8” | 1” | ⅞” | 07X683 | 4,000 | 2,400 to 2,700 | 5 | 20 |

### Features

- *Premium abrasive grain blend guaranteed not to contaminate stainless steel*
- *Easily conforms to uneven surfaces like weld beads*
- *FX™ design ensures consistent performance throughout the life of the wheel*

### Benefits

- *Remove discoloration and finish weld surfaces in just one step*
- *Large diameter allows you to easily reach tight corners*
- *Safer to use than wire brushes (no risk of wires coming detached from the hub)*

# BLENDEX U™ TURBO

For blending in fillet welds and deburring applications

BLENDEX U Turbo™ was engineered to provide the versatility and performance of BLENDEX U™ with a more aggressive grade of abrasive grains designed to remove more material. The end result is a wheel that is perfect for deburring and blending in fillet welds while leaving a uniform, consistent surface finish. Stop wasting flap discs and use the right tool for the job when confronted with weld beads in tight corners or other intricate areas.

| Dia. | Width | Arbor | Grade | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 6” | 5/32” | ⅞” | 7ZC | 07U615 | 8,000 | 5,500 | 6 | 60 |
| 6” | ¼” | ⅞” | 7ZC | 07U625 | 8,000 | 5,500 | 4 | 200 |

### Features

- *High-grade unitized abrasive grain blend for premium performance*
- *Can be shaped to fit your specific application*
- *Provides a consistent, uniform surface finish throughout the life of the wheel*

### Benefits

- *Unitized design allows you to use the wheel at multiple angles for a variety of applications*
- *Extremely durable and long-lasting*
- *The perfect system for blending in fillet welds when used with ULTI-MATE™*

**Tech tip!**

*Use with the ULTI-MATE™ system to blend and finish fillet welds with ease*

# QUICK-STEP™ STARTER KIT

**Includes:**

- 1 QUICK-STEP™ backing pad (07Q049)
- 1 QUICK-STEP™ flex grit 120 (07Q462)
- 1 QUICK-STEP™ interface pad (07Q045)
- 2 QUICK-STEP™ XX grit 120 (15V412)
- 2 QUICK-STEP™ XX grit 180 (15V418)
- 2 QUICK-STEP™ BLENDEX™ coarse (07R452)
- 2 QUICK-STEP™ Blendex medium (07R453)
- 2 QUICK-STEP™ Blendex fine (07R454)
- 1 QUICK-STEP™ felt (07T450)
- 1 QUICK-STEP™ high polish (07T454)

### Features

- *A complete range of abrasives for everything from weld blending to applying a #8 mirror finish*

| Dia. | Arbor | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|
| 4 ½” | ⅝”–11 | 07Q953 | 1 | 5 |

# ULTI-MATE™ SYSTEM

## ULTI-MATE™ system for finishing in tight corners

This versatile tool allows you to do everything from removing a weld to applying a #8 mirror finish when working in tight corners. The ideal tool for blending and finishing fillet welds, the ULTI-MATE™ allows you to take WALTER abrasives to places that were previously inaccessible, allowing you to significantly reduce your cycle time and finish jobs faster.

*See page 160 for more details*

***QUICK-STEP™ FELT DISC TO USE WITH ULTI-MATE SYSTEM*** 6" **No. 07T602**

### Nº de comm.: 30A287

**Includes:**

- ULTI-MATE™ powertool (30A287)
- 1 ENDURO-FLEX 2-in-1 TURBO (15I451)
- 1 ENDURO-FLEX 2-in-1™ (15I453)
- 1 BLENDEX™ U TURBO, ¼" width (07U625)
- 1 BLENDEX™ U TURBO, 5/32" width (07U615)
- 1 BLENDEX™ U 2SF, ¼" width (07U621)
- 1 FX™ Stainless Wheel, ¼" width (07X662)

### Benefits

- *Allows you to quickly switch between abrasives to take time and cost out of finishing jobs*
- *Durable industrial tool that is built to last, saving you from having to replace your power tools every few months*
- *Designed to exceed all safety standards, creating a safer work environment*

### Features

- *Dialspeed™ variable speed control allows you to quickly go from 1,600-3,200 RPM to tackle any application from heavy stock removal to polishing*
- *Powerful 1,450 W industrial motor with Dynamax™ RPM monitoring to maintain constant RPM under load*
- *Soft Start™ technology*

***Finish (roughness average) obtained when using each product if used on a 2B stainless steel surface.***

| | | | | Type of finish | Pre-finishing | Coarse finish | Sanitary | Pharma | Light polish | Mirror finish |
|---|---|---|---|---|---|---|---|---|---|---|
| | Product | Application | Product category | Ra | (>60 µin) | (60-50 µin) | (40-25 µin) | (16-12 µin) | (8-4 µin) | (4-1 µin) |
| | | | | Grit size | | | | | | |
| DISCS | ENDURO-FLEX™ 2-in-1 Turbo | Blending | 15-I | 36/60 + coarse | | | | | | |
| | ENDURO-FLEX™ 2-in-1 | Blending | 15-I | 80 + medium | | | | | | |
| | BLENDEX U™ cup | Surface conditioning | 07-U | 3SF | | | | | | |
| | FX™ cup | Surface cleaning | 07-K | 60 | | | | | | |
| WHEELS | BLENDEX U™ Turbo | Blending | 07-U | 7ZC | | | | | | |
| | BLENDEX U™ | Surface conditioning | 07-H | 6AM | | | | | | |
| | | | | 6SF | | | | | | |
| | | | | 2SF | | | | | | |
| | FX™ | Surface cleaning | 07-X | FX | | | | | | |
| | | | | FX Stainless | | | | | | |
| | Felt | Mirror finishing | 07T+ paste | Instant Polish 1000-1500 | | | | | | |
| | | | | Ultimate Shine 2000-2500 | | | | | | |

# TWIST™ SURFACE FINISHING SYSTEM

**The TWIST™ quick-change system** makes changing discs on small air grinders quick and easy, reducing cycle time. Achieve the desired finish quickly and maximize your productivity with this versatile line of high quality abrasives.

*Simply twist any abrasive to the backing pad and start working*

*Quickly change out abrasives to achieve the desired finish in fewer steps and with less time wasted making trips to the tool crib*

## QUICK DISC CHANGE
BETWEEN FINISHING STEPS

## TWIST™ QUICK-CHANGE SURFACE FINISHING SYSTEM

Use these backing pads with TWIST™ abrasives to reduce the time spent changing from one abrasive to the next. Use orange backing pads for contour work and finishing or black backing pads for blending and light weld removal.

### *TWIST™ BACKING PADS*

| Dia. | Flexibility | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 1 ½" | Medium | 04X152 | 30,000 | 1 | 400 |
| 2" | Medium | 04X202 | 30,000 | 1 | 400 |
| 2" | Hard | 04X203 | 30,000 | 1 | 400 |
| 3" | Medium | 04X302 | 28,000 | 1 | 400 |
| 3" | Hard | 04X303 | 28,000 | 1 | 400 |

*Color code: Medium = orange, Hard = black*

- *Molded polyurethane construction*
- *Removable mandrel*
- *Surface design ensures uniform disc support*
- *Allows for quick disc changeouts*

### *TWIST™ FLAP DISCS*

MAX LIFE GLUE · Steel · Stainless Steel · Alu. + n.f. metals

| Dia. | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 2 ½" | 40 | 04A254 | 23,000 | 12,000 | 10 | 400 |
| 2 ½" | 60 | 04A256 | 23,000 | 12,000 | 10 | 400 |
| 2 ½" | 80 | 04A258 | 23,000 | 12,000 | 10 | 400 |
| 2 ½" | 120 | 04A262 | 23,000 | 12,000 | 10 | 400 |

*Use with 2" backing pads*

- *Long-lasting with a consistent surface finish from start to end*
- *Very high removal rate*
- *Excellent for weld blending and finishing work*

## TWIST™ CF (Clean & Finish)

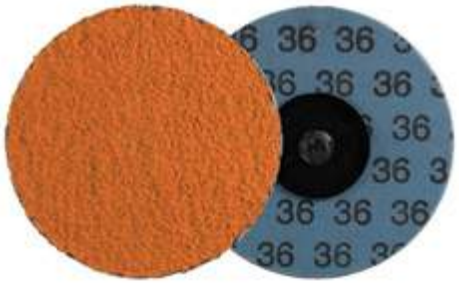
Clean & Finish for ultra-fine surface and contour grinding and cleaning of metal or painted surfaces. The TWIST CF™ range has the flexibility and comfortability to produce a consistent finish on any workpiece.

| Dia. | Density | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 2" | Medium | 04F203 | 30,000 | 25 | 500 |
| 3" | Medium | 04F303 | 28,000 | 25 | 500 |

## TWIST COOLCUT XX™ SANDING DISCS

Steel Stainless Steel

| Dia. | Grit | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| N 1 ½" | 36 | 04C153 | 30,000 | 15,000 | 100 | 500 |
| N 1 ½" | 50 | 04C155 | 30,000 | 15,000 | 100 | 500 |
| N 1 ½" | 60 | 04C156 | 30,000 | 15,000 | 100 | 500 |
| N 1 ½" | 80 | 04C158 | 30,000 | 15,000 | 100 | 500 |
| N 1 ½" | 120 | 04C162 | 30,000 | 15,000 | 100 | 500 |
| 2" | 36 | 04C203 | 30,000 | 15,000 | 50 | 500 |
| 2" | 50 | 04C205 | 30,000 | 15,000 | 50 | 500 |
| 2" | 60 | 04C206 | 30,000 | 15,000 | 50 | 500 |
| 2" | 80 | 04C208 | 30,000 | 15,000 | 50 | 500 |
| 2" | 120 | 04C212 | 30,000 | 15,000 | 50 | 500 |
| 3" | 36 | 04C303 | 28,000 | 14,000 | 50 | 500 |
| 3" | 50 | 04C305 | 28,000 | 14,000 | 50 | 500 |
| 3" | 60 | 04C306 | 28,000 | 14,000 | 50 | 500 |
| 3" | 80 | 04C308 | 28,000 | 14,000 | 50 | 500 |
| 3" | 120 | 04C312 | 28,000 | 14,000 | 50 | 500 |

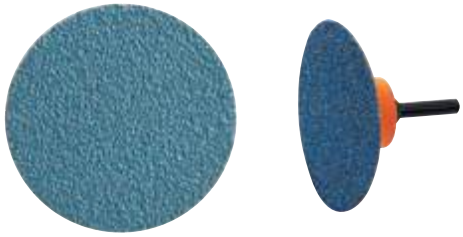


- *Extremely aggressive removal rate for reduced cycle time*
- *The longest life in the industry to reduce your inventory needs*
- *Features WALTER's exclusive Cyclone Technology™ high-performance ceramic abrasive grain blend*
- *Grit is printed on the back for added convenience*

## TWIST TOPCUT™ SANDING DISCS

Steel Stainless Steel Alu. + n.f. metals

| Dia. | Grit | Color | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 2" | 36 | Black | 04D203 | 30,000 | 15,000 | 50 | 2000 |
| 2" | 50 | Yellow | 04D205 | 30,000 | 15,000 | 50 | 2000 |
| 2" | 60 | Blue | 04D206 | 30,000 | 15,000 | 50 | 2000 |
| 2" | 80 | Orange | 04D208 | 30,000 | 15,000 | 50 | 2000 |
| 2" | 100 | Green | 04D210 | 30,000 | 15,000 | 50 | 2000 |
| 2" | 120 | Beige | 04D212 | 30,000 | 15,000 | 50 | 2000 |
| 3" | 36 | Black | 04D303 | 28,000 | 14,000 | 50 | 1000 |
| 3" | 50 | Yellow | 04D305 | 28,000 | 14,000 | 50 | 1000 |
| 3" | 60 | Blue | 04D306 | 28,000 | 14,000 | 50 | 1000 |
| 3" | 80 | Orange | 04D308 | 28,000 | 14,000 | 50 | 1000 |
| 3" | 100 | Green | 04D310 | 28,000 | 14,000 | 50 | 1000 |
| 3" | 120 | Beige | 04D312 | 28,000 | 14,000 | 50 | 1000 |



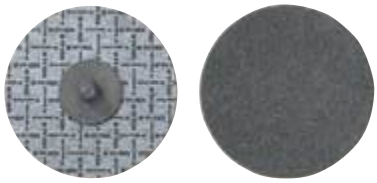
- *High metal removal rate*
- *Long life due to special Zirconia alumina grain formulation*
- *Unique construction for optimal heat dissipation and wear resistance*
- *Color-coded backing to easily distinguish between different grit sizes*

## TWIST BLENDEX™ CONDITIONING DISCS

Steel Stainless Steel Alu. + n.f. metals

| Dia. | Grit | Color | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 2" | Extra-Coarse | Brown | 04G201 | 30,000 | 15,000 | 25 | 1000 |
| 2" | Coarse | Tan | 04G202 | 30,000 | 15,000 | 25 | 1000 |
| 2" | Medium | Maroon | 04G203 | 30,000 | 15,000 | 25 | 1000 |
| 2" | Fine | Blue | 04G204 | 30,000 | 15,000 | 25 | 1000 |
| 2" | Super fine | Grey | 04G205 | 30,000 | 15,000 | 25 | 1000 |
| 3" | Extra-Coarse | Brown | 04G301 | 28,000 | 14,000 | 25 | 1000 |
| 3" | Coarse | Tan | 04G302 | 28,000 | 14,000 | 25 | 500 |
| 3" | Medium | Maroon | 04G303 | 28,000 | 14,000 | 25 | 500 |
| 3" | Fine | Blue | 04G304 | 28,000 | 14,000 | 25 | 500 |
| 3" | Super fine | Grey | 04G305 | 28,000 | 14,000 | 25 | 500 |

**COARSE:** *For most heavy-duty applications*
**MEDIUM:** *For cleaning and removing surface imperfections*
**FINE:** *For producing a fine scratch pattern*
**SUPER FINE:** *Use as a last step before mirror finishing or to produce decorative finishes*



- *Designed for deburring, cleaning, blending, finishing light welds, and polishing hard to reach areas*

## TWIST BLENDEX™ U DISCS

| Dia. | Grade | Order No. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 3” | 2SF | 04U321 | 15,100 | 10 | 100 |
| 3” | 6SF | 04U322 | 15,100 | 10 | 100 |
| 3” | 6AM | 04U323 | 15,100 | 10 | 100 |

- *Designed for polishing*
- *100% pure premium wool product*
- *Use with WALTER polishing pastes*

## TWIST FELT DISCS

| Dia. | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 2” | 04T204 | 30,000 | 12,000 | 25 | 1000 |
| 3” | 04T304 | 28,000 | 10,000 | 25 | 500 |

- *Reclosable polishing paste tube with convenient push-through system to protect paste from contaminants*
- *Suitable for use in food processing industries*

## POLISHING PASTES

For use with felt, high polish, and instant polish discs

**NSF category A7, registration #152698 (Instant Polish)**
**NSF category A7, registration #154489 (Ultimate Shine)**

| Name | Order No. | Weight | Grit | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| White paste | 07T901 | 600 g | 1200-1500 | 1 | 10 |
| Blue paste | 07T905 | 650 g | 2000 | 1 | 10 |
| Instant Polish paste | 07T907 | 1200 g | 1000-1500 | 1 | 5 |
| Ultimate Shine™ paste | 07T909 | 1300 g | 2000-2500 | 1 | 5 |

- *Extra strong non-woven construction for removing oxide, scale and gaskets*
- *Cleans without damaging the surface*
- *Leaves no residue on the surface*

## FX SURFACE CLEANING DISCS

| Dia. | Order No. | Max. RPM | Optimal RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 2” | 04L200 | 30,000 | 12,000 | 10 | 400 |
| 3” | 04L300 | 28,000 | 10,000 | 10 | 200 |

# TWIST STARTER KITS

### 2” assortment includes:

- 1 medium backing pad (04X202)
- 2 flap discs (1 of each grit, 40: 04A254 and 80: 04A258)
- 15 TOPCUT™ discs (3 of each grit 36: 04D203, 50: 04D205, 60: 04D206, 80: 04D208 and 120: 04D212);
- 12 BLENDEX™ discs (3 of each grit, coarse: 04G202, medium: 04G203, fine: 04G204 and super fine: 04G205) and 1 FX disc (04L200).

**Order No.** 04Z992

### 3” assortment includes:

- 1 medium backing pad (04X302)
- 10 TOPCUT™ discs (2 of each grit 36: 04D303, 50: 04D305, 60: 04D306, 80, 04D308 and 120, 04D312);
- 4 BLENDEX™ discs (1 of each grit, coarse: 04G302, medium: 04G303, fine: 04G304 and super fine: 04G305) and 1 FX disc (04L300).

**Order No.** 04Z993

# ALLSTEEL™

## ALLSTEEL™ SPINLOCK™ SYSTEM

The SPINLOCK™ system makes changing discs quick and easy on air grinders.

The SPINLOCK™ QUICK-CHANGE Flap Disc is a tough abrasive that will make short work of weld blending and finishing work. Its high-performance zirconia-alumina grain blend is designed to last and offer a consistent surface finish on every job.

*Simply spin any abrasive to the backing pad and start working*

## SPINLOCK™ QUICK-CHANGE

### *SPINLOCK™ BACKING PADS*

| Order No. | Dia. | Optimal RPM | Std Pkg. | Std Ctn |
|---|---|---|---|---|
| 09X203 | 2” | 30,000 | 1 | 10 |
| 09X303 | 3” | 28,000 | 1 | 10 |

- *Removable mandrel for quick disc changeouts*

### *SPINLOCK™ FLAP DISCS*

Steel Stainless Steel Alu.

| Order No. | Dia. | Grit | Max RPM | Optimal RPM | Std Pkg. | Std Ctn |
|---|---|---|---|---|---|---|
| 09A204 | 2” | 40 | 30,000 | 15,000 | 10 | 800 |
| 09A206 | 2” | 60 | 30,000 | 15,000 | 10 | 800 |
| 09A208 | 2” | 80 | 30,000 | 15,000 | 10 | 800 |
| 09A212 | 2” | 120 | 30,000 | 15,000 | 10 | 800 |
| 09A304 | 3” | 40 | 20,000 | 10,000 | 10 | 510 |
| 09A306 | 3” | 60 | 20,000 | 10,000 | 10 | 510 |
| 09A308 | 3” | 80 | 20,000 | 10,000 | 10 | 510 |
| 09A312 | 3” | 120 | 20,000 | 10,000 | 10 | 510 |

- *Very high removal rate*
- *Long-lasting*
- *High-performance zirconia-alumina grain*

### *SPINLOCK™ ALUMINUM OXIDE RESIN FIBER DISCS*

Steel Stainless Steel Alu.

| Order No. | Dia. | Grit | Max RPM | Optimal RPM | Std Pkg. | Std Ctn |
|---|---|---|---|---|---|---|
| 09D102 | 2” | 24 | 30,000 | 15,000 | 25 | 2000 |
| 09D103 | 2” | 36 | 30,000 | 15,000 | 25 | 2000 |
| 09D105 | 2” | 50 | 30,000 | 15,000 | 25 | 2000 |
| 09D106 | 2” | 60 | 30,000 | 15,000 | 25 | 2000 |
| 09D108 | 2” | 80 | 30,000 | 15,000 | 25 | 2000 |
| 09D112 | 2” | 120 | 30,000 | 15,000 | 25 | 2000 |
| 09D202 | 3” | 24 | 28,000 | 14,000 | 25 | 1000 |
| 09D203 | 3” | 36 | 28,000 | 14,000 | 25 | 1000 |
| 09D205 | 3” | 50 | 28,000 | 14,000 | 25 | 1000 |
| 09D206 | 3” | 60 | 28,000 | 14,000 | 25 | 1000 |
| 09D208 | 3” | 80 | 28,000 | 14,000 | 25 | 1000 |
| 09D212 | 3” | 120 | 28,000 | 14,000 | 25 | 1000 |

- *Ideal for weld blending and finishing work*
- *High removal rate*
- *Consistent surface finish*
- *High-performance aluminum oxide grain*

## SPINLOCK™ ZIRCONIA ALUMINA RESIN FIBRE DISCS

Steel Stainless Steel Alu.

| Order No. | Dia. | Grit | Max RPM | Optimal RPM | Std Pkg. | Std Ctn |
|---|---|---|---|---|---|---|
| 09D403 | 2” | 36 | 30,000 | 15,000 | 25 | 2000 |
| 09D406 | 2” | 60 | 30,000 | 15,000 | 25 | 2000 |
| 09D408 | 2” | 80 | 30,000 | 15,000 | 25 | 2000 |
| 09D503 | 3” | 36 | 28,000 | 14,000 | 25 | 1000 |
| 09D506 | 3” | 60 | 28,000 | 14,000 | 25 | 1000 |
| 09D508 | 3” | 80 | 28,000 | 14,000 | 25 | 1000 |

- *Ideal for weld blending and finishing work*
- *Very high removal rate*
- *Consistent surface finish and long life*
- *High-performance zirconia alumina grain*

## SPINLOCK™ SURFACE CONDITIONING DISCS

Steel Stainless Steel Alu.

| Order No. | Dia. | Grit | Max RPM | Optimal RPM | Std Pkg. | Std Ctn |
|---|---|---|---|---|---|---|
| 09G102 | 2” | Coarse | 30,000 | 15,000 | 25 | 2000 |
| 09G103 | 2” | Medium | 30,000 | 15,000 | 25 | 2000 |
| 09G104 | 2” | Fine | 30,000 | 15,000 | 25 | 2000 |
| 09G202 | 3” | Coarse | 28,000 | 14,000 | 25 | 1000 |
| 09G203 | 3” | Medium | 28,000 | 14,000 | 25 | 1000 |
| 09G204 | 3” | Fine | 28,000 | 14,000 | 25 | 1000 |

- *Ideal for light or heavy finishing*
- *Consistent finishes every time in hard to reach areas*
- *Long life disc*

# SPINLOCK™ STARTER KITS

### 2” assortment includes:

- SPINLOCK™ backing pad
- SPINLOCK™ surface conditioning disc in coarse and medium grain
- SPINLOCK™ zirconia alumina resin fibre discs in 36, 60, and 80 grit.

**Order No.** 09Z992

### 3” assortment includes:

- SPINLOCK™ backing pad
- SPINLOCK™ surface conditioning disc in coarse and medium grain
- SPINLOCK™ zirconia alumina resin fibre discs in 36, 60, and 80 grit.

**Order No.** 09Z993

# SAFETY SEMINAR

## *Safety Starts With You!*

**WALTER Surface Technologies trains thousands of workers every year on safe practices in metalworking.**

For over 70 years, WALTER has been offering innovative solutions for the metalworking industry. The Safety Seminar is part of our commitment to help you increase your productivity through safe practices.

Our trained instructors use an interactive format combining safety basics, correct use of PPE, proper identification and use of abrasives, consumables, and power tools.

### The WALTER Safety Seminar is:

- INTERACTIVE & ENGAGING
- OFFERED ON-SITE OR ON A JOBSITE
- INDUSTRY RELEVANT
- CUSTOMIZED TO YOUR NEEDS

Contact your local WALTER representative to book your on-site sessions.

**walter.com/support/safety-first**

### SAFETY SEMINAR TOPICS COVERED:

- **Importance of safety**
- **Key Safety Points**
- **Personal Protective Equipment**
- **Abrasive Basics**
- **Proper Mounting**
- **Safe Practices**
- **Industry Ratings**

**... and more**

WALTER
Achieve Greatness™

# 05
# BRUSHING

# HIGH PERFORMANCE
# POWER BRUSHES

**Power brushes have long been used** for edge and surface conditioning on a wide variety of materials. Unlike grinding wheels and other abrasives that remove base material along with surface contaminants, power brushes work on the metal surface without removing the base material. The tips of the wire hammer the metal surface like thousands of tiny ball peens to finish and work the surface.

To withstand that kind of abuse, every WALTER power brush is made from only the finest industrial-grade materials. Combined with the latest manufacturing technology and strictest quality control, every power brush is designed to guarantee the highest productivity, longest brush life and maximum operator safety.

### Perfect Balance

*Every knot is perfectly balanced through an accurate wire count and an even trim length before being permanently anchored in an individual hole. This ensures perfect concentricity and vibration-free brushing for maximum operator comfort.*

*Internal steel plate holds wires securely in place even under extreme pressure for maximum strength and safety.*

### Longest Life

*Premium high-tensile wire is oil-hardened and tempered for the longest life. Wire quality is mill-certified for every batch, ensuring consistent performance brush after brush.*

SCAN TO
WATCH VIDEO

YouTube
*Video available at The WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

**Color coded hubs for easy identification**

| Hub color | Wire type |
|---|---|
| Orange | Made with premium carbon steel wire that is oil hardened and tempered for longest life and maximum brushing action. |
| Blue | Made with 304 stainless steel wire to help prevent contamination and surface rusting of brushed stainless steel parts. Also may be used on aluminum and other non-ferrous metals. |
| Black | Made with 100% brass wire. Ideal for spark-free brushing in hazardous environments or operations where cleaning is needed without removing the base material. |

## Choose the right wire brush for your application

| POWER TOOL USED | TYPE OF BRUSH | BRUSH DIA. | COMPATIBLE GRINDER DIAMETER | WIRE CONSTRUCTION | APPLICATION | METAL |
|---|---|---|---|---|---|---|
| Flat cleaning | **Wire cup brushes** | 3"<br>4"<br>5"<br>6" | 4", 4 ½", 5", 6"<br>7", 9"<br>7", 9"<br>9" | **Crimped** | For quick, efficient cleaning, brushing, and finishing of large flat surfaces. | ● ● |
| | | | | **Knot-Twisted** | For heavy-duty applications such as deburring, weld cleaning, or removing significant oxidation from surfaces. | ● ● |
| | | | | **Knot-Twisted with ring** | Heavy-duty cleaning with thicker wire and a supporting ring for added safety and a longer working life. | ● ● |
| Angle cleaning | **Saucer-Cup brushes** | 4"<br>5"<br>6", 7" | 4", 4 ½", 5"<br>5", 6"<br>7", 9" | **Knot-Twisted** | For weld cleaning and deburring in hard-to-reach areas such as inside corners, fillet welds and contours. | ● ● |
| | | | | **Crimped** | For cleaning wider root passes and rough surfaces. Can clean on both sides of a weld, at the same time. | ● |
| Vertical cleaning | **Wire wheel brushes** | 4"<br>4 ½"<br>5"<br>6",<br>6 ⅞" | 4", 4 ½", 5"<br>4 ½", 5"<br>5", 6"<br>7", 9" | **Crimped** | For cleaning welds or over uneven surfaces, such as pipe and tubing. | ● ● |
| | | | | **Stringer Bead** | For cleaning in narrow spaces, such as in between passes on pipes or narrow groves, etc. | ● ● ● |
| | | | | **Knot-Twisted** | For cleaning wider root passes as well as removing scale, spatter, and corrosion. | ● ● |
| Vertical cleaning | **Wire wheel brushes** | 4"<br>to 10" | All bench and pedestal grinders with suitable speed range | **Crimped** | For light deburring and similar cleaning jobs, to remove paint, rust, etc. | ● ● |
| | | | | **Knot-Twisted** | For heavy-duty applications such as removal of rust, corrosion, and gaskets. | ● ● |
| Vertical cleaning | **Mounted brushes** | ½"<br>to 4" | All drill or die grinders with a suitable speed range | **Crimped** | For cleaning hard-to-reach areas such as pipe interiors and confined spaces. | ● ● |
| | | | | **Knot-Twisted** | For heavy-duty applications, such as removal of rust, corrosion, and gaskets. | ● ● |

# WIRE CUP BRUSHES

For angle grinders

Designed for high-performance brushing of large flat surfaces. Our wire cup brushes are designed to outlast all competitive brushes. Whether you are removing paint, spatter, rust or cleaning weld edges, we have a brush that can help you work faster and more safely.

## CRIMPED

Steel

| Dia. | Arbor | Order No. | Wire | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 3” | M14 X 2.0 | 13D302 | .0118” | 12,000 | 1 | 10 |
| 3” | 5/8”-11 | 13D304 | .0118” | 12,000 | 1 | 10 |
| 5” | 5/8”-11 | 13E504 | .020” | 8,600 | 1 | 10 |

▷ *Crimped for light surface cleaning, rust and paint removal, etc.*

## CRIMPED *WITH RING*

Steel

| | | | | | | |
|---|---|---|---|---|---|---|
| 3” | 5/8”-11 | 13D324 | .0118” | 12,000 | 1 | 10 |
| 4” | 5/8”-11 | 13D424 | .0118” | 8,600 | 1 | 10 |
| 5” | 5/8”-11 | 13D524 | .0118” | 8,600 | 1 | 10 |

▷ *Safety supporting ring controls flaring to extend brush life. Once wires are worn down to the ring, the ring can be removed to expose more wire for extra brush life.*

## CRIMPED

Stainless Steel  Alu. + n.f. metals

| | | | | | | |
|---|---|---|---|---|---|---|
| 3” | 5/8”-11 | 13D314 | .0118” | 12,000 | 1 | 10 |
| 5” | 5/8”-11 | 13E514 | .020” | 8,600 | 1 | 10 |

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

## KNOT-TWISTED

Steel

| Dia. | Arbor | Order No. | Wire | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 3” | M10 x 1.25 | 13F300 | .015” | 12,000 | 1 | 10 |
| 3” | M14 X 2.0 | 13F302 | .015” | 12,000 | 1 | 10 |
| 3” | 5/8”-11 | 13F304 | .015” | 12,000 | 1 | 10 |
| 3” | 5/8”-11 | 13F354 | .020” | 12,000 | 1 | 10 |

▷ *Knot-twisted for heavy-duty brushing, such as deburring, weld edge cleaning, removal of scale, spatter, heavy rust, and corrosion, etc.*

## KNOT-TWISTED

Stainless Steel  Alu. + n.f. metals

| | | | | | | |
|---|---|---|---|---|---|---|
| 3” | 5/8”-11 | 13F314 | .015” | 12,000 | 1 | 10 |

- *Knot-twisted with safety supporting ring for heavy-duty brushing*
- *Safety supporting ring controls flaring to extend brush life. Once worn down to the ring, it can be removed to expose more wire for extra brush life.*

# WIRE CUP BRUSHES

## *KNOT-TWISTED WITH RING*

Steel

| Dia. | Arbor | Order No. | Wire size | Thick. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 3” | ⅝”-11 | 13G304 | .020” | ½” | 12,000 | 1 | 10 |
| 4” | ⅝”-11 | 13G404 | .020” | ½” | 8,600 | 1 | 10 |
| 5” | ⅝”-11 | 13G504 | .020” | ½” | 8,600 | 1 | 10 |
| 5” | ⅝”-11 | 13G554 | .035” | ½” | 8,600 | 1 | 10 |
| 6” | ⅝”-11 | 13G604 | .020” | ½” | 6,800 | 1 | 10 |

## *KNOT-TWISTED WITH RING*

Stainless Steel  Alu. + n.f. metals

| Dia. | Arbor | Order No. | Wire size | Thick. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 3” | ⅝”-11 | 13G314 | .020” | ½” | 12,000 | 1 | 10 |
| 5” | ⅝”-11 | 13G514 | .020” | ½” | 8,600 | 1 | 10 |

*Double-row*

- *Work two times faster on large surfaces*
- *Requires less torque from the power tool for the same efficiency*
- *Unbeatable life and added working hours per brush*

## *DOUBLE-ROW KNOT-TWISTED CUP BRUSHES WITH RING*

Steel

| Dia. | Arbor | Order No. | Wire size | Thick. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 5” | ⅝”-11 | 13G574 | .020” | 1” | 8,600 | 1 | 10 |

## *DOUBLE-ROW KNOT-TWISTED CUP BRUSHES WITH RING*

Stainless Steel  Alu. + n.f. metals

| Dia. | Arbor | Order No. | Wire size | Thick. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 5” | ⅝”-11 | 13G584 | .020” | 1” | 8,600 | 1 | 10 |

# WIRE WHEEL BRUSHES

For precision cleaning with angle grinders

These brushes are made from top-quality wire that is perfectly knotted and balanced for minimal vibration and maximum operator safety. Quicker surface cleaning, the longest product life in the industry, and an emphasis on operator safety make our wire wheel brushes the preferred choice for professionals throughout North America.

## CRIMPED WIRE WHEEL

Steel

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ⅝" | ⅝"-11 | 13J454 | 0.0118" | 12,500 | 1 | 10 |
| 5" | ⅝" | ⅝"-11 | 13J504 | 0.0118" | 10,000 | 1 | 10 |
| 6" | ⅝" | ⅝"-11 | 13J604 | 0.0118" | 9,000 | 1 | 10 |

## CRIMPED WIRE WHEEL

Stainless Steel · Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | ⅝" | ⅝"-11 | 13J464 | 0.0118" | 12,500 | 1 | 10 |
| 5" | ⅝" | ⅝"-11 | 13J514 | 0.0118" | 10,000 | 1 | 10 |
| 6" | ⅝" | ⅝"-11 | 13J614 | 0.0118" | 9,000 | 1 | 10 |

## STRINGER BEAD

Steel

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4" | 3/16" | ⅝"-11 | 13K404 | .020" | 20,000 | 1 | 10 |
| 4 ½" | 3/16" | ⅝"-11 | 13K454 | .020" | 15,000 | 1 | 10 |
| 5" | ¼" | ⅝"-11 | 13K504 | .020" | 15,000 | 1 | 10 |
| 5" | ¼" | ⅝"-11 | 13K504B | .020" | 15,000 | 10 | 10 |
| 6" | ¼" | ⅝"-11 | 13K604 | .020" | 10,000 | 1 | 10 |
| 6" | ¼" | ⅝"-11 | 13K604B | .020" | 10,000 | 10 | 10 |
| 6 ⅞" | ¼" | ⅝"-11 | 13K654 | .020" | 9,000 | 1 | 10 |
| 6 ⅞" | ¼" | ⅝"-11 | 13K654B | .020" | 9,000 | 10 | 10 |

▷ *Stringer bead brushes are extra narrow to clean in tight areas such as between weld passes in pipe fitting*

## STRINGER BEAD

Stainless Steel · Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4" | 3/16" | ⅝"-11 | 13K414 | .020" | 20,000 | 1 | 10 |
| 4 ½" | 3/16" | ⅝"-11 | 13K464 | .020" | 15,000 | 1 | 10 |
| 5" | ¼" | ⅝"-11 | 13K514 | .020" | 15,000 | 1 | 10 |
| 6" | ¼" | ⅝"-11 | 13K614 | .020" | 10,000 | 1 | 10 |

## KNOT-TWISTED

Steel

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4" | ⅜" | ⅝"-11 | 13L404 | .020" | 20,000 | 1 | 10 |
| 4 ½" | ⅜" | ⅝"-11 | 13L454 | .020" | 15,000 | 1 | 10 |
| 5" | ⅜" | ⅝"-11 | 13L504 | .020" | 15,000 | 1 | 10 |
| 6" | ⅜" | ⅝"-11 | 13L604 | .020" | 10,000 | 1 | 10 |

▷ *Knot-twisted brushes are for surface cleaning after welding, to remove scale, spatter, rust and corrosion*

## KNOT-TWISTED

Stainless Steel · Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4" | ⅜" | ⅝"-11 | 13L414 | .020" | 20,000 | 1 | 10 |
| 4 ½" | ⅜" | ⅝"-11 | 13L464 | .020" | 15,000 | 1 | 10 |
| 5" | ⅜" | ⅝"-11 | 13L514 | .020" | 15,000 | 1 | 10 |
| 6" | ⅜" | ⅝"-11 | 13L614 | .020" | 10,000 | 1 | 10 |

# BRASS STRINGER BEAD BRUSH

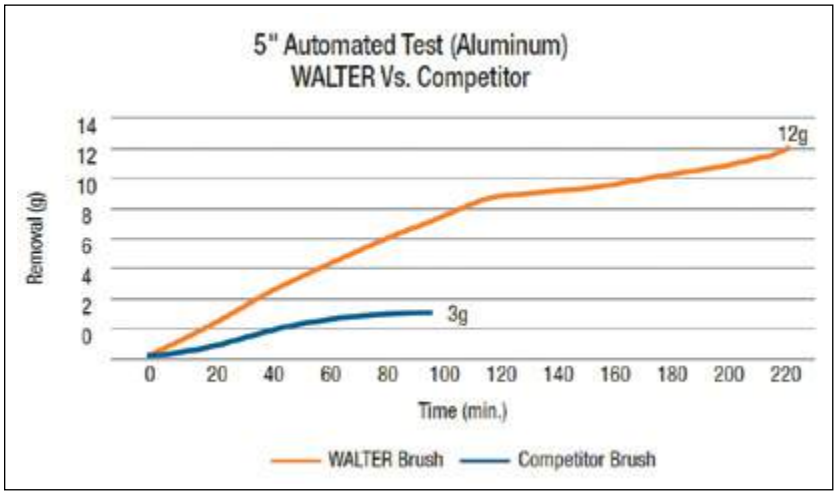
Made with high-quality brass wire, WALTER brass brushes are the right choice for spark-free brushing in hazardous environments or operations where cleaning is needed without removing the base material.

- *100% brass wires*
- *Spark-free & non-destructive*
- *Extra narrow for cleaning tight or hard-to-reach areas*

## *BRASS*

Steel | Stainless Steel | Alu. + n.f. metals | Brass

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 5" | ¼" | ⅝"-11 | 13K534 | .020" | 12,500 | 1 | 10 |
| 6" | ¼" | ⅝"-11 | 13K634 | .020" | 12,500 | 1 | 10 |




## *Tech tip!*

*Brass wire is softer than steel and stainless steel. Extend the life of your brush by using lighter pressure when cleaning contaminants with brass stringer bead brushes.*

# SAUCER-CUP BRUSHES

For cleaning hard-to-reach areas

These brushes have a built-in working angle of 45° to clean surfaces in hard-to-reach areas such as inside corners, edges, and contours. Knot-twisted brushes are tightly knotted to remove surface imperfections quickly and ensure a long, productive lifespan. Crimped brushes provide excellent cleaning on uneven surfaces.

- ***For surface cleaning such as removing paint, rust, and corrosion***
- ***Tightly knotted for maximum impact and long brush life (knot-twisted only)***

## *CRIMPED*

Steel

| Dia. | Arbor | Order No. | Wire size | Thick. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4” | ⅝”-11 | 13H454 | .012” | ½” | 12,500 | 1 | 10 |
| 5” | ⅝”-11 | 13H554 | .012” | ¾” | 10,000 | 1 | 10 |
| 6” | ⅝”-11 | 13H654 | .012” | ¾” | 9,000 | 1 | 10 |

## *KNOT-TWISTED*

Steel

| Dia. | Arbor | Order No. | Wire size | Thick. | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4” | ⅝”-11 | 13H404 | .015” | ½” | 20,000 | 1 | 10 |
| 5” | ⅝”-11 | 13H504 | .020” | ½” | 15,000 | 1 | 10 |
| 6” | ⅝”-11 | 13H604 | .020” | ½” | 12,500 | 1 | 10 |
| 7” | ⅝”-11 | 13H704 | .020” | ½” | 10,000 | 1 | 10 |

## *KNOT-TWISTED*

Stainless Steel  Alu. + n.f. metals

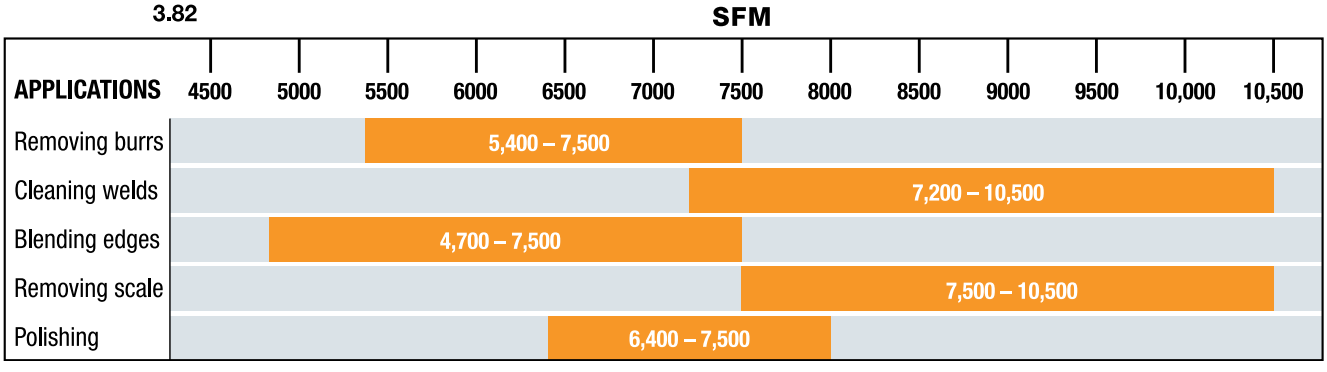
| Dia. | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 4” | ⅝”-11 | 13H414 | .015” | 20,000 | 1 | 10 |
| 5” | ⅝”-11 | 13H514 | .020” | 15,000 | 1 | 10 |
| 6” | ⅝”-11 | 13H614 | .020” | 12,500 | 1 | 10 |
| 7” | ⅝”-11 | 13H714 | .020” | 10,000 | 1 | 10 |

*To convert brushes with ⅝”–11 arbor, please see page 206 for special threaded adaptors.*

## Choose the right speed for your application

TO CONVERT SURFACE FEET PER MINUTE (SFM) TO RPM:

$$SFM = \frac{DIAMETER \times RPM}{3.82}$$



# MOUNTED WIRE BRUSHES

Our mounted wire brushes come in a variety of sizes and configurations to fit numerous industrial applications on die grinders, power drills, or automated equipment.

**For die grinders ¼" shaft.**

▷ *Crimped wire for general surface cleaning, rust, scale, and paint removal, etc.*

Spherical

▷ *The spherical shape allows you to clean in almost any position around the working area. Perfect for cleaning inside pipes and custom hard-to-reach areas.*

Straight

Conical

Wheel

Cup

## MOUNTED CRIMPED

Steel

| Type | Dia. | Width | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| Straight | ½" | | 13C003 | .010" | 25,000 | 1 | 10 |
| Straight | ½" | | 13C005 | .020" | 25,000 | 1 | 10 |
| Straight | ¾" | | 13C008 | .014" | 25,000 | 1 | 10 |
| Straight | 1" | | 13C010 | .014" | 25,000 | 1 | 10 |
| Conical | ¾" | | 13C028 | .014" | 25,000 | 1 | 10 |
| Wheel | 1 ⅜" | ¼" | 13C110 | .008" | 25,000 | 1 | 10 |
| Wheel | 2" | ⅝" | 13C120 | .0118" | 25,000 | 1 | 10 |
| Wheel | 3" | ¼" | 13C123 | .0118" | 25,000 | 1 | 10 |
| Wheel | 3" | ¾" | 13C125 | .0118" | 25,000 | 1 | 10 |
| Wheel | 4" | ¼" | 13C128 | .0118" | 15,000 | 1 | 10 |
| Cup | 1 ½" | | 13C015 | .0118" | 13,000 | 1 | 10 |
| Cup | 2 ⅜" | | 13C018 | .0118" | 13,000 | 1 | 10 |
| Spherical | 1 ½" | 1 ½" | 13C215 | .008" | 20,000 | 1 | 10 |
| Spherical | 2" | 2" | 13C225 | .010" | 20,000 | 1 | 10 |
| Spherical | 3" | 3" | 13C230 | .0118" | 15,000 | 1 | 10 |

## MOUNTED CRIMPED

Stainless Steel  Alu. + n.f. metals

| Type | Dia. | Width | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| Straight | ½" | | 13C053 | .010" | 25,000 | 1 | 10 |
| Straight | ½" | | 13C055 | .020" | 25,000 | 1 | 10 |
| Straight | ¾" | | 13C058 | .014" | 25,000 | 1 | 10 |
| Conical | ¾" | | 13C078 | .0118" | 25,000 | 1 | 10 |
| Wheel | 1 ⅜" | ¼" | 13C160 | .008" | 25,000 | 1 | 10 |
| Wheel | 2" | ⅝" | 13C170 | .0118" | 25,000 | 1 | 10 |
| Wheel | 3" | ¼" | 13C173 | .0118" | 25,000 | 1 | 10 |
| Wheel | 3" | ¾" | 13C175 | .0118" | 25,000 | 1 | 10 |
| Wheel | 4" | ¼" | 13C178 | .0118" | 15,000 | 1 | 10 |
| Cup | 1 ½" | | 13C065 | .0118" | 13,000 | 1 | 10 |
| Cup | 2 ⅜" | | 13C068 | .0118" | 13,000 | 1 | 10 |
| Spherical | 1 ½" | 1 ½" | 13C265 | .008" | 20,000 | 1 | 10 |
| Spherical | 2" | 2" | 13C275 | .010" | 20,000 | 1 | 10 |
| Spherical | 3" | 3" | 13C280 | .0118" | 15,000 | 1 | 10 |

## KNOT-TWISTED

Steel

| Type | Dia. | Width | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| Straight | ¾" | | 13C019 | .020" | 25,000 | 1 | 10 |
| Straight | 1 ⅛" | | 13C020 | .020" | 25,000 | 1 | 10 |
| Wheel | 2 ¾" | ⅜" | 13C130 | .020" | 25,000 | 1 | 10 |
| Wheel | 2 ¾" | ⅜" | 13C140 | .020" | 25,000 | 1 | 10 |
| Saucer-cup | 3" | ½" | 13C270 | .020" | 25,000 | 1 | 10 |
| Cup | 3" | ½" | 13C370 | .020" | 12,000 | 1 | 10 |

- *Knot-twisted wire for heavy-duty brushing such as deburring, removing heavy rust and corrosion, etc.*
- *Conical brushes for cleaning fillet welds*
- *Wire wheel brushes are excellent for cleaning the inside diameter of pipes and tubing*

## KNOT-TWISTED

Stainless Steel · Alu. + n.f. metals

| Type | Dia. | Width | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| Straight | 1 ⅛" | | 13C070 | .020" | 25,000 | 1 | 10 |
| Wheel | 2 ¾" | ⅜" | 13C180 | .020" | 25,000 | 1 | 10 |

## DOUBLE SIDED KNOT-TWISTED

Steel

| Type | Dia. | Width | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| Wheel | 3" | ⅜" | 13C303 | .0118" | 25,000 | 1 | 10 |
| Wheel | 4" | ⅜" | 13C404 | .0118" | 20,000 | 1 | 10 |

*Mandrels for double sided brushes, order No. 13D008 (for 13C303) and 13D009 (for 13C404).*

Straight

Wheel

*COMBINE YOUR WIRE BRUSH WITH THE BEST POWER TOOL!*

*See page 164.*

Saucer-cup

Cup

*Mandrel shown on picture sold separately.*

Wheel

# LINEAR CRIMPED BRUSHES

Our linear wire brushes can be used with the LINE-MATE III™ system for efficient cleaning over wide surface areas.

## LINEAR CRIMPED BRUSHES

Steel

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | 13M454 | .01" | 4,000 | 1 | 10 |

## LINEAR CRIMPED BRUSHES

Stainless Steel · Alu. + n.f. metals

| Dia. | Width | Arbor | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|
| 4 ½" | 2" | ⅝"–11 | 13M464 | .01" | 4,000 | 1 | 10 |

# WIRE WHEEL BRUSHES

For bench and pedestal grinders

These brushes are made from industrial quality wire perfectly balanced for smooth operation and long life. They are most commonly used to remove paint, rust, and corrosion, for light deburring and similar cleaning jobs.

## CRIMPED

Steel

| Dia. | Width | Arbor | | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 4” | ¾” | ½” | | 13B040 | .0118” | 6,000 | 1 | 10 |
| 6” | ⅞” | 1 ¼” | * | 13B060 | .0118” | 6,000 | 1 | 10 |
| 6” | 1 ⅛” | 1 ¼” | * | 13B061 | .0118” | 6,000 | 1 | 10 |
| 6” | ¾” | 1 ¼” | * | 13B065 | .0118” | 6,000 | 1 | 10 |
| 7” | ⅞” | 1 ¼” | * | 13B070 | .0118” | 6,000 | 1 | 10 |
| 8” | 1” | 1 ¼” | * | 13B080 | .0118” | 4,500 | 1 | 10 |
| 8” | ½” | ⅝” | ** | 13B082 | .0118” | 4,500 | 1 | 10 |
| 8” | ¾” | 1 ¼” | * | 13B085 | .0118” | 4,500 | 1 | 10 |
| 10” | 1” | 1 ¼” | * | 13B100 | .0118” | 3,600 | 1 | 10 |

** All brushes with 1 ¼” arbor are equipped with a set of reducer bushings to fit the following shaft diameters: ½”, ⅝”, ¾”, ⅞” and 1”.*
*** This brush comes with ½” reducer bushings.*

- *Crimped wire has optimal density and wire trim for the most effective brushing action and longest life*
- *For general surface cleaning and deburring applications*

## CRIMPED

Stainless Steel Alu. + n.f. metals

| Dia. | Width | Arbor | | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 6” | ¾” | 1 ¼” | * | 13B165 | .0118” | 6,000 | 1 | 10 |
| 6” | ⅞” | 1 ¼” | * | 13B160 | .0118” | 6,000 | 1 | 10 |
| 8” | ¾” | 1 ¼” | * | 13B185 | .0118” | 4,500 | 1 | 10 |
| 8” | 1” | 1 ¼” | * | 13B180 | .0118” | 4,500 | 1 | 10 |

** All brushes with 1 ¼” arbor are equipped with a set of reducer bushings to fit the following shaft diameters: ½”, ⅝”, ¾”, ⅞” and 1”.*

- *These brushes are designed to be flipped and mounted in the opposite direction*
- *This self-sharpens the wires, extending lifespan while maintaining fast cleaning and deburring rates*

## KNOT-TWISTED

Steel

| Dia. | Width | Arbor | | Order No. | Wire size | Max. RPM | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|---|---|
| 6” | ⅜” | ⅝” | ** | 13B260 | .0118” | 9,000 | 1 | 10 |
| 8” | ⅜” | ⅝” | ** | 13B280 | .0118” | 8,500 | 1 | 10 |

*** These brushes come with ½” reducer bushings.*

**Accessory**

| Replacement set of bushings | |
|---|---|
| Complete set | 13B015 |

# SCRATCH BRUSHES

The best value for hand brushes in the industry. A curved metal core design combined with high-quality crimped wire allows for comfortable and productive brushing in wide variety of applications using one brush. The ergonomic thermoplastic handle design is both heat- and crack-resistant. To reduce the number of brushes needed in your operation, turn to WALTER's universal scratch brushes.

- *Lasts up to 25X longer than conventional wood handle scratch brushes*
- *Replace multiple brush types with this one versatile brush*
- *Ergonomic design for comfortable brushing*
- *Color-coded for easy identification*

- *High carbon steel wires*
- *Brass coating prevents rust buildup*

## BRASS COATED STEEL

Steel

| Order No. | Wire type | Total length | Brush length | Brush width | Wire size | Std. Pkg. |
|---|---|---|---|---|---|---|
| 13S104 | Crimped | 9-5/8" | 5-5/16" | 9/16" | .012" | 24 |

## STAINLESS STEEL

Stainless Steel, Alu. + n.f. metals

| Order No. | Wire type | Total length | Brush length | Brush width | Wire size | Std. Pkg. |
|---|---|---|---|---|---|---|
| 13S114 | Crimped | 9-5/8" | 5-5/16" | 9/16" | .012" | 24 |

- *304 stainless steel wires*
- *Guaranteed not to contaminate stainless steel*

## BRASS

Steel, Stainless Steel, Alu. + n.f. metals, Brass

| Order No. | Wire type | Total length | Brush length | Brush width | Wire size | Std. Pkg. |
|---|---|---|---|---|---|---|
| 13S134 | Crimped | 9-5/8" | 5-5/16" | 9/16" | .012" | 24 |

### *Tech tip!*

*Working with multiple brush types on the job can cause clutter and downtime due to switching. Simplify your brushing solutions with this universal scratch brush designed to handle all your brushing application needs.*

- *100% brass wires*
- *Designed for spark-free environments*

# ALLSTEEL™

## ALLSTEEL™ WIRE BRUSHES

ALLSTEEL™ wire brushes are designed to provide exceptional value and deliver consistent and reliable surface cleaning performance on a variety of metals. Through a strict quality-controlled manufacturing process, ALLSTEEL™ brushes are perfectly balanced and feature an identical wire count to ensure vibration-free brushing. Available in a variety of shapes and sizes.

- *High-quality wire*
- *Perfect balance and even wire count*
- *Stainless steel wire brushes made with grade 304 stainless wire*
- *Guaranteed not to contaminate your workpiece*

### WIRE CUP BRUSHES

#### *CRIMPED*

| Order No. | Dia. | Arbor | Wire | Max RPM | Std Pkg. | Wire Type |
|---|---|---|---|---|---|---|
| 13W301 | 3 | 5/8”-11 | 0.0118” | 12,000 | 1 | Steel |
| 13W302 | 3 | 5/8”-11 | 0.0118” | 12,000 | 1 | Stainless |
| 13W501 | 5 | 5/8”-11 | 0.014” | 8,600 | 1 | Steel |

#### *KNOT-TWISTED*

| Order No. | Dia. | Arbor | Wire | Max RPM | Std Pkg. | Wire Type |
|---|---|---|---|---|---|---|
| 13W311 | 3 | 5/8”-11 | 0.02” | 12,000 | 1 | Steel |
| 13W312 | 3 | 5/8”-11 | 0.02” | 12,000 | 1 | Stainless |
| 13W313 | 3 | M14 | 0.02” | 12,000 | 10 | Steel |

* Only on 304 stainless wire type

### WIRE WHEEL BRUSHES

#### *STRINGER BEAD*

| Order No. | Dia. | Arbor | Wire | Max RPM | Std Pkg. | Wire Type |
|---|---|---|---|---|---|---|
| 13W461 | 4-1/2 | 5/8”-11 | 0.02” | 15,000 | 1 | Steel |
| 13W561 | 5 | 5/8”-11 | 0.02” | 15,000 | 1 | Steel |
| 13W561B | 5 | 5/8”-11 | 0.02” | 15,000 | 10 | Steel |
| 13W563 | 5 | M14 | 0.02” | 15,000 | 10 | Steel |
| 13W661 | 6 | 5/8”-11 | 0.02” | 10,000 | 1 | Steel |
| 13W661B | 6 | 5/8”-11 | 0.02” | 10,000 | 10 | Steel |
| 13W761 | 6-7/8 | 5/8”-11 | 0.02” | 9,000 | 1 | Steel |

#### *KNOT-TWISTED*

| Order No. | Dia. | Arbor | Wire | Max RPM | Std Pkg. | Wire Type |
|---|---|---|---|---|---|---|
| 13W451 | 4-1/2 | 5/8”-11 | 0.02” | 15,000 | 1 | Steel |
| 13W551 | 5 | 5/8”-11 | 0.02” | 15,000 | 1 | Steel |
| 13W553 | 5 | M14 | 0.02” | 15,000 | 10 | Steel |
| 13W651 | 6 | 5/8”-11 | 0.02” | 10,000 | 1 | Steel |

**Color coded hubs for easy identification**

| | | |
|---|---|---|
| | Dark Grey | Carbon Steel |
| | White | Stainless Steel |

# ALLSTEEL™ WIRE BRUSHES AND MOUNTED WIRE BRUSHES

## SAUCER CUP BRUSHES

### CRIMPED

Steel

| Order No. | Dia. | Arbor | Wire | Max RPM | Std Pkg. | Wire Type |
|---|---|---|---|---|---|---|
| 13W431 | 4 | 5/8”-11 | 0.0118” | 12,500 | 1 | Steel |
| 13W531 | 5 | 5/8”-11 | 0.0118” | 10,000 | 1 | Steel |

### KNOT-TWISTED

| | | | | | | |
|---|---|---|---|---|---|---|
| 13W441 | 4 | 5/8”-11 | 0.02” | 20,000 | 1 | Steel |
| 13W541 | 5 | 5/8”-11 | 0.02” | 15,000 | 1 | Steel |

## MOUNTED WIRE BRUSHES

### KNOT-TWISTED

Steel

| Order No. | Type | Dia. | Shank | Wire | Max RPM | Std Pkg. | Std Ctn | Wire Type |
|---|---|---|---|---|---|---|---|---|
| 09C020 | Straight | 1-1/8” | 1/4” | 0.02” | 20,000 | 1 | 10 | Steel |
| 09C130 | Wheel | 2-3/4” | 1/4” | 0.02” | 20,000 | 1 | 10 | Steel |
| 09C140 | Wheel | 2-3/4” | 1/4” | 0.02” | 25,000 | 1 | 10 | Steel |
| 09C270 | Saucer-cup | 3” | 1/4” | 0.02” | 20,000 | 1 | 10 | Steel |
| 09C370 | Cup | 3” | 1/4” | 0.02” | 12,000 | 1 | 10 | Steel |

### KNOT-TWISTED

Stainless Steel

| Order No. | Type | Dia. | Shank | Wire | Max RPM | Std Pkg. | Std Ctn | Wire Type |
|---|---|---|---|---|---|---|---|---|
| 09C070 | Straight | 1-1/8” | 1/4” | 0.02” | 20,000 | 1 | 10 | Stainless |
| 09C180 | Wheel | 2-3/4” | 1/4” | 0.02” | 20,000 | 1 | 10 | Stainless |

### DOUBLE SIDED KNOT-TWISTED

Steel

| Order No. | Type | Dia. | Shank | Wire | Max RPM | Std Pkg. | Std Ctn | Wire Type |
|---|---|---|---|---|---|---|---|---|
| 09C303 | Wheel | 3” | 3/8” | 0.02” | 20,000 | 1 | 10 | Steel |
| 09C404 | Wheel | 4” | 3/8” | 0.02” | 20,000 | 1 | 10 | Steel |

*Mandrels for double sided brushes, order no. 13D008 (for 13C303) and 13D009 (for 13C404).*

STRAIGHT

SAUCER-CUP

WHEEL

*Mandrel shown on picture sold separately.*

CUP

**Color coded hubs for easy identification**

| | |
|---|---|
| Dark Grey | Carbon Steel |
| White | Stainless Steel |

# ALLSTEEL™ MOUNTED WIRE BRUSHES

MOUNTED WIRE BRUSHES

## *MOUNTED CRIMPED*

Steel

| Order No. | Type | Dia. | Shank | Wire | Max RPM | Std Pkg. | Std Ctn | Wire Type |
|---|---|---|---|---|---|---|---|---|
| 09C008 | Straight | 3/4” | 1/4” | 0.0118” | 18,000 | 1 | 10 | Steel |
| 09C028 | Conical | 2-3/8” | 1/4” | 0.0118” | 18,000 | 1 | 10 | Steel |
| 09C110 | Wheel | 1-3/8” | 1/4” | 0.0080” | 20,000 | 1 | 10 | Steel |
| 09C120 | Wheel | 2” | 1/4” | 0.0118” | 20,000 | 1 | 10 | Steel |
| 09C125 | Wheel | 3” | 1/4” | 0.0118” | 18,000 | 1 | 10 | Steel |
| 09C015 | Cup | 1-1/2” | 1/4” | 0.0118” | 13,000 | 1 | 10 | Steel |
| 09C018 | Cup | 2-3/8” | 1/4” | 0.0118” | 13,000 | 1 | 10 | Steel |

## *MOUNTED CRIMPED*

Stainless Steel

| Order No. | Type | Dia. | Shank | Wire | Max RPM | Std Pkg. | Std Ctn | Wire type |
|---|---|---|---|---|---|---|---|---|
| 09C058 | Straight | 3/4” | 1/4” | 0.0118” | 25,000 | 1 | 10 | Stainless |
| 09C078 | Conical | 3/4” | 1/4” | 0.0118” | 18,000 | 1 | 10 | Stainless |
| 09C160 | Wheel | 1-3/8” | 1/4” | 0.0080” | 20,000 | 1 | 10 | Stainless |
| 09C170 | Wheel | 2” | 1/4” | 0.0118” | 20,000 | 1 | 10 | Stainless |
| 09C175 | Wheel | 3” | 1/4” | 0.0118” | 18,000 | 1 | 10 | Stainless |
| 09C065 | Cup | 1-1/2” | 1/4” | 0.0118” | 13,000 | 1 | 10 | Stainless |
| 09C068 | Cup | 2-3/8” | 1/4” | 0.0118” | 13,000 | 1 | 10 | Stainless |

SPHERICAL

STRAIGHT

CONICAL

WHEEL

CUP

**Color-coded hubs for easy identification**

| | | |
|---|---|---|
| | Dark Gray | Carbon Steel |
| | White | Stainless Steel |

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

# FAST TRACK

## SHAYNE WORGAN

WELDER

> "We can't delay shipments. Quality tools help me get the trains back on the tracks quickly."

If you want something done fast and well, sometimes the best way to achieve it, is by doing it yourself. Shayne learned that at a young age, watching his dad fix and repair all kinds of items around the house. Shayne's first job was to hold the flashlight while his father did the fixing.

After giving graphic design a try in school, Shayne went back to his roots. He realized that the countless hours spent helping his dad, as well as the experience gained by building and repairing things on his own, were not in vain since they were highly requested and profitable in the world of large-scale manufacturing. So, he decided to give welding a try.

Eight years later, Shayne now works for one of North America's largest manufacturers of freight car axles and a leading train repair shop, supplying the transit and ground passenger transportation industry. "At the shop, we work on so many different projects. I can be welding, gauging, grinding, and drilling within the same day. Cars are continuously coming in. I can't afford to waste time; I've got to stay on schedule."

His passion for metalworking, as well as his access to the proper tools and abrasives, helps Shayne get the job done fast. So fast, that when he asked his boss what he could do to improve and suggested he could try to work a little faster, his boss chuckled and said: "No, I really don't think your speed is an issue."

Performing a wide variety of repairs on rail cars has its challenges. "Maintenance and repairs on trains are physically demanding jobs. Flap discs that increase my comfort level, help take a load off my shoulders." But it also has its rewards: "Seeing these huge units enter the shop all crooked and worn down and leave the shop looking as good as new is so satisfying!"

Shayne is definitely on the fast track to success.

SCAN THE QR CODE ABOVE TO LEARN MORE ABOUT SHAYNE'S JOURNEY

WALTER
Achieve Greatness™

# 06
# POWER TOOLS

# FEATURES

YouTube
*Video available at The WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

## Power, safety and improved productivity

Our line of angle grinders is designed to excel in all applications, whether it be in grinding, cutting, sanding, or cleaning. Each of our grinders is compact and packs a punch, providing you with the highest removal rate in the industry when paired with WALTER abrasives. These industrial tools are designed with safety in mind and are built to last.

We also have classified our grinders to help you select the very best tool for your specific needs. Is improving safety the key decision factor? Perhaps maximum productivity is really what matters. Rest assured that whichever grinder you select, it will deliver the strongest, most efficient output available, reducing your overall costs.

| | Anti-vibration side handle | Tool-free guard | Quick-R™ release | Safety clutch | Paddle switch (non-locking) | Soft Start™ | Safety restart | DYNAMAX™ electronics | Powerguard™ | Stabilizer | Variable Dialspeed™ | Mechanical brake system |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MINI GRINDER** | ✖ | ✖ | ✖ | ✖ | | | | | | | | |
| **MINI PS** | ✖ | ✖ | ✖ | ✖ | ✖ | | | | | | | |
| **MINI PLUS** | ✖ | ✖ | ✖ | ✖ | | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | |
| **SUPER 5** | ✖ | ✖ | ✖ | ✖ | | | | | | | | |
| **SUPER 5 PS** | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | | | ✖ |
| **PRO 5** | ✖ | ✖ | ✖ | ✖ | | ✖ | ✖ | ✖ | ✖ | ✖ | | |
| **BIG 6** | ✖ | ✖ | ✖ | ✖ | | ✖ | ✖ | ✖ | ✖ | ✖ | | |
| **BIG 6 PS** | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | | ✖ |
| **IRONMAN** | ✖ | ✖ | ✖ | ✖ | | ✖ | ✖ | ✖ | ✖ | ✖ | | |
| **IRONMAN PS** | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | | ✖ |
| **MAXI** | ✖ | ✖ | | | ✖** | | | | | | | |
| **QUICK-STEP FINISHER** | ✖ | ✖ | ✖ | ✖ | | ✖ | ✖ | ✖ | ✖ | | ✖ | |
| **QUICK-STEP BIG-BUFF III** | ✖ | | | | | ✖ | | ✖ | ✖ | | ✖ | |
| **ULTI-MATE** | ✖ | ✖ | | ✖ | | ✖ | ✖ | ✖ | ✖ | | ✖ | |
| **RAIL-MATE** | | | | | | ✖ | | ✖ | | | ✖ | |
| **QUICK-STEP LINE-MATE III** | ✖ | | | | | ✖ | | ✖ | ✖ | | ✖ | |
| **DIALSPEED 6141 DIALSPEED 6145** | | | | | | ✖ | ✖ | ✖ | ✖ | | ✖ | |
| **STRAIGHT-MATE** | | | | | | ✖ | | ✖ | | | ✖ | |

*Non-locking paddle switch on models 6352 and 6362 only. **Non-locking switch available upon request on MAXI™ models.

# Total performance

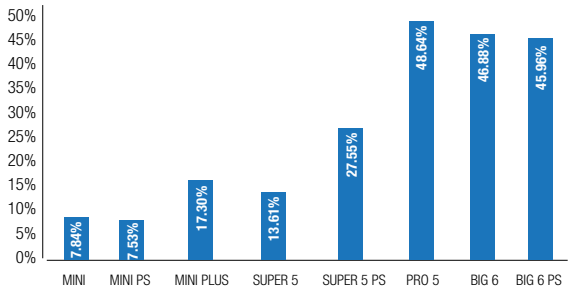
When you combine the most powerful grinders with premium WALTER abrasives, you get the best overall performance in the industry. Whether you need to cut, grind or finish surfaces, our line of angle grinders gets the job done faster and easier while extending the life of your abrasives. WALTER's next generation grinders are setting new standards in the metalworking industry.

**New angle grinders vs. the previous generation (both using HP XX grinding wheels)**

| Model | Total removal (g) | | | Removal rate (g/min.) | | |
|---|---|---|---|---|---|---|
| | | New | % | | New | % |
| MINI | 1020 | 1111 | 8.92% | 20.40 | 22 | 7.84% |
| MINI PS | 1023 | 1111 | 8.60% | 20.46 | 22 | 7.53% |
| MINI PLUS | 1023 | 1230 | 20.23% | 20.46 | 24 | 17.30% |
| SUPER 5 | 1176 | 1200 | 2.04% | 29.40 | 33.4 | 13.61% |
| SUPER 5 PS | 1176 | 2100 | 78.57% | 29.40 | 37.5 | 27.55% |
| PRO 5 | 1176 | 2300 | **95.58%** | 29.40 | 43.7 | 48.64% |
| BIG 6 | 2200 | 2765 | 25.68% | 32.00 | 47 | 46.88% |
| BIG 6 PS | 2200 | 2765 | 25.68% | 32.20 | 47 | 45.96% |

● Double the life of your HP XX wheels by combining them with our PRO 5 grinder!

**Productivity gain with our grinders compared to closest competitor** (using HP XX wheels)




## OUR GRINDERS
### *GENERAL FEATURES*

***Soft Start™*** *Tools equipped with Soft Start™ will ensure a progressive increase of RPM for a safer use, as opposed to a high start-up "kick".*

***Variable DialSpeed™*** *Electronic speed control at the back of the machine to adjust the speed for optimum performance. DYNAMAX™ electronics regulate the power supply to the motor to ensure constant speed under full load for optimal control.*

***Powerguard™***
*A temperature sensor is built into the electric motor to help protect the tool from burn-out.*

***Brake system***
*Fastest mechanical brake available on the market, that will stop the tool within two seconds, for optimal user safety.*

***Quick-R™ release***
*Lets you change grinding and cut-off wheels in seconds, without any keys or wrenches.*

***Paddle switch (non-locking)***
*For added safety, the double action non-locking paddle switch will stop the grinder if you are not holding it.*

***Anti-vibration side handle***
*High-tech, vibration absorbing side handle offers a safer and more comfortable operation without fatigue.*

***Safety restart*** *Following a power interruption the power tool will not restart on its own when power is restored. If the switch is left in the ON position, the LED will start blinking when the power is restored. To restart the grinder, it must be reset by switching it OFF and then ON. If the cord breaks, the LED link will flash.*

***Safety clutch***
*Built into the gear drive, the safety slip clutch neutralizes momentum and eliminates dangerous backlash.*

***DYNAMAX™ electronics***
*Ensure that spindle RPM speeds remain constant even under load for maximum productivity.*

***Tool-free guard***
*Quick-release guard lever lets you adjust or remove the wheel guard without any tools, in a matter of seconds.*

***Stabilizer***
*Significantly reduces vibration during operation, making the tools more ergonomic and extending the life of both the tool and abrasives by up to 200%*

## More protection

All WALTER 4 ½", 5" and 6" angle grinders are covered by our 24-month LONG-RUN warranty and exclusive SERVICEGUARD™ protection plan.

# ANGLE **GRINDERS**

## MINI GRINDER™

**Order no.** 30A161

### Light, compact and durable

The Mini™ 4.5" grinder's state-of-the-art features include the new WALTER anti-vibration handle that makes the grinder more comfortable to use and WALTER's QUICK-R™ instant release function for disc change outs that take just seconds. The Mini™ has an additional 100 watts of power and features a rear vent to keep the armature cooler, allowing you to work longer while extending the life of the tool.

## MINI PS™

**Order no.** 30A163

### Additional job site safety

The Mini PS™ is the ideal choice when a paddle switch is needed on a 4 ½" grinder. It can be plugged into a generator, making it the perfect fit for construction sites. The double action non-locking paddle switch will stop when you release it, making it the safest choice without sacrificing productivity.

## MINI PLUS™

**Order no.** 30A255

### Powerful variable speed grinder

The MINI PLUS™ grinder provides premium performance and the most advanced features in the industry. Put it to work taking down welds, cutting tubing, light sanding, or removing rust and paint. With an autobalancer, our DYNAMAX™ speed control and POWERGUARD™ protection from overheating, the MINI PLUS™ delivers superior performance no matter the job. Remove more material faster while also significantly extending the life of your abrasives with a premium power tool.

| Description | MINI™ | MINI PS™ | MINI PLUS™ |
|---|---|---|---|
| Model name | 6161K | 6163B | 6255J |
| Order No. | 30A161 | 30A163 | 30 255 |
| Anti-vibration side handle | √ | √ | √ |
| Safety clutch | √ | √ | √ |
| QUICK-R™ instant release function | √ | √ | √ |
| Tool-free rotating guard | √ | √ | √ |
| Non-locking paddle switch | | √ | |
| Lock-on switch | √ | | √ |
| AC/DC compatibility | √ | AC only | AC only |
| Stabilizer™ | | | √ |
| Soft-Start™ | | | √ |
| Restart protection | | | √ |
| DYNAMAX™ RPM monitoring | | | √ |
| POWERGUARD™ overheat protection | | | √ |
| LED indicator | | | √ |
| DIALSPEED™ variable RPM selector | | | √ |
| Spindle | ⅝" - 11 | ⅝" - 11 | ⅝" - 11 |
| RPM no-load | 10,500 | 10,500 | 2,800 to 10,500 |
| Amps | 8.5 A | 8.5 A | 9.5 A |
| Power | 900 W | 900 W | 1000 W |
| Tool weight | 4.6 lbs | 4.6 lbs | 4.8 lbs |
| Maximum wheel diameter | 4 ½" | 4 ½" | 5" |
| **Standard equipment** | | | |
| Wheel guard type 27 | 48M441 | 48M441 | 48M444 |
| Side handle | 30B075 | 30B075 | 30B075 |
| Inner flange | 30B057 | 30B057 | 30B057 |
| QUICK-R™ front nut | 30B020 | 30B020 | 30B020 |
| **Optional equipment** | | | |
| Close guard adaptor | 34B010 | 34B010 | 34B011 |
| Manual clamping nut | 30B037 | 30B037 | 30B037 |
| Nut holder | 30B023 | 30B023 | 30B023 |
| Pin key wrench | 48Z148 | 48Z148 | 48Z148 |
| SPIN-ON™ kit | 30B024 | 30B024 | 30B024 |

## SUPER 5™

**Order no.** 30A150

### The perfect intermediate size grinder

Now boasting a 10.5A motor, this grinder is the right choice for those jobs that require extra power from a lightweight tool. This industrial grade power tool is built to last, and when paired with 5" WALTER abrasives it provides one of the safest and most productive systems to tackle a wide range of jobs.

## SUPER 5 PS™

**Order no.** 30A153

### Safety and performance

The Super 5 PS™ allows you to grind, cut, sand, finish and clean at a much faster and smoother rate. Furthermore, rest assured that when you hold the Super 5 PS™, you are holding the safest grinder thanks to Soft Start™, Powerguard™, a safety clutch and a safety restart that prevents the tool from starting on its own after a power interruption. The Super 5 PS also comes with a paddle switch and a mechanical brake which stops the grinder within 2 seconds of relieving the trigger.

## PRO 5™

**Order no.** 30A157

### The best ratio of weight and performance

The Pro 5™ has no peers among 5" angle grinders when it comes to removal rate or cutting speed. Equipped with the WALTER Stabilizer™, DYNAMAX™, Powerguard™, and Soft Start™ technologies, the Pro 5™ is in a class of its own and offers the most comprehensive safety and productivity enhancing features.

| Description | SUPER 5™ | SUPER 5 PS™ | PRO 5™ |
|---|---|---|---|
| Model name | 6150i | 6153C | 6157A |
| Order No. | 30A150 | 30A153 | 30A157 |
| Anti-vibration side handle | √ | √ | √ |
| Safety clutch | √ | √ | √ |
| QUICK-R™ instant release function | √ | √ | √ |
| Tool-free rotating guard | √ | √ | √ |
| Non-locking paddle switch | | √ | |
| Mechanical brake system | | 2-second brake | |
| Lock-on switch | √ | | √ |
| AC/DC compatibility | √ | AC only | AC compatibility only |
| Stabilizer™ | | | √ |
| Soft-Start™ | | √ | √ |
| Restart protection | | √ | √ |
| DYNAMAX™ RPM monitoring | | √ | √ |
| POWERGUARD™ overheat protection | | √ | √ |
| LED indicator | | √ | √ |
| Spindle | ⅝" - 11 | ⅝" - 11 | ⅝" - 11 |
| RPM no-load | 11,000 | 11,000 | 11,000 |
| Amps | 10.5 A | 10.5 A | 13.5 A |
| Power | 1200 W | 1550 W | 1550 W |
| Tool weight | 5.3 lbs | 5.5 lbs | 5.7 lbs |
| Maximum wheel diameter | 5" | 5" | 5" |
| **Standard equipment** | | | |
| Wheel guard type 27 | 48M444 | 48M444 | 48M444 |
| Side handle | 30B075 | 30B075 | 30B075 |
| Inner flange | 30B057 | 30B057 | 30B057 |
| QUICK-R™ front nut | 30B020 | 30B020 | 30B020 |
| **Optional equipment** | | | |
| Close guard adaptor | 34B011 | 34B011 | 34B011 |
| Manual clamping nut | 30B037 | 30B037 | 30B037 |
| Nut holder | 30B023 | 30B023 | 30B023 |
| Pin key wrench | 48Z148 | 48Z148 | 48Z148 |
| SPIN-ON™ kit | 30B024 | 30B024 | 30B024 |

WARRANTY LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

## BIG 6™

**Order no.** 30A260

### The best ratio of weight and performance

The Big 6™ is the most powerful grinder in its class. The only grinder that can deliver 1,700 watts with a 6" wheel capacity, the Big 6™ is built for heavy duty applications. It offers a secure grip thanks to the new WALTER Stabilizer™ system, which reduces vibration and increases the life of each wheel by at least 30%. The Big 6™ has extensive safety features, making it ideal for production environments that require the performance of a 7" or even 9" grinder without the weight that contributes to operator fatigue.

WARRANTY LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

## BIG 6 PS™

**Order no.** 30A263

### Heavy-duty performance with additional safety features

The Big 6 PS™ comes with a paddle switch and a mechanical brake to stop the grinder within 2 seconds of relieving the trigger. The Big 6 PS™ is the safest heavy duty grinder on the market and also comes with a WALTER Stabilizer™ to reduce vibration, improving workplace ergonomics while improving the life and removal rate of your abrasives.

| Description | BIG 6™ | BIG 6 PS™ |
|---|---|---|
| Model name | 6260J | 6263B |
| Order No. | 30A260 | 30A263 |
| Anti-vibration side handle | √ | √ |
| Safety clutch | √ | √ |
| QUICK-R™ instant release function | √ | √ |
| Tool-free rotating guard | √ | √ |
| Lock-on switch | √ | |
| Non-locking paddle switch | | √ |
| Mechanical brake system | | √ |
| AC/DC compatibility | AC compatibility only | AC compatibility only |
| Stabilizer™ | √ | √ |
| Soft-Start™ | √ | √ |
| Restart protection | √ | √ |
| DYNAMAX™ RPM monitoring | √ | √ |
| POWERGUARD™ overheat protection | √ | √ |
| LED indicator | √ | √ |
| Spindle | ⅝" - 11 | ⅝" - 11 |
| RPM no-load | 9,600 | 9,600 |
| Amps | 14.5 A | 14.5 A |
| Power | 1700 W | 1700 W |
| Tool weight | 5.9 lbs | 6.2 lbs |
| Maximum wheel diameter | 6" | 6" |
| **Standard equipment** | | |
| Wheel guard type 27 | 48M446 | 48M446 |
| Side handle | 30B075 | 30B075 |
| Inner flange | 30B057 | 30B057 |
| QUICK-R™ front nut | 30B020 | 30B020 |
| **Optional equipment** | | |
| Close guard adaptor | 34B011 | 34B011 |
| Manual clamping nut | 30B037 | 30B037 |
| Nut holder | 30B023 | 30B023 |
| Pin key wrench | 48Z148 | 48Z148 |
| SPIN-ON™ kit | 30B024 | 30B024 |

# IRONMAN™ GRINDERS

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

## IRONMAN™

**Order no.** 30A560

Top performance in strenuous and prolonged applications

With its ergonomic rat-tail design, the Ironman™ delivers 1,750 watts with 6" wheel capacity. It comes with a WALTER Stabilizer™ to reduce vibration and extend the life and removal rate of your abrasives by up to 30%. Ideal for prolonged applications, when combined with WALTER abrasives, Ironman™ is among the industry's most productive systems available.

## IRONMAN™ PS

**Order no.** 30A563

Exceptional performance with added safety features

If it's high performance and added safety you're after, the Ironman™ PS comes with a paddle switch and a mechanical brake to stop grinding wheels from turning within 2 seconds of relieving the trigger, and cutting wheels within 1.5 seconds. It delivers 1,750 watts of power and comes with a WALTER Stabilizer™ to reduce vibration, improve ergonomics and extend the life and removal rate of your abrasives.

| Description | IRONMAN™ | IRONMAN™ PS |
|---|---|---|
| Model name | 6560A | 6563A |
| Order No. | 30A560 | 30A563 |
| Anti-vibration side handle | √ | √ |
| Safety clutch | √ | √ |
| QUICK-R™ instant release function | √ | √ |
| Tool-free rotating guard | √ | √ |
| Lock-on switch | √ | |
| Mechanical brake system | | 2-second brake |
| AC/DC compatibility | AC compatibility only | AC compatibility only |
| Stabilizer™ | √ | √ |
| Soft-Start™ | √ | √ |
| Restart protection | √ | √ |
| DYNAMAX™ RPM monitoring | √ | √ |
| POWERGUARD™ overheat protection | √ | √ |
| LED indicator | √ | √ |
| Spindle | ⅝" - 11 | ⅝" - 11 |
| RPM no-load | 9,600 | 9,600 |
| Amps | 14.5 A | 14.5 A |
| Power | 1750 W | 1750 W |
| Tool weight | 6.2 lbs | 6.2 lbs |
| Maximum wheel diameter | 6" | 6" |
| **Standard equipment** | | |
| Wheel guard type 27 | 48M444 / 48M446 | 48M444 / 48M446 |
| Side handle | 30B075 | 30B075 |
| QUICK-R™ front nut | 30B020 | 30B020 |
| **Optional equipment** | | |
| Close guard adaptor | 34B011 | 34B012 |
| Manual clamping nut | 30B037 | 30B037 |
| Nut holder | 30B023 | 30B023 |
| Pin key wrench | 48Z148 | 48Z148 |
| SPIN-ON™ kit | 30B024 | 30B024 |

# MAXI™ GRINDERS

## MAXI™ 7”
**Order no.** 30A170

## MAXI™ 9”
**Order no.** 30A190

Pound for pound, they deliver more power and better performance

These full-size industrial angle grinders now deliver even more power and speed to get heavy-duty grinding and finishing jobs done faster and with less effort. Well established and recognized quality motors generate less heat and deliver a higher removal rate under load. These grinders will stay on the job longer in the most demanding applications such as bevelling, grinding and taking down heavy welds.

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

| Description | MAXI™ 7” | MAXI™ 9” |
|---|---|---|
| Model name | 6170i | 6190i |
| Order No. | 30A170 | 30A190 |
| Anti-vibration side handle | √ | √ |
| Lock-on switch | √ | √ |
| AC/DC compatibility | √ | √ |
| Swivel rear handle | √ | √ |
| Spindle | ⅝” - 11 | ⅝” - 11 |
| RPM no-load | 8,500 | 6,800 |
| Amps | 15 A | 15 A |
| Power | 2400 W | 2400 W |
| Tool weight | 12.8 lbs | 12.8 lbs |
| Maximum wheel diameter | 7” | 9” |
| **Standard equipment** | | |
| Wheel guard | 48M472 | 48M517 |
| Side handle | 48M401 | 48M401 |
| Inner flange | 30B057 | 30B057 |
| Clamping nut | 30B037 | 30B037 |
| Pin key wrench | 48M483 | 48M483 |
| **Optional equipment** | | |
| Cut-off guard | 34B065 | 34B066 |

** Non-locking switch available upon request for MAXI™ grinder models.*

# GRINDER GRIP™

## Magnetic grinder accessory to keep your tools close

***The Grinder Grip™ is the only magnetic grinder accessory that makes work easier, safer and more convenient.***

The magnet easily attaches to your grinder, allowing it to stick to any ferrous metal surface when not in use. This will help prevent damage to your power tools, as well as your abrasives by keeping it out of harm's way, all while remaining easily accessible. No more knocking or dropping your tools! Stick them with the Grinder Grip™.

**Features**

- ***It's safe and easy to install***
- ***Keeps your tools out of harm's way all while keeping them handy. Compatible with WALTER angle grinders***
- ***Models compatible with other brands such as Metabo, Dewalt, Milwaukee, Makita, Hilti***

YouTube
*Video available at The WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

**Order No.:** 30G001
for WALTER grinder models.

*For other brands, see accessories on page 208.*

WALTER

# STRAIGHT **GRINDERS**

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

## STRAIGHT-MATE™

**Order no.** 30A606 (30A607 for the kit)

The ultimate straight grinder and lightweight polishing and buffing tool

The Straight-Mate™ packs a punch as the ultimate lightweight straight grinder with WALTER's Dynamax™ variable speed control and RPM range of 1,600 to 4,800. A versatile grinding, polishing and buffing tool.

### Features

- *Dynamax™ variable speed control*
- *RPM range: 1,600-4,800*
- *Lightweight: 7 lbs (3.2 kg)*
- *Max wheel diameter: 6" (150mm).*
- *Compatible with cotton wheels and polishing pastes*
- *Compatible with wire brush and Line-Mate™ drums*
- *Compatible with non-woven abrasives,*
- *Plugs and cones*
- *Compatible with snagging wheels*

### *STRAIGHT-MATE KIT*

**Order no.** 30A607

**Includes:**

- 1 FX Stainless (07X661)
- 1 Blendex U (07U613)
- 1 2-in-1 Turbo Drum (07K441)
- 1 2-in-1 Drum (07K342)
- 1 Blendex Drum (07M323)
- 1 Cotton Drum (07T425)
- 1 Polishing Paste (07T907)
- 1 Wire Drums (13M454)
- 1 Straight-Mate (30A606)

| Description | STRAIGHT-MATE™ |
|---|---|
| Model Name | 6606A |
| Order No. | 30A606 (30A607 for kit) |
| AC compatibility only | √ |
| Soft-Start™ | √ |
| DYNAMAX™ RPM monitoring | √ |
| DIALSPEED™ variable RPM selector | √ |
| Spindle | 5/8"-11 |
| RPM no-load | 1600-4800 |
| Amperage | 11.8 |
| Power | 1300W |
| Tool weight | 6.6 lbs |
| Maximum wheel diameter | 6" (150mm) |

# FINISHING **TOOLS**

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

## QUICK-STEP FINISHER™

**Order no.** 30A275 (30A277 for the kit)

### The perfect tool for surface finishing and polishing

This variable speed tool was specifically designed to get the most out of the QUICK-STEP™ surface finishing system. Whether you sand, buff or polish, the QUICK-STEP Finisher™ will provide you with a uniform, top quality finish and reduced finishing times. With all the latest electronic safety controls, the QUICK-STEP Finisher™ is the smart choice for professionals looking to reduce cycle time and finishing costs.

## *QUICK-STEP FINISHER™ SYSTEM*

**Order no.** 30A277

**Includes:**

- 1 Quick-Step interface pad (07Q045)
- 1 Quick-Step backing pad MG (07Q149)
- 1 Quick-Step FLEX grit 60 (07Q506)
- 1 Quick-Step FLEX grit 120 (07Q512)
- 2 Quick-Step Blendex med (07R453)
- 1 Quick-Step Blendex fine (07R454)
- 1 Quick-Step FX (07X845)
- 4 Quick-Step XX (15V418)
- 1 Quick-Step Finisher (30A275) with standard equipment plus carrying case

| Description | QUICK-STEP FINISHER™ |
|---|---|
| Model name | 6275B |
| Order No. | 30A275 (30A277 for the kit) |
| Anti-vibration side handle | √ |
| Safety clutch | √ |
| QUICK-R™ instant release function | √ |
| Lock-on switch | √ |
| AC/DC compatibility | AC compatibility only |
| Soft-Start™ | √ |
| Restart protection | √ |
| DYNAMAX™ RPM monitoring | √ |
| POWERGUARD™ overheat protection | √ |
| LED indicator | √ |
| DIALSPEED™ variable RPM selector | √ |
| Spindle | ⅝" - 11 |
| RPM no-load | 2,000 to 7,600 |
| Amps | 12.2 A |
| Power | 1550 W |
| Tool weight | 5.5 lbs |
| Maximum wheel diameter | 6" |
| **Standard equipment** | |
| Wheel guard type 27 | 48M446 |
| Side handle | 30B075 |
| Inner flange | 30B057 |
| QUICK-R™ front nut | 30B020 |
| **Optional equipment** | |
| Manual clamping nut | 30B037 |
| Nut holder | 30B023 |
| Pin key wrench | 48Z148 |

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

# QUICK-STEP BIG-BUFF III™

**Order no.** 30A265 (30A267 for the kit)

The most comfortable and versatile tool for metal polishing

The Quick-Step Big-Buff III™ is a variable speed tool designed to provide operators with the power and versatility to tackle any job that requires sanding, buffing or polishing. The ergonomic design reduces operator fatigue and ensures smooth operation during the most demanding jobs.

## *QUICK-STEP BIG-BUFF III™ SYSTEM – 4 ½"*

**Order no.** 30A267

**Includes:**

- 1 Quick-Step interface pad (07Q045)
- 1 Quick-Step backing pad MG (07Q149)
- 1 Quick-Step FLEX grit 60 (07Q506)
- 1 Quick-Step FLEX grit 120 (07Q512)
- 2 Quick-Step Blendex med (07R453)
- 2 Quick-Step Blendex fine (07R454)
- 1 Quick-Step Felt (07T450)
- 1 Quick-Step high polish (07T454)
- 1 instant polishing paste (07T907)
- 1 BLENDEX U™ Cup Disc (07U451)
- 1 Quick-Step FX (07X845)
- 1 ENDURO-FLEX 2-in-1™ (15I453)
- 2 Quick-Step XX (15V418)
- 1 Quick-Step Big-Buff and carrying case (30A265)

| Description | QUICK-STEP BIG-BUFF III™ |
|---|---|
| Model name | 6265C |
| Order No. | 30A265 (30A267 for the kit) |
| Anti-vibration side handle | √ |
| Lock-on switch | √ |
| AC/DC compatibility | AC compatibility only |
| Soft-Start™ | √ |
| DYNAMAX™ RPM monitoring | √ |
| POWERGUARD™ overheat protection | √ |
| DIALSPEED™ variable RPM selector | √ |
| Spindle | ⅝" - 11 |
| RPM no-load | 2,000 to 7,300 |
| Amps | 12.4 A |
| Power | 1500 W |
| Weight | 6 lbs |
| Maximum wheel diameter | 6" |
| **Standard equipment** | |
| Side handle | 30B075 |
| Inner flange | 30B057 |
| Manual clamping nut | 30B037 |
| Pin key wrench | 48Z148 |

# ULTI-MATE™

**Order no.** 30A285 (30A287 for the kit)

Variable speed fillet weld grinder

Ulti-Mate™ is a variable speed fillet weld grinder and finishing tool designed to work in tight corners that other tools have a difficult time reaching. By combining this tool and our range of quality abrasives, you can go from a rough weld all the way to a mirror finish in just minutes.

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

## *ULTI-MATE™ FILLET WELD GRINDER SYSTEM*

**Order no.** 30A287

**Includes:**

- 1 Ulti-Mate grinder (30A285)
- 1 Enduro-Flex 2-in-1 Turbo (15I451)
- 1 Enduro-Flex 2-in-1 (15I453)
- 1 Blendex U Turbo, ¼" width (07U625)
- 1 Blendex U Turbo, ⅛" width (07U615)
- 1 Blendex U 2SF, ¼" width (07U621)
- 1 FX Stainless wheel, ¼" width (07X662)

| Description | ULTI-MATE™ WELD GRINDER SYSTEM |
|---|---|
| Model name | 6285A |
| Order No. | 30A285 (30A287 for the kit) |
| Anti-vibration side handle | √ |
| Safety clutch | √ |
| Lock-on switch | √ |
| AC/DC compatibility | AC compatibility only |
| Soft-Start™ | √ |
| Restart protection | √ |
| DYNAMAX™ RPM monitoring | √ |
| LED indicator | √ |
| DIALSPEED™ variable RPM selector | √ |
| Spindle | ⅝" - 11 |
| RPM no-load | 2,500 to 8,750 |
| Amps | 12.2 A |
| Power | 1550 W |
| Weight | 7.7 lbs |
| Maximum wheel diameter | 6" |

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

# RAIL-MATE™

**Order no.** 30A288 (30A289 for the kit)

## Remove welds and finish pipes, tubes and railings faster

This power tool allows you to use our premium abrasive products to finish pipes, tubes and railings. This powerful finishing tool features Soft-Start technology to avoid kickback when starting the tool, Dialspeed™ variable speed control and Dynamax™ RPM Monitoring to maintain consistent speed under load.

## *RAIL-MATE™ SANDER SYSTEM*

**Order no.** 30A289

**Includes:**

- 1 Rail-Mate sander (30A288)
- 6 Coolcut XX belts (2 of each: grit 60, 14X156; grit 80, 14X158; grit 120: 14X162)
- 3 Blendex belts (1 of each grade: Coarse, 07D152; Medium 07D153; Fine 07D154)

| Description | RAIL-MATE™ SANDER SYSTEM |
|---|---|
| Model name | 6288A |
| Order No. | 30A288 (30A289 for the kit) |
| Lock-on switch | √ |
| AC/DC compatibility | AC compatibility only |
| Soft-Start™ | √ |
| DYNAMAX™ RPM monitoring | √ |
| POWERGUARD™ overheat protection | √ |
| LED indicator | √ |
| DIALSPEED™ variable RPM selector | √ |
| Spindle | 5/8" - 11 |
| RPM no-load | 1,600 to 3,200 |
| Surface speed | 3-12 m/sec. |
| MAX belt size L x W | 760 mm x 40 mm |
| MAX pipe diameter | 7 in. (180 mm) |
| MAX polishing deg. | 270° |
| Amps | 10A |
| Power | 1200 W |
| Tool weight | 6.8 lbs |
| QUICK-R™ front nut | 30B020 |

# QUICK-STEP LINE-MATE III™

**Order no.** 30A268 (30A269 for the kit)

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

## Linear finishing made easy

The Line-Mate III™ is a versatile variable speedtool that allows you to quickly and easily apply a wide range of linear finishes to metal surfaces. Its powerful motor will help you complete even the toughest jobs with ease. RPM remains constant under load for a consistent and uniform finish every time. When you have a project that requires a linear scratch pattern applied to the surface, trust Line-Mate to get the job done quickly and efficiently.

## *LINE-MATE III™ SYSTEM*

**Order no.** 30A269

**Includes:**

- 1 Line-Mate III™ with standard equipment plus carrying case (30A268)
- 1 expanding drum (07F061)
- 6 cloth drum belts (2 each grit: 60: 07F506, 80: 07F508 and 120: 07F511)
- 2 BLENDEX drum belts (Coarse: 07H502, medium: 07H503)
- 1 TWO-IN-ONE drum (4 ¼" x 4": 07K342)
- 1 BLENDEX drum (4 ¼" x 4" medium: 07M343)

| Description | QUICK-STEP LINE-MATE III™ |
|---|---|
| Model name | 6268C |
| Order No. | 30A268 (30A269 for the kit) |
| Anti-vibration side handle | √ |
| Lock-on switch | √ |
| AC/DC compatibility | AC only |
| Soft-Start™ | √ |
| DYNAMAX™ RPM monitoring | √ |
| POWERGUARD™ overheat protection | √ |
| DIALSPEED™ variable RPM selector | √ |
| Spindle | ⅝" - 11 |
| RPM no-load | 1,000 to 3,800 |
| Amps | 12.4 A |
| Power | 1500 W |
| Weight | 6 lbs |
| Max. wheel dimensions | 4 ½" diameter x 4" length |
| **Standard equipment** | |
| Side handle | 48Z034 |
| Manual clamping nut | 30B037 |
| Pin key wrench | 48Z148 |
| Inner flange | 30B057 |

# DIALSPEED™ 6141

**Order no.** 30A141

## For fitting and finishing work

The convenient design of this very popular point grinder results in increased performance and operator comfort to let you reach new levels of productivity. Proven electronics and the quality contruction of the motor deliver more power to the spindle while the erognomic housing minimizes fatigue. This tool is the perfect companion to our premium carbide burrs for any deburring or shaping applications.

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

| | |
|---|---|
| SPEED 1 | 10,000 rpm |
| SPEED 2 | 14,000 rpm |
| SPEED 3 | 18,500 rpm |
| SPEED 4 | 22,000 rpm |
| SPEED 5 | 26,000 rpm |
| SPEED 6 | 30,500 rpm |

| Description | DIALSPEED™ 6141 |
|---|---|
| Model name | 6141E |
| Order No. | 30A141 |
| Lock-on switch | √ |
| AC/DC compatibility | AC compatibility only |
| Soft-Start™ | √ |
| Restart protection | √ |
| DYNAMAX™ RPM monitoring | √ |
| POWERGUARD™ overheat protection | √ |
| DIALSPEED™ variable RPM selector | √ |
| Collet | ¼" |
| RPM no-load | 10,000 to 30,500 |
| Amps | 6.4 A |
| Power | 710 W |
| Tool weight | 4.2 lbs |
| Tool length | 13.75" |
| Maximum wheel diameter | 1.5" |
| **Standard equipment** | |
| ¼ collet | 30B046 |
| Spanner | 48Z019 |
| **Optional equipment** | |
| Cutting guard | 30B051 |

# DIALSPEED™ 6145

**Order no.** 30A145

## For finishing, brushing and polishing work

Our Dialspeed™ Straight Grinder operates at a lower RPM range, making it the perfect companion for mounted flap wheels or wire brushes for brushing, finishing or polishing applications. The planetary gears allow you to get closer to the workpiece, producing a uniform and straight finish. This industrial power tool is built to last and also features a side handle for increased control in applications requiring a delicate touch.

WARRANTY
LONG-RUN SERVICEGUARD™ Protection Plan 24 MONTHS

| | |
|---|---|
| SPEED 1 | 2,500 rpm |
| SPEED 2 | 4,000 rpm |
| SPEED 3 | 5,500 rpm |
| SPEED 4 | 7,000 rpm |
| SPEED 5 | 8,000 rpm |
| SPEED 6 | 8,700 rpm |

| Description | DIALSPEED™ STRAIGHT GRINDER 6145 |
|---|---|
| Model name | 6145E |
| Order No. | 30A145 |
| Lock-on switch | √ |
| AC/DC compatibility | AC compatibility only |
| Soft-Start™ | √ |
| Restart protection | √ |
| DYNAMAX™ RPM monitoring | √ |
| POWERGUARD™ overheat protection | √ |
| DIALSPEED™ variable RPM selector | √ |
| Collet | ¼” |
| RPM no-load | 2,500 to 8,700 |
| Amps | 8.5 A |
| Power | 950 W |
| Tool weight | 4.3 lbs |
| Tool length | 14” |
| Maximum wheel diameter | 1.5” |
| **Standard equipment** | |
| Side handle | 48L555 |
| ¼ collet | 30B046 |
| Spanner | 48Z019 |
| **Optional equipment** | |
| Cutting guard | 30B051 |

# 07

# MRO CHEMICALS

# WALTER'S MRO CHEMICAL SOLUTIONS HELP YOU REDUCE MAINTENANCE COSTS, EXTEND EQUIPMENT LIFE, AND IMPROVE WORKPLACE PRODUCTIVITY

## WALTER'S MRO CHEMICAL OFFERING CAN BE SPLIT INTO 4 PRIMARY TYPES:

| | |
|---|---|
| **LUBRICANTS** | **Maintain**: Reduce wear and friction for machinery and parts to help customers work better. |
| **ANTI-SEIZE** | **Prevent**: Treat threaded components to prevent rust and corrosion. |
| **PENETRANTS** | **Disassemble**: Increase disassembly speed when working on seized parts. |
| **CORROSION INHIBITORS** | **Prevent**: Protect metal surfaces from rust and corrosion. |

## ENSURING MATERIAL COMPABILITY

**WHEN CHOOSING CHEMICALS, IT IS IMPORTANT TO IDENTIFY WHICH MATERIALS THEY WILL BE USED ON.**

- **Look for the following icons when choosing the right product for your application:**

## CERTIFICATIONS AND KEY ATTRIBUTES

- **WALTER offers chemicals that meet various certification levels and benefits.**

| | | |
|---|---|---|
| | **NON-FLAMMABLE** | Safe for use in environments where flames or sparks are present. |
| NSF | **NONFOOD COMPOUNDS PROGRAM** | The global food industry relies upon nonfood compounds to facilitate the efficient processing, handling and storage of food throughout the supply chain. NSF certification ensures products meet strict standards in these environments. |

# CHAIN AND GEARS LUBRICANTS

## CHAIN GANG™

Moly Chain Lubricant

CHAIN GANG™ is a high-performance synthetic lubricant that lasts longer than traditional lubricants. Effectively penetrates fine pins and bushings to seal out dust, dirt, water, and other contaminants. Provides excellent protection and enhances the life of any machinery that uses chains or wire cables.

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53D102 | L-05 | 12 |

### Applications

- *All types of chain drives, O-ring chains, and wire rope*
- *Machinery (especially forklifts)*

### Benefits

- *Reduces costly downtime due to seized chains, pin breakage, and premature wear*
- *Stays cleaner and lasts longer than hot grease dips*
- *Requires fewer applications than other lubricants*
- *Prolongs chain life*

### Features

- *Contains microscopic moly particles for excellent lubricity*
- *Penetrates fine clearances*
- *Water-resistant and dust-resistant*
- *Repels dirt particles*

## OPEN GEAR™

Moly Gear Lubricant

OPEN GEAR™ is an adherent, long-lasting, high-load gear grease that prevents metal-to-metal contact. Increases efficiency and service life of drives and gears – even in harsh environments.

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53E102 | L-16 | 12 |

### Applications

- *All types of heavy-duty chains, drives, and gears*

### Benefits

- *Reduces costly downtime due to seized chains, pin breakage, and premature wear*
- *Stays cleaner and lasts longer than hot grease dips*
- *Requires fewer applications than other lubricants*
- *Prolongs chain life*

### Features

- *Contains moly and EP additives for high-load lubrication*
- *Highly adhesive*
- *Water- and dirt-resistant*
- *Resists loads up to 90 000 lbs/in²*

# FOOD GRADE LUBRICANTS

## FOOD ZONE™

Food grade multi-purpose lubricant

FOOD ZONE™ is a multi-purpose lubricant and penetrating oil developed for food industry manufacturing plants. Extends equipment life by protecting against friction, wear, and corrosion.
**NSF category H1, registration #148372**

### Applications

- *Lubrication and temporary corrosion protection of food and beverage processing equipment*
- *Loosening of rust, scale, grime, and corrosion*

### Benefits

- *Lubricates and protects*
- *Displaces moisture and water*
- *Loosens rusted parts*

### Features

- *Fast-penetrating oil leaves a thin protective film*

NSF — All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53D602 | L-153 | 12 |

## FOOD ZONE™ V

Food grade high viscosity lubricant

FOOD ZONE™ V is an industrial-strength lubricant designed for heavy-duty applications and chain lubrication in food-manufacturing facilities. Foamy, non-drying formula adheres to surfaces and reduces friction, wear, and corrosion in heavy-loaded machinery.
**NSF category H1, registration #148374**

### Applications

- *Lubrication of chains and conveyor systems, moving parts in heavy-loaded industrial machinery*

### Benefits

- *Easy to apply, ideal for vertical surfaces*
- *Maximum adherence*
- *Protects against wear and corrosion*

### Features

- *Heavy-duty, high-grade formula with PTFE additives*
- *Thick, non-drying, water-resistant film*

NSF — Rubber — Plastic — All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53D652 | L-154 | 12 |

# ADHESIVE LUBRICANT

## HANG-ON™

HANG-ON™ is a highly adhesive maintenance lubricant that provides effective, long-lasting lubrication under harsh conditions and over extended periods of time.

### Applications

- *Forklift truck chains, locking pins, snowplows, hinges, etc.*
- *Differentials in coupling units*

### Benefits

- *Outperforms and lasts longer than all-purpose and standard thin-film lubricants*
- *Resists exposure to weather, salt water, mild chemicals, high loads, and temperatures up to 200 °C (390 °F)*
- *Doesn't drip or stain vertical surfaces*
- *Efficient, long-lasting action reduces downtimes and maintenance frequencies*

### Features

- *Silicone-free, no chlorinated solvent*
- *Adheres extremely well to surfaces*
- *Penetrates fine clearances*
- *Displaces water and moisture*

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53D812 | L-33 | 12 |
| Liquid, trigger sprayer | 500 ml | 16.9 fl.oz. | 53D813 | L-45 | 12 |
| Liquid | 20 L | 5.2 gal | 53D817 | L-45 | 1 |

| ACCESSORIES | Order no. |
|---|---|
| Refillable trigger sprayer bottles | 53L331 |

# ANTI-SEIZE LUBRICANT

## ROCK'N ROLL™

ROCK'N ROLL™ is an inert, non-toxic, metal-free white lubricant that prevents seizing of assemblies. Provides long-term protection against corrosion. Highly effective in a wide range of temperatures (-30°C or -22°F to 1400°C or 2500°F) and in extreme conditions.
**NSF category H1, registration #161930**

### Applications

- *Lubrication of all threaded components, bushings, and press fits*
- *Lubrication of highly stressed bearings*

### Benefits

- *Makes disassembly easy and efficient*
- *Provides long-term corrosion protection*
- *No galling or seizing*
- *Safe for food industry applications*

### Features

- *Inert ingredients*
- *Non-carbonizing*
- *(Paste) Highly resistant to water, seawater, benzene, and most acids and alkalis*

NSF

Alu. All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53D852 | L-43 | 12 |
| Paste/Brush | 255.15 g | 9 oz. | 53D854 | L-44 | 12 |

# PENETRANTS

## BOLT-OUT™

BOLT-OUT™ is a heavy-duty, non-chlorinated liquid solution that penetrates and lubricates to efficiently free seized parts while inhibiting further rust. Works well in a wide range of temperatures.

### Applications

- *Loosening seized bolts, nuts, studs, and pins*
- *Disassembly of seized bolts, nuts, mechanisms, pins, bushings, etc.*

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53D892 | L-08 | 12 |
| Liquid, trigger sprayer | 500 ml | 16.9 fl.oz. | 53D893 | L-26 | 12 |
| Liquid | 20 L | 5.2 gal | 53D897 | L-26 | 1 |

| ACCESSORIES | Order no. |
|---|---|
| Refillable trigger sprayer bottles | 53L332 |

### Benefits

- *Enables faster, easier disassembly*
- *Prevents/protects against further corrosion*

### Features

- *Silicone-free, no chlorinated solvents*
- *Contains microscopic moly particles for excellent lubricity*
- *Displaces moisture*
- *Effective from -20 °C to 250 °C (-4 °F to 482 °F)*

## COLD SHOCK™

Seized parts are no match for fast penetrating COLD SHOCK™

COLD SHOCK™ is a high-tech lubricant that frees corroded and seized parts by creating a sudden, shock-freezing effect to -35°C (-31°F). COLD SHOCK™ penetrates micro-fissures to loosen nuts, bolts, studs, pins and other seized parts in an instant.

### Applications

*For use on corroded and seized nuts, bolts, studs, pins, and other components.*

### Benefits

- *Loosens corroded and seized parts through cooling*
- *Powerful 1 to 2-minute penetration time*

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53D882 | L-98 | 12 |

### Features

- *Decreases parts temperatures to -35°C (-31°F)*
- *Shock-effect lubricant*
- *Straw extension for precise targeting*

# CORROSION PROTECTION

## ZINC 100™

Bright galvanizing spray

ZINC 100™ is a bright, long-lasting corrosion protection spray specially formulated for the touch-up and repair of hot galvanized parts.

### Applications

- *Food processing equipment*
- *Water and storage tanks*

### Benefits

- *Effective, long-lasting corrosion protection*
- *Resists chemical and water attack*
- *Can be painted over*

Steel Galvanized Steel

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 11.5 oz. | 53H102 | L-54 | 12 |

### Features

- *Zinc flakes permanently bond to metallic surfaces*
- *Bright metallic finish matches hot dipped look*
- *Fast drying*
- *Zinc-rich formula meets ASTM A780 standard*

## ZINC 200™

Cold galvanizing spray

ZINC 200™ is a high-performance, fast-drying corrosion protection spray specially formulated for ferrous metals. Provides the ultimate protection—even when surfaces get scratched.

### Applications

- *For marine equipment and weather-exposed parts*

### Benefits

- *Longest lasting corrosion protection in the marketplace*
- *Extremely effective when used as a primer*
- *Withstands harsh environmental conditions*

Steel Galvanized Steel

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 11.5 oz. | 53H152 | L-95 | 12 |

### Features

- *Actively fights rust and corrosion*
- *Dual-action protection (resin coat and galvanic action)*
- *Meets ASTM A780*
- *Dull finish, dries to touch in 3-5 min.*

## SHIELD PRO™

Heavy-duty industrial corrosion protection

SHIELD PRO™ is an adherent, non-drying solution that coats metal parts to protect against corrosion. Ideal for indoor and outdoor storage.

### Applications

- *For outdoor equipment and tools, overseas storage and shipments, cables, chains, pulleys, pump and hose assemblies, and more*
- *Suitable for all types of maintenance and repair applications*

### Benefits

- *Long-term indoor and outdoor corrosion protection*
- *Withstands harsh conditions*

### Features

- *Non-drying film*
- *Displaces moisture and saltwater-resistant*

NSF All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 500 ml | 17.6 fl oz | 53H254 | L-170 | 1 |
| Liquid | 3.78 L | 1 gal | 53H255 | L-170 | 1 |
| Liquid | 20 L | 5.2 gal | 53H257 | L-170 | 1 |
| Liquid | 200 L | 52.8 gal | 53H258 | L-170 | 1 |

| ACCESSORIES | Order no. |
|---|---|
| Spout for 20 L round metal pail and 200 L metal drum 3/4" NPT | 53L208 |

# CLEANING, LUBRICATING AND TEMPORARY PROTECTION

A multifunctional maintenance cleaner, lubricant and protector safe to use on all metals.

## CLEANER/LUBRICANT/PROTECTOR
## OMNI™

Multifunctional maintenance cleaner/lubricant/protector. Excellent penetrating and lubricating capability. Protects surfaces from oxidation. **NSF category A8, registration #142610**

> *Cleans, penetrates, lubricates, and protects **in one easy step!***

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 480 ml | 16.2 fl.oz. | 53X002 | L-73 | 12 |
| Sprayer | 500 ml | 16.9 oz. | 53X003 | L-74 | 12 |
| Liquid | 3.78 L | 1 gal | 53X005 | L-74 | 1 |
| Liquid | 20 L | 5.2 gal | 53X007 | L-74 | 1 |
| Liquid | 208 L | 55 gal | 53X008 | L-74 | 1 |
| Liquid | 1000 L | 264.6 gal | 53X009 | L-74 | 1 |

| ACCESSORIES | Order No. |
|---|---|
| Industrial pump sprayer | 53L120 |
| Spout for 20 L square plastic pail | 53L207 |
| Spout for 208 L plastic drum 2" NPT | 53L209 |
| Empty refillable trigger sprayer for OMNI | 53L314 |
| Bio-Circle® Powercloth microfiber / Pack of 10 | 57M001 |

### Applications

- *Dissolving light rust and graphite*
- *Loosening rusted and seized hardware*

### Benefits

- *Cleans, penetrates, lubricates, and protects in one easy step*
- *Versatile – can be used for multiple maintenance applications*
- *Reduces rework*
- *Creates a safer, healthier work environment*

### Features

- *Non-flammable, silicone-free, Teflon-free*
- *Dielectric strength 350 V/mil*

# 08

# HIGH-PERFORMANCE DEGREASING SOLUTIONS

WALTER Surface Technologies offers high-performance degreasing solutions that get the job done faster and safer, helping you work better.

Large industrial production and maintenance facilities with demanding cleaning requirements benefit from our powerful, reliable, and certified products. For even the most heavy-duty applications, WALTER provides safe and efficient alternatives to toxic solvents.

The ability to satisfy specific, high-volume surface treatment and cleaning needs, makes WALTER the ideal partner for all manufacturing process applications. For all cleaning requirements, at any stage of production, we can reduce toxicity and help maximize your overall productivity.

No matter how stringent your cleaning requirements, we can provide the perfect custom solution - to improve working conditions, reduce waste, protect the environment, and maximize productivity. Refer to our selection chart for quick tips on choosing the right cleaner to get the job done.

# **AVAILABLE** SIZES

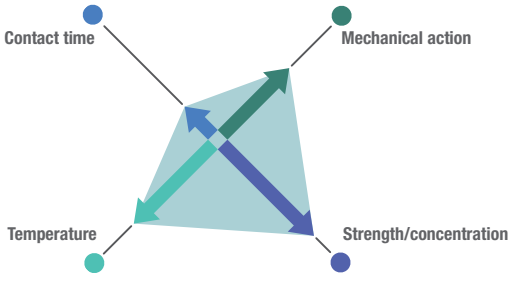
Our liquid cleaning and degreasing solutions come in a wide range of sizes and formats to suit your needs. From small, no-drip, continuous spray mist bottles to bulk barrels or totes, WALTER's got you covered.

## THE WATER-BASED CLEANING MATRIX

Increase any of these four elements and increase the performance of your product!

**4** key elements to cleaning efficiency

- Contact time
- Mechanical action
- Temperature
- Strength/concentration



# CLEANER CHARACTERISTICS

| | Fast evaporating | Flammability | pH level | Residue | Short term protection | Long term protection | Rinsable | Dilutable | Biode-gradable |
|---|---|---|---|---|---|---|---|---|---|
| BIO-CIRCLE L – BIO-REMEDIATING PARTS CLEANER AND DEGREASER<br>BIO-CIRCLE ULTRA – EXTRA POWERFUL BIO-REMEDIATING PARTS CLEANER AND DEGREASER<br>BIO-CIRCLE AERO – BIO-REMEDIATING PARTS CLEANER AND DEGREASER FOR AIRCRAFT USE | No | None | Neutral | Yes | Yes | No | Yes | No | Yes |
| CB 100 – INDUSTRIAL STRENGTH PARTS CLEANER AND DEGREASER | No | None | Slightly alkaline | Yes | Yes | No | Yes | No | Yes |
| CB 100 ALU – INDUSTRIAL STRENGTH NON-FERROUS PARTS CLEANER AND DEGREASER | No | None | Slightly alkaline | Yes | Yes | No | Yes | No | Yes |
| UNO S – INDUSTRIAL CLEANER AND DEGREASER - FOAMING | No | None | Alkaline | Yes | Yes | No | Yes | Yes (up to 40:1) | Yes |
| UNO SF – INDUSTRIAL CLEANER AND DEGREASER - FOAMLESS | No | None | Alkaline | Yes | Yes | No | Yes | Yes (up to 40:1) | Yes |
| CLEANER, DEGREASER & DISINFECTANT (CONC) | No | None | Alkaline | No | Yes | Yes | Yes | Yes (up to 40:1) | Yes |
| GOLD MATRIX READY™ | No | None | Alkaline | Yes | Yes | No | Yes | Yes (up to 40:1) | Yes |
| STAR 200 – CONCENTRATED ALKALINE AUTOMATED PARTS WASHER CLEANER AND DEGREASER | No | None | Alkaline | Yes | Yes | No | Yes | Yes (up to 1:200) | Yes |
| ALUSTAR 200 – AUTOMATED PARTS WASHER CLEANER AND DEGREASER FOR NON-FERROUS ALLOYS | No | None | Alkaline | Yes | Yes | No | Yes | Yes (up to 1:200) | Yes |
| ALUSTAR 300 – HEAVY-DUTY AUTOMATED PARTS WASHER CLEANER AND DEGREASER FOR NON-FERROUS ALLOYS | No | None | Alkaline | Yes | Yes | No | Yes | Yes (up to 1:200) | Yes |
| E-NOX CLEAN – STAINLESS STEEL CLEANER/BRIGHTENER | No | None | Acidic | Yes | No | No | Yes | Yes (up to 40:1) | Yes |
| E-NOX SHINE – STAINLESS STEEL CLEANER AND PROTECTOR | No | None | Alkaline | Yes | Yes | No | Yes | No | Yes |
| BIO-RUST – NON-CAUSTIC RUST REMOVER | No | None | Slightly acidic | Yes | Yes | No | Yes | No | Yes |
| POWER CLEANER 100 – RUST AND MINERAL REMOVER/BRIGHTENER | No | None | Acidic | Yes | No | No | Yes | Yes (up to 40:1) | Yes |
| PRO-CLEAN – HIGH STRENGTH NATURAL SOLVENT | No | Low (102°C/215°F) | --- | Yes | --- | --- | No | No | Yes |
| ALL-SEASON – ALL WEATHER TAR AND BITUMEN DEGREASER | No | Mod. (66°C/150.8°F) | --- | Yes | No | No | No | No | No |
| FT 100 – GLASS CLEANER | Yes (after wiping) | Mod.(43°C/104°F) | Alkaline | No | No | No | Yes | No | Yes |
| FT 100 – STAINLESS STEEL CLEANER | Yes | Low (95°C/203°F) | Alkaline | No | Yes | No | Yes | No | No |
| FT 200 – SURFACE CLEANER | Yes (after wiping) | Mod.(40°C/104°F) | Slightly alkaline | No | No | No | Yes | No | Yes |
| SC 400 – HIGH STRENGTH CITRUS CLEANER/DEGREASER | No | Mod. (45°C/113°F) | --- | Yes | --- | --- | No | No | Yes |
| SC 400 LOW VOC | No | Mod. (45°C/113°F) | --- | Yes | --- | --- | No | No | Yes |
| SC 400 FOAM – HIGH STRENGTH ADHESIVE AND INK REMOVER | No | High (-60°C/-76°F) | --- | Yes | No | No | No | No | No |
| HEAVY-DUTY CITRUS DEGREASER | Yes | None | Slightly Acidic | No | Yes | No | No | No | Yes |
| SLAP SHOT PL – PLASTIC-SAFE HEAVY-DUTY, DEGREASER AND PARTS CLEANER | Yes | High (-24°C/-11°F) | --- | No | No | No | No | No | No |
| SLAP SHOT – DEGREASER AND PARTS CLEANER | Yes | High (-24°C/-11°F) | --- | No | No | No | No | No | No |
| SLAP SHOT LOW VOC | Yes | High (-24°C/-11°F) | --- | No | No | No | No | No | No |
| CONTACT CLEAN – NON-FLAMMABLE ELECTRONICS AND ELECTRICAL EQUIPMENT CLEANER | Yes | None | --- | No | No | No | No | No | No |
| AF-PL | Yes | High (-7°C/19.4°F) | --- | No | Yes | No | No | No | No |
| AF-PL LOW VOC | Yes | High (-7°C/19.4°F) | --- | No | Yes | No | No | No | No |
| STAINLESS STEEL CLEANER | Yes | High (-16°C/3.2°F) | --- | No | Yes | Yes | No | No | No |
| OMNI – CLEANER/LUBRICANT/PROTECTOR | No | Low (125°C/257°F) | --- | Yes | Yes | Yes | No | No | No |

Legend: ● Water-based ● Natural solvent-based ● Oil-based ● Solvent-based

# CLEANING AND DEGREASING SELECTION CHART

| TYPE OF CLEANERS | | ALKALINE / NEUTRAL | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Contaminant | | *Organic:* grease, oil, corrosion protection, lubricants, smoke, finger prints, dust, carbon, graphite, soot, etc. | | | | | | | |
| Cleaning process | | Spray and wipe | Ultrasonic bath | Floor washing machine and general maintenance | Pressure washer | Hot parts washer | Automated parts washer | Dip tank | Manual parts washer |
| Parent material | Steel | UNO S F<br>UNO S<br>FT 100<br>FT 200 | CB 100<br>STAR 200 | UNO S F | UNO S F | STAR 200<br>ALUSTAR 200<br>ALUSTAR 300 | STAR 200<br>ALUSTAR 200<br>ALUSTAR 300 | CB 100 | Bio-Circle L<br>Bio-Circle<br>Ultra<br>CB 100 |
| | Stainless steel | UNO S F<br>UNO S<br>FT 100<br>FT 200<br>E-Nox Shine | CB 100<br>STAR 200 | UNO S F | UNO S F | STAR 200<br>ALUSTAR 200<br>ALUSTAR 300 | STAR 200<br>ALUSTAR 200<br>ALUSTAR 300 | CB 100 | |
| | Aluminum | FT 100<br>FT 200<br>E-Nox Shine | CB 100 ALU<br>ALUSTAR 200<br>ALUSTAR 300 | | | ALUSTAR 200<br>ALUSTAR 300 | ALUSTAR 200<br>ALUSTAR 300 | CB 100 ALU | Bio-Circle<br>Aero<br>CB 100 ALU |
| | Copper / Brass | FT 100<br>FT 200 | CB 100 ALU | | | ALUSTAR 200<br>ALUSTAR 300 | ALUSTAR 200<br>ALUSTAR 300 | CB 100 ALU | |
| | Glass | UNO S F<br>UNO S<br>FT 100<br>FT 200 | CB 100 | UNO S F | UNO S F | STAR 200<br>ALUSTAR 200<br>ALUSTAR 300 | STAR 200<br>ALUSTAR 200<br>ALUSTAR 300 | CB 100 | — |
| | Plastic | UNO S F<br>UNO S<br>FT 100<br>FT 200 | CB 100 | UNO S F | UNO S F | STAR 200<br>ALUSTAR 200<br>ALUSTAR 300 | STAR 200<br>ALUSTAR 200<br>ALUSTAR 300 | CB 100 | — |

Note: It is very important to know the next step after cleaning. For instance, if painting is required after the cleaning operation, a surface preparation cleaner may be recommended.

Inorganic contaminant: Mineral-based compounds such as rust, limescale, etc.
Organic contaminants: Carbon-based compounds such as oil, grease, etc.
Other contaminants: Can be a combination of organic and inorganic contaminants

**Neutralization** of acidic cleaners: Proper neutralization with an alkaline cleaner is always required to deactivate the acid and prevent damages to the parent material

Steps to proper **neutralization**:
1. Wipe off the excess of acid
2. Apply an alkaline cleaner
3. Wipe off the surface with a clean rag (rinse and dry when necessary)

| ACIDIC | | | | | ULTRA-POWERFUL NATURAL CLEANER AND DEGREASER | | |
|---|---|---|---|---|---|---|---|
| *Inorganic:* rust, corrosion, limescale, calamine, heat tint, etc. | | | | | *Other:* paint, glue, adhesive, ink, wax, tar, etc. | | |
| Spray and wipe | Ultrasonic bath | Hot parts washer | Automated parts washer | Dip tank | Spray and wipe | Ultrasonic bath | Dip tank |
| E-Nox Clean | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | Bio-Rust and Power Cleaner 100 | ALL SEASON PRO CLEAN SC 400 SC 400 FOAM SC 400 LOW VOC | CB 100 | ALL SEASON PRO CLEAN CB 100 |
| E-Nox Clean | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | ALL SEASON PRO CLEAN SC 400 SC 400 FOAM SC 400 LOW VOC | CB 100 | ALL SEASON PRO CLEAN CB 100 |
| E-Nox Clean | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | ALL SEASON PRO CLEAN SC 400 SC 400 FOAM SC 400 LOW VOC | CB 100 ALU CB 100 ALU | ALL SEASON PRO CLEAN CB 100 ALU |
| E-Nox Clean | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | ALL SEASON PRO CLEAN SC 400 SC 400 FOAM SC 400 LOW VOC | CB 100 ALU | ALL SEASON PRO CLEAN CB 100 ALU |
| E-Nox Clean | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | Power Cleaner 100 | PRO CLEAN SC 400 SC 400 LOW VOC | CB 100 | PRO CLEAN CB 100 |
| — | — | — | — | — | — | CB 100 | CB 100 |

## WALTER PRODUCTS LEGEND

**Low Volatile Organic Compounds**
Consumers today are far more knowledgeable regarding products containing potentially toxic levels of volatile organic compounds, commonly known as VOCs. Paints, stains, and varnishes have long contributed considerably to the prolific release of VOCs, sometimes known as off-gassing. This explains the growing popularity of low-VOC and VOC-free products. Products where you see the VOC-free logo guarantee that they contain no volatile organic compounds.

**Non-Flammable**
Safe for use in environments where flames or sparks are present.

**Nonfood Compounds Program**
The global food industry relies upon nonfood compounds to facilitate the efficient processing, handling and storage of food throughout the supply chain. Nonfood compounds include such substances as cleaners, sanitizers, boiler compounds and lubricants. NSF International Nonfood Compounds Registration Program provides beneficial product information to three important stakeholder groups.

**Low Energy Surfactant (LES) technology**
These unique surfactants can clean and degrease effectively at lower temperatures, thus generating substantial energy savings. Lower the temperature of your automated industrial parts washers today! NOTE: Dilution up to 1:200

# **WALTER** VOC GUIDE

To reduce ground-level ozone and smog, certain U.S. states regulate the sales of volatile organic compounds (VOC) in consumer and industrial products. The goal is to decrease the use of high-VOC products in consumer, commercial, and industrial applications and incentivize suppliers to create lower-VOC alternatives.

WALTER offers powerful solutions for industrial applications. Whenever possible, we offer low-VOC or VOC-free alternatives to replace high-VOC products. For example, we use compressed air as an alternative to high-VOC propellants for some of our aerosol solutions.

We are committed to keeping our customers informed of any restrictions on the use of our products. Below, you'll find a list of our products and the states that restrict their use in some applications.

All states provide exemptions for high-VOC products used in the manufacturing process. Contact your local air quality regulators to learn more about VOC restrictions that may apply in your state or county.

| Products | Order No. | COMPLIANCE as per CARB 310* | Restricted for sale in the following States to manufacturing use only, not for retail sale: CA, UT, NH, CT, DC, DE, IN, IL, MD, ME, MA, MI, NY, NJ, OH, PA, RI, VA |
|---|---|---|---|
| PRO CLEAN | 53G523, 53G525, 53G527, 53G528 | | ✔ |
| SC 400 | 53G512, 53G513, 53G516, 53G517, 53G518 | | ✔ |
| SC 400 LOW VOC | 53G653, 53G655, 53G657, 53G658 | | ✔ |
| SC 400 FOAM | 53G512 | | ✔ |
| ALL-SEASON | 53G553 53G555 53G557 53G558 53G559 | | ✔ |
| OMNI Liquid | 53X003, 53X005, 53X007, 53X008, 53X009 | ✔ | |
| FT 100 | 53G183, 53G187, 53G188 | ✔ | |
| FT 100 aerosol | 53G182 | | ✔ |
| FT 200 | 53G173, 53G177, 53G178 | | ✔ |
| OMNI | 53X003 53X005 53X007 53X008 53X009 | ✔ | |
| AF-PL LOW VOC | 53C553, 53C566, 53C567, 53C568 | | ✔ |
| AF-PL | 53C553-, 53C556, 53C557, 53C558 | | ✔ |
| Contact Clean | 53C713 | ✔ | |
| Slap Shot Aerosol | 53C502 | | ✔ |
| Slap Shot Liquid | 53C503, 53C506, 53C508 | | ✔ |
| Slap Shot LOW VOC Aersol | 53C512 | | ✔ |
| Slap Show LOW VOC Liquid | 53C513, 53C516, 53C517, 53C519 | | ✔ |
| Slap Shot PL Aerosol | 53C552 | | ✔ |
| Food Zone | 53D602 | | ✔ |
| Food Zone V | 53D652 | | ✔ |
| Coolcut Aerosol | 53B002 | | ✔ |
| Open Gear Aerosol | 53E102 | | ✔ |
| Chain Gang Aerosol | 53D102 | | ✔ |
| Hang-On | 53D812, 53D817 | | ✔ |
| Bolt Out | 53D893, 53D897 | | ✔ |
| COLD SHOCK | 53D882 | | ✔ |
| Rock'N Roll Aerosol | 53D852 | | ✔ |
| Zinc 100 Aerosol | 53H102 | | ✔ |
| Zinc 200 Aerosol | 53H152 | | ✔ |
| STAINLESS CUT Aerosol | 53B202 | | ✔ |
| Shield Pro | 53H255, 53H257, 53H258 | | ✔ |
| Stainless Steel Cleaner Aerosol | 53G412 | ✔ | |
| Power Cleaner 100 | 53G253, 53G255, 53G-257 | | ✔ |
| Heavy-Duty Citrus Degreaser | 53G533, 53G534, 53G535, 53G537, 53G538 | | ✔ |

*California Environmental Protection Agency Air Resources Board, method 310 for determination of Volatile Organic Compounds (VOC) in consumer products and reactive organic compounds in aerosol coating products.

# FAST-EVAPORATING DEGREASERS

A highly effective, residue-free, fast evaporating degreaser that dissolves and removes grease, oil, and grime on contact.

HEAVY-DUTY

## DEGREASER AND PART CLEANER

## SLAP SHOT/SLAP SHOT LOW VOC™

SLAP SHOT™ is a highly effective, residue-free, cleaner/degreaser that dissolves and removes grease, oil, and grime on contact.
**NSF category K1, registration #154299 (Aerosol) #154300 (Liquids)**

### SLAP SHOT

NSF · Steel · Stainless Steel · Galvanized Steel · Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 500 ml | 16.9 oz. | 53C502 | L-39 | 12 |
| Trigger sprayer | 500 ml | 16.9 oz. | 53C503 | L-40 | 12 |
| Liquid | 5 L | 1.3 gal | 53C506 | L-40 | 1 |
| Liquid | 20 L | 5.2 gal | 53C507 | L-40 | 1 |
| Liquid | 200 L | 52.8 gal | 53C508 | L-40 | 1 |

### SLAP SHOT LOW VOC

LOW VOC · NSF · Steel · Stainless Steel · Galvanized Steel · Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 500 ml | 16.9 oz. | 53C512 | L-200 | 12 |
| Trigger sprayer | 500 ml | 16.9 oz. | 53C513 | L-201 | 12 |
| Liquid | 3.78 L | 1 gal | 53C516 | L-201 | 1 |
| Liquid | 20 L | 5.2 gal | 53C517 | L-201 | 1 |
| Liquid | 200 L | 52.8 gal | 53C519 | L-201 | 1 |

| ACCESSORIES | Order No. |
|---|---|
| Spout for 20 L round metal pail and 200 L metal drum 3/4" NPT | 53L208 |
| Empty refillable trigger sprayer | 53L311 |

*Fast acting,*
*no residues!*

### Applications

- *Cleaning and degreasing for maintenance and repair*
- *Preparing surfaces for painting or relubrication*

### Benefits

- *Fast acting—dissolves stubborn contaminants quickly and completely*
- *No residues*

### Features

- *Quickly dissolves grease, oil and dirt without residues*
- *Free of chlorinated solvent*
- *Strong aerosol spray*

PLASTIC SAFE HEAVY-DUTY

## DEGREASER AND PART CLEANER

## SLAP SHOT PL™

SLAP SHOT™ PL is a highly effective, residue-free, cleaner/degreaser that dissolves and removes grease, oil, and grime on contact. Specially formulated for maximum compatibility with plastics and rubber-like compounds.

### Applications

- *Cleaning metal parts in presence of plastic or gaskets*
- *Removal of grease and oil*

Rubber · Plastic · All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53C552 | L-64 | 12 |

*Safe on most plastics and rubbers*

### Benefits

- *Fast acting—dissolves stubborn contaminants quickly and completely*
- *No residues*

### Features

- *Quickly dissolves grease, oil and dirt without residues*
- *Free of chlorinated solvent*
- *Strong aerosol jet*
- *Safe on plastics*

HEAVY-DUTY

# DEGREASER AND BRAKE CLEANER

## AF-PL/AF-PL LOW VOC™

Plastic-safe, heavy-duty brake cleaner designed for use with AIR FORCE™ system.

**Application Type:**

- *Spray*
- *Air Force™ System*

### AF-PL

All Metals · Rubber · Plastic

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid, trigger sprayer | 500 mL | 16.9 fl. oz. | 53C553 | L-65 | 12 |
| Liquid | 5 L | 1.3 gal | 53C556 | L-65 | 1 |
| Liquid | 20 L | 5.2 gal | 53C557 | L-65 | 1 |
| Liquid | 200 L | 52.8 gal | 53C558 | L-65 | 1 |

### AF-PL LOW VOC

LOW VOC

All Metals · Rubber · Plastic

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid, trigger sprayer | 500 mL | 16.9 fl. oz. | 53C563 | L-65 | 12 |
| Liquid | 3.78 L | 1 gal | 53C566 | L-65 | 1 |
| Liquid | 20 L | 5.2 gal | 53C567 | L-65 | 1 |
| Liquid | 200 L | 52.8 gal | 53C568 | L-65 | 1 |

# PLASTIC-SAFE, FAST-EVAPORATING PART DEGREASER

## AIR FOR AF-PL/ AIR FORCE AF-PL LOW VOC™

- *Cost-effective brake cleaner alternative*
- *Safe for most plastics and rubber compounds*
- *Non-chlorinated solvents penetrate and displace moisture*

### AIR FORCE AF-PL

| Size | | Order No. |
|---|---|---|
| Metric | US Gal | |
| 20 L | 5.3 gal | 53M012AFPLP |
| 200 L | 52.8 gal | 53M012AFPLD |

### AF-PL LOW VOC

LOW VOC

| Size | | Order No. |
|---|---|---|
| Metric | US Gal | |
| 20 L | 5.3 gal | 53M012AFPLLVP |
| 200 L | 52.8 gal | 53M0125AFPLLVD |

### *The 20L / 5.3 gal. start-up package includes:*

- Air Force station
- 1 x 53C567 AF-PL 20 L / 5.3 gal

OR

- 1 x 53C557 AF-PL 20 L / 5.3 gal
- 1 x 53M041 pail adaptor
- 6 x 53M101 refillable bottles

### *The 200L / 52.8 gal. start-up package includes:*

- Air Force station
- 1 x 53C568 AF-PL 200 L / 52.8 gal

OR

- 1 x 53C558 AF-PL 200 L / 52.8 gal
- 1 x 53M038 drum adaptor
- 6 x 53M101 refillable bottles

| OPTIONAL NOZZLES | ORDER NO. |
|---|---|
| Wide spray | 53M022 |
| Long extension tube | 53M052 |
| Red nozzle-narrow spray | 53M023 |

| ACCESSORIES | ORDER NO. |
|---|---|
| Air refilling station | 53M010 |
| Air nozzle | 53M015 |
| Replacement valve kit (includes 2 valves and 2 spray tips) | 53M030 |
| Brass screw cap | 53M037 |

| ACCESSORIES | ORDER NO. |
|---|---|
| Replacement filling valve | 53M039 |
| Pail adaptor | 53M041 |
| Drum adaptor | 53M038 |
| Safety valve | 53M025 |

# ELECTRONIC CONTACT CLEANING

For cleaning of instrument and equipment junctions (PLCs, printed circuit boards, vehicle fuse boxes).

## NON-FLAMMABLE ELECTRONICS AND ELECTRICAL EQUIPMENT CLEANER

### CONTACT CLEAN™

CONTACT CLEAN™ removes grease, oil and contaminants from sensitive electronics and electrical equipment to prevent contact failure. Fast-evaporating formula dries residue-free in seconds. Safe to use on most plastics. **NSF category K2, registration #154540**

#### Applications

- *Removing contaminants from electrical parts*

#### Benefits

- *Fast acting – dissolves stubborn contaminants quickly and completely*
- *Fast evaporating*
- *No residues, no rinsing*

#### Features

- *Nonconductive*
- *Safe on most plastics and rubbers*

*Dissolves stubborn contaminants **quickly and completely!***

Rubber Plastic

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 500 g | 17.6 oz. | 53C713 | L-165 | 12 |

# PARTS WASHING SOLUTIONS

Heavy-duty cleaning for removing ink, adhesive, synthetic oils, heavy grease and other tough contaminants. These solutions work exceptionally well at room temperature and only require periodical oil skimming.

## INDUSTRIAL STRENGTH PART CLEANER AND DEGREASER

### CB 100™

CB 100™ is next-generation cleaning technology. Powered by our exclusive Nature Boost™ formula, CB 100™ is unsurpassed in its ability to remove the most stubborn industrial contaminants.
**NSF category C1, registration #148555**

*Extreme strength & natural*

### Applications

- *Cleaning asphalt from paving equipment*
- *Removing tough greases from gears and bearings*

### Benefits

- *Outlasts solvent cleaners by 3-5x*
- *Shortens cleaning time*
- *Creates a safer, more pleasant work environment*
- *Reduces workplace liability*

### Features

- *For steel and stainless steel*
- *Ready-to-use, non-caustic, non-hazardous, phosphate-free, and butyl-free*
- *Cuts through contaminants most solvents can't touch*
- *Great cleaning power at room temperature*

Steel Stainless Steel

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G163 | L-155 | 12 |
| Liquid | 3.78 L | 1 gal | 53G165 | L-155 | 1 |
| Liquid | 20 L | 5.2 gal | 53G167 | L-155 | 1 |
| Liquid | 208 L | 55 gal | 53G168 | L-155 | 1 |
| Liquid | 1000 L | 264 gal | 53G169 | L-155 | 1 |

ALUMINIUM COMPATIBILITY

# INDUSTRIAL STRENGTH NON-FERROUS PARTS CLEANER AND DEGREASER

## CB 100 ALU™

CB 100™ ALU is a powerful cleaner/degreaser powered by our unique Nature Boost™ technology. Similar to the CB 100™ cleaning solution, yet specially designed for cleaning aluminum and sensitive alloys. Replaces hazardous solvents and petroleum-based products for improved health and safety in the workplace.
**NSF category A1, registration #163931**

### Applications

- *Removing coolants and cutting oils from parts in machine shops*
- *Degreasing engine components during repair and rebuild operations*

### Benefits

- *Outlasts solvent cleaners by 3-5x*
- *Shortens cleaning time*
- *Eliminates material compatibility issues*
- *Reduces workplace liability*

### Features

- *Specially formulated for non-ferrous aloys*
- *Ready-to-use, non-caustic, non-hazardous, phosphate-free, and butyl-free*
- *Great cleaning power at room temperature*
- *Formulated with special corrosion protection*

*Aluminum compatible*

Steel Stainless Steel Alu. Brass

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G123 | L-158 | 12 |
| Liquid | 3.78 L | 1 gal | 53G125 | L-158 | 1 |
| Liquid | 20 L | 5.2 gal | 53G127 | L-158 | 1 |
| Liquid | 208 L | 55 gal | 53G128 | L-158 | 1 |
| Liquid | 1000 L | 264 gal | 53G129 | L-158 | 1 |

# BIO-REMEDIATING PARTS WASHING SOLUTIONS

Designed for use in parts washers with heating elements, these self-regenerating solutions contain micro-organisms that break down oils and greases into $CO_2$ and $H_2O$, with almost ZERO waste products to dispose of.

## BIO-REMEDIATING PARTS CLEANER AND DEGREASER

### BIO-CIRCLE® L

BIO-CIRCLE® L is a top-selling Bio-remediating part cleaner and degreaser used in thousands of operations worldwide. Maintains its cleaning power over time, offering an economical and environmental advantage over toxic solvents and weaker water-based systems. **NSF category C1, registration #141285**

*Versatile and **safe!***

#### Applications

- *Parts cleaning*
- *Facility maintenance*

#### Benefits

- *Maximum strength for life of product*
- *Reduces waste and disposal costs*
- *Creates a safer, more pleasant work environment*
- *No respiration equipment required*

#### Features

- *Continuously self-renewing with minimal waste streams*
- *Non-hazardous, Non-flammable, VOC-free*
- *Pleasant scent—no harsh fumes or vapors*

Alu. All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 20 L | 5.2 gal | 55A007 | L-78 | 1 |
| Liquid | 208 L | 55 gal | 55A008 | L-78 | 1 |
| Liquid | 1000 L | 264 gal | 55A009 | L-78 | 1 |

## EXTRA POWERFUL BIO-REMEDIATING PARTS CLEANER AND DEGREASER

# BIO-CIRCLE® ULTRA

BIO-CIRCLE® ULTRA is a bio-remediating part cleaner and degreaser. The highly effective ULTRA formula quickly removes the toughest hardened oil/grease as well as other hard to remove contaminants. Maintains its cleaning power over time, offering an economical and environmental advantage over toxic solvents and weaker water-based systems. **NSF category C1, registration #145549**

### Applications

- *MRO and production*
- *Rebuild and repair operations*

### Benefits

- *Maximum strength for life of product*
- *Reduces waste and disposal costs*
- *Creates a safer, more pleasant work environment*
- *No respiration equipment required*

***Less chemical*** *required per cleaning*

Alu. All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 20 L | 5.2 gal | 55A107 | L-158 | 1 |
| Liquid | 208 L | 55 gal | 55A108 | L-158 | 1 |
| Liquid | 1000 L | 264 gal | 55A109 | L-158 | 1 |

### Features

- *Continuously self-renewing with minimal waste streams*
- *Non-hazardous, non-flammable, VOC-free*
- *Powered by Nature Boost™, an exclusive, highly effective natural Ingredient*
- *Pleasant scent—no harsh fumes or vapors*

## BIO-REMEDIATING PART CLEANER AND DEGREASER FOR AIRCRAFT USE

# BIO-CIRCLE® AERO

BIO-CIRCLE® AERO liquid is a bio-remediating parts cleaner and degreaser designed to meet the aeronautical industry's stringent requirements. Safe for use with aluminum and other sensitive alloys.

### Applications

- *Airport maintenance*
- *Aerospace parts manufacturing*

### Benefits

- *Maximum strength for life of product*
- *Eliminates material compatibility issues*
- *Reduces waste and disposal costs*
- *Creates a safer, more pleasant work environment*

***Eliminates*** *material compatibility issues*

Brass Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 20 L | 5.2 gal | 55A207 | L-161 | 1 |
| Liquid | 208 L | 55 gal | 55A208 | L-161 | 1 |
| Liquid | 1000 L | 264 gal | 55A209 | L-161 | 1 |

### Features

- *Continuously self-renewing with minimal waste streams*
- *Conforms to: Boeing D6-17487 Revision R Douglas Aircraft Company CSD No.1 (Type I) AMS 1526C*
- *Non-hazardous, non-flammable, VOC-free, pH neutral*
- *Safe for all metals and most surfaces*

# PARTS WASHING MACHINES AND KITS

If you're looking to create a safer workplace without compromising performance, our BIO-CIRCLE® MAXI industrial parts washer is built for you.

This cutting-edge cleaning and degreasing system is sturdy, reliable, low maintenance, and specially designed for water-based cleaning, allowing you to quickly power through the most demanding cleaning jobs. When paired with BIO-CIRCLE® or CB 100™ solutions, our part washer will transform your cleaning operations, making them easy, eco-friendly, efficient and safe.

### BIO-CIRCLE® MAXI

| Order No. | Dimensions | Max tank capacity | Soak load capacity |
|---|---|---|---|
| 55D600 | 109 cm L x 72 cm W x 96 cm (43"L x 28.5"W x 38"H) | 136 L (30 gal) | 136 Kg (300 lbs) |

## CB 100 START-UP PACKAGES

**INCLUDED: 6 PAILS (20 L / 5.2 GAL.)**

| Name | Order No. |
|---|---|
| CB 100 | 55D615CBP |
| CB 100 ALU | 55D615CBAP |

**INCLUDED: 1 DRUM (208 L / 55 GAL.)**

| Name | Order No. |
|---|---|
| CB 100 | 55D615CBD |
| CB 100 ALU | 55D615CBAD |

## BIO CIRCLE START-UP PACKAGES

**INCLUDED: 6 PAILS (20 L / 5.2 GAL.)**

| Name | Order No. |
|---|---|
| BIO-CIRCLE® L | 55D600BCLP |
| BIO-CIRCLE® ULTRA | 55D600BCUP |
| BIO-CIRCLE® AERO | 55D600BCAP |

**INCLUDED: 1 DRUM (208 L / 55 GAL.)**

| Name | Order No. |
|---|---|
| BIO-CIRCLE® L | 55D600BCLD |
| BIO-CIRCLE® ULTRA | 55D600BCUD |
| BIO-CIRCLE® AERO | 55D600BCAD |

# AUTOMATIC PARTS WASHING

An excellent substitute to solvent-based cleaners! Save on energy and costs with Low Energy Surfactant (LES) Technology! These unique surfactants can clean and degrease effectively at lower temperatures, thus generating substantial energy savings. Lower the temperature of your automated industrial parts washers today!

REGULAR

## CONCENTRATED ALKALINE AUTOMATED PARTS WASHER CLEANER AND DEGREASER

## STAR 200™

STAR™ 200 is a foamless demulsifying alkaline cleaner/degreaser specially formulated for cleaning iron, cast iron, steel, and stainless steel. Excellent at dissolving thick oil, grease, lubricants, and grime.

### Applications

- *Hot parts washers, cleaning tunnels, ultrasonic baths, turntable washers, spray cabinets, and agitated tanks*
- *Maintenance, repair, and cleaning applications*

### Benefits

- *Less chemical required per cleaning*
- *Lasts longer*
- *Saves money*
- *Lowers energy costs*

### Features

- *Highly concentrated - dilutable up to 1:200*
- *Lower energy cost, saves money*
- *Short term built-in corrosion inhibitors*

***Less chemical required** per cleaning*

LOW VOC · LES

Steel · Stainless Steel · Plastic

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 20 L | 5.2 gal | 53G067 | L-107 | 1 |
| Liquid | 208 L | 55 gal | 53G068 | L-107 | 1 |
| Liquid | 1000 L | 264 gal | 53G069 | L-107 | 1 |

ALUMINIUM COMPATIBILITY

## AUTOMATED PARTS WASHER CLEANER AND DEGREASER FOR NON-FERROUS ALLOYS

## ALUSTAR 200™

ALUSTAR™ 200 is a foamless demulsifying cleaner/degreaser that dissolves and removes thick oil, grease, lubricants, and grime from aluminum and other nonferrous alloys. Ideal for applications that are subject to strict cleaning specifications.

**NSF category A8, registration #145452**

### Applications

- *Automated and semi-automated hot parts washers, cleaning tunnels, ultrasonic baths, turntable washers, spray cabinets, and agitated tanks*
- *Removing cutting oils after machining*

Steel Stainless Steel Plastic Galvanized Steel Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 3.78 L | 1 gal | 53G705 | L-79 | 1 |
| Liquid | 20 L | 5.2gal | 53G707 | L-79 | 1 |
| Liquid | 208 L | 55 gal | 53G708 | L-79 | 1 |
| Liquid | 1000 L | 264 gal | 53G709 | L-79 | 1 |

***Lower*** *energy cost*

### Benefits

- *Less chemical required per cleaning*
- *Lasts longer*
- *Saves money*
- *Lowers energy costs*

### Features

- *Highly concentrated - dilutable up to 1:200*
- *Phosphate-free*
- *Biodegradable*

HEAVY-DUTY

## HEAVY-DUTY AUTOMATED PARTS WASHER CLEANER AND DEGREASER FOR NON-FERROUS ALLOYS

## ALUSTAR 300™

ALUSTAR™ 300 is a foamless demulsifying cleaner/degreaser that easily dissolves and removes persistent oil, grease, lubricants and grime from aluminum, steel, and stainless steel. Excellent for heavy-duty maintenance, repair, and operations cleaning applications.

**NSF category A8, registration #145453**

### Applications

- *Automated and semi-automated hot parts washers, cleaning tunnels, ultrasonic baths, turntable washers, spray cabinets, and agitated tanks*
- *Heavy-duty maintenance, repair, and cleaning applications*

### Benefits

- *Less chemical required per cleaning*
- *Lasts longer*
- *Saves money*
- *Lowers energy costs*

Steel Stainless Steel Plastic Galvanized Steel Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 20 L | 5.2 gal | 53G757 | L-106 | 1 |
| Liquid | 208 L | 55 gal | 53G758 | L-106 | 1 |
| Liquid | 1000 L | 264 gal | 53G759 | L-106 | 1 |

*Lasts* ***longer!***

### Features

- *Highly concentrated - dilutable up to 1:200*
- *Short term protection*

# MULTI-PURPOSE CLEANERS AND DEGREASERS

Family of cleaning and degreasing products that are ideal for various applications conducted at room temperature. Save time and money with the Low Energy Surfactant (LES) technology which allows the product to achieve optimal results at ambient temperature.

CONCENTRATED

## INDUSTRIAL CLEANER AND DEGREASER – *FOAMING*

### UNO™ S

UNO™ S is a highly concentrated, powerful foaming cleaner/degreaser that lifts dirt and grease fast. Ideal for manual spraying applications. Excellent substitute for solvent-base cleaners.
**NSF category A1, registration #142608**

**IMPROVED FORMULA!**

*Versatile and **safe!***

#### Applications

- *Cleaning stainless steel equipment in food industry*
- *Removal of cutting fluids, stamping oils and grease*

Steel Stainless Steel Plastic Concrete

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G033 | L-143 | 12 |
| Liquid | 3.78 L | 1 gal | 53G035 | L-143 | 1 |
| Liquid | 20 L | 5.2 gal | 53G037 | L-143 | 1 |
| Liquid | 208 L | 55 gal | 53G038 | L-143 | 1 |
| Liquid | 1000 L | 264 gal | 53G039 | L-143 | 1 |

#### Benefits

- *Versatile — can be used for a variety of applications*
- *Less chemical required per cleaning*
- *Creates a safer, healthier work environment*

#### Features

- *Non-flammable, phosphate-free*
- *Improved formula*
- *Foaming action for increased contact time*
- *Dilutable up to 1:50*

CONCENTRATED

## INDUSTRIAL CLEANER AND DEGREASER – *FOAMLESS*

### UNO™ SF

UNO™ SF is a highly concentrated, powerful foamless cleaner/degreaser that can cut through dirt and grease throughout your facility. Uses range from floor washing and pressure washing of large parts to automatic parts washers. Excellent substitute for solvent-base cleaners. **NSF category A1, registration #142609**

***Less chemical** required per cleaning*

#### Applications

- *Cleaning of stainless steel equipment*
- *Removal of cutting fluids, stamping oils and grease*

Steel Stainless Steel Plastic Concrete

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G023 | L-48 | 12 |
| Liquid | 3.78 L | 1 gal | 53G015 | L-48 | 1 |
| Liquid | 20 L | 5.2 gal | 53G017 | L-48 | 1 |
| Liquid | 208 L | 55 gal | 53G018 | L-48 | 1 |
| Liquid | 1000 L | 264 gal | 53G019 | L-48 | 1 |

#### Benefits

- *Versatile — can be used for a variety of applications*
- *Less chemical required per cleaning*
- *Creates a safer, healthier work environment*

#### Features

- *Non-flammable*
- *Low Energy Surfactant Technology cleans at lower temperatures*
- *Dilutable up to 1:40*

READY-TO-USE

## GOLD MATRIX READY™

GOLD MATRIX READY™ is a foamless formulation which makes it ideal for applications where foaming could interfere in the cleaning process. Ideal for trigger sprayer applications, hot parts washers, ultrasonic baths, dip tanks, floor cleaners and pressure washers. Removes oils, greases, organic contaminants, pigment coating, markers, smoke, dust, carbon deposits and more.

### Applications

- *Removal of oils and greases from ferrous parts*
- *Facility maintenance*
- *All hand applied cleaning tasks*
- *Removal of organic contaminants*
- *Cleans floors, walls, tables, etc.*
- *Neutralizes residual acidic components of weld cleaning solutions*

LOW VOC

Steel Stainless Steel Plastic Concrete

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G073 | L-69E | 12 |
| Liquid | 3.78 L | 1 gal | 53G075 | L-69E | 4 |
| Liquid | 20 L | 5.2 gal | 53G077 | L-69E | 1 |
| Liquid | 208 L | 52.8 gal | 53G078 | L-69E | 1 |
| Liquid | 1000 L | 264 gal | 53G079 | L-69E | 1 |

### Features

- *Contains corrosion inhibitors to prevent flash rusting*
- *Foamless for high-pressure or agitation cleaning systems*
- *Nontoxic, nonflammable, VOC-free*
- *Cleans parts efficiently and most of all safely*
- *Effective ready-to-use formula*
- *Foamless formulations*
- *Water-Based. Solvent-free. Phosphate-free*
- *High strength formula, ready to use*
- *Can withstand heat up to 90°C (194°F) for maximum cleaning*

# CLEANING, LUBRICATING AND TEMPORARY PROTECTION

A multi-functional maintenance cleaner, lubricant and protector safe to use on all metals.

## CLEANER/LUBRICANT/PROTECTOR

### OMNI™

Multifunctional maintenance cleaner/lubricant/protector. Excellent penetrating and lubricating capability. Protects surfaces from oxidation. **NSF category A8, registration #142610**

### Applications

- *Dissolving light rust and graphite*
- *Loosening rusted and seized hardware*

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 480 ml | 16.2 fl.oz. | 53X002 | L-73 | 12 |
| Sprayer | 500 ml | 16.9 oz. | 53X003 | L-74 | 12 |
| Liquid | 3.78 L | 1 gal | 53X005 | L-74 | 1 |
| Liquid | 20 L | 5.2 gal | 53X007 | L-74 | 1 |
| Liquid | 208 L | 55 gal | 53X008 | L-74 | 1 |
| Liquid | 1000 L | 264.6 gal | 53X009 | L-74 | 1 |

| ACCESSORIES | Order No. |
|---|---|
| Industrial pump sprayer | 53L120 |
| Spout for 20 L square plastic pail | 53L207 |
| Spout for 208 L plastic drum 2" NPT | 53L209 |
| Empty refillable trigger sprayer for OMNI | 53L314 |
| BIO-CIRCLE® Powercloth microfiber / Pack of 10 | 57M001 |

*Cleans, penetrates, lubricates and protects* ***in one easy step!***

### Benefits

- *Cleans, penetrates, lubricates, and protects in one easy step*
- *Versatile – can be used for multiple maintenance applications*
- *Reduces rework*
- *Creates a safer, healthier work environment*

### Features

- *Non-flammable, silicone-free, Teflon-free*
- *Dielectric strength 350 V/mil*

# HEAVY-DUTY TAR AND BITUMEN REMOVERS

For removing very tough contaminants such as tar, bitumen, carbon and asphalt.

FOR DIFFICULT CONTAMINANTS

## HIGH STRENGTH CITRUS CLEANER/DEGREASER

### SC 400/SC 400 LOW VOC™

Formulated with citrus peel extracts, SC 400™ is a heavy-duty, powerful, fast-acting solvent cleaners. Easily removes tar, bitumen, grease, lubricants, and oils.

**Applications**

- *Cleaning machine parts, tools, pumps, gears*
- *Not for use on plastics, rubber, and other solvent-sensitive materials*

*Cuts through contaminants **quickly and effectively***

**Benefits**

- *Cuts through contaminants quickly and effectively*
- *Slow drying formula covers larger surface areas*
- *Safer than more flammable alternatives*

**Features**

- *Low residue, slow drying*

### SC 400

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G513 | L-68 | 12 |
| Liquid | 3.78 L | 1 gal | 53G516 | L-68 | 1 |
| Liquid | 20 L | 5.2 gal | 53G517 | L-68 | 1 |
| Liquid | 200 L | 52.8 gal | 53G518 | L-68 | 1 |

### SC 400 LOW VOC

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G653 | L-202 | 12 |
| Liquid | 3.78 L | 1 gal | 53G655 | L-202 | 1 |
| Liquid | 20 L | 5.2 gal | 53G657 | L-202 | 1 |
| Liquid | 200 L | 52.8 gal | 53G658 | L-202 | 1 |

FOR DIFFICULT CONTAMINANTS

## HEAVY-DUTY CITRUS DEGREASER

Cleans and emulsifies to breakdown difficult contaminants such as asphalt and tar residue that are bound to the surfaces.

**NSF category K1, registration #163464**

**Applications**

- *Spray application recommended to be used straight on soiled surfaces*
- *Recommended to clean soiled concrete floors, hydrocarbons, tar, bunkers, piping soil, etc.*
- *Great for paving, mining equipment*

**Benefits**

- *Leaves no residue*
- *High flashpoint*
- *Biodegradable*

***High** flashpoint*

**Features**

- *No need for dilution*
- *Reduction of the volume of waste, without presence of water in the oil*

All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G533 | L-187 | 12 |
| Sprayer | 946 ml | 32 oz. | 53G534 | L-187 | 12 |
| Liquid | 3.78 L | 1 gal | 53G535 | L-187 | 1 |
| Liquid | 20 L | 5.2 gal | 53G537 | L-187 | 1 |
| Liquid | 208 L | 52.8 gal | 53G538 | L-187 | 1 |

FOR ANY TEMPERATURE

# ALL WEATHER TAR AND BITUMEN DEGREASER

## ALL-SEASON™

ALL-SEASON™ is a less toxic alternative to solvent cleaning for tough applications, even at the most extreme temperatures. Bitumen, tar and asphalt don't stand a chance even at cold temperatures. ALL-SEASON™ is the perfect alternative to solvent based and d-limonene based cleaners.

### Applications

- *Can be used in spray applications for manual cleaning or pressure washing for large surface applications*
- *Provides high solvency for fast and easy removal of tough contaminants: tar, asphalt and bitumen*

### Benefits

- *High-strength formulation, fast acting, very effective*
- *Ready-to-use formulation, no dilution required*
- *Safe on all metals, non-corrosive*

### Features

- *Formulated to clean at any temperature*
- *Separates from water for easier recovery of waste*

*High strength,* ***fast acting***

Alu. All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G553 | L-75 | 12 |
| Liquid | 3.78 L | 1 gal | 53G555 | L-75 | 1 |
| Liquid | 20 L | 5.2 gal | 53G557 | L-75 | 1 |
| Liquid | 208 L | 55 gal | 53G558 | L-75 | 1 |
| Liquid | 1000 L | 264 gal | 53G559 | L-75 | 1 |

| ACCESSORIES | Order No. |
|---|---|
| Industrial pump sprayer | 53L120 |
| Spout for 20 L pail | 53L207 |
| Spout for 20 L round metal pail and 200 L metal drum ¾" NPT | 53L208 |
| Spout for 208 L drum | 53L209 |
| Empty refillable trigger sprayer for SC 400 | 53L313 |
| Bio-Circle Air Drying Gun | 55B085 |
| Replacement sprayer, 500 ml | 53L318 |

# HEAVY-DUTY INK AND ADHESIVE REMOVERS

For removing ink, adhesive and other contaminants.

FOR ADHESIVES

## HIGH STRENGTH ADHESIVE AND INK REMOVER

### SC 400 FOAM™

SC 400™ Foam is a high strength solvent with which adhesive substances even when hardened can be removed. Special additives enable a long-lasting depth effect of the solvent so that even the most difficult dried adhesive films can be cleaned.
**NSF category K3, registration #156603**

*Suitable for metal, wood, ceramics and glass*

#### Applications

- *Cleaning machine parts, tools, pumps, gears*
- *Not for use on plastics, rubber, and other solvent-sensitive materials*

#### Benefits

- *Removes labels, adhesive*
- *Suitable for metal, wood, ceramics, glass*
- *The corrosion protection agent protects the metal surface on bare metal parts*

#### Features

- *Special additives to enable long-lasting depth effect*
- *Colourless*

Glass and Mirror, All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 11.5 oz. | 53G512 | L-171 | 12 |

CONCENTRATED

## HIGH STRENGTH ADHESIVE REMOVER

### PRO CLEAN™

Made from bio-renewable extracts, PRO CLEAN™ is a powerful, 100% concentrated solvent that removes hard-to-clean contaminants. Its Nature Boost™ formula quickly and easily removes adhesives.
**NSF category K3, registration #146172**

***Safer to handle*** *than toxic and volatile solvents!*

#### Benefits

- *Creates a safer, more pleasant work environment*
- *Safer to handle than toxic and volatile solvents*
- *Improves sustainability*
- *Reduces workplace liability*

#### Features

- *Formulated with natural and bio-renewable ingredients*
- *Test before use on rubber*
- *Fast acting, very effective*

Steel, Plastic, Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G523 | L-169 | 12 |
| Liquid | 3.78 L | 1 gal | 53G525 | L-169 | 1 |
| Liquid | 20 L | 5.2 gal | 53G527 | L-169 | 1 |
| Liquid | 208 L | 55 gal | 53G528 | L-169 | 1 |

# GLASS CLEANER

Spotless cleaning with fast drying cleaner.

## GLASS CLEANER

### FT 100™

FT 100™ is a surfactant-free, fast-drying cleaning agent that removes light oil, pollution, dust, fingerprints, felt pen, and pencil residues from glass, mirror or whiteboards. **NSF category A1, registration #156602**

*Leaves no **residue**, streaks or strains*

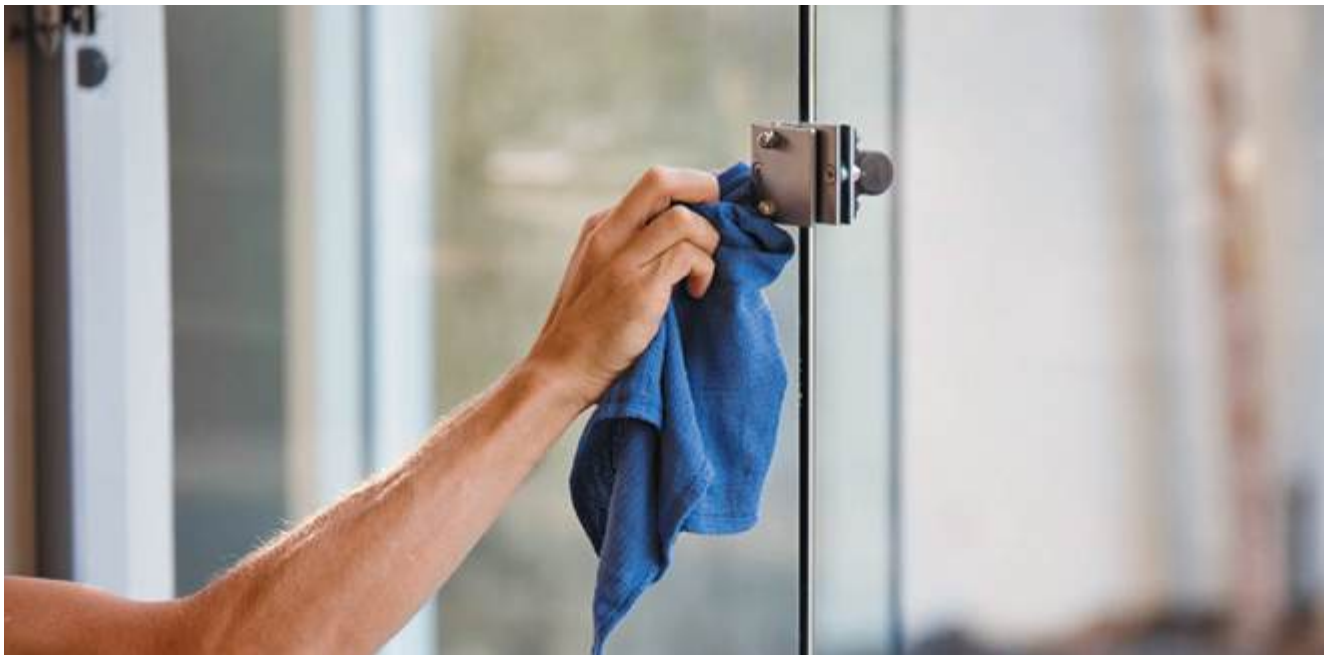
### Applications

- *Final step before any treatment in process (painting, varnish, sealing, gluing, coating, etc.)*
- *Final step before showcasing a final product*

### Benefits

- *Leaves no residue, streaks or stains*
- *Ready to use*

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 400 ml | 13.5 oz. | 53G182 | L-172 | 12 |



# RUST-REMOVAL SOLUTIONS

Breaks down rust from metallic surfaces without the need of abrasives.

RUST AND MINERAL

## RUST AND MINERAL REMOVER + BRIGHTENER

## POWER CLEANER 100™

Highly concentrated cleaner/ brightener that quickly breaks down rust, dissolves limescale, eliminates mineral deposits, and brightens metallic surfaces. **NSF category A3, registration #141944**

### Applications

- ***Removing rust, limescale, and mineral deposits on sheet metal, metallic structures, heating coils, pumps, heat exchanger plates, and storage tanks***
- ***Brightening metallic surfaces***

### Benefits

- ***Fast acting***
- ***Easier and more efficient than manual rust removal***
- ***No need to salvage rusted parts or equipment***

### Features

- ***Phosphoric Acid based: does not contain nitric, hydrofluoric or hydrochloric acid***
- ***Fully restores dull or tarnished metal surfaces***
- ***Can be diluted up to 1:40 with water***
- ***Light oxidation***

Steel Brass Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G253 | L-23 | 12 |
| Liquid | 3.78 L | 1 gal | 53G255 | L-23 | 1 |
| Liquid | 20 L | 5.2 gal | 53G257 | L-23 | 1 |

| ACCESSORIES | Order No. |
|---|---|
| Spout for 20 L square plastic pail | 53L207 |
| Empty refillable trigger sprayer for POWER CLEANER 100 | 53L309 |

*Rusted parts or equipment **can now be salvaged!***

### *Tech tip!*

Don't forget to neutralize with FT 100™

HEAVY RUST (SOAKING)

## NON-CAUSTIC RUST REMOVER

## BIO-RUST™

Non-caustic rust removers that safely eliminates rust on all ferrous alloys. **NSF category A2, registration #146173**

### Applications

- *Removal of rust and other metallic particles*
- *We recommend degreasing parts before using it*

### Benefits

- *Reduces scrap rate*
- *Requires less time and effort than abrasives*
- *Safe to handle and store*

Steel

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G243 | L-134 | 12 |
| Liquid | 20 L | 5.2 gal | 53G247 | L-134 | 1 |
| Liquid | 208 L | 55 gal | 53G248 | L-134 | 1 |

| ACCESSORIES | Order No. |
|---|---|
| Chrome plated drum pump | 53L116 |
| Spout for 20 L square plastic pail | 53L207 |
| Spout for 208 L plastic drum 2" NPT | 53L209 |

### Features

- *Removes rust without attacking surface material*
- *Non-flammable, phosphate-free*
- *Non-hazardous — OSHA and WHMIS compliant*
- *Soak for best results (up to 24h)*

# SURFACE CLEANERS

Make your parts spotless before bonding, corrosion protection, metalizing or delivery.

## SURFACE CLEANER

### FT 200™

FT 200™ prepares metallic surfaces for bonding, corrosion protection, metalizing, welding, and a variety of other processes. Evaporates after it's wiped off surfaces. Lasts 7x longer than traditional fast-evaporating surface preparation solvents such as acetone. **NSF category A1, registration #142612**

#### Applications

- *Preparing metallic surfaces prior to coating*
- *Removal of light contaminants such as processing oils, anticorrosion oils, and light waxess*

#### Benefits

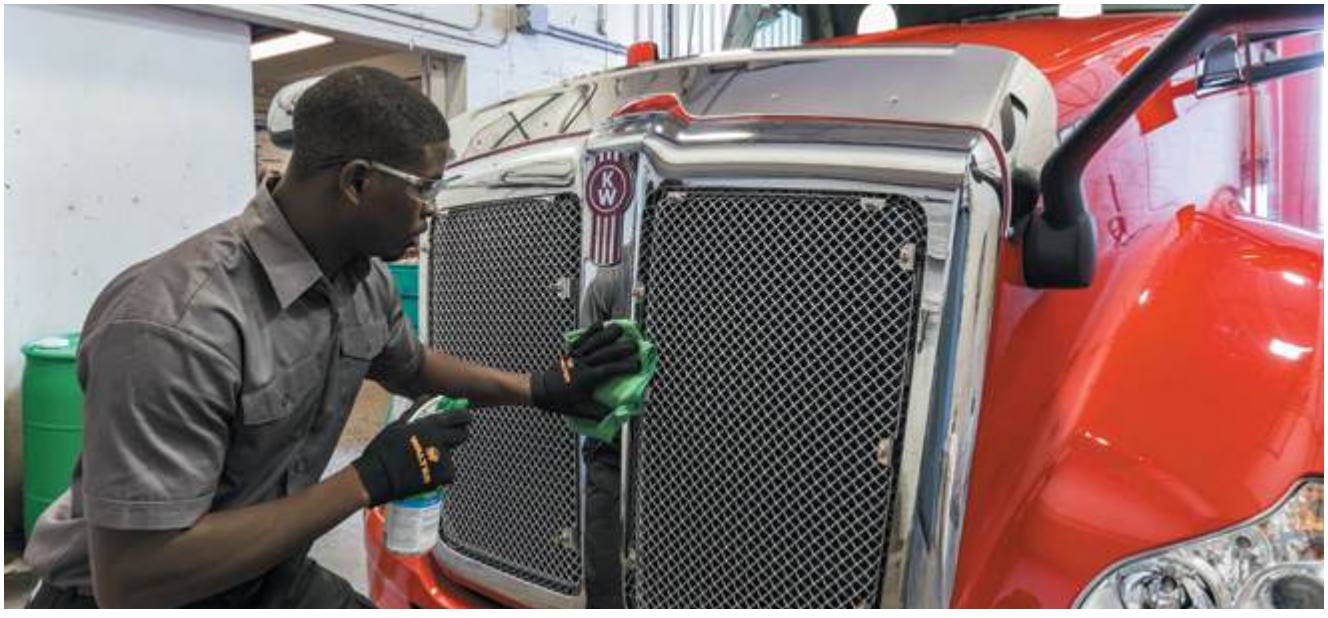
- *Increased surface coverage*
- *A safer alternative to traditional solvents*

#### Features

- *Residue-free after wiping*

Plastic Alu. All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G173 | L-128 | 12 |
| Liquid | 20 L | 5.2 gal | 53G177 | L-128 | 1 |
| Liquid | 208 L | 55 gal | 53G178 | L-128 | 1 |



# STAINLESS STEEL SOLUTIONS

For removing any residue from stainless steel surfaces and provide spotless finish. Cleans, shines and protects all surfaces. Excellent solvent of oils, greases, soluble ink and certain oily inks. Leaving you with no residues, streaks or stains!

SURFACE CLEANER

## STAINLESS STEEL SURFACE PREPARATION CLEANER

### FT 100™

FT 100™ is a surfactant-free, fast-drying cleaning agent that removes light oil pollution, dust, fingerprints, felt pen, and pencil residues. **NSF category A1, registration #154672**

### Applications

- *Final step before any treatment in process (painting, varnish, sealing, gluing, coating, etc.)*
- *Final step before showcasing a final product*

### Benefits

- *Leaves no residue, streaks, or stains*
- *Ready to use*

*Leaves no **residue**, streaks or strains*

### Features

- *Fast acting, fast drying*
- *Great acid neutralizer*
- *Surfactant-free*

NSF

Plastic Glass and Mirror All Metals

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G183 | L-167 | 12 |
| Liquid | 20 L | 5.2 gal | 53G187 | L-167 | 1 |
| Liquid | 208 L | 55 gal | 53G188 | L-167 | 1 |

SURFACE CLEANER

## STAINLESS STEEL CLEANER AND BRIGHTENER

### E-NOX CLEAN™

E-NOX CLEAN™ is a highly concentrated gel formulation cleaner that removes tarnish, rust, and mineral deposits and brightens surfaces. Outperforms abrasives while saving time and energy. **NSF category A3, registration #142614**

*Fast acting and **improves efficiency***

**Tech tip!**

Don't forget to neutralize with STAINLESS STEEL CLEANER FT 100™

### Applications

- *Brightening stained and exposed finishes*
- *Cleaning of food and pharmaceutical equipment*

### Benefits

- *Fast acting*
- *Clean, precise application minimizes dripping*
- *Improves efficiency*

### Features

- *Non-flammable*
- *Phosphoric acid: Free of nitric and hydrochloric acid*
- *Gel sticks to vertical surfaces*

NSF LOW VOC

Stainless Steel Brass Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Gel, sprayer | 500 ml | 16.9 oz. | 53G303 | L-59 | 12 |
| Liquid | 3.78 L | 1 gal | 53G305 | L-59 | 1 |
| Liquid | 20 L | 5.2 gal | 53G307 | L-59 | 1 |
| Liquid | 208 L | 55 gal | 53G308 | L-59 | 1 |

CLEANER AND PROTECTOR

## STAINLESS STEEL CLEANER AND PROTECTOR

## E-NOX SHINE™

E-NOX SHINE™ is a surface cleaner designed to remove light contaminants such as dust, light oils, and fingerprints prior to shipping. Creates a thin, invisible protective film to preserve the quality of your work until it reaches its final destination.
**NSF category A7, C1, registration #131393**

### Applications

- *Removing oil, carbon, light dirt, and fingerprints*
- *Brightening and protecting indoor finishes*

### Benefits

- *Gives finished work a polished, flawless look*

### Features

- *Non-flammable, silicone-free, phosphate-free*
- *Uniform finish, no streaking*
- *Ready to use*

*Gives finished work a polished,* ***flawless look!***

Stainless Steel Plastic Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 500 ml | 16.9 oz. | 53G403 | L-102 | 12 |
| Liquid | 3.78 L | 1 gal | 53G405 | L-102 | 1 |
| Liquid | 20 L | 5.2 gal | 53G407 | L-102 | 1 |
| Liquid | 208 L | 55 gal | 53G408 | L-102 | 1 |

CLEANER AND PROTECTOR

## STAINLESS STEEL CLEANER

Excellent solvent of oils, greases, soluble ink and certain oily inks. Leaves no residue, streaks or stains. Designed to be fast acting and fast drying.

### Applications

- *Stainless steel manufacturing*
- *Aluminum manufacturing*
- *Also works great on brass and copper*
- *Cleans and polish equipment in institutional or food processing, farm equipment or elevator doors*

Stainless Steel Brass Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 500 ml | 16.9 oz. | 53G412 | | 1 |

### Benefits

- *Leaves no residue, streaks or stains*
- *Contains no wax or harsh abrasives*
- *Cleans without abrasives or heavy creams*

### Features

- *Polish, shines and protects*
- *Protects from rusting, corrosion and discoloration*

# AEROSOL CAN REFILL STATIONS

Convenient, cost effective, easy to use refillable aerosol cans. Helpful for reducing the costs associated with the disposal of harmful aerosol cans as well as your environmental impact.

## CLEANER/LUBRICANT/PROTECTOR

### AIR FORCE OMNI™

- *Non-flammable, silicone-free, teflon-free*
- *High flash point 125 ºC (275 ºF)*

| Size | | Order No. |
|---|---|---|
| Metric | US Gal | |
| 20 L | 5.3 gal | 53M012AFOBB |
| 200 L | 52.8 gal | 53M012AFOD |

***The 20L / 5.3 gal. start-up package includes:***

- Air Force station
- 1 x 53X007 OMNI 20 L / 5.3 gal
- 1 x 53M058 pail adaptor
- 6 x 53M132 refillable bottles

***The 200L / 52.8 gal. start-up package includes:***

- Air Force station
- 1 x 53X008 OMNI 200 L / 52.8 gal
- 1 x 53M058 pail adaptor
- 6 x 53M132 refillable bottles

## PLASTIC-SAFE, PARTS DEGREASER

### AIR FORCE AF-PL / AF-PL LOW VOC™

- *Cost-effective brake cleaner alternative*
- *Safe for most plastics and rubber compounds*
- *Non-chlorinated solvents penetrate and displace moisture*

#### AF-PL

| Size | | Order No. |
|---|---|---|
| Metric | US Gal | |
| 20 L | 5.3 gal | 53M012AFPLP |
| 200 L | 52.8 gal | 53M012AFPLD |

#### AF-PL LOW VOC

| Size | | Order No. |
|---|---|---|
| Metric | US Gal | |
| 20 L | 5.3 gal | 53M012AFPLLVP |
| 200 L | 52.8 gal | 53M012AFPLLVD |

***The 20L / 5.3 gal. start-up package includes:***

- Air Force station
- 1 x 53C567 AF-PL 20 L / 5.3 gal

OR

- 1 x 53C557 AF-PL 20 L / 5.3 gal
- 1 x 53M041 pail adaptor
- 6 x 53M101 refillable bottles

***The 200L / 52.8 gal. start-up package includes:***

- Air Force station
- 1 x 53C568 AF-PL 200 L / 52.8 gal

OR

- 1 x 53C558 AF-PL 200 L / 52.8 gal
- 1 x 53M038 drum adaptor
- 6 x 53M101 refillable bottles

## ALL NATURAL CLEANER AND DEGREASER

### AIR FORCE CB 100™

- *Ready-to-use, non-caustic, non-hazardous, phosphate-free, and butyl-free*
- *Cuts through contaminants most solvents can't touch*
- *Great cleaning power at room temperature*
- *VOC-free*

| Size | | Order No. |
|---|---|---|
| Metric | US Gal | |
| 208 L | 55 gal | 57D058 |

***The start-up package includes:***

- Air Force station
- 1 x 53G168 CB 100 208 L / 55 gal
- 4 x 53B105 refillable bottles
- 1 x 53M038 drum adapter

| OPTIONAL NOZZLES | ORDER NO. |
|---|---|
| Wide spray | 53M022 |
| Long extension tube | 53M052 |
| Red nozzle-narrow spray | 53M023 |

| ACCESSORIES | ORDER NO. |
|---|---|
| Air refilling station | 53M010 |
| Air nozzle | 53M015 |
| Replacement valve kit (includes 2 valves and 2 spray tips) | 53M030 |
| Brass screw cap | 53M037 |

| ACCESSORIES | ORDER NO. |
|---|---|
| Replacement filling valve | 53M039 |
| Pail adaptor | 53M041 |
| Drum adaptor | 53M038 |
| Safety valve | 53M025 |

# Corrosion Inhibitor

For STAR™ and UNO™ family of aqueous cleaners

Provides additional corrosion protection when used with aqueous cleaners. Is concentrated, 100% active ingredients and is foamless.

### Applications

- *Use with any UNO™ and STAR™ Cleaning Solution*
- *Add to cleaning solution and/or rinsing water*

LOW VOC

Steel

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 950 ml | 32.1 fl.oz. | 53G001 | L-56 | 1 |
| Liquid | 20 L | 5.2 gal | 53G927 | L-56 | 1 |
| Liquid | 208 L | 55 gal | 53G928 | L-56 | 1 |

### Features

- *Non-flammable. Non-hazardous*
- *Solvent, phosphate and butyl-free*
- *Protects steel parts and equipment from flash-rust*

# Defoamer additive

For STAR™ and UNO™ family of aqueous cleaners

Quick and permanent foam dissipation for aqueous cleaners. Comes concentrated with a suggested dilution rate of 0.5% to 1%.

LOW VOC

Steel

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Sprayer | 950 ml | 32.1 fl.oz. | 53G002 | L-57 | 1 |
| Liquid | 20 L | 5.2 gal | 53G937 | L-57 | 1 |

### Features

- *Silicone-free*
- *Eliminates all foaming with water-based products*

# Titration Kit

For use with STAR™ and UNO™ family of products

High concentration cleaning solutions such as the STAR™ and UNO™ family can be diluted with water to alter the cleaning strength of the product. With the titration kit, you can easily determine the exact level of concentration of your solution to maintain a high level of cleaning productivity.

### Applications

- *For use with automated mechanical cleaning systems*
- *For immersion tank*

| Order No. | (M)SDS | Std. Pkg. |
|---|---|---|
| 53L160 | L-145<br>L-144 | 1 |

# Proportioning system

Offers a complete system for dispensing bulk aqueous cleaners. It will automatically dilute the solution and fill spray bottles, buckets and other containers.

| Order No. | Std. Pkg. |
|---|---|
| 53L162 | 1 |

### Features

- *2 high flow (bucket feed)*
- *2 low flow (bottle feed)*
- *Push button activated*
- *Metering tips from 350:1 to 3.5:1 at 3.5 GPM*

# HARD CORE LIVIN'

**SCOTT ATKIN**
SHOP OWNER & LEAD FABRICATOR

> "Time is the one thing I cannot control. I can't buy time, but I can buy good tools. Having the proper tool for the job saves you tons of time, it just avoids rework."

Hard core or hardcore? For Scott Atkin, shop owner, and lead fabricator, it's both.

He's committed and devoted to his custom metal fabrication business. The endless possibilities of metalworking have inspired him to fabricate unique projects for engineers, architects, designers, movie sets, and regular people.

At the age of 19, Scott founded a skate and snowboard shop. It was his way of staying out of trouble and taking charge of his life. It also allowed him to merge his creativity and passion for extreme sports eventually turning his company into a very well-known brand across the USA and Canada.

Scott was thriving but was ready for a new challenge. After 10 successful years at the shop, there was one thing he hadn't mastered: welding. He signed up for a welding course and was instantly hooked.

To perfect his newly acquired skills, he got a job in the aerospace industry. "You had to be ultra-focused and produce high-quality welds. I was also quite creative coming up with special tools for people to do their jobs safer." Scott realized he needed another outlet to let his creativity flow through building things. "I'm all over the place, I'm a fast mover and thinker. When I come across a problem, I resolve it and want to immediately move forward."

His gained experience would certainly pay off as he now had all the skillset to venture out (again!).

He decided to open a metal fabrication shop that would take on the most original and ambitious projects. "It usually starts with an idea or a challenge". With his out-of-the-ordinary ability to solve problems and his precise welding skills, nothing was off-limits for Scott. "I like problem-solving, coming up with real solutions." He has built a dedicated, passionate, and hard-working team. "We're very few in numbers but the energy is just there. We do massive projects."

Scott depends on good planning and tools to get the job done. "Time is the one thing I cannot control. I can't buy time, but I can buy good tools. Having the proper tool for the job saves you tons of time, it just avoids rework." Nowadays, the shop is a reference in the industry and Scott continues to embody hard core livin' (and welding!).

SCAN THE QR CODE ABOVE TO LEARN MORE ABOUT SSCOTT'S JOURNEY

WALTER
Achieve Greatness™

# ACCESSORIES

## Threaded throw-away adaptors

| Description | Order No. |
|---|---|
| For 1/8" wheels (5/8"NC) | 08B002 |
| For 1/4" wheels (5/8"NC) | 08B001 |
| For 1/2" wheels (5/8"NC) | 08B003 |

## Reusable adaptor kit

| Description | Order No. |
|---|---|
| For depressed center wheels | 08B031 |

## Mandrels for ZIP wheels

| Description | Order No. |
|---|---|
| **Flush mandrels with 1/4" shaft** | |
| For 2 and 3" wheels, 1/4" and 3/8" arbor | 11L007 |
| For 2" wheels, 5/16" arbor | 11L001 |
| For 3" and 4" wheels, 1/4" arbor | 11L006 |
| For 3" and 4" wheels, 3/8" arbor | 11L003 |
| **General purpose mandrels with 1/4" shaft** | |
| For 2" wheels, 3/8" arbor | 11L008 |
| For 2" wheels, 5/16" arbor | 11L002 |
| For 3" and 4" wheels, 3/8" arbor | 11L004 |
| **with 5/16" shaft** | |
| For 3" and 4" wheels, 3/8" arbor | 11L005 |

## Mandrel for finishing wheels

| Description | Order No. |
|---|---|
| Plastic, 8 mm shaft, self-expanding, flush mounting for 1" thick wheels | 07C003 |

## 1/4" shaft for TWIST backing pads

| Description | Order No. |
|---|---|
| with 1/4"–20 thread | |
| For 2" and 3" pads | 04X001 |

## Clamping flanges

| Description | Order No. |
|---|---|
| Clamping flanges set to mount 9" cut-off wheels on 5/8"–11 spindles | 30B022 |

## Mounting accessories for FX wheels

Mandrels for use on straight grinders and drills

| Description | Order No. |
|---|---|
| **For use with 4" FX wheels** | |
| 1/4" shaft | 07X004 |
| 8 mm shaft | 07X003 |
| **For use with 6" FX wheels** | |
| 1/4" shaft | 07X006 |
| 8 mm shaft | 07X005 |
| **Extension mandrels for use on angle grinders** | |
| M14 x 2.0 thread | 07C005 |
| 5/8"-11 thread | 07C006 |

*Two wheels can be mounted on each mandrel.*

## Wheel dressers

| Description | Order No. |
|---|---|
| **For bench grinder wheels** | |
| Standard | 12E001 |
| Heavy-duty | 12E002 |
| **Replacement wheels** | |
| Set for 12E001 | 12E004 |
| Set for 12E002 | 12E005 |

## Reducer bushings

| Description | Order No. |
|---|---|
| Set 3/4" wide, from 1" to 3/4", 5/8" and 1/2" | 12E006 |
| Set 1" wide, from 1" to 3/4", 5/8" and 1/2" | 12E007 |
| Pair of bushings from 1" to 7/8" | 12E008 |

## Extra clamping nuts

| Description | Order No. |
|---|---|
| **For 4" backing pads** | |
| 3/8"–24 | 15D015 |
| **For 4 1/2" and 5" backing pads** | |
| M10 × 1.25 | 15D010 |
| 5/8"–11 | 15D014 |
| **For 6" and 7" backing pads** | |
| 5/8"–11 | 15H014 |
| **For 7" Turbo Action backing pad** | |
| 5/8"–11 | 15M014 |
| **For 4 1/2" and 5" backing pads** | |
| 5/8"–11 | 15D024 |
| **For 7" backing pads** | |
| 5/8"–11 | 15H025 |

## Spacer washers

| Description | Order No. |
|---|---|
| For grinders with: 5/8"–11 spindle | 07Q001 |
| For grinders with: M14×2.0 spindle | 07Z005 |

## Wire brush adaptors and mandrels

| Description | Order No. |
|---|---|
| **Use these threaded adaptors to convert brushes with 5⁄8”–11 arbor** | |
| To M10 × 1.25 female | 13D001 |
| To M10 × 1.5 female | 13D002 |
| To 3/8”–24 female | 13D003 |
| To 3/8”–16 female | 13D007 |
| **Use these mandrels for double-sided knot-twisted mounted brushes** | |
| To fit with 13C303 (3/8” X 1/4”) | 13D008 |
| To fit with 13C404 (1/2” X 1/4”) | 13D009 |

## SPIN-ON performance kit

| Description | Order No. |
|---|---|
| Contains 1 universal clamping nut holder for all types of clamping flanges. Allows quick and easy storage of clamping flange when not in use. Also includes 2 silicone rings. | 30B024 |

## Mounting flanges

| Description | Order No. |
|---|---|
| 5/8”–11 clamping nut for 6150, 6161, 6170, 6190, 6255, 6260, 6350 and 6360. | 30B037 |
| Thick backing flange for a flush fit and minimal exposure of spindle beyond the clamping nut for WALTER grinders with: 5/8”–11 spindles | 30B017 |

## Quick release backing flange

| Description | Order No. |
|---|---|
| For quick and easy removal of wheel | 30B057 |
| Special heat resistant silicone ring for retention of the back flange to the spindle. Package of 10. | 30B027 |
| Quick nut 5/8”-11 | 30B020 |

## Carrying case

| Description | Order No. |
|---|---|
| Sturdy steel carrying case with protective foam and ample room for accessories. For 6141, 6145, 6150, 6161, 6255, and 6260 grinders. | 30B010 |

## Flanges for flush mounting wheels

| Description | Order No. |
|---|---|
| Thick backing flange for a flush fit and minimal exposure of spindle beyond the clamping nut for WALTER grinders with: 5/8”–11 spindles | 30B017 |
| **Flush mounting set (includes special flange and clamping nut)** | |
| Complete set for a flush fit and minimal spindle exposure beyond the clamping nut, for other brands of grinders with: 5/8”–11 spindles | 30B021 |
| **ErgoFlex mounting set** | |
| 5/8”–11 spindle | 30B030 |

## Spacer washers

| Description | Order No. |
|---|---|
| For grinders with: 5/8”–11 spindle | 07Q001 |
| For grinders with: M14×2.0 spindle | 07Z005 |

## Pin keys

| Description | Order No. |
|---|---|
| For clamping nuts | 48Z148 |

## Side handles

| Description | Order No. |
|---|---|
| 4-1/2”, 5” and 6”, Quick-Step Big Buff and Line-Mate III | 30B075 |
| 7” and 9” | 48M401 |
| Straight grinder 6145 | 48L555 |

## Anti-vibration handle

| Description | Order No. |
|---|---|
| 4-1/2”, 5”, 6” angle grinders | 30B075 |
| MAXI 7” and 9” | 30B078 |

## Flexible shaft

| Description | Order No. |
|---|---|
| For delicate finishing work with 6141 and 6145. 1/4" collet, 5 ft. long. | 30B050 |

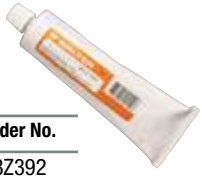
## Bench mount

| Description | Order No. |
|---|---|
| For use with flexible shaft, for 6141 and 6145. | 30B002 |

## Replacement collets

| Size | Order No. |
|---|---|
| **For 6141 and 6145.** | |
| 1/4" | 30B046 |
| 1/8" | 30B047 |
| 6 mm | 30B048 |

## Special "Top-Up" lubricants



| Description | Order No. |
|---|---|
| For models: 6145, 6150, 6161, 6170, 6190, 6255, 6260, 6265, 6268, 6330, 6350, 6352, 6360 and 6362. | 48Z392 |

## Carbon brush Diamond brush seating stick

| Order No. |
|---|
| 48Z449 |

## Spouts

*53L210**

*53L209**

*53L207**

*53L113**

| Description | Order No. |
|---|---|
| Spout for 5 L / 1.3 gal plastic pail | 53L113 |
| Spout for 20 L / 5.3 gal square plastic pail | 53L207 |
| Spout for 208 L plastic drum and 200 L / 55 gal metal drum, 2" NPT | 53L209 |
| Spout for 200 L metal drum, 3/4" NPT | 53L210 |

## Accessories for air grinders

| Description | Order No. |
|---|---|
| **Use these adaptors to convert accessories with 5/8"-11 arbors** | |
| To 3/8"-16 (male) | 13D004 |
| To 5/16"-24 (male) | 13D005 |
| **Use these extensions to mount accessories** | |
| With 3/8"-24 on spindles with 3/8"-24 thread | 08B006 |
| With 3/8"-24 on spindles with 7/16"-20 thread | 08B005 |
| With 5/8"-11 on spindles with 1/2"-13 thread | 08B008 |
| **Clamping nut for use with above extension 3/8"-24 thread, to mount grinding wheels** | |
| With 5/8" arbor | 08B007 |
| **Mounting flange to mount 4" type 27 grinding wheels on air grinders** | |
| with 3/8"-24 spindle | 08B004 |

## Cutting guard

| Size | Order No. |
|---|---|
| **Designed to make all cutting operations even safer.** | |
| 3" | 30B051 |
| 7" | 30B065 |
| 9" | 30B066 |

## Grinder Grip™ magnet

Strong magnet to fix your grinder to any ferrous metal surface.

| Description | Order No. |
|---|---|
| **Compatible with DEWALT grinder models:** DWE402, DW831, DWE43066, DWE43113, DWE43114, DWE43840, DCG413B, D28065, D28402, and others | 30G002 |
| **Compatible with MAKITA grinder models:** 9005B, GA5020, 9558, GA5010, GA5043, GA6010, GA6020, 9566 and others | 30G003 |
| **Compatible with MILWAUKEE grinder models:** 6121, 6124, 6130, 2780, 6143, 6116, 6117, 6142, 2680, 2981, 2783 and others | 30G004 |
| **Compatible with HILTI grinder models:** AG500-A22, AG600-A36, AG450-7, AG500-12, AG500-7, AG500-11 and others | 30G005 |

## WALTER industrial gloves

Made of 100% black goatskin leather, with neoprene inserts that reduce vibration. The thumb curve is made with Kevlar™.

| Size | Order No. |
|---|---|
| Large | 30B093 |
| Extra-Large | 30B095 |

## BIO-CIRCLE® POWERCLOTH™

- *Ideal for streak free clean-ups*
- *Non-abrasive, won't scratch mirror finish, paint or clear coat*

| Description | Order No. | Std. Pkg. |
|---|---|---|
| Bag | 57M001 | 10 |

## REFILLABLE TRIGGER SPRAYERS

Practical and sturdy, all bottles are clearly identified with product specific labels showing product features, hazard information and directions for use. High-quality, resistant trigger for longest life. Transparent bottle allows you to see product level. Can be refilled hundreds of times.

| Description | Size | | Order No. | Std. Pkg. |
|---|---|---|---|---|
| | Metric | US Gal | | |
| UNO S F dilution | 950 ml | 32.1 oz | 53L158 | 1 |
| UNO S F | 500 ml | 16.9 oz | 53L315 | 1 |
| POWER CLEANER 100 | 500 ml | 16.9 oz | 53L309 | 1 |
| SC 400 | 500 ml | 16.9 oz | 53L313 | 1 |
| OMNI | 500 ml | 16.9 oz | 53L314 | 1 |
| UNO S | 500 ml | 16.9 oz | 53L335 | 1 |
| E-NOX SHINE | 500 ml | 16.9 oz | 53L316 | 1 |
| FT 100 | 500 ml | 16.9 oz | 53L323 | 1 |
| FT 200 | 500 ml | 16.9 oz | 53L322 | 1 |
| E-NOX CLEAN | 500 ml | 16.9 oz | 53L337 | 1 |
| PRO CLEAN | 500 ml | 16.9 oz | 53L341 | 1 |
| SLAP SHOT | 500 ml | 16.9 oz | 53L311 | 1 |
| HANG-ON | 500 ml | 16.9 oz | 53L331 | 1 |
| COOLCUT | 500 ml | 16.9 oz | 53L330 | 1 |
| BOLT-OUT | 500 ml | 16.9 oz | 53L332 | 1 |
| CB 100 | 500 ml | 16.9 oz | 53L342 | 1 |
| CB 100 ALU | 500 ml | 16.9 oz | 53L343 | 1 |

## INDUSTRIAL PUMP SPRAYERS

Rugged and convenient sprayers designed to effectively dispense a variety of BIO-CIRCLE® cleaners and lubricants.

The spray pattern can easily be adjusted from a pin pointjet for accurate product dispensing to a wide fan for fast surface coverage. Viton gaskets and corrosion-proofspring for optimal chemical resistance. These thick walled polyethylene bottles feature a wide neck for easy filling hundreds of times.

| Description | Size | | Order No. | Std. Pkg. | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| For SC 400, PRO CLEAN, CB 100, AF-PL, FT 100, FT 200, OMNI, ALL SEASON | 900 ml | 30 oz | 53L120 | 1 | 1 |

| ACCESSORIES | Order No. |
|---|---|
| Replacement Viton gasket set | 53L100 |
| Replacement swirl piece (without gaskets) | 53L114 |

# BIO-CIRCLE® PARTS CLEANING SYSTEM ACCESSORIES

## Parts washing basket

- 9" dia x 8 ¼" high
- 1/4" holes

55B004

## Filter cartridge

| | |
|---|---|
| • Reusable 350 micron | 55B011 |
| • Reusable 200 micron | 55B038 |
| • Reusable 100 micron | 55B036 |
| • Disposable 100 micron | 55B012 |
| • Disposable 200 micron | 55B021 |

## BIO-CIRCLE® scraper

55B063

## Angled flow through brush

55B007

## Disposable filter bags for BIO-CIRCLE® machines

| | |
|---|---|
| • 50 micron | 55B041 |
| • 100 micron | 55B042 |
| • 200 micron | 55B043 |

## BIO-CIRCLE® Air Drying Gun

55B085

## Replacement flow-through brush

55B005

## Filter housing spanner

- For MAXI

55B035

# SPOUTS

**Tech tip!**
*When transferring flammable liquids, always ensure containers are grounded and follow normal safety rules.*

| Description | Order No. | |
|---|---|---|
| Spout for 5 L / 1.3 gal plastic pail | 53L113 | * |
| Spout for 20 L / 5.3 gal square plastic pail | 53L207 | * |
| Spout for 20 L / 5.3 gal round metal pail and 200 L / 55 gal metal drum, (metal spout), ¾" NPT | 53L208 | * |
| Spout for 208 L plastic drum and 200 L / 55 gal metal drum, 2" NPT | 53L209 | |
| Spout for 200 L metal drum, ¾" NPT | 53L210 | * |

** Allows to fill 500 ml trigger sprayer bottles or any other larger container directly.*

*53L113**

5 L / 1.3 gal plastic pail

*53L207**

20 L / 5.3 gal square plastic pail

*53L209**
*2" NPT*

*53L210**
*3/4" NPT*

208 L / 55 gal plastic drum

*53L208**
*3/4" NPT*

200 L / 55 gal metal drum

## Metal drum pump

For use with lubricants or viscous liquids

| Description | Order No. |
|---|---|
| Delivers 12 oz per stroke. | 53L115 |

## Chrome plated drum pump

For use with aqueous or solvent based cleaners

| Description | Order No. |
|---|---|
| Delivers 8 oz per stroke | 53L116 |

## Hand pump

For effective fluid transfer

| Description | Order No. |
|---|---|
| Use with BIO-CIRCLE® | 55B051 |

# THE **WALTER VENDING** PROGRAM

OPTIMIZED **CHOICE**

OPTIMIZED **QUANTITIES**

OPTIMIZED **INVENTORY**

OPTIMIZED **SAVINGS**

# THE WALTER VENDING PROGRAM

**The right tool at the click of a button. Get the convenience of**

READY-TO-GO, PRE-PACKED UNITS
ROUND-THE-CLOCK AVAILABILITY

***Get our vending program to work for you and benefit from:***

- Pre-packed products
- Convenient single-pack quantities
- Vast product choice
- Optimized inventory

**See back cover for contact details**

## WALTER PRODUCTS AVAILABLE

PACKS OF 5

### *ZIP WHEEL™ TYPE 1*

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11T042V | 4-1/2X3/64 TYPE 1 | 5 | 80 |
| 11T052V | 5X3/64X7/8 TYPE 1 | 5 | 80 |
| 11T062V | 6X3/64X7/8 TYPE 1 | 5 | 40 |

### *ZIP TITAN™*

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11H042V | 4-1/2X3/64 ZIP TITAN WHEELS | 5 | 80 |
| 11H052V | 5X3/64 ZIP TITAN WHEELS | 5 | 80 |
| 11H062V | 6X3/64 ZIP TITAN WHEELS | 5 | 40 |

### *ZIP WHEEL™ TYPE 27*

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11T142V | 4-1/2X3/64 TYPE 27 | 5 | 80 |
| 11T152V | 5X3/64X7/8 TYPE 27 | 5 | 80 |
| 11T162V | 6X3/64X7/8 TYPE 27 | 5 | 80 |

PACKS OF 5

## ZIP+ XTRA™ TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11T242V | 4-1/2 x 1/16 ZIP + WHEEL | 5 | 80 |
| 11T252V | 5 X 1/16 ZIP + WHEEL | 5 | 80 |
| 11T262V | 6 X 1/16 ZIP + WHEEL | 5 | 40 |

## ZIP STAINLESS™ TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11F042V | 4-1/2X3/64 ZIP STAINLESS | 5 | 80 |
| 11F052V | 5"X3/64 ZIP STAINLESS | 5 | 80 |
| 11F062V | 6"X3/64 ZIP STAINLESS | 5 | 40 |

## ZIP+ XTRA™ TYPE 27

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11T453V | 4-1/2 X 1/16 ZIP+ TYPE 27 | 5 | 80 |
| 11T503V | 5 X 1/16 ZIP+ WHEELS TYPE 27 | 5 | 80 |
| 11T603V | 6 X 1/16 ZIP+ TYPE 27 | 5 | 40 |

## ZIP STAINLESS™ TYPE 27

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11F142V | 4-1/2X3/64 ZIP ST TYPE 27 | 5 | 80 |
| 11F152V | 5X3/64 ZIP STAINLESS TYPE 27 | 5 | 80 |
| 11F162V | 6X3/64 ZIP STAINLESS TYPE 27 | 5 | 40 |

## TOUGHCUT™

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11R042V | 4-1/2X3/32 A30 TOUGHCUT | 5 | 40 |
| 11R052V | 5X3/32X7/8 A30 TOUGHCUT | 5 | 40 |
| 11R062V | 6X3/32X7/8 A30 TOUGHCUT | 5 | 20 |

## ZIP ALU™ TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11U042V | 4-1/2X3/64 ZIP ALU WHEEL | 5 | 80 |
| 11U052V | 5X3/64 ZIP ALU WHEEL | 5 | 80 |
| 11U062V | 6 X 3/64 ZIP ALU WHEEL | 5 | 40 |

## ZIP ONE™ TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11T542V | 4-1/2x1/32 ZIP ONE WHEEL | 5 | 80 |
| 11T552V | 5"x 1/32" ZIP ONE WHEEL | 5 | 80 |

## ZIP ALU™ TYPE 27

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11U142V | 4-1/2X3/64 ZIP ALU TYPE 27 | 5 | 80 |
| 11U152V | 5X3/64 ZIP ALU TYPE 27 | 5 | 80 |
| 11U162V | 6 X 3/64 ZIP ALU TYPE 27 | 5 | 40 |

## ZIP ONE™ TYPE 27

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11T642V | 4-1/2x1/32 ZIP ONE TYPE 27 | 5 | 80 |
| 11T652V | 5"x 1/32" ZIP ONE TYPE 27 | 5 | 80 |
| 11T662V | 6"x 1/32" ZIP ONE TYPE 27 | 5 | 40 |

## ZIP ALU™ TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11U303V | 3X1/32X3/8 ALU C/O WHEEL | 5 | 40 |

# THE WALTER VENDING PROGRAM

PACKS OF 5

## COMBO ZIP™

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11T842V | 4-1/2X5/64 COMBO ZIP | 5 | 80 |
| 11T852V | 5X5/64 COMBO ZIP | 5 | 80 |
| 11T862V | 6X5/64 COMBO ZIP | 5 | 40 |

## ZIP™ 2" TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11L202V | 2X1/32X1/4 ZIP CUT-OFF WHEELS | 5 | 40 |
| 11L203V | 2X1/32X3/8 ZIP CUT-OFF WHEELS | 5 | 40 |
| 11L211V | 2X1/16X5/16 ZIP CUT-OFF WHEELS | 5 | 40 |
| 11L212V | 2X1/16X1/4 ZIP CUT-OFF WHEELS | 5 | 40 |
| 11L213V | 2X1/16X3/8 ZIP C/O WHEEL | 5 | 40 |
| 11L221V | 2X1/8X5/16 ZIP CUT-OFF WHEELS | 5 | 40 |
| 11L223V | 2X1/8X3/8 ZIP C/O WHEEL | 5 | 40 |
| 11L231V | 2X1/4X5/16 ZIP GR WHEELS | 5 | 40 |
| 11L233V | 2X1/4X3/8 ZIP C/O WHEEL | 5 | 40 |
| 11L251V | 2X1/2X5/16 ZIP GR WHEELS | 5 | 40 |
| 11L253V | 2X1/2X3/8 ZIP C/O WHEEL | 5 | 40 |

## ZIP™ 2 1/2" TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11L262V | 2.5X1/16X1/4 ZIP CUT-OFF WHEEL | 5 | 40 |
| 11L263V | 2.5X1/32X3/8 ZIP CUT-OFF WHEEL | 5 | 40 |

## ZIP™ 3" TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11L302V | 3X1/32X1/4 ZIP C/O WHEELS | 5 | 40 |
| 11L303V | 3X1/32X3/8 ZIP C/O WHEELS | 5 | 40 |
| 11L308V | 3X1/32X3/8 TYPE 27 | 5 | 40 |
| 11L312V | 3X1/16X1/4 ZIP C/O WHEELS | 5 | 40 |
| 11L313V | 3X1/16X3/8 ZIP CUT-OFF WHEELS | 5 | 40 |
| 11L316V | 3X1/16X1/4 ZIP C/O WHEELS | 5 | 40 |
| 11L317V | 3X1/16X3/8 ZIP C/O WHEELS | 5 | 40 |
| 11L322V | 3X1/8X1/4 ZIP C/O WHEELS | 5 | 40 |
| 11L323V | 3X1/8X3/8 ZIP CUT-OFF WHEELS | 5 | 40 |
| 11L333V | 3X1/4X3/8 ZIP GR WHEELS | 5 | 20 |
| 11L353V | 3X1/2X3/8 ZIP GR WHEELS | 5 | 20 |

## ZIP™ 4" TYPE 1

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 11L402V | 4X1/32X1/4 ZIP C/O WHEELS | 5 | 40 |
| 11L403V | 4X1/32X3/8 ZIP C/O WHEELS | 5 | 40 |
| 11L405V | 4X1/32X5/8 ZIP C/O WHEELS | 5 | 40 |
| 11L406V | 4X1/32X1/4 ZIP C/O WHEELS | 5 | 40 |
| 11L408V | 4X1/32X3/8 ZIP C/O WHEELS | 5 | 40 |
| 11L412V | 4X1/16X1/4 ZIP C/O WHEELS | 5 | 40 |
| 11L413V | 4X1/16X3/8 ZIP C/O WHEELS | 5 | 40 |
| 11L415V | 4X1/16X5/8 ZIP C/O WHEELS | 5 | 40 |
| 11L417V | 4X1/16X3/8 ZIP C/O WHEELS | 5 | 40 |

# PACKS OF 5

## COOLCUT XX™

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 15X452V | 4-1/2 GR24 COOLCUT XX DISCS | 5 | 50 |
| 15X453V | 4-1/2 GR36 COOLCUT XX DISCS | 5 | 50 |
| 15X455V | 4-1/2 GR50 COOLCUT XX | 5 | 50 |
| 15X456V | 4-1/2 GR60 COOLCUT XX DISCS | 5 | 50 |
| 15X458V | 4-1/2 GR80 COOLCUT XX DISCS | 5 | 50 |
| 15X460V | 4-1/2 GR100 COOLCUT XX | 5 | 50 |
| 15X462V | 4-1/2 GR120 COOLCUT XX DISCS | 5 | 50 |
| 15X473V | 4.5"GR36 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X475V | 4.5"GR50 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X476V | 4.5"GR60 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X478V | 4.5"GR80 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X482V | 4.5"GR120 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X502V | 5" GR24 COOLCUT XX DISCS | 5 | 50 |
| 15X503V | 5" GR36 COOLCUT XX DISCS | 5 | 50 |
| 15X505V | 5" GR50 COOLCUT XX | 5 | 50 |
| 15X506V | 5" GR60 COOLCUT XX DISCS | 5 | 50 |
| 15X508V | 5" GR80 COOLCUT XX DISCS | 5 | 50 |
| 15X510V | 5" GR100 COOLCUT XX | 5 | 50 |
| 15X512V | 5" GR120 COOLCUT XX DISCS | 5 | 50 |
| 15X523V | 5" GR36 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X525V | 5" GR50 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X526V | 5" GR60 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X528V | 5" GR80 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X532V | 5" GR120 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X602V | 6" GR24 COOLCUT XX DISCS | 5 | 50 |
| 15X603V | 6" GR36 COOLCUT XX DISCS | 5 | 50 |
| 15X605V | 6" GR50 COOLCUT XX DISCS | 5 | 50 |
| 15X606V | 6" GR60 COOLCUT XX DISCS | 5 | 50 |
| 15X608V | 6" GR80 COOLCUT XX DISCS | 5 | 50 |
| 15X610V | 6" GR100 COOLCUT XX DISCS | 5 | 50 |
| 15X612V | 6" GR120 COOLCUT XX DISCS | 5 | 50 |
| 15X622V | 6" GR24 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X623V | 6" GR36 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X625V | 6" GR50 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X626V | 6" GR60 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X628V | 6" GR80 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X630V | 6" GR100 COOLCUT XX/Q. CHANGE | 5 | 50 |
| 15X632V | 6" GR120 COOLCUT XX/Q. CHANGE | 5 | 50 |

## XTRACUT™

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 15A453V | 4.5" GR36 SANDING DISCS | 5 | 50 |
| 15A456V | 4.5" GR60 SANDING DISCS | 5 | 50 |
| 15A458V | 4.5" GR80 SANDING DISCS | 5 | 50 |
| 15A503V | 5" GR36 SANDING DISCS | 5 | 50 |
| 15A506V | 5" GR60 SANDING DISCS | 5 | 50 |
| 15A508V | 5" GR80 SANDING DISCS | 5 | 50 |
| 15A603V | 6" GR36 SANDING DISCS | 5 | 50 |
| 15A606V | 6" GR60 SANDING DISCS | 5 | 50 |
| 15A608V | 6" GR80 SANDING DISCS | 5 | 50 |
| 15A703V | 7" GR36 SANDING DISCS | 5 | 50 |
| 15A706V | 7" GR60 SANDING DISCS | 5 | 50 |
| 15A708V | 7" GR80 SANDING DISCS | 5 | 50 |

## TOPCUT™

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 15P452V | 4-1/2" GR24 TOPCUT DISCS | 5 | 50 |
| 15P453V | 4-1/2" GR36 TOPCUT DISCS | 5 | 50 |
| 15P456V | 4-1/2" GR60 TOPCUT DISCS | 5 | 50 |
| 15P458V | 4-1/2" GR80 TOPCUT DISCS | 5 | 50 |
| 15P502V | 5" GR24 TOPCUT SAND DISCS | 5 | 50 |
| 15P503V | 5" GR36 TOPCUT SAND DISCS | 5 | 50 |
| 15P506V | 5" GR60 TOPCUT SAND DISCS | 5 | 50 |
| 15P508V | 5" GR80 TOPCUT SAND DISCS | 5 | 50 |

# THE WALTER VENDING PROGRAM

## COOLCUT™

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 15C452V | 4-1/2 GR24 COOLCUT DISCS | 5 | 50 |
| 15C453V | 4-1/2 GR36 COOLCUT DISCS | 5 | 50 |
| 15C454V | 4-1/2 GR40 COOLCUT DISCS | 5 | 50 |
| 15C455V | 4-1/2 GR50 COOLCUT DISCS | 5 | 50 |
| 15C456V | 4-1/2 GR60 COOLCUT DISCS | 5 | 50 |
| 15C458V | 4-1/2 GR80 COOLCUT DISCS | 5 | 50 |
| 15C460V | 4-1/2 GR100 COOLCUT DISCS | 5 | 50 |
| 15C462V | 4-1/2 GR120 COOLCUT DISCS | 5 | 50 |
| 15C502V | 5” GR24 COOLCUT SAND DISCS | 5 | 50 |
| 15C503V | 5” GR36 COOLCUT SAND DISC | 5 | 50 |
| 15C504V | 5” GR40 COOLCUT SAND DISCS | 5 | 50 |
| 15C505V | 5” GR50 COOLCUT SAND DISC | 5 | 50 |
| 15C506V | 5” GR60 COOLCUT SAND DISCS | 5 | 50 |
| 15C508V | 5” GR80 COOLCUT SAND DISCS | 5 | 50 |
| 15C510V | 5” GR100 COOLCUT SAND DISC | 5 | 50 |
| 15C512V | 5” GR120 COOLCUT SAND DISC | 5 | 50 |

## QUICK-STEP XX™

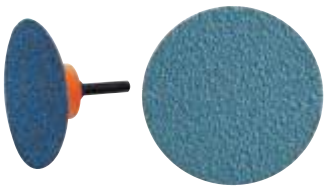
| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 15V412V | 4-1/2 GR120 QUICK STEP XX DISCS | 5 | 50 |
| 15V418V | 4-1/2 GR180 QUICK STEP XX DISCS | 5 | 50 |
| 15V424V | 4-1/2 GR240 QUICK STEP XX DISCS | 5 | 50 |
| 15V512V | 5” GR120 QUICK STEP XX DISCS | 5 | 50 |
| 15V518V | 5” GR180 QUICK STEP XX DISCS | 5 | 50 |
| 15V524V | 5” GR240 QUICK STEP XX DISCS | 5 | 50 |
| 15V612V | 6” GR120 QUICK STEP XX DISCS | 5 | 50 |
| 15V618V | 6” GR180 QUICK STEP XX DISCS | 5 | 50 |
| 15V624V | 6” GR240 QUICK STEP XX DISCS | 5 | 50 |

## TWIST FLAP DISCS™

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 04A254V | 2-1/2” FLAP DISC - GR40 | 2 | 80 |
| 04A256V | 2-1/2” FLAP DISC - GR60 | 2 | 80 |
| 04A258V | 2-1/2” FLAP DISC - GR80 | 2 | 80 |
| 04A262V | 2-1/2” FLAP DISC - GR120 | 2 | 80 |

## TWIST™ COOLCUT SANDING DISCS

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 04C203V | 2” TWIST COOLCUT XX - GR 36 | 10 | 100 |
| 04C205V | 2” TWIST COOLCUT XX - GR 50 | 10 | 100 |
| 04C206V | 2” TWIST COOLCUT XX - GR 60 | 10 | 100 |
| 04C208V | 2” TWIST COOLCUT XX - GR 80 | 10 | 100 |
| 04C212V | 2” TWIST COOLCUT XX - GR 120 | 10 | 100 |
| 04C303V | 3” TWIST COOLCUT XX - GR 36 | 10 | 100 |
| 04C305V | 3” TWIST COOLCUT XX - GR 50 | 10 | 100 |
| 04C306V | 3” TWIST COOLCUT XX - GR 60 | 10 | 100 |
| 04C308V | 3” TWIST COOLCUT XX - GR 80 | 10 | 100 |
| 04C312V | 3” TWIST COOLCUT XX - GR 120 | 10 | 100 |



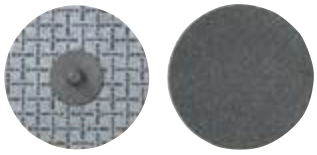
## TWIST™ TOPCUT SANDING DISCS

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 04D203V | 2” TOPCUT DISC - GR 36 | 10 | 400 |
| 04D205V | 2” TOPCUT DISC - GR 50 | 10 | 400 |
| 04D206V | 2” TOPCUT DISC - GR 60 | 10 | 400 |
| 04D208V | 2” TOPCUT DISC - GR 80 | 10 | 400 |
| 04D210V | 2” TOPCUT DISC - GR 100 | 10 | 400 |
| 04D212V | 2” TOPCUT DISC - GR 120 | 10 | 400 |
| 04D303V | 3” TOPCUT DISC - GR 36 | 10 | 200 |
| 04D305V | 3” TOPCUT DISC - GR 50 | 10 | 200 |
| 04D306V | 3” TOPCUT DISC - GR 60 | 10 | 200 |
| 04D308V | 3” TOPCUT DISC - GR 80 | 10 | 200 |
| 04D310V | 3” TOPCUT DISC - GR 100 | 10 | 200 |
| 04D312V | 3” TOPCUT DISC - GR 120 | 10 | 200 |

PACKS OF 5

## TWIST™ BLENDEX CONDITIONING DISCS

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 04G202V | 2" BLENDEX TWIST - COARSE | 5 | 200 |
| 04G203V | 2" BLENDEX TWIST - MEDIUM | 5 | 200 |
| 04G204V | 2" BLENDEX TWIST - FINE | 5 | 200 |
| 04G205V | 2" BLENDEX TWIST - S. FINE | 5 | 200 |
| 04G302V | 3" BLENDEX TWIST - COARSE | 5 | 200 |
| 04G303V | 3" BLENDEX TWIST - MEDIUM | 5 | 200 |
| 04G304V | 3" BLENDEX TWIST - FINE | 5 | 200 |
| 04G305V | 3" BLENDEX TWIST - S. FINE | 5 | 100 |



## TWIST™ BLENDEX U DISCS

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 04U321V | 3" BLENDEX U TWIST-2SF | 2 | 20 |
| 04U322V | 3" BLENDEX U TWIST-6SF | 2 | 20 |
| 04U323V | 3" BLENDEX U TWIST-6AM | 2 | 20 |

## FX™ SURFACE CLEANING DISCS

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 04L200V | 2" FX DISC | 2 | 80 |
| 04L300V | 3" FX DISC | 2 | 40 |

## TWIST™ FELT DISCS

| Order No. | Description | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| 04T204V | 2" TWIST FELT DISC | 5 | 200 |
| 04T304V | 3" TWIST FELT DISC | 5 | 100 |

## DRILLCO 350N AND 400N SERIES

**NOW AVAILABLE IN BLISTER PACKS**

See pages 252 and 283 for assortments

# CUTTING TOOL SOLUTIONS

**DRILLS**

**TAPS**

**DIES**

**CARBIDE BURRS**

**ANNULAR CUTTERS**

**TCT HOLE CUTTERS**

**MAGNETIC DRILLS**

**REAMERS**

**END MILLS**

**COUNTERSINKS**

**CUTTING FLUIDS AND LUBRICANTS**

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL | WALTER

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# SAFETY FIRST

## Tips on the Safest and Most Effective Use of Cutting Tools*

- Disconnect the power tool prior to changing cutting tools.
- Keep cutting tools sharp and clean to prevent injuries and for best performance.
- Inspect the cutting tool for any sign of damage. Do not use if damaged.
- Mounting: Use only approved mounting hardware for the cutting tools. The chuck must center the cutting tool securely and provide the required support.
- Use mounting straps or a permanent magnet design when using a magnetic drill vertically. This prevents it from falling during power interruptions.
- When possible, drilling guards should be used to protect the operator.
- Always wear eye protection. Wear head, hand, ear and dust inhalation protection as needed.
- Practice safe working methods: always secure the workpiece being drilled to prevent movement, hold the tool firmly, avoid cluttered and badly lit work areas.
- Ensure adequate protection of other workers in the vicinity.
- Do not use cutting tools over their rated capacity, follow manufacturer's instructions.
- Service power tools regularly and according to manufacturer's instructions to keep them in good working condition and maintain their performance. Do not use if damaged.

## *Safest and Most Effective Work Methods*

## Pro Tips: Maximize Drilling Efficiency

**Select the proper feed rate.**
It will impact the rate of material removal, power requirements, and surface finish.

**SFM = D x RPM x .262**

SFM = Surface Feet per Minute
D = Drill Diameter

**Use the correct RPM speed** it has the greatest influence on performance.

$$\text{RPM} = \frac{\text{SFM} \times 3.82}{\text{D}}$$

**Reduce friction, prevent tool wear and breakage** by using cutting lubricants. Increase up to 5 times the life of your tools with COOLCUT™ Cutting Lubricants

**Remember this rule:**
Small diameter bits = **High speed, low feed**

Large diameter bits = **Low speed, high feed**

## Safety Seminar

* WALTER offers free in-plant safety seminars to promote the safe use of cutting tools. Reserve your safety seminar today by calling: **1-866-592-5837**.
For more information, visit **walter.com/safety**

# 01
# DRILLS

# QUICK PAGES REFERENCES

## GENERAL PURPOSE JOBBER LENGTH DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

### Jobber Drills
High Speed Steel

**Black Oxide**
For low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point | 200A | 235 |
| | 240A | 236 |
| | 280A | 237 |

### Jobber Drills
High Speed Steel

**Bright Finish**
For aluminum and other non-ferrous materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point | 200B | 235 |
| | 240B | 236 |
| | 280B | 238 |

### Jobber Drills
High Speed Steel

**Black Oxide**
For low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point | 100SE, 180SE | 239 |

### Jobber Drills
High Speed Steel

**Black Oxide**
For low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point | T1B, BP1B, T2B T3B | 240, 241 |

### Jobber Drills
High Speed Steel

**Bright Finish**
For aluminum and other non-ferrous materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point | T1, BP1, T2, T3 MM1 | 242, 243, 244 |
| 3/8" Reduced Shank | T8, BP8 | 244 |

### Left Hand Jobber Length Drills
High Speed Steel

**Bright Finish**
For removal of broken screws and bolts

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point | T1L | 246 |

### Left Hand Jobber Length Drills
High Speed Steel

**Bright Finish**
For removal of broken screws and bolts

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point | 200LH | 247 |

## HEAVY-DUTY JOBBER LENGTH DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

### Jobber Drills
High Speed Steel

**Black Oxide**
For better performance on low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 400A, 440A | 248 |
| | 480A | 249 |

### Jobber Drills
High Speed Steel

**Black Oxide**
Heavy-duty construction affords efficient portable drilling in medium strength alloy materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T1D, T2D, T3D | 250, 251 |

### Jobber Drills
NITRO
High Speed Steel

**Black & Gold Finish**
Exceptional performance in most materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 400N | 252 |
| | 440N, 480N | 253 |

### Jobber Drills
NITRO+
High Speed Steel

**Black & Gold Finish**
Exceptional performance in most materials
Includes 3-flat shank

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 410N, 450N, 490N | 254, 255 |

## Jobber Drills
High Speed Steel

**Black & Gold Finish**
Heavy-duty construction affords efficient portable drilling in medium strength alloy materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 400E | 256 |
| | 480E, 800 | 257,258 |

## Jobber Drills
High Speed Steel

**Black & Gold Finish**
Heavy-duty core guarantees increased strength and better resistance to breakage

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T1HD, T2HD, T3HD, MM1HD, BP1HD | 259, 260 |

## Jobber Drills
High Speed Steel

**Black & Gold Finish**
Heavy-duty core guarantees increased strength and better resistance to breakage, with a 3-flat shank

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point 3-Flat Shank | T1HD+, T2HD+, T3HD+, MM1HD+, BP1HD+ | 261, 262 |

## Jobber Drills
High Speed Steel

**Black & Gold finish**
Heavy-duty construction affords efficient portable drilling in medium strength alloy materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T101D, T102D, T103D | 263, 264 |

## Jobber Drills
High Speed Steel

**Black & Gold Finish**
Ideal for both handheld and CNC Operations

| Type | Series | Catalog page reference |
|---|---|---|
| 140° Split Point 3-Flat shank | 400F | 265 |

## Jobber Drills
High Speed Steel

**TiN Coating**
Combines a super hard TiN coating with the heavy-duty Thunderbit core to guarantee increased strength and longer tool life

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T1HDG | 266 |

## Jobber Drills
High Speed Steel

**TiN Coating**
A super hard TiN coating to guarantee increased lubricity and longer tool life

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 450T | 267, 268 |

## Jobber Drills
Cobalt

**Bronze Finish**
For tough materials such as stainless steel, titanium high temperature and high strength alloys

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 500, 540, 580 | 269, 270 |
| | 500E, 580E | 271 |

## Jobber Drills
Cobalt

**Bronze Finish**
Heavy-duty Thunderbit core and cobalt base material for high performance drilling in tough materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T1HDC | 272 |

## Jobber Drills
Cobalt

**Bronze Finish**
For tough materials such as stainless steel, titanium high temperature and high strength alloys

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T1C, BP1C, T2C, T3C | 273, 274 |

## Jobber Drills
High Speed Steel

**Black & Gold Finish**
Exceptional performance in most materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point 3/8" Reduced Shank | 1035N | 275 |

## Jobber Drills
High Speed Steel

**Black & Gold Finish**
Heavy-duty core guarantees increased strength and better resistance to breakage

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point 3/8" Reduced Shank | T8HD, BP8HD | 276 |

# QUICK PAGES REFERENCES

## MECHANICS LENGTH DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

### Mechanics Length
NITRO
High Speed Steel

**Black & Gold Finish**
Exceptional performance in most materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point with 3-Flats | 350N | 283 |

### Mechanics Length
High Speed Steel

**Black & Gold Oxide**
Mechanics length drills are shorter for increased rigidity and strength especially in handheld drilling operations

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T1M, BP1M | 284 |

### Reduced Shank Mechanics Length
High Speed Steel
NITRO

**Black & Gold Finish**
Mechanics length drills are shorter for increased rigidity and strength especially in handheld drilling operations

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 1045N | 285 |

## SCREW MACHINE LENGTH DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

### Screw Machine
High Speed Steel

**Black Oxide**
For better performance on low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point Straight Shank | 300A | 287 |
| | 340A | 287 |
| | 380A, 300E | 288 |

### Screw Machine
High Speed Steel

**Black Oxide**
Screw machine drills are shorter for increased rigidity and strength

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T4,T5 | 289 |
| Black & Gold Finish THUNDERBIT® | T4HD | 291 |

### Screw Machine
NITRO
High Speed Steel

**Black & Gold Finish**
Screw machine drills are shorter for increased rigidity and strength

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 300N | 290 |

### Screw Machine
Cobalt

**Bronze Finish**
Screw machine drills are shorter for increased rigidity and strength. Cobalt for added strength

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 300C, 380C | 292 |

### Screw Machine
Cobalt

**Bronze Finish**
Screw machine drills are shorter for increased rigidity and strength

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | T4C | 293 |

### Left Hand Screw Machine
Cobalt

**Bronze Finish**
For super abrasive resistance in tough metals

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point, 3-Flat Shank | 300LH | 294 |

# DOUBLE-ENDED DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

## Double-Ended Drills

High Speed Steel

**Black Oxide**
Double the life thanks to flutes and cutting edges on both ends

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 330 | 295 |

## Double-Ended Drills

High Speed Steel

**Black Oxide**
Double the life thanks to flutes and cutting edges on both ends

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | TSM8 | 295 |

# S&D DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

## S&D Drills

High Speed Steel

**Bright and Black Finish**
For better performance on low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Point 1/2" Reduced Shank | 1000A, 1000F | 296 |
| 3-Flats Reduced Shank | 1000E | 297 |

## S&D Drills

NITRO

High Speed Steel

**Black & Gold Finish**
For better performance on low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Split Point 1/2" Reduced Shank with 3-Flats | 1000N | 298 |
| 135° Split Point 3-Flats Reduced Shank | 1000EF | 299 |

## S&D Drills

THUNDERBIT®

High Speed Steel

**Black & Gold Oxide**
For medium to high tensile strength Materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Split Point 1/2" Reduced Shank with 3-Flats | T9FHD | 300 |

## S&D Drills

High Speed Steel

**Black Oxide**
For low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Split Point ½" Reduced Shank with 3-Flats | T9F, T9 | 300, 301 |

## S&D Drills

Cobalt

**Black & Gold Finish**
For tough, high tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 1000C | 302 |
| Bronze Finish | 1000EC | 304 |

## S&D Drills

Cobalt

**Black & Gold oxide**
For low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Split Point | T9C | 303 |

# QUICK PAGES REFERENCES

## TAPER LENGTH DRILLS

DRILLCO CUTTING TOOLS

### Taper Length Drills

High Speed Steel

**Black Oxide**
For general purpose use in a wide range of materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point / Straight Shank | 900 | 304 |

## AIRCRAFT EXTENSION DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

### Aircraft Extension Drills

High Speed Steel

**Black Oxide**
Long drills with jobbers length flutes for drilling holes in hard to reach places

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point Aircraft Extension 6" & 12" | 1100, 1180 | 305 |
| | 1200, 1280 | 309 |

### Aircraft Extension Drills

High Speed Steel

**Black Oxide**
Long drills with jobbers length flutes for drilling holes in hard to reach places

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point Aircraft Extension 6" | T6HH, BP6HH, T6WW | 308 |
| 135° Split Point Aircraft Extension 12" | T12HH, BP12HH, 12WW | 310 |

### Aircraft Extension Drills

Cobalt

**Bronze Finish**
Long drills with jobbers length flutes for drilling holes in hard to reach places

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Split Point | 1100C, 1180C | 311 |
| | 1200C 1280C | 312 |

## EXTRA LENGTH DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

### Extra Length Drills

High Speed Steel

**Black Oxide**
For deep hole drilling in a wide range of material

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Split Point 8" | 1308 | 313 |
| 118° Split Point 12" | 1312, 1312R | 313 |
| 118° Split Point 18" | 1318, 1318R | 314 |

### Extra Length Drills

High Speed Steel

**Bright Finish**
For deep hole drilling in a wide range of material

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Split Point 12" | T1290 | 314 |
| 118° Split Point 18" | T1813 | 314 |

# TAPER SHANK DRILLS

DRILLCO CUTTING TOOLS

## Taper Shank Drills

High Speed Steel

**Black Oxide**
For general purpose use in a wide range of materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Conventional Point / Taper Shank | 1400 | 315 |
| | 1450, 1475 | 316 |

# HEX SHANK DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

## HEX Drills

THUNDERBIT®

High Speed Steel

**Black & Gold Oxide**
1/4" hex shank for HEX or adjustable power tool chucks, added strength due to Thunderbit geometry

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Self-Centering Split Point | HEXT4HD | 317 |

## HEX Drills

High Speed Steel

**Black Oxide**
1/4" hex shank for HEX or adjustable power tool chucks

| Type | Series | Catalog page reference |
|---|---|---|
| 135° Self-Centering Split Point | HEXT4 | 317 |

# SOLID CARBIDE DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

## Jobber Drills

Carbide Tip

**Bright Finish**
For use in drilling cast iron, cast steel, bronze, hard copper, aluminum, and hard non-ferrous materials

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Split Point | 600, 680 | 318 |

## Jobber Length Drills

Solid Carbide

**Bright Finish**
For use in drilling abrasive materials such as cast iron, non-ferrous alloys, high silicon aluminum, hard rubber, and Plexiglas

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Point | 700 | 319, 320 |

## Straight Flute Drills

Solid Carbide

**Bright Finish**
For use in drilling difficult materials (up to Rc 60) including nickel alloys, chrome alloys, steel weldments, titanium alloys, high temperature alloys, and stainless-steel weldments

| Type | Series | Catalog page reference |
|---|---|---|
| 140° Split Point | 710 | 321, 322 |

# QUICK PAGES REFERENCES

## SOLID CARBIDE DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

### Screw Machine

Solid Carbide

**Bright Finish**
Slow helix 135° split point provides ease of penetration and increases edge strength

| Type | Series | Catalog page reference |
|---|---|---|
| Slow Helix 135° Split Point | 720 | 323, 324 |

### 3-Flute

Solid Carbide

**Bright Finish**
For titanium, cast iron, low alloy steel, and high silicon aluminum applications

| Type | Series | Catalog page reference |
|---|---|---|
| 150° Point | 730 | 325 |

### Spade Drills

Solid Carbide

**Bright Finish**
Perform well in hard to machine materials (up to Rc 60), high strength alloys, plastic, and glass

| Type | Series | Catalog page reference |
|---|---|---|
| 118° Point | 750 | 326 |

### Combined Drill & Countersink

Solid Carbide

**Bright Finish**
Ideal for drilling and countersinking in difficult materials

| Type | Series | Catalog page reference |
|---|---|---|
| 60° Angle | 3500C | 326 |

## MASONRY DRILLS

DRILLCO CUTTING TOOLS | TRIUMPH TWIST DRILL

### Masonry Drills

Carbide Tip

**Gold & Silver Finish**
For use in drilling concrete, natural stone, aerated concrete, masonry, brick, block, and lime sandstone

| Type | Series | Catalog page reference |
|---|---|---|
| Straight Shank | 1600N | 327 |

### Masonry Drills

Carbide Tip

**Black & Gold Tipped**
Combine a rotation and percussion that helps the drill achieve a cutting and grinding action at the same time

| Type | Series | Catalog page reference |
|---|---|---|
| Rotary Percussion & Hammer Drilling, Round Shank | 1600A | 327 |

### Masonry Drills

Carbide Tip

**Black with Gold Tip Finish**

| Type | Series | Catalog page reference |
|---|---|---|
| TAPCON® Screw Type Anchor Bits | 1800A, 1800E | 328 |

### Masonry Drills

Carbide Tip

**Bright Finish**

| Type | Series | Catalog page reference |
|---|---|---|
| TAPCON® SDS-HEX Type Screw Anchor Drills | 1750 | 328 |

### SDS Plus Masonry Drills

Carbide Tip

**Bright Finish**
Short head to flute entrance allows debris to quickly channel down the flute for faster drilling progress

| Type | Series | Catalog page reference |
|---|---|---|
| SDS Plus | 1700A, 1700B (in bulk) | 329 |

### SDS Plus Masonry Drills

Carbide Tip

**Bright Finish**
Designed for longer life when drilling in concrete

| Type | Series | Catalog page reference |
|---|---|---|
| SDS Plus Dura-Tip | 1720, 1720B (in bulk) | 330 |

## SDS Max Masonry Drills

Carbide Tip

**Bright Finish**
Designed for longer life in concrete and reinforced concrete applications

| Type | Series | Catalog page reference |
|---|---|---|
| SDS Max | 1740 | 330 |

## Rebar Cutters

Carbide Tip

**Bright Finish**
Perfect solution for drilling through concrete embedded rebar

| Type | Series | Catalog page reference |
|---|---|---|
| Micro SDS+ or 3-Flat Shank | 1760, 1770 | 331 |
| Head Only | 1780 | 331 |

## Hammer Drill Tools

| Series | Catalog page reference |
|---|---|
| 1850, 1860 | 332 |

# MISCELLANEOUS DRILLS

DRILLCO CUTTING TOOLS | WALTER | TRIUMPH TWIST DRILL

**Miscellaneous Drills**

| Series | Description | Catalog page reference |
|---|---|---|
| 1840 | Glass, Tile, & Ceramics Bits | 328 |
| 1900E | Ship Auger Bits | 336 |
| 1950E | Paddle Bits | 336 |
| 3500 | Combined Drill & Countersink, HSS, 60° Angle, Plain Type | 337 |
| 3500E | Combined Drill & Countersink, HSS, 60° Angle, Plain & Bell Type | 337 |
| 3575E | Combined Drill & Countersink, HSS, 60° Angle, Long Length Series | 338 |
| 400P | Pilot Drill for Holesaws, Bright, 118° Point | 338 |
| 8900 | Multi-Step Drill for Sheet Metal | 334 |
| 8950 | Multi-Step Drills | 334 |
| 9000E | Screw Extractors | 339 |

**Miscellaneous Drills**

| Series | Description | Catalog page reference |
|---|---|---|
| 01-W | Multi-Step Drill Bits | 335 |

**Drill Accessories**

| Series | Description | Catalog page reference |
|---|---|---|
| 1420 | Hardened Drill Sleeve, Regular Length | 340 |
| 1440 | Hardened Drill Sleeve, Extension Length | 340 |
| 1470 | Drill Drifts | 340 |
| - | Drill Gauges | 340 |

# DRILL BITS EXPLAINED

## WALTER, DRILLCO, AND TRIUMPH OFFER A COMPLETE PRODUCT PROGRAM FOR A WIDE RANGE OF MATERIALS, APPLICATIONS, AND INDUSTRIES

### WHAT DOES THE DRILLCO Nitro® PROGRAM OFFER?

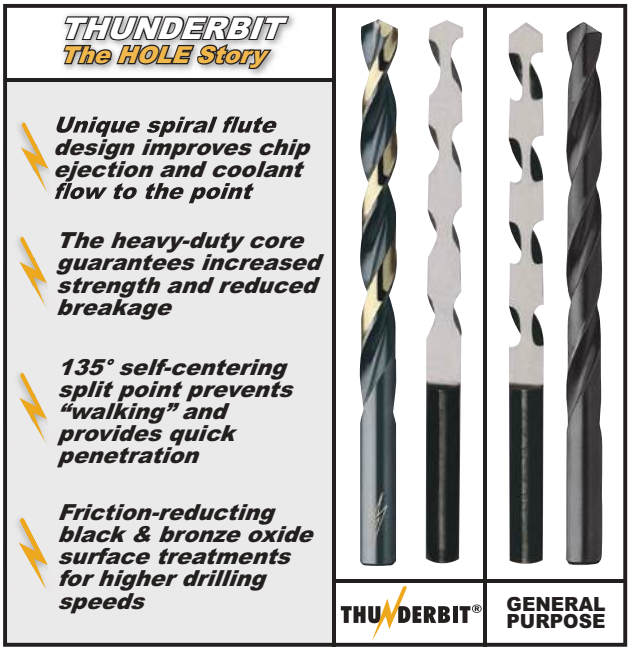
NITRO

- A complete line of drills including jobber length, mechanic's length, stub length, silver & deming (S&D), and sets
- All Nitro® drills are made from premium quality M2 High Speed Steel
- Body and flute are black and gold surface treated for maximum lubricity
- Split Point ensures ease of penetration and reduces "walking" when starting a hole
- Designed for use in portable hand drills, or fixed spindle applications (CNC Machines, Drill Presses)
- Made in the USA

### WHAT DOES THE TRIUMPH THUNDERBIT® PROGRAM OFFER?

THUNDERBIT® THUNDERBIT® + THUNDERBIT® COBALT THUNDERBIT® TiN

- A complete line of drills including jobber length, stub length, silver & deming (S&D), hex shanks, and sets
- Unique spiral flute design improves chip ejection and coolant flow to the point
- The heavy-duty core guarantees increased strength and reduced breakage
- 135° self-centering split point prevents "walking" and provides quick penetration
- Friction-reducing black & bronze oxide surface treatments for higher drilling speeds
- Available in High Speed Steel (HSS) and Cobalt
- Designed for use in portable hand drills
- Made in the USA




### *Tech tip!*

*Use a drill with a flatted shank to reduce slippage in the drill chuck in portable drill applications.*

# MATERIAL

### High Speed Steel (HSS)
The most commonly used tool material for general purpose drilling. Suitable for most materials, including low- to medium-strength steels, aluminum and other non-ferrous materials, as well as wood and plastic.

### Cobalt (HSCo)
This composition increases tool hardness and improves wear resistance making it a great option for drilling into harder steel as well as stainless steel grades.

### Carbide (C)
Carbide tools are designed for very hard and very tough to machine materials. Carbide drills are more brittle than HSS or HSCo drills, and should only be used for production drilling in stationary equipment. They are not recommended for use in handheld portable drills.

**Why it's important?**

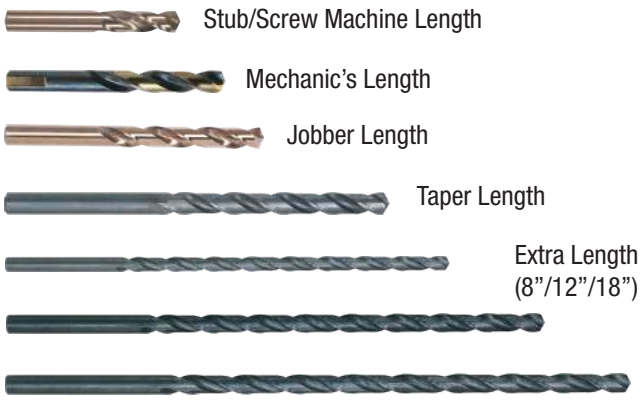
It's important to select the correct material of the drill bit based on your application to maximize performance.

# DRILL POINT STYLE

### Conventional
Most commonly used drill point. Ideal for a wide variety of materials.

### Split Point
Designed to drill in hard and soft materials, it reduces "walking," lifts away debris, allowing you to drill holes faster and with less chance of breakage. Ideal for curved surfaces.

# DRILL LENGTH




# FINISH AND COATING

### Bright Finish
Can be used on low-carbon steel and aluminum.

### Black Oxide
More lubricity than bright finish. Resists corrosion and oxidation with an added heat treatment that reduces friction.

### Black and Gold
Better resistance to corrosion and breakage while increasing lubricity. Reduces chipping and flaking. Can be used on most materials.

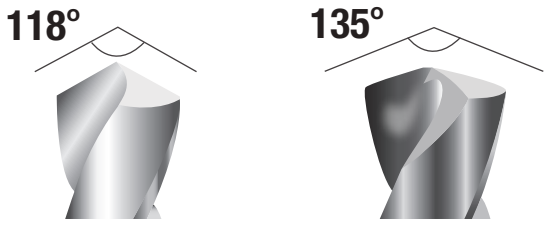
### Titanium Nitride Coated (TiN)
A wear-resistant gold colored, all-purpose ceramic coating provides high hardness, low coefficient of friction and thermal barrier. Tool life may be extended by 500% or more in high wear or very abrasive drilling applications.

### Bronze
Will increase lubricity and bit life while reducing chip build-up. For performance on harder metals and stainless steel. Applied primarily to Cobalt drills.

# DRILL POINT ANGLE

### 118°
Ideal for cutting mild steel, aluminum, and free machining materials.

### 135°
Ideal for drilling into more difficult-to-machine materials, such as stainless steel, hardened steels, cast iron, and more. For CNC or hand drilling applications.




**Why it's important?**

- The shorter the bit, the more suitable they are for applications that require precision and accuracy.
- The shorter the bit, the more rigid it is.
- Ensure you use the right flute length to get the chips completely out of the hole.

# DRILL BIT SELECTION

## SECTION 1 – DRILL BIT MATERIAL AND GEOMETRY

*Increasing Hardness*

### High Speed Steel (HSS)

High speed steel, for most drilling applications

Recommended series:
**200A, 400N, T1, T1B**

### HSS + Cobalt (HSCo)

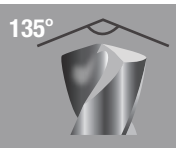
Premium high speed steel with cobalt, for added hardness, suitable for many drilling applications

Recommended series:
**01A,01D, 01B, 500, 540, 580, T1HDC, T1C**

### Solid Carbide (SC)

Solid carbide is meant for the toughest materials and is designed to be used in CNC applications

Recommended series:
**600, 680, 700**




**Use 118°** conventional point for soft materials like aluminum
Recommended series: 200B, T1B, 01A

**Use 135°** split-point for harder materials like steel, or stainless steel
Recommended series: 400N, T1D, T1HD, T1HDG, 01A

## SECTION 2 – DRILL BIT LENGTH

*Shortest* → *Longest*

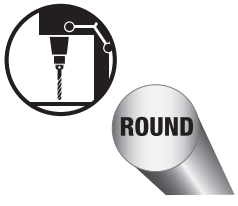
| Stub or Screw Machine Length | Mechanics Length | Jobber Length | S&D Prentice | Aircraft Extension | Extra Length |
|---|---|---|---|---|---|
| Used in sheet metal and fixed spindle machines. | Performs best in handheld drilling applications. | A do-it-all length that can be used in most applications. | Large diameter with a ½" reduced shank to be used in ½" drill chucks. | Long-length drill bits, with jobber length flutes for extra reach. | Long-length drill bits, with extra long flutes for deep hole drilling. |
| Recommended series: **300A, 300N, T4HD, 300C, 01H, 01J** | Recommended series: **350N, T1M,1045N** | Recommended series: **400N, T1HD, 01A** | Recommended series: **1000A, 1000N, T9F-HD, 01M** | Recommended series: **1100, 1200, 1100C, 1200C** | Recommended series: **1308, 1312, 1318** |

## SECTION 3 – POWER TOOL USED

THREE FLAT SHANK

When using a handheld power tool, a 3-flat or hex shank drill bit should be used.

Recommended series:
**T101D, T1HD+, 01A, 350N**




ROUND SHANK

In fixed spindle machines like drill presses, a round shank should be used to reduce the chances of breakage.

## IMPORTANT – TIPS TO GET THE MOST OUT OF YOUR DRILL BIT

***Speed*** – Using the optimal RPM for the drill bit diameter and material being drilled will increase productivity.
***Feed*** – Using the right pressure and feed rate will optimize the drilling operation and extend drill bit life.
***Lube*** – Using lubricant increases drill bit life and improves chip ejection for a better surface finish on your hole.

# JOBBER LENGTH GENERAL PURPOSE DRILLS

Designed for general purpose drilling under a wide range of drilling conditions. It can drill various materials such as cast iron, steel, and steel forging. The surface treatment prevents chip welding, improves chip flow, and increases abrasion resistance.

- *118° Point designed for general use*
- *A general purpose jobber for a wide range of applications*
- *Black oxide finish improves chip flow and increases abrasion resistance*
- *Bright finish recommended for aluminum and other non-ferrous materials*
- *Available in bulk packaging*

## *200A SERIES*

**GENERAL PURPOSE HIGH SPEED STEEL**

**118° Point / Straight Shank**

**Fractional / Black Oxide**

200A - Black Oxide

| Size | Flute Length | Overall Length | 200A Order No. |
|---|---|---|---|
| 1/64” | 3/16” | 3/4” | 200A101 |
| 1/32” | 1/2” | 1-3/8” | 200A102 |
| 3/64” | 3/4” | 1-3/4” | 200A103 |
| 1/16” | 7/8” | 1-7/8” | 200A104 |
| 5/64” | 1” | 2” | 200A105 |
| 3/32” | 1-1/4” | 2-1/4” | 200A106 |
| 7/64” | 1-1/2” | 2-5/8” | 200A107 |
| 1/8” | 1-5/8” | 2-3/4” | 200A108 |
| 9/64” | 1-3/4” | 2-7/8” | 200A109 |
| 5/32” | 2” | 3-1/8” | 200A110 |
| 11/64” | 2-1/8” | 3-1/4” | 200A111 |
| 3/16” | 2-5/16” | 3-1/2” | 200A112 |
| 13/64” | 2-7/16” | 3-5/8” | 200A113 |
| 7/32” | 2-1/2” | 3-3/4” | 200A114 |
| 15/64” | 2-5/8” | 3-7/8” | 200A115 |
| 1/4” | 2-3/4” | 4” | 200A116 |
| 17/64” | 2-7/8” | 4-1/8” | 200A117 |
| 9/32” | 2-15/16” | 4-1/4” | 200A118 |
| 19/64” | 3-1/16” | 4-3/8” | 200A119 |
| 5/16” | 3-3/16” | 4-1/2” | 200A120 |
| 21/64” | 3-5/16” | 4-5/8” | 200A121 |
| 11/32” | 3-7/16” | 4-3/4” | 200A122 |
| 23/64” | 3-1/2” | 4-7/8” | 200A123 |
| 3/8” | 3-5/8” | 5” | 200A124 |
| 25/64” | 3-3/4” | 5-1/8” | 200A125 |
| 13/32” | 3-7/8” | 5-1/4” | 200A126 |
| 27/64” | 3-15/16” | 5-3/8” | 200A127 |
| 7/16” | 4-1/16” | 5-1/2” | 200A128 |
| 29/64” | 4-3/16” | 5-5/8” | 200A129 |
| 15/32” | 4-5/16” | 5-3/4” | 200A130 |
| 31/64” | 4-3/8” | 5-7/8” | 200A131 |
| 1/2” | 4-1/2” | 6” | 200A132 |

## *200B SERIES*

**GENERAL PURPOSE HIGH SPEED STEEL**

**118° Point / Straight Shank**

**Fractional / Bright**

200B - Bright

| Size | Flute Length | Overall Length | 200B Order No. |
|---|---|---|---|
| 1/64” | 3/16” | 3/4” | 200B101 |
| 1/32” | 1/2” | 1-3/8” | 200B102 |
| 3/64” | 3/4” | 1-3/4” | 200B103 |
| 1/16” | 7/8” | 1-7/8” | 200B104 |
| 5/64” | 1” | 2” | 200B105 |
| 3/32” | 1-1/4” | 2-1/4” | 200B106 |
| 7/64” | 1-1/2” | 2-5/8” | 200B107 |
| 1/8” | 1-5/8” | 2-3/4” | 200B108 |
| 9/64” | 1-3/4” | 2-7/8” | 200B109 |
| 5/32” | 2” | 3-1/8” | 200B110 |
| 11/64” | 2-1/8” | 3-1/4” | 200B111 |
| 3/16” | 2-5/16” | 3-1/2” | 200B112 |
| 13/64” | 2-7/16” | 3-5/8” | 200B113 |
| 7/32” | 2-1/2” | 3-3/4” | 200B114 |
| 15/64” | 2-5/8” | 3-7/8” | 200B115 |
| 1/4” | 2-3/4” | 4” | 200B116 |
| 17/64” | 2-7/8” | 4-1/8” | 200B117 |
| 9/32” | 2-15/16” | 4-1/4” | 200B118 |
| 19/64” | 3-1/16” | 4-3/8” | 200B119 |
| 5/16” | 3-3/16” | 4-1/2” | 200B120 |
| 21/64” | 3-5/16” | 4-5/8” | 200B121 |
| 11/32” | 3-7/16” | 4-3/4” | 200B122 |
| 23/64” | 3-1/2” | 4-7/8” | 200B123 |
| 3/8” | 3-5/8” | 5” | 200B124 |
| 25/64” | 3-3/4” | 5-1/8” | 200B125 |
| 13/32” | 3-7/8” | 5-1/4” | 200B126 |
| 27/64” | 3-15/16” | 5-3/8” | 200B127 |
| 7/16” | 4-1/16” | 5-1/2” | 200B128 |
| 29/64” | 4-3/16” | 5-5/8” | 200B129 |
| 15/32” | 4-5/16” | 5-3/4” | 200B130 |
| 31/64” | 4-3/8” | 5-7/8” | 200B131 |
| 1/2” | 4-1/2” | 6” | 200B132 |

1/64” thru 19/64” - 12 per pack, 5/16” thru 1/2” - 6 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O - Z | 72 |

# GENERAL PURPOSE JOBBER LENGTH DRILLS

## *240A SERIES*
**GENERAL PURPOSE HIGH SPEED STEEL**
**118° Point / Straight Shank**
**Letter / Black Oxide**

240A - Black Oxide

| Size | Flute Length | Overall Length | 240A Order No. |
|---|---|---|---|
| A | 2-5/8” | 3-7/8” | 240A501 |
| B | 2-3/4” | 4” | 240A502 |
| C | 2-3/4” | 4” | 240A503 |
| D | 2-3/4” | 4” | 240A504 |
| E | 2-3/4” | 4” | 240A505 |
| F | 2-7/8” | 4-1/8” | 240A506 |
| G | 2-7/8” | 4-1/8” | 240A507 |
| H | 2-7/8” | 4-1/8” | 240A508 |
| I | 2-7/8” | 4-1/8” | 240A509 |
| J | 2-7/8” | 4-1/8” | 240A510 |
| K | 2-15/16” | 4-1/4” | 240A511 |
| L | 2-15/16” | 4-1/4” | 240A512 |
| M | 3-1/16” | 4-3/8” | 240A513 |
| N | 3-1/16” | 4-3/8” | 240A514 |
| O | 3-3/16” | 4-1/2” | 240A515 |
| P | 3-5/16” | 4-5/8” | 240A516 |
| Q | 3-7/16” | 4-3/4” | 240A517 |
| R | 3-7/16” | 4-3/4” | 240A518 |
| S | 3-1/2” | 4-7/8” | 240A519 |
| T | 3-1/2” | 4-7/8” | 240A520 |
| U | 3-5/8” | 5” | 240A521 |
| V | 3-5/8” | 5” | 240A522 |
| W | 3-3/4” | 5-1/8” | 240A523 |
| X | 3-3/4” | 5-1/8” | 240A524 |
| Y | 3-7/8” | 5-1/4” | 240A525 |
| Z | 3-7/8” | 5-1/4” | 240A526 |

## *240B SERIES*
**GENERAL PURPOSE HIGH SPEED STEEL**
**118° Point / Straight Shank**
**Letter / Bright**

240B - Bright

| Size | Flute Length | Overall Length | 240B Order No. |
|---|---|---|---|
| A | 2-5/8” | 3-7/8” | 240B501 |
| B | 2-3/4” | 4” | 240B502 |
| C | 2-3/4” | 4” | 240B503 |
| D | 2-3/4” | 4” | 240B504 |
| E | 2-3/4” | 4” | 240B505 |
| F | 2-7/8” | 4-1/8” | 240B506 |
| G | 2-7/8” | 4-1/8” | 240B507 |
| H | 2-7/8” | 4-1/8” | 240B508 |
| I | 2-7/8” | 4-1/8” | 240B509 |
| J | 2-7/8” | 4-1/8” | 240B510 |
| K | 2-15/16” | 4-1/4” | 240B511 |
| L | 2-15/16” | 4-1/4” | 240B512 |
| M | 3-1/16” | 4-3/8” | 240B513 |
| N | 3-1/16” | 4-3/8” | 240B514 |
| O | 3-3/16” | 4-1/2” | 240B515 |
| P | 3-5/16” | 4-5/8” | 240B516 |
| Q | 3-7/16” | 4-3/4” | 240B517 |
| R | 3-7/16” | 4-3/4” | 240B518 |
| S | 3-1/2” | 4-7/8” | 240B519 |
| T | 3-1/2” | 4-7/8” | 240B520 |
| U | 3-5/8” | 5” | 240B521 |
| V | 3-5/8” | 5” | 240B522 |
| W | 3-3/4” | 5-1/8” | 240B523 |
| X | 3-3/4” | 5-1/8” | 240B524 |
| Y | 3-7/8” | 5-1/4” | 240B525 |
| Z | 3-7/8” | 5-1/4” | 240B526 |

”A” thru “L” - 12 per pack, “M” thru “Z” - 6 per pack

| Corresponding Sets | | | |
|---|---|---|---|
| No. of Pcs. | Description | Order No. | Order No. |
| 200/240/280 & 200B/240B/280B Series Jobber Drill Sets | | | |
| 13 | 1/16” - 1/4” by 64ths | 200A13 | 200B13 |
| 15 | 1/16” - 1/2” by 32nds | 200A15 | 200B15 |
| 19 | Maintenance Set - 1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2 | 200A19 | 200B19 |
| 20 | #61 - #80 | 200A20 | 200B20 |
| 21 | 1/16” - 3/8” by 64ths | 200A21 | 200B21 |
| 21 | 1/16” - 1/4” by 64ths & 9/32” - 1/2” by 32nds | 200A21V | 200B21V |
| 26 | A - Z | 200A26 | 200B26 |
| 29 | 1/16” - 1/2” by 64ths | 200A29 | 200B29 |
| 29 | DRILL PAL 1/16” - 1/2” by 64ths | 200AW29 | - |
| 60 | #1 - #60 | 200A60 | 200B60 |
| 115 | 1/16” - 1/2” by 64ths, #1 - 60, A - Z | 200A0115 | 200B0115 |

200AW29

200B29

# GENERAL PURPOSE JOBBER LENGTH DRILLS

## *280A SERIES*

**GENERAL PURPOSE HIGH SPEED STEEL**

**118° Point / Straight Shank**

**Number / Black Oxide**

280A - Black Oxide

| Size | Flute Length | Overall Length | 280A Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 280A001 |
| 2 | 2-1/2” | 3-7/8” | 280A002 |
| 3 | 2-1/2” | 3-3/4” | 280A003 |
| 4 | 2-1/2” | 3-3/4” | 280A004 |
| 5 | 2-1/2” | 3-3/4” | 280A005 |
| 6 | 2-1/2” | 3-3/4” | 280A006 |
| 7 | 2-7/16” | 3-5/8” | 280A007 |
| 8 | 2-7/16” | 3-5/8” | 280A008 |
| 9 | 2-7/16” | 3-5/8” | 280A009 |
| 10 | 2-7/16” | 3-5/8” | 280A010 |
| 11 | 2-5/16” | 3-1/2” | 280A011 |
| 12 | 2-5/16” | 3-1/2” | 280A012 |
| 13 | 2-5/16” | 3-1/2” | 280A013 |
| 14 | 2-3/16” | 3-3/8” | 280A014 |
| 15 | 2-3/16” | 3-3/8” | 280A015 |
| 16 | 2-3/16” | 3-3/8” | 280A016 |
| 17 | 2-3/16” | 3-3/8” | 280A017 |
| 18 | 2-1/8” | 3-1/4” | 280A018 |
| 19 | 2-1/8” | 3-1/4” | 280A019 |
| 20 | 2-1/8” | 3-1/4” | 280A020 |
| 21 | 2-1/8” | 3-1/4” | 280A021 |
| 22 | 2” | 3-1/8” | 280A022 |
| 23 | 2” | 3-1/8” | 280A023 |
| 24 | 2” | 3-1/8” | 280A024 |
| 25 | 1-7/8” | 3” | 280A025 |
| 26 | 1-7/8” | 3” | 280A026 |
| 27 | 1-7/8” | 3” | 280A027 |
| 28 | 1-3/4” | 2-7/8” | 280A028 |
| 29 | 1-3/4” | 2-7/8” | 280A029 |
| 30 | 1-5/8” | 2-3/4” | 280A030 |
| 31 | 1-5/8” | 2-3/4” | 280A031 |
| 32 | 1-5/8” | 2-3/4” | 280A032 |
| 33 | 1-1/2” | 2-5/8” | 280A033 |
| 34 | 1-1/2” | 2-5/8” | 280A034 |
| 35 | 1-1/2” | 2-5/8” | 280A035 |
| 36 | 1-7/16” | 2-1/2” | 280A036 |
| 37 | 1-7/16” | 2-1/2” | 280A037 |
| 38 | 1-7/16” | 2-1/2” | 280A038 |
| 39 | 1-3/8” | 2-3/8” | 280A039 |
| 40 | 1-3/8” | 2-3/8” | 280A040 |

| Size | Flute Length | Overall Length | 280A Order No. |
|---|---|---|---|
| 41 | 1-3/8” | 2-3/8” | 280A041 |
| 42 | 1-1/4” | 2-1/4” | 280A042 |
| 43 | 1-1/4” | 2-1/4” | 280A043 |
| 44 | 1-1/8” | 2-1/8” | 280A044 |
| 45 | 1-1/8” | 2-1/8” | 280A045 |
| 46 | 1-1/8” | 2-1/8” | 280A046 |
| 47 | 1” | 2” | 280A047 |
| 48 | 1” | 2” | 280A048 |
| 49 | 1” | 2” | 280A049 |
| 50 | 1” | 2” | 280A050 |
| 51 | 1” | 2” | 280A051 |
| 52 | 7/8” | 1-7/8” | 280A052 |
| 53 | 7/8” | 1-7/8” | 280A053 |
| 54 | 7/8” | 1-7/8” | 280A054 |
| 55 | 7/8” | 1-7/8” | 280A055 |
| 56 | 3/4” | 1-3/4” | 280A056 |
| 57 | 3/4” | 1-3/4” | 280A057 |
| 58 | 11/16” | 1-5/8” | 280A058 |
| 59 | 11/16” | 1-5/8” | 280A059 |
| 60 | 11/16” | 1-5/8” | 280A060 |
| 61 | 11/16” | 1-5/8” | 280A061 |
| 62 | 5/8” | 1-1/2” | 280A062 |
| 63 | 5/8” | 1-1/2” | 280A063 |
| 64 | 5/8” | 1-1/2” | 280A064 |
| 65 | 5/8” | 1-1/2” | 280A065 |
| 66 | 1/2” | 1-3/8” | 280A066 |
| 67 | 1/2” | 1-3/8” | 280A067 |
| 68 | 1/2” | 1-3/8” | 280A068 |
| 69 | 1/2” | 1-3/8” | 280A069 |
| 70 | 3/8” | 1-1/4” | 280A070 |
| 71 | 3/8” | 1-1/4” | 280A071 |
| 72 | 5/16” | 1-1/8” | 280A072 |
| 73 | 5/16” | 1-1/8” | 280A073 |
| 74 | 1/4” | 1” | 280A074 |
| 75 | 1/4” | 1” | 280A075 |
| 76 | 3/16” | 7/8” | 280A076 |
| 77 | 3/16” | 7/8” | 280A077 |
| 78 | 3/16” | 7/8” | 280A078 |
| 79 | 1/8” | 3/4” | 280A079 |
| 80 | 1/8” | 3/4” | 280A080 |

#1 thru #80 - 12 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O - Z | 72 |

MADE IN THE USA

DRILLCO CUTTING TOOLS

# GENERAL PURPOSE JOBBER LENGTH DRILLS

## *280B SERIES*

## GENERAL PURPOSE HIGH SPEED STEEL

### 118° Point / Straight Shank

### Number / Bright

280B - Bright

| Size | Flute Length | Overall Length | 280B Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 280B001 |
| 2 | 2-1/2” | 3-7/8” | 280B002 |
| 3 | 2-1/2” | 3-3/4” | 280B003 |
| 4 | 2-1/2” | 3-3/4” | 280B004 |
| 5 | 2-1/2” | 3-3/4” | 280B005 |
| 6 | 2-1/2” | 3-3/4” | 280B006 |
| 7 | 2-7/16” | 3-5/8” | 280B007 |
| 8 | 2-7/16” | 3-5/8” | 280B008 |
| 9 | 2-7/16” | 3-5/8” | 280B009 |
| 10 | 2-7/16” | 3-5/8” | 280B010 |
| 11 | 2-5/16” | 3-1/2” | 280B011 |
| 12 | 2-5/16” | 3-1/2” | 280B012 |
| 13 | 2-5/16” | 3-1/2” | 280B013 |
| 14 | 2-3/16” | 3-3/8” | 280B014 |
| 15 | 2-3/16” | 3-3/8” | 280B015 |
| 16 | 2-3/16” | 3-3/8” | 280B016 |
| 17 | 2-3/16” | 3-3/8” | 280B017 |
| 18 | 2-1/8” | 3-1/4” | 280B018 |
| 19 | 2-1/8” | 3-1/4” | 280B019 |
| 20 | 2-1/8” | 3-1/4” | 280B020 |
| 21 | 2-1/8” | 3-1/4” | 280B021 |
| 22 | 2” | 3-1/8” | 280B022 |
| 23 | 2” | 3-1/8” | 280B023 |
| 24 | 2” | 3-1/8” | 280B024 |
| 25 | 1-7/8” | 3” | 280B025 |
| 26 | 1-7/8” | 3” | 280B026 |
| 27 | 1-7/8” | 3” | 280B027 |
| 28 | 1-3/4” | 2-7/8” | 280B028 |
| 29 | 1-3/4” | 2-7/8” | 280B029 |
| 30 | 1-5/8” | 2-3/4” | 280B030 |
| 31 | 1-5/8” | 2-3/4” | 280B031 |
| 32 | 1-5/8” | 2-3/4” | 280B032 |
| 33 | 1-1/2” | 2-5/8” | 280B033 |
| 34 | 1-1/2” | 2-5/8” | 280B034 |
| 35 | 1-1/2” | 2-5/8” | 280B035 |
| 36 | 1-7/16” | 2-1/2” | 280B036 |
| 37 | 1-7/16” | 2-1/2” | 280B037 |
| 38 | 1-7/16” | 2-1/2” | 280B038 |
| 39 | 1-3/8” | 2-3/8” | 280B039 |
| 40 | 1-3/8” | 2-3/8” | 280B040 |

| Size | Flute Length | Overall Length | 280B Order No. |
|---|---|---|---|
| 41 | 1-3/8” | 2-3/8” | 280B041 |
| 42 | 1-1/4” | 2-1/4” | 280B042 |
| 43 | 1-1/4” | 2-1/4” | 280B043 |
| 44 | 1-1/8” | 2-1/8” | 280B044 |
| 45 | 1-1/8” | 2-1/8” | 280B045 |
| 46 | 1-1/8” | 2-1/8” | 280B046 |
| 47 | 1” | 2” | 280B047 |
| 48 | 1” | 2” | 280B048 |
| 49 | 1” | 2” | 280B049 |
| 50 | 1” | 2” | 280B050 |
| 51 | 1” | 2” | 280B051 |
| 52 | 7/8” | 1-7/8” | 280B052 |
| 53 | 7/8” | 1-7/8” | 280B053 |
| 54 | 7/8” | 1-7/8” | 280B054 |
| 55 | 7/8” | 1-7/8” | 280B055 |
| 56 | 3/4” | 1-3/4” | 280B056 |
| 57 | 3/4” | 1-3/4” | 280B057 |
| 58 | 11/16” | 1-5/8” | 280B058 |
| 59 | 11/16” | 1-5/8” | 280B059 |
| 60 | 11/16” | 1-5/8” | 280B060 |
| 61 | 11/16” | 1-5/8” | 280B061 |
| 62 | 5/8” | 1-1/2” | 280B062 |
| 63 | 5/8” | 1-1/2” | 280B063 |
| 64 | 5/8” | 1-1/2” | 280B064 |
| 65 | 5/8” | 1-1/2” | 280B065 |
| 66 | 1/2” | 1-3/8” | 280B066 |
| 67 | 1/2” | 1-3/8” | 280B067 |
| 68 | 1/2” | 1-3/8” | 280B068 |
| 69 | 1/2” | 1-3/8” | 280B069 |
| 70 | 3/8” | 1-1/4” | 280B070 |
| 71 | 3/8” | 1-1/4” | 280B071 |
| 72 | 5/16” | 1-1/8” | 280B072 |
| 73 | 5/16” | 1-1/8” | 280B073 |
| 74 | 1/4” | 1” | 280B074 |
| 75 | 1/4” | 1” | 280B075 |
| 76 | 3/16” | 7/8” | 280B076 |
| 77 | 3/16” | 7/8” | 280B077 |
| 78 | 3/16” | 7/8” | 280B078 |
| 79 | 1/8” | 3/4” | 280B079 |
| 80 | 1/8” | 3/4” | 280B080 |

#1 thru #80 - 12 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O - Z | 72 |

# GENERAL PURPOSE JOBBER LENGTH DRILLS

## *100SE SERIES*

### GENERAL PURPOSE HIGH SPEED STEEL

**118° Point / Straight Shank**
**Fractional / Black Oxide**

100SE

| Size | Flute Length | Overall Length | 100SE Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 100SE104 |
| 5/64” | 1” | 2” | 100SE105 |
| 3/32” | 1-1/4” | 2-1/4” | 100SE106 |
| 7/64” | 1-1/2” | 2-5/8” | 100SE107 |
| 1/8” | 1-5/8” | 2-3/4” | 100SE108 |
| 9/64” | 1-3/4” | 2-7/8” | 100SE109 |
| 5/32” | 2” | 3-1/8” | 100SE110 |
| 11/64” | 2-1/8” | 3-1/4” | 100SE111 |
| 3/16” | 2-5/16” | 3-1/2” | 100SE112 |
| 13/64” | 2-7/16” | 3-5/8” | 100SE113 |
| 7/32” | 2-1/2” | 3-3/4” | 100SE114 |
| 15/64” | 2-5/8” | 3-7/8” | 100SE115 |
| 1/4” | 2-3/4” | 4” | 100SE116 |
| 17/64” | 2-7/8” | 4-1/8” | 100SE117 |
| 9/32” | 2-15/16” | 4-1/4” | 100SE118 |
| 19/64” | 3-1/16” | 4-3/8” | 100SE119 |
| 5/16” | 3-3/16” | 4-1/2” | 100SE120 |
| 21/64” | 3-5/16” | 4-5/8” | 100SE121 |
| 11/32” | 3-7/16” | 4-3/4” | 100SE122 |
| 23/64” | 3-1/2” | 4-7/8” | 100SE123 |
| 3/8” | 3-5/8” | 5” | 100SE124 |
| 25/64” | 3-3/4” | 5-1/8” | 100SE125 |
| 13/32” | 3-7/8” | 5-1/4” | 100SE126 |
| 27/64” | 3-15/16” | 5-3/8” | 100SE127 |
| 7/16” | 4-1/16” | 5-1/2” | 100SE128 |
| 29/64” | 4-3/16” | 5-5/8” | 100SE129 |
| 15/32” | 4-5/16” | 5-3/4” | 100SE130 |
| 31/64” | 4-3/8” | 5-7/8” | 100SE131 |
| 1/2” | 4-1/2” | 6” | 100SE132 |

1/16” thru 19/64” - 12 per pack, 5/16” thru 1/2” - 6 per pack

100SE15

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 100SE Series Jobber Drill Sets | | |
| 13 | 1/16” - 1/4” by 64$^{ths}$ | 100SE13 |
| 15 | 1/16” - 1/2” by 32$^{nds}$ | 100SE15 |
| 21 | 1/16” - 3/8” by 64$^{ths}$ | 100SE21 |
| 21 | 1/16” - 1/4” by 64$^{ths}$ & 9/32” - 1/2” by 32$^{nds}$ | 100SE21V |
| 29 | DRILL PAL 1/16” - 1/2: by 64$^{ths}$ | 100SEW29 |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 100SE29 |

## *180SE SERIES*

### GENERAL PURPOSE HIGH SPEED STEEL

**118° Point / Straight Shank**
**Number / Black Oxide**

180SE

| Size | Flute Length | Overall Length | 180SE Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 180SE001 |
| 2 | 2-1/2” | 3-7/8” | 180SE002 |
| 3 | 2-1/2” | 3-3/4” | 180SE003 |
| 4 | 2-1/2” | 3-3/4” | 180SE004 |
| 5 | 2-1/2” | 3-3/4” | 180SE005 |
| 6 | 2-1/2” | 3-3/4” | 180SE006 |
| 7 | 2-7/16” | 3-5/8” | 180SE007 |
| 8 | 2-7/16” | 3-5/8” | 180SE008 |
| 9 | 2-7/16” | 3-5/8” | 180SE009 |
| 10 | 2-7/16” | 3-5/8” | 180SE010 |
| 11 | 2-5/16” | 3-1/2” | 180SE011 |
| 12 | 2-5/16” | 3-1/2” | 180SE012 |
| 13 | 2-5/16” | 3-1/2” | 180SE013 |
| 14 | 2-3/16” | 3-3/8” | 180SE014 |
| 15 | 2-3/16” | 3-3/8” | 180SE015 |
| 16 | 2-3/16” | 3-3/8” | 180SE016 |
| 17 | 2-3/16” | 3-3/8” | 180SE017 |
| 18 | 2-1/8” | 3-1/4” | 180SE018 |
| 19 | 2-1/8” | 3-1/4” | 180SE019 |
| 20 | 2-1/8” | 3-1/4” | 180SE020 |
| 21 | 2-1/8” | 3-1/4” | 180SE021 |
| 22 | 2” | 3-1/8” | 180SE022 |
| 23 | 2” | 3-1/8” | 180SE023 |
| 24 | 2” | 3-1/8” | 180SE024 |
| 25 | 1-7/8” | 3” | 180SE025 |
| 26 | 1-7/8” | 3” | 180SE026 |
| 27 | 1-7/8” | 3” | 180SE027 |
| 28 | 1-3/4” | 2-7/8” | 180SE028 |
| 29 | 1-3/4” | 2-7/8” | 180SE029 |
| 30 | 1-5/8” | 2-3/4” | 180SE030 |
| 31 | 1-5/8” | 2-3/4” | 180SE031 |
| 32 | 1-5/8” | 2-3/4” | 180SE032 |
| 33 | 1-1/2” | 2-5/8” | 180SE033 |
| 34 | 1-1/2” | 2-5/8” | 180SE034 |
| 35 | 1-1/2” | 2-5/8” | 180SE035 |
| 36 | 1-7/16” | 2-1/2” | 180SE036 |
| 37 | 1-7/16” | 2-1/2” | 180SE037 |
| 38 | 1-7/16” | 2-1/2” | 180SE038 |
| 39 | 1-3/8” | 2-3/8” | 180SE039 |
| 40 | 1-3/8” | 2-3/8” | 180SE040 |

#1 thru #40 - 12 per pack

MADE IN THE USA TRIUMPH TWIST DRILL

# GENERAL PURPOSE JOBBER LENGTH DRILLS

Designed for general purpose drilling under a wide range of drilling conditions. It can drill various materials such as cast iron, steel, and steel forging.

- *118° Point designed for general use*
- *A general purpose jobber for a wide range of applications*
- *Black Oxide improves chip flow and increases abrasion resistance*

## *T1B - BP1B - T2B - T3B SERIES*

### GENERAL PURPOSE HIGH SPEED

### 118° Point / Straight Shank

### Black Oxide

| | | | | T1B Packaging: Tube | | T1B Packaging: Bulk | | BP1B Packaging: Card | |
|---|---|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 1/64” | .0156 | 3/16” | 3/4” | 011201 | 12 | - | - | - | - |
| 1/32” | .0312 | 1/2” | 1-3/8” | 011202 | 12 | - | 288 | - | - |
| 3/64” | .0469 | 3/4” | 1-3/4” | 011203 | 12 | 011203.20 | 288 | - | - |
| 1/16” | .0625 | 7/8” | 1-7/8” | 011204 | 12 | 011204.20 | 288 | 011304 | 1 |
| 5/64” | .0781 | 1” | 2” | 011205 | 12 | 011205.20 | 288 | 011305 | 1 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 011206 | 12 | 011206.20 | 288 | 011306 | 1 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 011207 | 12 | 011207.20 | 288 | 011307 | 1 |
| 1/8” | .1250 | 1-5/8” | 2-3/4” | 011208 | 12 | 011208.20 | 288 | 011308 | 1 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 011209 | 12 | 011209.20 | 288 | 011309 | 1 |
| 5/32” | .1562 | 2” | 3-1/8” | 011210 | 12 | 011210.20 | 288 | 011310 | 1 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 011211 | 12 | 011211.20 | 288 | 011311 | 1 |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 011212 | 12 | 011212.20 | 288 | 011312 | 1 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 011213 | 12 | 011213.20 | 288 | 011313 | 1 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 011214 | 12 | 011214.20 | 288 | 011314 | 1 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 011215 | 12 | 011215.20 | 288 | 011315 | 1 |
| 1/4” | .2500 | 2-3/4” | 4” | 011216 | 12 | 011216.20 | 288 | 011316 | 1 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 011217 | 12 | 011217.20 | 144 | 011317 | 1 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 011218 | 12 | 011218.20 | 144 | 011318 | 1 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 011219 | 12 | 011219.20 | 144 | 011319 | 1 |
| 5/16” | .3125 | 3-3/16” | 4-1/2” | 011220 | 6 | 011220.20 | 144 | 011320 | 1 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 011221 | 6 | 011221.20 | 144 | 011321 | 1 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 011222 | 6 | 011222.20 | 144 | 011322 | 1 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 011223 | 6 | 011223.20 | 144 | 011323 | 1 |
| 3/8” | .3750 | 3-5/8” | 5” | 011224 | 6 | 011224.20 | 144 | 011324 | 1 |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 011225 | 6 | 011225.20 | 144 | 011325 | 1 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 011226 | 6 | 011226.20 | 144 | 011326 | 1 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 011227 | 6 | 011227.20 | 144 | 011327 | 1 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 011228 | 6 | 011228.20 | 144 | 011328 | 1 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 011229 | 6 | 011229.20 | 144 | 011329 | 1 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 011230 | 6 | 011230.20 | 144 | 011330 | 1 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 011231 | 6 | 011231.20 | 144 | 011331 | 1 |
| 1/2” | .5000 | 4-1/2” | 6” | 011232 | 6 | 011232.20 | 144 | 011332 | 1 |

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| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T17B | Metal Index | 29 Piece | 1/16”-1/2” by 64$^{ths}$ | 099802 |
| T18B | Metal Index | 15 Piece | 1/16”-1/2” by 32$^{nds}$ | 099808 |
| T19B | Metal Index | 13 Piece | 1/16”-1/4” by 64$^{ths}$ | 099814 |
| T22B | Metal Index | 60 Piece | #1 - #60 | 099820 |
| T25B | Metal Index | 26 Piece | A - Z | 099827 |
| T123B | Metal Index | 115 Piece | 1/16”-1/2 by 64$^{ths}$, #1- #60, A-Z | 099832 |
| T180B | Metal Index | 21 Piece | 1/16”-3/8” by 64$^{ths}$ | 099835 |
| T815B* | Metal Index | 15 Piece | 1/16”-1/2” by 32$^{nds}$ | 099812 |
| T829B* | Metal Index | 29 Piece | 1/16”-1/2” by 64$^{ths}$ | 099833 |

*3/8” Reduced Shank

# GENERAL PURPOSE JOBBER LENGTH DRILLS

| | | | | T2B Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1 | .2280 | 2-5/8” | 3-7/8” | 012201 | 12 |
| 2 | .2210 | 2-5/8” | 3-7/8” | 012202 | 12 |
| 3 | .2130 | 2-1/2” | 3-3/4” | 012203 | 12 |
| 4 | .2090 | 2-1/2” | 3-3/4” | 012204 | 12 |
| 5 | .2055 | 2-1/2” | 3-3/4” | 012205 | 12 |
| 6 | .2040 | 2-1/2” | 3-3/4” | 012206 | 12 |
| 7 | .2010 | 2-7/16” | 3-5/8” | 012207 | 12 |
| 8 | .1990 | 2-7/16” | 3-5/8” | 012208 | 12 |
| 9 | .1960 | 2-7/16” | 3-5/8” | 012209 | 12 |
| 10 | .1935 | 2-7/16” | 3-5/8” | 012210 | 12 |
| 11 | .1910 | 2-5/16” | 3-1/2” | 012211 | 12 |
| 12 | .1890 | 2-5/16” | 3-1/2” | 012212 | 12 |
| 13 | .1850 | 2-5/16” | 3-1/2” | 012213 | 12 |
| 14 | .1820 | 2-3/16” | 3-3/8” | 012214 | 12 |
| 15 | .1800 | 2-3/16” | 3-3/8” | 012215 | 12 |
| 16 | .1770 | 2-3/16” | 3-3/8” | 012216 | 12 |
| 17 | .1730 | 2-3/16” | 3-3/8” | 012217 | 12 |
| 18 | .1695 | 2-1/8” | 3-1/4” | 012218 | 12 |
| 19 | .1660 | 2-1/8” | 3-1/4” | 012219 | 12 |
| 20 | .1610 | 2-1/8” | 3-1/4” | 012220 | 12 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 012221 | 12 |
| 22 | .1570 | 2” | 3-1/8” | 012222 | 12 |
| 23 | .1540 | 2” | 3-1/8” | 012223 | 12 |
| 24 | .1520 | 2” | 3-1/8” | 012224 | 12 |
| 25 | .1495 | 1-7/8” | 3” | 012225 | 12 |
| 26 | .1470 | 1-7/8” | 3” | 012226 | 12 |
| 27 | .1440 | 1-7/8” | 3” | 012227 | 12 |
| 28 | .1405 | 1-3/4” | 2-7/8” | 012228 | 12 |
| 29 | .1360 | 1-3/4” | 2-7/8” | 012229 | 12 |
| 30 | .1285 | 1-5/8” | 2-3/4” | 012230 | 12 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 012231 | 12 |
| 32 | .1160 | 1-5/8” | 2-3/4” | 012232 | 12 |
| 33 | .1130 | 1-1/2” | 2-5/8” | 012233 | 12 |
| 34 | .1110 | 1-1/2” | 2-5/8” | 012234 | 12 |
| 35 | .1100 | 1-1/2” | 2-5/8” | 012235 | 12 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 012236 | 12 |
| 37 | .1040 | 1-7/16” | 2-1/2” | 012237 | 12 |
| 38 | .1015 | 1-7/16” | 2-1/2” | 012238 | 12 |
| 39 | .0995 | 1-3/8” | 2-3/8” | 012239 | 12 |
| 40 | .0980 | 1-3/8” | 2-3/8” | 012240 | 12 |
| 41 | .0960 | 1-3/8” | 2-3/8” | 012241 | 12 |
| 42 | .0935 | 1-1/4” | 2-1/4” | 012242 | 12 |
| 43 | .0890 | 1-1/4” | 2-1/4” | 012243 | 12 |
| 44 | .0860 | 1-1/8” | 2-1/8” | 012244 | 12 |
| 45 | .0820 | 1-1/8” | 2-1/8” | 012245 | 12 |
| 46 | .0810 | 1-1/8” | 2-1/8” | 012246 | 12 |
| 47 | .0785 | 1” | 2” | 012247 | 12 |
| 48 | .0760 | 1” | 2” | 012248 | 12 |
| 49 | .0730 | 1” | 2” | 012249 | 12 |
| 50 | .0700 | 1” | 2” | 012250 | 12 |
| 51 | .0670 | 1” | 2” | 012251 | 12 |
| 52 | .0635 | 7/8” | 1-7/8” | 012252 | 12 |
| 53 | .0595 | 7/8” | 1-7/8” | 012253 | 12 |
| 54 | .0550 | 7/8” | 1-7/8” | 012254 | 12 |
| 55 | .0520 | 7/8” | 1-7/8” | 012255 | 12 |
| 56 | .0465 | 3/4” | 1-3/4” | 012256 | 12 |
| 57 | .0430 | 3/4” | 1-3/4” | 012257 | 12 |
| 58 | .0420 | 11/16” | 1-5/8” | 012258 | 12 |
| 59 | .0410 | 11/16” | 1-5/8” | 012259 | 12 |
| 60 | .0400 | 11/16” | 1-5/8” | 012260 | 12 |

| | | | | T2B Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1 | .2280 | 2-5/8” | 3-7/8” | 012201.20 | 288 |
| 2 | .2210 | 2-5/8” | 3-7/8” | 012202.20 | 288 |
| 6 | .2040 | 2-1/2” | 3-3/4” | 012206.20 | 288 |
| 7 | .2010 | 2-7/16” | 3-5/8” | 012207.20 | 288 |
| 10 | .1935 | 2-7/16” | 3-5/8” | 012210.20 | 288 |
| 16 | .1770 | 2-3/16” | 3-3/8” | 012216.20 | 288 |
| 20 | .1610 | 2-1/8” | 3-1/4” | 012220.20 | 288 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 012221.20 | 288 |
| 25 | .1495 | 1-7/8” | 3” | 012225.20 | 288 |
| 28 | .1405 | 1-3/4” | 2-7/8” | 012228.20 | 288 |
| 29 | .1360 | 1-3/4” | 2-7/8” | 012229.20 | 288 |
| 30 | .1285 | 1-5/8” | 2-3/4” | 012230.20 | 288 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 012231.20 | 288 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 012236.20 | 288 |
| 40 | .0980 | 1-3/8” | 2-3/8” | 012240.20 | 288 |
| 52 | .0635 | 7/8” | 1-7/8” | 012252.20 | 288 |
| 53 | .0595 | 7/8” | 1-7/8” | 012253.20 | 288 |
| 54 | .0550 | 7/8” | 1-7/8” | 012254.20 | 288 |
| 55 | .0520 | 7/8” | 1-7/8” | 012255.20 | 288 |
| 56 | .0465 | 3/4” | 1-3/4” | 012256.20 | 288 |
| 57 | .0430 | 3/4” | 1-3/4” | 012257.20 | 288 |
| 58 | .0420 | 11/16” | 1-5/8” | 012258.20 | 288 |
| 59 | .0410 | 11/16” | 1-5/8” | 012259.20 | 288 |

| | | | | T3B Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| A | .2340 | 2-5/8” | 3-7/8” | 013201 | 12 |
| B | .2380 | 2-3/4” | 4” | 013202 | 12 |
| C | .2420 | 2-3/4” | 4” | 013203 | 12 |
| D | .2460 | 2-3/4” | 4” | 013204 | 12 |
| E | .2500 | 2-3/4” | 4” | 013205 | 12 |
| F | .2570 | 2-7/8” | 4-1/8” | 013206 | 12 |
| G | .2610 | 2-7/8” | 4-1/8” | 013207 | 12 |
| H | .2660 | 2-7/8” | 4-1/8” | 013208 | 12 |
| I | .2720 | 2-7/8” | 4-1/8” | 013209 | 12 |
| J | .2770 | 2-7/8” | 4-1/8” | 013210 | 12 |
| K | .2810 | 2-15/16” | 4-1/4” | 013211 | 12 |
| L | .2900 | 2-15/16” | 4-1/4” | 013212 | 12 |
| M | .2950 | 3-1/16” | 4-3/8” | 013213 | 12 |
| N | .3020 | 3-1/16” | 4-3/8” | 013214 | 12 |
| O | .3160 | 3-3/16” | 4-1/2” | 013215 | 6 |
| P | .3230 | 3-5/16” | 4-5/8” | 013216 | 6 |
| Q | .3320 | 3-7/16” | 4-3/4” | 013217 | 6 |
| R | .3390 | 3-7/16” | 4-3/4” | 013218 | 6 |
| S | .3480 | 3-1/2” | 4-7/8” | 013219 | 6 |
| T | .3580 | 3-1/2” | 4-7/8” | 013220 | 6 |
| U | .3680 | 3-5/8” | 5” | 013221 | 6 |
| V | .3770 | 3-5/8” | 5” | 013222 | 6 |
| W | .3860 | 3-3/4” | 5-1/8” | 013223 | 6 |
| X | .3970 | 3-3/4” | 5-1/8” | 013224 | 6 |
| Y | .4040 | 3-7/8” | 5-1/4” | 013225 | 6 |
| Z | .4130 | 3-7/8” | 5-1/4” | 013226 | 6 |

# GENERAL PURPOSE JOBBER LENGTH DRILLS

## *T1 - BP1 - T2 - T3 - MM1 SERIES*

**GENERAL PURPOSE HIGH SPEED STEEL**

**118° Point**

**Bright Finish**

| | | | | T1 Packaging: Tube | | T1 Packaging: Bulk | | BP1 Packaging: Card | |
|---|---|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 1/64” | .0156 | 3/16” | 3/4” | 011001 | 12 | - | - | - | - |
| 1/32” | .0312 | 1/2” | 1-3/8” | 011002 | 12 | 011002.20 | 288 | - | - |
| 3/64” | .0469 | 3/4” | 1-3/4” | 011003 | 12 | 011003.20 | 288 | - | - |
| 1/16” | .0625 | 7/8” | 1-7/8” | 011004 | 12 | 011004.20 | 288 | 011604 | 1 |
| 5/64” | .0781 | 1” | 2” | 011005 | 12 | 011005.20 | 288 | 011605 | 1 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 011006 | 12 | 011006.20 | 288 | 011606 | 1 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 011007 | 12 | 011007.20 | 288 | 011607 | 1 |
| 1/8” | .1250 | 1-5/8” | 2-3/4” | 011008 | 12 | 011008.20 | 288 | 011608 | 1 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 011009 | 12 | 011009.20 | 288 | 011609 | 1 |
| 5/32” | .1562 | 2” | 3-1/8” | 011010 | 12 | 011010.20 | 288 | 011610 | 1 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 011011 | 12 | 011011.20 | 288 | 011611 | 1 |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 011012 | 12 | 011012.20 | 288 | 011612 | 1 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 011013 | 12 | 011013.20 | 288 | 011613 | 1 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 011014 | 12 | 011014.20 | 288 | 011614 | 1 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 011015 | 12 | 011015.20 | 288 | 011615 | 1 |
| 1/4” | .2500 | 2-3/4” | 4” | 011016 | 12 | 011016.20 | 288 | 011616 | 1 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 011017 | 12 | 011017.20 | 144 | 011617 | 1 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 011018 | 12 | 011018.20 | 144 | 011618 | 1 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 011019 | 12 | 011019.20 | 144 | 011619 | 1 |
| 5/16” | .3125 | 3-3/16” | 4-1/2” | 011020 | 6 | 011020.20 | 144 | 011620 | 1 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 011021 | 6 | 011021.20 | 144 | 011621 | 1 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 011022 | 6 | 011022.20 | 144 | 011622 | 1 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 011023 | 6 | 011023.20 | 144 | 011623 | 1 |
| 3/8” | .3750 | 3-5/8” | 5” | 011024 | 6 | 011024.20 | 144 | 011624 | 1 |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 011025 | 6 | 011025.20 | 144 | 011625 | 1 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 011026 | 6 | 011026.20 | 144 | 011626 | 1 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 011027 | 6 | 011027.20 | 144 | 011627 | 1 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 011028 | 6 | 011028.20 | 144 | 011628 | 1 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 011029 | 6 | 011029.20 | 144 | 011629 | 1 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 011030 | 6 | 011030.20 | 144 | 011630 | 1 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 011031 | 6 | 011031.20 | 144 | 011631 | 1 |
| 1/2” | .5000 | 4-1/2” | 6” | 011032 | 6 | 011032.20 | 144 | 011632 | 1 |

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| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| SAD13 | Select-A-Drill | 13 Piece | 1/16”-1/4” by 64ths | 090490 |
| SAD21 | Select-A-Drill | 21 Piece | 1/16”-3/8” by 64ths | 090491 |
| T14P* | Metal Index | 14 Piece | 1/16”, 5/64”, 3/32”, 7/64”, 1/8”, 9/64”, 5/32, 3/16”, 7/32”, 1/4”*, 5/16”, 3/8”, 7/16”, 1/2” | 090614 |
| T17 | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 090517 |
| T18 | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 090518 |
| T19 | Metal Index | 13 Piece | 1/16”-1/4” by 64ths | 090519 |
| T180 | Metal Index | 21 Piece | 1/16”-3/8” by 64ths | 090580 |
| T123 | Metal Index | 115 Piece | 1/16”-1/2” by 64ths, #1-#60, A-Z | 090560 |
| T829B* | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 099833 |

*Sizes over 1/4” are 1/4”reduced shank

# GENERAL PURPOSE JOBBER LENGTH DRILLS



| | | | | T2 Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1 | .2280 | 2-5/8” | 3-7/8” | 012001 | 12 |
| 2 | .2210 | 2-5/8” | 3-7/8” | 012002 | 12 |
| 3 | .2130 | 2-1/2” | 3-3/4” | 012003 | 12 |
| 4 | .2090 | 2-1/2” | 3-3/4” | 012004 | 12 |
| 5 | .2055 | 2-1/2” | 3-3/4” | 012005 | 12 |
| 6 | .2040 | 2-1/2” | 3-3/4” | 012006 | 12 |
| 7 | .2010 | 2-7/16” | 3-5/8” | 012007 | 12 |
| 8 | .1990 | 2-7/16” | 3-5/8” | 012008 | 12 |
| 9 | .1960 | 2-7/16” | 3-5/8” | 012009 | 12 |
| 10 | .1935 | 2-7/16” | 3-5/8” | 012010 | 12 |
| 11 | .1910 | 2-5/16” | 3-1/2” | 012011 | 12 |
| 12 | .1890 | 2-5/16” | 3-1/2” | 012012 | 12 |
| 13 | .1850 | 2-5/16” | 3-1/2” | 012013 | 12 |
| 14 | .1820 | 2-3/16” | 3-3/8” | 012014 | 12 |
| 15 | .1800 | 2-3/16” | 3-3/8” | 012015 | 12 |
| 16 | .1770 | 2-3/16” | 3-3/8” | 012016 | 12 |
| 17 | .1730 | 2-3/16” | 3-3/8” | 012017 | 12 |
| 18 | .1695 | 2-1/8” | 3-1/4” | 012018 | 12 |
| 19 | .1660 | 2-1/8” | 3-1/4” | 012019 | 12 |
| 20 | .1610 | 2-1/8” | 3-1/4” | 012020 | 12 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 012021 | 12 |
| 22 | .1570 | 2” | 3-1/8” | 012022 | 12 |
| 23 | .1540 | 2” | 3-1/8” | 012023 | 12 |
| 24 | .1520 | 2” | 3-1/8” | 012024 | 12 |
| 25 | .1495 | 1-7/8” | 3” | 012025 | 12 |
| 26 | .1470 | 1-7/8” | 3” | 012026 | 12 |
| 27 | .1440 | 1-7/8” | 3” | 012027 | 12 |
| 28 | .1405 | 1-3/4” | 2-7/8” | 012028 | 12 |
| 29 | .1405 | 1-3/4” | 2-7/8” | 012029 | 12 |
| 30 | .1285 | 1-5/8” | 2-3/4” | 012030 | 12 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 012031 | 12 |
| 32 | .1160 | 1-5/8” | 2-3/4” | 012032 | 12 |
| 33 | .1130 | 1-1/2” | 2-5/8” | 012033 | 12 |
| 34 | .1110 | 1-1/2” | 2-5/8” | 012034 | 12 |
| 35 | .1100 | 1-1/2” | 2-5/8” | 012035 | 12 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 012036 | 12 |
| 37 | .1040 | 1-7/16” | 2-1/2” | 012037 | 12 |
| 38 | .1015 | 1-7/16” | 2-1/2” | 012038 | 12 |
| 39 | .0995 | 1-3/8” | 2-3/8” | 012039 | 12 |
| 40 | .0980 | 1-3/8” | 2-3/8” | 012040 | 12 |
| 41 | .0960 | 1-3/8” | 2-3/8” | 012041 | 12 |
| 42 | .0935 | 1-1/4” | 2-1/4” | 012042 | 12 |
| 43 | .0890 | 1-1/4” | 2-1/4” | 012043 | 12 |
| 44 | .0860 | 1-1/8” | 2-1/8” | 012044 | 12 |
| 45 | .0820 | 1-1/8” | 2-1/8” | 012045 | 12 |
| 46 | .0810 | 1-1/8” | 2-1/8” | 012046 | 12 |
| 47 | .0785 | 1” | 2” | 012047 | 12 |
| 48 | .0760 | 1” | 2” | 012048 | 12 |
| 49 | .0730 | 1” | 2” | 012049 | 12 |
| 50 | .0700 | 1” | 2” | 012050 | 12 |
| 51 | .0670 | 1” | 2” | 012051 | 12 |
| 52 | .0635 | 7/8” | 1-7/8” | 012052 | 12 |
| 53 | .0595 | 7/8” | 1-7/8” | 012053 | 12 |
| 54 | .0550 | 7/8” | 1-7/8” | 012054 | 12 |
| 55 | .0520 | 7/8” | 1-7/8” | 012055 | 12 |
| 56 | .0465 | 3/4” | 1-3/4” | 012056 | 12 |
| 57 | .0430 | 3/4” | 1-3/4” | 012057 | 12 |
| 58 | .0420 | 11/16” | 1-5/8” | 012058 | 12 |
| 59 | .0410 | 11/16” | 1-5/8” | 012059 | 12 |
| 60 | .0400 | 11/16” | 1-5/8” | 012060 | 12 |
| 61 | .0390 | 11/16” | 1-5/8” | 012061 | 12 |

| | | | | T2 Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 62 | .0380 | 5/8” | 1-1/2” | 012062 | 12 |
| 63 | .0370 | 5/8” | 1-1/2” | 012063 | 12 |
| 64 | .0360 | 5/8” | 1-1/2” | 012064 | 12 |
| 65 | .0350 | 5/8” | 1-1/2” | 012065 | 12 |
| 66 | .0330 | 1/2” | 1-3/8” | 012066 | 12 |
| 67 | .0320 | 1/2” | 1-3/8” | 012067 | 12 |
| 68 | .0310 | 1/2” | 1-3/8” | 012068 | 12 |
| 69 | .0292 | 1/2” | 1-3/8” | 012069 | 12 |
| 70 | .0280 | 3/8” | 1-1/4” | 012070 | 12 |
| 71 | .0260 | 3/8” | 1-1/4” | 012071 | 12 |
| 72 | .0250 | 5/16” | 1-1/8” | 012072 | 12 |
| 73 | .0240 | 5/16” | 1-1/8” | 012073 | 12 |
| 74 | .0225 | 1/4” | 1” | 012074 | 12 |
| 75 | .0210 | 1/4” | 1” | 012075 | 12 |
| 76 | .0200 | 3/16” | 7/8” | 012076 | 12 |
| 77 | .0180 | 3/16” | 7/8” | 012077 | 12 |
| 78 | .0160 | 3/16” | 7/8” | 012078 | 12 |
| 79 | .0145 | 1/8” | 3/4” | 012079 | 12 |
| 80 | .0135 | 1/8” | 3/4” | 012080 | 12 |

| | | | | T2 Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 7 | .2010 | 2-7/16” | 3-5/8” | 012007.20 | 288 |
| 10 | .1935 | 2-7/16” | 3-5/8” | 012010.20 | 288 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 012021.20 | 288 |
| 25 | .1495 | 1-7/8” | 3” | 012025.20 | 288 |
| 29 | .1360 | 1-3/4” | 2-7/8” | 012029.20 | 288 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 012031.20 | 288 |
| 32 | .1160 | 1-5/8” | 2-3/4” | 012032.20 | 288 |
| 35 | .1100 | 1-1/2” | 2-5/8” | 012035.20 | 288 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 012036.20 | 288 |
| 44 | .0860 | 1-1/8” | 2-1/8” | 012044.20 | 288 |
| 50 | .0700 | 1” | 2” | 012050.20 | 288 |
| 53 | .0595 | 7/8” | 1-7/8” | 012053.20 | 288 |
| 54 | .0550 | 7/8” | 1-7/8” | 012054.20 | 288 |
| 55 | .0520 | 7/8” | 1-7/8” | 012055.20 | 288 |
| 56 | .0465 | 3/4” | 1-3/4” | 012056.20 | 288 |
| 58 | .0420 | 11/16” | 1-5/8” | 012058.20 | 288 |
| 60 | .0400 | 11/16” | 1-5/8” | 012060.20 | 288 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T22 | Metal Index | 60 Piece | #1- #60 | 090522 |
| T23 | Metal Index | 20 Piece | #61- #80 | 090523 |
| T123 | Metal Index | 115 Piece | 1/16”-1/2” by 64$^{ths}$, #1- #60, A-Z | 090560 |

*T3 - MM1 SERIES (CONTINUED)*

# GENERAL PURPOSE JOBBER LENGTH DRILLS

## *T1 - BP1 - T2 - T3 - MM1 SERIES*

**GENERAL PURPOSE HIGH SPEED STEEL**

**118° Point**

**Bright Finish**

| | | | | T3 Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| A | .2340 | 2-5/8” | 3-7/8” | 013001 | 12 |
| B | .2380 | 2-3/4” | 4” | 013002 | 12 |
| C | .2420 | 2-3/4” | 4” | 013003 | 12 |
| D | .2460 | 2-3/4” | 4” | 013004 | 12 |
| E | .2500 | 2-3/4” | 4” | 013005 | 12 |
| F | .2570 | 2-7/8” | 4-1/8” | 013006 | 12 |
| G | .2610 | 2-7/8” | 4-1/8” | 013007 | 12 |
| H | .2660 | 2-7/8” | 4-1/8” | 013008 | 12 |
| I | .2720 | 2-7/8” | 4-1/8” | 013009 | 12 |
| J | .2770 | 2-7/8” | 4-1/8” | 013010 | 12 |
| K | .2810 | 2-15/16” | 4-1/4” | 013011 | 12 |
| L | .2900 | 2-15/16” | 4-1/4” | 013012 | 12 |
| M | .2950 | 3-1/16” | 4-3/8” | 013013 | 12 |
| N | .3020 | 3-1/16” | 4-3/8” | 013014 | 12 |
| O | .3160 | 3-3/16” | 4-1/2” | 013015 | 6 |
| P | .3230 | 3-5/16” | 4-5/8” | 013016 | 6 |
| Q | .3320 | 3-7/16” | 4-3/4” | 013017 | 6 |
| R | .3390 | 3-7/16” | 4-3/4” | 013018 | 6 |
| S | .3480 | 3-1/2” | 4-7/8” | 013019 | 6 |
| T | .3580 | 3-1/2” | 4-7/8” | 013020 | 6 |
| U | .3680 | 3-5/8” | 5” | 013021 | 6 |
| V | .3770 | 3-5/8” | 5” | 013022 | 6 |
| W | .3860 | 3-3/4” | 5-1/8” | 013023 | 6 |
| X | .3970 | 3-3/4” | 5-1/8” | 013024 | 6 |
| Y | .4040 | 3-7/8” | 5-1/4” | 013025 | 6 |
| Z | .4130 | 3-7/8” | 5-1/4” | 013026 | 6 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T123 | Metal Index | 115 Piece | 1/16”-1/2” by 64ths, #1- #60, A-Z | 090560 |

| | | | | MM1 Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1.00 | .0394 | 17 | 41 | 013910 | 12 |
| 1.20 | .0472 | 22 | 48 | 013912 | 12 |
| 1.50 | .0591 | 22 | 48 | 013915 | 12 |
| 2.00 | .0787 | 25 | 51 | 013920 | 12 |
| 2.50 | .0984 | 35 | 60 | 013925 | 12 |
| 3.00 | .1181 | 41 | 70 | 013930 | 12 |
| 3.30 | .1299 | 44 | 73 | 013933 | 12 |
| 3.50 | .1378 | 44 | 73 | 013935 | 12 |
| 4.00 | .1575 | 54 | 83 | 013940 | 12 |
| 4.20 | .1654 | 54 | 83 | 013942 | 12 |
| 4.50 | .1772 | 56 | 86 | 013945 | 12 |
| 5.00 | .1969 | 62 | 92 | 013950 | 12 |
| 5.10 | .2008 | 62 | 92 | 013951 | 12 |
| 5.30 | .2087 | 64 | 95 | 013953 | 12 |
| 5.50 | .2165 | 64 | 95 | 013955 | 12 |
| 6.00 | .2362 | 70 | 102 | 013960 | 12 |
| 6.50 | .2559 | 73 | 105 | 013965 | 12 |
| 6.90 | .2717 | 73 | 105 | 013969 | 6 |
| 7.00 | .2756 | 73 | 105 | 013970 | 6 |
| 7.20 | .2835 | 75 | 108 | 013972 | 6 |
| 7.50 | .2953 | 78 | 111 | 013975 | 6 |
| 8.00 | .3150 | 81 | 114 | 013980 | 6 |
| 8.30 | .3268 | 84 | 117 | 013983 | 6 |
| 8.50 | .3346 | 87 | 121 | 013985 | 6 |
| 9.00 | .3543 | 89 | 124 | 013990 | 6 |
| 10.00 | .3937 | 95 | 130 | 013800 | 6 |
| 10.50 | .4134 | 98 | 133 | 013805 | 6 |
| 11.00 | .4331 | 103 | 140 | 013810 | 6 |
| 11.50 | .4528 | 106 | 143 | 013811 | 6 |
| 12.00 | .4724 | 111 | 149 | 013812 | 6 |
| 12.50 | .4921 | 114 | 152 | 013813 | 6 |
| 13.00 | .5118 | 114 | 152 | 013814 | 1 |

## *T8 - BP8 SERIES*

**HIGH SPEED STEEL**

**118° Point**

**Bright Finish**

**3/8” Reduced Shank**

| | | | | T8 Packaging: Tube | | BP8 Packaging: Tube | |
|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 091825 | 6 | - | - |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 091826 | 6 | - | - |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 091827 | 6 | - | - |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 091828 | 6 | 091928 | 1 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 091829 | 6 | - | - |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 091830 | 6 | - | - |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 091831 | 6 | - | - |
| 1/2” | .5000 | 4-1/2” | 6” | 091832 | 6 | 091932 | 1 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T815 | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 090815 |
| T829 | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 090829 |

TRIUMPH
TWIST DRILL CO.
A DIVISION OF MINNESOTA TWIST DRILL

# GENERAL PURPOSE
# LEFT HAND JOBBER LENGTH DRILLS

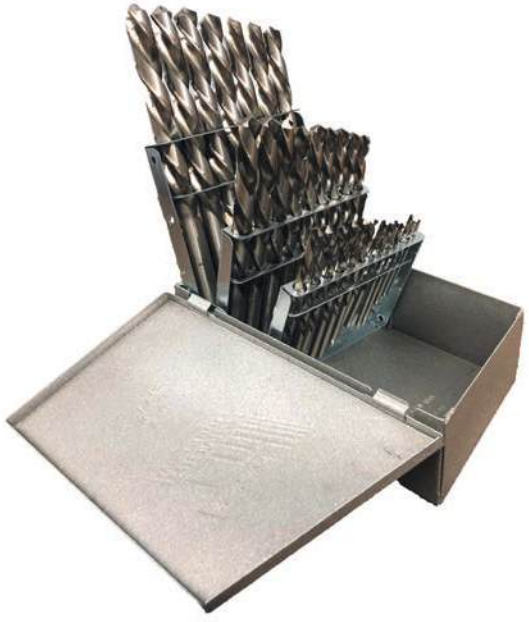
Used in close center multiple spindle gear driven drilling heads, where adjacent spindles operate alternately left and right hand. They are also used in left hand screw machines. Can be used to drill out broken bolts.

- ***Left handed flutes and cutting edges allow for counter-clockwise drilling***
- ***Easy removal of broken bolts***
- ***Bright finish for increased lubricity when drilling softer materials***

## *T1L SERIES*
## GENERAL PURPOSE HIGH SPEED STEEL
### 118° Point
### Bright Finish

| | | | | T1L Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/16” | .0625 | 7/8” | 1-7/8” | 011104 | 12 |
| 5/64” | .0781 | 1” | 2” | 011105 | 12 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 011106 | 12 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 011107 | 12 |
| 1/8” | .1250 | 1-5/8” | 2-3/4” | 011108 | 12 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 011109 | 12 |
| 5/32” | .1562 | 2” | 3-1/8” | 011110 | 12 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 011111 | 12 |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 011112 | 12 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 011113 | 12 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 011114 | 12 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 011115 | 12 |
| 1/4” | .2500 | 2-3/4” | 4” | 011116 | 12 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 011117 | 12 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 011118 | 12 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 011119 | 12 |
| 5/16” | .3125 | 3-3/16” | 4-1/2” | 011120 | 6 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 011121 | 6 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 011122 | 6 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 011123 | 6 |
| 3/8” | .3750 | 3-5/8” | 5” | 011124 | 6 |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 011125 | 6 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 011126 | 6 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 011127 | 6 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 011128 | 6 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 011129 | 6 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 011130 | 6 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 011131 | 6 |
| 1/2” | .5000 | 4-1/2” | 6” | 011132 | 6 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T17L | Metal Index | 29 Piece | 1/16”-1/2” by 64$^{ths}$ | 011199 |



## *Tech tip!*

*Left-handed drill bits can be used to drill out broken bolts.*

# GENERAL PURPOSE
# LEFT HAND JOBBER LENGTH DRILLS

Used in close center multiple spindle gear driven drilling heads, where adjacent spindles operate alternately left and right hand. They are also used in left hand screw machines. Can be used to drill out broken bolts.

- ***Left handed flutes and cutting edges allow for counter-clockwise drilling***
- ***Easy removal of broken bolts***
- ***Bright finish for increased lubricity when drilling softer materials***

## *200LH SERIES*
## GENERAL PURPOSE HIGH SPEED STEEL
### 118° Point / Straight Shank
### Fractional / Bright

200LH

| Size | Flute Length | Overall Length | 200LH Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 200LH104 |
| 5/64” | 1” | 2” | 200LH105 |
| 3/32” | 1-1/4” | 2-1/4” | 200LH106 |
| 7/64” | 1-1/2” | 2-5/8” | 200LH107 |
| 1/8” | 1-5/8” | 2-3/4' | 200LH108 |
| 9/64” | 1-3/4” | 2-7/8” | 200LH109 |
| 5/32” | 2” | 3-1/8” | 200LH110 |
| 11/64” | 2-1/8” | 3-1/4” | 200LH111 |
| 3/16” | 2-5/16” | 3-1/2” | 200LH112 |
| 13/64” | 2-7/16” | 3-5/8” | 200LH113 |
| 7/32” | 2-1/2” | 3-3/4” | 200LH114 |
| 15/64” | 2-5/8” | 3-7/8” | 200LH115 |
| 1/4” | 2-3/4” | 4” | 200LH116 |
| 17/64” | 2-7/8” | 4-1/8” | 200LH117 |
| 9/32” | 2-15/16” | 4-1/4” | 200LH118 |

| Size | Flute Length | Overall Length | 200LH Order No. |
|---|---|---|---|
| 19/64” | 3-1/16” | 4-3/8” | 200LH119 |
| 5/16” | 3-3/16” | 4-1/2” | 200LH120 |
| 21/64” | 3-5/16” | 4-5/8” | 200LH121 |
| 11/32” | 3-7/16” | 4-3/4” | 200LH122 |
| 23/64” | 3-1/2” | 4-7/8” | 200LH123 |
| 3/8” | 3-5/8” | 5” | 200LH124 |
| 25/64” | 3-3/4” | 5-1/8” | 200LH125 |
| 13/32” | 3-7/8” | 5-1/4” | 200LH126 |
| 27/64” | 3-15/16” | 5-3/8” | 200LH127 |
| 7/16” | 4-1/16” | 5-1/2” | 200LH128 |
| 29/64” | 4-3/16” | 5-5/8” | 200LH129 |
| 15/32” | 4-5/16” | 5-3/4” | 200LH130 |
| 31/64” | 4-3/8” | 5-7/8” | 200LH131 |
| 1/2” | 4-1/2” | 6” | 200LH132 |

200LH29

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 200LH Series Left Hand Jobber Drill Sets | | |
| 13 | 1/16” - 1/4” by 64$^{ths}$ | 200LH13 |
| 15 | 1/16” - 1/2” by 32$^{nds}$ | 200LH15 |
| 21 | 1/16” - 3/8” by 64$^{ths}$ | 200LH21 |
| 21 | 1/16” - 1/4” by 64$^{ths}$ & 9/32” - 1/2” by 32$^{nds}$ | 200LH21V |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 200LH29 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

## Designed for efficient drilling in stainless steel and tougher ferrous materials.

- *The 135º split point reduces the thrust requirements and minimizes "walking"*
- *NAS Type B*
- *Black oxide surface treatment for increased wear resistance and lubricity*
- *Available in bulk packaging*

### *400 SERIES*
### HEAVY-DUTY HIGH SPEED STEEL
### 135° Split Point / Straight Shank
### Fractional / Black Oxide

400

| Size | Flute Length | Overall Length | 400 Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 400A104 |
| 5/64” | 1” | 2” | 400A105 |
| 3/32” | 1-1/4” | 2-1/4” | 400A106 |
| 7/64” | 1-1/2” | 2-5/8” | 400A107 |
| 1/8” | 1-5/8” | 2-3/4” | 400A108 |
| 9/64” | 1-3/4” | 2-7/8” | 400A109 |
| 5/32” | 2” | 3-1/8” | 400A110 |
| 11/64” | 2-1/8” | 3-1/4” | 400A111 |
| 3/16” | 2-5/16” | 3-1/2” | 400A112 |
| 13/64” | 2-7/16” | 3-5/8” | 400A113 |
| 7/32” | 2-1/2” | 3-3/4” | 400A114 |
| 15/64” | 2-5/8” | 3-7/8” | 400A115 |
| 1/4” | 2-3/4” | 4” | 400A116 |
| 17/64” | 2-7/8” | 4-1/8” | 400A117 |
| 9/32” | 2-15/16” | 4-1/4” | 400A118 |
| 19/64” | 3-1/16” | 4-3/8” | 400A119 |
| 5/16” | 3-3/16” | 4-1/2” | 400A120 |
| 21/64” | 3-5/16” | 4-5/8” | 400A121 |
| 11/32” | 3-7/16” | 4-3/4” | 400A122 |
| 23/64” | 3-1/2” | 4-7/8” | 400A123 |
| 3/8” | 3-5/8” | 5” | 400A124 |
| 25/64” | 3-3/4” | 5-1/8” | 400A125 |
| 13/32” | 3-7/8” | 5-1/4” | 400A126 |
| 27/64” | 3-15/16” | 5-3/8” | 400A127 |
| 7/16” | 4-1/16” | 5-1/2” | 400A128 |
| 29/64” | 4-3/16” | 5-5/8” | 400A129 |
| 15/32” | 4-5/16” | 5-3/4” | 400A130 |
| 31/64” | 4-3/8” | 5-7/8” | 400A131 |
| 1/2” | 4-1/2” | 6” | 400A132 |

1/16” thru 19/64” - 12 per pack, 5/16” thru 1/2” - 6 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O- Z | 72 |

### *440 SERIES*
### HEAVY-DUTY HIGH SPEED STEEL
### 135° Split Point / Straight Shank
### Letter / Black Oxide

440

| Size | Flute Length | Overall Length | 440 Order No. |
|---|---|---|---|
| A | 2-5/8” | 3-7/8” | 440A501 |
| B | 2-3/4” | 4” | 440A502 |
| C | 2-3/4” | 4” | 440A503 |
| D | 2-3/4” | 4” | 440A504 |
| E | 2-3/4” | 4” | 440A505 |
| F | 2-7/8” | 4-1/8” | 440A506 |
| G | 2-7/8” | 4-1/8” | 440A507 |
| H | 2-7/8” | 4-1/8” | 440A508 |
| I | 2-7/8” | 4-1/8” | 440A509 |
| J | 2-7/8” | 4-1/8” | 440A510 |
| K | 2-15/16” | 4-1/4” | 440A511 |
| L | 2-15/16” | 4-1/4” | 440A512 |
| M | 3-1/16” | 4-3/8” | 440A513 |
| N | 3-1/16” | 4-3/8” | 440A514 |
| O | 3-3/16” | 4-1/2” | 440A515 |
| P | 3-5/16” | 4-5/8” | 440A516 |
| Q | 3-7/16” | 4-3/4” | 440A517 |
| R | 3-7/16” | 4-3/4” | 440A518 |
| S | 3-1/2” | 4-7/8” | 440A519 |
| T | 3-1/2” | 4-7/8” | 440A520 |
| U | 3-5/8” | 5” | 440A521 |
| V | 3-5/8” | 5” | 440A522 |
| W | 3-3/4” | 5-1/8” | 440A523 |
| X | 3-3/4” | 5-1/8” | 440A524 |
| Y | 3-7/8” | 5-1/4” | 440A525 |
| Z | 3-7/8” | 5-1/4” | 440A526 |

”A” thru “L” - 12 per pack, “M” thru “Z” - 6 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O- Z | 72 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

## *480 SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / Straight Shank**

**Number / Black Oxide**

480

| Size | Flute Length | Overall Length | 480 Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 480A001 |
| 2 | 2-1/2” | 3-7/8” | 480A002 |
| 3 | 2-1/2” | 3-3/4” | 480A003 |
| 4 | 2-1/2” | 3-3/4” | 480A004 |
| 5 | 2-1/2” | 3-3/4” | 480A005 |
| 6 | 2-1/2” | 3-3/4” | 480A006 |
| 7 | 2-7/16” | 3-5/8” | 480A007 |
| 8 | 2-7/16” | 3-5/8” | 480A008 |
| 9 | 2-7/16” | 3-5/8” | 480A009 |
| 10 | 2-7/16” | 3-5/8” | 480A010 |
| 11 | 2-5/16” | 3-1/2” | 480A011 |
| 12 | 2-5/16” | 3-1/2” | 480A012 |
| 13 | 2-5/16” | 3-1/2” | 480A013 |
| 14 | 2-3/16” | 3-3/8” | 480A014 |
| 15 | 2-3/16” | 3-3/8” | 480A015 |
| 16 | 2-3/16” | 3-3/8” | 480A016 |
| 17 | 2-3/16” | 3-3/8” | 480A017 |
| 18 | 2-1/8” | 3-1/4” | 480A018 |
| 19 | 2-1/8” | 3-1/4” | 480A019 |
| 20 | 2-1/8” | 3-1/4” | 480A020 |
| 21 | 2-1/8” | 3-1/4” | 480A021 |
| 22 | 2” | 3-1/8” | 480A022 |
| 23 | 2” | 3-1/8” | 480A023 |
| 24 | 2” | 3-1/8” | 480A024 |
| 25 | 1-7/8” | 3” | 480A025 |
| 26 | 1-7/8” | 3” | 480A026 |
| 27 | 1-7/8” | 3” | 480A027 |
| 28 | 1-3/4” | 2-7/8” | 480A028 |
| 29 | 1-3/4” | 2-7/8” | 480A029 |
| 30 | 1-5/8” | 2-3/4” | 480A030 |

| Size | Flute Length | Overall Length | 480 Order No. |
|---|---|---|---|
| 31 | 1-5/8” | 2-3/4” | 480A031 |
| 32 | 1-5/8” | 2-3/4” | 480A032 |
| 33 | 1-1/2” | 2-5/8” | 480A033 |
| 34 | 1-1/2” | 2-5/8” | 480A034 |
| 35 | 1-1/2” | 2-5/8” | 480A035 |
| 36 | 1-7/16” | 2-1/2” | 480A036 |
| 37 | 1-7/16” | 2-1/2” | 480A037 |
| 38 | 1-7/16” | 2-1/2” | 480A038 |
| 39 | 1-3/8” | 2-3/8” | 480A039 |
| 40 | 1-3/8” | 2-3/8” | 480A040 |
| 41 | 1-3/8” | 2-3/8” | 480A041 |
| 42 | 1-1/4” | 2-1/4” | 480A042 |
| 43 | 1-1/4” | 2-1/4” | 480A043 |
| 44 | 1-1/8” | 2-1/8” | 480A044 |
| 45 | 1-1/8” | 2-1/8” | 480A045 |
| 46 | 1-1/8” | 2-1/8” | 480A046 |
| 47 | 1” | 2” | 480A047 |
| 48 | 1” | 2” | 480A048 |
| 49 | 1” | 2” | 480A049 |
| 50 | 1” | 2” | 480A050 |
| 51 | 1” | 2” | 480A051 |
| 52 | 7/8” | 1-7/8” | 480A052 |
| 53* | 7/8” | 1-7/8” | 480A053 |
| 54* | 7/8” | 1-7/8” | 480A054 |
| 55* | 7/8” | 1-7/8” | 480A055 |
| 56* | 3/4” | 1-3/4” | 480A056 |
| 57* | 3/4” | 1-3/4” | 480A057 |
| 58* | 11/16” | 1-5/8” | 480A058 |
| 59* | 11/16” | 1-5/8” | 480A059 |
| 60* | 11/16” | 1-5/8” | 480A060 |

* Not Split Point

#1 thru #60 - 12 per pack

| Corresponding Sets | | |
|---|---|---|
| **No. of Pcs.** | **Description** | **Order No.** |
| **400/440/480 & 400E Series Heavy-Duty Jobber Drill Sets** | | |
| 13 | 1/16” - 1/4” by 64$^{ths}$ | 400HD13 |
| 15 | 1/16” - 1/2” by 32$^{nds}$ | 400HD15 |
| 19 | Maintenance Set - 1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2 | 400A19 |
| 21 | 1/16” - 3/8” by 64$^{ths}$ | 400HD21 |
| 21 | 1/16” - 1/4” by 64$^{ths}$ & 9/32” - 1/2” by 32$^{nds}$ | 400HD21V |
| 26 | A - Z | 400HD26 |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 400HD29 |
| 29 | DRILL PAL 1/16” - 1/2” by 64$^{ths}$ | 400AW29 |
| 60 | #1 - #60 | 400HD60 |
| 115 | 1/16” - 1/2” by 64$^{ths}$, #1 - 60, A - Z | 400HD0115 |
| 13 | 1/16” - 1/4” by 64$^{ths}$ | 400HDE13 |
| 15 | 1/16” - 1/2” by 32$^{nds}$ | 400HDE15 |
| 21 | 1/16” - 3/8” by 64$^{ths}$ | 400HDE21 |
| 21 | 1/16” - 1/4” by 64$^{ths}$ & 9/32” - 1/2” by 32$^{nds}$ | 400HDE21V |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 400HDE29 |
| 29 | DRILL PAL 1/16” - 1/2” by 64$^{ths}$ | 400EW29 |

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O- Z | 72 |

400HD21

# HEAVY-DUTY JOBBER LENGTH DRILLS

The heavy duty construction affords efficient drilling in medium strength alloy materials. The split point reduces the thrust requirements and minimizes walking. A black oxide surface treatment improves tool life.

- ***Heavy duty 135° Split Point minimizes walking***
- ***Black oxide surface treatment for increased wear resistance***
- ***A multi-purpose heavy-duty drill bit***

## *T1D - T2D - T3D SERIES*

### HEAVY-DUTY HIGH SPEED STEEL

**135° Split Point**
**Black Oxide**

| Size | Decimal Equivalent | Flute Length | Overall Length | T1D Packaging: Tube | | T1D Packaging: Bulk | |
|---|---|---|---|---|---|---|---|
| | | | | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 1/16” | .0625 | 7/8” | 1-7/8” | 011404 | 12 | 011404.20 | 288 |
| 5/64” | .0781 | 1” | 2” | 011405 | 12 | 011405.20 | 288 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 011406 | 12 | 011406.20 | 288 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 011407 | 12 | 011407.20 | 288 |
| 1/8” | .1250 | 1-5/8” | 2-3/4” | 011408 | 12 | 011408.20 | 288 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 011409 | 12 | - | 288 |
| 5/32” | .1562 | 2” | 3-1/8” | 011410 | 12 | 011410.20 | 288 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 011411 | 12 | 011411.20 | 288 |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 011412 | 12 | 011412.20 | 288 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 011413 | 12 | 011413.20 | 288 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 011414 | 12 | 011414.20 | 288 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 011415 | 12 | 011415.20 | 288 |
| 1/4” | .2500 | 2-3/4” | 4” | 011416 | 12 | 011416.20 | 288 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 011417 | 12 | 011417.20 | 288 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 011418 | 12 | 011418.20 | 144 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 011419 | 12 | 011419.20 | 144 |
| 5/16” | .3125 | 3-3/16” | 4-1/2” | 011420 | 6 | 011420.20 | 144 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 011421 | 6 | 011421.20 | 144 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 011422 | 6 | 011422.20 | 144 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 011423 | 6 | 011423.20 | 144 |
| 3/8” | .3750 | 3-5/8” | 5” | 011424 | 6 | 011424.20 | 144 |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 011425 | 6 | 011425.20 | 144 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 011426 | 6 | 011426.20 | 144 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 011427 | 6 | 011427.20 | 144 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 011428 | 6 | 011428.20 | 144 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 011429 | 6 | 011429.20 | 144 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 011430 | 6 | 011430.20 | 144 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 011431 | 6 | 011431.20 | 144 |
| 1/2” | .5000 | 4-1/2” | 6” | 011432 | 6 | 011432.20 | 144 |

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| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T19D | Metal Index | 13 Piece | 1/16”-1/4” by 64ths | 099815 |
| T18D | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 099809 |
| T180D | Metal Index | 21 Piece | 1/16”-3/8” by 64ths | 099836 |
| T17DC | Clip-On Index | 29 Piece | 1/16”-1/2” by 64ths | 099804 |
| T17D | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 099803 |
| T123D | Metal Index | 115 Piece | 1/16”-1/2” by 64ths, #1- #60, A-Z | 090561 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

## *T1D - T2D - T3D SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

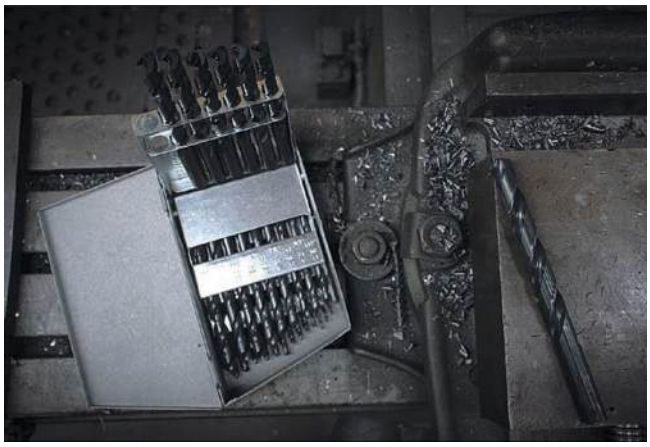
**135° Split Point**

**Black Oxide**

| | | | | T2D Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1 | .2280 | 2-5/8” | 3-7/8” | 012401 | 12 |
| 2 | .2210 | 2-5/8” | 3-7/8” | 012402 | 12 |
| 3 | .2130 | 2-1/2” | 3-3/4” | 012403 | 12 |
| 4 | .2090 | 2-1/2” | 3-3/4” | 012404 | 12 |
| 5 | .2055 | 2-1/2” | 3-3/4” | 012405 | 12 |
| 6 | .2040 | 2-1/2” | 3-3/4” | 012406 | 12 |
| 7 | .2010 | 2-7/16” | 3-5/8” | 012407 | 12 |
| 8 | .1990 | 2-7/16” | 3-5/8” | 012408 | 12 |
| 9 | .1960 | 2-7/16” | 3-5/8” | 012409 | 12 |
| 10 | .1935 | 2-7/16” | 3-5/8” | 012410 | 12 |
| 11 | .1910 | 2-5/16” | 3-1/2” | 012411 | 12 |
| 12 | .1890 | 2-5/16” | 3-1/2” | 012412 | 12 |
| 13 | .1850 | 2-5/16” | 3-1/2” | 012413 | 12 |
| 14 | .1820 | 2-3/16” | 3-3/8” | 012414 | 12 |
| 15 | .1800 | 2-3/16” | 3-3/8” | 012415 | 12 |
| 16 | .1770 | 2-3/16” | 3-3/8” | 012416 | 12 |
| 17 | .1730 | 2-3/16” | 3-3/8” | 012417 | 12 |
| 18 | .1695 | 2-1/8” | 3-1/4” | 012418 | 12 |
| 19 | .1660 | 2-1/8” | 3-1/4” | 012419 | 12 |
| 20 | .1610 | 2-1/8” | 3-1/4” | 012420 | 12 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 012421 | 12 |
| 22 | .1570 | 2” | 3-1/8” | 012422 | 12 |
| 23 | .1540 | 2” | 3-1/8” | 012423 | 12 |
| 24 | .1520 | 2” | 3-1/8” | 012424 | 12 |
| 25 | .1495 | 1-7/8” | 3” | 012425 | 12 |
| 26 | .1470 | 1-7/8” | 3” | 012426 | 12 |
| 27 | .1440 | 1-7/8” | 3” | 012427 | 12 |
| 28 | .1405 | 1-3/4” | 2-7/8” | 012428 | 12 |
| 29 | .1360 | 1-3/4” | 2-7/8” | 012429 | 12 |
| 30 | .1285 | 1-5/8” | 2-3/4” | 012430 | 12 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 012431 | 12 |
| 32 | .1160 | 1-5/8” | 2-3/4” | 012432 | 12 |
| 33 | .1130 | 1-1/2” | 2-5/8” | 012433 | 12 |
| 34 | .1110 | 1-1/2” | 2-5/8” | 012434 | 12 |
| 35 | .1100 | 1-1/2” | 2-5/8” | 012435 | 12 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 012436 | 12 |
| 37 | .1040 | 1-7/16” | 2-1/2” | 012437 | 12 |
| 38 | .1015 | 1-7/16” | 2-1/2” | 012438 | 12 |
| 39 | .0995 | 1-3/8” | 2-3/8” | 012439 | 12 |
| 40 | .0980 | 1-3/8” | 2-3/8” | 012440 | 12 |
| 41 | .0960 | 1-3/8” | 2-3/8” | 012441 | 12 |
| 42 | .0935 | 1-1/4” | 2-1/4” | 012442 | 12 |
| 43 | .0890 | 1-1/4” | 2-1/4” | 012443 | 12 |
| 44 | .0860 | 1-1/8” | 2-1/8” | 012444 | 12 |
| 45 | .0820 | 1-1/8” | 2-1/8” | 012445 | 12 |
| 46 | .0810 | 1-1/8” | 2-1/8” | 012446 | 12 |
| 47 | .0785 | 1” | 2” | 012447 | 12 |
| 48 | .0760 | 1” | 2” | 012448 | 12 |
| 49 | .0730 | 1” | 2” | 012449 | 12 |
| 50 | .0700 | 1” | 2” | 012450 | 12 |
| 51 | .0670 | 1” | 2” | 012451 | 12 |
| 52 | .0635 | 7/8” | 1-7/8” | 012452 | 12 |
| 53* | .0595 | 7/8” | 1-7/8” | 012453 | 12 |
| 54* | .0550 | 7/8” | 1-7/8” | 012454 | 12 |
| 55* | .0520 | 7/8” | 1-7/8” | 012455 | 12 |
| 56* | .0465 | 3/4” | 1-3/4” | 012456 | 12 |
| 57* | .0430 | 3/4” | 1-3/4” | 012457 | 12 |
| 58* | .0420 | 11/16” | 1-5/8” | 012458 | 12 |
| 59* | .0410 | 11/16” | 1-5/8” | 012459 | 12 |
| 60* | .0400 | 11/16” | 1-5/8” | 012460 | 12 |

*Not split point

| | | | | T3D Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| A | .2340 | 2-5/8” | 3-7/8” | 013401 | 12 |
| B | .2380 | 2-3/4” | 4” | 013402 | 12 |
| C | .2420 | 2-3/4” | 4” | 013403 | 12 |
| D | .2460 | 2-3/4” | 4” | 013404 | 12 |
| E | .2500 | 2-3/4” | 4” | 013405 | 12 |
| F | .2570 | 2-7/8” | 4-1/8” | 013406 | 12 |
| G | .2610 | 2-7/8” | 4-1/8” | 013407 | 12 |
| H | .2660 | 2-7/8” | 4-1/8” | 013408 | 12 |
| I | .2720 | 2-7/8” | 4-1/8” | 013409 | 12 |
| J | .2770 | 2-7/8” | 4-1/8” | 013410 | 12 |
| K | .2810 | 2-15/16” | 4-1/4” | 013411 | 12 |
| L | .2900 | 2-15/16” | 4-1/4” | 013412 | 12 |
| M | .2950 | 3-1/16” | 4-3/8” | 013413 | 12 |
| N | .3020 | 3-1/16” | 4-3/8” | 013414 | 12 |
| O | .3160 | 3-3/16” | 4-1/2” | 013415 | 6 |
| P | .3230 | 3-5/16” | 4-5/8” | 013416 | 6 |
| Q | .3320 | 3-7/16” | 4-3/4” | 013417 | 6 |
| R | .3390 | 3-7/16” | 4-3/4” | 013418 | 6 |
| S | .3480 | 3-1/2” | 4-7/8” | 013419 | 6 |
| T | .3580 | 3-1/2” | 4-7/8” | 013420 | 6 |
| U | .3680 | 3-5/8” | 5” | 013421 | 6 |
| V | .3770 | 3-5/8” | 5” | 013422 | 6 |
| W | .3860 | 3-3/4” | 5-1/8” | 013423 | 6 |
| X | .3970 | 3-3/4” | 5-1/8” | 013424 | 6 |
| Y | .4040 | 3-7/8” | 5-1/4” | 013425 | 6 |
| Z | .4130 | 3-7/8” | 5-1/4” | 013426 | 6 |



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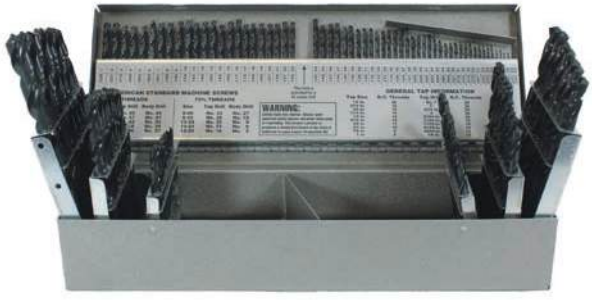


# HEAVY-DUTY JOBBER LENGTH DRILLS

NITRO® drills (NAS Type B) offer superior performance over conventional HSS drills. 135° Split Point reduces "walking" at the drill point and makes these drills ideal for both handheld and CNC Operations.

- *Heavy-duty construction increases tool life and performance*
- *Black & Gold surface treatment for maximum lubricity*
- *Usable in a wide range of materials including difficult-to-machine materials such as stainless steel*
- *Jobber length for extra reach*
- *Available in bulk packaging*

## *400N SERIES*

## HEAVY-DUTY HIGH SPEED STEEL

### 135° Split Point / Straight Shank
### Fractional / Black & Gold

400N

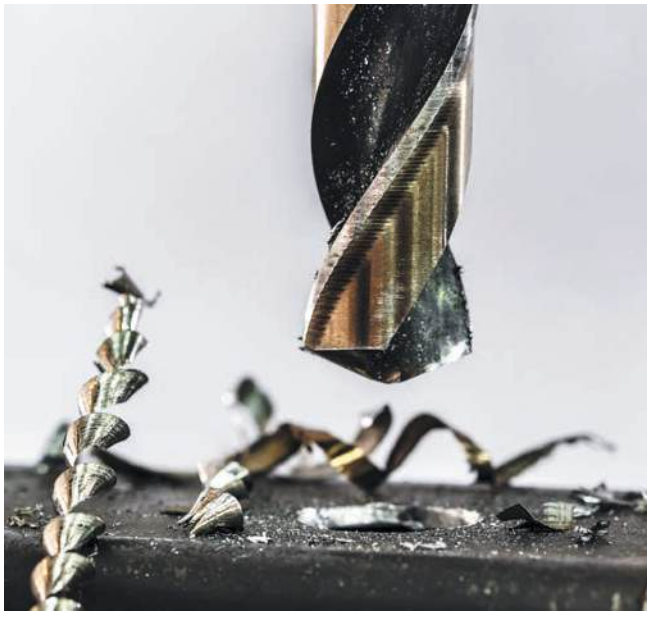
| Size | Flute Length | Overall Length | 400N Order No. | Blister Pack Order No. |
|---|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 400N104 | 400N104BP |
| 5/64” | 1” | 2” | 400N105 | 400N105BP |
| 3/32” | 1-1/4” | 2-1/4” | 400N106 | 400N106BP |
| 7/64” | 1-1/2” | 2-5/8” | 400N107 | 400N107BP |
| 1/8” | 1-5/8” | 2-3/4” | 400N108 | 400N108BP |
| 9/64” | 1-3/4” | 2-7/8” | 400N109 | 400N109BP |
| 5/32” | 2” | 3-1/8” | 400N110 | 400N110BP |
| 11/64” | 2-1/8' | 3-1/4” | 400N111 | 400N111BP |
| 3/16” | 2-5/16” | 3-1/2” | 400N112 | 400N112BP |
| 13/64” | 2-7/16” | 3-5/8” | 400N113 | 400N113BP |
| 7/32” | 2-1/2” | 3-3/4” | 400N114 | 400N114BP |
| 15/64” | 2-5/8” | 3-7/8” | 400N115 | 400N115BP |
| 1/4” | 2-3/4” | 4” | 400N116 | 400N116BP |
| 17/64” | 2-7/8” | 4-1/8” | 400N117 | 400N117BP |
| 9/32” | 2-15/16” | 4-1/4” | 400N118 | 400N118BP |

| Size | Flute Length | Overall Length | 400N Order No. | Blister Pack Order No. |
|---|---|---|---|---|
| 19/64” | 3-1/16” | 4-3/8” | 400N119 | 400N119BP |
| 5/16” | 3-3/16” | 4-1/2” | 400N120 | 400N120BP |
| 21/64” | 3-5/16” | 4-5/8” | 400N121 | 400N121BP |
| 11/32” | 3-7/16” | 4-3/4” | 400N122 | 400N122BP |
| 23/64” | 3-1/2” | 4-7/8” | 400N123 | 400N123BP |
| 3/8” | 3-5/8” | 5” | 400N124 | 400N124BP |
| 25/64” | 3-3/4” | 5-1/8” | 400N125 | 400N125BP |
| 13/32” | 3-7/8” | 5-1/4” | 400N126 | 400N126BP |
| 27/64” | 3-15/16” | 5-3/8” | 400N127 | 400N127BP |
| 7/16” | 4-1/16” | 5-1/2” | 400N128 | 400N128BP |
| 29/64” | 4-3/16” | 5-5/8” | 400N129 | 400N129BP |
| 15/32” | 4-5/16” | 5-3/4” | 400N130 | 400N130BP |
| 31/64” | 4-3/8” | 5-7/8” | 400N131 | 400N131BP |
| 1/2” | 4-1/2” | 6” | 400N132 | 400N132BP |

1/16” thru 19/64” - 12 per pack, 5/16” thru 1/2” - 6 per pack
Blister packs: 1 per package, except for 1/16" - 5/32" which are 2 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O- Z | 72 |

**NOW AVAILABLE IN BLISTER PACKS**



# HEAVY-DUTY JOBBER LENGTH DRILLS

## *440N SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / Straight Shank**

**Letter / Black & Gold**

440N

| Size | Flute Length | Overall Length | 440N Order No. |
|---|---|---|---|
| A | 2-5/8” | 3-7/8” | 440N501 |
| B | 2-3/4” | 4” | 440N502 |
| C | 2-3/4” | 4” | 440N503 |
| D | 2-3/4” | 4” | 440N504 |
| E | 2-3/4” | 4” | 440N505 |
| F | 2-7/8” | 4-1/8” | 440N506 |
| G | 2-7/8” | 4-1/8” | 440N507 |
| H | 2-7/8” | 4-1/8” | 440N508 |
| I | 2-7/8” | 4-1/8” | 440N509 |
| J | 2-7/8” | 4-1/8” | 440N510 |
| K | 2-15/16” | 4-1/4” | 440N511 |
| L | 2-15/16” | 4-1/4” | 440N512 |
| M | 3-1/16” | 4-3/8” | 440N513 |

| Size | Flute Length | Overall Length | 4040N Order No. |
|---|---|---|---|
| N | 3-1/16” | 4-3/8” | 440N514 |
| O | 3-3/16” | 4-1/2” | 440N515 |
| P | 3-5/16” | 4-5/8” | 440N516 |
| Q | 3-7/16” | 4-3/4” | 440N517 |
| R | 3-7/16” | 4-3/4” | 440N518 |
| S | 3-1/2” | 4-7/8” | 440N519 |
| T | 3-1/2” | 4-7/8” | 440N520 |
| U | 3-5/8” | 5” | 440N521 |
| V | 3-5/8” | 5” | 440N522 |
| W | 3-3/4” | 5-1/8” | 440N523 |
| X | 3-3/4” | 5-1/8” | 440N524 |
| Y | 3-7/8” | 5-1/4” | 440N525 |
| Z | 3-7/8” | 5-1/4” | 440N526 |

'A' thru 'L' - 12 per pack, 'M' thru 'Z' - 6 per pack

## *480N SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / Straight Shank**

**Number / Black & Gold**

480N

| Size | Flute Length | Overall Length | 480N Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 480N001 |
| 2 | 2-1/2” | 3-7/8” | 480N002 |
| 3 | 2-1/2” | 3-3/4” | 480N003 |
| 4 | 2-1/2” | 3-3/4” | 480N004 |
| 5 | 2-1/2” | 3-3/4” | 480N005 |
| 6 | 2-1/2” | 3-3/4” | 480N006 |
| 7 | 2-7/16” | 3-5/8” | 480N007 |
| 8 | 2-7/16” | 3-5/8” | 480N008 |
| 9 | 2-7/16” | 3-5/8” | 480N009 |
| 10 | 2-7/16” | 3-5/8” | 480N010 |
| 11 | 2-5/16” | 3-1/2” | 480N011 |
| 12 | 2-5/16” | 3-1/2” | 480N012 |
| 13 | 2-5/16” | 3-1/2” | 480N013 |
| 14 | 2-3/16” | 3-3/8” | 480N014 |
| 15 | 2-3/16” | 3-3/8” | 480N015 |
| 16 | 2-3/16” | 3-3/8” | 480N016 |
| 17 | 2-3/16” | 3-3/8” | 480N017 |
| 18 | 2-1/8” | 3-1/4” | 480N018 |
| 19 | 2-1/8” | 3-1/4” | 480N019 |
| 20 | 2-1/8” | 3-1/4” | 480N020 |
| 21 | 2-1/8” | 3-1/4” | 480N021 |
| 22 | 2” | 3-1/8” | 480N022 |
| 23 | 2” | 3-1/8” | 480N023 |
| 24 | 2” | 3-1/8” | 480N024 |
| 25 | 1-7/8” | 3” | 480N025 |
| 26 | 1-7/8” | 3” | 480N026 |
| 27 | 1-7/8” | 3” | 480N027 |
| 28 | 1-3/4” | 2-7/8” | 480N028 |
| 29 | 1-3/4” | 2-7/8” | 480N029 |
| 30 | 1-5/8” | 2-3/4” | 480N030 |

| Size | Flute Length | Overall Length | 480N Order No. |
|---|---|---|---|
| 31 | 1-5/8” | 2-3/4” | 480N031 |
| 32 | 1-5/8” | 2-3/4” | 480N032 |
| 33 | 1-1/2” | 2-5/8” | 480N033 |
| 34 | 1-1/2” | 2-5/8” | 480N034 |
| 35 | 1-1/2” | 2-5/8” | 480N035 |
| 36 | 1-7/16” | 2-1/2” | 480N036 |
| 37 | 1-7/16” | 2-1/2” | 480N037 |
| 38 | 1-7/16” | 2-1/2” | 480N038 |
| 39 | 1-3/8” | 2-3/8” | 480N039 |
| 40 | 1-3/8” | 2-3/8” | 480N040 |
| 41 | 1-3/8” | 2-3/8” | 480N041 |
| 42 | 1-1/4” | 2-1/4” | 480N042 |
| 43 | 1-1/4” | 2-1/4” | 480N043 |
| 44 | 1-1/8” | 2-1/8” | 480N044 |
| 45 | 1-1/8” | 2-1/8” | 480N045 |
| 46 | 1-1/8” | 2-1/8” | 480N046 |
| 47 | 1” | 2” | 480N047 |
| 48 | 1” | 2” | 480N048 |
| 49 | 1” | 2” | 480N049 |
| 50 | 1” | 2” | 480N050 |
| 51 | 1” | 2” | 480N051 |
| 52 | 7/8” | 1-7/8” | 480N052 |
| 53* | 7/8” | 1-7/8” | 480N053 |
| 54* | 7/8” | 1-7/8” | 480N054 |
| 55* | 7/8” | 1-7/8” | 480N055 |
| 56* | 3/4” | 1-3/4” | 480N056 |
| 57* | 3/4” | 1-3/4” | 480N057 |
| 58* | 11/16” | 1-5/8” | 480N058 |
| 59* | 11/16” | 1-5/8” | 480N059 |
| 60* | 11/16” | 1-5/8” | 480N060 |

*Not split point

#1 thru #60 - 12 per pack

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 400N/440N/480N Series NITRO® Heavy-Duty Jobber Drill Sets | | |
| 13 | 1/16” - 1/4” by 64$^{ths}$ | 400N13 |
| 15 | 1/16” - 1/2” by 32$^{nds}$ | 400N15 |
| 19 | Maintenance Set - 1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2 | 400N19 |
| 21 | 1/16” - 3/8” by 64$^{ths}$ | 400N21 |
| 21 | 1/16” - 1/4” by 64$^{ths}$ & 9/32” - 1/2” by 32$^{nds}$ | 400N21V |
| 26 | A - Z | 400N26 |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 400N29 |
| 29 | DRILL PAL 1/16” - 1/2” by 64$^{ths}$ | 400NW29 |
| 60 | #1 - #60 | 400N60 |
| 115 | 1/16” - 1/2” by 64$^{ths}$, #1 - 60, A - Z | 400N0115 |

400N29

# HEAVY-DUTY JOBBER LENGTH DRILLS

NITRO+® drills elevate the performance of heavy-duty drilling with their robust Black & Gold HSS design and a practical 3-flat shank that ensures stability in the toughest materials. The 135° Split Point minimizes drill "walking", making these drills a reliable choice for both handheld and CNC operations across diverse material groups.

- ***All NITRO® + drills are made from premium quality M2 High Speed Steel. Recommended for heavy-duty drilling in a wide range of material groups, including stainless steel.***
- ***3-flat shank drill reduces slippage in the drill chuck***
- ***Body and flute are black and gold surface-treated for maximum lubricity***
- ***Designed for use in portable hand drills***

## *410N SERIES*

## HEAVY-DUTY HIGH SPEED STEEL

### 135° Split Point / 3-Flat Shank
### Fractional / Black & Gold

410N

| Size | Flute Length | Overall Length | 410N Order No. | Blister Pack Order No. |
|---|---|---|---|---|
| 1/16" | 7/8" | 1-7/8" | 410N104 | 410N104BP |
| 5/64" | 1" | 2" | 410N105 | 410N105BP |
| 3/32" | 1-1/4" | 2-1/4" | 410N106 | 410N106BP |
| 7/64" | 1-1/2" | 2-5/8" | 410N107 | 410N107BP |
| 1/8" | 1-5/8" | 2-3/4" | 410N108 | 410N108BP |
| 9/64" | 1-3/4" | 2-7/8" | 410N109 | 410N109BP |
| 5/32" | 2" | 3-1/8" | 410N110 | 410N110BP |
| 11/64" | 2-1/8" | 3-1/4" | 410N111 | 410N111BP |
| 3/16" | 2-5/16" | 3-1/2" | 410N112 | 410N112BP |
| 13/64" | 2-7/16" | 3-5/8" | 410N113 | 410N113BP |
| 7/32" | 2-1/2" | 3-3/4" | 410N114 | 410N114BP |
| 15/64" | 2-5/8" | 3-7/8" | 410N115 | 410N115BP |
| 1/4" | 2-3/4" | 4" | 410N116 | 410N116BP |
| 17/64" | 2-7/8" | 4-1/8" | 410N117 | 410N117BP |

| Size | Flute Length | Overall Length | 410N Order No. | Blister Pack Order No. |
|---|---|---|---|---|
| 19/64" | 3-1/16" | 4-3/8" | 410N119 | 400N119BP |
| 5/16" | 3-3/16" | 4-1/2" | 410N120 | 400N120BP |
| 21/64" | 3-5/16" | 4-5/8" | 410N121 | 400N121BP |
| 11/32" | 3-7/16" | 4-3/4" | 410N122 | 400N122BP |
| 23/64" | 3-1/2" | 4-7/8" | 410N123 | 400N123BP |
| 3/8" | 3-5/8" | 5" | 410N124 | 400N124BP |
| 25/64" | 3-3/4" | 5-1/8" | 410N125 | 400N125BP |
| 13/32" | 3-7/8" | 5-1/4" | 410N126 | 400N126BP |
| 27/64" | 3-15/16" | 5-3/8" | 410N127 | 400N127BP |
| 7/16" | 4-1/16" | 5-1/2" | 410N128 | 400N128BP |
| 29/64" | 4-3/16" | 5-5/8" | 410N129 | 400N129BP |
| 15/32" | 4-5/16" | 5-3/4" | 410N130 | 400N130BP |
| 31/64" | 4-3/8" | 5-7/8" | 410N131 | 400N131BP |
| 1/2" | 4-1/2" | 6" | 410N132 | 400N132BP |

1/16thru 19/64" - 12 per pack, 5/16" thru 1/2" - 6 per pack

Blister packs: 1 per package, except for 1/16" - 5/32" which are 2 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16"- 1/8" & #60 - #30 | 504 |
| 9/64" - 13/64" & #29 - #6 | 252 |
| 7/32" - 5/16" & #5 - #1 & A - N | 132 |
| 21/64" - 1/2" & O- Z | 72 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

## *450N SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / 3-Flat Shank**

**Letter / Black & Gold**

410N

NITRO®+

| Size | Flute Length | Overall Length | 450N Order No. |
|---|---|---|---|
| A | 2-5/8" | 3-7/8" | 450N501 |
| B | 2-3/4" | 4" | 450N502 |
| C | 2-3/4" | 4" | 450N503 |
| D | 2-3/4" | 4" | 450N504 |
| E | 2-3/4" | 4" | 450N505 |
| F | 2-7/8" | 4-1/8" | 450N506 |
| G | 2-7/8" | 4-1/8" | 450N507 |
| H | 2-7/8" | 4-1/8" | 450N508 |
| I | 2-7/8" | 4-1/8" | 450N509 |
| J | 2-7/8" | 4-1/8" | 450N510 |
| K | 2-15/16" | 4-1/4" | 450N511 |
| L | 2-15/16" | 4-1/4" | 450N512 |
| M | 3-1/16" | 4-3/8" | 450N513 |

| Size | Flute Length | Overall Length | 450N Order No. |
|---|---|---|---|
| N | 3-1/16" | 4-3/8" | 450N514 |
| O | 3-1/16" | 4-1/2" | 450N515 |
| P | 3-5/16" | 4-5/8" | 450N516 |
| Q | 3-7/16" | 4-3/4" | 450N517 |
| R | 3-7/16" | 4-3/4" | 450N518 |
| S | 3-1/2" | 4-7/8" | 450N519 |
| T | 3-1/2" | 4-7/8" | 450N520 |
| U | 3-5/8" | 5" | 450N521 |
| V | 3-5/8" | 5" | 450N522 |
| W | 3-3/4" | 5-1/8" | 450N523 |
| X | 3-3/4" | 5-1/8" | 450N524 |
| Y | 3-7/8" | 5-1/4" | 450N525 |
| Z | 3-7/8" | 5-1/4" | 450N526 |

'A' thru 'L' - 12 per pack, 'M' thru 'Z' - 6 per pack

## *490N SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / 3-Flat Shank**

**Number / Black & Gold**

410N

NITRO®+

| Size | Flute Length | Overall Length | 490N Order No. |
|---|---|---|---|
| 1 | 2-5/8" | 3-7/8" | 490N001 |
| 2 | 2-1/2" | 3-7/8" | 490N002 |
| 3 | 2-1/2" | 3-3/4" | 490N003 |
| 4 | 2-1/2" | 3-3/4" | 490N004 |
| 5 | 2-1/2" | 3-3/4" | 490N005 |
| 6 | 2-1/2" | 3-3/4" | 490N006 |
| 7 | 2-7/16" | 3-5/8" | 490N007 |
| 8 | 2-7/16" | 3-5/8" | 490N008 |
| 9 | 2-7/16" | 3-5/8" | 490N009 |
| 10 | 2-7/16" | 3-1/2" | 490N010 |
| 11 | 2-5/16" | 3-1/2" | 490N011 |
| 12 | 2-5/16" | 3-1/2" | 490N012 |
| 13 | 2-5/16" | 3-1/2" | 490N013 |
| 14 | 2-3/16" | 3-3/8" | 490N014 |
| 15 | 2-3/16" | 3-3/8" | 490N015 |
| 16 | 2-3/16" | 3-3/8" | 490N016 |
| 17 | 2-1/16" | 3-3/8" | 490N017 |
| 18 | 2-1/8" | 3-1/4" | 490N018 |
| 19 | 2-1/8" | 3-1/4" | 490N019 |
| 20 | 2-1/8" | 3-1/4" | 490N020 |
| 21 | 2" | 3-1/4" | 490N021 |
| 22 | 2" | 3-1/8" | 490N022 |
| 23 | 2" | 3-1/8" | 490N023 |
| 24 | 2" | 3-1/8" | 490N024 |
| 25 | 1-7/8" | 3" | 490N025 |
| 26 | 1-7/8" | 3" | 490N026 |
| 27 | 1-7/8" | 3" | 490N027 |
| 28 | 1-3/4" | 2-7/8" | 490N028 |
| 29 | 1-3/4" | 2-7/8" | 490N029 |
| 30 | 1-5/8" | 2-3/4" | 490N030 |

| Size | Flute Length | Overall Length | 490N Order No. |
|---|---|---|---|
| 31 | 2-3/4" | 3-1/4" | 490N031 |
| 32 | 1-5/8" | 2-5/8" | 490N032 |
| 33 | 1-1/2" | 2-5/8" | 490N033 |
| 34 | 1-1/2" | 2-5/8" | 490N034 |
| 35 | 1-1/2" | 2-5/8" | 490N035 |
| 36 | 1-7/16" | 2-1/2" | 490N036 |
| 37 | 1-7/16" | 2-1/2" | 490N037 |
| 38 | 1-3/8" | 2-1/2" | 490N038 |
| 39 | 1-3/8" | 2-3/8" | 490N039 |
| 40 | 1-3/8" | 2-3/8" | 490N040 |
| 41 | 1-3/8" | 2-3/8" | 490N041 |
| 42 | 1-1/4" | 2-1/4" | 490N042 |
| 43 | 1-1/4" | 2-1/4" | 490N043 |
| 44 | 1-1/4" | 2-1/4" | 490N044 |
| 45 | 1-1/8" | 2-1/8" | 490N045 |
| 46 | 1-1/8" | 2-1/8" | 490N046 |
| 47 | 1" | 2" | 490N047 |
| 48 | 1" | 2" | 490N048 |
| 49 | 1" | 2" | 490N049 |
| 50 | 1" | 2" | 490N050 |
| 51 | 1" | 2" | 490N051 |
| 52 | 7/8" | 1-7/8" | 490N052 |
| 53 | 7/8" | 1-7/8" | 490N053 |
| 54 | 7/8" | 1-7/8" | 490N054 |
| 55 | 7/8" | 1-7/8" | 490N055 |
| 56 | 3/4" | 1-3/4" | 490N056 |
| 57 | 3/4" | 1-3/4" | 490N057 |
| 58 | 11/16" | 1-5/8" | 490N058 |
| 59 | 11/16" | 1-5/8" | 490N059 |
| 60 | 11/16" | 1-5/8" | 490N060 |

*Not split point

#1 thru #60 - 12 per pack

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 410N/450N/490N Series NITRO® + Heavy-Duty Jobber Drill Sets | | |
| 13 | 1/16" - 1/4" by 64ths | 410N13 |
| 15 | 1/16" - 1/2" by 32nds | 410N15 |
| 19 | Maintenance Set - 1/16, 5/64, 3/32, 1/8, #29, 25/32, #21, 3/16, #7, 7/32, 1/4, 5/16, 3/8, 27/64, 7/16, 1/2 | 410019 |
| 21 | 1/16" - 3/8" by 64ths | 410N21 |
| 21 | 1/16" - 1/4" by 64ths & 9/32" - 1/2" by 32nds | 410N21V |
| 26 | A-Z | 410N26 |
| 29 | 1/16" - 1/2" by 64ths | 410N29 |
| 29 | DRILL PAL 1/16" - 1/2" by 64ths | 410NW29 |
| 60 | #1 - #60 | 410N60 |
| 115 | 1/16" - 1/2" by 64ths, #1 - 60, A - Z | 410N115 |

DRILLCO CUTTING TOOLS

# HEAVY-DUTY JOBBER LENGTH DRILLS

The heavy construction affords efficient portable drilling in medium strength alloy materials. The split point reduces the thrust requirements and minimizes "walking." This is a suitable drill for the construction industry.

- ***Heavy-duty 135° Split Point minimizes "walking"***
- ***Black & Gold surface treatment for high wear resistance and lubricity***
- ***A multi-purpose heavy-duty drill bit***

## *400E SERIES*

## HEAVY-DUTY HIGH SPEED STEEL

### 135° Split Point / Straight Shank
### Fractional / Black & Gold

400E

| Size | Flute Length | Overall Length | 400E Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 400E104 |
| 5/64” | 1” | 2” | 400E105 |
| 3/32” | 1-1/4” | 2-1/4” | 400E106 |
| 7/64” | 1-1/2” | 2-5/8” | 400E107 |
| 1/8” | 1-5/8” | 2-3/4” | 400E108 |
| 9/64” | 1-3/4” | 2-7/8” | 400E109 |
| 5/32” | 2” | 3-1/8” | 400E110 |
| 11/64” | 2-1/8” | 3-1/4” | 400E111 |
| 3/16” | 2-5/16” | 3-1/2” | 400E112 |
| 13/64” | 2-7/16” | 3-5/8” | 400E113 |
| 7/32” | 2-1/2” | 3-3/4” | 400E114 |
| 15/64” | 2-5/8” | 3-7/8” | 400E115 |
| 1/4” | 2-3/4” | 4” | 400E116 |
| 17/64” | 2-7/8” | 4-1/8” | 400E117 |
| 9/32” | 2-15/16” | 4-1/4” | 400E118 |

| Size | Flute Length | Overall Length | 400E Order No. |
|---|---|---|---|
| 19/64” | 3-1/16” | 4-3/8” | 400E119 |
| 5/16” | 3-3/16” | 4-1/2” | 400E120 |
| 21/64” | 3-5/16” | 4-5/8” | 400E121 |
| 11/32” | 3-7/16” | 4-3/4” | 400E122 |
| 23/64” | 3-1/2” | 4-7/8” | 400E123 |
| 3/8” | 3-5/8” | 5” | 400E124 |
| 25/64” | 3-3/4” | 5-1/8” | 400E125 |
| 13/32” | 3-7/8” | 5-1/4” | 400E126 |
| 27/64” | 3-15/16” | 5-3/8” | 400E127 |
| 7/16” | 4-1/16” | 5-1/2” | 400E128 |
| 29/64” | 4-3/16” | 5-5/8” | 400E129 |
| 15/32” | 4-5/16” | 5-3/4” | 400E130 |
| 31/64” | 4-3/8” | 5-7/8” | 400E131 |
| 1/2” | 4-1/2” | 6” | 400E132 |

1/16” thru 19/64” and #1 thru #60 - 12 per pack, 5/16” thru 1/2” - 6 per pack

# HEAVY-DUTY JOBBER LENGTH DRILLS

## *480E SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / Straight Shank**

**Number / Black & Gold**

480E

| Size | Flute Length | Overall Length | 480E Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 480E001 |
| 2 | 2-1/2” | 3-7/8” | 480E002 |
| 3 | 2-1/2” | 3-3/4” | 480E003 |
| 4 | 2-1/2” | 3-3/4” | 480E004 |
| 5 | 2-1/2” | 3-3/4” | 480E005 |
| 6 | 2-1/2” | 3-3/4” | 480E006 |
| 7 | 2-7/16” | 3-5/8” | 480E007 |
| 8 | 2-7/16” | 3-5/8” | 480E008 |
| 9 | 2-7/16” | 3-5/8” | 480E009 |
| 10 | 2-7/16” | 3-5/8” | 480E010 |
| 11 | 2-5/16” | 3-1/2” | 480E011 |
| 12 | 2-5/16” | 3-1/2” | 480E012 |
| 13 | 2-5/16” | 3-1/2” | 480E013 |
| 14 | 2-3/16” | 3-3/8” | 480E014 |
| 15 | 2-3/16” | 3-3/8” | 480E015 |
| 16 | 2-3/16” | 3-3/8” | 480E016 |
| 17 | 2-3/16” | 3-3/8” | 480E017 |
| 18 | 2-1/8” | 3-1/4” | 480E018 |
| 19 | 2-1/8” | 3-1/4” | 480E019 |
| 20 | 2-1/8” | 3-1/4” | 480E020 |
| 21 | 2-1/8” | 3-1/4” | 480E021 |
| 22 | 2” | 3-1/8” | 480E022 |
| 23 | 2” | 3-1/8” | 480E023 |
| 24 | 2” | 3-1/8” | 480E024 |
| 25 | 1-7/8” | 3” | 480E025 |
| 26 | 1-7/8” | 3” | 480E026 |
| 27 | 1-7/8” | 3” | 480E027 |
| 28 | 1-3/4” | 2-7/8” | 480E028 |
| 29 | 1-3/4” | 2-7/8” | 480E029 |
| 30 | 1-5/8” | 2-3/4” | 480E030 |

| Size | Flute Length | Overall Length | 480E Order No. |
|---|---|---|---|
| 31 | 1-5/8” | 2-3/4” | 480E031 |
| 32 | 1-5/8” | 2-3/4” | 480E032 |
| 33 | 1-1/2” | 2-5/8” | 480E033 |
| 34 | 1-1/2” | 2-5/8” | 480E034 |
| 35 | 1-1/2” | 2-5/8” | 480E035 |
| 36 | 1-7/16” | 2-1/2” | 480E036 |
| 37 | 1-7/16” | 2-1/2” | 480E037 |
| 38 | 1-7/16” | 2-1/2” | 480E038 |
| 39 | 1-3/8” | 2-3/8” | 480E039 |
| 40 | 1-3/8” | 2-3/8” | 480E040 |
| 41 | 1-3/8” | 2-3/8” | 480E041 |
| 42 | 1-1/4” | 2-1/4” | 480E042 |
| 43 | 1-1/4” | 2-1/4” | 480E043 |
| 44 | 1-1/8” | 2-1/8” | 480E044 |
| 45 | 1-1/8” | 2-1/8” | 480E045 |
| 46 | 1-1/8” | 2-1/8” | 480E046 |
| 47 | 1” | 2” | 480E047 |
| 48 | 1” | 2” | 480E048 |
| 49 | 1” | 2” | 480E049 |
| 50 | 1” | 2” | 480E050 |
| 51 | 1” | 2” | 480E051 |
| 52 | 7/8” | 1-7/8” | 480E052 |
| 53* | 7/8” | 1-7/8” | 480E053 |
| 54* | 7/8 | 1-7/8” | 480E054 |
| 55* | 7/8” | 1-7/8” | 480E055 |
| 56* | 3/4” | 1-3/4” | 480E056 |
| 57* | 3/4” | 1-3/4” | 480E057 |
| 58* | 11/16” | 1-5/8” | 480E058 |
| 59* | 11/16” | 1-5/8” | 480E059 |
| 60* | 11/16” | 1-5/8” | 480E060 |

#1 thru #60 - 12 per pack

Designed for efficient drilling in stainless steel and tougher ferrous materials. The 135º split point reduces the thrust requirements and minimizes "walking." Black & Gold surface treatment for increased wear resistance and lubricity.

## *800 SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / Straight Shank**

**Metric / Black & Gold**

800A

| Size (mm) | Flute Length (mm) | Overall Length (mm) | 800 Order No. |
|---|---|---|---|
| .35 | 3 | 19 | 800A0035 |
| .40 | 5 | 19 | 800A0040 |
| .45 | 5 | 22 | 800A0045 |
| .50 | 5 | 22 | 800A0050 |
| .55 | 6 | 25 | 800A0055 |
| .60 | 8 | 29 | 800A0060 |
| .65 | 10 | 32 | 800A0065 |
| .70 | 10 | 32 | 800A0070 |
| .75 | 13 | 35 | 800A0075 |
| .80 | 13 | 35 | 800A0080 |
| .85 | 16 | 38 | 800A0085 |
| .90 | 16 | 38 | 800A0090 |
| .95 | 16 | 38 | 800A0095 |
| 1.00 | 17 | 41 | 800A0100 |
| 1.05 | 17 | 41 | 800A0105 |
| 1.10 | 19 | 44 | 800A0110 |
| 1.15 | 19 | 44 | 800A0115 |

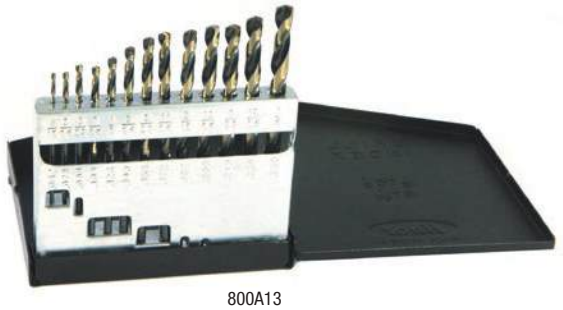
| Size (mm) | Flute Length (mm) | Overall Length (mm) | 800 Order No. |
|---|---|---|---|
| 1.20 | 22 | 48 | 800A0120 |
| 1.25 | 22 | 48 | 800A0125 |
| 1.30 | 22 | 48 | 800A0130 |
| 1.35 | 22 | 49 | 800A0135 |
| 1.40 | 22 | 48 | 800A0140 |
| 1.45 | 22 | 48 | 800A0145 |
| 1.50 | 22 | 48 | 800A0150 |
| 1.55 | 22 | 48 | 800A0155 |
| 1.60 | 22 | 48 | 800A0160 |
| 1.65 | 25 | 51 | 800A0165 |
| 1.70 | 25 | 51 | 800A0170 |
| 1.75 | 25 | 51 | 800A0175 |
| 1.80 | 25 | 51 | 800A0180 |
| 1.85 | 25 | 51 | 800A0185 |
| 1.90 | 25 | 51 | 800A0190 |
| 1.95 | 25 | 51 | 800A0195 |
| 2.00 | 25 | 51 | 800A0200 |

Continued on next page

# HEAVY-DUTY JOBBER LENGTH DRILLS

| Size (mm) | Flute Length (mm) | Overall Length (mm) | 800 Order No. |
|---|---|---|---|
| 2.05 | 29 | 54 | 800A0205 |
| 2.10 | 29 | 54 | 800A0210 |
| 2.15 | 29 | 54 | 800A0215 |
| 2.20 | 32 | 57 | 800A0220 |
| 2.25 | 32 | 57 | 800A0225 |
| 2.30 | 32 | 57 | 800A0230 |
| 2.35 | 32 | 57 | 800A0235 |
| 2.40 | 35 | 60 | 800A0240 |
| 2.45 | 35 | 60 | 800A0245 |
| 2.50 | 35 | 60 | 800A0250 |
| 2.60 | 37 | 64 | 800A0260 |
| 2.70 | 37 | 64 | 800A0270 |
| 2.75 | 37 | 64 | 800A0275 |
| 2.80 | 38 | 67 | 800A0280 |
| 2.90 | 41 | 70 | 800A0290 |
| 3.00 | 41 | 70 | 800A0300 |
| 3.10 | 41 | 70 | 800A0310 |
| 3.20 | 41 | 70 | 800A0320 |
| 3.25 | 41 | 70 | 800A0325 |
| 3.30 | 44 | 73 | 800A0330 |
| 3.40 | 44 | 73 | 800A0340 |
| 3.50 | 44 | 73 | 800A0350 |
| 3.60 | 48 | 76 | 800A0360 |
| 3.70 | 48 | 76 | 800A0370 |
| 3.75 | 48 | 76 | 800A0375 |
| 3.80 | 48 | 76 | 800A0380 |
| 3.90 | 51 | 79 | 800A0390 |
| 4.00 | 54 | 83 | 800A0400 |
| 4.10 | 54 | 83 | 800A0410 |
| 4.20 | 54 | 83 | 800A0420 |
| 4.25 | 54 | 83 | 800A0425 |
| 4.30 | 54 | 83 | 800A0430 |
| 4.40 | 56 | 86 | 800A0440 |
| 4.50 | 56 | 86 | 800A0450 |
| 4.60 | 56 | 86 | 800A0460 |
| 4.70 | 59 | 89 | 800A0470 |
| 4.75 | 59 | 89 | 800A0475 |
| 4.80 | 59 | 89 | 800A0480 |
| 4.90 | 62 | 92 | 800A0490 |
| 5.00 | 62 | 92 | 800A0500 |
| 5.10 | 62 | 92 | 800A0510 |
| 5.20 | 64 | 95 | 800A0520 |
| 5.25 | 64 | 95 | 800A0525 |
| 5.30 | 64 | 95 | 800A0530 |
| 5.40 | 64 | 95 | 800A0540 |
| 5.50 | 64 | 95 | 800A0550 |
| 5.60 | 67 | 98 | 800A0560 |
| 5.70 | 67 | 98 | 800A0570 |
| 5.75 | 67 | 98 | 800A0575 |
| 5.80 | 67 | 98 | 800A0580 |
| 5.90 | 67 | 98 | 800A0590 |
| 6.00 | 70 | 102 | 800A0600 |
| 6.10 | 70 | 102 | 800A0610 |
| 6.20 | 70 | 102 | 800A0620 |
| 6.25 | 70 | 102 | 800A0625 |
| 6.30 | 70 | 102 | 800A0630 |
| 6.40 | 73 | 105 | 800A0640 |
| 6.50 | 73 | 105 | 800A0650 |
| 6.60 | 73 | 105 | 800A0660 |
| 6.70 | 73 | 105 | 800A0670 |
| 6.75 | 73 | 105 | 800A0675 |
| 6.80 | 73 | 105 | 800A0680 |
| 6.90 | 73 | 105 | 800A0690 |
| 7.00 | 73 | 105 | 800A0700 |
| 7.10 | 75 | 108 | 800A0710 |
| 7.20 | 75 | 108 | 800A0720 |
| 7.25 | 75 | 108 | 800A0725 |
| 7.30 | 75 | 108 | 800A0730 |
| 7.40 | 78 | 111 | 800A0740 |
| 7.50 | 78 | 111 | 800A0750 |
| 7.60 | 78 | 111 | 800A0760 |
| 7.70 | 81 | 114 | 800A0770 |
| 7.75 | 81 | 114 | 800A0775 |
| 7.80 | 81 | 114 | 800A0780 |
| 7.90 | 81 | 114 | 800A0790 |
| 8.00 | 81 | 114 | 800A0800 |
| 8.10 | 84 | 117 | 800A0810 |
| 8.20 | 84 | 117 | 800A0820 |
| 8.25 | 84 | 117 | 800A0825 |
| 8.30 | 84 | 117 | 800A0830 |
| 8.40 | 87 | 121 | 800A0840 |
| 8.50 | 87 | 121 | 800A0850 |
| 8.60 | 87 | 121 | 800A0860 |
| 8.70 | 87 | 121 | 800A0870 |
| 8.75 | 87 | 121 | 800A0875 |
| 8.80 | 89 | 124 | 800A0880 |
| 8.90 | 89 | 124 | 800A0890 |
| 9.00 | 89 | 124 | 800A0900 |
| 9.10 | 89 | 124 | 800A0910 |
| 9.20 | 92 | 127 | 800A0920 |
| 9.25 | 92 | 127 | 800A0925 |
| 9.30 | 92 | 127 | 800A0930 |
| 9.40 | 92 | 127 | 800A0940 |
| 9.50 | 92 | 127 | 800A0950 |
| 9.60 | 95 | 130 | 800A0960 |
| 9.70 | 95 | 130 | 800A0970 |
| 9.75 | 95 | 130 | 800A0975 |
| 9.80 | 95 | 130 | 800A0980 |
| 9.90 | 95 | 130 | 800A0990 |
| 10.00 | 95 | 130 | 800A1000 |
| 10.50 | 98 | 133 | 800A1050 |
| 11.00 | 103 | 140 | 800A1100 |
| 11.50 | 106 | 143 | 800A1150 |
| 12.00 | 111 | 149 | 800A1200 |
| 12.50 | 114 | 152 | 800A1250 |
| 13.00 | 114 | 152 | 800A1300 |

0.35 mm thru 6.60 mm - 12 pack, 6.70 mm thru 12.50 mm - 6 pack, 13.0 mm - packaged individually



800A13

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 800 Series Metric Jobber Drill Sets | | |
| 13 | 1mm - 7mm by 0.5mm | 800A13 |
| 19 | 1mm - 10mm by 0.5mm | 800A19 |
| 25 | 1mm - 13mm by 0.5mm | 800A25 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

THUNDERBIT®

The heavy-duty construction with a THUNDERBIT core and flute design affords efficient portable drilling in medium strength alloy materials. The split point reduces the thrust requirements and minimizes "walking". A black and gold surface treatment is applied for superior lubricity.

- ***Unique flute design for added strength and improved chip evacuation***
- ***Black & Gold surface treatment for maximum lubricity***

## *T1HD - BP1HD - T2HD - T3HD - MM1HD SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point**

**Black & Gold Oxide**

| | | | | T1HD Packaging: Tube | | T1HD Packaging: Bulk | | BP1HD Packaging: Card | |
|---|---|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 1/16” | .0625 | 7/8” | 1-7/8” | 012504 | 12 | 012504.20 | 288 | 014004 | 1 |
| 5/64” | .0781 | 1” | 2” | 012505 | 12 | 012505.20 | 288 | 014005 | 1 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 012506 | 12 | 012506.20 | 288 | 014006 | 1 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 012507 | 12 | 012507.20 | 288 | 014007 | 1 |
| 1/8” | .01250 | 1-5/8” | 2-3/4” | 012508 | 12 | 012508.20 | 288 | 014008 | 1 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 012509 | 12 | 012509.20 | 288 | 014009 | 1 |
| 5/32” | .1562 | 2” | 3-1/8” | 012510 | 12 | 012510.20 | 288 | 014010 | 1 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 012511 | 12 | 012511.20 | 288 | 014011 | 1 |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 012512 | 12 | 012512.20 | 288 | 014012 | 1 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 012513 | 12 | 012513.20 | 288 | 014013 | 1 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 012514 | 12 | 012514.20 | 288 | 014014 | 1 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 012515 | 12 | 012515.20 | 288 | 014015 | 1 |
| 1/4” | .2500 | 2-3/4” | 4” | 012516 | 12 | 012516.20 | 288 | 014016 | 1 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 012517 | 12 | 012517.20 | 144 | 014017 | 1 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 012518 | 12 | 012518.20 | 144 | 014018 | 1 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 012519 | 12 | 012519.20 | 144 | 014019 | 1 |
| 5/16” | .30125 | 3-3/16” | 4-1/2” | 012520 | 6 | 012520.20 | 144 | 014020 | 1 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 012521 | 6 | 012521.20 | 144 | 014021 | 1 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 012522 | 6 | 012522.20 | 144 | 014022 | 1 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 012523 | 6 | 012523.20 | 144 | 014023 | 1 |
| 3/8” | .3750 | 3-5/8” | 5” | 012524 | 6 | 012524.20 | 144 | 014024 | 1 |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 012525 | 6 | 012525.20 | 144 | 014025 | 1 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 012526 | 6 | 012526.20 | 144 | 014026 | 1 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 012527 | 6 | 012527.20 | 144 | 014027 | 1 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 012528 | 6 | 012528.20 | 144 | 014028 | 1 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 012529 | 6 | 012529.20 | 144 | 014029 | 1 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 012530 | 6 | 012530.20 | 144 | 014030 | 1 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 012531 | 6 | 012531.20 | 144 | 014031 | 1 |
| 1/2” | .5000 | 4-1/2” | 6” | 012532 | 6 | 012532.20 | 144 | 014032 | 1 |

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| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| SAD13HD | Select-A-Drill | 13 Piece | 1/16”-1/4” by 64ths | 090495 |
| T19HD | Metal Index | 13 Piece | 1/16”-1/4” by 64ths | 099858 |
| T18HD | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 099857 |
| T180HD | Metal Index | 21 Piece | 1/16”-3/8” by 64ths | 099861 |
| T17HDDC | Clip-On Index | 29 Piece | 1/16”-1/2” by 64ths | 099855 |
| T17HD | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 099856 |
| T123HD | Metal Index | 115 Piece | 1/16”-1/2” by 64ths, #1- #60, A-Z | 099862 |
| T80HD | Display | | 1/16”-1/2” by 64ths | 099995 |

MADE IN THE USA TRIUMPH TWIST DRILL

# HEAVY-DUTY JOBBER LENGTH DRILLS

| | | | | T2HD Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1 | .2280 | 2-5/8” | 3-7/8” | 012601 | 12 |
| 2 | .2210 | 2-5/8” | 3-7/8” | 012602 | 12 |
| 3 | .2130 | 2-1/2” | 3-3/4” | 012603 | 12 |
| 4 | .2090 | 2-1/2” | 3-3/4” | 012604 | 12 |
| 5 | .2055 | 2-1/2” | 3-3/4” | 012605 | 12 |
| 6 | .2040 | 2-1/2” | 3-3/4” | 012606 | 12 |
| 7 | .2010 | 2-7/16” | 3-5/8” | 012607 | 12 |
| 8 | .1990 | 2-7/16” | 3-5/8” | 012608 | 12 |
| 9 | .1960 | 2-7/16” | 3-5/8” | 012609 | 12 |
| 10 | .1935 | 2-7/16” | 3-5/8” | 012610 | 12 |
| 11 | .1910 | 2-5/16” | 3-1/2” | 012611 | 12 |
| 12 | .1890 | 2-5/16” | 3-1/2” | 012612 | 12 |
| 13 | .1850 | 2-5/16” | 3-1/2” | 012613 | 12 |
| 14 | .1820 | 2-3/16” | 3-3/8” | 012614 | 12 |
| 15 | .1800 | 2-3/16” | 3-3/8” | 012615 | 12 |
| 16 | .1770 | 2-3/16” | 3-3/8” | 012616 | 12 |
| 17 | .1730 | 2-3/16” | 3-3/8” | 012617 | 12 |
| 18 | .1695 | 2-1/8” | 3-1/4” | 012618 | 12 |
| 19 | .1660 | 2-1/8” | 3-1/4” | 012619 | 12 |
| 20 | .1610 | 2-1/8” | 3-1/4” | 012620 | 12 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 012621 | 12 |
| 22 | .1570 | 2” | 3-1/8” | 012622 | 12 |
| 23 | .1540 | 2” | 3-1/8” | 012623 | 12 |
| 24 | .1520 | 2” | 3-1/8” | 012624 | 12 |
| 25 | .1495 | 1-7/8” | 3” | 012625 | 12 |
| 26 | .1470 | 1-7/8” | 3” | 012626 | 12 |
| 27 | .1440 | 1-7/8” | 3” | 012627 | 12 |
| 28 | .1405 | 1-3/4” | 2-7/8” | 012628 | 12 |
| 29 | .1360 | 1-3/4” | 2-7/8” | 012629 | 12 |
| 30 | .1285 | 1-5/8” | 2-3/4” | 012630 | 12 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 012631 | 12 |
| 32 | .1160 | 1-5/8” | 2-3/4” | 012632 | 12 |
| 33 | .1130 | 1-1/2” | 2-5/8” | 012633 | 12 |
| 34 | .1110 | 1-1/2” | 2-5/8” | 012634 | 12 |
| 35 | .1100 | 1-1/2” | 2-5/8” | 012635 | 12 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 012636 | 12 |
| 37 | .1040 | 1-7/16” | 2-1/2” | 012637 | 12 |
| 38 | .1015 | 1-7/16” | 2-1/2” | 012638 | 12 |
| 39 | .0995 | 1-3/8” | 2-3/8” | 012639 | 12 |
| 40 | .0980 | 1-3/8” | 2-3/8” | 012640 | 12 |
| 41 | .0960 | 1-3/8” | 2-3/8” | 012641 | 12 |
| 42 | .0935 | 1-1/4” | 2-1/4” | 012642 | 12 |
| 43 | .0890 | 1-1/4” | 2-1/4” | 012643 | 12 |
| 44 | .0860 | 1-1/8” | 2-1/8” | 012644 | 12 |
| 45 | .0820 | 1-1/8” | 2-1/8” | 012645 | 12 |
| 46 | .0810 | 1-1/8” | 2-1/8” | 012646 | 12 |
| 47 | .0785 | 1” | 2” | 012647 | 12 |
| 48 | .0760 | 1” | 2” | 012648 | 12 |
| 49 | .0730 | 1” | 2” | 012649 | 12 |
| 50 | .0700 | 1” | 2” | 012650 | 12 |
| 51 | .0670 | 1” | 2” | 012651 | 12 |
| 52 | .0635 | 7/8” | 1-7/8” | 012652 | 12 |
| 53* | .0595 | 7/8” | 1-7/8” | 012653 | 12 |
| 54* | .0550 | 7/8” | 1-7/8” | 012654 | 12 |
| 55* | .0520 | 7/8” | 1-7/8” | 012655 | 12 |
| 56* | .0465 | 3/4” | 1-3/4” | 012656 | 12 |
| 57* | .0430 | 3/4” | 1-3/4” | 012657 | 12 |
| 58* | .0420 | 11/16” | 1-5/8” | 012658 | 12 |
| 59* | .0410 | 11/16” | 1-5/8” | 012659 | 12 |
| 60* | .0400 | 11/16” | 1-5/8” | 012660 | 12 |

*Not split point

| | | | | T3HD Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| A | .2340 | 2-5/8” | 3-7/8” | 012701 | 12 |
| B | .2380 | 2-3/4” | 4” | 012702 | 12 |
| C | .2420 | 2-3/4” | 4” | 012703 | 12 |
| D | .2460 | 2-3/4” | 4” | 012704 | 12 |
| E | .2500 | 2-3/4” | 4” | 012705 | 12 |
| F | .2570 | 2-7/8” | 4-1/8” | 012706 | 12 |
| G | .2610 | 2-7/8” | 4-1/8” | 012707 | 12 |
| H | .2660 | 2-7/8” | 4-1/8” | 012708 | 12 |
| I | .2720 | 2-7/8” | 4-1/8” | 012709 | 12 |
| J | .2770 | 2-7/8” | 4-1/8” | 012710 | 12 |
| K | .2810 | 2-15/16” | 4-1/4” | 012711 | 12 |
| L | .2900 | 2-15/16” | 4-1/4” | 012712 | 12 |
| M | .2950 | 3-1/16” | 4-3/8” | 012713 | 12 |
| N | .3020 | 3-1/16” | 4-3/8” | 012714 | 12 |
| O | .3160 | 3-3/16” | 4-1/2” | 012715 | 6 |
| P | .3230 | 3-5/16” | 4-5/8” | 012716 | 6 |
| Q | .3320 | 3-7/16” | 4-3/4” | 012717 | 6 |
| R | .3390 | 3-7/16” | 4-3/4” | 012718 | 6 |
| S | .3480 | 3-1/2” | 4-7/8” | 012719 | 6 |
| T | .3580 | 3-1/2” | 4-7/8” | 012720 | 6 |
| U | .3680 | 3-5/8” | 5” | 012721 | 6 |
| V | .3770 | 3-5/8” | 5” | 012722 | 6 |
| W | .3860 | 3-3/4” | 5-1/8” | 012723 | 6 |
| X | .3970 | 3-3/4” | 5-1/8” | 012724 | 6 |
| Y | .4040 | 3-7/8” | 5-1/4” | 012725 | 6 |
| Z | .4130 | 3-7/8” | 5-1/4” | 012726 | 6 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T22HD | Metal Index | 60 Piece | #1- #60 | 099859 |
| T25HD | Metal Index | 26 Piece | A - Z | 099860 |
| T123HD | Metal Index | 115 Piece | 1/16”-1/2” by 64ths, #1- #60, A-Z | 099862 |

| | | | | MM1HD Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1.00 | .0394 | 17 | 41 | 014310 | 12 |
| 1.50 | .0591 | 22 | 48 | 014315 | 12 |
| 2.00 | .0787 | 25 | 51 | 014320 | 12 |
| 2.50 | .0984 | 35 | 60 | 014325 | 12 |
| 3.00 | .1181 | 41 | 70 | 014330 | 12 |
| 3.50 | .1378 | 44 | 73 | 014335 | 12 |
| 4.00 | .1575 | 54 | 83 | 014340 | 12 |
| 4.50 | .1772 | 56 | 86 | 014345 | 12 |
| 5.00 | .1969 | 62 | 92 | 014350 | 12 |
| 5.50 | .2165 | 64 | 95 | 014355 | 12 |
| 6.00 | .2362 | 70 | 102 | 014360 | 12 |
| 6.50 | .2559 | 73 | 105 | 014365 | 12 |
| 7.00 | .2756 | 73 | 105 | 014370 | 6 |
| 7.50 | .2953 | 78 | 111 | 014375 | 6 |
| 8.00 | .3150 | 81 | 114 | 014380 | 6 |
| 8.50 | .3346 | 87 | 121 | 014385 | 6 |
| 9.00 | .3543 | 89 | 124 | 014390 | 6 |
| 9.50 | .3740 | 92 | 127 | 014395 | 6 |
| 10.00 | .3937 | 95 | 130 | 014400 | 6 |
| 10.50 | .4134 | 98 | 133 | 014405 | 6 |
| 11.00 | .4331 | 103 | 140 | 014410 | 6 |
| 11.50 | .4528 | 106 | 143 | 014415 | 6 |
| 12.00 | .4724 | 111 | 149 | 014420 | 6 |
| 12.50 | .4921 | 114 | 152 | 014425 | 6 |
| 13.00 | .5118 | 114 | 152 | 014430 | 1 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

THUNDERBIT®

The heavy-duty construction with a THUNDERBIT core and flute design affords efficient portable drilling in medium strength alloy materials. The split point reduces the thrust requirements and minimizes "walking". A black and gold surface treatment is applied for superior lubricity.

- *3 flats for handheld power tools*
- *Unique flute design for added strength and improved chip evacuation*
- *Black & Gold surface treatment for maximum lubricity*

## *T1HD+ - BP1HD+ - T2HD+ - T3HD+ SERIES*

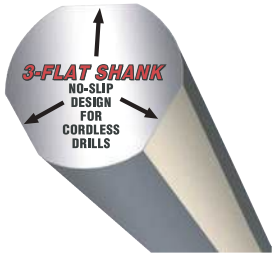
**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point**

**3 Flats on Shank**

**Black & Gold Oxide**

| | | | | T1HD+ Packaging: Tube | | T1HD+ Packaging: Bulk | | BP1HD+ Packaging: Single | |
|---|---|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 1/16” | .0625 | 7/8” | 1-7/8” | 014504 | 12 | 014504.20 | 288 | 014804 | 1 |
| 5/64” | .0781 | 1” | 2” | 014505 | 12 | 014505.20 | 288 | 014805 | 1 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 014506 | 12 | 014506.20 | 288 | 014806 | 1 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 014507 | 12 | 014507.20 | 288 | 014807 | 1 |
| 1/8” | .01250 | 1-5/8” | 2-3/4” | 014508 | 12 | 014508.20 | 288 | 014808 | 1 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 014509 | 12 | 014509.20 | 288 | 014809 | 1 |
| 5/32” | .1562 | 2” | 3-1/8” | 014510 | 12 | 014510.20 | 288 | 014810 | 1 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 014511 | 12 | 014511.20 | 288 | 014811 | 1 |
| 3 Flats on Shank | | | | | | | | | |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 014512 | 12 | 014512.20 | 288 | 014812 | 1 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 014513 | 12 | 014513.20 | 288 | 014813 | 1 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 014514 | 12 | 014514.20 | 288 | 014814 | 1 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 014515 | 12 | 014515.20 | 288 | 014815 | 1 |
| 1/4” | .2500 | 2-3/4” | 4” | 014516 | 12 | 014516.20 | 288 | 014816 | 1 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 014517 | 12 | 014517.20 | 144 | 014817 | 1 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 014518 | 12 | 014518.20 | 144 | 014818 | 1 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 014519 | 12 | 014519.20 | 144 | 014819 | 1 |
| 5/16” | .30125 | 3-3/16” | 4-1/2” | 014520 | 6 | 014520.20 | 144 | 014820 | 1 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 014521 | 6 | 014521.20 | 144 | 014821 | 1 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 014522 | 6 | 014522.20 | 144 | 014822 | 1 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 014523 | 6 | 014523.20 | 144 | 014823 | 1 |
| 3/8” | .3750 | 3-5/8” | 5” | 014524 | 6 | 014524.20 | 144 | 014824 | 1 |
| 25/64”* | .3906 | 3-3/4” | 5-1/8” | 014525 | 6 | 014525.20 | 144 | 014825 | 1 |
| 13/32”* | .4062 | 3-7/8” | 5-1/4” | 014526 | 6 | 014526.20 | 144 | 014826 | 1 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 014527 | 6 | 014527.20 | 144 | 014827 | 1 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 014528 | 6 | 014528.20 | 144 | 014828 | 1 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 014529 | 6 | 014529.20 | 144 | 014829 | 1 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 014530 | 6 | 014530.20 | 144 | 014830 | 1 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 014531 | 6 | 014531.20 | 144 | 014831 | 1 |
| 1/2” | .5000 | 4-1/2” | 6” | 014532 | 6 | 014532.20 | 144 | 014832 | 1 |



| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T19HD+ | Metal Index | 13 Piece | 1/16”-1/4” by 64ths | 099501 |
| T18HD+ | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 099502 |
| T180HD+ | Metal Index | 21 Piece | 1/16”-3/8” by 64ths | 099503 |
| T17HDDC+ | Clip-On Index | 29 Piece | 1/16”-1/2” by 64ths | 099504 |
| T17HD+ | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 099505 |
| T123HD+ | Metal Index | 115 Piece | 1/16”-1/2” by 64ths, #1- #60, A-Z | 099508 |
| T80HD+ | Display | | 1/16”-1/2” by 64ths | 099509 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

| | | | | T2HD+ Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1** | .2280 | 2-5/8” | 3-7/8” | 014601 | 12 |
| 2** | .2210 | 2-5/8” | 3-7/8” | 014602 | 12 |
| 3** | .2130 | 2-1/2” | 3-3/4” | 014603 | 12 |
| 4** | .2090 | 2-1/2” | 3-3/4” | 014604 | 12 |
| 5** | .2055 | 2-1/2” | 3-3/4” | 014605 | 12 |
| 6** | .2040 | 2-1/2” | 3-3/4” | 014606 | 12 |
| 7** | .2010 | 2-7/16” | 3-5/8” | 014607 | 12 |
| 8** | .1990 | 2-7/16” | 3-5/8” | 014608 | 12 |
| 9** | .1960 | 2-7/16” | 3-5/8” | 014609 | 12 |
| 10** | .1935 | 2-7/16” | 3-5/8” | 014610 | 12 |
| 11** | .1910 | 2-5/16” | 3-1/2” | 014611 | 12 |
| 12** | .1890 | 2-5/16” | 3-1/2” | 014612 | 12 |
| 13 | .1850 | 2-5/16” | 3-1/2” | 014613 | 12 |
| 14 | .1820 | 2-3/16” | 3-3/8” | 014614 | 12 |
| 15 | .1800 | 2-3/16” | 3-3/8” | 014615 | 12 |
| 16 | .1770 | 2-3/16” | 3-3/8” | 014616 | 12 |
| 17 | .1730 | 2-3/16” | 3-3/8” | 014617 | 12 |
| 18 | .1695 | 2-1/8” | 3-1/4” | 014618 | 12 |
| 19 | .1660 | 2-1/8” | 3-1/4” | 014619 | 12 |
| 20 | .1610 | 2-1/8” | 3-1/4” | 014620 | 12 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 014621 | 12 |
| 22 | .1570 | 2” | 3-1/8” | 014622 | 12 |
| 23 | .1540 | 2” | 3-1/8” | 014623 | 12 |
| 24 | .1520 | 2” | 3-1/8” | 014624 | 12 |
| 25 | .1495 | 1-7/8” | 3” | 014625 | 12 |
| 26 | .1470 | 1-7/8” | 3” | 014626 | 12 |
| 27 | .1440 | 1-7/8” | 3” | 014627 | 12 |
| 28 | .1405 | 1-3/4” | 2-7/8” | 014628 | 12 |
| 29 | .1360 | 1-3/4” | 2-7/8” | 014629 | 12 |
| 30 | .1285 | 1-5/8” | 2-3/4” | 014630 | 12 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 014631 | 12 |
| 32 | .1160 | 1-5/8” | 2-3/4” | 014632 | 12 |
| 33 | .1130 | 1-1/2” | 2-5/8” | 014633 | 12 |
| 34 | .1110 | 1-1/2” | 2-5/8” | 014634 | 12 |
| 35 | .1100 | 1-1/2” | 2-5/8” | 014635 | 12 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 014636 | 12 |
| 37 | .1040 | 1-7/16” | 2-1/2” | 014637 | 12 |
| 38 | .1015 | 1-7/16” | 2-1/2” | 014638 | 12 |
| 39 | .0995 | 1-3/8” | 2-3/8” | 014639 | 12 |
| 40 | .0980 | 1-3/8” | 2-3/8” | 014640 | 12 |
| 41 | .0960 | 1-3/8” | 2-3/8” | 014641 | 12 |
| 42 | .0935 | 1-1/4” | 2-1/4” | 014642 | 12 |
| 43 | .0890 | 1-1/4” | 2-1/4” | 014643 | 12 |
| 44 | .0860 | 1-1/8” | 2-1/8” | 014644 | 12 |
| 45 | .0820 | 1-1/8” | 2-1/8” | 014645 | 12 |
| 46 | .0810 | 1-1/8” | 2-1/8” | 014646 | 12 |
| 47 | .0785 | 1” | 2” | 014647 | 12 |
| 48 | .0760 | 1” | 2” | 014648 | 12 |
| 49 | .0730 | 1” | 2” | 014649 | 12 |
| 50 | .0700 | 1” | 2” | 014650 | 12 |
| 51 | .0670 | 1” | 2” | 014651 | 12 |
| 52 | .0635 | 7/8” | 1-7/8” | 014652 | 12 |
| 53* | .0595 | 7/8” | 1-7/8” | 014653 | 12 |
| 54* | .0550 | 7/8” | 1-7/8” | 014654 | 12 |
| 55* | .0520 | 7/8” | 1-7/8” | 014655 | 12 |
| 56* | .0465 | 3/4” | 1-3/4” | 014656 | 12 |
| 57* | .0430 | 3/4” | 1-3/4” | 014657 | 12 |
| 58* | .0420 | 11/16” | 1-5/8” | 014658 | 12 |
| 59* | .0410 | 11/16” | 1-5/8” | 014659 | 12 |
| 60* | .0400 | 11/16” | 1-5/8” | 014660 | 12 |

*Not split point **3-Flats on shank

| | | | | T3HD+ Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| A | .2340 | 2-5/8” | 3-7/8” | 014701 | 12 |
| B | .2380 | 2-3/4” | 4” | 014702 | 12 |
| C | .2420 | 2-3/4” | 4” | 014703 | 12 |
| D | .2460 | 2-3/4” | 4” | 014704 | 12 |
| E | .2500 | 2-3/4” | 4” | 014705 | 12 |
| F | .2570 | 2-7/8” | 4-1/8” | 014706 | 12 |
| G | .2610 | 2-7/8” | 4-1/8” | 014707 | 12 |
| H | .2660 | 2-7/8” | 4-1/8” | 014708 | 12 |
| I | .2720 | 2-7/8” | 4-1/8” | 014709 | 12 |
| J | .2770 | 2-7/8” | 4-1/8” | 014710 | 12 |
| K | .2810 | 2-15/16” | 4-1/4” | 014711 | 12 |
| L | .2900 | 2-15/16” | 4-1/4” | 014712 | 12 |
| M | .2950 | 3-1/16” | 4-3/8” | 014713 | 12 |
| N | .3020 | 3-1/16” | 4-3/8” | 014714 | 12 |
| O | .3160 | 3-3/16” | 4-1/2” | 014715 | 6 |
| P | .3230 | 3-5/16” | 4-5/8” | 014716 | 6 |
| Q | .3320 | 3-7/16” | 4-3/4” | 014717 | 6 |
| R | .3390 | 3-7/16” | 4-3/4” | 014718 | 6 |
| S | .3480 | 3-1/2” | 4-7/8” | 014719 | 6 |
| T | .3580 | 3-1/2” | 4-7/8” | 014720 | 6 |
| U | .3680 | 3-5/8” | 5” | 014721 | 6 |
| V | .3770 | 3-5/8” | 5” | 014722 | 6 |
| W | .3860 | 3-3/4” | 5-1/8” | 014723 | 6 |
| X | .3970 | 3-3/4” | 5-1/8” | 014724 | 6 |
| Y | .4040 | 3-7/8” | 5-1/4” | 014725 | 6 |
| Z | .4130 | 3-7/8” | 5-1/4” | 014726 | 6 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T22HD+ | Metal Index | 60 Piece | #1- #60 | 099506 |
| T25HD+ | Metal Index | 26 Piece | A - Z | 099507 |
| T123HD+ | Metal Index | 115 Piece | 1/16”-1/2” by 64$^{ths}$, #1- #60, A-Z | 099508 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

The heavy-duty construction affords efficient drilling in medium strength alloy materials. The split point reduces the thrust requirements and minimizes "walking." A black and gold surface treatment is applied for superior lubricity.

MRO PLUS®

- *Heavy-duty 135° Split Point minimizes "walking"*
- *Black & Gold surface treatment for high wear resistance and lubricity*
- *3 flats on shank for hand-held power tools*

## *T101D - T102D - T103D SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point**
**Fractional, Wire, Letter sizes**
**3 Flats on Shank**
**Black & Gold Finish**

| | | | | T101D Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/16” | .0625 | 7/8” | 1-7/8” | 022704 | 12 |
| 5/64” | .0781 | 1” | 2” | 022705 | 12 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 022706 | 12 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 022707 | 12 |
| 1/8” | .1250 | 1-5/8” | 2-3/4” | 022708 | 12 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 022709 | 12 |
| 5/32” | .1562 | 2” | 3-1/8” | 022710 | 12 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 022711 | 12 |
| 3 Flats on Shank | | | | | |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 022712 | 12 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 022713 | 12 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 022714 | 12 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 022715 | 12 |
| 1/4” | .2500 | 2-3/4” | 4” | 022716 | 12 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 022717 | 12 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 022718 | 12 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 022719 | 12 |
| 5/16” | .3125 | 3-3/16” | 4-1/2” | 022720 | 6 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 022721 | 6 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 022722 | 6 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 022723 | 6 |
| 3/8” | .3750 | 3-5/8” | 5” | 022724 | 6 |
| 25/64”* | .3906 | 3-3/4” | 5-1/8” | 022725 | 6 |
| 13/32”* | .4062 | 3-7/8” | 5-1/4” | 022726 | 6 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 022727 | 6 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 022728 | 6 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 022729 | 6 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 022730 | 6 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 022731 | 6 |
| 1/2” | .5000 | 4-1/2” | 6” | 022732 | 6 |

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| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T1019D | Metal Index | 13 | 1/16”-1/4” by 64ths | 090113 |
| T1018D | Metal Index | 15 | 1/16”-1/2” by 32nds | 090115 |
| T10180D | Metal Index | 21 | 1/16”-3/8” by 64ths | 090121 |
| T1017D | Metal Index | 29 | 1/16”-1/2” by 64ths | 090190 |
| T1017DC | Round Twist Top Drill Caddy | 29 | 1/16”-1/2” by 64ths | 090192 |
| T10123D | Metal Index | 115 | 1/16”-1/2” by 64ths, #1- #60, A-Z | 090196 |

MADE IN THE USA TRIUMPH TWIST DRILL

# HEAVY-DUTY JOBBER LENGTH DRILLS

| | | | | T102D Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1** | .2280 | 2-5/8” | 3-7/8” | 024701 | 12 |
| 2** | .2210 | 2-5/8” | 3-7/8” | 024702 | 12 |
| 3** | .2130 | 2-1/2” | 3-3/4” | 024703 | 12 |
| 4** | .2090 | 2-1/2” | 3-3/4” | 024704 | 12 |
| 5** | .2055 | 2-1/2” | 3-3/4” | 024705 | 12 |
| 6** | .2040 | 2-1/2” | 3-3/4” | 024706 | 12 |
| 7** | .2010 | 2-7/16” | 3-5/8” | 024707 | 12 |
| 8** | .1990 | 2-7/16” | 3-5/8” | 024708 | 12 |
| 9** | .1960 | 2-7/16” | 3-5/8” | 024709 | 12 |
| 10** | .1935 | 2-7/16” | 3-5/8” | 024710 | 12 |
| 11** | .1910 | 2-5/16” | 3-1/2” | 024711 | 12 |
| 12** | .1890 | 2-5/16” | 3-1/2” | 024712 | 12 |
| 13 | .1850 | 2-5/16” | 3-1/2” | 024713 | 12 |
| 14 | .1820 | 2-3/16” | 3-3/8” | 024714 | 12 |
| 15 | .1800 | 2-3/16” | 3-3/8” | 024715 | 12 |
| 16 | .1770 | 2-3/16” | 3-3/8” | 024716 | 12 |
| 17 | .1730 | 2-3/16” | 3-3/8” | 024717 | 12 |
| 18 | .1695 | 2-1/8” | 3-1/4” | 024718 | 12 |
| 19 | .1660 | 2-1/8” | 3-1/4” | 024719 | 12 |
| 20 | .1610 | 2-1/8” | 3-1/4” | 024720 | 12 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 024721 | 12 |
| 22 | .1570 | 2” | 3-1/8” | 024722 | 12 |
| 23 | .1540 | 2” | 3-1/8” | 024723 | 12 |
| 24 | .1520 | 2” | 3-1/8” | 024724 | 12 |
| 25 | .1495 | 1-7/8” | 3” | 024725 | 12 |
| 26 | .1470 | 1-7/8” | 3” | 024726 | 12 |
| 27 | .1440 | 1-7/8” | 3” | 024727 | 12 |
| 28 | .1405 | 1-3/4” | 2-7/8” | 024728 | 12 |
| 29 | .1360 | 1-3/4” | 2-7/8” | 024729 | 12 |
| 30 | .1285 | 1-5/8” | 2-3/4” | 024730 | 12 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 024731 | 12 |
| 32 | .1160 | 1-5/8” | 2-3/4” | 024732 | 12 |
| 33 | .1130 | 1-1/2” | 2-5/8” | 024733 | 12 |
| 34 | .1110 | 1-1/2” | 2-5/8” | 024734 | 12 |
| 35 | .1100 | 1-1/2” | 2-5/8” | 024735 | 12 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 024736 | 12 |
| 37 | .1040 | 1-7/16” | 2-1/2” | 024737 | 12 |
| 38 | .1015 | 1-7/16” | 2-1/2” | 024738 | 12 |
| 39 | .0995 | 1-3/8” | 2-3/8” | 024739 | 12 |
| 40 | .0980 | 1-3/8” | 2-3/8” | 024740 | 12 |
| 41 | .0960 | 1-3/8” | 2-3/8” | 024741 | 12 |
| 42 | .0935 | 1-1/4” | 2-1/4” | 024742 | 12 |
| 43 | .0890 | 1-1/4” | 2-1/4” | 024743 | 12 |
| 44 | .0860 | 1-1/8” | 2-1/8” | 024744 | 12 |
| 45 | .0820 | 1-1/8” | 2-1/8” | 024745 | 12 |
| 46 | .0810 | 1-1/8” | 2-1/8” | 024746 | 12 |
| 47 | .0785 | 1” | 2” | 024747 | 12 |
| 48 | .0760 | 1” | 2” | 024748 | 12 |
| 49 | .0730 | 1” | 2” | 024749 | 12 |
| 50 | .0700 | 1” | 2” | 024750 | 12 |
| 51 | .0670 | 1” | 2” | 024751 | 12 |
| 52 | .0635 | 7/8” | 1-7/8” | 024752 | 12 |
| 53* | .0595 | 7/8” | 1-7/8” | 024753 | 12 |
| 54* | .0550 | 7/8” | 1-7/8” | 024754 | 12 |
| 55* | .0520 | 7/8” | 1-7/8” | 024755 | 12 |
| 56* | .0465 | 3/4” | 1-3/4” | 024756 | 12 |
| 57* | .0430 | 3/4” | 1-3/4” | 024757 | 12 |
| 58* | .0420 | 11/16” | 1-5/8” | 024758 | 12 |
| 59* | .0410 | 11/16” | 1-5/8” | 024759 | 12 |
| 60* | .0400 | 11/16” | 1-5/8” | 024760 | 12 |

*Not split point **3-Flats on shank

| | | | | T103D Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| A | .2340 | 2-5/8” | 3-7/8” | 026701 | 12 |
| B | .2380 | 2-3/4” | 4” | 026702 | 12 |
| C | .2420 | 2-3/4” | 4” | 026703 | 12 |
| D | .2460 | 2-3/4” | 4” | 026704 | 12 |
| E | .2500 | 2-3/4” | 4” | 026705 | 12 |
| F | .2570 | 2-7/8” | 4-1/8” | 026706 | 12 |
| G | .2610 | 2-7/8” | 4-1/8” | 026707 | 12 |
| H | .2660 | 2-7/8” | 4-1/8” | 026708 | 12 |
| I | .2720 | 2-7/8” | 4-1/8” | 026709 | 12 |
| J | .2770 | 2-7/8” | 4-1/8” | 026710 | 12 |
| K | .2810 | 2-15/16” | 4-1/4” | 026711 | 12 |
| L | .2900 | 2-15/16” | 4-1/4” | 026712 | 12 |
| M | .2950 | 3-1/16” | 4-3/8” | 026713 | 12 |
| N | .3020 | 3-1/16” | 4-3/8” | 026714 | 12 |
| O | .3160 | 3-3/16” | 4-1/2” | 026715 | 6 |
| P | .3230 | 3-5/16” | 4-5/8” | 026716 | 6 |
| Q | .3320 | 3-7/16” | 4-3/4” | 026717 | 6 |
| R | .3390 | 3-7/16” | 4-3/4” | 026718 | 6 |
| S | .3480 | 3-1/2” | 4-7/8” | 026719 | 6 |
| T | .3580 | 3-1/2” | 4-7/8” | 026720 | 6 |
| U | .3680 | 3-5/8” | 5” | 026721 | 6 |
| V | .3770 | 3-5/8” | 5” | 026722 | 6 |
| W | .3860 | 3-3/4” | 5-1/8” | 026723 | 6 |
| X | .3970 | 3-3/4” | 5-1/8” | 026724 | 6 |
| Y | .4040 | 3-7/8” | 5-1/4” | 026725 | 6 |
| Z | .4130 | 3-7/8” | 5-1/4” | 026726 | 6 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T10125D | Metal Index | 26 | A-Z | 099828 |
| T10123D | Metal Index | 115 | 1/16”-1/2” by 64$^{ths}$, #1- #60, A-Z | 090196 |

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# HEAVY-DUTY JOBBER LENGTH DRILLS

140° Split Point reduces "walking" at the drill point and makes these drills ideal for both handheld and CNC Operations. Usable in a wide range of materials including difficult-to-machine materials such as stainless steel.

- ***Black & Gold surface treatment for maximum lubricity***
- ***Jobber length for extra reach***
- ***3-flat shank helps reduce slippage in the drill chuck***

## *400F SERIES*

### HEAVY-DUTY HIGH SPEED STEEL

### 140° Split Point / 3 Flats

### Fractional / Black & Gold

400F

| Size | Flute Length | Overall Length | 400F Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 400F104 |
| 5/64” | 1” | 2” | 400F105 |
| 3/32” | 1-1/4” | 2-1/4” | 400F106 |
| 7/64” | 1-1/2” | 2-5/8” | 400F107 |
| 1/8” | 1-5/8” | 2-3/4” | 400F108 |
| 9/64” | 1-3/4” | 2-7/8” | 400F109 |
| 5/32” | 2” | 3-1/8” | 400F110 |
| 11/64” | 2-1/8” | 3-1/4” | 400F111 |
| 3/16” | 2-5/16” | 3-1/2” | 400F112 |
| 13/64” | 2-7/16” | 3-5/8” | 400F113 |
| 7/32” | 2-1/2” | 3-3/4” | 400F114 |
| 15/64” | 2-5/8” | 3-7/8” | 400F115 |
| 1/4” | 2-3/4” | 4” | 400F116 |
| 17/64” | 2-7/8” | 4-1/8” | 400F117 |
| 9/32” | 2-15/16” | 4-1/4” | 400F118 |

| Size | Flute Length | Overall Length | 400F Order No. |
|---|---|---|---|
| 19/64” | 3-1/16” | 4-3/8” | 400F119 |
| 5/16” | 3-3/16” | 4-1/2” | 400F120 |
| 21/64” | 3-5/16” | 4-5/8” | 400F121 |
| 11/32” | 3-7/16” | 4-3/4” | 400F122 |
| 23/64” | 3-1/2” | 4-7/8” | 400F123 |
| 3/8” | 3-5/8” | 5” | 400F124 |
| 25/64” | 3-3/4” | 5-1/8” | 400F125 |
| 13/32” | 3-7/8” | 5-1/4” | 400F126 |
| 27/64” | 3-15/16” | 5-3/8” | 400F127 |
| 7/16” | 4-1/16” | 5-1/2” | 400F128 |
| 29/64” | 4-3/16” | 5-5/8” | 400F129 |
| 15/32” | 4-5/16” | 5-3/4” | 400F130 |
| 31/64” | 4-3/8” | 5-7/8” | 400F131 |
| 1/2” | 4-1/2” | 6” | 400F132 |

Flats start at 3/16”

1/16” thru 19/64” - 12 per pack, 5/16” thru 1/2” - 6 per pack

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 400F Series Jobber Drill Sets | | |
| 21 | 1/16” - 3/8” by 64ths | 400F21 |
| 29 | 1/16” - 1/2” by 64ths | 400F29 |
| 29 | DRILL PAL 1/16” - 1/2” by 64ths | 400FW29 |

400F29

# HEAVY-DUTY JOBBER LENGTH DRILLS

TiN (Titanium Nitride) coated drill bits are used for drilling holes in very hard and tough materials. The gold-colored coating excels at evacuating chips due to its high lubricity. The TiN coating is also very resistant to wear and abrasion due to it being extremely hard. This significantly extends the life of the tool in many intense drilling operations. This jobber drill also employs the THUNDERBIT geometry for increased strength and better resistance to breakage.

- ***Unique flute design for added strength and improved chip evacuation***
- ***The TiN (titanium nitride) coating provides a super hard surface with high lubricity***
- ***Extended tool life in high-wear drilling applications***

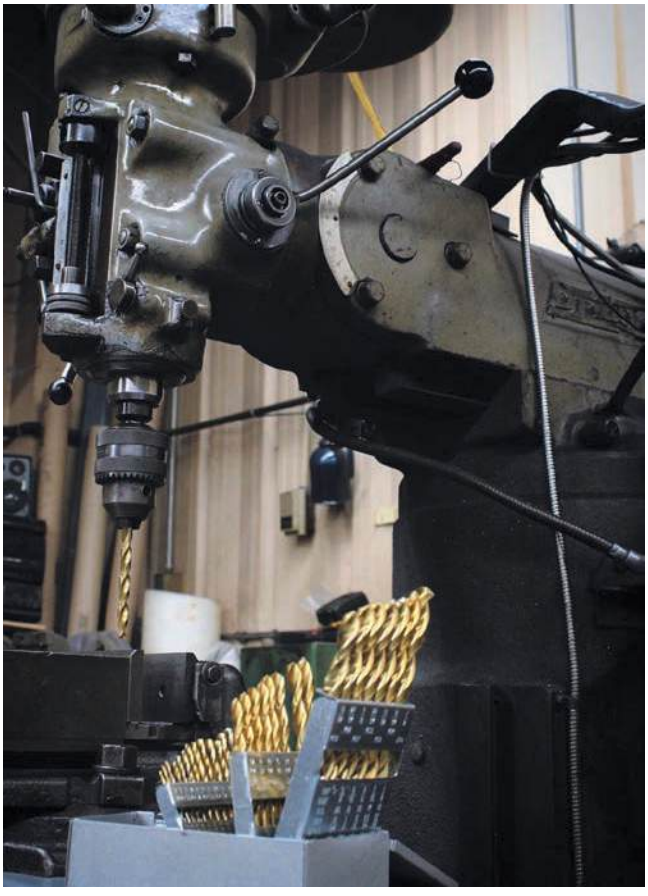
## *T1HDG SERIES*

### HEAVY-DUTY HIGH SPEED STEEL

**135° Split Point**

**TiN Coating**

| | | | | T1HDG Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/16” | .0625 | 7/8” | 1-7/8” | 012804 | 12 |
| 5/64” | .0781 | 1” | 2” | 012805 | 12 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 012806 | 12 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 012807 | 12 |
| 1/8” | .1250 | 1-5/8” | 2-3/4” | 012808 | 12 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 012809 | 12 |
| 5/32” | .1562 | 2” | 3-1/8” | 012810 | 12 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 012811 | 12 |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 012812 | 12 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 012813 | 12 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 012814 | 12 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 012815 | 12 |
| 1/4” | .2500 | 2-3/4” | 4” | 012816 | 12 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 012817 | 12 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 012818 | 12 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 012819 | 12 |
| 5/16” | .3125 | 3-3/16” | 4-1/2” | 012820 | 6 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 012821 | 6 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 012822 | 6 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 012823 | 6 |
| 3/8” | .3750 | 3-5/8” | 5” | 012824 | 6 |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 012825 | 6 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 012826 | 6 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 012827 | 6 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 012828 | 6 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 012829 | 6 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 012830 | 6 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 012831 | 6 |
| 1/2” | .5000 | 4-1/2” | 6” | 012832 | 6 |



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| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T19HDG | Metal Index | 13 Piece | 1/16”-1/4” by 64ths | 093713 |
| T18HDG | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 093716 |
| T180HDG | Metal Index | 21 Piece | 1/16”-3/8” by 64ths | 093719 |
| T17HDG | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 093700 |
| T17HDCG | Clip On Index | 29 Piece | 1/16”-1/2” by 64ths | 093754 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

The TiN (Titanium Nitride) coating provides a super hard surface with high lubricity and longer tool life, as the heat is deflected away from the drill. These drills can be used in a wide range of materials including steel, stainless steel, titanium, nickel, and aluminum. TiN coating is applied to the “working” part of the drill. This allows for all of the benefits that the user receives from a fully TiN coated product, but at a reduced price when compared to a drill that is fully coated.

- ***The TiN (titanium nitride) coating provides a super hard surface with high lubricity***
- ***Extended tool life in high wear application***
- ***135° split point for self centering and reduced "walking"***

## *450T SERIES*

### HEAVY-DUTY HIGH SPEED STEEL

### 135° Split Point / Straight Shank
### Fractional / TiN Tip Coated

450T

| Size | Flute Length | Overall Length | 450T Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 450T104 |
| 5/64” | 1” | 2” | 450T105 |
| 3/32” | 1-1/4” | 2-1/4” | 450T106 |
| 7/64” | 1-1/2” | 2-5/8” | 450T107 |
| 1/8” | 1-5/8” | 2-3/4” | 450T108 |
| 9/64” | 1-3/4” | 2-7/8” | 450T109 |
| 5/32” | 2” | 3-1/8” | 450T110 |
| 11/64” | 2-1/8” | 3-1/4” | 450T111 |
| 3/16” | 2-5/16” | 3-1/2” | 450T112 |
| 13/64” | 2-7/16” | 3-5/8” | 450T113 |
| 7/32” | 2-1/2” | 3-3/4” | 450T114 |
| 15/64” | 2-5/8” | 3-7/8” | 450T115 |
| 1/4” | 2-3/4” | 4” | 450T116 |
| 17/64” | 2-7/8” | 4-1/8” | 450T117 |
| 9/32” | 2-15/16” | 4-1/4” | 450T118 |

| Size | Flute Length | Overall Length | 450T Order No. |
|---|---|---|---|
| 19/64” | 3-1/16” | 4-3/8” | 450T119 |
| 5/16” | 3-3/16” | 4-1/2” | 450T120 |
| 21/64” | 3-5/16” | 4-5/8” | 450T121 |
| 11/32” | 3-7/16” | 4-3/4” | 450T122 |
| 23/64” | 3-1/2” | 4-7/8” | 450T123 |
| 3/8” | 3-5/8” | 5” | 450T124 |
| 25/64” | 3-3/4” | 5-1/8” | 450T125 |
| 13/32” | 3-7/8” | 5-1/4” | 450T126 |
| 27/64” | 3-15/16” | 5-3/8” | 450T127 |
| 7/16” | 4-1/16” | 5-1/2” | 450T128 |
| 29/64” | 4-3/16” | 5-5/8” | 450T129 |
| 15/32” | 4-5/16” | 5-3/4” | 450T130 |
| 31/64” | 4-3/8” | 5-7/8” | 450T131 |
| 1/2” | 4-1/2” | 6” | 450T132 |

3/64” thru 19/64” & #1 thru #60 - 12 per pack, 5/16” thru 1/2” - 6 per pack

DRILLCO CUTTING TOOLS

# HEAVY-DUTY JOBBER LENGTH DRILLS

## *450T SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / Straight Shank**

**Number / TiN Tip Coated**

450T

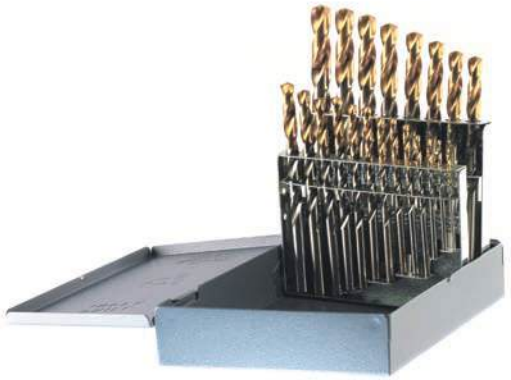
| Size | Flute Length | Overall Length | 450T Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 450T001 |
| 2 | 2-5/8” | 3-7/8” | 450T002 |
| 3 | 2-1/2” | 3-3/4” | 450T003 |
| 4 | 2-1/2” | 3-3/4” | 450T004 |
| 5 | 2-1/2” | 3-3/4” | 450T005 |
| 6 | 2-1/2” | 3-3/4” | 450T006 |
| 7 | 2-7/16” | 3-5/8” | 450T007 |
| 8 | 2-7/16” | 3-5/8” | 450T008 |
| 9 | 2-7/16” | 3-5/8” | 450T009 |
| 10 | 2-7/16” | 3-5/8” | 450T010 |
| 11 | 2-5/16” | 3-1/2” | 450T011 |
| 12 | 2-5/16” | 3-1/2” | 450T012 |
| 13 | 2-5/16” | 3-1/2” | 450T013 |
| 14 | 2-3/16” | 3-3/8” | 450T014 |
| 15 | 2-3/16” | 3-3/8” | 450T015 |
| 16 | 2-3/16” | 3-3/8” | 450T016 |
| 17 | 2-3/16” | 3-3/8” | 450T017 |
| 18 | 2-1/8” | 3-1/4” | 450T018 |
| 19 | 2-1/8” | 3-1/4” | 450T019 |
| 20 | 2-1/8” | 3-1/4” | 450T020 |
| 21 | 2-1/8” | 3-1/4” | 450T021 |
| 22 | 2” | 3-1/8” | 450T022 |
| 23 | 2” | 3-1/8” | 450T023 |
| 24 | 2” | 3-1/8” | 450T024 |
| 25 | 1-7/8” | 3” | 450T025 |
| 26 | 1-7/8” | 3” | 450T026 |
| 27 | 1-7/8” | 3” | 450T027 |
| 28 | 1-3/4” | 2-7/8” | 450T028 |
| 29 | 1-3/4” | 2-7/8” | 450T029 |
| 30 | 1-5/8” | 2-3/4” | 450T030 |

| Size | Flute Length | Overall Length | 450T Order No. |
|---|---|---|---|
| 31 | 1-5/8” | 2-3/4” | 450T031 |
| 32 | 1-5/8” | 2-3/4” | 450T032 |
| 33 | 1-1/2” | 2-5/8” | 450T033 |
| 34 | 1-1/2” | 2-5/8” | 450T034 |
| 35 | 1-1/2” | 2-5/8” | 450T035 |
| 36 | 1-7/16” | 2-1/2” | 450T036 |
| 37 | 1-7/16” | 2-1/2” | 450T037 |
| 38 | 1-7/16” | 2-1/2” | 450T038 |
| 39 | 1-3/8” | 2-3/8” | 450T039 |
| 40 | 1-3/8” | 2-3/8” | 450T040 |
| 41 | 1-3/8” | 2-3/8” | 450T041 |
| 42 | 1-1/4” | 2-1/4” | 450T042 |
| 43 | 1-1/4” | 2-1/4” | 450T043 |
| 44 | 1-1/8” | 2-1/8” | 450T044 |
| 45 | 1-1/8” | 2-1/8” | 450T045 |
| 46 | 1-1/8” | 2-1/8” | 450T046 |
| 47 | 1” | 2” | 450T047 |
| 48 | 1” | 2” | 450T048 |
| 49 | 1” | 2” | 450T049 |
| 50 | 1” | 2” | 450T050 |
| 51 | 1” | 2” | 450T051 |
| 52 | 7/8” | 1-7/8” | 450T052 |
| 53* | 7/8” | 1-7/8” | 450T053 |
| 54* | 7/8” | 1-7/8” | 450T054 |
| 55* | 7/8” | 1-7/8” | 450T055 |
| 56* | 3/4” | 1-3/4” | 450T056 |
| 57* | 3/4” | 1-3/4” | 450T057 |
| 58* | 11/16” | 1-5/8” | 450T058 |
| 59* | 11/16” | 1-5/8” | 450T059 |
| 60* | 11/16” | 1-5/8” | 450T060 |

*Not split point

#1 thru #60 - 12 per pack

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 450T Series Jobber Drill Sets | | |
| 13 | 1/16” - 1/4” by 64$^{ths}$ | 450T13 |
| 15 | 1/16” - 1/2” by 32$^{nds}$ | 450T15 |
| 21 | 1/16” - 3/8” by 64$^{ths}$ | 450T21 |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 450T29 |
| 29 | 1/16” - 1/2” by 64$^{ths}$ DRILL PAL | 450TW29 |
| 60 | #1 - 60 | 450T60 |



450T21

# HEAVY-DUTY JOBBER LENGTH DRILLS

Heavy-duty construction made to NAS Type J aircraft specifications. Used for drilling holes in hard, tough materials such as stainless steel, titanium high temperature and high strength alloys.

- ***High red hardness of cobalt permits speeds 30% greater than HSS drills***
- ***Bronze surface treatment for high lubricity***
- ***Cobalt drills can cut harder materials than HSS drills***
- ***Available in bulk packaging***

## *500 SERIES*

**HEAVY-DUTY COBALT**

### 135° Split Point / Straight Shank
### Fractional / Bronze

500

| Size | Flute Length | Overall Length | 500 Order No. |
|---|---|---|---|
| 3/64” | 3/4” | 1-3/4” | 500A103 |
| 1/16” | 7/8” | 1-7/8” | 500A104 |
| 5/64” | 1” | 2” | 500A105 |
| 3/32” | 1-1/4” | 2-1/4” | 500A106 |
| 7/64” | 1-1/2” | 2-5/8” | 500A107 |
| 1/8” | 1-5/8” | 2-3/4” | 500A108 |
| 9/64” | 1-3/4” | 2-7/8” | 500A109 |
| 5/32” | 2” | 3-1/8” | 500A110 |
| 11/64” | 2-1/8” | 3-1/4” | 500A111 |
| 3/16” | 2-5/16” | 3-1/2” | 500A112 |
| 13/64” | 2-7/16” | 3-5/8” | 500A113 |
| 7/32” | 2-1/2” | 3-3/4” | 500A114 |
| 15/64” | 2-5/8” | 3-7/8” | 500A115 |
| 1/4” | 2-3/4” | 4” | 500A116 |
| 17/64” | 2-7/8” | 4-1/8” | 500A117 |

| Size | Flute Length | Overall Length | 500 Order No. |
|---|---|---|---|
| 9/32” | 2-15/16” | 4-1/4” | 500A118 |
| 19/64” | 3-1/16” | 4-3/8” | 500A119 |
| 5/16” | 3-3/16” | 4-1/2” | 500A120 |
| 21/64” | 3-5/16” | 4-5/8” | 500A121 |
| 11/32” | 3-7/16” | 4-3/4” | 500A122 |
| 23/64” | 3-1/2” | 4-7/8” | 500A123 |
| 3/8” | 3-5/8” | 5” | 500A124 |
| 25/64” | 3-3/4” | 5-1/8” | 500A125 |
| 13/32” | 3-7/8” | 5-1/4” | 500A126 |
| 27/64” | 3-15/16” | 5-3/8” | 500A127 |
| 7/16” | 4-1/16” | 5-1/2” | 500A128 |
| 29/64” | 4-3/16” | 5-5/8” | 500A129 |
| 15/32” | 4-5/16” | 5-3/4” | 500A130 |
| 31/64” | 4-3/8” | 5-7/8” | 500A131 |
| 1/2” | 4-1/2” | 6” | 500A132 |

3/64” thru 19/64” and “A” thru “L” - 12 per pack
5/16” thru 1/2” and “M” thru “Z” - 6 per pack

## *580 SERIES*

**HEAVY-DUTY COBALT**

### 135° Split Point / Straight Shank
### Number / Bronze

580

| Size | Flute Length | Overall Length | 580 Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 580A001 |
| 2 | 2-1/2” | 3-7/8” | 580A002 |
| 3 | 2-1/2” | 3-3/4” | 580A003 |
| 4 | 2-1/2” | 3-3/4” | 580A004 |
| 5 | 2-1/2” | 3-3/4” | 580A005 |
| 6 | 2-1/2” | 3-3/4” | 580A006 |
| 7 | 2-7/16” | 3-5/8” | 580A007 |
| 8 | 2-7/16” | 3-5/8” | 580A008 |
| 9 | 2-7/16” | 3-5/8” | 580A009 |
| 10 | 2-7/16” | 3-5/8” | 580A010 |
| 11 | 2-5/16” | 3-1/2” | 580A011 |
| 12 | 2-5/16” | 3-1/2” | 580A012 |
| 13 | 2-5/16” | 3-1/2” | 580A013 |

| Size | Flute Length | Overall Length | 580 Order No. |
|---|---|---|---|
| 14 | 2-3/16” | 3-3/8” | 580A014 |
| 15 | 2-3/16” | 3-3/8” | 580A015 |
| 16 | 2-3/16” | 3-3/8” | 580A016 |
| 17 | 2-3/16” | 3-3/8” | 580A017 |
| 18 | 2-1/8” | 3-1/4” | 580A018 |
| 19 | 2-1/8” | 3-1/4” | 580A019 |
| 20 | 2-1/8” | 3-1/4” | 580A020 |
| 21 | 2-1/8” | 3-1/4” | 580A021 |
| 22 | 2” | 3-1/8” | 580A022 |
| 23 | 2” | 3-1/8” | 580A023 |
| 24 | 2” | 3-1/8” | 580A024 |
| 25 | 1-7/8” | 3” | 580A025 |
| 26 | 1-7/8” | 3” | 580A026 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

## *580 SERIES*

### HEAVY-DUTY COBALT

135° Split Point / Straight Shank

Number / Bronze

580

| Size | Flute Length | Overall Length | 580 Order No. |
|---|---|---|---|
| 27 | 1-7/8” | 3” | 580A027 |
| 28 | 1-3/4” | 2-7/8” | 580A028 |
| 29 | 1-3/4” | 2-7/8” | 580A029 |
| 30 | 1-5/8” | 2-3/4” | 580A030 |
| 31 | 1-5/8” | 2-3/4” | 580A031 |
| 32 | 1-5/8” | 2-3/4” | 580A032 |
| 33 | 1-1/2” | 2-5/8” | 580A033 |
| 34 | 1-1/2” | 2-5/8” | 580A034 |
| 35 | 1-1/2” | 2-5/8” | 580A035 |
| 36 | 1-7/16” | 2-1/2” | 580A036 |
| 37 | 1-7/16” | 2-1/2” | 580A037 |
| 38 | 1-7/16” | 2-1/2” | 580A038 |
| 39 | 1-3/8” | 2-3/8” | 580A039 |
| 40 | 1-3/8” | 2-3/8” | 580A040 |
| 41 | 1-3/8” | 2-3/8” | 580A041 |
| 42 | 1-1/4” | 2-1/4” | 580A042 |
| 43 | 1-1/4” | 2-1/4” | 580A043 |

| Size | Flute Length | Overall Length | 580 Order No. |
|---|---|---|---|
| 44 | 1-1/8” | 2-1/8” | 580A044 |
| 45 | 1-1/8” | 2-1/8” | 580A045 |
| 46 | 1-1/8” | 2-1/8” | 580A046 |
| 47 | 1” | 2” | 580A047 |
| 48 | 1” | 2” | 580A048 |
| 49 | 1” | 2” | 580A049 |
| 50 | 1” | 2” | 580A050 |
| 51 | 1” | 2” | 580A051 |
| 52 | 7/8” | 1-7/8” | 580A052 |
| 53* | 7/8” | 1-7/8” | 580A053 |
| 54* | 7/8” | 1-7/8” | 580A054 |
| 55* | 7/8” | 1-7/8” | 580A055 |
| 56* | 3/4” | 1-3/4” | 580A056 |
| 57* | 3/4” | 1-3/4” | 580A057 |
| 58* | 11/16” | 1-5/8” | 580A058 |
| 59* | 11/16” | 1-5/8” | 580A059 |
| 60* | 11/16” | 1-5/8” | 580A060 |

*Not split point

#1 thru #60 - 12 per pack

## *540 SERIES*

### HEAVY-DUTY COBALT

135° Split Point / Straight Shank

Letter / Bronze

540

| Size | Flute Length | Overall Length | 540 Order No. |
|---|---|---|---|
| A | 2-5/8” | 3-7/8” | 540A501 |
| B | 2-3/4” | 4” | 540A502 |
| C | 2-3/4” | 4” | 540A503 |
| D | 2-3/4” | 4” | 540A504 |
| E | 2-3/4” | 4” | 540A505 |
| F | 2-7/8” | 4-1/8” | 540A506 |
| G | 2-7/8” | 4-1/8” | 540A507 |
| H | 2-7/8” | 4-1/8” | 540A508 |
| I | 2-7/8” | 4-1/8” | 540A509 |
| J | 2-7/8” | 4-1/8” | 540A510 |
| K | 2-15/16” | 4-1/4” | 540A511 |
| L | 2-15/16” | 4-1/4” | 540A512 |
| M | 3-1/16” | 4-3/8” | 540A513 |

| Size | Flute Length | Overall Length | 540 Order No. |
|---|---|---|---|
| N | 3-1/16” | 4-3/8” | 540A514 |
| O | 3-3/16” | 4-1/2” | 540A515 |
| P | 3-5/16” | 4-5/8” | 540A516 |
| Q | 3-7/16” | 4-3/4” | 540A517 |
| R | 3-7/16” | 4-3/4” | 540A518 |
| S | 3-1/2” | 4-7/8” | 540A519 |
| T | 3-1/2” | 4-7/8” | 540A520 |
| U | 3-5/8” | 5” | 540A521 |
| V | 3-5/8” | 5” | 540A522 |
| W | 3-3/4” | 5-1/8” | 540A523 |
| X | 3-3/4” | 5-1/8” | 540A524 |
| Y | 3-7/8” | 5-1/4” | 540A525 |
| Z | 3-7/8” | 5-1/4” | 540A526 |

”A” thru “L” - 12 per pack, “M” thru “Z” - 6 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O- Z | 72 |

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 500/540/580 & 500E/580E Series Cobalt Heavy-Duty Jobber Drill Sets | | |
| 13 | 1/16” - 1/4” by 64$^{ths}$ | 500A13 |
| 15 | 1/16” - 1/2” by 32$^{nds}$ | 500A15 |
| 21 | 1/16” - 3/8” by 64$^{ths}$ | 500A21 |
| 21 | 1/16” - 1/4” by 64$^{ths}$ & 9/32” - 1/2” by 32$^{nds}$ | 500A21V |
| 26 | A - Z | 500A26 |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 500A29 |
| 29 | DRILL PAL 1/16” - 1/2” by 64$^{ths}$ | 500AW29 |
| 60 | #1 - #60 | 500A60 |
| 115 | 1/16” - 1/2” by 64$^{ths}$, #1 - 60, A - Z | 500A0115 |

500A29

# HEAVY-DUTY JOBBER LENGTH DRILLS

## *500E SERIES*

**HEAVY-DUTY COBALT**

### 135° Split Point / Straight Shank
### Fractional / Bronze

500E

| Size | Flute Length | Overall Length | 500E Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 500E104 |
| 5/64” | 1” | 2” | 500E105 |
| 3/32” | 1-1/4” | 2-1/4” | 500E106 |
| 7/64” | 1-1/2” | 2-5/8” | 500E107 |
| 1/8” | 1-5/8” | 2-3/4” | 500E108 |
| 9/64” | 1-3/4” | 2-7/8” | 500E109 |
| 5/32” | 2” | 3-1/8” | 500E110 |
| 11/64” | 2-1/8” | 3-1/4” | 500E111 |
| 3/16” | 2-5/16” | 3-1/2” | 500E112 |
| 13/64” | 2-7/16” | 3-5/8” | 500E113 |
| 7/32” | 2-1/2” | 3-3/4” | 500E114 |
| 15/64” | 2-5/8” | 3-7/8” | 500E115 |
| 1/4” | 2-3/4” | 4” | 500E116 |
| 17/64” | 2-7/8” | 4-1/8” | 500E117 |
| 9/32” | 2-15/16” | 4-1/4” | 500E118 |
| 19/64” | 3-1/16” | 4-3/8” | 500E119 |
| 5/16” | 3-3/16” | 4-1/2” | 500E120 |
| 21/64” | 3-5/16” | 4-5/8” | 500E121 |
| 11/32” | 3-7/16” | 4-3/4” | 500E122 |
| 23/64” | 3-1/2” | 4-7/8” | 500E123 |
| 3/8” | 3-5/8” | 5” | 500E124 |
| 25/64” | 3-3/4” | 5-1/8” | 500E125 |
| 13/32” | 3-7/8” | 5-1/4” | 500E126 |
| 27/64” | 3-15/16” | 5-3/8” | 500E127 |
| 7/16” | 4-1/16” | 5-1/2” | 500E128 |
| 29/64” | 4-3/16” | 5-5/8” | 500E129 |
| 15/32” | 4-5/16” | 5-3/4” | 500E130 |
| 31/64” | 4-3/8” | 5-7/8” | 500E131 |
| 1/2” | 4-1/2” | 6” | 500E132 |

1/16” thru 19/64” - 12 per pack., 5/16” thru 1/2” - 6 per pack.

500E29

| Corresponding Sets | | |
|---|---|---|
| **No. of Pcs.** | **Description** | **Order No.** |
| **500E/580E Series Cobalt Heavy-Duty Jobber Drill Sets** | | |
| 13 | 1/16” - 1/4” by 64ths | 500E13 |
| 15 | 1/16” - 1/2” by 32nds | 500E15 |
| 21 | 1/16” - 3/8” by 64ths | 500E21 |
| 21 | 1/16” - 1/4” by 64ths & 9/32” - 1/2” by 32nds | 500E21V |
| 29 | 1/16” - 1/2” by 64ths | 500E29 |
| 60 | #1 - #60 | 500E60 |

## *580E SERIES*

**HEAVY-DUTY COBALT**

### 135° Split Point / Straight Shank
### Number / Bronze

580E

| Size | Flute Length | Overall Length | 580E Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 580E001 |
| 2 | 2-1/2” | 3-7/8” | 580E002 |
| 3 | 2-1/2” | 3-3/4” | 580E003 |
| 4 | 2-1/2” | 3-3/4” | 580E004 |
| 5 | 2-1/2” | 3-3/4” | 580E005 |
| 6 | 2-1/2” | 3-3/4” | 580E006 |
| 7 | 2-7/16” | 3-5/8” | 580E007 |
| 8 | 2-7/16” | 3-5/8” | 580E008 |
| 9 | 2-7/16” | 3-5/8” | 580E009 |
| 10 | 2-7/16” | 3-5/8” | 580E010 |
| 11 | 2-5/16” | 3-1/2” | 580E011 |
| 12 | 2-5/16” | 3-1/2” | 580E012 |
| 13 | 2-5/16” | 3-1/2” | 580E013 |
| 14 | 2-3/16” | 3-3/8” | 580E014 |
| 15 | 2-3/16” | 3-3/8” | 580E015 |
| 16 | 2-3/16” | 3-1/4” | 580E016 |
| 17 | 2-3/16” | 3-1/4” | 580E017 |
| 18 | 2-1/8” | 3-1/4” | 580E018 |
| 19 | 2-1/8” | 3-1/4” | 580E019 |
| 20 | 2-1/8” | 3-1/4” | 580E020 |
| 21 | 2-1/8” | 3-1/4” | 580E021 |
| 22 | 2” | 3-1/8” | 580E022 |
| 23 | 2” | 3-1/8” | 580E023 |
| 24 | 2” | 3-1/8” | 580E024 |
| 25 | 1-7/8” | 3” | 580E025 |
| 26 | 1-7/8” | 3” | 580E026 |
| 27 | 1-7/8” | 3” | 580E027 |
| 28 | 1-3/4” | 2-7/8” | 580E028 |
| 29 | 1-3/4” | 2-7/8” | 580E029 |
| 30 | 1-5/8” | 2-3/4” | 580E030 |
| 31 | 1-5/8” | 2-3/4” | 580E031 |
| 32 | 1-5/8” | 2-3/4” | 580E032 |
| 33 | 1-1/2” | 2-5/8” | 580E033 |
| 34 | 1-1/2” | 2-5/8” | 580E034 |
| 35 | 1-1/2” | 2-5/8” | 580E035 |
| 36 | 1-7/16” | 2-1/2” | 580E036 |
| 37 | 1-7/16” | 2-1/2” | 580E037 |
| 38 | 1-7/16” | 2-1/2” | 580E038 |
| 39 | 1-3/8” | 2-3/8” | 580E039 |
| 40 | 1-3/8” | 2-3/8” | 580E040 |
| 41 | 1-3/8” | 2-3/8” | 580E041 |
| 42 | 1-1/4” | 2-1/4” | 580E042 |
| 43 | 1-1/4” | 2-1/4” | 580E043 |
| 44 | 1-1/8” | 2-1/8” | 580E044 |
| 45 | 1-1/8” | 2-1/8” | 580E045 |
| 46 | 1-1/8” | 2-1/8” | 580E046 |
| 47 | 1” | 2” | 580E047 |
| 48 | 1” | 2” | 580E048 |
| 49 | 1” | 2” | 580E049 |
| 50 | 1” | 2” | 580E050 |
| 51 | 1” | 2” | 580E051 |
| 52 | 7/8” | 1-7/8” | 580E052 |
| 53* | 7/8” | 1-7/8” | 580E053 |
| 54* | 7/8” | 1-7/8” | 580E054 |
| 55* | 7/8” | 1-7/8” | 580E055 |
| 56* | 3/4” | 1-3/4” | 580E056 |
| 57* | 3/4” | 1-3/4” | 580E057 |
| 58* | 11/16” | 1-5/8” | 580E058 |
| 59* | 11/16” | 1-5/8” | 580E059 |
| 60* | 11/16” | 1-5/8” | 580E060 |

* Not Split Point

# HEAVY-DUTY JOBBER LENGTH DRILLS

The heavy-duty construction with a THUNDERBIT core and flute design affords efficient portable drilling in medium strength alloy materials. The split point reduces the thrust requirements and minimizes "walking." A black and gold surface treatment is applied for superior lubricity.

- ***Unique flute design for added strength and improved chip evacuation***
- ***Bronze oxide for maximum lubricity***
- ***Cobalt substrate permits speeds and feeds up to 30% faster than HSS drill***

## *T1HDC SERIES*
## HEAVY-DUTY COBALT
### 135° Split Point / Straight Shank
### Fractional / Bronze

| | | | | T1HDC Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/16” | .0625 | 7/8” | 1-7/8” | 013504 | 12 |
| 5/64” | .0781 | 1” | 2” | 013505 | 12 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 013506 | 12 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 013507 | 12 |
| 1/8” | .1250 | 1-5/8” | 2-3/4” | 013508 | 12 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 013509 | 12 |
| 5/32” | .1562 | 2” | 3-1/8” | 013510 | 12 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 013511 | 12 |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 013512 | 12 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 013513 | 12 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 013514 | 12 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 013515 | 12 |
| 1/4” | .2500 | 2-3/4” | 4” | 013516 | 12 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 013517 | 12 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 013518 | 12 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 013519 | 12 |
| 5/16” | .3125 | 3-3/16” | 4-1/2” | 013520 | 6 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 013521 | 6 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 013522 | 6 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 013523 | 6 |
| 3/8” | .3750 | 3-5/8” | 5” | 013524 | 6 |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 013525 | 6 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 013526 | 6 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 013527 | 6 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 013528 | 6 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 013529 | 6 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 013530 | 6 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 013531 | 6 |
| 1/2” | .5000 | 4-1/2” | 6” | 013532 | 6 |

#1 thru #60 - 12 per pack

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| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T19HDC | Metal Index | 13 Piece | 1/16”-1/4” by 64ths | 099813 |
| T18HDC | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 099816 |
| T180HDC | Metal Index | 21 Piece | 1/16”-3/8” by 64ths | 099819 |
| T17HDC | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 099821 |
| T17HDCDC | Clip On Index | 29 Piece | 1/16”-1/2” by 64ths | 099854 |

# HEAVY-DUTY JOBBER LENGTH DRILLS

Used for drilling holes in hard, tough materials such as stainless steel, titanium, high temperature, and high strength alloys.

- ***High red hardness of cobalt permits speeds 30% greater than HSS drills***
- ***Bronze surface treatment for high lubricity***
- ***Cobalt drills can cut harder materials than HSS drills***

## *T1C - BP1C - T2C - T3C SERIES*

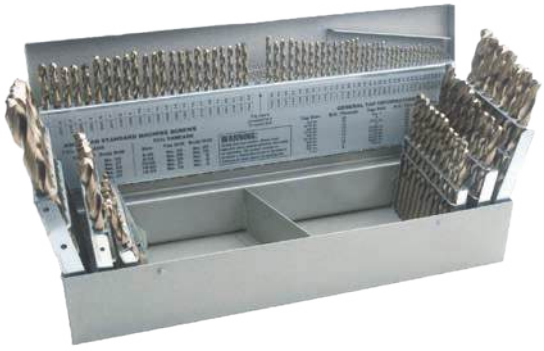
### HEAVY-DUTY COBALT

### 135° Split Point / Straight Shank

### Fractional, Number, Letter / Bronze

| | | | | T1C Packaging: Tube | | T1C Packaging: Bulk | | BP1C Packaging: Card | |
|---|---|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 1/16” | .0625 | 7/8” | 1-7/8” | 011504 | 12 | 011504.20 | 288 | 014204 | 1 |
| 5/64” | .0781 | 1” | 2” | 011505 | 12 | 011505.20 | 288 | 014205 | 1 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 011506 | 12 | 011506.20 | 288 | 014206 | 1 |
| 7/64” | .1094 | 1-1/2” | 2-5/8” | 011507 | 12 | 011507.20 | 288 | 014207 | 1 |
| 1/8” | .1250 | 1-5/8” | 2-3/4” | 011508 | 12 | 011508.20 | 288 | 014208 | 1 |
| 9/64” | .1406 | 1-3/4” | 2-7/8” | 011509 | 12 | 011509.20 | 288 | 014209 | 1 |
| 5/32” | .1562 | 2” | 3-1/8” | 011510 | 12 | 011510.20 | 288 | 014210 | 1 |
| 11/64” | .1719 | 2-1/8” | 3-1/4” | 011511 | 12 | 011511.20 | 288 | 014211 | 1 |
| 3/16” | .1875 | 2-5/16” | 3-1/2” | 011512 | 12 | 011512.20 | 288 | 014212 | 1 |
| 13/64” | .2031 | 2-7/16” | 3-5/8” | 011513 | 12 | 011513.20 | 288 | 014213 | 1 |
| 7/32” | .2188 | 2-1/2” | 3-3/4” | 011514 | 12 | 011514.20 | 288 | 014214 | 1 |
| 15/64” | .2344 | 2-5/8” | 3-7/8” | 011515 | 12 | 011515.20 | 288 | 014215 | 1 |
| 1/4” | .2500 | 2-3/4” | 4” | 011516 | 12 | 011516.20 | 288 | 014216 | 1 |
| 17/64” | .2656 | 2-7/8” | 4-1/8” | 011517 | 12 | 011517.20 | 144 | 014217 | 1 |
| 9/32” | .2812 | 2-15/16” | 4-1/4” | 011518 | 12 | 011518.20 | 144 | 014218 | 1 |
| 19/64” | .2969 | 3-1/16” | 4-3/8” | 011519 | 12 | 011519.20 | 144 | 014219 | 1 |
| 5/16” | .3125 | 3-3/16” | 4-1/2” | 011520 | 6 | 011520.20 | 144 | 014220 | 1 |
| 21/64” | .3281 | 3-5/16” | 4-5/8” | 011521 | 6 | 011521.20 | 144 | 014221 | 1 |
| 11/32” | .3438 | 3-7/16” | 4-3/4” | 011522 | 6 | 011522.20 | 144 | 014222 | 1 |
| 23/64” | .3594 | 3-1/2” | 4-7/8” | 011523 | 6 | 011523.20 | 144 | 014223 | 1 |
| 3/8” | .3750 | 3-5/8” | 5” | 011524 | 6 | 011524.20 | 144 | 014224 | 1 |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 011525 | 6 | 011525.20 | 144 | 014225 | 1 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 011526 | 6 | 011526.20 | 144 | 014226 | 1 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 011527 | 6 | 011527.20 | 144 | 014227 | 1 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 011528 | 6 | 011528.20 | 144 | 014228 | 1 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 011529 | 6 | 011529.20 | 144 | 014229 | 1 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 011530 | 6 | 011530.20 | 144 | 014230 | 1 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 011531 | 6 | 011531.20 | 144 | 014231 | 1 |
| 1/2” | .5000 | 4-1/2” | 6” | 011532 | 6 | 011532.20 | 144 | 014232 | 1 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T19C | Metal Index | 13 Piece | 1/16”-1/4” by 64$^{ths}$ | 099823 |
| T18C | Metal Index | 15 Piece | 1/16”-1/2” by 32$^{nds}$ | 099826 |
| T180C | Metal Index | 21 Piece | 1/16”-3/8” by 64$^{ths}$ | 099825 |
| T17C | Metal Index | 29 Piece | 1/16”-1/2” by 64$^{ths}$ | 099822 |
| T123C | Metal Index | 115 Piece | 1/16”-1/2” by 64$^{ths}$, #1- #60, A-Z | 099831 |



MADE IN THE USA TRIUMPH TWIST DRILL

# HEAVY-DUTYJOBBER LENGTH DRILLS

| | | | | T2C Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1 | .2280 | 2-5/8” | 3-7/8” | 011701 | 12 |
| 2 | .2210 | 2-5/8” | 3-7/8” | 011702 | 12 |
| 3 | .2130 | 2-1/2” | 3-3/4” | 011703 | 12 |
| 4 | .2090 | 2-1/2” | 3-3/4” | 011704 | 12 |
| 5 | .2055 | 2-1/2” | 3-3/4” | 011705 | 12 |
| 6 | .2040 | 2-1/2” | 3-3/4” | 011706 | 12 |
| 7 | .2010 | 2-7/16” | 3-5/8” | 011707 | 12 |
| 8 | .1990 | 2-7/16” | 3-5/8” | 011708 | 12 |
| 9 | .1960 | 2-7/16” | 3-5/8” | 011709 | 12 |
| 10 | .1935 | 2-7/16” | 3-5/8” | 011710 | 12 |
| 11 | .1910 | 2-5/16” | 3-1/2” | 011711 | 12 |
| 12 | .1890 | 2-5/16” | 3-1/2” | 011712 | 12 |
| 13 | .1850 | 2-5/16” | 3-1/2” | 011713 | 12 |
| 14 | .1820 | 2-3/16” | 3-3/8” | 011714 | 12 |
| 15 | .1800 | 2-3/16” | 3-3/8” | 011715 | 12 |
| 16 | .1770 | 2-3/16” | 3-3/8” | 011716 | 12 |
| 17 | .1730 | 2-3/16” | 3-3/8” | 011717 | 12 |
| 18 | .1695 | 2-1/8” | 3-1/4” | 011718 | 12 |
| 19 | .1660 | 2-1/8” | 3-1/4” | 011719 | 12 |
| 20 | .1610 | 2-1/8” | 3-1/4” | 011720 | 12 |
| 21 | .1590 | 2-1/8” | 3-1/4” | 011721 | 12 |
| 22 | .1570 | 2” | 3-1/8” | 011722 | 12 |
| 23 | .1540 | 2” | 3-1/8” | 011723 | 12 |
| 24 | .1520 | 2” | 3-1/8” | 011724 | 12 |
| 25 | .1495 | 1-7/8” | 3” | 011725 | 12 |
| 26 | .1470 | 1-7/8” | 3” | 011726 | 12 |
| 27 | .1440 | 1-7/8” | 3” | 011727 | 12 |
| 28 | .1405 | 1-3/4” | 2-7/8” | 011728 | 12 |
| 29 | .1360 | 1-3/4” | 2-7/8” | 011729 | 12 |
| 30 | .1285 | 1-5/8” | 2-3/4” | 011730 | 12 |
| 31 | .1200 | 1-5/8” | 2-3/4” | 011731 | 12 |
| 32 | .1160 | 1-5/8” | 2-3/4” | 011732 | 12 |
| 33 | .1130 | 1-1/2” | 2-5/8” | 011733 | 12 |
| 34 | .1110 | 1-1/2” | 2-5/8” | 011734 | 12 |
| 35 | .1100 | 1-1/2” | 2-5/8” | 011735 | 12 |
| 36 | .1065 | 1-7/16” | 2-1/2” | 011736 | 12 |
| 37 | .1040 | 1-7/16” | 2-1/2” | 011737 | 12 |
| 38 | .1015 | 1-7/16” | 2-1/2” | 011738 | 12 |
| 39 | .0995 | 1-3/8” | 2-3/8” | 011739 | 12 |
| 40 | .0980 | 1-3/8” | 2-3/8” | 011740 | 12 |
| 41 | .0960 | 1-3/8” | 2-3/8” | 011741 | 12 |
| 42 | .0935 | 1-1/4” | 2-1/4” | 011742 | 12 |
| 43 | .0890 | 1-1/4” | 2-1/4” | 011743 | 12 |
| 44 | .0860 | 1-1/8” | 2-1/8” | 011744 | 12 |
| 45 | .0820 | 1-1/8” | 2-1/8” | 011745 | 12 |
| 46 | .0810 | 1-1/8” | 2-1/8” | 011746 | 12 |
| 47 | .0785 | 1” | 2” | 011747 | 12 |
| 48 | .0760 | 1” | 2” | 011748 | 12 |
| 49 | .0730 | 1” | 2” | 011749 | 12 |
| 50 | .0700 | 1” | 2” | 011750 | 12 |
| 51 | .0670 | 1” | 2” | 011751 | 12 |
| 52 | .0635 | 7/8” | 1-7/8” | 011752 | 12 |
| 53* | .0595 | 7/8” | 1-7/8” | 011753 | 12 |
| 54* | .0550 | 7/8” | 1-7/8” | 011754 | 12 |
| 55* | .0520 | 7/8” | 1-7/8” | 011755 | 12 |
| 56* | .0465 | 3/4” | 1-3/4” | 011756 | 12 |
| 57* | .0430 | 3/4” | 1-3/4” | 011757 | 12 |
| 58* | .0420 | 11/16” | 1-5/8” | 011758 | 12 |
| 59* | .0410 | 11/16” | 1-5/8” | 011759 | 12 |
| 60* | .0400 | 11/16” | 1-5/8” | 011760 | 12 |

| | | | | T3C Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| A | .2340 | 2-5/8” | 3-7/8” | 011901 | 12 |
| B | .2380 | 2-3/4” | 4” | 011902 | 12 |
| C | .2420 | 2-3/4” | 4” | 011903 | 12 |
| D | .2460 | 2-3/4” | 4” | 011904 | 12 |
| E | .2500 | 2-3/4” | 4” | 011905 | 12 |
| F | .2570 | 2-7/8” | 4-1/8” | 011906 | 12 |
| G | .2610 | 2-7/8” | 4-1/8” | 011907 | 12 |
| H | .2660 | 2-7/8” | 4-1/8” | 011908 | 12 |
| I | .2720 | 2-7/8” | 4-1/8” | 011909 | 12 |
| J | .2770 | 2-7/8” | 4-1/8” | 011910 | 12 |
| K | .2810 | 2-15/16” | 4-1/4” | 011911 | 12 |
| L | .2900 | 2-15/16” | 4-1/4” | 011912 | 12 |
| M | .2950 | 3-1/16” | 4-3/8” | 011913 | 12 |
| N | .3020 | 3-1/16” | 4-3/8” | 011914 | 12 |
| O | .3160 | 3-3/16” | 4-1/2” | 011915 | 6 |
| P | .3230 | 3-5/16” | 4-5/8” | 011916 | 6 |
| Q | .3320 | 3-7/16” | 4-3/4” | 011917 | 6 |
| R | .3390 | 3-7/16” | 4-3/4” | 011918 | 6 |
| S | .3480 | 3-1/2” | 4-7/8” | 011919 | 6 |
| T | .3580 | 3-1/2” | 4-7/8” | 011920 | 6 |
| U | .3680 | 3-5/8” | 5” | 011921 | 6 |
| V | .3770 | 3-5/8” | 5” | 011922 | 6 |
| W | .3860 | 3-3/4” | 5-1/8” | 011923 | 6 |
| X | .3970 | 3-3/4” | 5-1/8” | 011924 | 6 |
| Y | .4040 | 3-7/8” | 5-1/4” | 011925 | 6 |
| Z | .4130 | 3-7/8” | 5-1/4” | 011926 | 6 |

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** Not split pointed.*
*See Drillco Tables for references*

# HEAVY-DUTY
# 3/8” REDUCED SHANK DRILLS

Has all of the features of the Nitro® jobber drill, but with a 3/8” reduced shank for use in 3/8” drill chucks.

NITRO

## *1035N SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

**135° Split Point / 3/8” Reduced Shank**
**Jobber Length**
**Fractional / Black & Gold**

1035N

| Size | Flute Length | Overall Length | 1035N Order No. |
|---|---|---|---|
| 25/64” | 3” | 6” | 1035N125 |
| 13/32” | 3” | 6” | 1035N126 |
| 27/64” | 3” | 6” | 1035N127 |
| 7/16” | 3” | 6” | 1035N128 |
| 29/64” | 3” | 6” | 1035N129 |
| 15/32” | 3” | 6” | 1035N130 |
| 31/64” | 3” | 6” | 1035N131 |

| Size | Flute Length | Overall Length | 1035N Order No. |
|---|---|---|---|
| 1/2” | 3” | 6” | 1035N132 |
| 17/32” | 3” | 6” | 1035N134 |
| 9/16” | 3” | 6” | 1035N136 |
| 5/8” | 3” | 6” | 1035N140 |
| 11/16” | 3” | 6” | 1035N144 |
| 3/4” | 3” | 6” | 1035N148 |

25/64” - 1/2” - 6 per pack, 17/32” - 3/4” - 1 per pack

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 1035N Series Reduced Shank Drill Sets | | |
| 15 | 1/16” - 1/2” by 32nds | 1035N15 |
| 29 | 1/16” - 1/2” by 64ths | 1035N29 |

1035N15

# HEAVY-DUTY
# 3/8” REDUCED SHANK DRILLS

MADE IN THE USA

TRIUMPH TWIST DRILL

THUNDERBIT®

## *T8HD - BP8HD SERIES*

**HEAVY-DUTY HIGH SPEED STEEL**

135° Split Point / 3/8” Reduced Shank
Jobber Length
Black & Gold Oxide

| | | | | T8HD Packaging: Tube | | BP8HD Packaging: Bulk | |
|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 25/64” | .3906 | 3-3/4” | 5-1/8” | 092125 | 6 | 095125 | 1 |
| 13/32” | .4062 | 3-7/8” | 5-1/4” | 092126 | 6 | 095126 | 1 |
| 27/64” | .4219 | 3-15/16” | 5-3/8” | 092127 | 6 | 095127 | 1 |
| 7/16” | .4375 | 4-1/16” | 5-1/2” | 092128 | 6 | 095128 | 1 |
| 29/64” | .4531 | 4-3/16” | 5-5/8” | 092129 | 6 | 095129 | 1 |
| 15/32” | .4688 | 4-5/16” | 5-3/4” | 092130 | 6 | 095130 | 1 |
| 31/64” | .4844 | 4-3/8” | 5-7/8” | 092131 | 6 | 095131 | 1 |
| 1/2” | .5000 | 4-1/2” | 6” | 092132 | 6 | 095132 | 1 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T815HD | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 099104 |
| T829HD | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 099101 |

# HEAVY-DUTY
# JOBBER LENGTH DRILLS SETS

400N29

450TW29

100SE15

| No. of Pieces | Brand | Material | Coating/Finish | Point Angle | Description | Order No. |
|---|---|---|---|---|---|---|
| **400N/440N/480N Series NITRO™ Heavy-Duty Jobber Drill Sets** | | | | | | |
| 13 | NITRO® | High Speed Steel | Black & Gold | 135° | 1/16" - 1/4" by 64ths | 400N13 |
| 15 | NITRO® | High Speed Steel | Black & Gold | 135° | 1/16" - 1/2" by 32nds | 400N15 |
| 19 | NITRO® | High Speed Steel | Black & Gold | 135° | Maintenance Set - 1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2 | 400N19 |
| 21 | NITRO® | High Speed Steel | Black & Gold | 135° | 1/16" - 3/8" by 64ths | 400N21 |
| 21 | NITRO® | High Speed Steel | Black & Gold | 135° | 1/16" - 1/4" by 64ths & 9/32" - 1/2" by 32nds | 400N21V |
| 26 | NITRO® | High Speed Steel | Black & Gold | 135° | A - Z | 400N26 |
| 29 | NITRO® | High Speed Steel | Black & Gold | 135° | 1/16" - 1/2" by 64ths | 400N29 |
| 29 | NITRO® | High Speed Steel | Black & Gold | 135° | DRILL PAL 1/16" - 1/2" by 64ths | 400NW29 |
| 60 | NITRO® | High Speed Steel | Black & Gold | 135° | #1 - #60 | 400N60 |
| 115 | NITRO® | High Speed Steel | Black & Gold | 135° | 1/16" - 1/2" by 64ths, #1 - 60, A - Z | 400N0115 |
| **450T Series Jobber Drill Sets** | | | | | | |
| 13 | | High Speed Steel | TiN Tipped | 135° | 1/16" - 1/4" by 64ths | 450T13 |
| 15 | | High Speed Steel | TiN Tipped | 135° | 1/16" - 1/2" by 32nds | 450T15 |
| 21 | | High Speed Steel | TiN Tipped | 135° | 1/16" - 3/8" by 64ths | 450T21 |
| 29 | | High Speed Steel | TiN Tipped | 135° | 1/16" - 1/2" by 64ths | 450T29 |
| 29 | | High Speed Steel | TiN Tipped | 135° | DRILL PAL 1/16" - 1/2" by 64ths | 450TW29 |
| 60 | | High Speed Steel | TiN Tipped | 135° | #1 - 60 | 450T60 |
| **100SE Series Jobber Drill Sets** | | | | | | |
| 13 | | High Speed Steel | Black Oxide | 118° | 1/16" - 1/4" by 64ths | 100SE13 |
| 15 | | High Speed Steel | Black Oxide | 118° | 1/16" - 1/2" by 32nds | 100SE15 |
| 21 | | High Speed Steel | Black Oxide | 118° | 1/16" - 3/8" by 64ths | 100SE21 |
| 21 | | High Speed Steel | Black Oxide | 118° | 1/16" - 1/4" by 64ths & 9/32" - 1/2" by 32nds | 100SE21V |
| 29 | | High Speed Steel | Black Oxide | 118° | DRILL PAL 1/16" - 1/2" by 64ths | 100SEW29 |
| 29 | | High Speed Steel | Black Oxide | 118° | 1/16" - 1/2" by 64ths | 100SE29 |

# HEAVY-DUTY
# JOBBER LENGTH DRILLS SETS

200B29

| No. of Pieces | Made in | Material | Coating/Finish | Point Angle | Description | Order No. |
|---|---|---|---|---|---|---|
| **200/240/280 Series Jobber Drill Sets** | | | | | | |
| 13 | USA | High Speed Steel | Black Oxide | 118° | 1/16" - 1/4" by 64ths | 200A13 |
| 15 | USA | High Speed Steel | Black Oxide | 118° | 1/16" - 1/2" by 32nds | 200A15 |
| 19 | USA | High Speed Steel | Black Oxide | 118° | Maintenance Set - 1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2 | 200A19 |
| 20 | USA | High Speed Steel | Black Oxide | 118° | #61 - #80 | 200A20 |
| 21 | USA | High Speed Steel | Black Oxide | 118° | 1/16" - 3/8" by 64ths | 200A21 |
| 21 | USA | High Speed Steel | Black Oxide | 118° | 1/16" - 1/4" by 64ths & 9/32" - 1/2" by 32nds | 200A21V |
| 26 | USA | High Speed Steel | Black Oxide | 118° | A - Z | 200A26 |
| 29 | USA | High Speed Steel | Black Oxide | 118° | 1/16" - 1/2" by 64ths | 200A29 |
| 29 | USA | High Speed Steel | Black Oxide | 118° | DRILL PAL 1/16" - 1/2" by 64ths | 200AW29 |
| 60 | USA | High Speed Steel | Black Oxide | 118° | #1 - #60 | 200A60 |
| 115 | USA | High Speed Steel | Black Oxide | 118° | 1/16" - 1/2" by 64ths, #1 - 60, A - Z | 200A0115 |
| **200B/240B/280B Series Jobber Drill Sets** | | | | | | |
| 13 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/4" by 64ths | 200B13 |
| 15 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/2" by 32nds | 200B15 |
| 19 | USA | High Speed Steel | Bright | 118° | Maintenance Set - 1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2 | 200B19 |
| 21 | USA | High Speed Steel | Bright | 118° | 1/16" - 3/8" by 64ths | 200B21 |
| 21 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/4" by 64ths & 9/32" - 1/2" by 32nds | 200B21V |
| 26 | USA | High Speed Steel | Bright | 118° | A - Z | 200B26 |
| 29 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/2" by 64ths | 200B29 |
| 60 | USA | High Speed Steel | Bright | 118° | #1 - #60 | 200B60 |
| 115 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/2" by 64ths, #1 - 60, A - Z | 200B0115 |

# HEAVY-DUTY JOBBER LENGTH DRILLS SETS

400HD21

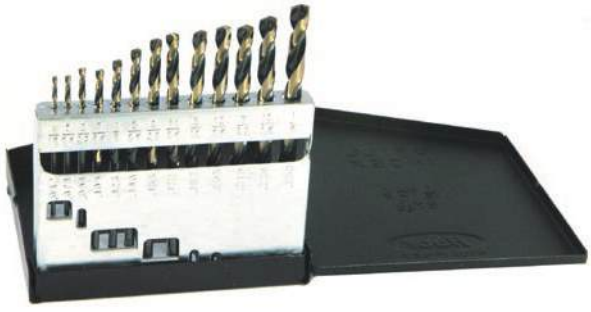
| No. of Pieces | Made in | Material | Coating/Finish | Point Angle | Description | Order No. |
|---|---|---|---|---|---|---|
| **400/440/480 & 400E Series Heavy-Duty Jobber Drill Sets** | | | | | | |
| 13 | USA | High Speed Steel | Black Oxide | 135° | 1/16" - 1/4" by 64$^{ths}$ | 400HD13 |
| 15 | USA | High Speed Steel | Black Oxide | 135° | 1/16" - 1/2" by 32$^{nds}$ | 400HD15 |
| 19 | USA | High Speed Steel | Black Oxide | 135° | Maintenance Set - 1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2 | 400A19 |
| 21 | USA | High Speed Steel | Black Oxide | 135° | 1/16" - 3/8" by 64$^{ths}$ | 400HD21 |
| 21 | USA | High Speed Steel | Black Oxide | 135° | 1/16" - 1/4" by 64$^{ths}$ & 9/32" - 1/2" by 32$^{nds}$ | 400HD21V |
| 26 | USA | High Speed Steel | Black Oxide | 135° | A - Z | 400HD26 |
| 29 | USA | High Speed Steel | Black Oxide | 135° | 1/16" - 1/2" by 64$^{ths}$ | 400HD29 |
| 29 | USA | High Speed Steel | Black Oxide | 135° | DRILL PAL 1/16" - 1/2" by 64$^{ths}$ | 400AW29 |
| 60 | USA | High Speed Steel | Black Oxide | 135° | #1 - #60 | 400HD60 |
| 115 | USA | High Speed Steel | Black Oxide | 135° | 1/16" - 1/2" by 64$^{ths}$, #1 - 60, A - Z | 400HD0115 |
| 13 | | High Speed Steel | Black & Gold | 135° | 1/16" - 1/4" by 64$^{ths}$ | 400HDE13 |
| 15 | | High Speed Steel | Black & Gold | 135° | 1/16" - 1/2" by 32$^{nds}$ | 400HDE15 |
| 21 | | High Speed Steel | Black & Gold | 135° | 1/16" - 3/8" by 64$^{ths}$ | 400HDE21 |
| 21 | | High Speed Steel | Black & Gold | 135° | 1/16" - 1/4" by 64$^{ths}$ & 9/32" - 1/2" by 32$^{nds}$ | 400HDE21V |
| 29 | | High Speed Steel | Black & Gold | 135° | 1/16" - 1/2" by 64$^{ths}$ | 400HDE29 |
| 29 | | High Speed Steel | Black & Gold | 135° | DRILL PAL 1/16" - 1/2" by 64$^{ths}$ | 400EW29 |

# HEAVY-DUTY
# JOBBER LENGTH DRILLS SETS

500AW29

500

| No. of Pieces | Made in | Material | Coating/Finish | Point Angle | Description | Order No. |
|---|---|---|---|---|---|---|
| **500/540/580 & 500E/580E Series Cobalt Heavy-Duty Jobber Drill Sets** | | | | | | |
| 13 | USA | Cobalt | Bronze | 135° | 1/16" - 1/4" by 64ths | 500A13 |
| 15 | USA | Cobalt | Bronze | 135° | 1/16" - 1/2" by 32nds | 500A15 |
| 21 | USA | Cobalt | Bronze | 135° | 1/16" - 3/8" by 64ths | 500A21 |
| 21 | USA | Cobalt | Bronze | 135° | 1/16" - 1/4" by 64ths & 9/32" - 1/2" by 32nds | 500A21V |
| 26 | USA | Cobalt | Bronze | 135° | A - Z | 500A26 |
| 29 | USA | Cobalt | Bronze | 135° | 1/16" - 1/2" by 64ths | 500A29 |
| 29 | USA | Cobalt | Bronze | 135° | DRILL PAL 1/16" - 1/2" by 64ths | 500AW29 |
| 60 | USA | Cobalt | Bronze | 135° | #1 - #60 | 500A60 |
| 115 | USA | Cobalt | Bronze | 135° | 1/16" - 1/2" by 64ths, #1 - 60, A - Z | 500A0115 |
| 13 | | Cobalt | Bronze | 135° | 1/16" - 1/4" by 64ths | 500E13 |
| 15 | | Cobalt | Bronze | 135° | 1/16" - 1/2" by 32nds | 500E15 |
| 21 | | Cobalt | Bronze | 135° | 1/16" - 3/8" by 64ths | 500E21 |
| 21 | | Cobalt | Bronze | 135° | 1/16" - 1/4" by 64ths & 9/32" - 1/2" by 32nds | 500E21V |
| 29 | | Cobalt | Bronze | 135° | 1/16" - 1/2" by 64ths | 500E29 |
| 60 | | Cobalt | Bronze | 135° | #1 - #60 | 500E60 |



800A13

200LH29

| No. of Pieces | Made in | Material | Coating/Finish | Point Angle | Description | Order No. |
|---|---|---|---|---|---|---|
| **800 Series Metric Jobber Drill Sets** | | | | | | |
| 13 | | High Speed Steel | Black & Gold | 135° | 1mm - 7mm by 0.5mm | 800A13 |
| 19 | | High Speed Steel | Black & Gold | 135° | 1mm - 10mm by 0.5mm | 800A19 |
| 25 | | High Speed Steel | Black & Gold | 135° | 1mm - 13mm by 0.5mm | 800A25 |
| **200LH Series Left Hand Jobber Drill Sets** | | | | | | |
| 13 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/4" by 64ths | 200LH13 |
| 15 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/2" by 32nds | 200LH15 |
| 21 | USA | High Speed Steel | Bright | 118° | 1/16" - 3/8" by 64ths | 200LH21 |
| 21 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/4" by 64ths & 9/32" - 1/2" by 32nds | 200LH21V |
| 29 | USA | High Speed Steel | Bright | 118° | 1/16" - 1/2" by 64ths | 200LH29 |

# HEAVY-DUTY
# JOBBER LENGTH DRILLS SETS

| Jobber, Fractional (Metal Index) | | |
|---|---|---|
| **13 Piece, 1/16"– 1/4" by 64ths** | | **Order No.** |
| T19 | General Purpose, Bright Finish | 090519 |
| T19B | General Purpose, Black Oxide | 099814 |
| T19D | Heavy-Duty, Black Oxide | 099815 |
| T19C | Cobalt, Bronze Oxide | 099823 |
| T19HDC | ThunderBit®, Cobalt | 099813 |
| T19HDG | ThunderBit®, TiN Coated | 093713 |
| T19HD | ThunderBit®, Black & Bronze Oxide | 099858 |
| T19HD+ | ThunderBit+®, Black & Bronze Oxide | 099501 |

| Jobber, Fractional (Metal Index) | | |
|---|---|---|
| **15 Piece, 1/16"– 1/2" by 32nds** | | **Order No.** |
| T18 | General Purpose, Bright Finish | 090518 |
| T18B | General Purpose, Black Oxide | 099808 |
| T18D | Heavy-Duty, Black Oxide | 099809 |
| T18C | Cobalt, Bronze Oxide | 099826 |
| T18HDC | ThunderBit®, Cobalt | 099816 |
| T18HDG | ThunderBit®, TiN Coated | 093716 |
| T18HD | ThunderBit®, Black & Bronze Oxide | 099857 |
| T18HD+ | ThunderBit+®,Black & Bronze Oxide | 099502 |

| Jobber, Fractional (Metal Index) | | |
|---|---|---|
| **21 Piece, 1/16"– 3/8" by 64ths** | | **Order No.** |
| T180 | General Purpose, Bright Finish | 090580 |
| T180B | General Purpose, Black Oxide | 099835 |
| T180D | Heavy-Duty, Black Oxide | 099836 |
| T180C | Cobalt, Bronze Oxide | 099825 |
| T180HDC | ThunderBit®, Cobalt | 099819 |
| T180HDG | ThunderBit®, TiN Coated | 093719 |
| T180HD | ThunderBit®, Black & Bronze Oxide | 099861 |
| T180HD+ | ThunderBit+®, Black & Bronze Oxide | 099503 |

| Jobber, Fractional (Metal Index) | | |
|---|---|---|
| **29 Piece, 1/16"– 1/2" by 64ths** | | **Order No.** |
| T17 | General Purpose, Bright Finish | 090517 |
| T17L | General Purpose, L.H., Bright Finish | 011199 |
| T17B | Heavy-Duty, Black Oxide | 099802 |
| T17D | Heavy-Duty, Black Oxide | 099803 |
| T17C | Cobalt, Bronze Oxide | 099822 |
| T17HDC | ThunderBit®, Cobalt | 099821 |
| T17HDG | ThunderBit®, TiN Coated | 093700 |
| T17HD | ThunderBit®, Black & Bronze Oxide | 099856 |
| T17HD+ | ThunderBit+®, Black & Bronze Oxide | 099505 |
| T17HDCDC | CLIP-ON INDEX - ThunderBit®, Cobalt | 099854 |
| T17HDG | CLIP-ON INDEX - ThunderBit®, TiN Coated | 093754 |
| T17HDDC | CLIP-ON INDEX - ThunderBit®, Black & Bronze Oxide | 099855 |
| T17HDDC+ | CLIP-ON INDEX - ThunderBit+®, Black & Bronze Oxide | 099504 |

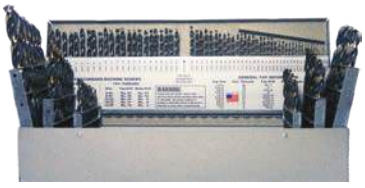
# HEAVY-DUTY JOBBER LENGTH DRILLS SETS

| Jobber, Wire (Metal Index) | | |
|---|---|---|
| T22 | 60 Piece, HSS, General Purpose, Bright Finish, #1- #60 | 090522 |
| T22B | 60 Piece, HSS, General Purpose, Black Oxide, #1- #60 | 099820 |
| T22HD | 60 Piece, ThunderBit®, Black & Bronze Oxide, #1- #60 | 099859 |
| T22HD+ | 60 Piece, ThunderBit+®, Black & Bronze Oxide, #1- #60 | 099506 |
| T23 | 20 Piece, HSS, General Purpose, Bright Finish, #61- #80 | 090523 |

| Jobber, Letter (Metal Index) | | |
|---|---|---|
| **26 Piece, A-Z** | | **Order No.** |
| T25B | General Purpose, Black Oxide | 099827 |
| T25HD | ThunderBit®, Black & Bronze Oxide | 099860 |
| T25HD | ThunderBit®, Black & Bronze Oxide | 099507 |

| Jobber (Metal Index) | | |
|---|---|---|
| **Metric** | | **Order No.** |
| MM19HD, 1mm-10mm x .5 | ThunderBit®, Black & Bronze Oxide | 099866 |
| MM25HD, 1mm-13mm x .5 | ThunderBit®, Black & Bronze Oxide | 099867 |

| Jobber, Combination Sizes (Metal Index) | | |
|---|---|---|
| **115 Piece, 1/16 - 1/2 by 64ths, #1- #60, A-Z** | | **Order No.** |
| T123 | General Purpose, Bright Finish | 090560 |
| T123B | General Purpose, Black Oxide | 099832 |
| T123D | Heavy-Duty, Black Oxide | 090561 |
| T123C | Cobalt, Bronze Oxide | 099831 |
| T123HD | ThunderBit®, Black & Bronze Oxide | 099862 |
| T123HD+ | ThunderBit+®, Black & Bronze Oxide | 099508 |



| Jobber, Miscellaneous | | |
|---|---|---|
| **Select-A-Drill Case** | | **Order No.** |
| SAD13 | 13 Piece, General Purpose, Bright Finish, 1/16 - 1/4 by 64ths | 090490 |
| SAD13HD | 13 Piece, ThunderBit®, Black & Bronze Oxide, 1/16 - 1/4 by 64ths | 090495 |
| SAD21 | 21 Piece, General Purpose, Bright Finish, 1/16 - 3/8 by 64ths | 090491 |
| SAD21HD | 21 Piece, ThunderBit®, Black & Bronze Oxide, 1/16 - 3/8" by 64ths | 090496 |
| **Metal Index** | | |
| T14P | 14 Piece, General Purpose, Bright Finish, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 7/16, 1/2. Sizes over 1/4" have 1/4" reduced shank. | 090614 |

| Jobber Length, MRO Plus® | | |
|---|---|---|
| T1019D | 13 Piece – Fractional, 1/16 - 1/4 by 64ths | 090113 |
| T1018D | 15 Piece – Fractional, 1/16 - 1/2 by 32nds | 090115 |
| T10180D | 21 Piece – Fractional, 1/16 - 3/8 by 64ths | 090121 |
| T10125D | 26 Piece – Letter, A-Z | 099828 |
| T1017D | 29 Piece – Fractional, 1/16 - 1/2 by 64ths | 090190 |
| T1017DC | CLIP-ON INDEX - 29 Piece – Fractional, 1/16 - 1/2 by 64ths | 090192 |
| T10123D | 115 Piece, Fractional, Wire, Letter, 1/16 - 1/2" by 64ths; #1-# 60; A-Z | 090196 |

# MECHANIC'S LENGTH DRILLS

MADE IN THE USA · DRILLCO CUTTING TOOLS

NITRO® drills offer superior performance over conventional HSS drills. 135° Split Point reduces "walking" at the drill point and makes these drills ideal for both handheld and CNC Operations.

NITRO

- *Their heavy-duty construction increases tool life and performance*
- *Black & Gold surface treatment for maximum lubricity*
- *Usable in a wide range of materials including difficult-to-machine materials such as stainless steel*
- *Mechanic's length drill lengths are in between jobber length and screw machine (stub) length*
- *3-flat shank helps to reduce slippage in the drill chuck*
- *Available in bulk packaging*

## *350N SERIES*

**HIGH SPEED STEEL**

**135° Split Point / 3 Flats**

**Fractional / Black & Gold**

350N

NEW

| Size | Flute Length | Overall Length | 350N Order No. | Blister Pack Order No. |
|---|---|---|---|---|
| 1/16” | 7/8” | 1-7/8” | 350N104 | 350N104BP |
| 5/64” | 1” | 2” | 350N105 | 350N105BP |
| 3/32” | 1-1/4” | 2-1/4” | 350N106 | 350N106BP |
| 7/64” | 1-5/16” | 2-3/8” | 350N107 | 350N107BP |
| 1/8” | 1-7/16” | 2-1/2” | 350N108 | 350N108BP |
| 9/64” | 1-9/16” | 2-5/8” | 350N109 | 350N109BP |
| 5/32” | 1-11/16” | 2-3/4” | 350N110 | 350N110BP |
| 11/64” | 1-13/16” | 2-7/8” | 350N111 | 350N111BP |
| 3/16” | 1-7/8” | 3” | 350N112 | 350N112BP |
| 13/64” | 1-15/16” | 3-1/8” | 350N113 | 350N113BP |
| 7/32” | 2” | 3-1/4” | 350N114 | 350N114BP |
| 15/64” | 2-1/16” | 3-3/8” | 350N115 | 350N115BP |
| 1/4” | 2-3/32” | 3-1/2” | 350N116 | 350N116BP |
| 17/64” | 2-1/8” | 3-5/8” | 350N117 | 350N117BP |

NEW

| Size | Flute Length | Overall Length | 350N Order No. | Blister Pack Order No. |
|---|---|---|---|---|
| 9/32” | 2-1/4” | 3-3/4” | 350N118 | 350N118BP |
| 19/64” | 2-3/8” | 3-7/8” | 350N119 | 350N119BP |
| 5/16” | 2-1/2” | 4” | 350N120 | 350N120BP |
| 21/64” | 2-9/16” | 4-1/16” | 350N121 | 350N121BP |
| 11/32” | 2-5/8” | 4-1/8” | 350N122 | 350N122BP |
| 23/64” | 2-11/16” | 4-3/16” | 350N123 | 350N123BP |
| 3/8” | 2-11/16” | 4-1/4” | 350N124 | 350N124BP |
| 25/64” | 2-3/4” | 4-5/16” | 350N125 | 350N125BP |
| 13/32” | 2-13/16” | 4-3/8” | 350N126 | 350N126BP |
| 27/64” | 2-7/8” | 4-7/16” | 350N127 | 350N127BP |
| 7/16” | 2-15/16” | 4-1/2” | 350N128 | 350N128BP |
| 29/64” | 3” | 4-5/8” | 350N129 | 350N129BP |
| 15/32” | 3-1/8” | 4-3/4” | 350N130 | 350N130BP |
| 31/64” | 3-1/4” | 4-7/8” | 350N131 | 350N131BP |
| 1/2” | 3-3/8” | 5” | 350N132 | 350N132BP |

No flats on sizes smaller than 3/16”
1/16” thru 19/64” - 12 per pack.
5/16” thru 1/2” - 6 per pack.

Blister packs: 1 per package, except for 1/16”- 5/32” which are 2 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” | 504 |
| 9/64” - 13/64” | 252 |
| 7/32” - 5/16” | 132 |
| 21/64” - 1/2” | 72 |

NEW

**NOW AVAILABLE IN BLISTER PACKS**

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 350N Series NITRO™ Mechanics Length Drill Sets | | |
| 13 | 1/16” - 1/4” by 64ths | 350N13 |
| 15 | 1/16” - 1/2” by 32nds | 350N15 |
| 21 | 1/16” - 3/8” by 64ths | 350N21 |
| 21 | 1/16” - 1/4” by 64ths & 9/32” - 1/2” by 32nds | 350N21V |
| 29 | 1/16” - 1/2” by 64ths | 350N29 |
| 29 | DRILL PAL 1/16” - 1/2” by 64ths | 350NW29 |

350N21

MADE IN THE USA TRIUMPH TWIST DRILL

# MECHANIC'S LENGTH DRILLS

TriNADO®

Mechanic's length drills are shorter than standard jobber drills. This allows them to be used in tighter spaces and it also improves their overall toughness and reduces chances for breakage. This is ideal for drilling applications in harder metals like stainless steel. These drills are surface-treated for high wear resistance and increased lubricity.

- ***Shorter length increases rigidity***
- ***135° Split Point reduces "walking" and improves ease of penetration***
- ***Black & Gold surface treatment for high wear resistance and lubricity***

## *T1M - BP1M SERIES*

**HIGH SPEED STEEL**

**135° Split Point**

**Black & Bronze Oxide**

| Size | Decimal Equivalent | Flute Length | Overall Length | T1M Packaging: Tube Order No. | T1M Packaging: Tube Pkg Qty | T1M Packaging: Bulk Order No. | T1M Packaging: Bulk Pkg Qty | BP1M Packaging: Card Order No. | BP1M Packaging: Card Pkg Qty |
|---|---|---|---|---|---|---|---|---|---|
| 1/16” | .0625 | 7/8” | 1-7/8” | 033304 | 12 | 033304.20 | 144 | 035304 | 1 |
| 5/64” | .0781 | 1” | 2” | 033305 | 12 | 033305.20 | 144 | 035305 | 1 |
| 3/32” | .0938 | 1-1/4” | 2-1/4” | 033306 | 12 | 033306.20 | 144 | 035306 | 1 |
| 7/64” | .1094 | 1-5/16” | 2-3/8” | 033307 | 12 | 033307.20 | 144 | 035307 | 1 |
| 1/8” | .1250 | 1-7/16” | 2-1/2” | 033308 | 12 | 033308.20 | 144 | 035308 | 1 |
| 9/64” | .1406 | 1-9/16” | 2-5/8” | 033309 | 12 | 033309.20 | 144 | 035309 | 1 |
| 5/32” | .1562 | 1-11/16” | 2-3/4” | 033310 | 12 | 033310.20 | 144 | 035310 | 1 |
| 11/64” | .1719 | 1-13/16” | 2-7/8” | 033311 | 12 | 033311.20 | 144 | 035311 | 1 |
| **3 Flats on Shank** | | | | | | | | | |
| 3/16” | .1875 | 1-7/8” | 3” | 033312 | 12 | 033312.20 | 144 | 035312 | 1 |
| 13/64” | .2031 | 1-15/16” | 3-1/8” | 033313 | 12 | 033313.20 | 144 | 035313 | 1 |
| 7/32” | .2188 | 2” | 3-1/4” | 033314 | 12 | 033314.20 | 144 | 035314 | 1 |
| 15/64” | .2344 | 2-1/16” | 3-3/8” | 033315 | 12 | 033315.20 | 144 | 035315 | 1 |
| 1/4” | .2500 | 2” | 3-1/2” | 033316 | 12 | 033316.20 | 144 | 035316 | 1 |
| 17/64” | .2656 | 2-1/8” | 3-5/8” | 033317 | 12 | 033317.20 | 144 | 035317 | 1 |
| 9/32” | .2812 | 2-1/4” | 3-3/4” | 033318 | 12 | 033318.20 | 144 | 035318 | 1 |
| 19/64” | .2969 | 2-3/8” | 3-7/8” | 033319 | 12 | 033319.20 | 144 | 035319 | 1 |
| 5/16” | .3125 | 2-1/2” | 4” | 033320 | 6 | 033320.20 | 144 | 035320 | 1 |
| 21/64” | .3281 | 2-9/16” | 4-1/16” | 033321 | 6 | 033321.20 | 144 | 035321 | 1 |
| 11/32” | .3438 | 2-5/8” | 4-1/8” | 033322 | 6 | 033322.20 | 144 | 035322 | 1 |
| 23/64” | .3594 | 2-11/16” | 4-3/16” | 033323 | 6 | 033323.20 | 144 | 035323 | 1 |
| 3/8” | .3750 | 2-11/16” | 4-1/4” | 033324 | 6 | 033324.20 | 144 | 035324 | 1 |
| 25/64”* | .3906 | 2-3/4” | 4-5/16” | 033325 | 6 | 033325.20 | 144 | 035325 | 1 |
| 13/32”* | .4062 | 2-13/16” | 4-3/8” | 033326 | 6 | 033326.20 | 144 | 035326 | 1 |
| 27/64” | .4219 | 2-7/8” | 4-7/16” | 033327 | 6 | 033327.20 | 144 | 035327 | 1 |
| 7/16” | .4375 | 2-15/16” | 4-1/2” | 033328 | 6 | 033328.20 | 144 | 035328 | 1 |
| 29/64” | .4531 | 3” | 4-5/8” | 033329 | 6 | 033329.20 | 144 | 035329 | 1 |
| 15/32” | .4688 | 3-1/8” | 4-3/4” | 033330 | 6 | 033330.20 | 144 | 035330 | 1 |
| 31/64” | .4844 | 3-1/4” | 4-7/8” | 033331 | 6 | 033331.20 | 144 | 035331 | 1 |
| 1/2” | .5000 | 3-3/8” | 5” | 033332 | 6 | 033332.20 | 144 | 035332 | 1 |

*T1M, BP1M - Drill sizes 25/64” and 13/32” will fit a 3/8” chuck without reducing the shank

## *Tech tip!*

- *TriNADO Drills are the perfect no-slip tool for your cordless drilling needs*
- *The TriNADO Drill series is longer than Screw Machine, but shorter than Jobber Length.*
- *Available in either Straight or Reduced Shank*

Straight Shank

Reduced Shank

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T19M | Metal Index | 13 Piece | 1/16”-1/4” by 64ths | 090547 |
| T18M | Metal Index | 15 Piece | 1/16”-1/2” by 32nds | 090551 |
| T180M | Metal Index | 21 Piece | 1/16”-3/8” by 64ths | 090549 |
| T17MDC | Clip-On Index | 29 Piece | 1/16”-1/2” by 64ths | 090553 |
| T17M | Metal Index | 29 Piece | 1/16”-1/2” by 64ths | 090552 |
| T829M | Metal Index | 29 Piece | 1/16”-1/2” by 64ths (3/8” Reduced Shank) | 090550 |

| Size | Decimal Equivalent | Flute Length | Overall Length | T8M Reduced Shank Packaging: Tube Order No. | T8M Reduced Shank Packaging: Tube Pkg Qty |
|---|---|---|---|---|---|
| **3 Flats on Shank** | | | | | |
| 27/64” | .4219 | 2-7/8” | 4-7/16” | 092627 | 6 |
| 7/16” | .4375 | 2-15/16” | 4-1/2” | 092628 | 6 |
| 29/64” | .4531 | 3” | 4-5/8” | 092629 | 6 |
| 15/32” | .4688 | 3-1/8” | 4-3/4” | 092630 | 6 |
| 31/64” | .4844 | 3-1/4” | 4-7/8” | 092631 | 6 |
| 1/2” | .5000 | 3-3/8” | 5” | 092632 | 6 |

(3/8” Reduced Shank)

# MECHANIC'S LENGTH DRILLS

NITRO® drills offer superior performance over conventional HSS drills. 135° Split Point reduces "walking" at the drill point and makes these drills ideal for both handheld and CNC Operations.

NITRO

- *Their heavy-duty construction increases tool life and performance*
- *Black & Gold surface treatment for maximum lubricity*
- *Usable in a wide range of materials including difficult-to-machine materials such as stainless steel*
- *Mechanic's length drill lengths are in between jobber length and screw machine (stub) length*
- *3-flat shank helps to reduce slippage in the drill chuck*
- *Available in bulk packaging*

## *1045N SERIES*

**HIGH SPEED STEEL**

### Mechanics Length / 135° Split Point / 3/8" Reduced Shank Fractional / Black & Gold

1045N

| Size | Flute Length | Overall Length | 1045N Order No. |
|---|---|---|---|
| 25/64" | 2-3/4" | 4-5/16" | 1045N125 |
| 13/32" | 2-13/16" | 4-3/8" | 1045N126 |
| 27/64" | 2-7/8" | 4-7/16" | 1045N127 |
| 7/16" | 2-15/16" | 4-1/2" | 1045N128 |

| Size | Flute Length | Overall Length | 1045N Order No. |
|---|---|---|---|
| 29/64" | 3" | 4-5/8" | 1045N129 |
| 15/32" | 3-1/8" | 4-3/4" | 1045N130 |
| 31/64" | 3-1/4" | 4-7/8" | 1045N131 |
| 1/2" | 3-3/8" | 5" | 1045N132 |

6 per pack

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 1045N Series Reduced Shank Drill Sets | | |
| 15 | 1/16" - 1/2" by 32nds | 1045N15 |
| 29 | 1/16" - 1/2" by 64ths | 1045N29 |

1045N15

# SCREW MACHINE LENGTH DRILLS

Screw Machine Drills (NAS Type C) are designed for use in machines and portable drilling in sheet metal.

## *300A SERIES*

**HIGH SPEED STEEL**

**135° Split Point / Straight Shank**

**Fractional / Black Oxide**

300A

| Size | Flute Length | Overall Length | 300 Order No. |
|---|---|---|---|
| 1/16” | 5/8” | 1-5/8” | 300A104 |
| 5/64” | 11/16” | 1-11/16” | 300A105 |
| 3/32” | 3/4” | 1-3/4” | 300A106 |
| 7/64” | 13/16” | 1-13/16” | 300A107 |
| 1/8” | 7/8” | 1-7/8” | 300A108 |
| 9/64” | 15/16” | 1-15/16” | 300A109 |
| 5/32” | 1” | 2-1/16” | 300A110 |
| 11/64” | 1-1/16” | 2-1/8” | 300A111 |
| 3/16” | 1-1/8” | 2-3/16” | 300A112 |
| 13/64” | 1-3/16” | 2-1/4” | 300A113 |
| 7/32” | 1-1/4” | 2-3/8” | 300A114 |
| 15/64” | 1-5/16” | 2-7/16” | 300A115 |
| 1/4” | 1-3/8” | 2-1/2” | 300A116 |
| 17/64” | 1-7/16” | 2-5/8” | 300A117 |
| 9/32” | 1-1/2” | 2-11/16” | 300A118 |

| Size | Flute Length | Overall Length | 300 Order No. |
|---|---|---|---|
| 19/64” | 1-9/16” | 2-3/4” | 300A119 |
| 5/16” | 1-5/8” | 2-13/16” | 300A120 |
| 21/64” | 1-11/16” | 2-15/16” | 300A121 |
| 11/32” | 1-11/16” | 3” | 300A122 |
| 23/64” | 1-3/4” | 3-1/16” | 300A123 |
| 3/8” | 1-13/16” | 3-1/8” | 300A124 |
| 25/64” | 1-7/8” | 3-1/4” | 300A125 |
| 13/32” | 1-15/16” | 3-5/16” | 300A126 |
| 27/64” | 2” | 3-3/8” | 300A127 |
| 7/16” | 2-1/16” | 3-7/16” | 300A128 |
| 29/64” | 2-1/8” | 3-9/16” | 300A129 |
| 15/32” | 2-1/8” | 3-5/8” | 300A130 |
| 31/64” | 2-3/16” | 3-11/16” | 300A131 |
| 1/2” | 2-1/4” | 3-3/4” | 300A132 |

1/16” thru 19/64” - 12 per pack.
5/16” thru 1/2” - 6 per pack.

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O- Z | 72 |

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 300 Series Screw Machine (Stub) Length Drill Sets | | |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 300A29 |

300A29

# SCREW MACHINE LENGTH DRILLS

## *340A SERIES*

**HIGH SPEED STEEL**

**135° Split Point / Straight Shank**

**Letter / Black Oxide**

340A

| Size | Flute Length | Overall Length | 340A Order No. |
|---|---|---|---|
| A | 1-5/16” | 2-7/16” | 340A501 |
| B | 1-3/8” | 2-1/2” | 340A502 |
| C | 1-3/8” | 2-1/2” | 340A503 |
| D | 1-3/8” | 2-1/2” | 340A504 |
| E | 1-3/8” | 2-1/2” | 340A505 |
| F | 1-7/16” | 2-5/8” | 340A506 |
| G | 1-7/16” | 2-5/8” | 340A507 |
| H | 1-1/2” | 2-11/16” | 340A508 |
| I | 1-1/2” | 2-11/16” | 340A509 |
| J | 1-1/2” | 2-11/16” | 340A510 |
| K | 1-1/2” | 2-11/16” | 340A511 |
| L | 1-9/16” | 2-3/4” | 340A512 |
| M | 1-9/16” | 2-3/4” | 340A513 |
| N | 1-5/8” | 2-13/16” | 340A514 |
| O | 1-11/16” | 2-15/16” | 340A515 |
| P | 1-11/16” | 2-15/16” | 340A516 |
| Q | 1-11/16” | 3” | 340A517 |
| R | 1-11/16” | 3” | 340A518 |
| S | 1-3/4” | 3-1/16” | 340A519 |
| T | 1-3/4” | 3-1/16” | 340A520 |
| U | 1-13/16” | 3-1/8” | 340A521 |
| V | 1-7/8” | 3-1/4” | 340A522 |
| W | 1-7/8” | 3-1/4” | 340A523 |
| X | 1-15/16” | 3-5/16” | 340A524 |
| Y | 1-15/16” | 3-5/16” | 340A525 |
| Z | 2” | 3-3/8” | 340A526 |

A - Z - 12 per pack

| Sizes | Bulk Quantity |
|---|---|
| 1/16”- 1/8” & #60 - #30 | 504 |
| 9/64” - 13/64” & #29 - #6 | 252 |
| 7/32” - 5/16” & #5 - #1 & A - N | 132 |
| 21/64” - 1/2” & O- Z | 72 |

DRILLCO CUTTING TOOLS

# SCREW MACHINE LENGTH DRILLS

## *380A SERIES*

**HIGH SPEED STEEL**

**135° Split Point / Straight Shank**
**Number / Black Oxide**

380A

MADE IN THE USA

| Size | Flute Length | Overall Length | 380 Order No. |
|---|---|---|---|
| 1 | 1-5/16” | 2-7/16” | 380A002 |
| 2 | 1-5/16” | 2-7/16” | 380A003 |
| 3 | 1-1/4” | 2-3/8” | 380A004 |
| 4 | 1-1/4” | 2-3/8” | 380A005 |
| 5 | 1-1/4” | 2-3/8” | 380A006 |
| 6 | 1-1/4” | 2-3/8” | 380A007 |
| 7 | 1-3/16” | 2-1/4” | 380A008 |
| 8 | 1-3/16” | 2-1/4” | 380A009 |
| 9 | 1-3/16” | 2-1/4” | 380A010 |
| 10 | 1-3/16” | 2-1/4” | 380A011 |
| 11 | 1-3/16” | 2-1/4” | 380A012 |
| 12 | 1-3/16” | 2-1/4” | 380A013 |
| 13 | 1-1/8” | 2-3/16” | 380A014 |
| 14 | 1-1/8” | 2-3/16” | 380A015 |
| 15 | 1-1/8” | 2-3/16” | 380A016 |
| 16 | 1-1/8” | 2-3/16” | 380A017 |
| 17 | 1-1/8” | 2-3/16” | 380A018 |
| 18 | 1-1/16” | 2-1/8” | 380A019 |
| 19 | 1-1/16” | 2-1/8” | 380A020 |
| 20 | 1-1/16” | 2-1/8” | 380A021 |
| 21 | 1-1/16” | 2-1/8” | 380A022 |
| 22 | 1-1/16” | 2-1/8” | 380A023 |
| 23 | 1” | 2-1/16” | 380A024 |
| 24 | 1” | 2-1/16” | 380A025 |
| 25 | 1” | 2-1/16” | 380A026 |
| 26 | 1” | 2-1/16” | 380A027 |
| 27 | 1” | 2-1/16” | 380A028 |
| 28 | 15/16” | 1-15/16” | 380A029 |
| 29 | 15/16” | 1-15/16” | 380A030 |
| 30 | 15/16” | 1-15/16” | 300A030 |

| Size | Flute Length | Overall Length | 380 Order No. |
|---|---|---|---|
| 31 | 7/8” | 1-7/8” | 380A031 |
| 32 | 7/8” | 1-7/8” | 380A032 |
| 33 | 7/8” | 1-7/8” | 380A033 |
| 34 | 7/8” | 1-7/8” | 380A034 |
| 35 | 7/8” | 1-7/8” | 380A035 |
| 36 | 13/16” | 1-13/16” | 380A036 |
| 37 | 13/16” | 1-13/16” | 380A037 |
| 38 | 13/16” | 1-13/16” | 380A038 |
| 39 | 13/16” | 1-13/16” | 380A039 |
| 40 | 13/16” | 1-13/16” | 380A040 |
| 41 | 13/16” | 1-13/16” | 380A041 |
| 42 | 3/4” | 1-3/4” | 380A042 |
| 43 | 3/4” | 1-3/4” | 380A043 |
| 44 | 3/4” | 1-3/4” | 380A044 |
| 45 | 3/4” | 1-3/4” | 380A045 |
| 46 | 3/4” | 1-3/4” | 380A046 |
| 47 | 11/16” | 1-11/16” | 380A047 |
| 48 | 11/16” | 1-11/16” | 380A048 |
| 49 | 11/16” | 1-11/16” | 380A049 |
| 50 | 11/16” | 1-11/16” | 380A050 |
| 51 | 11/16” | 1-11/16” | 380A051 |
| 52 | 11/16” | 1-11/16” | 380A052 |
| 53* | 5/8” | 1-5/8” | 380A053 |
| 54* | 5/8” | 1-5/8” | 380A054 |
| 55* | 5/8” | 1-5/8” | 380A055 |
| 56* | 1/2” | 1-3/8” | 380A056 |
| 57* | 1/2” | 1-3/8” | 380A057 |
| 58* | 1/2” | 1-3/8” | 380A058 |
| 59* | 1/2” | 1-3/8” | 380A059 |
| 60* | 1/2” | 1-3/8” | 380A060 |

* Not Split Point

#1 thru #60 - 12 per pack

## *300E SERIES*

**HIGH SPEED STEEL**

**135° Split Point / Straight Shank**
**Fractional / Black Oxide**

300E

| Size | Flute Length | Overall Length | 300E Order No. |
|---|---|---|---|
| 1/16” | 5/8” | 1-5/8” | 300E104 |
| 5/64” | 11/16” | 1-11/16” | 300E105 |
| 3/32” | 3/4” | 1-3/4” | 300E106 |
| 7/64” | 13/16” | 1-13/16” | 300E107 |
| 1/8” | 7/8” | 1-7/8” | 300E108 |
| 9/64” | 15/16” | 1-15/16” | 300E109 |
| 5/32” | 1” | 2-1/16” | 300E110 |
| 11/64” | 1-1/16” | 2-1/8” | 300E111 |
| 3/16” | 1-1/8” | 2-3/16” | 300E112 |
| 13/64” | 1-3/16” | 2-1/4” | 300E113 |
| 7/32” | 1-1/4” | 2-3/8” | 300E114 |
| 15/64” | 1-5/16” | 2-7/16” | 300E115 |
| 1/4” | 1-3/8” | 2-1/2” | 300E116 |
| 17/64” | 1-7/16” | 2-5/8” | 300E117 |
| 9/32” | 1-1/2” | 2-11/16” | 300E118 |

| Size | Flute Length | Overall Length | 300E Order No. |
|---|---|---|---|
| 19/64” | 1-9/16” | 2-3/4” | 300E119 |
| 5/16” | 1-5/8” | 2-13/16” | 300E120 |
| 21/64” | 1-11/16” | 2-15/16” | 300E121 |
| 11/32” | 1-11/16” | 3” | 300E122 |
| 23/64” | 1-3/4” | 3-1/16” | 300E123 |
| 3/8” | 1-13/16” | 3-1/8” | 300E124 |
| 25/64” | 1-7/8” | 3-1/4” | 300E125 |
| 13/32” | 1-15/16” | 3-5/16” | 300E126 |
| 27/64” | 2” | 3-3/8” | 300E127 |
| 7/16” | 2-1/16” | 3-7/16” | 300E128 |
| 29/64” | 2-1/8” | 3-9/16” | 300E129 |
| 15/32” | 2-1/8” | 3-5/8” | 300E130 |
| 31/64” | 2-3/16” | 3-11/16” | 300E131 |
| 1/2” | 2-1/4” | 3-3/4” | 300E132 |

1/16” thru 19/64” - 12 per pack.
5/16” thru 1/2” - 6 per pack.

# SCREW MACHINE LENGTH DRILLS

Screw machine drills (NAS Type C) are shorter than jobbers length drills and are designed for use in drill presses and CNC applications. They can also be used in portable drills when drilling sheet metal.

- *Shorter length increases rigidity*
- *Improved drilling in hard metal like stainless*
- *135° Split Point reduces walking and improves ease of penetration*
- *NAS Type C*

## *T4 - T5 SERIES*
**HIGH SPEED STEEL**
**135° Split Point**
**Black Oxide**

| Fractional | | | | T4 Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 3/64"* | .0469 | 1/2" | 1-3/8" | 044403 | 12 |
| 1/16" | .0625 | 5/8" | 1-5/8" | 044404 | 12 |
| 5/64" | .0781 | 11/16" | 1-11/16" | 044405 | 12 |
| 3/32" | .0938 | 3/4" | 1-3/4" | 044406 | 12 |
| 7/64" | .1094 | 13/16" | 1-13/16" | 044407 | 12 |
| 1/8" | .1250 | 7/8" | 1-7/8" | 044408 | 12 |
| 9/64" | .1406 | 15/16" | 1-15/16" | 044409 | 12 |
| 5/32" | .1562 | 1" | 2-1/16" | 044410 | 12 |
| 11/64" | .1719 | 1-1/16" | 2-1/8" | 044411 | 12 |
| 3/16" | .1875 | 1-1/8" | 2-3/16" | 044412 | 12 |
| 13/64" | .2031 | 1-3/16" | 2-1/4" | 044413 | 12 |
| 7/32" | .2188 | 1-1/4" | 2-3/8" | 044414 | 12 |
| 15/64" | .2344 | 1-5/16" | 2-7/16" | 044415 | 12 |
| 1/4" | .2500 | 1-3/8" | 2-1/2" | 044416 | 12 |
| 17/64" | .2656 | 1-7/16" | 2-5/8" | 044417 | 12 |
| 9/32" | .2812 | 1-1/2" | 2-11/16" | 044418 | 12 |
| 19/64" | .2969 | 1-9/16" | 2-3/4" | 044419 | 12 |
| 5/16" | .3125 | 1-5/8" | 2-13/16" | 044420 | 6 |
| 21/64" | .3281 | 1-11/16" | 2-15/16" | 044421 | 6 |
| 11/32" | .3438 | 1-11/16" | 3" | 044422 | 6 |
| 23/64" | .3594 | 1-3/4" | 3-1/16" | 044423 | 6 |
| 3/8" | .3750 | 1-13/16" | 3-1/8" | 044424 | 6 |
| 25/64" | .3906 | 1-7/8" | 3-1/4" | 044425 | 6 |
| 13/32" | .4062 | 1-15/16" | 3-5/16" | 044426 | 6 |
| 27/64" | .4219 | 2" | 3-3/8" | 044427 | 6 |
| 7/16" | .4375 | 2-1/16" | 3-7/16" | 044428 | 6 |
| 29/64" | .4531 | 2-1/8" | 3-9/16" | 044429 | 6 |
| 15/32" | .4688 | 2-1/8" | 3-5/8" | 044430 | 6 |
| 31/64" | .4844 | 2-3/16" | 3-11/16" | 044431 | 6 |
| 1/2" | .5000 | 2-1/4" | 3-3/4" | 044432 | 6 |

| | | | | T4 Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/8" | .1250 | 7/8" | 1-7/8" | 044408.20 | 144 |
| 9/64" | .1406 | 15/16" | 1-15/16" | 044409.20 | 144 |
| 5/32" | .1562 | 1" | 2-1/16" | 044410.20 | 144 |
| 3/16" | .1875 | 1-1/8" | 2-3/16" | 044412.20 | 144 |
| 13/64" | .2031 | 1-3/16" | 2-1/4" | 044413.20 | 144 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T29 | Metal Index | 29 Piece | 1/16"-1/2" by 64ths | 090569 |

| Number | | | | T5 Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1 | .2280 | 1-5/16" | 2-7/16" | 044501 | 12 |
| 2 | .2210 | 1-5/16" | 2-7/16" | 044502 | 12 |
| 3 | .2130 | 1-1/4" | 2-3/8" | 044503 | 12 |
| 4 | .2090 | 1-1/4" | 2-3/8" | 044504 | 12 |
| 5 | .2055 | 1-1/4" | 2-3/8" | 044505 | 12 |
| 6 | .2040 | 1-1/4" | 2-3/8" | 044506 | 12 |
| 7 | .2010 | 1-3/16" | 2-1/4" | 044507 | 12 |
| 8 | .1990 | 1-3/16" | 2-1/4" | 044508 | 12 |
| 9 | .1960 | 1-3/16" | 2-1/4" | 044509 | 12 |
| 10 | .1935 | 1-3/16" | 2-1/4" | 044510 | 12 |
| 11 | .1910 | 1-3/16" | 2-1/4" | 044511 | 12 |
| 12 | .1890 | 1-3/16" | 2-1/4" | 044512 | 12 |
| 13 | .1850 | 1-1/8" | 2-3/16" | 044513 | 12 |
| 14 | .1820 | 1-1/8" | 2-3/16" | 044514 | 12 |
| 15 | .1800 | 1-1/8" | 2-3/16" | 044515 | 12 |
| 16 | .1770 | 1-1/8" | 2-3/16" | 044516 | 12 |
| 17 | .1730 | 1-1/8" | 2-3/16" | 044517 | 12 |
| 18 | .1695 | 1-1/16" | 2-1/8" | 044518 | 12 |
| 19 | .1660 | 1-1/16" | 2-1/8" | 044519 | 12 |
| 20 | .1610 | 1-1/16" | 2-1/8" | 044520 | 12 |
| 21 | .1590 | 1-1/16" | 2-1/8" | 044521 | 12 |
| 22 | .1570 | 1-1/16" | 2-1/8" | 044522 | 12 |
| 23 | .1540 | 1" | 2-1/16" | 044523 | 12 |
| 24 | .1520 | 1" | 2-1/16" | 044524 | 12 |
| 25 | .1495 | 1" | 2-1/16" | 044525 | 12 |
| 26 | .1470 | 1" | 2-1/16" | 044526 | 12 |
| 27 | .1440 | 1" | 2-1/16" | 044527 | 12 |
| 28 | .1405 | 15/16" | 1-15/16" | 044528 | 12 |
| 29 | .1360 | 15/16" | 1-15/16" | 044529 | 12 |
| 30 | .1285 | 15/16" | 1-15/16" | 044530 | 12 |
| 31 | .1200 | 7/8" | 1-7/8" | 044531 | 12 |
| 32 | .1160 | 7/8" | 1-7/8" | 044532 | 12 |
| 33 | .1130 | 7/8" | 1-7/8" | 044533 | 12 |
| 34 | .1110 | 7/8" | 1-7/8" | 044534 | 12 |
| 35 | .1100 | 7/8" | 1-7/8" | 044535 | 12 |
| 36 | .1065 | 13/16" | 1-13/16" | 044536 | 12 |
| 37 | .1040 | 13/16" | 1-13/16" | 044537 | 12 |
| 38 | .1015 | 13/16" | 1-13/16" | 044538 | 12 |
| 39 | .0995 | 13/16" | 1-13/16" | 044539 | 12 |
| 40 | .0980 | 13/16" | 1-13/16" | 044540 | 12 |
| 41 | .0960 | 13/16" | 1-13/16" | 044541 | 12 |
| 42 | .0935 | 3/4" | 1-3/4" | 044542 | 12 |
| 43 | .0890 | 3/4" | 1-3/4" | 044543 | 12 |
| 44 | .0860 | 3/4" | 1-3/4" | 044544 | 12 |
| 45 | .0820 | 3/4" | 1-3/4" | 044545 | 12 |
| 46 | .0810 | 3/4" | 1-3/4" | 044546 | 12 |
| 47 | .0785 | 11/16" | 1-11/16" | 044547 | 12 |
| 48 | .0760 | 11/16" | 1-11/16" | 044548 | 12 |
| 49 | .0730 | 11/16" | 1-11/16" | 044549 | 12 |
| 50 | .0700 | 11/16" | 1-11/16" | 044550 | 12 |
| 51 | .0670 | 11/16" | 1-11/16" | 044551 | 12 |
| 52 | .0635 | 11/16" | 1-11/16" | 044552 | 12 |
| 53* | .0595 | 5/8" | 1-5/8" | 044553 | 12 |
| 54* | .0550 | 5/8" | 1-5/8" | 044554 | 12 |
| 55* | .0520 | 5/8" | 1-5/8" | 044555 | 12 |
| 56* | .0465 | 1/2" | 1-3/8" | 044556 | 12 |
| 57* | .0430 | 1/2" | 1-3/8" | 044557 | 12 |
| 58* | .0420 | 1/2" | 1-3/8" | 044558 | 12 |
| 59* | .0410 | 1/2" | 1-3/8" | 044559 | 12 |
| 60* | .0400 | 1/2" | 1-3/8" | 044560 | 12 |

* Not Split Point

| | | | | T5 Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 60 | .0400 | 1/2" | 1-3/8" | 044560.20 | 72 |

# SCREW MACHINE LENGTH DRILLS

NITRO™ drills (NAS Type C) offer superior performance over conventional HSS drills. 135° Split Point reduces "walking" at the drill point and makes these drills ideal for both handheld and CNC Operations. Black & Gold surface treatment for maximum lubricity. Usable in a wide range of materials including difficult-to-machine materials such as stainless steel.

## *300N SERIES*
## HIGH SPEED STEEL
### 135° Split Point / Straight Shank
### Fractional / Black & Gold

300N

| Size | Flute Length | Overall Length | 300N Order No. |
|---|---|---|---|
| 1/16” | 5/8” | 1-5/8” | 300N104 |
| 5/64” | 11/16” | 1-11/16” | 300N105 |
| 3/32” | 3/4” | 1-3/4” | 300N106 |
| 7/64” | 13/16” | 1-13/16” | 300N107 |
| 1/8” | 7/8” | 1-7/8” | 300N108 |
| 9/64” | 15/16” | 1-15/16” | 300N109 |
| 5/32” | 1” | 2-1/16” | 300N110 |
| 11/64” | 1-1/16” | 2-1/8” | 300N111 |
| 3/16” | 1-1/8” | 2-3/16” | 300N112 |
| 13/64” | 1-3/16” | 2-1/4” | 300N113 |
| 7/32” | 1-1/4” | 2-3/8” | 300N114 |
| 15/64” | 1-5/16” | 2-7/16” | 300N115 |
| 1/4” | 1-3/8” | 2-1/2” | 300N116 |
| 17/64” | 1-7/16” | 2-5/8” | 300N117 |
| 9/32” | 1-1/2” | 2-11/16” | 300N118 |

| Size | Flute Length | Overall Length | 300N Order No. |
|---|---|---|---|
| 19/64” | 1-9/16” | 2-3/4” | 300N119 |
| 5/16” | 1-5/8” | 2-13/16” | 300N120 |
| 21/64” | 1-11/16” | 2-15/16” | 300N121 |
| 11/32” | 1-11/16” | 3” | 300N122 |
| 23/64” | 1-3/4” | 3-1/16” | 300N123 |
| 3/8” | 1-13/16” | 3-1/8” | 300N124 |
| 25/64” | 1-7/8” | 3-1/4” | 300N125 |
| 13/32” | 1-15/16” | 3-5/16” | 300N126 |
| 27/64” | 2” | 3-3/8” | 300N127 |
| 7/16” | 2-1/16” | 3-7/16” | 300N128 |
| 29/64” | 2-1/8” | 3-9/16” | 300N129 |
| 15/32” | 2-1/8” | 3-5/8” | 300N130 |
| 31/64” | 2-3/16” | 3-11/16” | 300N131 |
| 1/2” | 2-1/4” | 3-3/4” | 300N132 |

1/16” thru 19/64” - 12 per pack., 5/16” thru 1/2” - 6 per pack.

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 300N Series Screw Machine (Stub) Length Heavy-Duty Drill Sets | | |
| 29 | 1/16” - 1/2” by 64ths | 300N29 |

300N29

# SCREW MACHINE LENGTH DRILLS

THUNDERBIT®

These drill bits (NAS Type C) have short flutes as well as a short overall length for maximum rigidity when drilling in sheet metal. They are made with a cobalt blend to provide a long service life in hard materials such as stainless steel.

- *Shorter length increases rigidity*
- *Improved drilling in hard metal like stainless*
- *135° Split Point reduces walking and improves ease of penetration*
- *NAS Type C*

## *T4HD SERIES*

**HIGH SPEED STEEL**

**135° Split Point**

**Black & Gold**

| Fractional | | | | T4HD Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/16” | .0625 | 5/8” | 1-5/8” | 060404 | 12 |
| 5/64” | .0781 | 11/16” | 1-11/16” | 060405 | 12 |
| 3/32” | .0938 | 3/4” | 1-3/4” | 060406 | 12 |
| 7/64” | .1094 | 13/16” | 1-13/16” | 060407 | 12 |
| 1/8” | .1250 | 7/8” | 1-7/8” | 060408 | 12 |
| 9/64” | .1406 | 15/16” | 1-15/16” | 060409 | 12 |
| 5/32” | .1562 | 1” | 2-1/16” | 060410 | 12 |
| 11/64” | .1719 | 1-1/16” | 2-1/8” | 060411 | 12 |
| 3/16” | .1875 | 1-1/8” | 2-3/16” | 060412 | 12 |
| 13/64” | .2031 | 1-3/16” | 2-1/4” | 060413 | 12 |
| 7/32” | .2188 | 1-1/4” | 2-3/8” | 060414 | 12 |
| 15/64” | .2344 | 1-5/16” | 2-7/16” | 060415 | 12 |
| 1/4” | .2500 | 1-3/8” | 2-1/2” | 060416 | 12 |
| 17/64” | .2656 | 1-7/16” | 2-5/8” | 060417 | 12 |
| 9/32” | .2812 | 1-1/2” | 2-11/16” | 060418 | 12 |
| 19/64” | .2969 | 1-9/16” | 2-3/4” | 060419 | 12 |
| 5/16” | .3125 | 1-5/8” | 2-13/16” | 060420 | 6 |
| 21/64” | .3281 | 1-11/16” | 2-15/16” | 060421 | 6 |
| 11/32” | .3438 | 1-11/16” | 3” | 060422 | 6 |
| 23/64” | .3594 | 1-3/4” | 3-1/16” | 060423 | 6 |
| 3/8” | .3750 | 1-13/16” | 3-1/8” | 060424 | 6 |
| 25/64” | .3906 | 1-7/8” | 3-1/4” | 060425 | 6 |
| 13/32” | .4062 | 1-15/16” | 3-5/16” | 060426 | 6 |
| 27/64” | .4219 | 2” | 3-3/8” | 060427 | 6 |
| 7/16” | .4375 | 2-1/16” | 3-7/16” | 060428 | 6 |
| 29/64” | .4531 | 2-1/8” | 3-9/16” | 060429 | 6 |
| 15/32” | .4688 | 2-1/8” | 3-5/8” | 060430 | 6 |
| 31/64” | .4844 | 2-3/16” | 3-11/16” | 060431 | 6 |
| 1/2” | .5000 | 2-1/4” | 3-3/4” | 060432 | 6 |

| | | | | T4HD Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/8” | .1250 | 7/8” | 1-7/8” | 060408.20 | 288 |
| 5/32” | .1562 | 1” | 2-1/16” | 060410.20 | 288 |
| 3/16” | .1875 | 1-1/8” | 2-3/16” | 060412.20 | 288 |
| 7/32” | .2188 | 1-1/4” | 2-3/8” | 060414.20 | 288 |
| 1/4” | .2500 | 1-3/8” | 2-1/2” | 060416.20 | 288 |
| 9/32” | .2812 | 1-1/2” | 2-11/16” | 060418.20 | 72 |
| 5/16” | .3125 | 1-5/8” | 2-13/16” | 060420.20 | 72 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T29HD | Metal Index | 29 Piece | 1/16”-1/2” by 64$^{ths}$ | 090568 |

# SCREW MACHINE LENGTH DRILLS

These drill bits have short flutes as well as a short overall length for maximum rigidity when drilling in sheet metal. They are made with a cobalt blend to provide a long service life in hard materials such as stainless steel.

## *300C SERIES*

**COBALT**

### 135° Split Point / Straight Shank
### Fractional / Bronze

300C

| Size | Flute Length | Overall Length | 300C Order No. |
|---|---|---|---|
| 1/16” | 5/8” | 1-5/8” | 300C104 |
| 5/64” | 11/16” | 1-11/16” | 300C105 |
| 3/32” | 3/4” | 1-3/4” | 300C106 |
| 7/64” | 13/16” | 1-13/16” | 300C107 |
| 1/8” | 7/8” | 1-7/8” | 300C108 |
| 9/64” | 15/16” | 1-15/16” | 300C109 |
| 5/32” | 1” | 2-1/16” | 300C110 |
| 11/64” | 1-1/16” | 2-1/8” | 300C111 |
| 3/16” | 1-1/8” | 2-3/16” | 300C112 |
| 13/64” | 1-3/16” | 2-1/4” | 300C113 |
| 7/32” | 1-1/4” | 2-3/8” | 300C114 |
| 15/64” | 1-5/16” | 2-7/16” | 300C115 |
| 1/4” | 1-3/8” | 2-1/2” | 300C116 |
| 17/64” | 1-7/16” | 2-5/8” | 300C117 |
| 9/32” | 1-1/2” | 2-11/16” | 300C118 |
| 19/64” | 1-9/16” | 2-3/4” | 300C119 |
| 5/16” | 1-5/8” | 2-13/16” | 300C120 |
| 21/64” | 1-11/16” | 2-15/16” | 300C121 |
| 11/32” | 1-11/16” | 3” | 300C122 |
| 23/64” | 1-3/4” | 3-1/16” | 300C123 |
| 3/8” | 1-13/16” | 3-1/8” | 300C124 |
| 25/64” | 1-7/8” | 3-1/4” | 300C125 |
| 13/32” | 1-15/16” | 3-5/16” | 300C126 |
| 27/64” | 2” | 3-3/8” | 300C127 |
| 7/16” | 2-1/16” | 3-7/16” | 300C128 |
| 29/64” | 2-1/8” | 3-9/16” | 300C129 |
| 15/32” | 2-1/8” | 3-5/8” | 300C130 |
| 31/64” | 2-3/16” | 3-11/16” | 300C131 |
| 1/2” | 2-1/4” | 3-3/4” | 300C132 |

1/16” thru 19/64” - 12 per pack, 5/16” thru 1/2” - 6 per pack

300C29

## *380C SERIES*

**COBALT**

### 135° Split Point / Straight Shank
### Number / Bronze

380C

| Size | Flute Length | Overall Length | 380C Order No. |
|---|---|---|---|
| 1 | 1-5/16” | 2-7/16” | 380C001 |
| 2 | 1-5/16” | 2-7/16” | 380C002 |
| 3 | 1-1/4” | 2-3/8” | 380C003 |
| 4 | 1-1/4” | 2-3/8” | 380C004 |
| 5 | 1-1/4” | 2-3/8” | 380C005 |
| 6 | 1-1/4” | 2-3/8” | 380C006 |
| 7 | 1-3/16” | 2-1/4” | 380C007 |
| 8 | 1-3/16” | 2-1/4” | 380C008 |
| 9 | 1-3/16” | 2-1/4” | 380C009 |
| 10 | 1-3/16” | 2-1/4” | 380C010 |
| 11 | 1-3/16” | 2-1/4” | 380C011 |
| 12 | 1-3/16” | 2-1/4” | 380C012 |
| 13 | 1-1/8” | 2-3/16” | 380C013 |
| 14 | 1-1/8” | 2-3/16” | 380C014 |
| 15 | 1-1/8” | 2-3/16” | 380C015 |
| 16 | 1-1/8” | 2-3/16” | 380C016 |
| 17 | 1-1/8” | 2-3/16” | 380C017 |
| 18 | 1-1/16” | 2-1/8” | 380C018 |
| 19 | 1-1/16” | 2-1/8” | 380C019 |
| 20 | 1-1/16” | 2-1/8” | 380C020 |
| 21 | 1-1/16” | 2-1/8” | 380C021 |
| 22 | 1-1/16” | 2-1/8” | 380C022 |
| 23 | 1” | 2-1/16” | 380C023 |
| 24 | 1” | 2-1/16” | 380C024 |
| 25 | 1” | 2-1/16” | 380C025 |
| 26 | 1” | 2-1/16” | 380C026 |
| 27 | 1” | 2-1/16” | 380C027 |
| 28 | 15/16” | 1-15/16” | 380C028 |
| 29 | 15/16” | 1-15/16” | 380C029 |
| 30 | 15/16” | 1-15/16” | 380C030 |
| 31 | 7/8” | 1-7/8” | 380C031 |
| 32 | 7/8” | 1-7/8” | 380C032 |
| 33 | 7/8” | 1-7/8” | 380C033 |
| 34 | 7/8” | 1-7/8” | 380C034 |
| 35 | 7/8” | 1-7/8” | 380C035 |
| 36 | 13/16” | 1-13/16” | 380C036 |
| 37 | 13/16” | 1-13/16” | 380C037 |
| 38 | 13/16” | 1-13/16” | 380C038 |
| 39 | 13/16” | 1-13/16” | 380C039 |
| 40 | 13/16” | 1-13/16” | 380C040 |

#1 thru #40 - 12 per pack

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 300C Series Cobalt Screw Machine (Stub) Length Drill Sets | | |
| 29 | 1/16” - 1/2” by 64$^{ths}$ | 300C29 |

# SCREW MACHINE LENGTH DRILLS

These drill bits have short flutes as well as a short overall length for maximum rigidity when drilling in sheet metal. They are made with a cobalt blend to provide a long service life in hard materials such as stainless steel.

- ***Shorter length increases rigidity***
- ***Improved drilling in hard sheet metal like stainless***
- ***135° Split Point reduces walking and improves ease of penetration***

## *T4C SERIES*
**COBALT**
**135° Split Point**
**Bronze Oxide**

| Fractional | | | | T4C Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/16” | .0625 | 5/8” | 1-5/8” | 046604 | 12 |
| 5/64” | .0781 | 11/16” | 1-11/16” | 046605 | 12 |
| 3/32” | .0938 | 3/4” | 1-3/4” | 046606 | 12 |
| 7/64” | .1094 | 13/16” | 1-13/16” | 046607 | 12 |
| 1/8” | .1250 | 7/8” | 1-7/8” | 046608 | 12 |
| 9/64” | .1406 | 15/16” | 1-15/16” | 046609 | 12 |
| 5/32” | .1562 | 1” | 2-1/16” | 046610 | 12 |
| 11/64” | .1719 | 1-1/16” | 2-1/8” | 046611 | 12 |
| 3/16” | .1875 | 1-1/8” | 2-3/16” | 046612 | 12 |
| 13/64” | .2031 | 1-3/16” | 2-1/4” | 046613 | 12 |
| 7/32” | .2188 | 1-1/4” | 2-3/8” | 046614 | 12 |
| 15/64” | .2344 | 1-5/16” | 2-7/16” | 046615 | 12 |
| 1/4” | .2500 | 1-3/8” | 2-1/2” | 046616 | 12 |
| 17/64” | .2656 | 1-7/16” | 2-5/8” | 046617 | 12 |
| 9/32” | .2812 | 1-1/2” | 2-11/16” | 046618 | 12 |
| 19/64” | .2969 | 1-9/16” | 2-3/4” | 046619 | 12 |
| 5/16” | .3125 | 1-5/8” | 2-13/16” | 046620 | 6 |
| 21/64” | .3281 | 1-11/16” | 2-15/16” | 046621 | 6 |
| 11/32” | .3438 | 1-11/16” | 3” | 046622 | 6 |
| 23/64” | .3594 | 1-3/4” | 3-1/16” | 046623 | 6 |
| 3/8” | .3750 | 1-13/16” | 3-1/8” | 046624 | 6 |
| 25/64” | .3906 | 1-7/8” | 3-1/4” | 046625 | 6 |
| 13/32” | .4062 | 1-15/16” | 3-5/16” | 046626 | 6 |
| 27/64” | .4219 | 2” | 3-3/8” | 046627 | 6 |
| 7/16” | .4375 | 2-1/16” | 3-7/16” | 046628 | 6 |
| 29/64” | .4531 | 2-1/8” | 3-9/16” | 046629 | 6 |
| 15/32” | .4688 | 2-1/8” | 3-5/8” | 046630 | 6 |
| 31/64” | .4844 | 2-3/16” | 3-11/16” | 046631 | 6 |
| 1/2” | .5000 | 2-1/4” | 3-3/4” | 046632 | 6 |

# LEFT HAND SCREW MACHINE LENGTH DRILLS

Constructed of M-42 Cobalt High Speed Steel for super abrasive resistance in tough metals. They are used in left hand screw machines and with screw extractors. Can be used to drill out broken bolts and other hardened fasteners. Sizes 3/16" and above have a 3-flat shank which reduces slippage in the drill chuck.

## *300LH SERIES*

**COBALT**

**135° Split Point / 3-Flat Shank**

**Fractional / Bronze**

300LH

| Size | Flute Length | Overall Length | 300LH Order No. |
|---|---|---|---|
| 1/16" | 5/8" | 1-5/8" | 300LH104 |
| 3/32" | 3/4" | 1-3/4" | 300LH106 |
| 1/8" | 7/8" | 1-7/8" | 300LH108 |
| 5/32" | 1" | 2-1/16" | 300LH110 |
| 3/16" | 1-1/8" | 2-3/16" | 300LH112 |

| Size | Flute Length | Overall Length | 300LH Order No. |
|---|---|---|---|
| 7/32" | 1-1/4" | 2-3/8" | 300LH114 |
| 1/4" | 1-3/8" | 2-1/2" | 300LH116 |
| 9/32" | 1-1/2" | 2-11/16" | 300LH118 |
| 5/16" | 1-5/8" | 2-13/16" | 300LH120 |
| 11/32" | 1-11/16" | 3" | 300LH122 |
| 3/8" | 1-13/16" | 3-1/8" | 300LH124 |

1/16" thru 9/32" - 12 per pack, 5/16" thru 3/8" - 6 per pack

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 300LH Series Cobalt Screw Machine (Stub) Length Drill Sets | | |
| 11 | 1/16" - 3/8" by 32nds | 300LH11 |

# DOUBLE ENDED DRILLS

DRILLCO CUTTING TOOLS

These drills have flutes and cutting points on both ends. This allows the user to reverse the drill and utilize both ends. For users that want to drill a hole into sheet metal, thin material, for automotive or aerospace purposes, for a rivet hole, or simply to double the life of your current stub length drill bit.

## *330 SERIES*

**HIGH SPEED STEEL**

**135° Split Point**

**Fractional & Number / Black Oxide**

330

| Size | Flute Length | Overall Length | 330 Order No. |
|---|---|---|---|
| #11 | 1/2” | 2-1/4” | 330A011 |
| #20 | 1/2” | 2-1/8” | 330A020 |
| #30 | 1/2” | 2” | 330A030 |
| 7/64” | 1/2” | 1-7/8” | 330A107 |
| 1/8” | 1/2” | 2” | 330A108 |

| Size | Flute Length | Overall Length | 330 Order No. |
|---|---|---|---|
| 9/64” | 1/2” | 2” | 330A109 |
| 5/32” | 1/2” | 2-1/16” | 330A110 |
| 3/16” | 1/2” | 2-3/16” | 330A112 |
| 7/32” | 1/2” | 2-3/8” | 330A114 |
| 1/4” | 1/2” | 2-1/2” | 330A116 |

12 per pack

## *TSM8 SERIES*

**HIGH SPEED STEEL**

**135° Split Point**

**Fractional & Number / Black Oxide**

MADE IN THE USA

TRIUMPH TWIST DRILL

| Size | Decimal Equivalent | Flute Length | Overall Length | TSM8 Packaging: Tube Order No. | TSM8 Packaging: Tube Pkg Qty | TSM8 Packaging: Bulk Order No. | TSM8 Packaging: Bulk Pkg Qty |
|---|---|---|---|---|---|---|---|
| #11 | .1910 | 1/2” | 2-1/4” | 098811 | 12 | 098811.20 | 288 |
| #20 | .1610 | 1/2” | 2-1/8” | 098820 | 12 | 098820.20 | 288 |
| #30 | .1285 | 1/2” | 2” | 098830 | 12 | 098830.20 | 288 |
| 7/64” | .1094 | 1/2” | 1-7/8” | 098807 | 12 | 098807.20 | 288 |
| 1/8” | .1250 | 1/2” | 2” | 098808 | 12 | 098808.20 | 288 |
| 9/64” | .1406 | 1/2” | 2” | 098809 | 12 | 098809.20 | 288 |
| 5/32” | .1562 | 1/2” | 2-1/16” | 098810 | 12 | 098810.20 | 288 |
| 3/16” | .1875 | 1/2” | 2-3/16” | 098812 | 12 | 098812.20 | 288 |
| 7/32” | .2188 | 1/2” | 2-3/8” | 098814 | 12 | 098814.20 | 288 |
| 1/4” | .2500 | 1/2” | 2-1/2” | 098816 | 12 | 098816.20 | 288 |

# S&D DRILLS

## 1/2" SHANK DRILLS

Expands the size range capacity of a 1/2" portable drill chuck. Common flute and overall length for minimal adjustment during tool changes. Precision ground for a high degree of concentricity between shank and body diameter. Ideal for drilling low and medium tensile strength materials.

### *1000A / 1000F SERIES*

**HIGH SPEED STEEL**

**118° / 1/2" Reduced Shank**

**3-Flats on 1000F**

**Fractional / Bright & Black**

1000A

1000F - 3-Flat Shank

| Size | Flute Length | Overall Length | 1000A Order No. | 1000F Order No. |
|---|---|---|---|---|
| 33/64" | 3" | 6" | 1000A133 | 1000F133 |
| 17/32" | 3" | 6" | 1000A134 | 1000F134 |
| 35/64" | 3" | 6" | 1000A135 | 1000F135 |
| 9/16" | 3" | 6" | 1000A136 | 1000F136 |
| 37/64" | 3" | 6" | 1000A137 | 1000F137 |
| 19/32" | 3" | 6" | 1000A138 | 1000F138 |
| 39/64" | 3" | 6" | 1000A139 | 1000F139 |
| 5/8" | 3" | 6" | 1000A140 | 1000F140 |
| 41/64" | 3" | 6" | 1000A141 | 1000F141 |
| 21/32" | 3" | 6" | 1000A142 | 1000F142 |
| 43/64" | 3" | 6" | 1000A143 | 1000F143 |
| 11/16" | 3" | 6" | 1000A144 | 1000F144 |
| 45/64" | 3" | 6" | 1000A145 | 1000F145 |
| 23/32" | 3" | 6" | 1000A146 | 1000F146 |
| 47/64" | 3" | 6" | 1000A147 | 1000F147 |
| 3/4" | 3" | 6" | 1000A148 | 1000F148 |
| 49/64" | 3" | 6" | 1000A149 | 1000F149 |
| 25/32" | 3" | 6" | 1000A150 | 1000F150 |
| 51/64" | 3" | 6" | 1000A151 | 1000F151 |
| 13/16" | 3" | 6" | 1000A152 | 1000F152 |
| 53/64" | 3" | 6" | 1000A153 | 1000F153 |
| 27/32" | 3" | 6" | 1000A154 | 1000F154 |
| 55/64" | 3" | 6" | 1000A155 | 1000F155 |
| 7/8" | 3" | 6" | 1000A156 | 1000F156 |
| 57/64" | 3" | 6" | 1000A157 | 1000F157 |
| 29/32" | 3" | 6" | 1000A158 | 1000F158 |
| 59/64" | 3" | 6" | 1000A159 | 1000F159 |

| Size | Flute Length | Overall Length | 1000A Order No. | 1000F Order No. |
|---|---|---|---|---|
| 15/16" | 3" | 6" | 1000A160 | 1000F160 |
| 61/64" | 3" | 6" | 1000A161 | 1000F161 |
| 31/32" | 3" | 6" | 1000A162 | 1000F162 |
| 63/64" | 3" | 6" | 1000A163 | 1000F163 |
| 1" | 3" | 6" | 1000A164 | 1000F164 |
| 1-1/64" | 3" | 6" | 1000A201 | – |
| 1-1/32" | 3" | 6" | 1000A202 | 1000F202 |
| 1-3/64" | 3" | 6" | 1000A203 | – |
| 1-1/16" | 3" | 6" | 1000A204 | 1000F204 |
| 1-5/64" | 3" | 6" | 1000A205 | – |
| 1-3/32" | 3" | 6" | 1000A206 | 1000F206 |
| 1-7/64" | 3" | 6" | 1000A207 | – |
| 1-1/8" | 3" | 6" | 1000A208 | 1000F208 |
| 1-9/64" | 3" | 6" | 1000A209 | – |
| 1-5/32" | 3" | 6" | 1000A210 | 1000F210 |
| 1-11/64" | 3" | 6" | 1000A211 | – |
| 1-3/16" | 3" | 6" | 1000A212 | 1000F212 |
| 1-13/64" | 3" | 6" | 1000A213 | – |
| 1-7/32" | 3" | 6" | 1000A214 | 1000F214 |
| 1-15/64" | 3" | 6" | 1000A215 | – |
| 1-1/4" | 3" | 6" | 1000A216 | 1000F216 |
| 1-9/32" | 3" | 6" | 1000A218 | – |
| 1-5/16" | 3" | 6" | 1000A220 | 1000F220 |
| 1-3/8" | 3" | 6" | 1000A224 | 1000F224 |
| 1-7/16" | 3" | 6" | 1000A228 | 1000F228 |
| 1-1/2" | 3" | 6" | 1000A232 | 1000F232 |

1 per pack

| Corresponding Sets | | |
|---|---|---|
| **No. of Pcs.** | **Description** | **Order No.** |
| **1000A Series 1/2" Shank S&D Drill Sets** | | |
| 5 | 9/16" - 1" by 8ths | 1000A5 |
| 8 | 9/16" - 1" by 16ths | 1000A8 |
| 32 | STAND 1/2" - 1" by 64ths W/DRILLS | 1000A32 |

| Corresponding Sets | | |
|---|---|---|
| **No. of Pcs.** | **Description** | **Order No.** |
| **1000F Series 1/2" Shank S&D Drill Sets** | | |
| 5 | 9/16" - 1" by 8ths | 1000F5 |
| 8 | 9/16" - 1" by 16ths | 1000F8 |
| 32 | STAND 1/2" - 1" by 64ths W/DRILLS | 1000F32 |

1000A8

# S&D
# 1/2” SHANK DRILLS

## *1000E SERIES*
**HIGH SPEED STEEL**

**118° Split Point / 3 Flats, Reduced Shank**
**Fractional / Bright & Black**

1000E

| Size | Flute Length | Overall Length | 1000E Order No. |
|---|---|---|---|
| 33/64” | 3” | 6” | 1000E133 |
| 17/32” | 3” | 6” | 1000E134 |
| 35/64” | 3” | 6” | 1000E135 |
| 9/16” | 3” | 6” | 1000E136 |
| 37/64” | 3” | 6” | 1000E137 |
| 19/32” | 3” | 6” | 1000E138 |
| 39/64” | 3” | 6” | 1000E139 |
| 5/8” | 3” | 6” | 1000E140 |
| 41/64” | 3” | 6” | 1000E141 |
| 21/32” | 3” | 6” | 1000E142 |
| 43/64” | 3” | 6” | 1000E143 |
| 11/16” | 3” | 6” | 1000E144 |
| 45/64” | 3” | 6” | 1000E145 |
| 23/32” | 3” | 6” | 1000E146 |
| 47/64” | 3” | 6” | 1000E147 |
| 3/4” | 3” | 6” | 1000E148 |
| 49/64” | 3” | 6” | 1000E149 |
| 25/32” | 3” | 6” | 1000E150 |
| 51/64” | 3” | 6” | 1000E151 |
| 13/16” | 3” | 6” | 1000E152 |
| 53/64” | 3” | 6” | 1000E153 |
| 27/32” | 3” | 6” | 1000E154 |
| 55/64” | 3” | 6” | 1000E155 |
| 7/8” | 3” | 6” | 1000E156 |
| 57/64” | 3” | 6” | 1000E157 |
| 29/32” | 3” | 6” | 1000E158 |
| 59/64” | 3” | 6” | 1000E159 |
| 15/16” | 3” | 6” | 1000E160 |
| 61/64” | 3” | 6” | 1000E161 |
| 31/32” | 3” | 6” | 1000E162 |
| 63/64” | 3” | 6” | 1000E163 |
| 1” | 3” | 6” | 1000E164 |

| Size | Flute Length | Overall Length | 1000E Order No. |
|---|---|---|---|
| 1-1/64” | 3” | 6” | 1000E201 |
| 1-1/32” | 3” | 6” | 1000E202 |
| 1-3/64” | 3” | 6” | 1000E203 |
| 1-1/16” | 3” | 6” | 1000E204 |
| 1-5/64” | 3” | 6” | 1000E205 |
| 1-3/32” | 3” | 6” | 1000E206 |
| 1-7/64” | 3” | 6” | 1000E207 |
| 1-1/8” | 3” | 6” | 1000E208 |
| 1-9/64” | 3” | 6” | 1000E209 |
| 1-5/32” | 3” | 6” | 1000E210 |
| 1-11/64” | 3” | 6” | 1000E211 |
| 1-3/16” | 3” | 6” | 1000E212 |
| 1-13/64” | 3” | 6” | 1000E213 |
| 1-7/32” | 3” | 6” | 1000E214 |
| 1-15/64” | 3” | 6” | 1000E215 |
| 1-1/4” | 3” | 6” | 1000E216 |
| 1-17/64” | 3” | 6” | 1000E217 |
| 1-9/32” | 3” | 6” | 1000E218 |
| 1-19/64” | 3” | 6” | 1000E219 |
| 1-5/16” | 3” | 6” | 1000E220 |
| 1-21/64” | 3” | 6” | 1000E221 |
| 1-11/32” | 3” | 6” | 1000E222 |
| 1-23/64” | 3” | 6” | 1000E223 |
| 1-3/8” | 3” | 6” | 1000E224 |
| 1-25/64” | 3” | 6” | 1000E225 |
| 1-13/32” | 3” | 6” | 1000E226 |
| 1-27/64” | 3” | 6” | 1000E227 |
| 1-7/16” | 3” | 6” | 1000E228 |
| 1-29/64” | 3” | 6” | 1000E229 |
| 1-15/32” | 3” | 6” | 1000E230 |
| 1-31/64” | 3” | 6” | 1000E231 |
| 1-1/2” | 3” | 6” | 1000E232 |

| Corresponding Sets | | |
|---|---|---|
| **No. of Pcs.** | **Description** | **Order No.** |
| **1000E Series 1/2” Shank S&D Drill Sets** | | |
| 5 | 9/16” - 1” by 8ths | 1000E5 |
| 8 | 9/16” - 1” by 16ths | 1000E8 |
| 32 | STAND 1/2” - 1” by 64ths W/DRILLS | 1000E32 |

1000E8

# S&D
# 1/2" SHANK DRILLS

Nitro® drills offer superior performance over conventional HSS drills. 118° Split Point reduces walking at the drill point and makes these drills ideal for both hand held and CNC Operations.

- ***Their heavy-duty construction increases tool life and performance***
- ***Black & Gold surface treatment for maximum lubricity***
- ***Usable in a wide range of materials including difficult to machine materials such as stainless steel***
- ***S&D drills expand the size range capacity of a 1/2" portable drill chuck***
- ***All sizes are individually packaged***

## *1000N SERIES*
## HIGH SPEED STEEL
### 118° Split Point / 1/2" Reduced Shank / 3-Flat Shank
### Fractional / Black Oxide

1000N

| Size | Flute Length | Overall Length | 1000N Order No. |
|---|---|---|---|
| 33/64" | 3" | 6" | 1000N133 |
| 17/32" | 3" | 6" | 1000N134 |
| 35/64" | 3" | 6" | 1000N135 |
| 9/16" | 3" | 6" | 1000N136 |
| 37/64" | 3" | 6" | 1000N137 |
| 19/32" | 3" | 6" | 1000N138 |
| 39/64" | 3" | 6" | 1000N139 |
| 5/8" | 3" | 6" | 1000N140 |
| 41/64" | 3" | 6" | 1000N141 |
| 21/32" | 3" | 6" | 1000N142 |
| 43/64" | 3" | 6" | 1000N143 |
| 11/16" | 3" | 6" | 1000N144 |
| 45/64" | 3" | 6" | 1000N145 |
| 23/32" | 3" | 6" | 1000N146 |
| 47/64" | 3" | 6" | 1000N147 |
| 3/4" | 3" | 6" | 1000N148 |

| Size | Flute Length | Overall Length | 1000N Order No. |
|---|---|---|---|
| 49/64" | 3" | 6" | 1000N149 |
| 25/32" | 3" | 6" | 1000N150 |
| 51/64" | 3" | 6" | 1000N151 |
| 13/16" | 3" | 6" | 1000N152 |
| 53/64" | 3" | 6" | 1000N153 |
| 27/32" | 3" | 6" | 1000N154 |
| 55/64" | 3" | 6" | 1000N155 |
| 7/8" | 3" | 6" | 1000N156 |
| 57/64" | 3" | 6" | 1000N157 |
| 29/32" | 3" | 6" | 1000N158 |
| 59/64" | 3" | 6" | 1000N159 |
| 15/16" | 3" | 6" | 1000N160 |
| 61/64" | 3" | 6" | 1000N161 |
| 31/32" | 3" | 6" | 1000N162 |
| 63/64" | 3" | 6" | 1000N163 |
| 1" | 3" | 6" | 1000N164 |

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 1000N Series 1/2" Shank S&D Drill Sets | | |
| 5 | 9/16" - 1" by 8ths | 1000N5 |
| 8 | 9/16" - 1" by 16ths | 1000N8 |
| 32 | STAND 1/2" - 1" by 64ths W/DRILLS | 1000N32 |

1000N32

# S&D
# 1/2” SHANK DRILLS

General purpose flute design. All sizes have a 1/2” by 2-1/4” long shank. The maximum overall length is 6” and the flute length is 3”. This makes them short drills in the larger sizes and thus well suited to use in portable electric drills equipped with 1/2” chucks. They are highly effective in tough, high tensile strength materials. The 135° split point reduces thrust and eliminates "walking" at the drill point.

▷ ***All sizes are individually packaged***

## *1000EF SERIES*
## HIGH SPEED STEEL
### 135° Split Point / 3 Flats, Reduced Shank
### Fractional / Black & Gold

1000EF

| Size | Flute Length | Overall Length | 1000EF Order No. |
|---|---|---|---|
| 33/64” | 3” | 6” | 1000EF133 |
| 17/32” | 3” | 6” | 1000EF134 |
| 35/64” | 3” | 6” | 1000EF135 |
| 9/16” | 3” | 6” | 1000EF136 |
| 37/64” | 3” | 6” | 1000EF137 |
| 19/32” | 3” | 6” | 1000EF138 |
| 39/64” | 3” | 6” | 1000EF139 |
| 5/8” | 3” | 6” | 1000EF140 |
| 41/64” | 3” | 6” | 1000EF141 |
| 21/32” | 3” | 6” | 1000EF142 |
| 43/64” | 3” | 6” | 1000EF143 |
| 11/16” | 3” | 6” | 1000EF144 |
| 45/64” | 3” | 6” | 1000EF145 |
| 23/32” | 3” | 6” | 1000EF146 |
| 47/64” | 3” | 6” | 1000EF147 |
| 3/4” | 3” | 6” | 1000EF148 |
| 49/64” | 3” | 6” | 1000EF149 |
| 25/32” | 3” | 6” | 1000EF150 |
| 51/64” | 3” | 6” | 1000EF151 |
| 13/16” | 3” | 6” | 1000EF152 |
| 53/64” | 3” | 6” | 1000EF153 |
| 27/32” | 3” | 6” | 1000EF154 |
| 55/64” | 3” | 6” | 1000EF155 |
| 7/8” | 3” | 6” | 1000EF156 |

| Size | Flute Length | Overall Length | 1000EF Order No. |
|---|---|---|---|
| 57/64” | 3” | 6” | 1000EF157 |
| 29/32” | 3” | 6” | 1000EF158 |
| 59/64” | 3” | 6” | 1000EF159 |
| 15/16” | 3” | 6” | 1000EF160 |
| 61/64” | 3” | 6” | 1000EF161 |
| 31/32” | 3” | 6” | 1000EF162 |
| 63/64” | 3” | 6” | 1000EF163 |
| 1” | 3” | 6” | 1000EF164 |
| 1-1/32” | 3” | 6” | 1000EF202 |
| 1-1/16” | 3” | 6” | 1000EF204 |
| 1-3/32” | 3” | 6” | 1000EF206 |
| 1-1/8” | 3” | 6” | 1000EF208 |
| 1-5/32” | 3” | 6” | 1000EF210 |
| 1-3/16” | 3” | 6” | 1000EF212 |
| 1-7/32” | 3” | 6” | 1000EF214 |
| 1-1/4” | 3” | 6” | 1000EF216 |
| 1-9/32” | 3” | 6” | 1000EF218 |
| 1-5/16” | 3” | 6” | 1000EF220 |
| 1-11/32” | 3” | 6” | 1000EF222 |
| 1-3/8” | 3” | 6” | 1000EF224 |
| 1-13/32” | 3” | 6” | 1000EF226 |
| 1-7/16” | 3” | 6” | 1000EF228 |
| 1-15/32” | 3” | 6” | 1000EF230 |
| 1-1/2” | 3” | 6” | 1000EF232 |

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 1000EF Series 1/2” Shank S&D Drill Sets | | |
| 5 | 9/16” - 1” by 8ths | 1000EF5 |
| 8 | 9/16” - 1” by 16ths | 1000EF8 |
| 32 | STAND 1/2” - 1” by 64ths W/DRILLS | 1000EF32 |

1000EF8

MADE IN THE USA TRIUMPH TWIST DRILL

# S&D
# REDUCED SHANK DRILLS

HSS S&D drills expand the size range capacity of a 1/2" drill chuck. By including a split-point and a 3-flat option, this style of drill is ideal for handheld drilling operations. The split-point reduces "walking" and the 3 flats keep the tool from rotating in the chuck.

- *1/2" reduced shank with 3 flats is ideal for handheld power tools*
- *Encorporating a reduced shank increases drilling diameter range*
- *Split-Point eliminates "walking" at the drill point*

## *T9FHD SERIES*

**HIGH SPEED STEEL**

### 118° Split Point / 3 Flats on Shank
### Black & Bronze Oxide

THUNDERBIT®

| | | | | T9FHD Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 33/64" | .5156 | 3" | 6" | 094133 | 1 |
| 17/32" | .5312 | 3" | 6" | 094134 | 1 |
| 35/64" | .5469 | 3" | 6" | 094135 | 1 |
| 9/16" | .5625 | 3" | 6" | 094136 | 1 |
| 37/64" | .5781 | 3" | 6" | 094137 | 1 |
| 19/32" | .5938 | 3" | 6" | 094138 | 1 |
| 39/64" | .6094 | 3" | 6" | 094139 | 1 |
| 5/8" | .6250 | 3" | 6" | 094140 | 1 |
| 41/64" | .6406 | 3" | 6" | 094141 | 1 |
| 21/32" | .6562 | 3" | 6" | 094142 | 1 |
| 43/64" | .6719 | 3" | 6" | 094143 | 1 |
| 11/16" | .6875 | 3" | 6" | 094144 | 1 |
| 45/64" | .7031 | 3" | 6" | 094145 | 1 |
| 23/32" | .7188 | 3" | 6" | 094146 | 1 |
| 47/64" | .7344 | 3" | 6" | 094147 | 1 |
| 3/4" | .7500 | 3" | 6" | 094148 | 1 |
| 49/64" | .7656 | 3" | 6" | 094149 | 1 |
| 25/32" | .7812 | 3" | 6" | 094150 | 1 |
| 51/64" | .7969 | 3" | 6" | 094151 | 1 |
| 13/16" | .8125 | 3" | 6" | 094152 | 1 |
| 53/64" | .8281 | 3" | 6" | 094153 | 1 |
| 27/32" | .8438 | 3" | 6" | 094154 | 1 |
| 55/64" | .8594 | 3" | 6" | 094155 | 1 |
| 7/8" | .8750 | 3" | 6" | 094156 | 1 |
| 57/64" | .8906 | 3" | 6" | 094157 | 1 |
| 29/32" | .9062 | 3" | 6" | 094158 | 1 |
| 59/64" | .9219 | 3" | 6" | 094159 | 1 |
| 15/16" | .9375 | 3" | 6" | 094160 | 1 |
| 61/64" | .9531 | 3" | 6" | 094161 | 1 |
| 31/32" | .9688 | 3" | 6" | 094162 | 1 |
| 63/64" | .9844 | 3" | 6" | 094163 | 1 |
| 1" | 1.0000 | 3" | 6" | 094164 | 1 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T98F | Molded Case | 8 Piece | 9/16"-1" by 16ths | 090596 |
| T98FHD | Molded Case | 8 Piece | 9/16"-1" by 16ths | 090595 |
| T933FHD | Metal Stand | 32 Piece | 1/2"-1" by 64ths | 090593 |

## *T9F SERIES*

**HIGH SPEED STEEL**

### 118° Point / 3 Flats, Reduced Shank
### Black & Bright Oxide

| | | | | T9F Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 33/64" | .5156 | 3" | 6" | 092833 | 1 |
| 17/32" | .5312 | 3" | 6" | 092834 | 1 |
| 35/64" | .5469 | 3" | 6" | 092835 | 1 |
| 9/16" | .5625 | 3" | 6" | 092836 | 1 |
| 37/64" | .5781 | 3" | 6" | 092837 | 1 |
| 19/32" | .5938 | 3" | 6" | 092838 | 1 |
| 39/64" | .6094 | 3" | 6" | 092839 | 1 |
| 5/8" | .6250 | 3" | 6" | 092840 | 1 |
| 41/64" | .6406 | 3" | 6" | 092841 | 1 |
| 21/32" | .6562 | 3" | 6" | 092842 | 1 |
| 43/64" | .6719 | 3" | 6" | 092843 | 1 |
| 11/16" | .6875 | 3" | 6" | 092844 | 1 |
| 45/64" | .7031 | 3" | 6" | 092845 | 1 |
| 23/32" | .7188 | 3" | 6" | 092846 | 1 |
| 47/64" | .7344 | 3" | 6" | 092847 | 1 |
| 3/4" | .7500 | 3" | 6" | 092848 | 1 |
| 49/64" | .7656 | 3" | 6" | 092849 | 1 |
| 25/32" | .7812 | 3" | 6" | 092850 | 1 |
| 51/64" | .7969 | 3" | 6" | 092851 | 1 |
| 13/16" | .8125 | 3" | 6" | 092852 | 1 |
| 53/64" | .8281 | 3" | 6" | 092853 | 1 |
| 27/32" | .8438 | 3" | 6" | 092854 | 1 |
| 55/64" | .8594 | 3" | 6" | 092855 | 1 |
| 7/8" | .8750 | 3" | 6" | 092856 | 1 |
| 57/64" | .8906 | 3" | 6" | 092857 | 1 |
| 29/32" | .9062 | 3" | 6" | 092858 | 1 |
| 59/64" | .9219 | 3" | 6" | 092859 | 1 |
| 15/16" | .9375 | 3" | 6" | 092860 | 1 |
| 61/64" | .9531 | 3" | 6" | 092861 | 1 |
| 31/32" | .9688 | 3" | 6" | 092862 | 1 |
| 63/64" | .9844 | 3" | 6" | 092863 | 1 |
| 1" | 1.0000 | 3" | 6" | 092864 | 1 |
| 1-1/32" | 1.0312 | 3" | 6" | 092866 | 1 |
| 1-1/16" | 1.0625 | 3" | 6" | 092868 | 1 |
| 1-3/32" | 1.0938 | 3" | 6" | 092870 | 1 |
| 1-1/8" | 1.1250 | 3" | 6" | 092872 | 1 |
| 1-5/32" | 1.1562 | 3" | 6" | 092874 | 1 |
| 1-3/16" | 1.1875 | 3" | 6" | 092876 | 1 |
| 1-7/32" | 1.2188 | 3" | 6" | 092878 | 1 |
| 1-1/4" | 1.2500 | 3" | 6" | 092880 | 1 |
| 1-5/16" | 1.3125 | 3" | 6" | 092884 | 1 |
| 1-3/8" | 1.3750 | 3" | 6" | 092888 | 1 |
| 1-7/16" | 1.4375 | 3" | 6" | 092892 | 1 |
| 1-1/2" | 1.5000 | 3" | 6" | 092896 | 1 |

# S&D REDUCED SHANK DRILLS

## *T9 SERIES*

**HIGH SPEED STEEL**

**118° Point / Reduced Shank**

**Black & Bright Oxide**

| | | | | T9 Packaging: Tube | | T9 Packaging: Bulk | |
|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 33/64” | .5156 | 3” | 6” | 091733 | 1 | 091733.20 | 25 |
| 17/32” | .5312 | 3” | 6” | 091734 | 1 | 091734.20 | 25 |
| 35/64” | .5469 | 3” | 6” | 091735 | 1 | 091735.20 | 25 |
| 9/16” | .5625 | 3” | 6” | 091736 | 1 | 091736.20 | 25 |
| 37/64” | .5781 | 3” | 6” | 091737 | 1 | 091737.20 | 25 |
| 19/32” | .5938 | 3” | 6” | 091738 | 1 | 091738.20 | 25 |
| 39/64” | .6094 | 3” | 6” | 091739 | 1 | 091739.20 | 25 |
| 5/8” | .6250 | 3” | 6” | 091740 | 1 | 091740.20 | 25 |
| 41/64” | .6406 | 3” | 6” | 091741 | 1 | 091741.20 | 25 |
| 21/32” | .6562 | 3” | 6” | 091742 | 1 | 091742.20 | 25 |
| 43/64” | .6719 | 3” | 6” | 091743 | 1 | 091743.20 | 25 |
| 11/16” | .6875 | 3” | 6” | 091744 | 1 | 091744.20 | 25 |
| 45/64” | .7031 | 3” | 6” | 091745 | 1 | 091745.20 | 25 |
| 23/32” | .7188 | 3” | 6” | 091746 | 1 | 091746.20 | 25 |
| 47/64” | .7344 | 3” | 6” | 091747 | 1 | 091747.20 | 25 |
| 3/4” | .7500 | 3” | 6” | 091748 | 1 | 091748.20 | 25 |
| 49/64” | .7656 | 3” | 6” | 091749 | 1 | 091749.20 | 25 |
| 25/32” | .7812 | 3” | 6” | 091750 | 1 | 091750.20 | 25 |
| 51/64” | .7969 | 3” | 6” | 091751 | 1 | 091751.20 | 25 |
| 13/16” | .8125 | 3” | 6” | 091752 | 1 | 091752.20 | 25 |
| 53/64” | .8281 | 3” | 6” | 091753 | 1 | 091753.20 | 25 |
| 27/32” | .8438 | 3” | 6” | 091754 | 1 | 091754.20 | 25 |
| 55/64” | .8594 | 3” | 6” | 091755 | 1 | 091755.20 | 25 |
| 7/8” | .8750 | 3” | 6” | 091756 | 1 | 091756.20 | 25 |
| 57/64” | .8906 | 3” | 6” | 091757 | 1 | 091757.20 | 25 |
| 29/32” | .9062 | 3” | 6” | 091758 | 1 | 091758.20 | 25 |
| 59/64” | .9219 | 3” | 6” | 091759 | 1 | 091759.20 | 25 |
| 15/16” | .9375 | 3” | 6” | 091760 | 1 | 091760.20 | 25 |
| 61/64” | .9531 | 3” | 6” | 091761 | 1 | 091761.20 | 25 |
| 31/32” | .9688 | 3” | 6” | 091762 | 1 | 091762.20 | 25 |
| 63/64” | .9844 | 3” | 6” | 091763 | 1 | 091763.20 | 25 |
| 1” | 1.0000 | 3” | 6” | 091764 | 1 | 091764.20 | 25 |
| 1-1/64” | 1.0156 | 3” | 6” | 091765 | 1 | 091765.20 | 25 |
| 1-1/32” | 1.0312 | 3” | 6” | 091766 | 1 | 091766.20 | 25 |
| 1-3/64” | 1.0469 | 3” | 6” | 091767 | 1 | 091767.20 | 25 |
| 1-1/16” | 1.0625 | 3” | 6” | 091768 | 1 | 091768.20 | 25 |
| 1-3/32” | 1.0938 | 3” | 6” | 091770 | 1 | 091770.20 | 25 |
| 1-1/8” | 1.1250 | 3” | 6” | 091772 | 1 | 091772.20 | 25 |
| 1-5/32” | 1.1562 | 3” | 6” | 091774 | 1 | 091774.20 | 25 |
| 1-3/16” | 1.1875 | 3” | 6” | 091776 | 1 | 091776.20 | 25 |
| 1-7/32” | 1.2188 | 3” | 6” | 091778 | 1 | 091778.20 | 25 |
| 1-1/4” | 1.2500 | 3” | 6” | 091780 | 1 | 091780.20 | 25 |
| 1-9/32” | 1.2812 | 3” | 6” | 091782 | 1 | 091782.20 | 25 |
| 1-5/16” | 1.3125 | 3” | 6” | 091784 | 1 | 091784.20 | 25 |
| 1-3/8” | 1.3750 | 3” | 6” | 091788 | 1 | 091788.20 | 25 |
| 1-7/16” | 1.4375 | 3” | 6” | 091792 | 1 | 091792.20 | 25 |
| 1-1/2” | 1.5000 | 3” | 6” | 091796 | 1 | 091796.20 | 25 |

T98FHD

T933

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T98 | Molded Case | 8 Piece | 9/16”-1” by 16$^{ths}$ | 090598 |
| T933 | Metal Stand | 32 Piece | 1/2”-1” by 64$^{ths}$ | 090599 |

# S&D REDUCED SHANK DRILLS

S&D drills expand the size range capacity of a 1/2" drill chuck. By including a split-point and a 3-flat option, this style of drill is ideal for handheld drilling operations. The split-point reduces "walking" and the 3 flats keep the tool from rotating in the chuck.

- *1/2" reduced shank is ideal for handheld power tools*
- *Encorporating a reduced shank increases drilling diameter range*
- *Split-Point eliminates "walking" at the drill point*
- *Cobalt drills offer speeds and feeds of up to 30% faster than HSS drills*
- *All sizes are individually packaged*

## *1000C SERIES*

**COBALT**

### 118° Split Point / Reduced Shank
### Fractional / Black & Gold

1000C

| Size | Flute Length | Overall Length | 1000C Order No. |
|---|---|---|---|
| 33/64" | 3" | 6" | 1000C133 |
| 17/32" | 3" | 6" | 1000C134 |
| 35/64" | 3" | 6" | 1000C135 |
| 9/16" | 3" | 6" | 1000C136 |
| 37/64" | 3" | 6" | 1000C137 |
| 19/32" | 3" | 6" | 1000C138 |
| 39/64" | 3" | 6" | 1000C139 |
| 5/8" | 3" | 6" | 1000C140 |
| 41/64" | 3" | 6" | 1000C141 |
| 21/32" | 3" | 6" | 1000C142 |
| 43/64" | 3" | 6" | 1000C143 |
| 11/16" | 3" | 6" | 1000C144 |
| 45/64" | 3" | 6" | 1000C145 |
| 23/32" | 3" | 6" | 1000C146 |
| 47/64" | 3" | 6" | 1000C147 |
| 3/4" | 3" | 6" | 1000C148 |

| Size | Flute Length | Overall Length | 1000C Order No. |
|---|---|---|---|
| 49/64" | 3" | 6" | 1000C149 |
| 25/32" | 3" | 6" | 1000C150 |
| 51/64" | 3" | 6" | 1000C151 |
| 13/16" | 3" | 6" | 1000C152 |
| 53/64" | 3" | 6" | 1000C153 |
| 27/32" | 3" | 6" | 1000C154 |
| 55/64" | 3" | 6" | 1000C155 |
| 7/8" | 3" | 6" | 1000C156 |
| 57/64" | 3" | 6" | 1000C157 |
| 29/32" | 3" | 6" | 1000C158 |
| 59/64" | 3" | 6" | 1000C159 |
| 15/16" | 3" | 6" | 1000C160 |
| 61/64" | 3" | 6" | 1000C161 |
| 31/32" | 3" | 6" | 1000C162 |
| 63/64" | 3" | 6" | 1000C163 |
| 1" | 3" | 6" | 1000C164 |

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 1000C Series 1/2" Shank S&D Drill Sets | | |
| 5 | 9/16" - 1" by 8ths | 1000C5 |
| 8 | 9/16" - 1" by 16ths | 1000C8 |
| 32 | STAND 1/2" - 1" by 64ths W/DRILLS | 1000C32 |

1000C8

# S&D REDUCED SHANK DRILLS

## *T9C SERIES*

**COBALT**

**118° Split Point / Reduced Shank**
**Black & Gold Oxide**

| | | | | T9FHD Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 33/64” | .5156 | 3” | 6” | 092033 | 1 |
| 17/32” | .5312 | 3” | 6” | 092034 | 1 |
| 35/64” | .5469 | 3” | 6” | 092035 | 1 |
| 9/16” | .5625 | 3” | 6” | 092036 | 1 |
| 37/64” | .5781 | 3” | 6” | 092037 | 1 |
| 19/32” | .5938 | 3” | 6” | 092038 | 1 |
| 39/64” | .6094 | 3” | 6” | 092039 | 1 |
| 5/8” | .6250 | 3” | 6” | 092040 | 1 |
| 41/64” | .6406 | 3” | 6” | 092041 | 1 |
| 21/32” | .6562 | 3” | 6” | 092042 | 1 |
| 43/64” | .6719 | 3” | 6” | 092043 | 1 |
| 11/16” | .6875 | 3” | 6” | 092044 | 1 |
| 45/64” | .7031 | 3” | 6” | 092045 | 1 |
| 23/32” | .7188 | 3” | 6” | 092046 | 1 |
| 47/64” | .7344 | 3” | 6” | 092047 | 1 |
| 3/4” | .7500 | 3” | 6” | 092048 | 1 |
| 49/64” | .7656 | 3” | 6” | 092049 | 1 |
| 25/32” | .7812 | 3” | 6” | 092050 | 1 |
| 51/64” | .7969 | 3” | 6” | 092051 | 1 |
| 13/16” | .8125 | 3” | 6” | 092052 | 1 |
| 53/64” | .8281 | 3” | 6” | 092053 | 1 |
| 27/32” | .8438 | 3” | 6” | 092054 | 1 |
| 55/64” | .8594 | 3” | 6” | 092055 | 1 |
| 7/8” | .8750 | 3” | 6” | 092056 | 1 |
| 57/64” | .8906 | 3” | 6” | 092057 | 1 |
| 29/32” | .9062 | 3” | 6” | 092058 | 1 |
| 59/64” | .9219 | 3” | 6” | 092059 | 1 |
| 15/16” | .9375 | 3” | 6” | 092060 | 1 |
| 61/64” | .9531 | 3” | 6” | 092061 | 1 |
| 31/32” | .9688 | 3” | 6” | 092062 | 1 |
| 63/64” | .9844 | 3” | 6” | 092063 | 1 |
| 1” | 1.0000 | 3” | 6” | 092064 | 1 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T98C | Molded Case | 8 Piece | 9/16”-1” by 16$^{ths}$ | 090909 |

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# REDUCED SHANK S&D DRILL

Expands the size range capacity of a 1/2" portable drill chuck. Common flute and overall length for minimal adjustment during tool changes. Precision ground for high degree of concentricity between shank and body diameter. Ideal for drilling in tough, high tensile strength materials. The 135º split point reduces thrust and eliminates walking at the drill point.

▷ ***All sizes are individually packaged***

## *1000EC SERIES*

**COBALT**

**135° Split Point / Reduced Shank**
**Fractional / Bronze**

1000EC

| Size | Flute Length | Overall Length | 1000EC Order No. |
|---|---|---|---|
| 33/64" | 3" | 6" | 1000EC133 |
| 17/32" | 3" | 6" | 1000EC134 |
| 35/64" | 3" | 6" | 1000EC135 |
| 9/16" | 3" | 6" | 1000EC136 |
| 37/64" | 3" | 6" | 1000EC137 |
| 19/32" | 3" | 6" | 1000EC138 |
| 39/64" | 3" | 6" | 1000EC139 |
| 5/8" | 3" | 6" | 1000EC140 |
| 41/64" | 3" | 6" | 1000EC141 |
| 21/32" | 3" | 6" | 1000EC142 |
| 43/64" | 3" | 6" | 1000EC143 |
| 11/16" | 3" | 6" | 1000EC144 |
| 45/64" | 3" | 6" | 1000EC145 |
| 23/32" | 3" | 6" | 1000EC146 |
| 47/64" | 3" | 6" | 1000EC147 |
| 3/4" | 3" | 6" | 1000EC148 |
| 49/64" | 3" | 6" | 1000EC149 |
| 25/32" | 3" | 6" | 1000EC150 |
| 51/64" | 3" | 6" | 1000EC151 |
| 13/16" | 3" | 6" | 1000EC152 |
| 53/64" | 3" | 6" | 1000EC153 |
| 27/32" | 3" | 6" | 1000EC154 |
| 55/64" | 3" | 6" | 1000EC155 |
| 7/8" | 3" | 6" | 1000EC156 |

| Size | Flute Length | Overall Length | 1000EC Order No. |
|---|---|---|---|
| 57/64" | 3" | 6" | 1000EC157 |
| 29/32" | 3" | 6" | 1000EC158 |
| 59/64" | 3" | 6" | 1000EC159 |
| 15/16" | 3" | 6" | 1000EC160 |
| 61/64" | 3" | 6" | 1000EC161 |
| 31/32" | 3" | 6" | 1000EC162 |
| 63/64" | 3" | 6" | 1000EC163 |
| 1" | 3" | 6" | 1000EC164 |
| 1-1/32" | 3" | 6" | 1000EC202 |
| 1-1/16" | 3" | 6" | 1000EC204 |
| 1-3/32" | 3" | 6" | 1000EC206 |
| 1-1/8" | 3" | 6" | 1000EC208 |
| 1-5/32" | 3" | 6" | 1000EC210 |
| 1-3/16" | 3" | 6" | 1000EC212 |
| 1-7/32" | 3" | 6" | 1000EC214 |
| 1-1/4" | 3" | 6" | 1000EC216 |
| 1-9/32" | 3" | 6" | 1000EC218 |
| 1-5/16" | 3" | 6" | 1000EC220 |
| 1-11/32" | 3" | 6" | 1000EC222 |
| 1-3/8" | 3" | 6" | 1000EC224 |
| 1-13/32" | 3" | 6" | 1000EC226 |
| 1-7/16" | 3" | 6" | 1000EC228 |
| 1-15/32" | 3" | 6" | 1000EC230 |
| 1-1/2" | 3" | 6" | 1000EC232 |

| Corresponding Sets | | |
|---|---|---|
| **No. of Pcs.** | **Description** | **Order No.** |
| **1000EC Series 1/2" Shank S&D Drill Sets** | | |
| 5 | 9/16" - 1" by 8ths | 1000EC5 |
| 8 | 9/16" - 1" by 16ths | 1000EC8 |
| 32 | STAND 1/2" - 1" by 64ths W/DRILLS | 1000EC32 |

1000EC5

# 1/2” & 3/8” REDUCED SHANK DRILLS SETS

1000A8

1000N32

| No. of Pieces | Brand | Material | Coating/Finish | Point Angle | Description | Order No. |
|---|---|---|---|---|---|---|
| **1000EC Series 1/2” Shank S&D Drill Sets** | | | | | | |
| 5 | – | Cobalt | Bronze | 135° | 9/16” - 1” by 8ths | 1000EC5 |
| 8 | – | Cobalt | Bronze | 135° | 9/16” - 1” by 16ths | 1000EC8 |
| 32 | – | Cobalt | Bronze | 135° | STAND 1/2” - 1” by 64ths W/DRILLS | 1000CE32 |
| **1000EF Series 1/2” Shank S&D Drill Sets** | | | | | | |
| 5 | – | High Speed Steel | Black & Gold | 135° | 9/16” - 1” by 8ths | 1000EF5 |
| 8 | – | High Speed Steel | Black & Gold | 135° | 9/16” - 1” by 16ths | 1000EF8 |
| 32 | – | High Speed Steel | Black & Gold | 135° | STAND 1/2” - 1” by 64ths W/DRILLS | 1000EF32 |
| **1000E Series 1/2” Shank S&D Drill Sets** | | | | | | |
| 5 | – | High Speed Steel | Bright & Black | 118° | 9/16” - 1” by 8ths | 1000E5 |
| 8 | – | High Speed Steel | Bright & Black | 118° | 9/16” - 1” by 16ths | 1000E8 |
| 32 | – | High Speed Steel | Bright & Black | 118° | STAND 1/2” - 1” by 64ths W/DRILLS | 1000E32 |
| **1035N & 1045N Series 3/8” Reduced Shank Drill Sets** | | | | | | |
| 15 | Nitro® | High Speed Steel | Black & Gold | 135° | 1/16” - 1/2” by 32nds | 1035N15 |
| 29 | Nitro® | High Speed Steel | Black & Gold | 135° | 1/16” - 1/2” by 64ths | 1035N29 |
| 15 | Nitro® | High Speed Steel | Black & Gold | 135° | 1/16” - 1/2” by 32nds | 1045N15 |
| 29 | Nitro® | High Speed Steel | Black & Gold | 135° | 1/16” - 1/2” by 64ths | 1045N29 |

| No. of Pieces | Brand | Material | Coating/Finish | Point Angle | Description | Order No. |
|---|---|---|---|---|---|---|
| **1000N Series 1/2” Shank S&D Drill Sets** | | | | | | |
| 5 | Nitro® | High Speed Steel | Black & Gold | 118° | 9/16” - 1” by 8ths | 1000N5 |
| 8 | Nitro® | High Speed Steel | Black & Gold | 118° | 9/16” - 1” by 16ths | 1000N8 |
| 32 | Nitro® | High Speed Steel | Black & Gold | 118° | STAND 1/2” - 1” by 64ths W/DRILLS | 1000N32 |
| **1000 Series 1/2” Shank S&D Drill Sets** | | | | | | |
| 5 | USA | High Speed Steel | Bright & Black | 118° | 9/16” - 1” by 8ths | 1000A5 |
| 8 | USA | High Speed Steel | Bright & Black | 118° | 9/16” - 1” by 16ths | 1000A8 |
| 32 | USA | High Speed Steel | Bright & Black | 118° | STAND 1/2” - 1” by 64ths W/DRILLS | 1000A32 |
| **1000C Series 1/2” Shank S&D Drill Sets** | | | | | | |
| 5 | USA | Cobalt | Black & Gold | 118° | 9/16” - 1” by 8ths | 1000C5 |
| 8 | USA | Cobalt | Black & Gold | 118° | 9/16” - 1” by 16ths | 1000C8 |
| 32 | USA | Cobalt | Black & Gold | 118° | STAND 1/2” - 1” by 64ths W/DRILLS | 1000C32 |
| **1000F Series 1/2” Shank S&D Drill Set** | | | | | | |
| 5 | USA | High Speed Steel | Bright & Black | 118° | 9/16” - 1” by 8ths | 1000F5 |
| 8 | USA | High Speed Steel | Bright & Black | 118° | 9/16” - 1” by 16ths | 1000F8 |
| 32 | USA | High Speed Steel | Bright & Black | 118° | STAND 1/2” - 1” by 64ths W/DRILLS | 1000F32 |

# TAPER LENGTH DRILLS

Straight shank taper length drills are standard for general purpose work in relatively deep holes. Shanks are the same diameter as the drill body.

▷ *All sizes are individually packaged*

## *900 SERIES*
## HIGH SPEED STEEL
### 118° Point / Straight Shank
### Fractional / Black Oxide

900

| Size | Flute Length | Overall Length | 900 Order No. |
|---|---|---|---|
| 1/4” | 3-3/4” | 6-1/8” | 900A116 |
| 9/32” | 3-7/8” | 6-1/4” | 900A118 |
| 5/16” | 4” | 6-3/8” | 900A120 |
| 11/32” | 4-1/8” | 6-1/2” | 900A122 |
| 23/64” | 4-1/4” | 6-3/4” | 900A123 |
| 3/8” | 4-1/4” | 6-3/4” | 900A124 |
| 25/64” | 4-3/8” | 7” | 900A125 |
| 13/32” | 4-3/8” | 7” | 900A126 |
| 27/64” | 4-5/8” | 7-1/4” | 900A127 |
| 7/16” | 4-5/8” | 7-1/4” | 900A128 |
| 29/64” | 4-3/4” | 7-1/2” | 900A129 |
| 15/32” | 4-3/4” | 7-1/2” | 900A130 |
| 31/64” | 4-3/4” | 7-3/4” | 900A131 |
| 1/2” | 4-3/4” | 7-3/4” | 900A132 |
| 33/64” | 4-3/4” | 8” | 900A133 |
| 17/32” | 4-3/4” | 8” | 900A134 |
| 35/64” | 4-7/8” | 8-1/4” | 900A135 |
| 9/16” | 4-7/8” | 8-1/4” | 900A136 |
| 37/64” | 4-7/8” | 8-3/4” | 900A137 |
| 19/32” | 4-7/8” | 8-3/4” | 900A138 |
| 39/64” | 4-7/8” | 8-3/4” | 900A139 |
| 5/8” | 4-7/8” | 8-3/4” | 900A140 |
| 41/64” | 5-1/8” | 9” | 900A141 |

| Size | Flute Length | Overall Length | 900 Order No. |
|---|---|---|---|
| 21/32” | 5-1/8” | 9” | 900A142 |
| 43/64” | 5-3/8” | 9-1/4” | 900A143 |
| 11/16” | 5-3/8” | 9-1/4” | 900A144 |
| 45/64” | 5-5/8” | 9-1/2” | 900A145 |
| 23/32” | 5-5/8” | 9-1/2” | 900A146 |
| 47/64” | 5-7/8” | 9-3/4” | 900A147 |
| 3/4” | 5-7/8” | 9-3/4” | 900A148 |
| 49/64” | 6” | 9-7/8” | 900A149 |
| 25/32” | 6” | 9-7/8” | 900A150 |
| 51/64” | 6-1/8” | 10” | 900A151 |
| 13/16” | 6-1/8” | 10” | 900A152 |
| 53/64” | 6-1/8” | 10” | 900A153 |
| 27/32” | 6-1/8” | 10” | 900A154 |
| 55/64” | 6-1/8” | 10” | 900A155 |
| 7/8” | 6-1/8” | 10” | 900A156 |
| 57/64” | 6-1/8” | 10” | 900A157 |
| 29/32” | 6-1/8” | 10” | 900A158 |
| 59/64” | 6-1/8” | 10-3/4” | 900A159 |
| 15/16” | 6-1/8” | 10-3/4” | 900A160 |
| 61/64” | 6-3/8” | 11” | 900A161 |
| 31/32” | 6-3/8” | 11” | 900A162 |
| 63/64” | 6-3/8” | 11” | 900A163 |
| 1” | 6-3/8” | 11” | 900A164 |

# 6” AIRCRAFT EXTENSION DRILLS

Manufactured to NAS 907 Type B specifications, 135º split point, surface-treated with jobber flute lengths for drilling holes in hard-to-reach places. Heavy-duty construction for portable or machine drilling in high tensile strength alloy steels.

- *135° Split Point reduces "walking"*
- *Extended length to drill hard to reach places*
- *Black Oxide surface treatment to improve performance*

## *1100 SERIES*

**HIGH SPEED STEEL**

### 135° Split Point / Straight Shank
### Fractional / Black Oxide

1100

| Size | Flute Length | Overall Length | 1100 Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 6” | 1100A104 |
| 5/64” | 1” | 6” | 1100A105 |
| 3/32” | 1-1/4” | 6” | 1100A106 |
| 7/64” | 1-1/2” | 6” | 1100A107 |
| 1/8” | 1-5/8” | 6” | 1100A108 |
| 9/64” | 1-3/4” | 6” | 1100A109 |
| 5/32” | 2” | 6” | 1100A110 |
| 11/64” | 2-1/8” | 6” | 1100A111 |
| 3/16” | 2-5/16” | 6” | 1100A112 |
| 13/64” | 2-7/16” | 6” | 1100A113 |
| 7/32” | 2-1/2” | 6” | 1100A114 |
| 15/64” | 2-5/8” | 6” | 1100A115 |
| 1/4” | 2-3/4” | 6” | 1100A116 |
| 17/64” | 2-7/8” | 6” | 1100A117 |
| 9/32” | 2-15/16” | 6” | 1100A118 |

| Size | Flute Length | Overall Length | 1100 Order No. |
|---|---|---|---|
| 19/64” | 3-1/16” | 6” | 1100A119 |
| 5/16” | 3-3/16” | 6” | 1100A120 |
| 21/64” | 3-5/16” | 6” | 1100A121 |
| 11/32” | 3-7/16” | 6” | 1100A122 |
| 23/64” | 3-1/2” | 6” | 1100A123 |
| 3/8” | 3-5/8” | 6” | 1100A124 |
| 25/64” | 3-3/4” | 6” | 1100A125 |
| 13/32” | 3-7/8” | 6” | 1100A126 |
| 27/64” | 3-15/16” | 6” | 1100A127 |
| 7/16” | 4-1/16” | 6” | 1100A128 |
| 29/64” | 4-3/16” | 6” | 1100A129 |
| 15/32” | 4-5/16” | 6” | 1100A130 |
| 31/64” | 4-3/8” | 6” | 1100A131 |
| 1/2” | 4-1/2” | 6” | 1100A132 |

1/16” thru 1/2” - 6 per pack

## *1180 SERIES*

**HIGH SPEED STEEL**

### 135° Split Point / Straight Shank
### Number / Black Oxide

1180

| Size | Flute Length | Overall Length | 1180 Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 6” | 1180A001 |
| 2 | 2-5/8” | 6” | 1180A002 |
| 3 | 2-1/2” | 6” | 1180A003 |
| 4 | 2-1/2” | 6” | 1180A004 |
| 5 | 2-1/2” | 6” | 1180A005 |
| 6 | 2-1/2” | 6” | 1180A006 |
| 7 | 2-7/16” | 6” | 1180A007 |
| 8 | 2-7/16” | 6” | 1180A008 |
| 9 | 2-7/16” | 6” | 1180A009 |
| 10 | 2-7/16” | 6” | 1180A010 |
| 11 | 2-5/16” | 6” | 1180A011 |
| 12 | 2-5/16” | 6” | 1180A012 |
| 13 | 2-5/16” | 6” | 1180A013 |
| 14 | 2-3/16” | 6” | 1180A014 |
| 15 | 2-3/16” | 6” | 1180A015 |
| 16 | 2-3/16” | 6” | 1180A016 |
| 17 | 2-3/16” | 6” | 1180A017 |
| 18 | 2-1/8” | 6” | 1180A018 |
| 19 | 2-1/8” | 6” | 1180A019 |
| 20 | 2-1/8” | 6” | 1180A020 |

| Size | Flute Length | Overall Length | 1180 Order No. |
|---|---|---|---|
| 21 | 2-1/8” | 6” | 1180A021 |
| 22 | 2” | 6” | 1180A022 |
| 23 | 2” | 6” | 1180A023 |
| 24 | 2” | 6” | 1180A024 |
| 25 | 1-7/8” | 6” | 1180A025 |
| 26 | 1-7/8” | 6” | 1180A026 |
| 27 | 1-7/8” | 6” | 1180A027 |
| 28 | 1-3/4” | 6” | 1180A028 |
| 29 | 1-3/4” | 6” | 1180A029 |
| 30 | 1-5/8” | 6” | 1180A030 |
| 31 | 1-5/8” | 6” | 1180A031 |
| 32 | 1-5/8” | 6” | 1180A032 |
| 33 | 1-1/2” | 6” | 1180A033 |
| 34 | 1-1/2” | 6” | 1180A034 |
| 35 | 1-1/2” | 6” | 1180A035 |
| 36 | 1-7/16” | 6” | 1180A036 |
| 37 | 1-7/16” | 6” | 1180A037 |
| 38 | 1-7/16” | 6” | 1180A038 |
| 39 | 1-3/8” | 6” | 1180A039 |
| 40 | 1-3/8” | 6” | 1180A040 |

#1 thru #40 - 6 per pack

# 6” AIRCRAFT EXTENSION DRILLS

Manufactured to NAS 907 Type B specifications, 135º split point, surface-treated with jobber flute lengths for drilling holes in hard-to-reach places. Heavy-duty construction for portable or machine drilling in high tensile strength alloy steels.

- *135° Split Point reduces "walking"*
- *Extended length to drill hard to reach places*
- *Black Oxide surface treatment to improve performance*

## *T6HH - BP6HH - T6WW SERIES*

**HIGH SPEED STEEL**

**135° Split Point**

**Black Oxide**

| Fractional | | | | T6HH Packaging: Tube | | T6HH Packaging: Bulk | | BP6HH Packaging: Tube | |
|---|---|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 7/64” | .1094 | 1-1/2” | 6” | 057507 | 6 | 057507.20 | 144 | 057707 | 1 |
| 1/8” | .1250 | 1-5/8” | 6” | 057508 | 6 | 057508.20 | 144 | 057708 | 1 |
| 9/64” | .1406 | 1-3/4” | 6” | 057509 | 6 | 057509.20 | 144 | 057709 | 1 |
| 5/32” | .1562 | 2” | 6” | 057510 | 6 | 057510.20 | 144 | 057710 | 1 |
| 11/64” | .1719 | 2-1/8” | 6” | 057511 | 6 | 057511.20 | 144 | 057711 | 1 |
| 3/16” | .1875 | 2-5/16” | 6” | 057512 | 6 | 057512.20 | 144 | 057712 | 1 |
| 13/64” | .2031 | 2-7/16” | 6” | 057513 | 6 | 057513.20 | 144 | 057713 | 1 |
| 7/32” | .2188 | 2-1/2” | 6” | 057514 | 6 | 057514.20 | 144 | 057714 | 1 |
| 15/64” | .2344 | 2-5/8” | 6” | 057515 | 6 | 057515.20 | 144 | 057715 | 1 |
| 1/4” | .2500 | 2-3/4” | 6” | 057516 | 6 | 057516.20 | 144 | 057716 | 1 |
| 17/64” | .2656 | 2-7/8” | 6” | 057517 | 6 | 057517.20 | 144 | 057717 | 1 |
| 9/32” | .2812 | 2-15/16” | 6” | 057518 | 6 | 057518.20 | 144 | 057718 | 1 |
| 19/64” | .2969 | 3-1/16” | 6” | 057519 | 6 | 057519.20 | 144 | 057719 | 1 |
| 5/16” | .3125 | 3-3/16” | 6” | 057520 | 6 | 057520.20 | 144 | 057720 | 1 |
| 21/64” | .3281 | 3-5/16” | 6” | 057521 | 6 | 057521.20 | 144 | 057721 | 1 |
| 11/32” | .3438 | 3-7/16” | 6” | 057522 | 6 | 057522.20 | 144 | 057722 | 1 |
| 23/64” | .3594 | 3-1/2” | 6” | 057523 | 6 | 057523.20 | 144 | 057723 | 1 |
| 3/8” | .3750 | 3-5/8” | 6” | 057524 | 6 | 057524.20 | 144 | 057724 | 1 |
| 7/16” | .4375 | 4-1/16” | 6” | 057528 | 6 | 057528.20 | 144 | 057728 | 1 |
| 1/2” | .5000 | 4-1/2” | 6” | 057532 | 6 | 057532.20 | 144 | 057732 | 1 |

| Number | | | | T6WW Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 2 | .2210 | 2-5/8” | 6” | 057602 | 6 |
| 5 | .2055 | 2-1/2” | 6” | 057605 | 6 |
| 6 | .2040 | 2-1/2” | 6” | 057606 | 6 |
| 9 | .1960 | 2-7/16” | 6” | 057609 | 6 |
| 10 | .1935 | 2-7/16” | 6” | 057610 | 6 |
| 11 | .1910 | 2-5/16” | 6” | 057611 | 6 |
| 18 | .1695 | 2-1/8” | 6” | 057618 | 6 |
| 19 | .1660 | 2-1/8” | 6” | 057619 | 6 |
| 20 | .1610 | 2-1/8” | 6” | 057620 | 6 |
| 21 | .1590 | 2-1/8” | 6” | 057621 | 6 |
| 25 | .1495 | 1-7/8” | 6” | 057625 | 6 |
| 27 | .1440 | 1-7/8” | 6” | 057627 | 6 |
| 29 | .1360 | 1-3/4” | 6” | 057629 | 6 |
| 30 | .1285 | 1-5/8” | 6” | 057630 | 6 |
| 33 | .1130 | 1-1/2” | 6” | 057633 | 6 |
| 40 | .0980 | 1-3/8” | 6” | 057640 | 6 |

| Number | | | | T6WW Packaging: Bulk | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 20 | .1610 | 2-1/8” | ”6 | 057620.20 | 144 |
| 30 | .1285 | 1-5/8” | 6” | 057630.20 | 144 |

# 12” AIRCRAFT EXTENSION DRILLS

## *1200 SERIES*

**HIGH SPEED STEEL**

135° Split Point / Straight Shank
Fractional / Black Oxide

1200

| Size | Flute Length | Overall Length | 1200 Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 12” | 1200A104 |
| 5/64” | 1” | 12” | 1200A105 |
| 3/32” | 1-1/4” | 12” | 1200A106 |
| 7/64” | 1-1/2” | 12” | 1200A107 |
| 1/8” | 1-5/8” | 12” | 1200A108 |
| 9/64” | 1-3/4” | 12” | 1200A109 |
| 5/32” | 2” | 12” | 1200A110 |
| 11/64” | 2-1/8” | 12” | 1200A111 |
| 3/16” | 2-5/16” | 12” | 1200A112 |
| 13/64” | 2-7/16” | 12” | 1200A113 |
| 7/32” | 2-1/2” | 12” | 1200A114 |
| 15/64” | 2-5/8” | 12” | 1200A115 |
| 1/4” | 2-3/4” | 12” | 1200A116 |
| 17/64” | 2-7/8” | 12” | 1200A117 |
| 9/32” | 2-15/16” | 12” | 1200A118 |

| Size | Flute Length | Overall Length | 1200 Order No. |
|---|---|---|---|
| 19/64” | 3-1/16” | 12” | 1200A119 |
| 5/16” | 3-3/16” | 12” | 1200A120 |
| 21/64” | 3-5/16” | 12” | 1200A121 |
| 11/32” | 3-7/16” | 12” | 1200A122 |
| 23/64” | 3-1/2” | 12” | 1200A123 |
| 3/8” | 3-5/8” | 12” | 1200A124 |
| 25/64” | 3-3/4” | 12” | 1200A125 |
| 13/32” | 3-7/8” | 12” | 1200A126 |
| 27/64” | 3-15/16” | 12” | 1200A127 |
| 7/16” | 4-1/16” | 12” | 1200A128 |
| 29/64” | 4-3/16” | 12” | 1200A129 |
| 15/32” | 4-5/16” | 12” | 1200A130 |
| 31/64” | 4-3/8” | 12” | 1200A131 |
| 1/2” | 4-1/2” | 12” | 1200A132 |

1/16” thru 19/64” - 6 per pack, 5/16” thru 1/2” - 3 per pack

## *1280 SERIES*

**HIGH SPEED STEEL**

135° Split Point / Straight Shank
Number / Black Oxide

1280

| Size | Flute Length | Overall Length | 1280 Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 12” | 1280A001 |
| 2 | 2-5/8” | 12” | 1280A002 |
| 3 | 2-1/2” | 12” | 1280A003 |
| 4 | 2-1/2” | 12” | 1280A004 |
| 5 | 2-1/2” | 12” | 1280A005 |
| 6 | 2-1/2” | 12” | 1280A006 |
| 7 | 2-7/16” | 12” | 1280A007 |
| 8 | 2-7/16” | 12” | 1280A008 |
| 9 | 2-7/16” | 12” | 1280A009 |
| 10 | 2-7/16” | 12” | 1280A010 |
| 11 | 2-5/16” | 12” | 1280A011 |
| 12 | 2-5/16” | 12” | 1280A012 |
| 13 | 2-5/16” | 12” | 1280A013 |
| 14 | 2-3/16” | 12” | 1280A014 |
| 15 | 2-3/16” | 12” | 1280A015 |
| 16 | 2-3/16” | 12” | 1280A016 |
| 17 | 2-3/16” | 12” | 1280A017 |
| 18 | 2-1/8” | 12” | 1280A018 |
| 19 | 2-1/8” | 12” | 1280A019 |
| 20 | 2-1/8” | 12” | 1280A020 |

| Size | Flute Length | Overall Length | 1280 Order No. |
|---|---|---|---|
| 21 | 2-1/8” | 12” | 1280A021 |
| 22 | 2” | 12” | 1280A022 |
| 23 | 2” | 12” | 1280A023 |
| 24 | 2” | 12” | 1280A024 |
| 25 | 1-7/8” | 12” | 1280A025 |
| 26 | 1-7/8” | 12” | 1280A026 |
| 27 | 1-7/8” | 12” | 1280A027 |
| 28 | 1-3/4” | 12” | 1280A028 |
| 29 | 1-3/4” | 12” | 1280A029 |
| 30 | 1-5/8” | 12” | 1280A030 |
| 31 | 1-5/8” | 12” | 1280A031 |
| 32 | 1-5/8” | 12” | 1280A032 |
| 33 | 1-1/2” | 12” | 1280A033 |
| 34 | 1-1/2” | 12” | 1280A034 |
| 35 | 1-1/2” | 12” | 1280A035 |
| 36 | 1-7/16” | 12” | 1280A036 |
| 37 | 1-7/16” | 12” | 1280A037 |
| 38 | 1-7/16” | 12” | 1280A038 |
| 39 | 1-3/8” | 12” | 1280A039 |
| 40 | 1-3/8” | 12” | 1280A040 |

#1 thru #40 - 6 per pack

# 12” AIRCRAFT EXTENSION DRILLS

## *T12HH - BP12HH - T12WW SERIES*

**HIGH SPEED STEEL**

135° Split Point
Black Oxide

| | | | | T12HH Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 5/64” | .0781 | 1” | 12” | 058505 | 6 |
| 3/32” | .0938 | 1-1/4” | 12” | 058506 | 6 |
| 7/64” | .1094 | 1-1/2” | 12” | 058507 | 6 |
| 1/8” | .1250 | 1-5/8” | 12” | 058508 | 6 |
| 9/64” | .1406 | 1-3/4” | 12” | 058509 | 6 |
| 5/32” | .1562 | 2” | 12” | 058510 | 6 |
| 11/64” | .1719 | 2-1/8” | 12” | 058511 | 6 |
| 3/16” | .1875 | 2-5/16” | 12” | 058512 | 6 |
| 7/32” | .2188 | 2-1/2” | 12” | 058514 | 6 |
| 1/4” | .2500 | 2-3/4” | 12” | 058516 | 6 |
| 17/64” | .2656 | 2-7/8” | 12” | 058517 | 6 |
| 9/32” | .2812 | 2-15/16” | 12” | 058518 | 6 |
| 19/64” | .2969 | 3-1/16” | 12” | 058519 | 6 |
| 5/16” | .3125 | 3-3/16” | 12” | 058520 | 3 |
| 11/32” | .3438 | 3-7/16” | 12” | 058522 | 3 |
| 3/8” | .3750 | 3-5/8” | 12” | 058524 | 3 |
| 13/32” | .4062 | 3-7/8” | 12” | 058526 | 3 |
| 7/16” | .4375 | 4-1/16” | 12” | 058528 | 3 |
| 15/32” | .4688 | 4-5/16” | 12” | 058530 | 3 |
| 1/2” | .5000 | 4-1/2” | 12” | 058532 | 3 |

| | | | | T12WW Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1 | .2280 | 2-5/8” | 12” | 058601 | 6 |
| 7 | .2010 | 2-7/16” | 12” | 058607 | 6 |
| 10 | .1935 | 2-7/16” | 12” | 058610 | 6 |
| 11 | .1910 | 2-5/16” | 12” | 058611 | 6 |
| 17 | .1730 | 2-3/16” | 12” | 058617 | 6 |
| 20 | .1610 | 2-1/8” | 12” | 058620 | 6 |
| 30 | .1285 | 1-5/8” | 12” | 058630 | 6 |
| 40 | .0980 | 1-3/8” | 12” | 058640 | 6 |

| | | | | BP12HH Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/8” | .1250 | 1-5/8” | 12” | 058408 | 1 |
| 3/16” | .1875 | 2-5/16” | 12” | 058412 | 1 |
| 1/4” | .2500 | 2-3/4” | 12” | 058416 | 1 |
| 5/16” | .3125 | 3-3/16” | 12” | 058420 | 1 |
| 3/8” | .3750 | 3-5/8” | 12” | 058424 | 1 |
| 7/16” | .4375 | 4-1/16” | 12” | 058428 | 1 |
| 1/2” | .5000 | 4-1/2” | 12” | 058432 | 1 |

# 6” AIRCRAFT EXTENSION DRILLS

Manufactured to NAS 907 Type J specifications, 135º split point, surface-treated with jobber flute lengths for drilling holes in hard-to-reach places. Heavy-duty construction for portable or machine drilling in high tensile strength alloy steels, stainless steels, titanium, and other difficult-to-machine materials.

## *1100C SERIES*

**COBALT**

### 135° Split Point / Straight Shank
### Fractional / Bronze

1100C

| Size | Flute Length | Overall Length | 1100C Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 6” | 1100C104 |
| 5/64” | 1” | 6” | 1100C105 |
| 3/32” | 1-1/4” | 6” | 1100C106 |
| 7/64” | 1-1/2” | 6” | 1100C107 |
| 1/8” | 1-5/8” | 6” | 1100C108 |
| 9/64” | 1-3/4” | 6” | 1100C109 |
| 5/32” | 2” | 6” | 1100C110 |
| 11/64” | 2-1/8” | 6” | 1100C111 |

| Size | Flute Length | Overall Length | 1100C Order No. |
|---|---|---|---|
| 3/16” | 2-5/16” | 6” | 1100C112 |
| 13/64” | 2-7/16” | 6” | 1100C113 |
| 7/32” | 2-1/2” | 6” | 1100C114 |
| 15/64” | 2-5/8” | 6” | 1100C115 |
| 1/4” | 2-3/4” | 6” | 1100C116 |
| 9/32” | 2-15/16” | 6” | 1100C118 |
| 5/16” | 3-3/16” | 6” | 1100C120 |
| 3/8” | 3-5/8” | 6” | 1100C124 |

## *1180C SERIES*

**COBALT**

### 135° Split Point / Straight Shank
### Number / Bronze

1180C

| Size | Flute Length | Overall Length | 1180C Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 6” | 1180C001 |
| 2 | 2-5/8” | 6” | 1180C002 |
| 3 | 2-1/2” | 6” | 1180C003 |
| 4 | 2-1/2” | 6” | 1180C004 |
| 5 | 2-1/2” | 6” | 1180C005 |
| 6 | 2-1/2” | 6” | 1180C006 |
| 7 | 2-7/16” | 6” | 1180C007 |
| 8 | 2-7/16” | 6” | 1180C008 |
| 9 | 2-7/16” | 6” | 1180C009 |
| 10 | 2-7/16” | 6” | 1180C010 |
| 11 | 2-5/16” | 6” | 1180C011 |
| 12 | 2-5/16” | 6” | 1180C012 |
| 13 | 2-5/16” | 6” | 1180C013 |
| 14 | 2-3/16” | 6” | 1180C014 |
| 15 | 2-3/16” | 6” | 1180C015 |
| 16 | 2-3/16” | 6” | 1180C016 |
| 17 | 2-3/16” | 6” | 1180C017 |
| 18 | 2-1/8” | 6” | 1180C018 |
| 19 | 2-1/8” | 6” | 1180C019 |
| 20 | 2-1/8” | 6” | 1180C020 |

| Size | Flute Length | Overall Length | 1180C Order No. |
|---|---|---|---|
| 21 | 2-1/8” | 6” | 1180C021 |
| 22 | 2” | 6” | 1180C022 |
| 23 | 2” | 6” | 1180C023 |
| 24 | 2” | 6” | 1180C024 |
| 25 | 1-7/8” | 6” | 1180C025 |
| 26 | 1-7/8” | 6” | 1180C026 |
| 27 | 1-7/8” | 6” | 1180C027 |
| 28 | 1-3/4” | 6” | 1180C028 |
| 29 | 1-3/4” | 6” | 1180C029 |
| 30 | 1-5/8” | 6” | 1180C030 |
| 31 | 1-5/8” | 6” | 1180C031 |
| 32 | 1-5/8” | 6” | 1180C032 |
| 33 | 1-1/2” | 6” | 1180C033 |
| 34 | 1-1/2” | 6” | 1180C034 |
| 35 | 1-1/2” | 6” | 1180C035 |
| 36 | 1-7/16” | 6” | 1180C036 |
| 37 | 1-7/16” | 6” | 1180C037 |
| 38 | 1-7/16” | 6” | 1180C038 |
| 39 | 1-3/8” | 6” | 1180C039 |
| 40 | 1-3/8” | 6” | 1180C040 |

1/16” thru 3/8” - 6 per pack, #1 thru #40 - 6 per pack

# 12” AIRCRAFT EXTENSION DRILLS

## *1200C SERIES*

**COBALT**

**135° Split Point / Straight Shank**
**Fractional / Bronze**

1200C

| Size | Flute Length | Overall Length | 1200C Order No. |
|---|---|---|---|
| 1/16” | 7/8” | 12” | 1200C104 |
| 5/64” | 1” | 12” | 1200C105 |
| 3/32” | 1-1/4” | 12” | 1200C106 |
| 7/64” | 1-1/2” | 12” | 1200C107 |
| 1/8” | 1-5/8” | 12” | 1200C108 |
| 9/64” | 1-3/4” | 12” | 1200C109 |
| 5/32” | 2” | 12” | 1200C110 |
| 11/64” | 2-1/8” | 12” | 1200C111 |
| 3/16” | 2-5/16” | 12” | 1200C112 |
| 13/64” | 2-7/16” | 12” | 1200C113 |
| 7/32” | 2-1/2” | 12” | 1200C114 |
| 15/64” | 2-5/8” | 12” | 1200C115 |
| 1/4” | 2-3/4” | 12” | 1200C116 |
| 17/64” | 2-7/8” | 12” | 1200C117 |
| 9/32” | 2-15/16” | 12” | 1200C118 |

| Size | Flute Length | Overall Length | 1200C Order No. |
|---|---|---|---|
| 19/64” | 3-1/16” | 12” | 1200C119 |
| 5/16” | 3-3/16” | 12” | 1200C120 |
| 21/64” | 3-5/16” | 12” | 1200C121 |
| 11/32” | 3-7/16” | 12” | 1200C122 |
| 23/64” | 3-1/2” | 12” | 1200C123 |
| 3/8” | 3-5/8” | 12” | 1200C124 |
| 25/64” | 3-3/4” | 12” | 1200C125 |
| 13/32” | 3-7/8” | 12” | 1200C126 |
| 27/64” | 3-15/16” | 12” | 1200C127 |
| 7/16” | 4-1/16” | 12” | 1200C128 |
| 29/64” | 4-3/16” | 12” | 1200C129 |
| 15/32” | 4-5/16” | 12” | 1200C130 |
| 31/64” | 4-3/8” | 12” | 1200C131 |
| 1/2” | 4-1/2” | 12” | 1200C132 |

1/16” thru 19/64” - 6 per pack, 5/16” thru 1/2” - 3 per pack

## *1280C SERIES*

**COBALT**

**135° Split Point / Straight Shank**
**Number / Bronze**

1280C

| Size | Flute Length | Length | 1280C Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 12” | 1280C001 |
| 2 | 2-5/8” | 12” | 1280C002 |
| 3 | 2-1/2” | 12” | 1280C003 |
| 4 | 2-1/2” | 12” | 1280C004 |
| 5 | 2-1/2” | 12” | 1280C005 |
| 6 | 2-1/2” | 12” | 1280C006 |
| 7 | 2-7/16” | 12” | 1280C007 |
| 8 | 2-7/16” | 12” | 1280C008 |
| 9 | 2-7/16” | 12” | 1280C009 |
| 10 | 2-7/16” | 12” | 1280C010 |
| 11 | 2-5/16” | 12” | 1280C011 |
| 12 | 2-5/16” | 12” | 1280C012 |
| 13 | 2-5/16” | 12” | 1280C013 |
| 14 | 2-3/16” | 12” | 1280C014 |
| 15 | 2-3/16” | 12” | 1280C015 |
| 16 | 2-3/16” | 12” | 1280C016 |
| 17 | 2-3/16” | 12” | 1280C017 |
| 18 | 2-1/8” | 12” | 1280C018 |
| 19 | 2-1/8” | 12” | 1280C019 |
| 20 | 2-1/8” | 12” | 1280C020 |

| Size | Flute Length | Overall Length | 1280C Order No. |
|---|---|---|---|
| 21 | 2-1/8” | 12” | 1200C021 |
| 22 | 2” | 12” | 1200C022 |
| 23 | 2” | 12” | 1200C023 |
| 24 | 2” | 12” | 1200C024 |
| 25 | 1-7/8” | 12” | 1200C025 |
| 26 | 1-7/8” | 12” | 1200C026 |
| 27 | 1-7/8” | 12” | 1200C027 |
| 28 | 1-3/4” | 12” | 1200C028 |
| 29 | 1-3/4” | 12” | 1200C029 |
| 30 | 1-5/8” | 12” | 1200C030 |
| 31 | 1-5/8” | 12” | 1200C031 |
| 32 | 1-5/8” | 12” | 1200C032 |
| 33 | 1-1/2” | 12” | 1200C033 |
| 34 | 1-1/2” | 12” | 1200C034 |
| 35 | 1-1/2” | 12” | 1200C035 |
| 36 | 1-7/16” | 12” | 1200C036 |
| 37 | 1-7/16” | 12” | 1200C037 |
| 38 | 1-7/16” | 12” | 1200C038 |
| 39 | 1-3/8” | 12” | 1200C039 |
| 40 | 1-3/8” | 12” | 1200C040 |

#1 thru #40 - 6 per pack

# EXTRA LENGTH DRILLS

## 8” EXTRA LENGTH DRILLS

Because of the inaccessibility or the extreme depth of a hole, it is often found that even long series drills are not long enough. The drilling of such holes generally requires the use of an Extra Length Drill. The drills are made with a general purpose flute design which will perform well under the widest range of operating conditions and materials.

### *1308 SERIES*

**HIGH SPEED STEEL**

**118° Point / Straight Shank**

**Fractional / Black Oxide**

1308

| Size | Flute Length | Overall Length | 1308 Order No. |
|---|---|---|---|
| 1/8” | 6” | 8” | 1308A108 |
| 9/64” | 6” | 8” | 1308A109 |
| 5/32” | 6” | 8” | 1308A110 |
| 11/64” | 6” | 8” | 1308A111 |
| 3/16” | 6” | 8” | 1308A112 |
| 13/64” | 6” | 8” | 1308A113 |
| 7/32” | 6” | 8” | 1308A114 |
| 15/64” | 6” | 8” | 1308A115 |
| 1/4” | 6” | 8” | 1308A116 |
| 17/64” | 6” | 8” | 1308A117 |
| 9/32” | 6” | 8” | 1308A118 |
| 19/64” | 6” | 8” | 1308A119 |
| 5/16” | 6” | 8” | 1308A120 |

| Size | Flute Length | Overall Length | 1308 Order No. |
|---|---|---|---|
| 21/64” | 6” | 8” | 1308A121 |
| 11/32” | 6” | 8” | 1308A122 |
| 23/64” | 6” | 8” | 1308A123 |
| 3/8” | 6” | 8” | 1308A124 |
| 25/64” | 6” | 8” | 1308A125 |
| 13/32” | 6” | 8” | 1308A126 |
| 27/64” | 6” | 8” | 1308A127 |
| 7/16” | 6” | 8” | 1308A128 |
| 29/64” | 6” | 8” | 1308A129 |
| 15/32” | 6” | 8” | 1308A130 |
| 31/64” | 6” | 8” | 1308A131 |
| 1/2” | 6” | 8” | 1308A132 |

1 per pack

## 12” EXTRA LENGTH DRILLS

### *1312 / 1312R SERIES*

**HIGH SPEED STEEL**

**118° Point / Straight & Reduced Shanks**

**Fractional / Black Oxide**

1312 - Straight Shank

1312R - 1/2” Reduced Shank

| Size | Flute Length | Overall Length | 1312 Order No. |
|---|---|---|---|
| 1/8” | 9” | 12” | 1312A108 |
| 9/64” | 9” | 12” | 1312A109 |
| 5/32” | 9” | 12” | 1312A110 |
| 11/64” | 9” | 12” | 1312A111 |
| 3/16” | 9” | 12” | 1312A112 |
| 13/64” | 9” | 12” | 1312A113 |
| 7/32” | 9” | 12” | 1312A114 |
| 15/64” | 9” | 12” | 1312A115 |
| 1/4” | 9” | 12” | 1312A116 |
| 17/64” | 9” | 12” | 1312A117 |
| 9/32” | 9” | 12” | 1312A118 |
| 19/64” | 9” | 12” | 1312A119 |
| 5/16” | 9” | 12” | 1312A120 |
| 21/64” | 9” | 12” | 1312A121 |
| 11/32” | 9” | 12” | 1312A122 |
| 23/64” | 9” | 12” | 1312A123 |
| 3/8” | 9” | 12” | 1312A124 |
| 25/64” | 9” | 12” | 1312A125 |
| 13/32” | 9” | 12” | 1312A126 |
| 27/64” | 9” | 12” | 1312A127 |
| 7/16” | 9” | 12” | 1312A128 |

| Size | Flute Length | Overall Length | 1312 Order No. | 1312R Order No. |
|---|---|---|---|---|
| 29/64” | 9” | 12” | 1312A129 | – |
| 15/32” | 9” | 12” | 1312A130 | – |
| 31/64” | 9” | 12” | 1312A131 | – |
| 1/2” | 9” | 12” | 1312A132 | – |
| 33/64” | 9” | 12” | 1312A133 | 1312AR133 |
| 17/32” | 9” | 12” | 1312A134 | 1312AR134 |
| 35/64” | 9” | 12” | 1312A135 | 1312AR135 |
| 9/16” | 9” | 12” | 1312A136 | 1312AR136 |
| 37/64” | 9” | 12” | 1312A137 | 1312AR137 |
| 19/32” | 9” | 12” | 1312A138 | 1312AR138 |
| 39/64” | 9” | 12” | 1312A139 | 1312AR139 |
| 5/8” | 9” | 12” | 1312A140 | 1312AR140 |
| 41/64” | 9” | 12” | 1312A141 | 1312AR141 |
| 21/32” | 9” | 12” | 1312A142 | 1312AR142 |
| 43/64” | 9” | 12” | 1312A143 | 1312AR143 |
| 11/16” | 9” | 12” | 1312A144 | 1312AR144 |
| 45/64” | 9” | 12” | 1312A145 | 1312AR145 |
| 23/32” | 9” | 12” | 1312A146 | 1312AR146 |
| 47/64” | 9” | 12” | 1312A147 | 1312AR147 |
| 3/4” | 9” | 12” | 1312A148 | 1312AR148 |

1 per pack

MADE IN THE USA TRIUMPH TWIST DRILL

# 12” EXTRA LENGTH DRILLS

***T1290 SERIES***
**HIGH SPEED STEEL**
**118° Point**
**Bright Finish**

| | | | | T1290 Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/8” | .1250 | 9” | 12” | 059808 | 1 |
| 5/32” | .1562 | 9” | 12” | 059810 | 1 |
| 3/16” | .2031 | 9” | 12” | 059812 | 1 |
| 7/32” | .2188 | 9” | 12” | 059814 | 1 |
| 1/4” | .2500 | 9” | 12” | 059816 | 1 |
| 9/32” | .2812 | 9” | 12” | 059818 | 1 |
| 5/16” | .3125 | 9” | 12” | 059820 | 1 |
| 11/32” | .3438 | 9” | 12” | 059822 | 1 |
| 3/8” | .3750 | 9” | 12” | 059824 | 1 |
| 13/32” | .4062 | 9” | 12” | 059826 | 1 |
| 7/16” | .4375 | 9” | 12” | 059828 | 1 |
| 15/32” | .4688 | 9” | 12” | 059830 | 1 |
| 1/2” | .5000 | 9” | 12” | 059832 | 1 |
| 17/32”* | .5312 | 9” | 12” | 059834 | 1 |
| 9/16”* | .5625 | 9” | 12” | 059836 | 1 |
| 5/8”* | .6250 | 9” | 12” | 059840 | 1 |

* Black oxide

# 18” EXTRA LENGTH DRILLS

***T1813 SERIES***
**HIGH SPEED STEEL**
**118° Split Point**
**Bright Finish**

| | | | | T1813 Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/4 | .2500 | 13” | 18” | 059916 | 1 |
| 5/16 | .3125 | 13” | 18” | 059920 | 1 |
| 3/8 | .3750 | 13” | 18” | 059924 | 1 |
| 7/16 | .4375 | 13” | 18” | 059928 | 1 |
| 1/2 | .5000 | 13” | 18” | 059932 | 1 |
| 9/16* | .6250 | 13” | 18” | 059936 | 1 |
| 5/8* | .6250 | 13” | 18” | 059940 | 1 |

* Black oxide

# 18” EXTRA LENGTH DRILLS

MADE IN THE USA DRILLCO CUTTING TOOLS

***1318 / 1318R SERIES***
**HIGH SPEED STEEL**
**118° Point / Straight & Reduced Shanks**
**Fractional / Black Oxide**

1318 - Straight Shank

1318R - 1/2” Reduced Shank

| Size | Flute Length | Overall Length | 1318 Order No. |
|---|---|---|---|
| 1/4” | 13” | 18” | 1318A116 |
| 17/64” | 13” | 18” | 1318A117 |
| 9/32” | 13” | 18” | 1318A118 |
| 19/64” | 13” | 18” | 1318A119 |
| 5/16” | 13” | 18” | 1318A120 |
| 21/64” | 13” | 18” | 1318A121 |
| 11/32” | 13” | 18” | 1318A122 |
| 23/64” | 13” | 18” | 1318A123 |
| 3/8” | 13” | 18” | 1318A124 |
| 25/64” | 13” | 18” | 1318A125 |
| 13/32” | 13” | 18” | 1318A126 |
| 27/64” | 13” | 18” | 1318A127 |
| 7/16” | 13” | 18” | 1318A128 |
| 29/64” | 13’” | 18” | 1318A129 |
| 15/32” | 13” | 18” | 1318A130 |
| 31/64” | 13” | 18” | 1318A131 |
| 1/2” | 13” | 18” | 1318A132 |

| Size | Flute Length | Overall Length | 1318 Order No. | 1318R Order No. |
|---|---|---|---|---|
| 33/64” | 13” | 18” | 1318A133 | 1318AR133 |
| 17/32” | 13” | 18” | 1318A134 | 1318AR134 |
| 35/64” | 13” | 18” | 1318A135 | 1318AR135 |
| 9/16” | 13” | 18” | 1318A136 | 1318AR136 |
| 37/64” | 13” | 18” | 1318A137 | 1318AR137 |
| 19/32” | 13” | 18” | 1318A138 | 1318AR138 |
| 39/64” | 13” | 18” | 1318A139 | 1318AR139 |
| 5/8” | 13” | 18” | 1318A140 | 1318AR140 |
| 21/32” | 13” | 18” | 1318A142 | 1318AR142 |
| 11/16” | 13” | 18” | 1318A144 | 1318AR144 |
| 23/32” | 13” | 18” | 1318A146 | 1318AR146 |
| 3/4” | 13” | 18” | 1318A148 | 1318AR148 |
| 25/32” | 13” | 18” | 1318A150 | 1318AR150 |
| 13/16” | 13” | 18” | 1318A152 | 1318AR152 |
| 27/32” | 13” | 18” | 1318A154 | 1318AR154 |
| 7/8” | 13” | 18” | 1318A156 | 1318AR156 |
| 29/32” | 13” | 18” | 1318A158 | 1318AR158 |
| 15/16” | 13” | 18” | 1318A160 | 1318AR160 |
| 31/32” | 13” | 18” | 1318A162 | 1318AR162 |
| 1” | 13” | 18” | 1318A164 | 1318AR164 |

1 per pack

# GENERAL PURPOSE TAPER SHANK DRILLS

MADE IN THE USA · DRILLCO CUTTING TOOLS

For general purpose use in a wide range of materials.
1400 – American Standard Taper Shanks / 1450 – Smaller than normal Taper Shanks / 1475 – Larger than normal Taper Shanks

▷ ***All sizes are individually packaged***

## *1400 SERIES*
**HIGH SPEED STEEL**
**118° Point / Taper Shank**
**Fractional / Black Oxide**

1400

| Size | Morse Taper | Flute Length | Overall Length | 1400 Order No. |
|---|---|---|---|---|
| 1/8” | 1 | 1-7/8” | 5-1/8” | 1400A108 |
| 9/64” | 1 | 2-1/8” | 5-3/8” | 1400A109 |
| 5/32” | 1 | 2-1/8” | 5-3/8” | 1400A110 |
| 11/64” | 1 | 2-1/2” | 5-3/4” | 1400A111 |
| 3/16” | 1 | 2-1/2” | 5-3/4” | 1400A112 |
| 13/64” | 1 | 2-3/4” | 6” | 1400A113 |
| 7/32” | 1 | 2-3/4” | 6” | 1400A114 |
| 15/64” | 1 | 2-7/8” | 6-1/8” | 1400A115 |
| 1/4” | 1 | 2-7/8” | 6-1/8” | 1400A116 |
| 17/64” | 1 | 3” | 6-1/4” | 1400A117 |
| 9/32” | 1 | 3” | 6-1/4” | 1400A118 |
| 19/64” | 1 | 3-1/8” | 6-3/8” | 1400A119 |
| 5/16” | 1 | 3-1/8” | 6-3/8” | 1400A120 |
| 21/64” | 1 | 3-1/4” | 6-1/2” | 1400A121 |
| 11/32” | 1 | 3-1/4” | 6-1/2” | 1400A122 |
| 23/64” | 1 | 3-1/2” | 6-3/4” | 1400A123 |
| 3/8” | 1 | 3-1/2” | 6-3/4” | 1400A124 |
| 25/64” | 1 | 3-5/8” | 7” | 1400A125 |
| 13/32” | 1 | 3-5/8” | 7” | 1400A126 |
| 27/64” | 1 | 3-7/8” | 7-1/4” | 1400A127 |
| 7/16” | 1 | 3-7/8” | 7-1/4” | 1400A128 |
| 29/64” | 1 | 4-1/8” | 7-1/2” | 1400A129 |
| 15/32” | 1 | 4-1/8” | 7-1/2” | 1400A130 |
| 31/64” | 2 | 4-3/8” | 8-1/4” | 1400A131 |
| 1/2” | 2 | 4-3/8” | 8-1/4” | 1400A132 |
| 33/64” | 2 | 4-5/8” | 8-1/2” | 1400A133 |
| 17/32” | 2 | 4-5/8” | 8-1/2” | 1400A134 |
| 35/64” | 2 | 4-7/8” | 8-3/4” | 1400A135 |
| 9/16” | 2 | 4-7/8” | 8-3/4” | 1400A136 |
| 37/64” | 2 | 4-7/8” | 8-3/4” | 1400A137 |
| 19/32” | 2 | 4-7/8” | 8-3/4” | 1400A138 |
| 39/64” | 2 | 4-7/8” | 8-3/4” | 1400A139 |
| 5/8” | 2 | 4-7/8” | 8-3/4” | 1400A140 |
| 41/64” | 2 | 5-1/8” | 9” | 1400A141 |
| 21/32” | 2 | 5-1/8” | 9” | 1400A142 |
| 43/64” | 2 | 5-3/8” | 9-1/4” | 1400A143 |
| 11/16” | 2 | 5-3/8” | 9-1/4” | 1400A144 |
| 45/64” | 2 | 5-5/8” | 9-1/2” | 1400A145 |
| 23/32” | 2 | 5-5/8” | 9-1/2” | 1400A146 |
| 47/64” | 2 | 5-7/8” | 9-3/4” | 1400A147 |
| 3/4” | 2 | 5-7/8” | 9-3/4” | 1400A148 |
| 49/64” | 2 | 6” | 9-7/8” | 1400A149 |
| 25/32” | 2 | 6” | 9-7/8” | 1400A150 |
| 51/64” | 3 | 6-1/8” | 10-3/4” | 1400A151 |
| 13/16” | 3 | 6-1/8” | 10-3/4” | 1400A152 |
| 53/64” | 3 | 6-1/8” | 10-3/4” | 1400A153 |
| 27/32” | 3 | 6-1/8” | 10-3/4” | 1400A154 |
| 55/64” | 3 | 6-1/8” | 10-3/4” | 1400A155 |
| 7/8” | 3 | 6-1/8” | 10-3/4” | 1400A156 |
| 57/64” | 3 | 6-1/8” | 10-3/4” | 1400A157 |
| 29/32” | 3 | 6-1/8” | 10-3/4” | 1400A158 |
| 59/64” | 3 | 6-1/8” | 10-3/4” | 1400A159 |
| 15/16” | 3 | 6-1/8” | 10-3/4” | 1400A160 |
| 61/64” | 3 | 6-3/8” | 11” | 1400A161 |
| 31/32” | 3 | 6-3/8” | 11” | 1400A162 |
| 63/64” | 3 | 6-3/8” | 11” | 1400A163 |
| 1” | 3 | 6-3/8” | 11” | 1400A164 |
| 1-1/64” | 3 | 6-1/2” | 11-1/8” | 1400A201 |
| 1-1/32” | 3 | 6-1/2” | 11-1/8” | 1400A202 |
| 1-3/64” | 3 | 6-5/8” | 11-1/4” | 1400A203 |
| 1-1/16” | 3 | 6-5/8” | 11-1/4” | 1400A204 |
| 1-5/64” | 4 | 6-7/8” | 12-1/2” | 1400A205 |
| 1-3/32” | 4 | 6-7/8” | 12-1/2” | 1400A206 |
| 1-7/64” | 4 | 7-1/8” | 12-3/4” | 1400A207 |
| 1-1/8” | 4 | 7-1/8” | 12-3/4” | 1400A208 |
| 1-9/64” | 4 | 7-1/4” | 12-7/8” | 1400A209 |
| 1-5/32” | 4 | 7-1/4” | 12-7/8” | 1400A210 |
| 1-11/64” | 4 | 7-3/8” | 13” | 1400A211 |
| 1-3/16” | 4 | 7-3/8” | 13” | 1400A212 |
| 1-13/64” | 4 | 7-1/2” | 13-1/8” | 1400A213 |
| 1-7/32” | 4 | 7-1/2” | 13-1/8” | 1400A214 |
| 1-15/64” | 4 | 7-7/8” | 13-1/2” | 1400A215 |
| 1-1/4” | 4 | 7-7/8” | 13-1/2” | 1400A216 |
| 1-17/64” | 4 | 8-1/2” | 14-1/8” | 1400A217 |
| 1-9/32” | 4 | 8-1/2” | 14-1/8” | 1400A218 |
| 1-19/64” | 4 | 8-1/2” | 14-1/4” | 1400A219 |
| 1-5/16” | 4 | 8-5/8” | 14-1/4” | 1400A220 |
| 1-21/64” | 4 | 8-3/4” | 14-3/8” | 1400A221 |
| 1-11/32” | 4 | 8-3/4” | 14-3/8” | 1400A222 |
| 1-23/64” | 4 | 8-7/8” | 14-1/2” | 1400A223 |
| 1-3/8” | 4 | 8-7/8” | 14-1/2” | 1400A224 |
| 1-25/64” | 4 | 9” | 14-5/8” | 1400A225 |
| 1-13/32” | 4 | 9” | 14-5/8” | 1400A226 |
| 1-27/64” | 4 | 9-1/8” | 14-3/4” | 1400A227 |
| 1-7/16” | 4 | 9-1/8” | 14-3/4” | 1400A228 |
| 1-29/64” | 4 | 9-1/4” | 14-7/8” | 1400A229 |
| 1-15/32” | 4 | 9-1/4” | 14-7/8” | 1400A230 |
| 1-31/64 | 4 | 9-3/8” | 15” | 1400A231 |
| 1-1/2” | 4 | 9-3/8” | 15” | 1400A232 |
| 1-17/32” | 5 | 9-3/8” | 16-3/8” | 1400A234 |
| 1-9/16” | 5 | 9-5/8” | 16-5/8” | 1400A236 |
| 1-19/32” | 5 | 9-7/8” | 16-7/8” | 1400A238 |
| 1-5/8” | 5 | 10” | 17” | 1400A240 |
| 1-21/32” | 5 | 10-1/8” | 17-1/8” | 1400A242 |
| 1-11/16” | 5 | 10-1/8” | 17-1/8” | 1400A244 |
| 1-23/32” | 5 | 10-1/8” | 17-1/8” | 1400A246 |
| 1-3/4” | 5 | 10-1/8” | 17-1/8” | 1400A248 |
| 1-25/32” | 5 | 10-1/8” | 17-1/8” | 1400A250 |
| 1-13/16” | 5 | 10-1/8” | 17-1/8” | 1400A252 |
| 1-27/32” | 5 | 10-1/8” | 17-1/8” | 1400A254 |

Continued on next page

## 1400 SERIES (CONTINUED)

# TAPER SHANK DRILLS

| Size | Morse Taper | Flute Length | Overall Length | 1400 Order No. |
|---|---|---|---|---|
| 1-7/8” | 5 | 10-3/8” | 17-3/8” | 1400A256 |
| 1-29/32” | 5 | 10-3/8” | 17-3/8” | 1400A258 |
| 1-15/16” | 5 | 10-3/8” | 17-3/8” | 1400A260 |
| 1-31/32” | 5 | 10-3/8” | 17-3/8” | 1400A262 |
| 2” | 5 | 10-3/8” | 17-3/8” | 1400A264 |
| 2-1/32” | 5 | 10-3/8” | 17-3/8” | 1400A302 |
| 2-1/16” | 5 | 10-1/4” | 17-3/8” | 1400A304 |
| 2-3/32” | 5 | 10-1/4” | 17-3/8” | 1400A306 |
| 2-1/8” | 5 | 10-1/4” | 17-3/8” | 1400A308 |
| 2-5/32” | 5 | 10-1/4” | 17-3/8” | 1400A310 |
| 2-3/16” | 5 | 10-1/4” | 17-3/8” | 1400A312 |
| 2-7/32” | 5 | 10-1/8” | 17-3/8” | 1400A314 |

| Size | Morse Taper | Flute Length | Overall Length | 1400 Order No. |
|---|---|---|---|---|
| 2-1/4” | 5 | 10-1/8” | 17-3/8” | 1400A316 |
| 2-5/16” | 5 | 10-1/8” | 17-3/8” | 1400A320 |
| 2-3/8” | 5 | 10-1/8” | 17-3/8” | 1400A324 |
| 2-7/16” | 5 | 11-1/4” | 18-3/4” | 1400A328 |
| 2-1/2” | 5 | 11-1/4” | 18-3/4” | 1400A332 |
| 2-9/16” | 5 | 11-7/8” | 19-1/2” | 1400A336 |
| 2-5/8” | 5 | 12-3/4” | 19-1/2” | 1400A340 |
| 2-11/16” | 5 | 12-3/4” | 20-3/8” | 1400A344 |
| 2-3/4” | 5 | 12-3/4” | 20-3/8” | 1400A348 |
| 2-13/16” | 5 | 13-3/8” | 21-1/8” | 1400A352 |
| 2-7/8” | 5 | 13-3/8” | 21-1/8” | 1400A356 |
| 2-15/16” | 5 | 14” | 21-3/4” | 1400A360 |
| 3” | 5 | 14” | 21-3/4” | 1400A364 |

## 1450 SERIES

**HIGH SPEED STEEL**

### 118° Point / Undersize Taper Shank
### Fractional / Black Oxide

1450

| Size | Morse Taper | Flute Length | Overall Length | 1450 Order No. |
|---|---|---|---|---|
| 31/64” | 1 | 4-3/8” | 7-3/4” | 1450A131 |
| 1/2” | 1 | 4-3/8” | 7-3/4” | 1450A132 |
| 33/64” | 1 | 4-5/8” | 8” | 1450A133 |
| 17/32” | 1 | 4-5/8” | 8” | 1450A134 |
| 35/64” | 1 | 4-7/8” | 8-1/4” | 1450A135 |
| 9/16” | 1 | 4-7/8” | 8-1/4” | 1450A136 |
| 51/64” | 2 | 6-1/8” | 10” | 1450A151 |
| 13/16” | 2 | 6-1/8” | 10” | 1450A152 |
| 53/64” | 2 | 6-1/8” | 10” | 1450A153 |
| 27/32” | 2 | 6-1/8” | 10” | 1450A154 |
| 55/64” | 2 | 6-1/8” | 10” | 1450A155 |
| 7/8” | 2 | 6-1/8” | 10” | 1450A156 |
| 57/64” | 2 | 6-1/8” | 10” | 1450A157 |
| 29/32” | 2 | 6-1/8” | 10” | 1450A158 |
| 1-5/64” | 3 | 6-7/8” | 11-1/2” | 1450A205 |
| 1-3/32” | 3 | 6-7/8” | 11-1/2” | 1450A206 |
| 1-7/64” | 3 | 7-1/8” | 11-3/4” | 1450A207 |
| 1-1/8” | 3 | 7-1/8” | 11-3/4” | 1450A208 |
| 1-9/64” | 3 | 7-1/4” | 11-7/8” | 1450A209 |
| 1-5/32” | 3 | 7-1/4” | 11-7/8” | 1450A210 |
| 1-11/64” | 3 | 7-3/8” | 12” | 1450A211 |
| 1-3/16” | 3 | 7-3/8” | 12” | 1450A212 |
| 1-13/64” | 3 | 7-1/2” | 12-1/8” | 1450A213 |
| 1-7/32” | 3 | 7-1/2” | 12-1/8” | 1450A214 |
| 1-15/64” | 3 | 7-7/8” | 12-1/2” | 1450A215 |

| Size | Morse Taper | Flute Length | Overall Length | 1450 Order No. |
|---|---|---|---|---|
| 1-1/4” | 3 | 7-7/8” | 12-1/2” | 1450A216 |
| 1-33/64” | 4 | 9-3/8” | 15” | 1450A233 |
| 1-17/32” | 4 | 9-3/8” | 15” | 1450A234 |
| 1-35/64” | 4 | 9-5/8” | 15-1/4” | 1450A235 |
| 1-9/16” | 4 | 9-5/8” | 15-1/4” | 1450A236 |
| 1-37/64” | 4 | 9-7/8” | 15-1/2” | 1450A237 |
| 1-19/32” | 4 | 9-7/8” | 15-1/2” | 1450A238 |
| 1-39/64” | 4 | 10” | 15-5/8” | 1450A239 |
| 1-5/8” | 4 | 10” | 15-5/8” | 1450A240 |
| 1-41/64” | 4 | 10-1/8” | 15-3/4” | 1450A241 |
| 1-21/32” | 4 | 10-1/8” | 15-3/4” | 1450A242 |
| 1-43/64” | 4 | 10-1/8” | 15-3/4” | 1450A243 |
| 1-11/16” | 4 | 10-1/8” | 15-3/4” | 1450A244 |
| 1-45/64” | 4 | 10-1/8” | 15-3/4” | 1450A245 |
| 1-23/32” | 4 | 10-1/8” | 15-3/4” | 1450A246 |
| 1-47/64” | 4 | 10-3/8” | 16-1/4” | 1450A247 |
| 1-3/4” | 4 | 10-3/8” | 16-1/4” | 1450A248 |
| 1-25/32” | 4 | 10-3/8” | 16-1/4” | 1450A250 |
| 1-13/16” | 4 | 10-3/8” | 16-1/4” | 1450A252 |
| 1-27/32” | 4 | 10-3/8” | 16-1/4” | 1450A254 |
| 1-7/8” | 4 | 10-1/2” | 16-1/2” | 1450A256 |
| 1-29/32” | 4 | 10-1/2” | 16-1/2” | 1450A258 |
| 1-15/16” | 4 | 10-5/8” | 16-5/8” | 1450A260 |
| 1-31/32” | 4 | 10-5/8” | 16-5/8” | 1450A262 |
| 2” | 4 | 10-5/8” | 16-5/8” | 1450A264 |

## 1475 SERIES

**HIGH SPEED STEEL**

### 118° Point / Oversize Taper Shank
### Fractional / Black Oxide

1475

| Size | Morse Taper | Flute Length | Overall Length | 1475 Order No. |
|---|---|---|---|---|
| 3/8” | 2 | 3-1/2” | 7-3/8” | 1475A124 |
| 25/64” | 2 | 3-5/8” | 7-1/2” | 1475A125 |
| 13/32” | 2 | 3-5/8” | 7-1/2” | 1475A126 |
| 27/64” | 2 | 3-7/8” | 7-3/4” | 1475A127 |
| 7/16” | 2 | 3-7/8” | 7-3/4” | 1475A128 |
| 29/64” | 2 | 4-1/8” | 8” | 1475A129 |
| 15/32” | 2 | 4-1/8” | 8” | 1475A130 |
| 41/64” | 3 | 5-1/8” | 9-3/4” | 1475A141 |
| 21/32” | 3 | 5-1/8” | 9-3/4” | 1475A142 |
| 43/64” | 3 | 5-3/8” | 10” | 1475A143 |

| Size | Morse Taper | Flute Length | Overall Length | 1475 Order No. |
|---|---|---|---|---|
| 11/16” | 3 | 5-3/8” | 10” | 1475A144 |
| 45/64” | 3 | 5-3/8” | 10-1/4” | 1475A145 |
| 23/32” | 3 | 5-7/8” | 10-1/4” | 1475A146 |
| 47/64” | 3 | 5-7/8” | 10-1/2” | 1475A147 |
| 3/4” | 3 | 6” | 10-1/2” | 1475A148 |
| 49/64” | 3 | 6” | 10-5/8” | 1475A149 |
| 25/32” | 3 | 6-3/8” | 10-5/8” | 1475A150 |
| 1” | 4 | 6-3/8” | 12” | 1475A164 |
| 1-1/32” | 4 | 6-1/2” | 12-1/8” | 1475A202 |
| 1-1/16” | 4 | 6-5/8” | 12-1/4” | 1475A204 |

# HEX SHANK DRILLS

MADE IN THE USA TRIUMPH TWIST DRILL

Heavy-duty drills with added versatility thanks to the hex shank. This shank can quickly be installed in any adjustable power tool chuck. These heavy-duty drills employ a 135° Split Point to reduce "walking" when drilling. Each drill has been through a surface treatment process to improve overall performance.

- *Hex shank for adjustable power tool chucks*
- *135° split point for self centering and reduced "walking"*
- *Surface treatment for improved performance*

## *HEXT4HD SERIES*

**HIGH SPEED STEEL**

### 1/4" Hex Shank for Hex or adjustable power tool chucks
### Black & Gold Oxide

THUNDERBIT®

| | | | | HEXT4HD Packaging: Tube | | HEXT4HD Packaging: Bulk | |
|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 1/16" | .0625 | 5/8" | 2-1/4" | 045504 | 1 | 045504.20 | 72 |
| 3/32" | .0938 | 3/4" | 2-7/16" | 045506 | 1 | 045506.20 | 72 |
| 1/8" | .1250 | 7/8" | 2-5/8" | 045508 | 1 | 045508.20 | 72 |
| 5/32" | .1562 | 1" | 2-13/16" | 045510 | 1 | 045510.20 | 72 |
| 3/16" | .1875 | 1-1/8" | 3" | 045512 | 1 | 045512.20 | 72 |
| 7/32" | .2188 | 1-1/4" | 3-1/8" | 045514 | 1 | 045514.20 | 72 |
| 1/4" | .2500 | 1-3/8" | 3-3/16" | 045516 | 1 | 045516.20 | 72 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T47HEXHD | Plastic Case | 7 Piece | 1/16"-1/4" by 32nds | 045532 |

## *HEXT4 SERIES*

**HIGH SPEED STEEL**

### 1/4" Hex Shank for Hex or adjustable power tool chucks
### Black Oxide

| | | | | HEXT4 Packaging: Tube | | HEXT4 Packaging: Bulk | |
|---|---|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty | Order No. | Pkg Qty |
| 1/16" | .0625 | 5/8" | 2-1/4" | 045404 | 1 | 045404.20 | 72 |
| 3/32" | .0938 | 3/4" | 2-7/16" | 045406 | 1 | 045406.20 | 72 |
| 1/8" | .1250 | 7/8" | 2-5/8" | 045408 | 1 | 045408.20 | 72 |
| 5/32" | .1562 | 1" | 2-13/16" | 045410 | 1 | 045410.20 | 72 |
| 3/16" | .1875 | 1-1/8" | 3" | 045412 | 1 | 045412.20 | 72 |
| 7/32" | .2188 | 1-1/4" | 3-1/8" | 045414 | 1 | 045414.20 | 72 |
| 1/4" | .2500 | 1-3/8" | 3-3/16" | 045416 | 1 | 045416.20 | 72 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| T47HEX | Plastic Case | 7 Piece | 1/16"-1/4" by 32nds | 045432 |

| | | | | 400AX Packaging: Tube | |
|---|---|---|---|---|---|
| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
| 1/16" | .0625 | 5/8" | 2-1/4" | 400AX104 | 1 |
| 3/32" | .0938 | 3/4" | 2-7/16" | 400AX106 | 1 |
| 1/8" | .1250 | 7/8" | 2-5/8" | 400AX108 | 1 |
| 5/32" | .1562 | 1" | 2-13/16" | 400AX110 | 1 |
| 3/16" | .1875 | 1-1/8" | 3" | 400AX112 | 1 |
| 7/32" | .2188 | 1-1/4" | 3-1/8" | 400AX114 | 1 |
| 1/4" | .2500 | 1-3/8" | 3-3/16" | 400AX116 | 1 |

| Corresponding Sets | | | | |
|---|---|---|---|---|
| Style | Description | Pieces | Size Range | Order No. |
| 400AX7 | Plastic Case | 7 Piece | 1/16"-1/4" by 32nds | 045432 |

# CARBIDE DRILLS

DRILLCO CUTTING TOOLS

## CARBIDE TIP JOBBER LENGTH DRILLS

Carbide Tipped jobbers length drills are primarily for drilling cast iron, cast steel, bronze, hard copper, aluminium, and hard non-ferrous materials which have a high degree of abrasiveness, and which requires a sturdy drill for strength.

▷ ***All sizes are individually packaged***

### *600 SERIES*
**CARBIDE TIP**
**118° Point / Straight Shank**
**Fractional / Bright**

600

| Size | Flute Length | Overall Length | 600 Order No. |
|---|---|---|---|
| 7/64” | 1-1/2” | 2-5/8” | 600A107 |
| 1/8” | 1-5/8” | 2-3/4” | 600A108 |
| 9/64” | 1-3/4” | 2-7/8” | 600A109 |
| 5/32” | 2” | 3-1/8” | 600A110 |
| 11/64” | 2-1/8” | 3-1/4” | 600A111 |
| 3/16” | 2-5/16” | 3-1/2” | 600A112 |
| 13/64” | 2-7/16” | 3-5/8” | 600A113 |
| 7/32” | 2-1/2” | 3-3/4” | 600A114 |
| 15/64” | 2-5/8” | 3-7/8” | 600A115 |
| 1/4” | 2-3/4” | 4” | 600A116 |
| 17/64” | 2-7/8” | 4-1/8” | 600A117 |
| 9/32” | 2-15/16” | 4-1/4” | 600A118 |
| 19/64” | 3-1/16” | 4-3/8 | 600A119 |
| 5/16” | 3-3/16” | 4-1/2” | 600A120 |
| 21/64” | 3-5/16” | 4-5/8” | 600A121 |
| 11/32” | 3-7/16” | 4-3/4” | 600A122 |
| 23/64” | 3-1/2” | 4-7/8” | 600A123 |
| 3/8” | 3-5/8” | 5” | 600A124 |
| 25/64” | 3-3/4” | 5-1/8” | 600A125 |

| Size | Flute Length | Overall Length | 600 Order No. |
|---|---|---|---|
| 13/32” | 3-7/8” | 5-1/4” | 600A126 |
| 27/64” | 3-15/16” | 5-3/8” | 600A127 |
| 7/16” | 4-1/16” | 5-1/2” | 600A128 |
| 29/64” | 4-3/16” | 5-5/8” | 600A129 |
| 15/32” | 4-5/16” | 5-3/4” | 600A130 |
| 31/64” | 4-3/8” | 5-7/8” | 600A131 |
| 1/2” | 4-1/2” | 6” | 600A132 |
| 33/64” | 4-13/16” | 6-5/8” | 600A133 |
| 17/32” | 4-13/16” | 6-5/8” | 600A134 |
| 35/64” | 4-13/16” | 6-5/8” | 600A135 |
| 9/16” | 4-13/16” | 6-5/8” | 600A136 |
| 37/64” | 4-13/16” | 6-5/8” | 600A137 |
| 19/32” | 5-3/16” | 7-1/8” | 600A138 |
| 39/64” | 5-3/16” | 7-1/8” | 600A139 |
| 5/8” | 5-3/16” | 7-1/8” | 600A140 |
| 41/64” | 5-3/16” | 7-1/8” | 600A141 |
| 21/32” | 5-3/16” | 7-1/8” | 600A142 |
| 43/64” | 5-5/8” | 7-5/8” | 600A143 |
| 11/16” | 5-5/8” | 7-5/8” | 600A144 |

### *680 SERIES*
**CARBIDE TIP**
**118° Point / Straight Shank**
**Number / Bright**

680

| Size | Flute Length | Overall Length | 680 Order No. |
|---|---|---|---|
| 1 | 2-5/8” | 3-7/8” | 680A001 |
| 2 | 2-5/8” | 3-7/8” | 680A002 |
| 3 | 2-1/2” | 3-3/4” | 680A003 |
| 4 | 2-1/2” | 3-3/4” | 680A004 |
| 5 | 2-1/2” | 3-3/4” | 680A005 |
| 6 | 2-1/2” | 3-3/4” | 680A006 |
| 7 | 2-7/16” | 3-5/8” | 680A007 |
| 8 | 2-7/16” | 3-5/8” | 680A008 |
| 9 | 2-7/16” | 3-5/8” | 680A009 |
| 10 | 2-7/16” | 3-5/8” | 680A010 |
| 11 | 2-5/16” | 3-1/2” | 680A011 |
| 12 | 2-5/16” | 3-1/2” | 680A012 |
| 13 | 2-5/16” | 3-1/2” | 680A013 |
| 14 | 2-3/16” | 3-3/8” | 680A014 |
| 15 | 2-3/16” | 3-3/8” | 680A015 |
| 16 | 2-3/16” | 3-3/8” | 680A016 |

| Size | Flute Length | Overall Length | 680 Order No. |
|---|---|---|---|
| 17 | 2-3/16” | 3-3/8” | 680A017 |
| 18 | 2-1/8” | 3-1/4” | 680A018 |
| 19 | 2-1/8” | 3-1/4” | 680A019 |
| 20 | 2-1/8” | 3-1/4” | 680A020 |
| 21 | 2-1/8” | 3-1/4” | 680A021 |
| 22 | 2” | 3-1/8” | 680A022 |
| 23 | 2” | 3-1/8” | 680A023 |
| 24 | 2” | 3-1/8” | 680A024 |
| 25 | 1-7/8” | 3” | 680A025 |
| 26 | 1-7/8” | 3” | 680A026 |
| 27 | 1-7/8” | 3” | 680A027 |
| 28 | 1-3/4” | 2-7/8” | 680A028 |
| 29 | 1-3/4” | 2-7/8” | 680A029 |
| 30 | 1-5/8” | 2-3/4” | 680A030 |
| 31 | 1-5/8” | 2-3/4” | 680A031 |
| 32 | 1-5/8” | 2-3/4” | 680A032 |

# CARBIDE
# JOBBER LENGTH DRILLS

Solid carbide drills have the ability to retain hardness and a sharp edge at high temperatures.

- ***Excellent abrasion-resistant qualities***
- ***Advantageous for use in drilling abrasive materials such as cast iron, non-ferrous alloys, high silicon aluminum, hard rubber, and Plexiglass***
- ***Carbide drills are run at higher speeds than standard High Speed Steel drills***
- ***They offer the advantage of extreme rigidity for greater drilling accuracy***
- ***All sizes are individually packaged***

## *700 SERIES*
## SOLID CARBIDE
### 118° Point / Straight Shank
### Fractional & Letter / Bright

700

| Size | Flute Length | Overall Length | 700 Order No. |
|---|---|---|---|
| 1/32” | 3/8” | 1-1/8” | 700A102 |
| 3/64” | 3/4” | 1-1/2” | 700A103 |
| 1/16” | 3/4” | 1-1/2” | 700A104 |
| 5/64” | 7/8” | 1-3/4” | 700A105 |
| 3/32” | 1” | 2” | 700A106 |
| 7/64” | 1-1/4” | 2-1/4” | 700A107 |
| 1/8” | 1-1/4” | 2-1/4” | 700A108 |
| 9/64” | 1-3/8” | 2-1/2” | 700A109 |
| 5/32” | 1-3/8” | 2-1/2” | 700A110 |
| 11/64” | 1-5/8” | 2-3/4” | 700A111 |
| 3/16” | 1-5/8” | 2-3/4” | 700A112 |
| 13/64” | 1-3/4” | 3” | 700A113 |
| 7/32 | 1-3/4” | 3” | 700A114 |
| 15/64” | 2” | 3-1/4” | 700A115 |
| 1/4” | 2” | 3-1/4” | 700A116 |
| 17/64” | 2-1/8” | 3-1/2” | 700A117 |
| 9/32” | 2-1/8” | 3-1/2” | 700A118 |
| 19/64” | 2-3/8” | 3-3/4” | 700A119 |
| 5/16” | 2-3/8” | 3-3/4” | 700A120 |
| 21/64” | 2-1/2” | 4” | 700A121 |
| 11/32” | 2-1/2” | 4” | 700A122 |
| 23/64” | 2-1/2” | 4” | 700A123 |
| 3/8” | 2-3/4” | 4-1/4” | 700A124 |
| 25/64” | 2-7/8” | 4-1/2” | 700A125 |
| 13/32” | 2-7/8” | 4-1/2” | 700A126 |
| 27/64” | 2-7/8” | 4-1/2” | 700A127 |
| 7/16” | 2-7/8” | 4-1/2” | 700A128 |
| 29/64” | 3” | 4-3/4” | 700A129 |
| 15/32” | 3” | 4-3/4” | 700A130 |

| Size | Flute Length | Overall Length | 700 Order No. |
|---|---|---|---|
| 31/64” | 3” | 4-3/4” | 700A131 |
| 1/2” | 3” | 4-3/4” | 700A132 |
| A | 2” | 3-1/4” | 700A501 |
| B | 2” | 3-1/4” | 700A502 |
| C | 2” | 3-1/4” | 700A503 |
| D | 2” | 3-1/4” | 700A504 |
| E | 2” | 3-1/4” | 700A505 |
| F | 2” | 3-1/4” | 700A506 |
| G | 2-1/8” | 3-1/2” | 700A507 |
| H | 2-1/8” | 3-1/2” | 700A508 |
| I | 2-1/8” | 3-1/2” | 700A509 |
| J | 2-1/8” | 3-1/2” | 700A510 |
| K | 2-1/8” | 3-1/2” | 700A511 |
| L | 2-1/8” | 3-1/2” | 700A512 |
| M | 2-3/8” | 3-3/4” | 700A513 |
| N | 2-3/8” | 3-3/4” | 700A514 |
| O | 2-3/8” | 3-3/4” | 700A515 |
| P | 2-3/8” | 3-3/4” | 700A516 |
| Q | 2-1/2” | 4” | 700A517 |
| R | 2-1/2” | 4” | 700A518 |
| S | 2-1/2” | 4” | 700A519 |
| T | 2-1/2” | 4” | 700A520 |
| U | 2-3/4” | 4-1/4” | 700A521 |
| V | 2-3/4” | 4-1/4” | 700A522 |
| W | 2-7/8” | 4-1/4” | 700A523 |
| X | 2-7/8” | 4-1/4” | 700A524 |
| Y | 2-7/8” | 4-1/4” | 700A525 |
| Z | 2-7/8” | 4-1/4” | 700A526 |

# CARBIDE
# JOBBER LENGTH DRILLS

## *700 SERIES*

**SOLID CARBIDE**

**118° Point / Straight Shank**

**Number / Bright**

700

| Size | Flute Length | Overall Length | 700 Order No. |
|---|---|---|---|
| 1 | 1-3/4” | 3” | 700A001 |
| 2 | 1-3/4” | 3” | 700A002 |
| 3 | 1-3/4” | 3” | 700A003 |
| 4 | 1-3/4” | 3” | 700A004 |
| 5 | 1-3/4” | 3” | 700A005 |
| 6 | 1-3/4” | 3” | 700A006 |
| 7 | 1-3/4” | 3” | 700A007 |
| 8 | 1-3/4” | 3” | 700A008 |
| 9 | 1-5/8” | 2-3/4” | 700A009 |
| 10 | 1-5/8” | 2-3/4” | 700A010 |
| 11 | 1-5/8” | 2-3/4” | 700A011 |
| 12 | 1-5/8” | 2-3/4” | 700A012 |
| 13 | 1-5/8” | 2-3/4” | 700A013 |
| 14 | 1-5/8” | 2-3/4” | 700A014 |
| 15 | 1-5/8” | 2-3/4” | 700A015 |
| 16 | 1-5/8” | 2-3/4” | 700A016 |
| 17 | 1-5/8” | 2-3/4” | 700A017 |
| 18 | 1-5/8” | 2-3/4” | 700A018 |
| 19 | 1-5/8” | 2-3/4” | 700A019 |
| 20 | 1-3/8” | 2-1/2” | 700A020 |
| 21 | 1-3/8” | 2-1/2” | 700A021 |
| 22 | 1-3/8” | 2-1/2” | 700A022 |
| 23 | 1-3/8” | 2-1/2” | 700A023 |
| 24 | 1-3/8” | 2-1/2” | 700A024 |
| 25 | 1-3/8” | 2-1/2” | 700A025 |
| 26 | 1-3/8” | 2-1/2” | 700A026 |
| 27 | 1-3/8” | 2-1/2” | 700A027 |
| 28 | 1-3/8” | 2-1/2” | 700A028 |
| 29 | 1-3/8” | 2-1/2” | 700A029 |
| 30 | 1-1/4” | 2-1/4” | 700A030 |

| Size | Flute Length | Overall Length | 700 Order No. |
|---|---|---|---|
| 31 | 1-1/4” | 2-1/4” | 700A031 |
| 32 | 1-1/4” | 2-1/4” | 700A032 |
| 33 | 1-1/4” | 2-1/4” | 700A033 |
| 34 | 1-1/4” | 2-1/4” | 700A034 |
| 35 | 1-1/4” | 2-1/4” | 700A035 |
| 36 | 1-1/4” | 2-1/4” | 700A036 |
| 37 | 1-1/4” | 2-1/4” | 700A037 |
| 38 | 1-1/4” | 2-1/4” | 700A038 |
| 39 | 1-1/4” | 2-1/4” | 700A039 |
| 40 | 1” | 2” | 700A040 |
| 41 | 1” | 2” | 700A041 |
| 42 | 1” | 2” | 700A042 |
| 43 | 1” | 2” | 700A043 |
| 44 | 1” | 2” | 700A044 |
| 45 | 7/8” | 2” | 700A045 |
| 46 | 7/8” | 1-3/4” | 700A046 |
| 47 | 7/8” | 1-3/4” | 700A047 |
| 48 | 7/8” | 1-3/4” | 700A048 |
| 49 | 7/8” | 1-3/4” | 700A049 |
| 50 | 7/8” | 1-3/4” | 700A050 |
| 51 | 3/4” | 1-1/2” | 700A051 |
| 52 | 3/4” | 1-1/2” | 700A052 |
| 53 | 3/4” | 1-1/2” | 700A053 |
| 54 | 3/4” | 1-1/2” | 700A054 |
| 55 | 3/4” | 1-1/2” | 700A055 |
| 56 | 3/4” | 1-1/2” | 700A056 |
| 57 | 3/4” | 1-1/2” | 700A057 |
| 58 | 3/4” | 1-1/2” | 700A058 |
| 59 | 3/4” | 1-1/2” | 700A059 |
| 60 | 3/4” | 1-1/2” | 700A060 |

# CARBIDE
# STRAIGHT FLUTE DRILLS

The straight flute design of these Solid Carbide drills increases edge strength, and produces good size control and hole surface finish.

- *The 140° split point provides ease of penetration*
- *Used to drill difficult materials (up to Rc 60) including nickel alloys, chrome alloys, steel weldments, titanium alloys, high temperature alloys, and stainless-steel weldments*
- *Suitable for drilling out broken drills, taps, bolts, screws, studs, weldments*
- *All sizes are individually packaged*

## *710 SERIES*
## SOLID CARBIDE
### 140° Split Point / Straight Shank
### Fractional & Letter / Bright

710

| Size | Flute Length | Overall Length | 710 Order No. |
|---|---|---|---|
| 3/64” | 1/2” | 1-3/8” | 710A103 |
| 1/16” | 5/8” | 1-5/8” | 710A104 |
| 5/64” | 11/16” | 1-11/16” | 710A105 |
| 3/32” | 3/4” | 1-3/4” | 710A106 |
| 7/64” | 13/16” | 1-13/16” | 710A107 |
| 1/8” | 7/8” | 1-7/8” | 710A108 |
| 9/64” | 15/16” | 1-15/16” | 710A109 |
| 5/32” | 1” | 2-1/16” | 710A110 |
| 11/64” | 1-1/16” | 2-1/8” | 710A111 |
| 3/16” | 1-1/8” | 2-3/16” | 710A112 |
| 13/64” | 1-3/16” | 2-1/4” | 710A113 |
| 7/32” | 1-1/4” | 2-3/8” | 710A114 |
| 15/64” | 1-5/16” | 2-7/16” | 710A115 |
| 1/4” | 1-3/8” | 2-1/2” | 710A116 |
| 17/64” | 1-7/16” | 2-5/8” | 710A117 |
| 9/32” | 1-1/2” | 2-11/16” | 710A118 |
| 19/64” | 1-9/16” | 2-3/4” | 710A119 |
| 5/16” | 1-5/8” | 2-13/16” | 710A120 |
| 21/64” | 1-11/16” | 2-15/16” | 710A121 |
| 11/32” | 1-11/16” | 3” | 710A122 |
| 23/64” | 1-3/4” | 3-1/16” | 710A123 |
| 3/8” | 1-13/16” | 3-1/8” | 710A124 |
| 25/64” | 1-7/8” | 3-1/4” | 710A125 |
| 13/32” | 1-15/16” | 3-5/16” | 710A126 |
| 27/64” | 2” | 3-3/8” | 710A127 |
| 7/16” | 2-1/16” | 3-7/16” | 710A128 |
| 29/64” | 2-1/8” | 3-9/16” | 710A129 |
| 15/32” | 2-1/8” | 3-5/8” | 710A130 |

| Size | Flute Length | Overall Length | 710 Order No. |
|---|---|---|---|
| 31/64” | 2-3/16” | 3-11/16” | 710A131 |
| 1/2” | 2-1/4” | 3-3/4” | 710A132 |
| A | 1-5/16” | 2-7/16” | 710A501 |
| B | 1-3/8” | 2-1/2” | 710A502 |
| C | 1-3/8” | 2-1/2” | 710A503 |
| D | 1-3/8” | 2-1/2” | 710A504 |
| E | 1-3/8” | 2-1/2” | 710A505 |
| F | 1-7/16” | 2-5/8” | 710A506 |
| G | 1-7/16” | 2-5/8” | 710A507 |
| H | 1-1/2” | 2-11/16” | 710A508 |
| I | 1-1/2” | 2-11/16” | 710A509 |
| J | 1-1/2” | 2-11/16” | 710A510 |
| K | 1-1/2” | 2-11/16” | 710A511 |
| L | 1-9/16” | 2-3/4” | 710A512 |
| M | 1-9/16” | 2-3/4” | 710A513 |
| N | 1-5/8” | 2-13/16” | 710A514 |
| O | 1-11/16” | 2-15/16” | 710A515 |
| P | 1-11/16” | 2-15/16” | 710A516 |
| Q | 1-11/16” | 3” | 710A517 |
| R | 1-11/16” | 3” | 710A518 |
| S | 1-3/4” | 3-1/16” | 710A519 |
| T | 1-3/4” | 3-1/16” | 710A520 |
| U | 1-13/16” | 3-1/8” | 710A521 |
| V | 1-7/8” | 3-1/4” | 710A522 |
| W | 1-7/8” | 3-1/4” | 710A523 |
| X | 1-15/16” | 3-5/16” | 710A524 |
| Y | 1-15/16” | 3-5/16” | 710A525 |
| Z | 2” | 3-3/8” | 710A526 |

# CARBIDE STRAIGHT FLUTE DRILLS

## *710 SERIES*

**SOLID CARBIDE**

**140° Split Point / Straight Shank**

**Number / Bright**

710

| Size | Flute Length | Overall Length | 710 Order No. |
|---|---|---|---|
| 1 | 1-5/16” | 2-7/16” | 710A001 |
| 2 | 1-5/16” | 2-7/16” | 710A002 |
| 3 | 1-1/4” | 2-3/8” | 710A003 |
| 4 | 1-1/4” | 2-3/8” | 710A004 |
| 5 | 1-1/4” | 2-3/8” | 710A005 |
| 6 | 1-1/4” | 2-3/8” | 710A006 |
| 7 | 1-3/16” | 2-1/4” | 710A007 |
| 8 | 1-3/16” | 2-1/4” | 710A008 |
| 9 | 1-3/16” | 2-1/4” | 710A009 |
| 10 | 1-3/16” | 2-1/4” | 710A010 |
| 11 | 1-3/16” | 2-1/4” | 710A011 |
| 12 | 1-3/16” | 2-1/4” | 710A012 |
| 13 | 1-1/8” | 2-3/16” | 710A013 |
| 14 | 1-1/8” | 2-3/16” | 710A014 |
| 15 | 1-1/8” | 2-3/16” | 710A015 |
| 16 | 1-1/8” | 2-3/16” | 710A016 |
| 17 | 1-1/8” | 2-3/16” | 710A017 |
| 18 | 1-1/16” | 2-1/8” | 710A018 |
| 19 | 1-1/16” | 2-1/8” | 710A019 |
| 20 | 1-1/16” | 2-1/8” | 710A020 |
| 21 | 1-1/16” | 2-1/8” | 710A021 |
| 22 | 1-1/16” | 2-1/8” | 710A022 |
| 23 | 1” | 2-1/16” | 710A023 |
| 24 | 1” | 2-1/16” | 710A024 |
| 25 | 1” | 2-1/16” | 710A025 |
| 26 | 1” | 2-1/16” | 710A026 |
| 27 | 1” | 2-1/16” | 710A027 |
| 28 | 15/16” | 1-15/16” | 710A028 |
| 29 | 15/16” | 1-15/16” | 710A029 |
| 30 | 15/16” | 1-15/16” | 710A030 |

| Size | Flute Length | Overall Length | 710 Order No. |
|---|---|---|---|
| 31 | 7/8” | 1-7/8” | 710A031 |
| 32 | 7/8” | 1-7/8” | 710A032 |
| 33 | 7/8” | 1-7/8” | 710A033 |
| 34 | 7/8” | 1-7/8” | 710A034 |
| 35 | 7/8” | 1-7/8” | 710A035 |
| 36 | 13/16” | 1-13/16” | 710A036 |
| 37 | 13/16” | 1-13/16” | 710A037 |
| 38 | 13/16” | 1-13/16” | 710A038 |
| 39 | 13/16” | 1-13/16” | 710A039 |
| 40 | 13/16” | 1-13/16” | 710A040 |
| 41 | 13/16” | 1-13/16” | 710A041 |
| 42 | 3/4” | 1-3/4” | 710A042 |
| 43 | 3/4” | 1-3/4” | 710A043 |
| 44 | 3/4” | 1-3/4” | 710A044 |
| 45 | 3/4” | 1-3/4” | 710A045 |
| 46 | 3/4” | 1-3/4” | 710A046 |
| 47 | 3/4” | 1-3/4” | 710A047 |
| 48 | 11/16” | 1-11/16” | 710A048 |
| 49 | 11/16” | 1-11/16” | 710A049 |
| 50 | 11/16” | 1-11/16” | 710A050 |
| 51 | 11/16” | 1-11/16” | 710A051 |
| 52 | 11/16” | 1-11/16” | 710A052 |
| 53 | 5/8” | 1-1/2” | 710A053 |
| 54 | 5/8” | 1-1/2” | 710A054 |
| 55 | 5/8” | 1-1/2” | 710A055 |
| 56 | 1/2” | 1-3/8” | 710A056 |
| 57 | 1/2” | 1-3/8” | 710A057 |
| 58 | 1/2” | 1-3/8” | 710A058 |
| 59 | 1/2” | 1-3/8” | 710A059 |
| 60 | 1/2” | 1-3/8” | 710A060 |

| Corresponding Sets | | |
|---|---|---|
| No. of Pcs. | Description | Order No. |
| 710 Series Solid Carbide Straight Flute Sets | | |
| 5 | 1/8, 3/16, 1/4, 5/16, 3/8 | 710A5 |

710A5

# CARBIDE
# SCREW MACHINE LENGTH DRILLS

Slow helix 135° split point provides ease of penetration and increases edge strength.

- ***Heavy-duty web, short flute, and overall length increases strength and rigidity***
- ***Suited for drilling difficult materials (up to Rc 60), including nickel alloys, chrome alloys, steel weldments, titanium alloys, high temperature alloys, and stainless-steel weldments***
- ***All sizes are individually packaged***

## *720 SERIES*
## SOLID CARBIDE
### 135° Split Point / Straight Shank / Slow Helix
### Fractional & Letter / Bright

720

| Size | Flute Length | Overall Length | 720 Order No. |
|---|---|---|---|
| 3/64” | 1/2” | 1-3/8” | 720A103 |
| 1/16” | 5/8” | 1-5/8” | 720A104 |
| 5/64” | 11/16” | 1-11/16” | 720A105 |
| 3/32” | 3/4” | 1-3/4” | 720A106 |
| 7/64” | 13/16” | 1-13/16” | 720A107 |
| 1/8” | 7/8” | 1-7/8” | 720A108 |
| 9/64” | 15/16” | 1-15/16” | 720A109 |
| 5/32” | 1” | 2-1/16” | 720A110 |
| 11/64” | 1-1/16” | 2-1/8” | 720A111 |
| 3/16” | 1-1/8” | 2-3/16” | 720A112 |
| 13/64” | 1-3/16” | 2-1/4” | 720A113 |
| 7/32” | 1-1/4” | 2-3/8” | 720A114 |
| 15/64” | 1-5/16” | 2-7/16” | 720A115 |
| 1/4” | 1-3/8” | 2-1/2” | 720A116 |
| 17/64” | 1-7/16” | 2-5/8” | 720A117 |
| 9/32” | 1-1/2” | 2-11/16” | 720A118 |
| 19/64” | 1-9/16” | 2-3/4” | 720A119 |
| 5/16” | 1-5/8” | 2-13/16” | 720A120 |
| 21/64” | 1-11/16” | 2-15/16” | 720A121 |
| 11/32” | 1-11/16” | 3” | 720A122 |
| 23/64” | 1-3/4” | 3-1/16” | 720A123 |
| 3/8” | 1-13/16” | 3-1/8” | 720A124 |
| 25/64” | 1-7/8” | 3-1/4” | 720A125 |
| 13/32” | 1-15/16” | 3-5/16” | 720A126 |
| 27/64” | 2” | 3-3/8” | 720A127 |
| 7/16” | 2-1/16” | 3-7/16” | 720A128 |
| 29/64” | 2-1/8” | 3-9/16” | 720A129 |
| 15/32” | 2-1/8” | 3-5/8” | 720A130 |

| Size | Flute Length | Overall Length | 720 Order No. |
|---|---|---|---|
| 31/64” | 2-3/16” | 3-11/16” | 720A131 |
| 1/2” | 2-1/4” | 3-3/4” | 720A132 |
| A | 1-5/16” | 2-7/16” | 720A501 |
| B | 1-3/8” | 2-1/2” | 720A502 |
| C | 1-3/8” | 2-1/2” | 720A503 |
| D | 1-3/8” | 2-1/2” | 720A504 |
| E | 1-3/8” | 2-1/2” | 720A505 |
| F | 1-7/16” | 2-5/8” | 720A506 |
| G | 1-7/16” | 2-5/8” | 720A507 |
| H | 1-1/2” | 2-11/16” | 720A508 |
| I | 1-1/2” | 2-11/16” | 720A509 |
| J | 1-1/2” | 2-11/16” | 720A510 |
| K | 1-1/2” | 2-11/16” | 720A511 |
| L | 1-9/16” | 2-3/4” | 720A512 |
| M | 1-9/16” | 2-3/4” | 720A513 |
| N | 1-5/8” | 2-13/16” | 720A514 |
| O | 1-11/16” | 2-15/16” | 720A515 |
| P | 1-11/16” | 2-15/16” | 720A516 |
| Q | 1-11/16” | 3” | 720A517 |
| R | 1-11/16” | 3” | 720A518 |
| S | 1-3/4” | 3-1/16” | 720A519 |
| T | 1-3/4” | 3-1/16” | 720A520 |
| U | 1-13/16” | 3-1/8” | 720A521 |
| V | 1-7/8” | 3-1/4” | 720A522 |
| W | 1-7/8” | 3-1/4” | 720A523 |
| X | 1-15/16” | 3-5/16” | 720A524 |
| Y | 1-15/16” | 3-5/16” | 720A525 |
| Z | 2” | 3-3/8” | 720A526 |

# CARBIDE
# STRAIGHT FLUTE DRILLS

## *720 SERIES*
## SOLID CARBIDE
### 135° Split Point / Straight Shank / Slow Helix
### Number / Bright

720

| Size | Flute Length | Overall Length | 720 Order No. |
|---|---|---|---|
| 1 | 1-5/16” | 2-7/16” | 720A001 |
| 2 | 1-5/16” | 2-7/16” | 720A002 |
| 3 | 1-1/4” | 2-3/8” | 720A003 |
| 4 | 1-1/4” | 2-3/8” | 720A004 |
| 5 | 1-1/4” | 2-3/8” | 720A005 |
| 6 | 1-1/4” | 2-3/8” | 720A006 |
| 7 | 1-3/16” | 2-1/4” | 720A007 |
| 8 | 1-3/16” | 2-1/4” | 720A008 |
| 9 | 1-3/16” | 2-1/4” | 720A009 |
| 10 | 1-3/16” | 2-1/4” | 720A010 |
| 11 | 1-3/16” | 2-1/4” | 720A011 |
| 12 | 1-3/16” | 2-1/4” | 720A012 |
| 13 | 1-1/8” | 2-3/16” | 720A013 |
| 14 | 1-1/8” | 2-3/16” | 720A014 |
| 15 | 1-1/8” | 2-3/16” | 720A015 |
| 16 | 1-1/8” | 2-3/16” | 720A016 |
| 17 | 1-1/8” | 2-3/16” | 720A017 |
| 18 | 1-1/16” | 2-1/8” | 720A018 |
| 19 | 1-1/16” | 2-1/8” | 720A019 |
| 20 | 1-1/16” | 2-1/8” | 720A020 |
| 21 | 1-1/16” | 2-1/8” | 720A021 |
| 22 | 1-1/16” | 2-1/8” | 720A022 |
| 23 | 1” | 2-1/16” | 720A023 |
| 24 | 1” | 2-1/16” | 720A024 |
| 25 | 1” | 2-1/16” | 720A025 |
| 26 | 1” | 2-1/16” | 720A026 |
| 27 | 1” | 2-1/16” | 720A027 |
| 28 | 15/16” | 1-15/16” | 720A028 |
| 29 | 15/16” | 1-15/16” | 720A029 |
| 30 | 15/16” | 1-15/16” | 720A030 |

| Size | Flute Length | Overall Length | 720 Order No. |
|---|---|---|---|
| 31 | 7/8” | 1-7/8” | 720A031 |
| 32 | 7/8” | 1-7/8” | 720A032 |
| 33 | 7/8” | 1-7/8” | 720A033 |
| 34 | 7/8” | 1-7/8” | 720A034 |
| 35 | 7/8” | 1-7/8” | 720A035 |
| 36 | 13/16” | 1-13/16” | 720A036 |
| 37 | 13/16” | 1-13/16” | 720A037 |
| 38 | 13/16” | 1-13/16” | 720A038 |
| 39 | 13/16” | 1-13/16” | 720A039 |
| 40 | 13/16” | 1-13/16” | 720A040 |
| 41 | 13/16” | 1-13/16” | 720A041 |
| 42 | 3/4” | 1-3/4” | 720A042 |
| 43 | 3/4” | 1-3/4” | 720A043 |
| 44 | 3/4” | 1-3/4” | 720A044 |
| 45 | 3/4” | 1-3/4” | 720A045 |
| 46 | 3/4” | 1-3/4” | 720A046 |
| 47 | 3/4” | 1-3/4” | 720A047 |
| 48 | 11/16” | 1-11/16” | 720A048 |
| 49 | 11/16” | 1-11/16” | 720A049 |
| 50 | 11/16” | 1-11/16” | 720A050 |
| 51 | 11/16” | 1-11/16” | 720A051 |
| 52 | 11/16” | 1-11/16” | 720A052 |
| 53 | 5/8” | 1-1/2” | 720A053 |
| 54 | 5/8” | 1-1/2” | 720A054 |
| 55 | 5/8” | 1-1/2” | 720A055 |
| 56 | 1/2” | 1-3/8” | 720A056 |
| 57 | 1/2” | 1-3/8” | 720A057 |
| 58 | 1/2” | 1-3/8” | 720A058 |
| 59 | 1/2” | 1-3/8” | 720A059 |
| 60 | 1/2” | 1-3/8” | 720A060 |

# CARBIDE
# 3-FLUTE DRILLS

3-Flute Solid Carbide drills can be used for centering, spotting, or drilling. This tool provides precise hole size, finish, and higher productivity. Applications include titanium, cast iron, low alloy steel, and high silicon aluminum.

▷ ***All sizes are individually packaged***

## *730 SERIES*
## SOLID CARBIDE
### 150° Point / Straight Shank
### Fractional & Metric / Bright

730

| Size | Flute Length | Overall Length | 730 Order No. |
|---|---|---|---|
| 1/8” | 1-1/4” | 2-1/4” | 730A108 |
| 9/64” | 1-3/8” | 2-1/2” | 730A109 |
| 5/32” | 1-3/8” | 2-1/2” | 730A110 |
| 11/64” | 1-5/8” | 2-3/4” | 730A111 |
| 3/16” | 1-5/8” | 2-3/4” | 730A112 |
| 13/64” | 1-3/4” | 3” | 730A113 |
| 7/32” | 1-3/4” | 3” | 730A114 |
| 15/64” | 2” | 3-1/4” | 730A115 |
| 1/4” | 2” | 3-1/4” | 730A116 |
| 17/64” | 2-1/8” | 3-1/2” | 730A117 |
| 9/32” | 2-1/8” | 3-1/2” | 730A118 |
| 19/64” | 2-3/8” | 3-3/4” | 730A119 |
| 5/16” | 2-3/8” | 3-3/4” | 730A120 |
| 21/64” | 2-1/2” | 4” | 730A121 |
| 11/32” | 2-1/2” | 4” | 730A122 |
| 23/64” | 2-1/2” | 4” | 730A123 |
| 3/8” | 2-3/4” | 4-1/2” | 730A124 |
| 25/64” | 2-7/8” | 4-1/2” | 730A125 |
| 13/32” | 2-7/8” | 4-1/2” | 730A126 |
| 27/64” | 2-7/8” | 4-1/2” | 730A127 |
| 7/16” | 2-7/8” | 4-1/2” | 730A128 |
| 29/64” | 3” | 4-1/2” | 730A129 |
| 15/32” | 3” | 4-3/4” | 730A130 |
| 31/64” | 3” | 4-3/4” | 730A131 |
| 1/2” | 3” | 4-3/4” | 730A132 |
| 17/32” | 3” | 4-3/4” | 730A134 |
| 9/16” | 3-1/2” | 5-3/4” | 730A136 |
| 5/8” | 3-1/2” | 5-3/4” | 730A140 |
| 3/4” | 4-1/4” | 5-3/4” | 730A148 |

| Size | Flute Length | Overall Length | 730 Order No. |
|---|---|---|---|
| 3.0 (mm) | 1-1/4” | 2-1/4” | 730A003 |
| 6.0 (mm) | 2” | 3-1/4” | 730A006 |
| 8.0 (mm) | 2-3/8” | 3-3/4” | 730A008 |
| 10.0 (mm) | 2-7/8” | 4-1/2” | 730A010 |
| 12.0 (mm) | 3” | 4-3/4” | 730A012 |
| 14.0 (mm) | 3-1/2” | 5-3/4” | 730A014 |
| 16.0 (mm) | 3-1/2” | 5-3/4” | 730A016 |

# CARBIDE SPADE DRILLS

Solid Carbide spade drills perform well in hard-to-machine materials (up to Rc 60), high strength alloys, plastic, and glass. They can be used in thin sheet metal and spotting applications. Drilling depth should not exceed 2x the drill diameter.

▷ ***All sizes are individually packaged***

## *750 SERIES*
**SOLID CARBIDE**
**118° Point / Straight Shank**
**Fractional / Bright**

750

| Size | Flute Length | Overall Length | Shank Size | 750 Order No. |
|---|---|---|---|---|
| 1/32” | 3/16” | 1-1/2” | 1/8” | 750A102 |
| 3/64” | 7/32” | 1-1/2” | 1/8” | 750A103 |
| 1/16” | 5/16” | 1-1/2” | 1/8” | 750A104 |
| 5/64” | 7/16” | 1-1/2” | 1/8” | 750A105 |
| 3/32” | 7/16” | 1-1/2” | 1/8” | 750A106 |
| 7/64” | 7/16” | 1-1/2” | 1/8” | 750A107 |
| 1/8” | 1/2” | 1-1/2” | 1/8” | 750A108 |
| 9/64” | 1/2” | 2” | 3/16” | 750A109 |
| 5/32” | 9/16” | 2” | 3/16” | 750A110 |
| 11/64” | 9/16” | 2” | 3/16” | 750A111 |
| 3/16” | 11/16” | 2” | 3/16” | 750A112 |

| Size | Flute Length | Overall Length | Shank Size | 750 Order No. |
|---|---|---|---|---|
| 7/32” | 19/32” | 2-1/2” | 1/4” | 750A114 |
| 1/4” | 11/16” | 2-1/2” | 1/4” | 750A116 |
| 9/32” | 3/4” | 2-1/2” | 5/16” | 750A118 |
| 5/16” | 7/8” | 2-1/2” | 5/16” | 750A120 |
| 11/32” | 15/16” | 2-1/2” | 3/8” | 750A122 |
| 3/8” | 1-1/8” | 2-1/2” | 3/8” | 750A124 |
| 13/32” | 1-1/8” | 2-1/2” | 1/2” | 750A126 |
| 7/16” | 1-3/16” | 3” | 1/2” | 750A128 |
| 15/32” | 1-3/16” | 3” | 1/2” | 750A130 |
| 1/2” | 1-3/16” | 3” | 1/2” | 750A132 |

# CARBIDE COMBINED & COUNTERSINK (CENTER DRILL)

Solid Carbide Combination Drill & Countersinks (also known as Center Drills) have strong shanks and flutes, making them ideal for drilling and countersinking in difficult materials. They may also be used in high-production applications where tolerance, finish, and machine downtimes are considered. Included angle is 60°. Other angles are available upon request.

▷ ***All sizes are individually packaged***

## *3500C SERIES*
**SOLID CARBIDE**
**60° Angle**
**Bright**

3500C

| Size | Body Dia. | Overall Length | Drill Dia. | 3500C Order No. |
|---|---|---|---|---|
| 00 | 1/8” | 1-1/4” | 0.025 | 350CA00A |
| 0 | 1/8” | 1-1/4” | 1/32” | 350CAB0A |
| 1 | 1/8” | 1-1/4” | 3/64” | 350C001A |
| 2 | 3/16” | 1-7/8” | 5/64” | 350C002A |
| 3 | 1/4” | 2” | 7/64” | 350C003A |
| 4 | 5/16” | 2-1/8” | 1/8” | 350C004A |
| 5 | 7/16” | 2-3/4” | 3/16” | 350C005A |
| 6 | 1/2” | 3” | 7/32” | 350C006A |

# MASONRY DRILLS

DRILLCO CUTTING TOOLS

This masonry drill is used to drill Concrete, Natural Stone, Aerated Concrete, Masonry, Brick, Block, and Lime Sandstone. Self Centering Tip for easy spot drilling. Chisel Shaped Head Geometry-for faster drilling progress. Hardened Steel Body-for increased impact resistance. Large Volume Flute creates cupping effect for efficient dust extraction.

▷ ***All sizes are individually packaged***

## *1600N SERIES*
**CARBIDE TIP**
**Straight Shank**
**Fractional / Gold & Silver**

1600N

| Size | Flute Length | Overall Length | Shank Size | 1600N Order No. |
|---|---|---|---|---|
| 1/8” | 1-3/8” | 2-1/2” | 1/8” | 160N108 |
| 5/32” | 1-1/2” | 3” | 5/32” | 160N110 |
| 3/16” | 2” | 3-1/2” | 3/16” | 160N112 |
| 7/32” | 2” | 3-1/2” | 7/32” | 160N114 |
| 1/4” | 2-3/8” | 4” | 1/4” | 160N116 |
| 9/32 | 2-3/8” | 4” | 9/32” | 160N118 |

| Size | Flute Length | Overall Length | Shank Size | 1600N Order No. |
|---|---|---|---|---|
| 5/16” | 3” | 5” | 5/16” | 160N120 |
| 3/8” | 3” | 5” | 3/8” | 160N124 |
| 7/16” | 3-1/2” | 6” | 7/16” | 160N128 |
| 15/32” | 3-1/2” | 6” | 15/32” | 160N130 |
| 1/2” | 3-1/2” | 6” | 1/2” | 160N132 |
| 9/16” | 3-1/2” | 6” | 1/2” | 160N136 |

## *1600A SERIES*
**CARBIDE TIP**
**Rotary Percussion & Hammer Drilling, Round Shank**
**Fractional / Black & Gold Tipped**

1600A

The combination of rotation and percussion helps the drill achieve a cutting and grinding (rotary) action at the same time as a chipping (percussive) action, chipping away at rock to produce a hole. Usually, these motions are hydraulically or pneumatically driven.

| Size | Flute Length | Overall Length | Shank Size | 1600A Order No. |
|---|---|---|---|---|
| 1/8” | 1-1/2” | 3” | 1/8” | 160A1083 |
| 5/32” | 1-1/2” | 3” | 5/32” | 160A1103 |
| 3/16” | 2” | 4” | 3/16” | 160A1124 |
| 3/16” | 3-1/2” | 6” | 3/16” | 160A1126 |
| 3/16” | 4-3/4” | 8” | 3/16” | 160A1128 |
| 7/32” | 2” | 4” | 7/32” | 160A1144 |
| 1/4” | 2” | 4” | 1/4” | 160A1164 |
| 1/4” | 3-1/2” | 6” | 1/4” | 160A1166 |
| 1/4” | 6-5/8” | 12” | 1/4” | 160A11612 |
| 1/4” | 10” | 16” | 1/4” | 160A11616 |
| 1/4” | 18-1/2” | 24” | 1/4” | 160A11624 |
| 5/16” | 2-1/2” | 5” | 1/4” | 160A1205 |
| 5/16” | 3-1/2” | 6” | 1/4” | 160A1206 |
| 5/16” | 4-3/4” | 8” | 1/4” | 160A1208 |
| 5/16” | 6-5/8” | 12” | 1/4” | 160A12012 |
| 5/16” | 10” | 16” | 1/4” | 160A12016 |
| 5/16” | 18-1/2” | 24” | 1/4” | 160A12024 |
| 11/32” | 2-1/2” | 5” | 1/4” | 160A1225 |
| 3/8” | 2-1/2” | 5” | 5/16” | 160A1245 |
| 3/8” | 3-1/2” | 6” | 5/16” | 160A1246A |
| 3/8” | 4-3/4” | 8” | 5/16” | 160A1248A |
| 3/8” | 6-5/8” | 12” | 5/16” | 160A12412A |
| 3/8” | 10” | 16” | 5/16” | 160A12416A |
| 3/8” | 18-1/2” | 24” | 5/16” | 160A12424A |
| 7/16” | 3-1/2” | 6” | 3/8” | 160A1286A |

| Size | Flute Length | Overall Length | Shank Size | 1600A Order No. |
|---|---|---|---|---|
| 1/2” | 3-1/2” | 6” | 3/8” | 160A1326A |
| 1/2” | 6-5/8” | 12” | 3/8” | 160A13212A |
| 1/2” | 10” | 16” | 3/8” | 160A13216A |
| 1/2” | 18-1/2” | 24” | 3/8” | 160A13224A |
| 9/16” | 3-1/2” | 6” | 3/8” | 160A1366A |
| 9/16” | 4-3/4” | 8” | 3/8” | 160A1368A |
| 9/16” | 10” | 16” | 3/8” | 160A13616B |
| 19/32” | 3-1/2” | 6” | 1/2” | 160A1386B |
| 5/8” | 3-1/2” | 6” | 1/2” | 160A1406B |
| 5/8” | 4-3/4” | 8” | 1/2” | 160A1408A |
| 5/8” | 10” | 16” | 1/2” | 160A14016B |
| 5/8” | 18-1/2” | 24” | 1/2” | 160A14024B |
| 3/4” | 4” | 6-1/2” | 1/2” | 160A1486B |
| 3/4” | 6-5/8” | 12” | 1/2” | 160A14812B |
| 3/4” | 10” | 16” | 1/2” | 160A14816B |
| 3/4” | 18-1/2” | 24” | 1/2” | 160A14824B |
| 7/8” | 4” | 6-1/2” | 1/2” | 160A1566B |
| 7/8” | 6-5/8” | 12” | 1/2” | 160A15612B |
| 7/8” | 10” | 16” | 1/2” | 160A15616B |
| 7/8” | 18-1/2” | 24” | 1/2” | 160A15624B |
| 1” | 4” | 6-1/2” | 1/2” | 160A1646B |
| 1” | 6-5/8” | 12” | 1/2” | 160A16412B |
| 1” | 10” | 16” | 1/2” | 160A16416B |
| 1” | 18-1/2” | 24” | 1/2” | 160A16424B |

# MASONRY DRILLS

The TAPCON® drill bit is specially designed to be used with the TAPCON® masonry fastener and installation kit.

▷ ***All sizes are individually packaged***

### *1750 SERIES*
**CARBIDE TIP**
**TAPCON® SDS-HEX Type Screw Anchor Drills**
**Fractional / Bright**

1750

| Size | Flute Length | Overall Length | 1750 Order No. |
|---|---|---|---|
| 5/32” | 2-3/8” | 5” | 175F1105 |
| 5/32” | 4-1/8” | 7” | 175F1107 |
| 3/16” | 2-3/8” | 5” | 175F1125 |
| 3/16” | 4-1/8” | 7” | 175F1127 |

### *1800E SERIES*
**CARBIDE TIP**
**TAPCON® Screw Type Anchor Drills**
**Fractional / Black with Gold Tip**

1800E

| Size | Overall Length | Screw Size | 1800E Order No. |
|---|---|---|---|
| 5/32” | 3-1/2” | 12 | 180E1103 |
| 5/32” | 4-1/2” | 12 | 180E1104 |
| 5/32” | 5-1/2” | 12 | 180E1105 |
| 3/16” | 3-1/2” | 14 | 180E1123 |
| 3/16” | 4-1/2” | 14 | 180E1124 |
| 3/16” | 5-1/2” | 14 | 180E1125 |

### *1800A SERIES*
**CARBIDE TIP**
**TAPCON® Screw Type Anchor Drills**
**Fractional / Black with Gold Tip**

1800A

| Size | Overall Length | Screw Size | 1800A Order No. |
|---|---|---|---|
| 5/32” | 3-1/2” | 12 | 180A1103 |
| 5/32” | 4-1/2” | 12 | 180A1104 |
| 5/32” | 5-1/2” | 12 | 180A1105 |
| 3/16” | 3-1/2” | 14 | 180A1123 |
| 3/16” | 4-1/2” | 14 | 180A1124 |
| 3/16” | 5-1/2” | 14 | 180A1125 |
| 3/16” | 6-1/2” | 14 | 180A1126 |
| 3/16” | 7-1/2” | 14 | 180A1127 |

# GLASS AND TILE DRILLS

For the drilling of glass, tile, and ceramics. Can be used with or without water or coolant; water is the preferred and best way.
For use in rotary motors (not to be confused or used with rotary percussion motors).

### *1840 SERIES*
**Straight Shank**
**Fractional / Bright**

1840

| Size | Overall Length | 1840 Order No. |
|---|---|---|
| 1/8” | 3-1/2” | 184F108 |
| 3/16” | 3-1/2” | 184F112 |
| 1/4” | 3-1/2” | 184F116 |
| 5/16” | 3-3/4” | 184F120 |
| 3/8” | 4” | 184F124 |
| 1/2” | 4” | 184F132 |

# SDS PLUS MASONRY DRILLS

Short head-to-flute entrance allows debris to quickly channel down the flute for faster drilling progress. Chisel-shaped head geometry for faster drilling progress. Self-centering tip for easy spot drilling. Reinforced flute geometry reduces vibrations, increases breakage resistance, and transfers more energy from power tool motor to tip of the drill bit. Rebar Chamfer prevents carbide head from cracking in the event of contact with reinforced concrete (product not intended for use in reinforced concrete).

## *1700A SERIES*
**CARBIDE TIP**
**SDS Plus**
**Fractional / Bright**

1700A

| Size | Flute Length | Overall Length | 1700A Order No. |
|---|---|---|---|
| 5/32” | 2” | 4-1/4” | 170A1104 |
| 5/32” | 4” | 6-1/4” | 170A1106 |
| 3/16” | 2” | 4-1/2” | 170A1124 |
| 3/16” | 4” | 6-1/2” | 170A1126 |
| 3/16” | 6” | 8-1/2” | 170A1128 |
| 3/16” | 10” | 12-1/2” | 170A11212 |
| 7/32” | 2” | 4-1/2” | 170A1144 |
| 7/32” | 4” | 6-1/2” | 170A1146 |
| 7/32” | 6” | 8-1/2” | 170A1148 |
| 1/4” | 2” | 4-1/2” | 170A1164 |
| 1/4” | 4” | 6-1/2” | 170A1166 |
| 1/4” | 6” | 8-1/2” | 170A1168 |
| 1/4” | 9” | 10-1/2” | 170A11612 |
| 1/4” | 18” | 20” | 170A11618 |
| 5/16” | 4” | 6-1/2” | 170A1206 |
| 5/16” | 6” | 8-1/2” | 170A1208 |
| 5/16” | 10” | 12-1/2” | 170A12012 |
| 3/8” | 4” | 6-1/2” | 170A1246 |
| 3/8” | 6” | 8-1/2” | 170A1248 |
| 3/8” | 10” | 12-1/2” | 170A12412 |
| 3/8” | 16” | 18” | 170A12418 |
| 3/8” | 22” | 24” | 170A12424 |
| 7/16” | 4” | 6-1/2” | 170A1286 |

| Size | Flute Length | Overall Length | 1700A Order No. |
|---|---|---|---|
| 7/16” | 10” | 12-1/2” | 170A12812 |
| 1/2” | 4” | 6-1/2” | 170A1326 |
| 1/2” | 8” | 10-1/2” | 170A13210 |
| 1/2” | 10” | 12-1/2” | 170A13212 |
| 1/2” | 16” | 18” | 170A13218 |
| 1/2” | 22” | 24” | 170A13224 |
| 9/16” | 4” | 6-1/4” | 170A1366 |
| 9/16” | 10” | 12-1/4” | 170A13612 |
| 9/16” | 16” | 18” | 170A13618 |
| 5/8” | 4” | 6-1/4” | 170A1406 |
| 5/8” | 6” | 8-1/4” | 170A1408 |
| 5/8” | 10” | 12-1/4” | 170A14012 |
| 5/8” | 16” | 18” | 170A14018 |
| 5/8” | 22” | 24” | 170A14024 |
| 11/16” | 6” | 8” | 170A1448 |
| 3/4” | 6” | 8” | 170A1488 |
| 3/4” | 10” | 12” | 170A14812 |
| 3/4” | 16” | 18” | 170A14818 |
| 7/8” | 8” | 10” | 170A15610 |
| 7/8” | 10” | 12” | 170A15612 |
| 7/8” | 16” | 18” | 170A15618 |
| 1” | 10” | 12” | 170A16412 |
| 1” | 16” | 18” | 170A16418 |

All sizes are individually packaged.

## *1700B SERIES (bulk packaging)*
**CARBIDE TIP**
**SDS Plus**
**Fractional / Bright**

1700B

| Size | Flute Length | Overall Length | 1700B Order No. |
|---|---|---|---|
| 5/32” | 2” | 4-1/4” | 170B1104 |
| 5/32” | 4” | 6-1/4” | 170B1106 |
| 3/16” | 2” | 4-1/2” | 170B1124 |
| 3/16” | 4” | 6-1/2” | 170B1126 |
| 3/16” | 6” | 8-1/2” | 170B1128 |
| 7/32” | 4” | 6-1/2” | 170B1146 |
| 7/32” | 6” | 8-1/2” | 170B1148 |

| Size | Flute Length | Overall Length | 1700B Order No. |
|---|---|---|---|
| 1/4” | 2” | 4-1/2” | 170B1164 |
| 1/4” | 4” | 6-1/2” | 170B1166 |
| 1/4” | 6” | 8-1/2” | 170B1168 |
| 5/16” | 4” | 6-1/2” | 170B1206 |
| 3/8” | 4” | 6-1/2” | 170B1246 |
| 3/8” | 6” | 8-1/2” | 170B1248 |
| 1/2” | 10” | 12-1/2” | 170B13212 |
| 5/8” | 6” | 8-1/4” | 170B1408 |

**1700B PACKAGING:**
**5/32” thru 3/8” - 25 per pack**
**1/2” thru 5/8” - 15 per pack**

1730 PACKAGING:
All sizes are individually packaged.

# SDS PLUS & SDS MAX MASONRY DRILLS

The 3-cutting-edge monobloc tip is the solution for all concrete drilling. The self-centering tip provides more precision, and this design guarantees a concentric hole. The bit is designed for longer life when drilling in concrete. As an additional benefit, it can crush through and pulverize rebar when drilling in reinforced concrete applications. The square flute accelerates dust extraction and improves the drill bit's lifetime. The reinforced geometry reduces vibrations and transfers more energy from the power tool motor to the tip of the drill bit.

▷ ***All sizes are individually packaged***

## *1720 SERIES*
**CARBIDE TIP**
**SDS PLUS DURA-TIP**
**Fractional / Bright**

1720

| Size | Flute Length | Overall Length | 1720 Order No. |
|---|---|---|---|
| 3/16” | 2” | 4-1/4” | 172F1124 |
| 3/16” | 4” | 6-1/2” | 172F1126 |
| 3/16” | 6” | 8-1/2” | 172F1128 |
| 3/16” | 10” | 12-1/2” | 172F11212 |
| 1/4” | 2” | 4-1/2” | 172F1164 |
| 1/4” | 4” | 6-1/2” | 172F1166 |
| 1/4” | 6” | 8-1/2” | 172F1168 |
| 1/4” | 10” | 12-1/2” | 172F11612 |
| 5/16” | 4” | 6-1/2” | 172F1206 |
| 5/16” | 10” | 12-1/2” | 172F12012 |
| 5/16” | 16” | 18” | 172F12018 |
| 3/8” | 4” | 6-1/4” | 172F1246 |
| 3/8” | 10” | 12-1/4” | 172F12412 |
| 3/8” | 16” | 18” | 172F12418 |
| 7/16” | 4” | 6-1/4” | 172F1286 |
| 1/2” | 4” | 6-1/4” | 172F1326 |

| Size | Flute Length | Overall Length | 1720 Order No. |
|---|---|---|---|
| 1/2” | 10” | 12-1/4” | 172F13212 |
| 1/2” | 16” | 18” | 172F13218 |
| 9/16” | 4” | 6-1/4” | 172F1366 |
| 9/16” | 10” | 12-1/4” | 172F13612 |
| 9/16” | 16” | 18” | 172F13618 |
| 5/8” | 8” | 10-1/4” | 172F14010 |
| 5/8” | 10” | 12-1/4” | 172F14012 |
| 3/4” | 8” | 10” | 172F14810 |
| 3/4” | 10” | 12” | 172F14812 |

| Size | Flute Length | Overall Length | 1720 BULK Order No. |
|---|---|---|---|
| 3/16” | 4” | 6-1/2” | 172B1126 |
| 1/4” | 4” | 6-1/2” | 172B1166 |
| 5/16” | 4” | 6-1/2” | 172B1206 |
| 3/8” | 4” | 6-1/4” | 172B1246 |
| 1/2” | 4” | 6-1/4” | 172B1326 |

3/16” thru 5/16” - 15 per pack, 3/8” thru 1/2” - 10 per pack

## *1740 SERIES*
**CARBIDE TIP**
**SDS MAX**
**Fractional / Bright**

1740

Designed for longer life in concrete and reinforced concrete applications. The 6-cutting-edge geometry guarantees perfect round and calibrated holes, a longer lifetime, an anti-blocking system, and really low vibration which delivers more comfort. The square flutes accelerate dust extraction and improves the drill bit's lifetime as well as transfers more impact energy from the head to the tip of the drill bit. It can crush through and pulverize rebar when drilling in reinforced concrete applications.

| Size | Flute Length | Overall Length | 1740 Order No. |
|---|---|---|---|
| 1/2” | 7-1/2” | 13” | 174F13213* |
| 1/2” | 15-1/2” | 21” | 174F13221* |
| 9/16” | 7-1/2” | 13” | 174F13613* |
| 9/16” | 15-1/2” | 21” | 174F13621* |
| 5/8” | 7-1/2” | 13” | 174F14013 |
| 5/8” | 15-1/2” | 21” | 174F14021 |
| 5/8” | 31” | 36” | 174F14036 |
| 3/4” | 7-1/2” | 13” | 174F14813 |
| 3/4” | 17” | 21” | 174F14821 |
| 3/4” | 31” | 36” | 174F14836 |
| 7/8” | 8” | 13” | 174F15613 |

| Size | Flute Length | Overall Length | 1740 Order No. |
|---|---|---|---|
| 7/8” | 17” | 21” | 174F15621 |
| 1” | 8” | 13” | 174F16413 |
| 1” | 17” | 21” | 174F16421 |
| 1” | 31” | 36” | 174F16436 |
| 1-1/8” | 12” | 17” | 174F20817 |
| 1-1/8” | 17” | 21” | 174F20821 |
| 1-1/4” | 9-1/2” | 15” | 174F21615 |
| 1-1/4” | 18” | 23” | 174F21623 |
| 1-1/4” | 31” | 36” | 174F21636 |
| 1-3/8” | 18” | 23” | 174F22423 |
| 1-1/2” | 18” | 21” | 174F23223 |

# MASONRY DRILLS
# REBAR CUTTERS

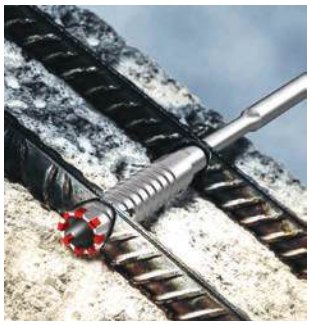
These cutters are the perfect solution for drilling through concrete embedded rebar! Evacuation zones between the carbide teeth and flutes for optimal dust evacuation. Made from premium grade European Carbide.
For sizes 3/8" – 5/8", rebar cutters come in a single, one-piece design in either Micro SDS+ (Compatible with SDS+ drive systems), or 3-Flat shank.
For sizes 3/4" and above, Drillco rebar cutters come in a two-piece design (Head + Shank Adapter). The adapter is available in Mirco SDS+ or 3-Flat Shank, and is interchangeable and reusable with all sizes from 3/4" and above.

- ***Cuts through rebar up to 5x faster than an SDS+ multi-cutting drill***
- ***Eliminates the need to relocate holes to avoid rebar; just drill straight through!***
- ***Large, unique flute design optimizes debris removal***
- ***Relief hole for easier chip and heat removal away from the drilling surface***

## *1760 / 1770 SERIES*
## SOLID CARBIDE
### Micro SDS+ or 3-Flat Shank / Fractional / Bright
### One-Piece Design

1760

| Size | Head Length | Overall Length | Micro SDS+ Order No | 3-Flat SDS Order No |
|---|---|---|---|---|
| 3/8" | 4" | 8" | 176F1248 | 177F1248 |
| 1/2" | 4" | 12" | 176F13212 | 177F13212 |
| 9/16" | 4" | 12" | 176F13612 | 177F13612 |
| 5/8" | 4" | 12" | 176F14012 | 177F14012 |



## *1780 SERIES*
## SOLID CARBIDE
### Head Only / Fractional / Bright
### Two-Piece Design

1780

| Size | Head Length | Order No |
|---|---|---|
| 3/4" | 4" | 178F1484 |
| 7/8" | 4" | 178F1564 |
| 1" | 4" | 178F1644 |
| 1-1/8" | 4" | 178F2084 |
| 1-1/4" | 4" | 178F2164 |
| 1-3/8" | 4" | 178F2244 |
| 1-1/2" | 4" | 178F2324 |

| Type | Adapter Length | Order No |
|---|---|---|
| SDS PLUS | 9" | 178FSDSADAPT |
| 3-Flat Shank | 9" | 178F3FLATADAPT |

## *Tech tip!*

*Use rebar cutters on rotation mode only*

# MASONRY
# HAMMER DRILL TOOLS

## *1850 SERIES*

1850 Gouging Chisel

1850 Pointed Chisel

1850 Flat Chisel

1850 Toothed Chisel aka Slotting Tool

1850 Mortar Chisel aka Seam Tool

1850 Tile Chisel

| Description | Overall Length | Shank Type | Length of Cut | 1850 Order No. |
|---|---|---|---|---|
| BULL POINT CHISEL SDS-PLUS SHANK 10” | 10” | SDS PLUS | – | 185FCB05 |
| BULL POINT CHISEL SDS-MAX 12” | 12” | SDS MAX | – | 185FCB06 |
| BULL POINT CHISEL SDS-MAX 18” | 18” | SDS MAX | – | 185FCB07 |
| BUSHING TOOL SDS-MAX 1-3/4” | 9-1/2” | SDS MAX | – | 185FCB29 |
| FLAT CHISEL SDS-PLUS 3/4” | 10” | SDS PLUS | 13/16” | 185FCF11 |
| FLAT CHISEL SDS-MAX 1” | 12” | SDS MAX | 15/16” | 185FCF13 |
| FLAT CHISEL SDS-MAX 1” | 18” | SDS MAX | 15/16” | 185FCF14 |
| GOUGING CHISEL SDS-PLUS 7/8” | 10” | SDS PLUS | – | 185FCG27 |
| GOUGING CHISEL SDS-MAX 1” | 12” | SDS MAX | – | 185FCG28 |
| MOIL POINT CHISEL 3/4” | 12” | 3/4” | – | 185FCM02 |
| MOIL POINT CHISEL 3/4” | 18” | 3/4” | – | 185FCM03 |
| MORTAR/SEAM SDS-MAX 1 1/8” | 12” | SDS MAX | – | 185FCM26 |
| SCALING CHISEL SDS-PLUS 1-1/2” | 10” | SDS PLUS | 1-9/16” | 185FCS12 |
| SCALING CHISEL SDS-MAX 2” | 12” | SDS MAX | 2” | 185FCS15 |
| SCALING CHISEL SDS-MAX 3” | 12” | SDS MAX | 3-3/16” | 185FCS16 |
| SCALING CHISEL 3/4” | 12” | 3/4” | 3-3/16” | 185FCS23 |
| SLOTTING CHISEL SDS-MAX 1-1/8” | 12” | SDS MAX | 1-9/16” | 185FCS25 |
| TILE SCALING CHISEL SDS- PLUS 3” | 6-1/2” | SDS PLUS | 1-9/16” | 185FCT23 |
| TILE SCALING CHISEL SDS- MAX 2” | 12” | SDS MAX | 1-31/32” | 185FCT24 |

## *1860 SERIES*

1860 - ADAPTER

1860 - SCRIBER

| Description | Overall Length | Shank Type | 1860 Order No. |
|---|---|---|---|
| SDS-PLUS ADAPTER SDS-MAX SHANK 8” | 8” | SDS MAX | 186FA01 |
| CHUCK ADAPTER SDS-PLUS SHANK 2” | 2” | SDS PLUS | 186FA02 |
| CHUCK ADAPTER SDS-PLUS SHANK 2-1/2” | 2-1/2” | SDS PLUS | 186FA03 |
| CARBIDE TIPPED SCRIBER HEXAGONAL SHANK | – | HEXAGONAL | 186FA04 |

XD
SKELETON
WALTER

# MULTI-STEP DRILLS

DRILLCO CUTTING TOOLS

3-flat shank reduces slippage in the drill chuck. For sheet metal and other thin material such as plastic, PVC pipe, and wood. Ideal for electricans and other skilled trades.

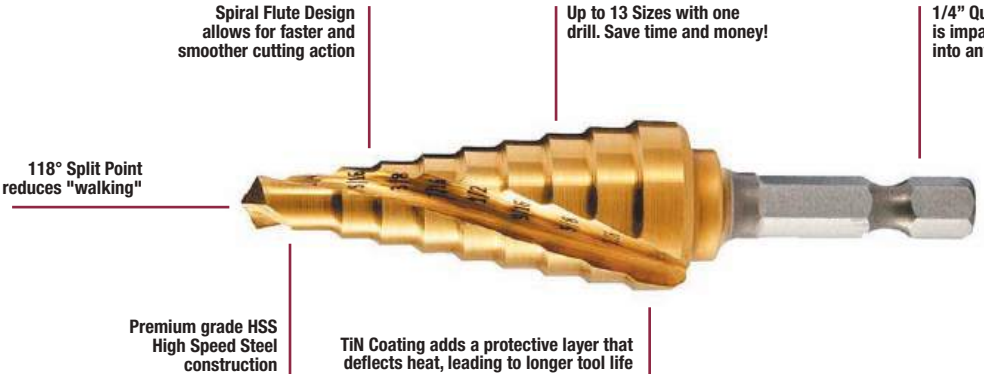
## *8900 SERIES*
### Bright / 3-Flat Shank
### Fractional

8900

| Size | Shank Size | Min. Size | Max. Size | Step Increment | Number of Steps | 8900 Order No. |
|---|---|---|---|---|---|---|
| 1 | 1/4" | 1/8" | 1/2" | 1/32" | 13 | 890A001 |
| 2 | 1/4" | 3/16" | 1/2" | 1/16" | 6 | 890A002 |
| 3 | 3/8" | 1/4" | 3/4" | 1/16" | 9 | 890A003 |
| 4 | 3/8" | 3/16" | 7/8" | 1/16" | 12 | 890A004 |
| 5 | 1/2" | 1/4" | 1-3/8" | 1/8" | 10 | 890A005 |

DRILLCO's MULTI-STEP drills are designed for all sheet metals up to 5/32" thick. Creates clean, round, burr free holes in multiple sizes with just one tool!

## *8950 SERIES*
### TiN/ Hex Shank
### Fractional




3pc Set

**Individually blister packed for easy display!**

| Tool# | Description | 4700SE Order No. |
|---|---|---|
| 1 | 13 Steps: 1/8" to 1/2" | 895A001 |
| 2 | 9 Steps: 1/4" to 3/4" | 895A002 |
| 3 | 12 Steps: 3/16" to 7/8" | 895A003 |
| 4 | 13 Steps: 1/4" to 1.1/8" | 895A004 |
| SET | 3pc Set: Tools #1 - #3 | 895SET |

# MULTI-STEP™ DRILLS

## Now with the exclusive ICECUT™ coating

Multi-Step drill bits are the fastest and easiest way to enlarge holes in sheet metal and other materials up to 1/8" thick.

- ***Special AlCrN coating provides additional toughness and wear resistance to prolong tooling life, even when compared to titanium based coatings such as TiN or TiAlN***
- ***2 wide cylindrical flutes eliminate chip build-up for faster drilling and to produce holes with minimal vibration or distortion***
- ***Each shank has three flats for easy mounting***
- ***Spiral fluting is ideal to improve speed when working with cordless power tools***
- ***Straight fluting is ideal to ensure you get the proper hole size without warping on corded power tools***

### *01W SERIES*
### Coated / 3-Flat Shank
### Fractional

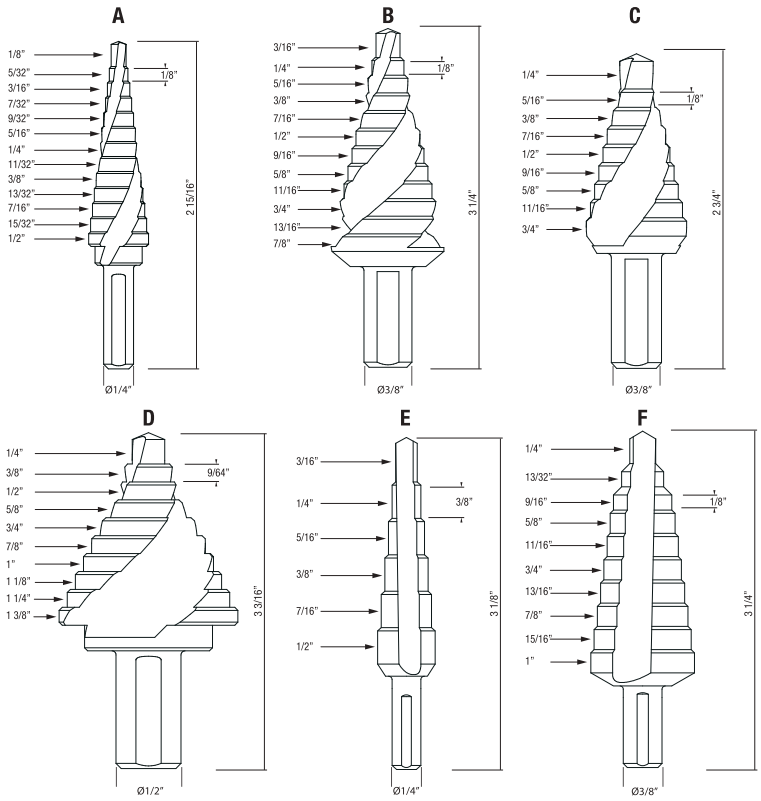
| Type | Type of Flute | Shank Size | Min. Size | Max. Size | Step Increment | Number of Steps | Order No. |
|---|---|---|---|---|---|---|---|
| A | SPIRAL | 1/4" | 1/8" | 1/2" | 1/8" | 13 | 01W001 |
| B | SPIRAL | 3/8" | 3/16" | 7/8" | 1/8" | 12 | 01W005 |
| C | SPIRAL | 3/8" | 1/4" | 3/4" | 1/8" | 9 | 01W011 |
| D | SPIRAL | 3/8" | 1/4" | 1 3/8" | 9/64" | 10 | 01W012 |
| E | SPIRAL | 1/4" | 3/16" | 1/2" | 3/8" | 6 | 01W021 |
| F | SPIRAL | 3/8" | 1/4" | 1" | 1/8" | 10 | 01W029 |
| A | STRAIGHT | 1/4" | 1/8" | 1/2" | 1/8" | 13 | 01W101 |
| B | STRAIGHT | 3/8" | 3/16" | 7/8" | 1/8" | 12 | 01W105 |
| C | STRAIGHT | 3/8" | 1/4" | 3/4" | 1/8" | 9 | 01W111 |
| D | STRAIGHT | 3/8" | 1/4" | 1 3/8" | 9/64" | 10 | 01W112 |

Packaged in reusable plastic packaging

# STEP DRILL SET

Contains the three Multi-Step bits needed for all hole sizes from 1-3/8".

| Set | |
|---|---|
| **Description** | **Order No.** |
| Each kit contains:<br>01W001<br>01W005<br>01W012 | 01W951 |



# WOOD DRILLS

Ship Auger Bits are used to make long holes in thick pieces of lumber. They can cut through nails without damaging the bit. It is also capable of drilling through vinyl and plastic. Ideal for electricians, plumbers, utilities and any trade requiring fast hole drilling in clean or nail-embedded wood.

▷ ***All sizes are individually packaged***

## *1900E SERIES*
**HIGH SPEED STEEL**
### Ship Auger Bit / HEX Shank
### Fractional / Bright

1900E

| Size | Overall Length | 1900E Order No. |
|---|---|---|
| 1/4” | 7-1/2” | 19E116A |
| 3/8” | 7-1/2” | 19E124A |
| 3/8” | 18” | 19E124B |
| 7/16” | 7-1/2” | 19E128A |
| 7/16” | 18” | 19E128B |
| 1/2” | 7-1/2” | 19E132A |
| 1/2” | 18” | 19E132B |
| 9/16” | 7-1/2” | 19E136A |
| 9/16” | 18” | 19E136B |
| 5/8” | 7-1/2” | 19E140A |
| 5/8” | 18” | 19E140B |

| Size | Overall Length | 1900E Order No. |
|---|---|---|
| 11/16” | 7-1/2” | 19E144A |
| 11/16” | 18” | 19E144B |
| 3/4” | 7-1/2” | 19E148A |
| 3/4” | 18” | 19E148B |
| 7/8” | 7-1/2” | 19E156A |
| 7/8” | 18” | 19E156B |
| 1” | 7-1/2” | 19E164A |
| 1” | 18” | 19E164B |
| 1-1/8” | 18” | 19E208B |
| 1-1/4” | 18” | 19E216B |

## *1950E SERIES*
**HIGH SPEED STEEL**
### Paddle Bits - Ball Groove Shank
### Fractional / Bright

Ball grove hex shank helps reduce slippage in the drill chuck.

1950E

| Size | Overall Length | 1950E Order No. |
|---|---|---|
| 1/4” | 6” | 195E116 |
| 5/16” | 6” | 195E120 |
| 3/8” | 6” | 195E124 |
| 1/2” | 6” | 195E132 |
| 9/16” | 6” | 195E136 |
| 5/8” | 6” | 195E140 |
| 11/16” | 6” | 195E144 |
| 3/4” | 6” | 195E148 |

| Size | Overall Length | 1950E Order No. |
|---|---|---|
| 7/8” | 6” | 195E156 |
| 15/16” | 6” | 195E160 |
| 1” | 6” | 195E164 |
| 1-1/8” | 6” | 195E208 |
| 1-1/4” | 6” | 195E216 |
| 1-3/8” | 6” | 195E224 |
| 1-1/2” | 6” | 195E232 |

# COMBINED DRILL & COUNTERSINK (CENTER DRILL)

When metal parts are machined on centers, as in turning or cylindrical grinding, it is always necessary to drill and countersink the center holes to serve as seats or bearings in the machine centers. Plain Type is the most commonly used combined drill and countersink.

▷ ***All sizes are individually packaged***

## *3500 SERIES*
**HIGH SPEED STEEL**
**Plain Type / 60° Angle**
**Bright**

3500

| Size | Body Dia. | Overall Length | Drill Size | 3500 Order No. |
|---|---|---|---|---|
| 00 | 1/8” | 1-1/4” | .025 | 350AA00 |
| 1 | 1/8” | 1-1/4” | 3/64” | 350A001 |
| 2 | 3/16” | 1-7/8” | 5/64” | 350A002 |
| 3 | 1/4” | 2” | 7/64” | 350A003 |

| Size | Body Dia. | Overall Length | Drill Size | 3500 Order No. |
|---|---|---|---|---|
| 4 | 5/16” | 2-1/8” | 1/8” | 350A004 |
| 5 | 7/16” | 2-3/4” | 3/16” | 350A005 |
| 6 | 1/2” | 3” | 7/32” | 350A006 |
| 7 | 5/8” | 3-1/4” | 1/4” | 350A007 |
| 8 | 3/4” | 3-1/2” | 5/16” | 350A008 |

## *3500E SERIES*
**HIGH SPEED STEEL**
**Plain & Bell Type / 60° Angle**
**Bright**

Bell Type is used if the parts to be machined are to pass through a number of subsequent handlings, where there is danger of marring the edges of the center holes. They have an additional small 120° chamfer to protect the edges of the 60° hole.

3500E Plain

3500E Bell Type

| Size | Body Dia. | Overall Length | Drill Size | Plain Order No. |
|---|---|---|---|---|
| 1 | 1/8” | 1-1/4” | 3/64” | 350E001 |
| 2 | 3/16” | 1-7/8” | 5/64” | 350E002 |
| 3 | 1/4” | 2” | 7/64” | 350E003 |
| 4 | 5/16” | 2-1/8” | 1/8” | 350E004 |
| 5 | 7/16” | 2-3/4” | 3/16” | 350E005 |
| 6 | 1/2” | 3” | 7/32” | 350E006 |
| 7 | 5/8” | 3-1/4” | 1/4” | 350E007 |
| 8 | 3/4” | 3-1/2” | 5/16” | 350E008 |

| Size | Body Dia. | Overall Length | Drill Size | Bell Order No. |
|---|---|---|---|---|
| 11 | 1/8” | 1-1/4” | 3/64” | 350E011 |
| 12 | 3/16” | 1-7/8” | 1/16” | 350E012 |
| 13 | 1/4” | 2” | 3/32” | 350E013 |
| 14 | 5/16” | 2-1/8” | 7/64” | 350E014 |
| 15 | 7/16” | 2-3/4” | 5/32” | 350E015 |
| 16 | 1/2” | 3” | 3/16” | 350E016 |
| 17 | 5/8” | 3-1/4” | 7/32” | 350E017 |
| 18 | 3/4” | 3-1/2” | 1/4” | 350E018 |

# COMBINED DRILL & COUNTERSINK (CENTER DRILL)

Plain Type Long Series is used where extra reach is required.

### *3575E SERIES*
**60° Angle**
**Bright**

3575E

| Size | Body Dia. | Overall Length | Drill Size | 3575E Order No. |
|---|---|---|---|---|
| 1 | 1/8” | 3” | 3/64” | 35E001A |
| 1 | 1/8” | 4” | 3/64” | 35E001B |
| 1 | 1/8” | 5” | 3/64” | 35E001C |
| 1 | 1/8” | 6” | 3/64” | 35E001D |
| 2 | 3/16” | 4” | 5/64” | 35E002A |
| 2 | 3/16” | 5” | 5/64” | 35E002B |
| 2 | 3/16” | 6” | 5/64” | 35E002C |
| 3 | 1/4” | 4” | 7/64” | 35E003A |
| 3 | 1/4” | 5” | 7/64” | 35E003B |
| 3 | 1/4” | 6” | 7/64” | 35E003C |
| 4 | 5/16” | 4” | 1/8” | 35E004A |
| 4 | 5/16” | 5” | 1/8” | 35E004B |

| Size | Body Dia. | Overall Length | Drill Size | 3575E Order No. |
|---|---|---|---|---|
| 4 | 5/16” | 6” | 1/8” | 35E004C |
| 4-1/2 | 3/8” | 4” | 9/64” | 35E045A |
| 4-1/2 | 3/8” | 5” | 9/64” | 35E045B |
| 4-1/2 | 3/8” | 6” | 9/64” | 35E045C |
| 5 | 7/16” | 4” | 3/16” | 35E005A |
| 5 | 7/16” | 5” | 3/16” | 35E005B |
| 6 | 1/2” | 5” | 7/32” | 35E006B |
| 6 | 1/2” | 6” | 7/32” | 35E006C |
| 7 | 5/8” | 5” | 1/4” | 35E007A |
| 7 | 5/8” | 6” | 1/4” | 35E007B |
| 8 | 3/4” | 6” | 5/16” | 35E008A |

# **PILOT** FOR HOLESAWS

Pilot drills have a self-centering 118° split point and are designed to fit most styles of hole saw arbors.
Pilot drills have 3 notches ground into the shank to allow adjustment for varying depth hole saws.

### *400P SERIES*
**118° Split Point / 3 Flats / Fractional**
**Black Oxide**

MADE IN THE USA

400P

| Size | Flute Length | Overall Length | 400P Order No. |
|---|---|---|---|
| 1/4” | 1-5/16” | 4” | 400P116 |

# SCREW EXTRACTORS

Screw extractors are designed to remove a broken or seized screw. The screw must first be "drilled out" to the proper size in order for the screw extractor to fit properly. The screw extractor is turned counter-clockwise using a tap wrench.

▷ ***Available individually, in a 5pc set or in a 5pc set with corresponding required drill***

## *9000E SERIES*
## CARBON

9000E

| Size | Screw Size | Pipe Size | Drill Size | 9000E Order No. |
|---|---|---|---|---|
| 1 | 3/16" | – | 5/64" | 9000E001 |
| 2 | 1/4" | – | 7/64" | 9000E002 |
| 3 | 5/16" | – | 5/32" | 9000E003 |
| 4 | 7/16" – 9/16" | – | 1/4" | 9000E004 |
| 5 | 9/16-3/4" | 1/8" | 17/64" | 9000E005 |
| 6 | 3/4" | 3/8" | 13/32" | 9000E006 |
| 7 | 1" – 1-3/8" | 1/2" | 17/32 | 9000E007 |
| 8 | 1-3/8" | 3/4" | 13/16" | 9000E008 |
| 9 | 1-3/4" | 1" | 1-1/16" | 9000E009 |

9000ESET

9000EDS

| Corresponding Sets | | |
|---|---|---|
| **Description** | **Drills** | **Order No.** |
| **9000E Series Screw Extractor Sets with 100SE Drills** | | |
| #1-5 with Drills | 5/64, 7/64, 5/32, 1/4, 17/64 | 9000EDS |
| **9000E Series Screw Extractor Sets** | | |
| #1-5 no Drills | N/A | 9000ESET |

# DRILL ACCESSORIES

DRILLCO CUTTING TOOLS

## HARDENED DRILL SLEEVE

Regular Length. For adapting Morse Taper Shank tools to larger Morse taper holders. Hardened Sleeves (1420) – Case hardened throughout and ground internally and externally

### *1420 SERIES*
**Hardened Bright**

1420

| Size | Inside Morse Taper | Morse Taper Outside | 1420 Order No. |
|---|---|---|---|
| 12 | 1 | 2 | 142E012H |
| 13 | 1 | 3 | 142E013H |
| 14 | 1 | 4 | 142E014H |
| 23 | 2 | 3 | 142E023H |
| 24 | 2 | 4 | 142E024H |
| 25 | 2 | 5 | 142E025H |
| 34 | 3 | 4 | 142E034H |
| 35 | 3 | 5 | 142E035H |
| 45 | 4 | 5 | 142E045H |
| 46 | 4 | 6 | 142E046H |
| 56 | 5 | 6 | 142E056H |

Extension Length. For adapting Morse Taper Shank tools to larger or smaller Morse taper holders. Can also be used to extend the length of taper shank tools. Hardened Sleeves (1440) – Case hardened throughout and ground internally and externally

### *1440 SERIES*
**Hardened Bright**

1440

| Size | Inside Morse Taper | Morse Taper Outside | 1440 Order No. |
|---|---|---|---|
| 12 | 1 | 2 | 144E012H |
| 13 | 1 | 3 | 144E013H |
| 21 | 2 | 1 | 144E021H |
| 22 | 2 | 2 | 144E022H |
| 23 | 2 | 3 | 144E023H |
| 24 | 2 | 4 | 144E024H |
| 32 | 3 | 2 | 144E032H |
| 33 | 3 | 3 | 144E033H |
| 34 | 3 | 4 | 144E034H |
| 43 | 4 | 3 | 144E043H |
| 44 | 4 | 4 | 144E044H |
| 45 | 4 | 5 | 144E045H |
| 54 | 5 | 4 | 144E054H |
| 55 | 5 | 5 | 144E055H |
| 56 | 5 | 6 | 144E056H |

## DRILL DRIFTS & GAUGES

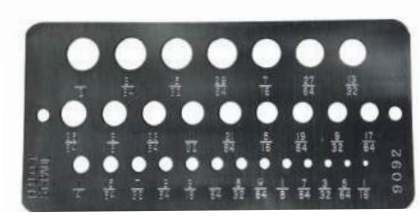
For ejecting taper shank tools out of Morse Taper sleeves and sockets. Fully drop forged.

### *1470 SERIES*
**Drill Drifts Bright**

| Size | Overall Length | Morse Taper | Drifts Order No. |
|---|---|---|---|
| 1 | 4-1/2” | #1 | 147E001 |
| 2 | 5-1/4” | #2 | 147E002 |
| 3 | 6” | #3 | 147E003 |
| 4 | 7” | #4, 5 and 6 | 147E004 |

## DRILL GAUGES

For ejecting taper shank tools out of Morse Taper sleeves and sockets. Fully drop forged.



| Size | Gauges Order No. |
|---|---|
| Fractional | 29G0000 |
| 33/64” - 1” | 32G0000 |
| Wire #1 - 60 | 60G0000 |

# DISPLAY, DISPENSERS, INDEXES

49A123 / 540DX

115DX

29IDX

| No. of Pieces | Series | Description | Order No. |
|---|---|---|---|
| **Drill Display Case - Counter Top Display** | | | |
| 540 | 200 | (24) 1/16, (24) 5/64, (24) 3/32, (24) 7/64, (60) 1/8, (24) 9/64, (24) 5/32, (24) 11/64, (48) 3/16, (24) 13/64, (24) 7/32, (24) 15/64, (60) 1/4, (12) 17/64, (12) 9/32, (12) 19/64, (12) 5/16, (6) 21/64, (6) 11/32, (6) 23/64, (12) 3/8, (6) 25/64, (6) 13/32, (6) 27/64, (12) 7/16, (6) 29/64, (6) 15/32, (6) 31/64, (6) 1/2 | 200A540C |
| | 200B | | 200B540C |
| | 200LH | | 200LH540C |
| | 300 | | 300A540C |
| | 300N | | 300N540C |
| | 300C | | 300C540C |
| | 350N | | 350N540C |
| | 400 | | 400A540C |
| | 400N | | 400N540C |
| **Drill Dispensers (Empty)** | | | |
| Jobber Drill Dispensers | – | 270PC FRACTIONAL SIZES | 270DX |
| Jobber Drill Dispensers | – | 720PC WIRE SIZES | 720DX |
| Jobber Drill Dispensers | – | 240PC LETTER SIZES | 240DX |
| Jobber Drill Dispensers | – | MASTER DRILL DISPENSER | 115DX |
| Jobber Drill Dispensers | – | 234PC METRIC SIZES | 800DX |
| **Drill Index (Empty)** | | | |
| 13 | – | 13PC DRILL BIT INDEX 1/16” - 1/4” by 64$^{ths}$ | 13IDX |
| 15 | – | 15PC DRILL BIT INDEX 1/16” - 1/2” by 32$^{nds}$ | 15IDX |
| 21 | – | 21PC DRILL BIT INDEX 1/16” - 3/8” by 64$^{ths}$ | 21IDX |
| 26 | – | 26PC DRILL BIT INDEX A-Z | 26IDX |
| 29 | – | 29PC DRILL BIT INDEX 1/16” - 1/2” by 64$^{ths}$ | 29IDX |
| 29 | – | 29PC DRILL BIT INDEX 1/16” - 1/2” by 64$^{ths}$, ”DRILL PAL” | 29WIDX |
| 60 | – | 60PC DRILL BIT INDEX #1-60 | 60IDX |
| 540 | – | 540PC EMPTY DRILL COUNTER DISPLAY | 540DX or 49A123 |

# TECHNICAL INFORMATION

## Drill Feeds and Speeds

| Material | Hardness | Drill Type | Point Style | Point Angle | Speed (SFM) | Feed | Coolant |
|---|---|---|---|---|---|---|---|
| Aluminum / Aluminum Alloys | – | High Helix | Standard | 118° | 200-300 | Medium to Heavy | Water Soluble |
| Aluminum Bronze | – | High Helix | Standard | 118° | 50-100 | Medium to Heavy | Water Soluble |
| Brass, Free Machining | – | Low Helix | Standard | 118° | 100-250 | Medium to Heavy | Water Soluble |
| Bronze, Soft Medium | Below 200 | General Purpose | Standard | 118° | 70-150 | Medium to Heavy | Water Soluble |
| Bronze, High Tensile | – | Low Helix or Half RD | Standard | 118° | 50-100 | Medium to Heavy | Water Soluble |
| Cooper / Cooper Alloys | – | General Purpose | Standard | 118° | 100-200 | Medium | Water Soluble |
| High Temp. Alloys, Cobalt Base | 180-300 | Cobalt | Split Point | 135° | 5-20 | Medium | Activated Oils |
| High Temp. Alloys, Iron Base | 180-300 | Cobalt | Split Point | 135° | 5-20 | Medium | Activated Oils |
| High Temp. Alloys, Neckel Base | 180-300 | Nitro® or Cobalt | Split Point | 135° | 5-15 | Medium | Activated Oils |
| Iron, Soft Case | Up to 150 | Heavy Duty or Nitro® | Split Point | 135° | 75-150 | Medium | Dry / Air |
| Iron, Medium Case | 150-250 | Heavy Duty or Nitro® | Split Point | 135° | 50-100 | Medium | Dry / Air |
| Iron, Hard Case | Over 250 | Carbide | Standard | 118° | 40-75 | Light to Medium | Dry / Air |
| Plastic & Related Materials | – | Low Helix | Low Angle | 90° | 100-200 | Medium to Heavy | Dry / Air |
| Steel, Alloyed Low Carbon | 125-275 | General Purpose | Standard | 118° | 50-70 | Medium | Water Soluble |
| Steel, Alloyed Medium Carbon | 275-325 | Heavy Duty or Nitro® | Split Point | 135° | 40-55 | Medium | Water Soluble |
| Steel, Alloyed High Carbon | Over 325 | Cobalt | Split Point | 135° | 30-50 | Medium | Water Soluble |
| Steel Low & Medium carbon | Below 175 | General Purpose | Standard | 118° | 45-95 | Medium to Heavy | Water Soluble |
| Steel High Carbon | 175-225 | General Purpose | Standard | 118° | 45-65 | Medium | Water Soluble |
| Stainless Steel, Austenitic | Below 300 | Heavy Duty or Nitro® | Split Point | 135° | 40-60 | Medium to Heavy | Water Soluble |
| Stainless Steel Precipiation | Over 300 | Cobalt | Split Point | 135° | 20-40 | Medium | Cutting Oil |

| Drill Dia. | Light | Medium | Heavy |
|---|---|---|---|
| Feed Per Drill Revolution | | | |
| 1/16” to 1/8” | .0005 - .0010 | .0010 - .0020 | .0020 - .0040 |
| 1/8” to 1/4” | .0010 - .0030 | .0030 - .0050 | .0040 - .0060 |
| 1/4” to 3/8” | .0030 - .0050 | .0050 - .0070 | .0060 - .0100 |
| 3/8” to 1/2” | .0040 - .0060 | .0050 - .0080 | .0080 - .0120 |
| 1/2” to 3/4” | .0050 - .0070 | .0070 - .0100 | .0090 - .0140 |
| 3/4” to 1” | .0070 - .0100 | .0090 - .0140 | .0140 - .0200 |

## Recommended Drilling Depths

| Length of Drill | Drilling Depth |
|---|---|
| Center Drills | 1 x D |
| Stub (Screw Machine) | 2.5 x D |
| Mechanic's | 3.5 x D |
| Jobber | 4 x D |
| S&D Drill | 4 x D |
| Aircraft Extension | 4 x D |
| Taper Length | 6 x D |
| 8” Extra Length | 10 x D |
| 12” Extra Length | 12 x D |
| 18” Extra Length | 15 x D |

**Feeds** – Feed rates for drilling are governed by the drill diameter, machinability of materials and depth of hole.

**Speeds** – The speed of a drill is determined by the rate which the outer periphery of the tool rotates in relation to material being cut. In general, the SFM at which a drill will operate is within a range based upon the workpiece material, its condition, hardness and depth of hole. It is usually advisable to start the drilling process at a slower SFM and then increase to the maximum.

**RPM** = $\frac{\text{SFM}}{\text{TD}}$ x 3.82 = Revolutions Per Minute

**SFM** = RPM x TD x .26 = Surface Feet Per Minute

**TD** – Tool diameter in inches

# TECHNICAL INFORMATION

## 710 Drill Feeds and Speeds

| Workpiece Material Groups | Hardness | Speed (SFM) | 1/32" | 1/16" | 1/8" | 1/4" | 3/8" | 1/2" | 5/8" | 3/4" |
|---|---|---|---|---|---|---|---|---|---|---|
| **Free Machining & Low Carbon Steels** 1006, 1008, 1015, 1018, 1020, 1022, 1025, 1117, 1140,1141, 11L08, 11L14, 1213, 12L13, 12L14, 1215, 1330 | up to 28 Rc | 330 | 0.0010 | 0.0020 | 0.0030 | 0.0060 | 0.0080 | 0.0100 | 0.0110 | 0.0120 |
| **Medium Carbon & High Carbon Steels, Alloy Steels & Easy to Machine Tool Steels** 1030, 1035, 1040, 1045, 1050, 1052, 1055, 1060, 1085, 1095, 1541, 1551, 9255, 2515, 3135, 3415, 4130, 4137, 4140, 4150, 4320, 4340, 4520, 5015, 5115, 5120, 5132, 5140, 5155, 6150, 8620, 9262, 9840, 52100, O1, O2, O6, S2,W1 to W310 | 28 to 38 Rc | 265 | 0.0010 | 0.0020 | 0.0030 | 0.0060 | 0.0080 | 0.0100 | 0.0110 | 0.0120 |
| **Tool Steels & Die Steels** O7, M1, M2, M3, M4, M7, T1, T2, T4, T5, T8, T15, A2, A3, A6, A7, H10, H11, H12, H13, H19, H21, L3, L6, L7, P2, P20, S1, S5, S7, 52100, A 128, D2, D3, D4, D5, D7 | 28 to 44 Rc | 230 | 0.0010 | 0.0020 | 0.0030 | 0.0060 | 0.0080 | 0.0100 | 0.0110 | 0.0120 |
| **Hardened Steel** | 45 to 65 Rc | 50 | 0.0003 | 0.0010 | 0.0010 | 0.0010 | 0.0020 | 0.0020 | 0.0020 | 0.0030 |
| **Stainless Steel - Moderately Difficult** 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH | up to 28 Rc | 150 | 0.0010 | 0.0020 | 0.0030 | 0.0060 | 0.0080 | 0.0100 | 0.0110 | 0.0120 |
| **Stainless Steel - Difficult to Machine** 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L,321, PH13-8Mo, Nitronics | up to 28 Rc | 100 | 0.0003 | 0.0005 | 0.0020 | 0.0040 | 0.0050 | 0.0060 | 0.0080 | 0.0100 |
| **High Temp Alloys** Nimonics, Inconel, Monel, Hastelloy | up to 42 Rc | 70 | 0.0003 | 0.0005 | 0.0020 | 0.0040 | 0.0050 | 0.0060 | 0.0080 | 0.0100 |
| **Titanium Alloys** 6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr, 10V-2Fe-3Al, 13V-11Cr-3Al | up to 42 Rc | 180 | 0.0003 | 0.0005 | 0.0020 | 0.0040 | 0.0050 | 0.0060 | 0.0080 | 0.0100 |
| **Cast-Iron - Gray CG,** ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40 | up to 240 HB | 365 | 0.0010 | 0.0020 | 0.0030 | 0.0060 | 0.0080 | 0.0100 | 0.0110 | 0.0120 |
| **Cast Iron - Ductile & Malleable CGI** 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108,M3210, M4504, M5503, 250, 300, 350, 400, 450 | over 240 HB | 365 | 0.0010 | 0.0020 | 0.0030 | 0.0060 | 0.0080 | 0.0100 | 0.0110 | 0.0120 |
| **Plastics** | | 300 | 0.0010 | 0.0020 | 0.0030 | 0.0060 | 0.0080 | 0.0100 | 0.0110 | 0.0120 |
| **Kevlar** | | 300 | 0.0010 | 0.0020 | 0.0030 | 0.0060 | 0.0080 | 0.0100 | 0.0110 | 0.0120 |

## Recommended cutting speed for MULTI-STEP™ HSSAI Drill Bits

| Cutter Dia. | | Alumi-num | Copper | Mild Steel | Stainless Steel | Non-metallic |
|---|---|---|---|---|---|---|
| mm | Inch | | | | | |
| 12.7 | 1/2" | 1003 | 878 | 502 | 376 | 1128 |
| 14.3 | 9/16" | 892 | 781 | 446 | 335 | 1004 |
| 15.9 | 5/8" | 802 | 702 | 401 | 301 | 902 |
| 17.5 | 11/16" | 730 | 638 | 365 | 274 | 821 |
| 19.1 | 3/4" | 669 | 585 | 334 | 251 | 752 |
| 20.6 | 13/16" | 617 | 540 | 309 | 231 | 694 |
| 22.2 | 7/8" | 573 | 502 | 287 | 215 | 645 |
| 23.8 | 15/16" | 535 | 468 | 268 | 201 | 602 |
| 25.4 | 1" | 502 | 439 | 251 | 188 | 564 |
| 27.0 | 1-1/16" | 472 | 413 | 236 | 177 | 531 |
| 28.6 | 1-1/8" | 446 | 390 | 223 | 167 | 502 |
| 30.2 | 1-3/16" | 422 | 370 | 211 | 158 | 475 |
| 31.8 | 1-1/4" | 401 | 351 | 201 | 150 | 451 |
| 33.3 | 1-5/16" | 382 | 334 | 191 | 143 | 430 |
| 34.9 | 1-3/8" | 365 | 319 | 182 | 137 | 410 |

* Choose RPM based on LARGEST step diameter

# TECHNICAL INFORMATION

## Drill Surface Treatments

| Chemical Compositions of High Speed Steels<br>Drills Taps Reamers End Mills | | | | | | |
|---|---|---|---|---|---|---|
| | Chemical Composition | | | | | |
| Type | Carbon % | Tungsten % | Molybdenum | Chromium % | Vanadium % | Term |
| M.50 | .83 | 0.10 | 4.25 | 4.00 | 1.00 | HSS |
| M1 | .80 | 1.50 | 8.00 | 4.00 | 1.00 | HSS |
| M2 | .85 | 6.00 | 5.00 | 4.00 | 2.00 | HSS |
| M7 | 1.00 | 1.75 | 8.75 | 4.00 | 2.00 | HSS |
| M35 | .80 | 6.00 | 5.00 | 4.00 | 2.00 | 5% Cobalt |
| M42 | 1.0 | 1.50 | 9.50 | 3.75 | 1.05 | 8% Cobalt |

## Surface Treatments

Surface treatments for high speed steel tools function to condition them, so in certain applications they will outperform tools that have not been treated. Surface treatments do not, however, alter the functional structure of the tool itself.

**Black Oxide** - This treatment is applied to finished tools and produces a thin black iron oxide surface coating. It also provides additional tempering and stress relieving. This coating reduces galling and chip welding and also increases the ability of the tool to retain lubricants. Recommended in iron and steel drilling applications. It should not be used in non-ferrous metals such as aluminum because it increases the loading tendencies of the tool.

**Nitride** - This treatment produces a hard case which is highly resistant to abrasion. It also slows down the tendency of softer materials to cling or load on tools. Recommended for tools that are used for ferrous, non-ferrous, and non-metallic materials which are abrasive and have loading characteristics.

**Nitrade and Oxide** - Combines the advantages of the lubricity of oxide with the abrasion resistance of nitriding. Recommended for abrasive ferrous applications. Not recommended for soft materials such as aluminum, magnesium, or similar non-ferrous applications.

**Chrome Plating** - This treatment deposits an extremely thin layer of chromium on the surface of tools. It reduces the coefficient of friction and resists chip weld and abrasion. Recommended for non-ferrous and non-metallic materials.

**Titanium Nitrade** - This surface treatment improves tool life by acting as a wear-resistant and thermal barrier. It also gives the tool a low coefficient of friction and very high surface hardness. It reduces friction and chip welding and acts as a thermal insulator between the chip and the tool. Recommended for use in ferrous materials below Rc 40 and in non-ferrous materials.

## Drill Points

**Conventional Point** - Conventional points with 118° included point angles are the most commonly used because they provide satisfactory results in a wide variety of materials. A possible limitation is that the straight chisel edge contributes to walking at the drill point, often making it necessary to spot the hole for improved accuracy.

**Split Point** - Split points were originally developed for use on drills designed for deep oil holes in automotive crankshafts. Since its inception, the split point has gained widespread use and is applied to both 118° and 135° included point angles. Its main advantages are the ability to reduce thrust and eliminate walking at the drill point. The split point also has two positive rake cutting edges extending the center of the drill, which can assist as a chipbreaker to produce small chips which can readily be ejected.

**Notched Point** - Notched points were developed for drilling tough alloys. Commonly incorporated on heavy web drills, which allow the point to withstand the higher thrust loads required in drilling these materials. As with the split point, the notched point contains two additional positive rake cutting edges extending toward the center of the drill. These secondary cutting lips, which extend no further than half the original cutting lip, can assist in chip control and reduce the torque required in drilling tough materials. Notched points can be incorporated on both 118° and 135° included point angles, making them suitable for drilling a broad variety of materials.

**Helical Point** - Helical points change the flat blunt chisel to an “S” contour with a radiused crown effect which has its highest point at the center of the drill axis. This crown contour creates a continuous cutting edge from margin to margin across the web. The advantage is its self-centering ability which allows the chisel to cut and enables the drill to cut closer to actual drill diameter. Helical Points are not available under 1/16” diameter.

**Reduced Rake Point** - Reduced rake points are generated by flattering or dubbing both cutting lips from the outer periphery to the chisel. This reduces the effective axial rake to 0–5, positive which translates to a plowing rather than shearing action. This reduction in shearing is an effective method of preventing the drill from grabbing in low tensile strength materials such as brass. Reducing the rake also strengthens the cutting lip and can assist in breaking chips.

# TECHNICAL INFORMATION

## Decimal Equivalent Chart

| Drill Size | MM | Decimal Inches | Drill Size | MM | Decimal Inches | Drill Size | MM | Decimal Inches | Drill Size | MM | Decimal Inches |
|---|---|---|---|---|---|---|---|---|---|---|---|
| – | 0.10 | .0039 | 45 | 2.08 | .0820 | 5 | 5.22 | .2055 | 7/16 | 11.11 | .4375 |
| – | 0.20 | .0079 | 44 | 2.18 | .0860 | 4 | 5.31 | .2090 | 29/64 | 11.15 | .4531 |
| – | 0.25 | .0098 | 43 | 2.26 | .0890 | 3 | 5.41 | .2130 | 15/32 | 11.91 | .4688 |
| – | 0.30 | .0118 | 42 | 2.37 | .0935 | 7/32 | 5.56 | .2188 | – | 12.00 | .4724 |
| 80 | 0.34 | .0135 | 3/32 | 2.38 | .0938 | 2 | 5.61 | .2210 | 31/64 | 12.30 | .4844 |
| 79 | 0.37 | .0145 | 41 | 2.44 | .0960 | 1 | 5.79 | .2280 | 1/2 | 12.70 | .5000 |
| 1/64 | 0.40 | .0156 | 40 | 2.50 | .0980 | A | 5.94 | .2340 | – | 13.00 | .5118 |
| 78 | 0.41 | .0160 | 39 | 2.53 | .0995 | 15/64 | 5.95 | .2344 | 33/64 | 13.10 | .5156 |
| 77 | 0.46 | .0180 | 38 | 2.58 | .1015 | – | 6.00 | .2360 | 17/32 | 13.49 | .5312 |
| – | 0.50 | .0197 | 37 | 2.64 | .1040 | B | 6.05 | .2380 | 35/64 | 13.89 | .5469 |
| 76 | 0.51 | .0200 | 36 | 2.71 | .1065 | C | 6.15 | .2420 | – | 14.00 | .5512 |
| 75 | 0.53 | .0210 | 7/64 | 2.78 | .1094 | D | 6.25 | .2460 | 9/16 | 14.29 | .5625 |
| 74 | 0.57 | .0225 | 35 | 2.79 | .1100 | 1/4 | 6.35 | .2500 | 37/64 | 14.68 | .5781 |
| – | 0.60 | .0236 | 34 | 2.82 | .1110 | E | 6.35 | .2500 | – | 15.00 | .5906 |
| 73 | 0.61 | .0240 | 33 | 2.87 | .1130 | F | 6.53 | .2570 | 19/32 | 15.08 | .5938 |
| 72 | 0.64 | .0250 | 32 | 2.95 | .1160 | G | 6.63 | .2610 | 39/64 | 15.48 | .6094 |
| 71 | 0.66 | .0260 | – | 3.00 | .1181 | 17/64 | 6.75 | .2656 | 5/8 | 15.88 | .6250 |
| – | 0.70 | .0276 | 31 | 3.05 | .1200 | H | 6.76 | .2660 | – | 16.00 | .6299 |
| 70 | 0.71 | .0280 | 1/8 | 3.18 | .1250 | I | 6.91 | .2720 | 41/64 | 16.27 | .6406 |
| 69 | 0.74 | .0282 | 30 | 3.26 | .1285 | – | 7.00 | .2756 | 21/32 | 16.67 | .6562 |
| – | 0.75 | .0295 | 29 | 3.45 | .1360 | J | 7.04 | .2770 | – | 17.00 | .6693 |
| 68 | 0.79 | .0310 | 28 | 3.57 | .1405 | K | 7.14 | .2810 | 43/64 | 17.07 | .6719 |
| 1/32 | 0.79 | .0313 | 9/64 | 3.57 | .1406 | 9/32 | 7.14 | .2812 | 11/16 | 17.46 | .6875 |
| – | 0.80 | .0315 | 27 | 3.66 | .1440 | L | 7.37 | .2900 | 45/64 | 17.86 | .7031 |
| 67 | 0.81 | .0320 | 26 | 3.73 | .1470 | M | 7.49 | .2950 | – | 18.00 | .7087 |
| 66 | 0.84 | .0330 | 25 | 3.80 | .1495 | 19/64 | 7.54 | .2969 | 23/32 | 18.26 | .7188 |
| 65 | 0.89 | .0350 | 24 | 3.86 | .1520 | N | 7.67 | .3020 | 47/64 | 18.65 | .7344 |
| – | 0.90 | .0354 | 23 | 3.91 | .1540 | 5/16 | 7.94 | .3125 | – | 19.00 | .7480 |
| 64 | 0.91 | .0360 | 5/32 | 3.97 | .1562 | – | 8.00 | .3150 | 3/4 | 19.05 | .7500 |
| 63 | 0.94 | .0370 | 22 | 3.99 | .1570 | O | 8.03 | .3160 | 49/64 | 19.45 | .7656 |
| 62 | 0.97 | .0380 | – | 4.00 | .1575 | P | 8.20 | .3230 | 25/32 | 19.84 | .7812 |
| 61 | 0.99 | .0390 | 21 | 4.04 | .1590 | 21/64 | 8.33 | .3281 | – | 20.00 | .7874 |
| – | 1.00 | .0394 | 20 | 4.09 | .1610 | Q | 8.43 | .3320 | 51/64 | 20.24 | .7969 |
| 60 | 1.02 | .0400 | 19 | 4.22 | .1660 | R | 8.61 | .3390 | 13/16 | 20.64 | .8125 |
| 59 | 1.04 | .0410 | 18 | 4.31 | .1695 | 11/32 | 8.73 | .3438 | – | 21.00 | .8268 |
| 58 | 1.07 | .0420 | 11/64 | 4.37 | .1719 | S | 8.84 | .3480 | 53/64 | 21.03 | .8281 |
| 57 | 1.09 | .0430 | 17 | 4.39 | .1730 | – | 9.00 | .3543 | 27/32 | 21.43 | .8438 |
| 56 | 1.18 | .0465 | 16 | 4.50 | .1770 | T | 9.09 | .3580 | 55/64 | 21.84 | .8594 |
| 3/64 | 1.19 | .0469 | 15 | 4.57 | .1800 | 23/64 | 9.13 | .3594 | – | 22.00 | .8661 |
| 55 | 1.32 | .0520 | 14 | 4.62 | .1820 | U | 9.35 | .3680 | 7/8 | 22.23 | .8750 |
| 54 | 1.40 | .0550 | 13 | 4.70 | .1850 | 3/8 | 9.53 | .3750 | 57/64 | 22.62 | .8906 |
| 53 | 1.51 | .0595 | 3/16 | 4.76 | .1875 | V | 9.56 | .3770 | – | 23.00 | .9055 |
| 1/16 | 1.59 | .0625 | 12 | 4.80 | .1890 | W | 9.80 | .3860 | 29/32 | 23.02 | .9062 |
| 52 | 1.61 | .0635 | 11 | 4.85 | .1910 | 25/64 | 9.92 | .3906 | 59/64 | 23.42 | .9219 |
| 51 | 1.70 | .0670 | 10 | 4.91 | .1935 | - | 10.00 | .3937 | 15/16 | 23.81 | .9375 |
| 50 | 1.78 | .0700 | 9 | 4.98 | .1960 | X | 10.08 | .3970 | – | 24.00 | .9449 |
| 49 | 1.85 | .0730 | – | 5.00 | .1968 | Y | 10.26 | .4040 | 61/64 | 24.21 | .9531 |
| 48 | 1.93 | .0760 | 8 | 5.05 | .1990 | 13/32 | 10.32 | .4062 | 31/32 | 24.61 | .9688 |
| 5/64 | 1.98 | .0781 | 7 | 5.11 | .2010 | Z | 10.49 | .4130 | – | 25.00 | .9843 |
| 47 | 1.99 | .0785 | 13/64 | 5.16 | .2031 | 27/64 | 10.72 | .4219 | 63/64 | 25.00 | .9844 |
| – | 2.00 | .0787 | 6 | 5.18 | .2040 | – | 11.00 | .4331 | 1” | 25.40 | 1.0000 |
| 46 | 2.06 | .0810 | – | – | – | – | – | – | – | – | – |

# TECHNICAL INFORMATION

## Common Drilling Terms

**Axis** - The imaginary straight line which forms the lengthwise center of a drill

**Body** - The section of a drill from the shank to the outer edges of the cutting lips

**Body Clearance Diameter** - The portion of the land that has been cut away so it will not bind against the walls of the hole

**Chip Removal** - The ability of a drill to pull material that has been cut away from the point, up the flutes and out of the hole

**Chisel Edge** - The edge at the end of the web that connects the cutting lips

**Chisel Edge Angl**e - The angle between the chisel edge and cutting lip, as viewed from the end of a drill

**Cobalt Steel** - A heat-resistant steel that produces increased drill life

**Drill Diameter** - The diameter over the margins of a drill, measured at the point (Dia.)

**Feeds** - Feed rates for drilling are determined by the drill diameter, machinability of materials and depth of the desired hole. Small drills, harder materials and deeper holes require additional considerations in selecting proper feed rates

**Flute** - Groove cut in the body of drills to provide cutting surfaces, permit removal of chips and allow cutting fluid to reach cutting surfaces

**Flute Length** - The distance from the outer edges of the cutting lips to the extreme back of the flutes

**Helix Angle** - The angle formed between the leading edge of the land and the axis of a drill

**High Speed Steel** - The high quality steel used in drills for most maintenance and industrial applications

**IPM** - Feed rate in Inches Per Minute = IPR X RPM

**IPR** - Inches Per Revolution (Feed)

**Land** - The outer portion of the body between two adjacent flutes

**Land Width** - The distance between the leading edge and heel of the land, measured at a right angle to the leading edge

**Lip Relief Angle** - The relief angle at the outer corner of the lip

**Lip** - The cutting edge of a two-flute drill which extends from the chisel edge to the outer edge

**Margin** - The narrow raised surface on a drill body along the flute that stabilizes the drill in the hole

**Neck** - The section of reduced diameter between the body and the shank of a drill

**Overall Length** - The length from the end of the shank to the outer corners of the cutting lip

**Point** - The cone-shaped cutting end of a drill, made from the ends of the lands and the web

**Point Angle** - The angle of the cutting surfaces on a drill point, commonly 118° or 135°

**RPM** - Revolutions Per Minute = $\frac{\text{SFM}}{\text{Dia.}}$ x 3.82

**SFM** - Surface Feet Per Minute = RPM X Dia. X .26

**Shank** - The part of a drill by which it is held and driven

**Size** - Measurement reference for diameter size of a drill, expressed as either fractional, wire, letter or metric

**Speed** - The speed of a drill is determined by the rate which the outer edge of the tool rotates in relation to the material being cut. In general, the SFM is within a range based upon the workpiece material, its condition, hardness and depth of the hole. The deeper the hole, the greater tendency for more heat to be generated. Speed reduction is often recommended to minimize the amount of heat. It is usually best to start drilling at a slower speed and then increase.

**Split Point** - A special point configuration that eliminates “walking” so holes stay on center

**Web** - The central portion of the body that joins the lands. The extreme end of the web forms the chisel edge of a two-flute drill

**Web Thickness** - The thickness of the web at the point, unless otherwise specified

# TECHNICAL INFORMATION

## Drill Troubleshooting Guide

| Trouble | Possible Causes | Corrections |
|---|---|---|
| **Drill Breaks** | Spring or back lash in press or work | Test press and work for rigidity and alignment |
| | Too little lip relief | Regrind properly |
| | Speed too low in proportion to the feed | Increase or decrease speed |
| | Dull drill | Sharpen drill |
| | Possible chip congestion | Peck drill |
| **Outer Corner Breakdown** | Uneven hardness in work material | Reduce speed |
| | Too much Speed | Reduce Speed |
| | Improper cutting compound | Use proper cutting compound |
| **Drill Breaks in Brass or Wood** | Chips clog up flutes | Increase speed.<br>Use drills designed for these materials |
| **Cutting Lips Chipped** | Too much feed | Reduce feed |
| | Too much lip relief | Regrind properly |
| **Cracking or Checking in Cutting Edges** | Heated and cooled too quickly | Warm slowly before using. Do not throw cold water on hot drill while grinding or drilling |
| | Too much feed | Reduce feed |
| **Hole too Large** | Unequal angle or length of the cutting edges or both | Regrind properly |
| | Loose spindle | Test spindle for rigidity |
| **Only One Lip Cutting** | Unequal length or angle of cutting lips or both | Regrind drill properly |
| **Drill Splits up Center** | Too little lip relief | Regrind with proper relief |
| | Too much feed | Reduce feed |
| **Rough Hole** | Dull or improperly ground drill | Regrind properly |
| | Lack of lubricant or wrong lubricant | Lubricate or change lubricant |
| | Improper set-up | Check set-up |
| | Too much feed | Reduce feed |

# 02
# TAPS

# QUICK PAGES REFERENCES

## GENERAL PURPOSE TAPS

DRILLCO CUTTING TOOLS | WALTER

### Hand Taps
High Speed Steel

**Bright Finish**
Low to medium tensile strength materials and aluminum

| Type | Series | Catalog page reference |
|---|---|---|
| Taper, Plug, Bottoming/ Through or Blind Hole | 2000 | 355, 356 |
| | 2000E | 357 |
| | 2800 | 358 |
| | 2800E | 359 |

### Hand Taps
High Speed Steel

**Bronze Surface Treatment**
For long life on most materials

| Type | Series | Catalog page reference |
|---|---|---|
| Taper, Plug, Bottoming/ Through or Blind Hole SST | 03-A, 03-B | 360 |

### Hand Taps
NITRO
High Speed Steel

**Black Oxide**
For better performance on low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| Taper, Plug, Bottoming/ Through or Blind Hole | 2000N | 361, 362 |

### Hand Taps
Carbon

**Bright Finish**
For cleaning up threads or repairing damaged threads

| Type | Series | Catalog page reference |
|---|---|---|
| Taper, Plug, Bottoming/ Through or Blind Hole | 2000C | 363, 364 |

### Power Taps
High Speed Steel

**Bronze Surface Treatment**
For long life on most materials using power tools

| Type | Series | Catalog page reference |
|---|---|---|
| Plug, Through or Blind Hole | 03-A, 03-B | 365 |

### Spiral Point Taps
NITRO
High Speed Steel

**Black Oxide**
For tapping through holes in high tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| Plug / Through Hole | 2100N | 366 |

### Spiral Point Taps
High Speed Steel

**Bright Finish**
For tapping through holes in low to medium tensile strengh materials

| Type | Series | Catalog page reference |
|---|---|---|
| Plug / Through Hole | 2850 | 366 |
| | 2100, 2100E | 367 |

### Oversize Spiral Point Taps
High Speed Steel

**Bright Finish**
To cut oversized threads in through holes

| Type | Series | Catalog page reference |
|---|---|---|
| Plug / Through Hole | 2103, 2105 | 368 |

### Oversized Hand Taps
High Speed Steel

**Bright Finish**
To cut oversized Threads in through holes

| Type | Series | Catalog page reference |
|---|---|---|
| Oversize / Plug & Bottoming / Through or Blind Hole | 2003, 2005 | 368 |

# PRODUCTION TAPS

DRILLCO CUTTING TOOLS

## ANSI Production Taps

NITRO-MAX

M4 Premium HSS

**Black Oxide or TiCN Coated**
For production tapping & threading

| Type | Series | Catalog page reference |
|---|---|---|
| Through or Blind Hole | 2150N | 369 |
| | 2160N | 370 |
| | 2250N | 371 |
| | 2260N | 372 |
| | 2270N | 373 |

## DIN/ANSI Production Taps

NITRO

High Speed Steel

**Bright Finish**
For machine tapping through holes

| Type | Series | Catalog page reference |
|---|---|---|
| Plug / Through Hole | 2100PS | 374 |

## Production Multi-Application Spiral Flute Taps

High Speed Steel

**Bright Finish**
For tapping blind holes

| Type | Series | Catalog page reference |
|---|---|---|
| Bottoming / Blind Hole NITRO | 2000PF | 375 |
| | 2000F | 376 |

## Thread Forming Taps

High Speed Steel

**Bright Finish**
Thread forming does not produce any chips

| Type | Series | Catalog page reference |
|---|---|---|
| Plug & Bottoming / Through or Blind Hole | 2090 | 376 |

# PIPE TAPS

DRILLCO CUTTING TOOLS | WALTER

## Taper Pipe Taps (NPT)

High Speed Steel

**Bright Finish**
For long life on most materials

| Type | Series | Catalog page reference |
|---|---|---|
| Through or Blind Hole | 2900, 2900E | 377 |

## Taper Pipe Taps (NPT)

Carbon

**Bright Finish**
For long life on most materials

| Type | Series | Catalog page reference |
|---|---|---|
| Through or Blind Hole | 2700E | 377 |

## Taper Pipe Taps (NPT)

Carbon

**Bright Finish**
For steel and non-ferrous metals

| Type | Series | Catalog page reference |
|---|---|---|
| Through or Blind Hole | 02- C | 378 |

## Interrupted Thread Pipe Taps

High Speed Steel

**Bright Finish**
For better chip management

| Type | Series | Catalog page reference |
|---|---|---|
| Through or Blind Hole | 2930 | 379 |

## Taper Pipe Taps (NPS)

High Speed Steel

**Bright Finish**
For straight pipe threads

| Type | Series | Catalog page reference |
|---|---|---|
| Through or Blind Hole | 2950 | 379 |

# SPECIAL PURPOSE TAPS

## Left Hand Taps

High Speed Steel

**Bright Finish**
For creating left-handed threads

| Type | Series | Catalog page reference |
|---|---|---|
| Taper, Plug, & Bottoming / Through or Blind Hole | 2300 | 380 |

## 8-Pitch Hand Taps

High Speed Steel

**Bright Finish**
For larger diameter threaded holes

| Type | Series | Catalog page reference |
|---|---|---|
| Taper, Plug, & Bottoming / Through or Blind Hole | 2500 | 381 |

## Screw Thread Insert Hand Taps (STI)

High Speed Steel

**Bright Finish**
STI Taps for screw thread inserts

| Type | Series | Catalog page reference |
|---|---|---|
| Plug & Bottoming / Through or Blind Hole | 2020 | 382 |

## Hand Taps Pulley Style

High Speed Steel

**Bright & Black finish**
For threading hard-to-reach holes

| Type | Series | Catalog page reference |
|---|---|---|
| Plug / Through or Blind Hole | 2400 | 382 |

## Hand Taps 6” Extension

High Speed Steel

**Bright & Black finish**
For threading hard-to-reach holes

| Type | Series | Catalog page reference |
|---|---|---|
| Plug & Bottoming / Through or Blind Hole | 2060 | 382 |

## Combined Tap & Drill

High Speed Steel

**Bright Finish**
Drill and tap in one

| Type | Series | Catalog page reference |
|---|---|---|
| Through or Blind Hole | 2050 | 383 |

For Tap/Drill sizes, please see chart on page 398

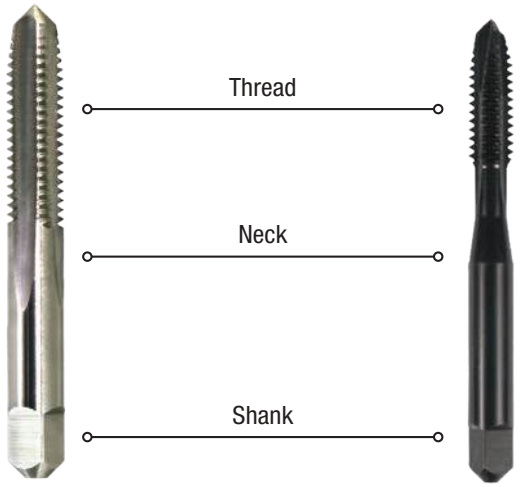
# TAPS EXPLAINED

When it comes to precision cutting, selecting the best tool for the job is key. Taps, the tools used for producing internal threads on a workpiece, offer precision, customization, and cost-effectiveness in various machining and manufacturing applications. When using the right tap, the threads are accurately formed and exhibit optimal engagement, resistance to wear, and longevity. Many different taps differ in material, coating, flute and overall length, and other specifications.

## DETERMINING THE APPLICATION

### HAND TAP

Hand tapping requires manual control and is best-suited for low-volume or delicate tasks where feel and on-the-fly adjustments are crucial. This method offers flexibility in tight or hard-to-reach spaces but is slower and more physically demanding.



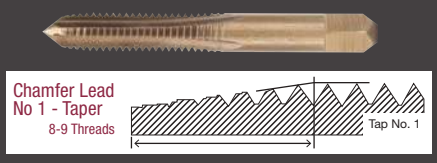

### MACHINE TAP

Machine tapping, executed with a drill press or tapping machine, is ideal for high speed, consistent threading in high-volume, offering greater precision and uniformity while reducing operator fatigue and effortlessly handling tougher materials.

## TAP GEOMETRIES

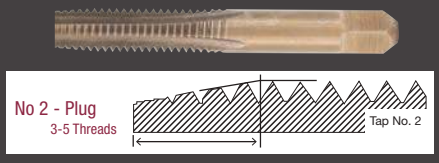
### TAPER TAPS

- Gradually increases in diameter with a long pitch chamfer (7-10)
- Eases the start of threading, making it ideal for initiating threads in through holes



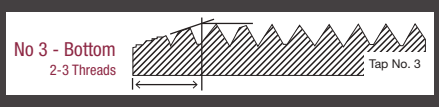

### PLUG TAPS

- Most common type of tap
- Moderate taper with an intermediate pitch chamfer (3-5)
- Used for finishing threads, generally used in through holes




### BOTTOMING TAPS

- Almost no taper with a short pitch chamfer (1-2)
- Essential for threading to the bottom of blind holes, finishing what taper and plug taps have started




### TAP SETS

- Comprehensive solution for creating precise and accurate internal threads from start to finish
- Includes a taper, plug, and bottoming tap

# CHOOSING THE RIGHT TAPS

| | | | | | |
|---|---|---|---|---|---|
| | **Hand Taps** | | **Spiral Point Tap** | **Spiral Flute Tap** | **Pipe Taps** |
| **APPLICATION** | Wrench (manual) | | Machine | Machine | For tapping into pipes and fittings |
| **DESCRIPTION** | Hand taps have 3 standard chamfer geometries including taper, plug, and bottoming. They have straight flutes and are the most popular and versatile styles of taps in general machine tapping operations. | | An additional grind on the tip of the tap propels the chips ahead causing less load and clogging in the flutes. The combination of forward chip ejection and reduced cutting torque allows for faster and more efficient tapping in through hole applications.<br>• Excels in creating clean, straight threads thanks to additional grind on the tip of the tap<br>• Leads to less load and clogging in the flutes | The design of spiral flute taps is conducive to improved chip flow. The flutes pull the chips out of the workpiece, which reduces the chances of tap breakage in blind hole applications. The helical flutes also allow for better coolant flow to the cutting area, helping to dissipate heat and prolong tool life.<br>• Features helical flutes that evacuate the chips upwards<br>• Allow for better coolant flow to the cutting area, dissipating heat and prolonging tool life<br>• Conducive to improved chip flow | Pipe taps are specialized tools designed for cutting internal threads in pipes and fittings, featuring tapered threads that conform to standard pipe sizes and provide tight, leak-proof connections.<br>• Chips propelled ahead leading to less load and clogging in the flutes thanks to additional grind on the tip of the tap<br>• Designed to cut precise threads in pipes and fittings<br>• Essential in oil, gas, and water supply systems |
| **CHIP REMOVAL** | Breaks Chips | | No Chip Breaks – Evacuates chips down | No Chip Breaks – Pulls chips out | Breaks Chips |
| **TYPE OF HOLE** | Through | Blind | Through | Blind | Through |
| **GEOMETRIES** | Taper, Plug | Taper, Plug, Bottoming | Plug | Bottoming | Plug |

**TECH TIP!**
When using hand taps, turn the tap wrench clockwise for one full revolution, then, turn counter-clockwise in order to break the chip as you go!

**TECH TIP!**
Using the correct wrench size for hand taps helps prevent thread damage, tap breakage, and ensures accurate, high-quality threading results.

# GENERAL PURPOSE TAPS

## HAND TAPS

Straight Flute "Hand Taps" are the most popular and versatile style of taps in general machine tapping operations. They are for general use in production tapping or hand operations in a wide range of application material groups.

- *Taper – 7-10 pitch chamfer length. Starts the thread square with the workpiece*
- *Plug – 3-5 pitch chamfer length. Generally used in through holes*
- *Bottoming – 1-2 pitch chamfer length. Generates the thread to the bottom*
- *Sets – Contains 1 each of Taper, Plug, and Bottoming*

### *2000 SERIES*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Taper, Plug & Bottoming / Through or Blind Hole**

**Machine Screw/ Bright**

2000

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2000 Order No. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Taper | Plug | Bottoming | Sets |
| 0 | – | 80 | 1-5/8" | 5/16" | 2 | H1 | 20A000FT | 20A000FP | 20A000FB | 20A000FS |
| 1 | 64 | – | 1-11/16" | 3/8" | 2 | H1 | 20A001CT | 20A001CP | 20A001CB | 20A001CS |
| 1 | – | 72 | 1-11/16" | 3/8" | 2 | H1 | 20A001FT | 20A001FP | 20A001FB | 20A001FS |
| 2 | 56 | – | 1-3/4" | 7/16" | 3 | H2 | 20A002CT | 20A002CP | 20A002CB | 20A002CS |
| 2 | – | 64 | 1-3/4" | 7/16" | 3 | H2 | 20A002FT | 20A002FP | 20A002FB | 20A002FS |
| 3 | 48 | – | 1-13/16" | 1/2" | 3 | H2 | 20A003CT | 20A003CP | 20A003CB | 20A003CS |
| 3 | – | 56 | 1-13/16" | 1/2" | 3 | H2 | 20A003FT | 20A003FP | 20A003FB | 20A003FS |
| 4 | 40 | – | 1-7/8" | 9/16" | 3 | H2 | 20A004CT | 20A004CP | 20A004CB | 20A004CS |
| 4 | – | 36 | 1-7/8" | 9/16" | 3 | H2 | 20A004ST | 20A004SP | 20A004SB | 20A004SS |
| 4 | – | 48 | 1-7/8" | 9/16" | 3 | H2 | 20A004FT | 20A004FP | 20A004FB | 20A004FS |
| 5 | 40 | – | 1-15/16" | 5/8" | 3 | H2 | 20A005CT | 20A005CP | 20A005CB | 20A005CS |
| 5 | – | 44 | 1-15/16" | 5/8" | 3 | H2 | 20A005FT | 20A005FP | 20A005FB | 20A005FS |
| 6 | 32 | – | 2" | 11/16" | 3 | H3 | 20A006CT | 20A006CP | 20A006CB | 20A006CS |
| 6 | – | 40 | 2" | 11/16" | 3 | H2 | 20A006FT | 20A006FP | 20A006FB | 20A006FS |
| 8 | 32 | – | 2-1/8" | 3/4" | 4 | H3 | 20A008CT | 20A008CP | 20A008CB | 20A008CS |
| 8 | – | 36 | 2-1/8" | 3/4" | 4 | H2 | 20A008FT | 20A008FP | 20A008FB | 20A008FS |
| 10 | 24 | – | 2-3/8" | 7/8" | 4 | H3 | 20A010CT | 20A010CP | 20A010CB | 20A010CS |
| 10 | – | 32 | 2-3/8" | 7/8" | 4 | H3 | 20A010FT | 20A010FP | 20A010FB | 20A010FS |
| 12 | 24 | – | 2-3/8" | 15/16" | 4 | H3 | 20A012CT | 20A012CP | 20A012CB | 20A012CS |
| 12 | – | 28 | 2-3/8" | 15/16" | 4 | H3 | 20A012FT | 20A012FP | 20A012FB | 20A012FS |

All sizes are individually packaged

# GENERAL PURPOSE HAND TAPS

## *2000 SERIES*

## GENERAL PURPOSE HIGH SPEED STEEL

### Taper, Plug, & Bottoming / Through or Blind Hole
### Fractional / Bright

2000

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2000 Order No. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Taper | Plug | Bottoming | Sets |
| 1/4” | 20 | – | 2-1/2” | 1” | 4 | H3 | 20A116CT | 20A116CP | 20A116CB | 20A116CS |
| 1/4” | – | 28 | 2-1/2” | 1” | 4 | H3 | 20A116FT | 20A116FP | 20A116FB | 20A116FS |
| 5/16” | 18 | – | 2-23/32” | 1-1/8” | 4 | H3 | 20A120CT | 20A120CP | 20A120CB | 20A120CS |
| 5/16” | – | 24 | 2-23/32” | 1-1/8” | 4 | H3 | 20A120FT | 20A120FP | 20A120FB | 20A120FS |
| 3/8” | 16 | – | 2-15/16” | 1-1/4” | 4 | H3 | 20A124CT | 20A124CP | 20A124CB | 20A124CS |
| 3/8” | – | 24 | 2-15/16” | 1-1/4” | 4 | H3 | 20A124FT | 20A124FP | 20A124FB | 20A124FS |
| 7/16” | 14 | – | 3-5/32” | 1-7/16” | 4 | H3 | 20A128CT | 20A128CP | 20A128CB | 20A128CS |
| 7/16” | – | 20 | 3-5/32” | 1-7/16” | 4 | H3 | 20A128FT | 20A128FP | 20A128FB | 20A128FS |
| 1/2” | 13 | – | 3-3/8” | 1-21/32” | 4 | H3 | 20A132CT | 20A132CP | 20A132CB | 20A132CS |
| 1/2” | – | 20 | 3-3/8” | 1-21/32” | 4 | H3 | 20A132FT | 20A132FP | 20A132FB | 20A132FS |
| 9/16” | 12 | – | 9/16” | 1-21/32” | 4 | H3 | 20A136CT | 20A136CP | 20A136CB | 20A136CS |
| 9/16” | – | 18 | 9/16” | 1-21/32” | 4 | H3 | 20A136FT | 20A136FP | 20A136FB | 20A136FS |
| 5/8” | 11 | – | 3-13/16” | 1-13/16” | 4 | H3 | 20A140CT | 20A140CP | 20A140CB | 20A140CS |
| 5/8” | – | 18 | 3-13/16” | 1-13/16” | 4 | H3 | 20A140FT | 20A140FP | 20A140FB | 20A140FS |
| 11/16” | 11 | – | 4-1/32” | 1-13/16” | 4 | H3 | 20A144CT | 20A144CP | 20A144CB | 20A144CS |
| 11/16” | – | 16 | 4-1/32” | 1-13/16” | 4 | H3 | 20A144FT | 20A144FP | 20A144FB | 20A144FS |
| 3/4” | 10 | – | 4-1/4” | 2” | 4 | H3 | 20A148CT | 20A148CP | 20A148CB | 20A148CS |
| 3/4” | – | 16 | 4-1/4” | 2” | 4 | H3 | 20A148FT | 20A148FP | 20A148FB | 20A148FS |
| 7/8” | 9 | – | 4-11/16” | 2-7/32” | 4 | H4 | 20A156CT | 20A156CP | 20A156CB | 20A156CS |
| 7/8” | – | 14 | 4-11/16” | 2-7/32” | 4 | H4 | 20A156FT | 20A156FP | 20A156FB | 20A156FS |
| 1” | 8 | – | 5-1/8” | 2-1/2” | 4 | H4 | 20A164CT | 20A164CP | 20A164CB | 20A164CS |
| 1” | – | 12 | 5-1/8” | 2-1/2” | 4 | H4 | 20A164FT | 20A164FP | 20A164FB | 20A164FS |
| 1” | – | 14 | 5-1/8” | 2-1/2” | 4 | H4 | 20A164ST | 20A164SP | 20A164SB | 20A164SS |
| 1-1/8” | 7 | – | 5-7/16” | 2-9/16” | 4 | H4 | 20A208CT | 20A208CP | 20A208CB | 20A208CS |
| 1-1/8” | – | 12 | 5-7/16” | 2-9/16” | 4 | H4 | 20A208FT | 20A208FP | 20A208FB | 20A208FS |
| 1-1/4” | 7 | – | 5-3/4” | 2-9/16” | 4 | H4 | 20A216CT | 20A216CP | 20A216CB | 20A216CS |
| 1-1/4” | – | 12 | 5-3/4” | 2-9/16” | 6 | H4 | 20A216FT | 20A216FP | 20A216FB | 20A216FS |
| 1-3/8” | 6 | – | 6-1/16” | 3” | 4 | H4 | 20A224CT | 20A224CP | 20A224CB | 20A224CS |
| 1-3/8” | – | 12 | 6-1/16” | 3” | 6 | H4 | 20A224FT | 20A224FP | 20A224FB | 20A224FS |
| 1-1/2” | 6 | – | 6-3/8” | 3” | 4 | H4 | 20A232CT | 20A232CP | 20A232CB | 20A232CS |
| 1-1/2” | – | 12 | 6-3/8” | 3” | 6 | H4 | 20A232FT | 20A232FP | 20A232FB | 20A232FS |

All sizes are individually packaged

# GENERAL PURPOSE HAND TAPS

## *2000E SERIES*

## GENERAL PURPOSE HIGH SPEED STEEL

### Taper, Plug, & Bottoming / Through or Blind Hole
### Machine Screw / Bright

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2000E Order No. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Taper | Plug | Bottoming | Sets |
| 0 | – | 80 | 1-5/8” | 5/16” | 2 | H1 | 20E000FT | 20E000FP | 20E000FB | 20E000FS |
| 1 | 64 | – | 1-11/16” | 3/8” | 2 | H1 | 20E001CT | 20E001CP | 20E001CB | 20E001CS |
| 1 | – | 72 | 1-11/16” | 3/8” | 2 | H1 | 20E001FT | 20E001FP | 20E001FB | 20E001FS |
| 2 | 56 | – | 1-3/4” | 7/16” | 3 | H2 | 20E002CT | 20E002CP | 20E002CB | 20E002CS |
| 2 | – | 64 | 1-3/4” | 7/16” | 3 | H2 | 20E002FT | 20E002FP | 20E002FB | 20E002FS |
| 3 | 48 | – | 1-13/16” | 1/2” | 3 | H2 | 20E003CT | 20E003CP | 20E003CB | 20E003CS |
| 3 | – | 56 | 1-13/16” | 1/2” | 3 | H2 | 20E003FT | 20E003FP | 20E003FB | 20E003FS |
| 4 | 40 | – | 1-7/8” | 9/16” | 3 | H2 | 20E004CT | 20E004CP | 20E004CB | 20E004CS |
| 4 | – | 36 | 1-7/8” | 9/16” | 3 | H2 | 20E004ST | 20E004SP | 20E004SB | 20E004SS |
| 4 | – | 48 | 1-7/8” | 9/16” | 3 | H2 | 20E004FT | 20E004FP | 20E004FB | 20E004FS |
| 5 | 40 | – | 1-15/16” | 5/8” | 3 | H2 | 20E005CT | 20E005CP | 20E005CB | 20E005CS |
| 5 | – | 44 | 1-15/16” | 5/8” | 3 | H2 | 20E005FT | 20E005FP | 20E005FB | 20E005FS |
| 6 | 32 | – | 2” | 11/16” | 3 | H3 | 20E006CT | 20E006CP | 20E006CB | 20E006CS |
| 6 | – | 40 | 2” | 11/16” | 3 | H2 | 20E006FT | 20E006FP | 20E006FB | 20E006FS |
| 8 | 32 | – | 2-1/8” | 3/4” | 4 | H3 | 20E008CT | 20E008CP | 20E008CB | 20E008CS |
| 8 | – | 36 | 2-1/8” | 3/4” | 4 | H2 | 20E008FT | 20E008FP | 20E008FB | 20E008FS |
| 10 | 24 | – | 2-3/8” | 7/8” | 4 | H3 | 20E010CT | 20E010CP | 20E010CB | 20E010CS |
| 10 | – | 32 | 2-3/8” | 7/8” | 4 | H3 | 20E010FT | 20E010FP | 20E010FB | 20E010FS |
| 12 | 24 | – | 2-3/8” | 15/16” | 4 | H3 | 20E012CT | 20E012CP | 20E012CB | 20E012CS |
| 12 | – | 28 | 2-3/8” | 15/16” | 4 | H3 | 20E012FT | 20E012FP | 20E012FB | 20E012FS |

## *2000E SERIES*

## GENERAL PURPOSE HIGH SPEED STEEL

### Taper, Plug, & Bottoming / Through or Blind Hole
### Fractional / Bright

2000E

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2000E Order No. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Taper | Plug | Bottoming | Sets |
| 1/4” | 20 | – | 2-1/2” | 1” | 4 | H3 | 20E116CT | 20E116CP | 20E116CB | 20E116CS |
| 1/4” | – | 28 | 2-1/2” | 1” | 4 | H3 | 20E116FT | 20E116FP | 20E116FB | 20E116FS |
| 5/16” | 18 | – | 2-23/32” | 1-1/8” | 4 | H3 | 20E120CT | 20E120CP | 20E120CB | 20E120CS |
| 5/16” | – | 24 | 2-23/32” | 1-1/8” | 4 | H3 | 20E120FT | 20E120FP | 20E120FB | 20E120FS |
| 3/8” | 16 | – | 2-15/16” | 1-1/4” | 4 | H3 | 20E124CT | 20E124CP | 20E124CB | 20E124CS |
| 3/8” | – | 24 | 2-15/16” | 1-1/4” | 4 | H3 | 20E124FT | 20E124FP | 20E124FB | 20E124FS |
| 7/16” | 14 | – | 3-5/32” | 1-7/16” | 4 | H3 | 20E128CT | 20E128CP | 20E128CB | 20E128CS |
| 7/16” | – | 20 | 3-5/32” | 1-7/16” | 4 | H3 | 20E128FT | 20E128FP | 20E128FB | 20E128FS |
| 1/2” | 13 | – | 3-3/8” | 1-21/32” | 4 | H3 | 20E132CT | 20E132CP | 20E132CB | 20E132CS |
| 1/2” | – | 20 | 3-3/8” | 1-21/32” | 4 | H3 | 20E132FT | 20E132FP | 20E132FB | 20E132FS |
| 9/16” | 12 | – | 3-19/32” | 1-21/32” | 4 | H3 | 20E136CT | 20E136CP | 20E136CB | 20E136CS |
| 9/16” | – | 18 | 3-19/32” | 1-21/32” | 4 | H3 | 20E136FT | 20E136FP | 20E136FB | 20E136FS |
| 5/8” | 11 | – | 3-13/16” | 1-13/16” | 4 | H3 | 20E140CT | 20E140CP | 20E140CB | 20E140CS |
| 5/8” | – | 18 | 3-13/16” | 1-13/16” | 4 | H3 | 20E140FT | 20E140FP | 20E140FB | 20E140FS |
| 11/16” | 11 | – | 4-1/32” | 1-13/16” | 4 | H3 | 20E144CT | 20E144CP | 20E144CB | 20E144CS |
| 11/16” | – | 16 | 4-1/32” | 1-13/16” | 4 | H3 | 20E144FT | 20E144FP | 20E144FB | 20E144FS |
| 3/4” | 10 | – | 4-1/4” | 2” | 4 | H3 | 20E148CT | 20E148CP | 20E148CB | 20E148CS |
| 3/4” | – | 16 | 4-1/4” | 2” | 4 | H3 | 20E148FT | 20E148FP | 20E148FB | 20E148FS |
| 7/8” | 9 | – | 4-11/16” | 2-7/32” | 4 | H4 | 20E156CT | 20E156CP | 20E156CB | 20E156CS |
| 7/8” | – | 14 | 4-11/16” | 2-7/32” | 4 | H4 | 20E156FT | 20E156FP | 20E156FB | 20E156FS |
| 1” | 8 | – | 5-1/8” | 2-1/2” | 4 | H4 | 20E164CT | 20E164CP | 20E164CB | 20E164CS |
| 1” | – | 12 | 5-1/8” | 2-1/2” | 4 | H4 | 20E164FT | 20E164FP | 20E164FB | 20E164FS |
| 1” | – | 14 | 5-1/8” | 2-1/2” | 4 | H4 | 20E164ST | 20E164SP | 20E164SB | 20E164SS |
| 1-1/8” | 7 | – | 5-7/16” | 2-9/16” | 4 | H4 | 20E208CT | 20E208CP | 20E208CB | 20E208CS |
| 1-1/8” | – | 12 | 5-7/16” | 2-9/16” | 4 | H4 | 20E208FT | 20E208FP | 20E208FB | 20E208FS |
| 1-1/4” | 7 | – | 5-3/4” | 2-9/16” | 6 | H4 | 20E216CT | 20E216CP | 20E216CB | 20E216CS |
| 1-1/4” | – | 12 | 5-3/4” | 2-9/16” | 6 | H4 | 20E216FT | 20E216FP | 20E216FB | 20E216FS |
| 1-3/8” | 6 | – | 6-1/16” | 3” | 4 | H4 | 20E224CT | 20E224CP | 20E224CB | 20E224CS |
| 1-3/8” | – | 12 | 6-1/16” | 3” | 6 | H4 | 20E224FT | 20E224FP | 20E224FB | 20E224FS |
| 1-1/2” | 6 | – | 6-3/8” | 3” | 4 | H4 | 20E232CT | 20E232CP | 20E232CB | 20E232CS |
| 1-1/2” | – | 12 | 6-3/8” | 3” | 6 | H4 | 20E232FT | 20E232FP | 20E232FB | 20E232FS |

#0 thru 1/4” - 12 per pack, 5/16” thru 1/2” - 6 per pack, 9/16” thru 1” - 3 per pack, 1-1/8” and up - individually packaged

# GENERAL PURPOSE HAND TAPS

## *2800 SERIES*

## GENERAL PURPOSE HIGH SPEED STEEL

### Taper, Plug, & Bottoming / Through or Blind Hole
### Metric / Bright

2800

| Size (mm) | Pitch Dia. (mm) | No. of Flutes | Dia. Limits | 2800 Order No. | | | |
|---|---|---|---|---|---|---|---|
| | | | | Taper | Plug | Bottoming | Sets |
| 1.6 | 0.35 | 2 | D3 | 28A016AT | 28A016AP | 28A016AB | 28A016AS |
| 1.8 | 0.35 | 2 | D3 | 28A018AT | 28A018AP | 28A018AB | 28A018AS |
| 2 | 0.40 | 3 | D3 | 28A020AT | 28A020AP | 28A020AB | 28A020AS |
| 2.2 | 0.45 | 3 | D3 | 28A022AT | 28A022AP | 28A022AB | 28A022AS |
| 2.5 | 0.45 | 3 | D3 | 28A025AT | 28A025AP | 28A025AB | 28A025AS |
| 3 | 0.50 | 3 | D3 | 28A030AT | 28A030AP | 28A030AB | 28A030AS |
| 3.5 | 0.60 | 3 | D4 | 28A035AT | 28A035AP | 28A035AB | 28A035AS |
| 4 | 0.70 | 4 | D4 | 28A040AT | 28A040AP | 28A040AB | 28A040AS |
| 4.5 | 0.75 | 4 | D4 | 28A045AT | 28A045AP | 28A045AB | 28A045AS |
| 5 | 0.80 | 4 | D4 | 28A050AT | 28A050AP | 28A050AB | 28A050AS |
| 6 | 1.00 | 4 | D5 | 28A060AT | 28A060AP | 28A060AB | 28A060AS |
| 6.3 | 1.00 | 4 | D5 | 28A063AT | 28A063AP | 28A063AB | 28A063AS |
| 7 | 1.00 | 4 | D5 | 28A070AT | 28A070AP | 28A070AB | 28A070AS |
| 8 | 1.00 | 4 | D5 | 28A080BT | 28A080BP | 28A080BB | 28A080BS |
| 8 | 1.25 | 4 | D5 | 28A080AT | 28A080AP | 28A080AB | 28A080AS |
| 10 | 1.25 | 4 | D5 | 28A100BT | 28A100BP | 28A100BB | 28A100BS |
| 10 | 1.50 | 4 | D5 | 28A100AT | 28A100AP | 28A100AB | 28A100AS |
| 12 | 1.25 | 4 | D5 | 28A120CT | 28A120CP | 28A120CB | 28A120CS |
| 12 | 1.75 | 4 | D6 | 28A120AT | 28A120AP | 28A120AB | 28A120AS |
| 14 | 1.50 | 4 | D6 | 28A140BT | 28A140BP | 28A140BB | 28A140BS |
| 14 | 2.00 | 4 | D7 | 28A140AT | 28A140AP | 28A140AB | 28A140AS |
| 16 | 1.50 | 4 | D6 | 28A160BT | 28A160BP | 28A160BB | 28A160BS |
| 16 | 2.00 | 4 | D7 | 28A160AT | 28A160AP | 28A160AB | 28A160AS |
| 18 | 1.50 | 4 | D6 | 28A180DT | 28A180DP | 28A180DB | 28A180DS |
| 18 | 2.00 | 4 | D6 | 28A180CT | 28A180CP | 28A180CB | 28A180CS |
| 18 | 2.50 | 4 | D7 | 28A180AT | 28A180AP | 28A180AB | 28A180AS |
| 20 | 1.50 | 4 | D6 | 28A200BT | 28A200BP | 28A200BB | 28A200BS |
| 20 | 2.50 | 4 | D7 | 28A200AT | 28A200AP | 28A200AB | 28A200AS |
| 22 | 1.50 | 4 | D6 | 28A220BT | 28A220BP | 28A220BB | 28A220BS |
| 22 | 2.50 | 4 | D7 | 28A220AT | 28A220AP | 28A220AB | 28A220AS |
| 24 | 2.00 | 4 | D7 | 28A240BT | 28A240BP | 28A240BB | 28A240BS |
| 24 | 3.00 | 4 | D8 | 28A240AT | 28A240AP | 28A240AB | 28A240AS |
| 27 | 2.00 | 4 | D7 | 28A270BT | 28A270BP | 28A270BB | 28A270BS |
| 27 | 3.00 | 4 | D8 | 28A270AT | 28A270AP | 28A270AB | 28A270AS |
| 30 | 2.00 | 4 | D7 | 28A300BT | 28A300BP | 28A300BB | 28A300BS |
| 30 | 3.50 | 4 | D9 | 28A300AT | 28A300AP | 28A300AB | 28A300AS |
| 33 | 2.00 | 4 | D7 | 28A330BT | 28A330BP | 28A330BB | 28A330BS |
| 33 | 3.50 | 4 | D9 | 28A330AT | 28A330AP | 28A330AB | 28A330AS |
| 36 | 3.00 | 4 | D8 | 28A360BT | 28A360BP | 28A360BB | 28A360BS |
| 36 | 4.00 | 4 | D9 | 28A360AT | 28A360AP | 28A360AB | 28A360AS |
| 39 | 3.00 | 6 | D8 | 28A390BT | 28A390BP | 28A390BB | 28A390BS |
| 39 | 4.00 | 6 | D9 | 28A390AT | 28A390AP | 28A390AB | 28A390AS |

All sizes are individually packaged

# GENERAL PURPOSE HAND TAPS

## *2800E SERIES*

## GENERAL PURPOSE HIGH SPEED STEEL

**Taper, Plug, & Bottoming / Through or Blind Hole**
**Metric / Bright**

2800E

| Size (mm) | Pitch Dia. (mm) | No. of Flutes | 2800E Order No. | | | |
|---|---|---|---|---|---|---|
| | | | Taper | Plug | Bottoming | Sets |
| 1.5 | 0.35 | 2 | 28E015AT | 28E015AP | 28E015AB | 28E015AS |
| 1.6 | 0.35 | 2 | 28E016AT | 28E016AP | 28E016AB | 28E016AS |
| 1.8 | 0.35 | 2 | 28E018AT | 28E018AP | 28E018AB | 28E018AS |
| 2 | 0.40 | 3 | 28E020AT | 28E020AP | 28E020AB | 28E020AS |
| 2 | 0.45 | 3 | 28E020BT | 28E020BP | 28E020BB | 28E020BS |
| 2.2 | 0.45 | 3 | 28E022AT | 28E022AP | 28E022AB | 28E022AS |
| 2.3 | 0.40 | 3 | 28E023AT | 28E023AP | 28E023AB | 28E023AS |
| 2.5 | 0.45 | 3 | 28E025AT | 28E025AP | 28E025AB | 28E025AS |
| 2.6 | 0.45 | 3 | 28E026AT | 28E026AP | 28E026AB | 28E026AS |
| 3 | 0.50 | 3 | 28E030AT | 28E030AP | 28E030AB | 28E030AS |
| 3 | 0.60 | 3 | 28E030BT | 28E030BP | 28E030BB | 28E030BS |
| 3.5 | 0.60 | 3 | 28E035AT | 28E035AP | 28E035AB | 28E035AS |
| 4 | 0.50 | 4 | 28E040BT | 28E040BP | 28E040BB | 28E040BS |
| 4 | 0.70 | 4 | 28E040AT | 28E040AP | 28E040AB | 28E040AS |
| 4.5 | 0.75 | 4 | 28E045AT | 28E045AP | 28E045AB | 28E045AS |
| 5 | 0.50 | 4 | 28E050CT | 28E050CP | 28E050CB | 28E050CS |
| 5 | 0.80 | 4 | 28E050AT | 28E050AP | 28E050AB | 28E050AS |
| 5 | 0.90 | 4 | 28E050BT | 28E050BP | 28E050BB | 28E050BS |
| 5.5 | 0.90 | 4 | 28E055AT | 28E055AP | 28E055AB | 28E055AS |
| 6 | 0.75 | 4 | 28E060BT | 28E060BP | 28E060BB | 28E060BS |
| 6 | 1.00 | 4 | 28E060AT | 28E060AP | 28E060AB | 28E060AS |
| 6.3 | 1.00 | 4 | 28E063AT | 28E063AP | 28E063AB | 28E063AS |
| 7 | 1.00 | 4 | 28E070AT | 28E070AP | 28E070AB | 28E070AS |
| 8 | 1.00 | 4 | 28E080BT | 28E080BP | 28E080BB | 28E080BS |
| 8 | 1.25 | 4 | 28E080AT | 28E080AP | 28E080AB | 28E080AS |
| 10 | 1.00 | 4 | 28E100CT | 28E100CP | 28E100CB | 28E100CS |
| 10 | 1.25 | 4 | 28E100BT | 28E100BP | 28E100BB | 28E100BS |
| 10 | 1.50 | 4 | 28E100AT | 28E100AP | 28E100AB | 28E100AS |
| 11 | 1.50 | 4 | 28E110AT | 28E110AP | 28E110AB | 28E110AS |
| 12 | 1.25 | 4 | 28E120CT | 28E120CP | 28E120CB | 28E120CS |
| 12 | 1.50 | 4 | 28E120BT | 28E120BP | 28E120BB | 28E120BS |
| 12 | 1.75 | 4 | 28E120AT | 28E120AP | 28E120AB | 28E120AS |
| 14 | 1.25 | 4 | 28E140CT | 28E140CP | 28E140CB | 28E140CS |
| 14 | 1.50 | 4 | 28E140BT | 28E140BP | 28E140BB | 28E140BS |
| 14 | 2.00 | 4 | 28E140AT | 28E140AP | 28E140AB | 28E140AS |

| Size (mm) | Pitch Dia. (mm) | No. of Flutes | 2800E Order No. | | | |
|---|---|---|---|---|---|---|
| | | | Taper | Plug | Bottoming | Sets |
| 16 | 1.50 | 4 | 28E160BT | 28E160BP | 28E160BB | 28E160BS |
| 16 | 2.00 | 4 | 28E160AT | 28E160AP | 28E160AB | 28E160AS |
| 18 | 1.00 | 4 | 28E180CT | 28E180CP | 28E180CB | 28E180CS |
| 18 | 1.50 | 4 | 28E180DT | 28E180DP | 28E180DB | 28E180DS |
| 18 | 2.00 | 4 | 28E180BT | 28E180BP | 28E180BB | 28E180BS |
| 18 | 2.50 | 4 | 28E180AT | 28E180AP | 28E180AB | 28E180AS |
| 20 | 1.00 | 4 | 28E200CT | 28E200CP | 28E200CB | 28E200CS |
| 20 | 1.50 | 4 | 28E200BT | 28E200BP | 28E200BB | 28E200BS |
| 20 | 2.00 | 4 | 28E200DT | 28E200DP | 28E200DB | 28E200DS |
| 20 | 2.50 | 4 | 28E200AT | 28E200AP | 28E200AB | 28E200AS |
| 22 | 1.50 | 4 | 28E220BT | 28E220BP | 28E220BB | 28E220BS |
| 22 | 2.50 | 4 | 28E220AT | 28E220AP | 28E220AB | 28E220AS |
| 24 | 1.50 | 4 | 28E240CT | 28E240CP | 28E240CB | 28E240CS |
| 24 | 2.00 | 4 | 28E240BT | 28E240BP | 28E240BB | 28E240BS |
| 24 | 3.00 | 4 | 28E240AT | 28E240AP | 28E240AB | 28E240AS |
| 27 | 2.00 | 4 | 28E270BT | 28E270BP | 28E270BB | 28E270BS |
| 27 | 3.00 | 4 | 28E270AT | 28E270AP | 28E270AB | 28E270AS |
| 30 | 1.50 | 4 | 28E300CT | 28E300CP | 28E300CB | 28E300CS |
| 30 | 2.00 | 4 | 28E300BT | 28E300BP | 28E300BB | 28E300BS |
| 30 | 3.50 | 4 | 28E300AT | 28E300AP | 28E300AB | 28E300AS |
| 32 | 2.00 | 4 | 28E320AT | 28E320AP | 28E320AB | 28E320AS |
| 33 | 2.00 | 4 | 28E330BT | 28E330BP | 28E330BB | 28E330BS |
| 33 | 3.50 | 4 | 28E330AT | 28E330AP | 28E330AB | 28E330AS |
| 36 | 3.00 | 4 | 28E360BT | 28E360BP | 28E360BB | 28E360BS |
| 36 | 4.00 | 4 | 28E360AT | 28E360AP | 28E360AB | 28E360AS |
| 39 | 3.00 | 6 | 28E390BT | 28E390BP | 28E390BB | 28E390BS |
| 39 | 4.00 | 6 | 28E390AT | 28E390AP | 28E390AB | 28E390AS |
| 42 | 1.50 | 6 | 28E420BT | 28E420BP | 28E420BB | 28E420BS |
| 42 | 4.50 | 6 | 28E420AT | 28E420AP | 28E420AB | 28E420AS |
| 45 | 1.50 | 6 | 28E450BT | 28E450BP | 28E450BB | 28E450BS |
| 45 | 4.50 | 6 | 28E450AT | 28E450AP | 28E450AB | 28E450AS |
| 48 | 1.50 | 6 | 28E480BT | 28E480BP | 28E480BB | 28E480BS |
| 48 | 5.00 | 6 | 28E480AT | 28E480AP | 28E480AB | 28E480AS |
| 52 | 1.50 | 6 | 28E520BT | 28E520BP | 28E520BB | 28E520BS |
| 52 | 5.00 | 6 | 28E520AT | 28E520AP | 28E520AB | 28E520AS |

1.6 mm thru 6.3 mm - 12 per pack, 7 mm thru 12 mm - 6 per pack,
14 mm thru 27 mm - 3 per pack, 30 mm and up - individually package

WALTER

SST+

# GENERAL PURPOSE HAND TAPS

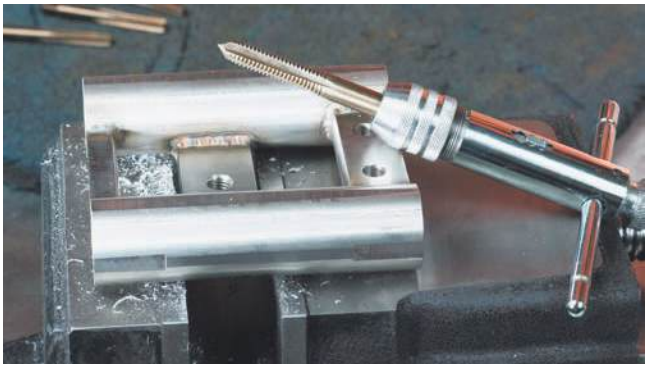
## *SST+ 03A/ 03B SERIES*

**HIGH SPEED STEEL**

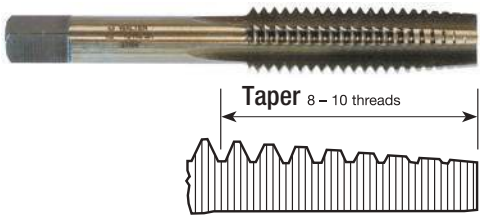
### Taper, Plug, & Bottoming / Through or Blind Hole
### Machine Screw / Fractional

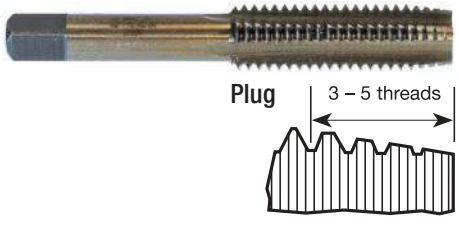
Made from premium quality high speed steel with ground threads, hardened and tempered for longest life in a variety of materials.

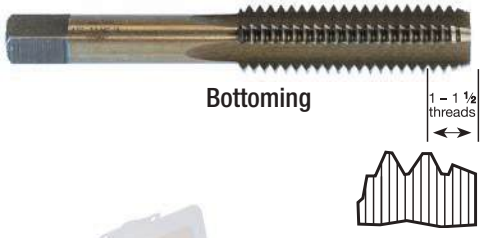
- ***Precision ground threads with eccentric relief for free cutting action***
- ***Three and four flute designs***
- ***Available in three chamfer lengths for through or blind hole tapping***
- ***Special bronze SST surface treatment to improve life and tapping speed***
- ***Packaged in reusable plastic packaging***



| Machine Screw and Fractional Sizes | | | | | | |
|---|---|---|---|---|---|---|
| Tap Size × Threads per inch | Drill Size | Taper | Plug | Bottoming | Std. Pkg. | Std. Ctn. |
| 4-40 NC | #43 | 03A041 | 03A042 | 03A043 | 3 | 30 |
| 5-40 NC | #38 | 03A051 | 03A052 | 03A053 | 3 | 30 |
| 6-32 NC | #36 | 03A061 | 03A062 | 03A063 | 3 | 30 |
| 8-32 NC | #29 | 03A081 | 03A082 | 03A083 | 3 | 30 |
| 10-24 NC | #25 | 03A101 | 03A102 | 03A103 | 3 | 30 |
| 10-32 NF | #21 | 03A104 | 03A105 | 03A106 | 3 | 30 |
| 12-24 NC | #16 | 03A121 | 03A122 | 03A123 | 3 | 30 |
| 1/4”-20 NC | #7 | 03B041 | 03B042 | 03B043 | 3 | 30 |
| 1/4”-28 NF | #3 | 03B044 | 03B045 | 03B046 | 3 | 30 |
| 5/16”-18 NC | F | 03B051 | 03B052 | 03B053 | 3 | 30 |
| 5/16”-24 NF | 17/64” | 03B054 | 03B055 | 03B056 | 3 | 30 |
| 3/8”-16 NC | 5/16” | 03B061 | 03B062 | 03B063 | 3 | 30 |
| 3/8”-24 NF | 21/64” | 03B064 | 03B065 | 03B066 | 3 | 30 |
| 7/16”-14 NC | U | 03B071 | 03B072 | 03B073 | 3 | 30 |
| 7/16”-20 NF | 25/64” | 03B074 | 03B075 | 03B076 | 3 | 30 |
| 1/2”-13 NC | 27/64” | 03B081 | 03B082 | 03B083 | 3 | 30 |
| 1/2”-20 NF | 29/64” | 03B084 | 03B085 | 03B086 | 3 | 30 |
| 9/16”-12 NC | 31/64” | 03B091 | 03B092 | 03B093 | 1 | 10 |
| 9/16”-18 NF | 33/64” | 03B094 | 03B095 | 03B096 | 1 | 10 |
| 5/8”-11 NC | 17/32” | 03B101 | 03B102 | 03B103 | 1 | 10 |
| 5/8”-18 NF | 37/64” | 03B104 | 03B105 | 03B106 | 1 | 10 |
| 3/4”-10 NC | 21/32” | 03B121 | 03B122 | 03B123 | 1 | 10 |
| 3/4”-16 NF | 11/16” | 03B124 | 03B125 | 03B126 | 1 | 10 |
| 7/8”-9 NC | 49/64” | 03B141 | 03B142 | 03B143 | 1 | 10 |
| 7/8”-14 NF | 13/16” | 03B144 | 03B145 | 03B146 | 1 | 10 |
| 1”-8 NC | 7/8” | 03B161 | 03B162 | 03B163 | 1 | 10 |
| 1”-12 NF | 7/8” | 03B164 | 03B165 | 03B166 | 1 | 10 |



# GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

Straight Flute "Hand Taps" are the most popular and versatile style of taps in general machine tapping operations. They are for general use in production tapping or hand operations in a wide range of application material groups.

- ***Taper – 7-10 pitch chamfer length. Starts the thread square with the workpiece***
- ***Plug – 3-5 pitch chamfer length. Generally used in through holes***
- ***Bottoming – 1-2 pitch chamfer length. Generates the thread to the bottom***
- ***Sets – Contains 1 each of Taper, Plug, and Bottoming***
- ***Black oxide surface treatment reduces wear and chip welding in abrasive materials***

## *2000N SERIES*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Taper, Plug, & Bottoming / Through or Blind Hole**
**Machine Screw/ Black Oxide**

NITRO

2000N

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2000N Order No. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Taper | Plug | Bottoming | Sets |
| 0 | - | 80 | 1-11/16" | 3/8" | 2 | H1 | 20N000FT | 20N000FP | 20N000FB | 20N000FS |
| 1 | 64 | – | 1-11/16" | 3/8" | 2 | H1 | 20N001CT | 20N001CP | 20N001CB | 20N001CS |
| 1 | – | 72 | 1-11/16" | 3/8" | 2 | H1 | 20N001FT | 20N001FP | 20N001FB | 20N001FS |
| 2 | 56 | – | 1-3/4" | 7/16" | 3 | H2 | 20N002CT | 20N002CP | 20N002CB | 20N002CS |
| 2 | – | 64 | 1-3/4" | 7/16" | 3 | H2 | 20N002FT | 20N002FP | 20N002FB | 20N002FS |
| 3 | 48 | – | 1-13/16" | 1/2" | 3 | H2 | 20N003CT | 20N003CP | 20N003CB | 20N003CS |
| 3 | – | 56 | 1-13/16" | 1/2" | 3 | H2 | 20N003FT | 20N003FP | 20N003FB | 20N003FS |
| 4 | 40 | – | 1-7/8" | 9/16" | 3 | H2 | 20N004CT | 20N004CP | 20N004CB | 20N004CS |
| 4 | – | 36 | 1-7/8" | 9/16" | 3 | H2 | 20N004ST | 20N004SP | 20N004SB | 20N004SS |
| 4 | – | 48 | 1-7/8" | 9/16" | 3 | H2 | 20N004FT | 20N004FP | 20N004FB | 20N004FS |
| 5 | 40 | – | 1-15/16" | 5/8" | 3 | H2 | 20N005CT | 20N005CP | 20N005CB | 20N005CS |
| 5 | – | 44 | 1-15/16" | 5/8" | 3 | H2 | 20N005FT | 20N005FP | 20N005FB | 20N005FS |
| 6 | 32 | – | 2" | 11/16" | 3 | H3 | 20N006CT | 20N006CP | 20N006CB | 20N006CS |
| 6 | – | 40 | 2" | 11/16" | 3 | H2 | 20N006FT | 20N006FP | 20N006FB | 20N006FS |
| 8 | 32 | – | 2-1/8" | 3/4" | 4 | H3 | 20N008CT | 20N008CP | 20N008CB | 20N008CS |
| 8 | – | 36 | 2-1/8" | 3/4" | 4 | H2 | 20N008FT | 20N008FP | 20N008FB | 20N008FS |
| 10 | 24 | – | 2-3/8" | 7/8" | 4 | H3 | 20N010CT | 20N010CP | 20N010CB | 20N010CS |
| 10 | – | 32 | 2-3/8" | 7/8" | 4 | H3 | 20N010FT | 20N010FP | 20N010FB | 20N010FS |
| 12 | 24 | – | 2-3/8" | 15/16" | 4 | H3 | 20N012CT | 20N012CP | 20N012CB | 20N012CS |
| 12 | – | 28 | 2-3/8" | 15/16" | 4 | H3 | 20N012FT | 20N012FP | 20N012FB | 20N012FS |

All sizes are individually packaged

MADE IN THE USA DRILLCO CUTTING TOOLS

# GENERAL PURPOSE STRAIGHT FLUTE HAND TAPS

NITRO

## *2000N SERIES*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Taper, Plug, & Bottoming / Through or Blind Hole**

**Fractional / Black Oxide**

2000N

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2000N Order No. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Taper | Plug | Bottoming | Sets |
| 1/4” | 20 | – | 2-1/2” | 1” | 4 | H3 | 20N116CT | 20N116CP | 20N116CB | 20N116CS |
| 1/4” | – | 28 | 2-1/2” | 1” | 4 | H3 | 20N116FT | 20N116FP | 20N116FB | 20N116FS |
| 5/16” | 18 | – | 2-23/32” | 1-1/8” | 4 | H3 | 20N120CT | 20N120CP | 20N120CB | 20N120CS |
| 5/16” | – | 24 | 2-23/32” | 1-1/8” | 4 | H3 | 20N120FT | 20N120FP | 20N120FB | 20N120FS |
| 3/8” | 16 | – | 2-15/16” | 1-1/4” | 4 | H3 | 20N124CT | 20N124CP | 20N124CB | 20N124CS |
| 3/8” | – | 24 | 2-15/16” | 1-1/4” | 4 | H3 | 20N124FT | 20N124FP | 20N124FB | 20N124FS |
| 7/16” | 14 | – | 3-5/32” | 1-7/16” | 4 | H3 | 20N128CT | 20N128CP | 20N128CB | 20N128CS |
| 7/16” | – | 20 | 3-5/32” | 1-7/16” | 4 | H3 | 20N128FT | 20N128FP | 20N128FB | 20N128FS |
| 1/2” | 13 | – | 3-3/8” | 1-21/32” | 4 | H3 | 20N132CT | 20N132CP | 20N132CB | 20N132CS |
| 1/2” | – | 20 | 3-3/8” | 1-21/32” | 4 | H3 | 20N132FT | 20N132FP | 20N132FB | 20N132FS |
| 9/16” | 12 | – | 3-19/32” | 1-21/32” | 4 | H3 | 20N136CT | 20N136CP | 20N136CB | 20N136CS |
| 9/16” | – | 18 | 3-19/32” | 1-21/32” | 4 | H3 | 20N136FT | 20N136FP | 20N136FB | 20N136FS |
| 5/8” | 11 | – | 3-13/16” | 1-13/16” | 4 | H3 | 20N140CT | 20N140CP | 20N140CB | 20N140CS |
| 5/8” | – | 18 | 3-13/16” | 1-13/16” | 4 | H3 | 20N140FT | 20N140FP | 20N140FB | 20N140FS |
| 11/16” | 11 | – | 4-1/32” | 1-13/16” | 4 | H3 | 20N144CT | 20N144CP | 20N144CB | 20N144CS |
| 11/16” | – | 16 | 4-1/32” | 1-13/16” | 4 | H3 | 20N144FT | 20N144FP | 20N144FB | 20N144FS |
| 3/4” | 10 | – | 4-1/4” | 2” | 4 | H3 | 20N148CT | 20N148CP | 20N148CB | 20N148CS |
| 3/4” | – | 16 | 4-1/4” | 2” | 4 | H3 | 20N148FT | 20N148FP | 20N148FB | 20N148FS |
| 7/8” | 9 | – | 4-11/16” | 2-7/32” | 4 | H4 | 20N156CT | 20N156CP | 20N156CB | 20N156CS |
| 7/8” | – | 14 | 4-11/16” | 2-7/32” | 4 | H4 | 20N156FT | 20N156FP | 20N156FB | 20N156FS |
| 1” | 8 | – | 5-1/8” | 2-1/2” | 4 | H4 | 20N164CT | 20N164CP | 20N164CB | 20N164CS |
| 1” | – | 12 | 5-1/8” | 2-1/2” | 4 | H4 | 20N164FT | 20N164FP | 20N164FB | 20N164FS |
| 1” | – | 14 | 5-1/8” | 2-1/2” | 4 | H4 | 20N164ST | 20N164SP | 20N164SB | 20N164SS |
| 1-1/8” | 7 | – | 5-7/16” | 2-9/16” | 4 | H4 | 20N208CT | 20N208CP | 20N208CB | 20N208CS |
| 1-1/8” | – | 12 | 5-7/16” | 2-9/16” | 4 | H4 | 20N208FT | 20N208FP | 20N208FB | 20N208FS |
| 1-1/4” | 7 | – | 5-3/4” | 2-9/16” | 4 | H4 | 20N216CT | 20N216CP | 20N216CB | 20N216CS |
| 1-1/4” | – | 12 | 5-3/4” | 2-9/16” | 6 | H4 | 20N216FT | 20N216FP | 20N216FB | 20N216FS |
| 1-3/8” | 6 | – | 6-1/16” | 3” | 4 | H4 | 20N224CT | 20N224CP | 20N224CB | 20N224CS |
| 1-3/8” | – | 12 | 6-1/16” | 3” | 6 | H4 | 20N224FT | 20N224FP | 20N224FB | 20N224FS |
| 1-1/2” | 6 | – | 6-3/8” | 3” | 4 | H4 | 20N232CT | 20N232CP | 20N232CB | 20N232CS |
| 1-1/2” | – | 12 | 6-3/8” | 3” | 6 | H4 | 20N232FT | 20N232FP | 20N232FB | 20N232FS |

All sizes are individually packaged

# GENERAL PURPOSE HAND TAPS

Carbon Steel Taps are used to rethread damaged or jammed threads or to thread mild steels. They can be used for either through or blind holes.

- ***Taper – 7-10 pitch chamfer length. Starts the thread square with the workpiece***
- ***Plug – 3-5 pitch chamfer length. Generally used in through holes***
- ***Bottoming – 1-2 pitch chamfer length. Generates the thread to the bottom***

## *2000C SERIES*

## GENERAL PURPOSE CARBON

### Taper, Plug, & Bottoming / Through or Blind Hole
### Machine Screw & Fractional / Bright

2000C

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | 2000C Order No. | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Taper | Plug | Bottoming |
| 0 | – | 80 | 1-5/8” | 5/16” | 2 | 20C000FT | 20C000FP | 20C000FB |
| 1 | 64 | – | 1-11/16” | 3/8” | 2 | 20C001CT | 20C001CP | 20C001CB |
| 1 | – | 72 | 1-11/16” | 3/8” | 2 | 20C001FT | 20C001FP | 20C001FB |
| 2 | 56 | – | 1-3/4” | 7/16” | 3 | 20C002CT | 20C002CP | 20C002CB |
| 2 | – | 64 | 1-3/4” | 7/16” | 3 | 20C002FT | 20C002FP | 20C002FB |
| 3 | 48 | – | 1-13/16” | 1/2” | 3 | 20C003CT | 20C003CP | 20C003CB |
| 3 | – | 56 | 1-13/16” | 1/2” | 3 | 20C003FT | 20C003FP | 20C003FB |
| 4 | 36 | – | 1-7/8” | 9/16” | 3 | 20C004AT | 20C004AP | 20C004AB |
| 4 | – | 40 | 1-7/8” | 9/16” | 3 | 20C004CT | 20C004CP | 20C004CB |
| 4 | – | 48 | 1-7/8” | 9/16” | 3 | 20C004FT | 20C004FP | 20C004FB |
| 5 | 40 | – | 1-15/16” | 5/8” | 3 | 20C005CT | 20C005CP | 20C005CB |
| 5 | – | 44 | 1-15/16” | 5/8” | 3 | 20C005FT | 20C005FP | 20C005FB |
| 6 | 32 | – | 2” | 11/16” | 3 | 20C006CT | 20C006CP | 20C006CB |
| 6 | – | 40 | 2” | 11/16” | 3 | 20C006FT | 20C006FP | 20C006FB |
| 8 | 32 | – | 2-1/8” | 3/4” | 4 | 20C008CT | 20C008CP | 20C008CB |
| 8 | – | 36 | 2-1/8” | 3/4” | 4 | 20C008FT | 20C008FP | 20C008FB |
| 10 | 24 | – | 2-3/8” | 7/8” | 4 | 20C010CT | 20C010CP | 20C010CB |
| 10 | – | 32 | 2-3/8” | 7/8” | 4 | 20C010FT | 20C010FP | 20C010FB |
| 12 | 24 | – | 2-3/8” | 15/16” | 4 | 20C012CT | 20C012CP | 20C012CB |
| 12 | – | 28 | 2-3/8” | 15/16” | 4 | 20C012FT | 20C012FP | 20C012FB |
| 1/4” | 20 | – | 2-1/2” | 1” | 4 | 20C116CT | 20C116CP | 20C116CB |
| 1/4” | – | 28 | 2-1/2” | 1” | 4 | 20C116FT | 20C116FP | 20C116FB |
| 5/16” | 18 | – | 2-23/32” | 1-1/8” | 4 | 20C120CT | 20C120CP | 20C120CB |
| 5/16” | – | 24 | 2-23/32” | 1-1/8” | 4 | 20C120FT | 20C120FP | 20C120FB |
| 3/8” | 16 | – | 2-15/16” | 1-1/4” | 4 | 20C124CT | 20C124CP | 20C124CB |
| 3/8” | – | 24 | 2-15/16” | 1-1/4” | 4 | 20C124FT | 20C124FP | 20C124FB |

#0 thru 1/4” - 12 per pack, 5/16” thru 1/2” - 6 per pack, 9/16” thru 1” - 3 per pack, 1-1/8” and up - individually packaged

DRILLCO CUTTING TOOLS

# GENERAL PURPOSE HAND TAPS

## *2000C SERIES*

**GENERAL PURPOSE CARBON**

**Taper, Plug, & Bottoming / Through or Blind Hole**

**Fractional & Metric / Bright**

2000C

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | 2000C Order No. | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Taper | Plug | Bottoming |
| 7/16” | 14 | – | 3-5/32” | 1-7/16” | 4 | 20C128CT | 20C128CP | 20C128CB |
| 7/16” | – | 20 | 3-5/32” | 1-7/16” | 4 | 20C128FT | 20C128FP | 20C128FB |
| 1/2” | 13 | – | 3-3/8” | 1-21/32” | 4 | 20C132CT | 20C132CP | 20C132CB |
| 1/2” | – | 20 | 3-3/8” | 1-21/32” | 4 | 20C132FT | 20C132FP | 20C132FB |
| 9/16” | 12 | – | 3-19/32” | 1-21/32” | 4 | 20C136CT | 20C136CP | 20C136CB |
| 9/16” | – | 18 | 3-19/32” | 1-21/32” | 4 | 20C136FT | 20C136FP | 20C136FB |
| 5/8” | 11 | – | 3-13/16” | 1-13/16” | 4 | 20C140CT | 20C140CP | 20C140CB |
| 5/8” | – | 18 | 3-13/16” | 1-13/16” | 4 | 20C140FT | 20C140FP | 20C140FB |
| 3/4” | 10 | – | 4-1/4” | 2” | 4 | 20C148CT | 20C148CP | 20C148CB |
| 3/4” | – | 16 | 4-1/4” | 2” | 4 | 20C148FT | 20C148FP | 20C148FB |
| 7/8” | 9 | – | 4-11/16” | 2-7/32” | 4 | 20C156CT | 20C156CP | 20C156CB |
| 7/8” | – | 14 | 4-11/16” | 2-7/32” | 4 | 20C156FT | 20C156FP | 20C156FB |
| 1” | 8 | – | 5-1/8” | 2-1/2” | 4 | 20C164CT | 20C164CP | 20C164CB |
| 1” | – | 12 | 5-1/8” | 2-1/2” | 4 | 20C164FT | 20C164FP | 20C164FB |
| 1-1/8” | 7 | – | 5-7/16” | 2-9/16” | 4 | 20C208CT | 20C208CP | 20C208CB |
| 1-1/8” | – | 12 | 5-7/16” | 2-9/16” | 4 | 20C208FT | 20C208FP | 20C208FB |
| 1-1/4” | 7 | – | 5-3/4” | 2-9/16” | 4 | 20C216CT | 20C216CP | 20C216CB |
| 1-1/4” | – | 12 | 5-3/4” | 2-9/16” | 6 | 20C216FT | 20C216FP | 20C216FB |
| 1-3/8” | 6 | – | 6-1/16” | 3” | 6 | 20C224CT | 20C224CP | 20C224CB |
| 1-3/8” | - | 12 | 6-1/16” | 3” | 6 | 20C224FT | 20C224FP | 20C224FB |
| 1-1/2” | 6 | – | 6-3/8” | 3” | 6 | 20C232CT | 20C232CP | 20C232CB |
| 1-1/2” | – | 12 | 6-3/8” | 3” | 6 | 20C232FT | 20C232FP | 20C232FB |

| Size (mm) | Pitch (mm) | | Overall Length | Length of Thread | No. of Flutes | Taper | Plug | Bottoming |
|---|---|---|---|---|---|---|---|---|
| 4 | 0.70 | - | 2-1/4” | 5/16” | 4 | 20C040AT | 20C040AP | 20C040AB |
| 5 | 0.80 | - | 2-1/2” | 3/8” | 4 | 20C050AT | 20C050AP | 20C050AB |
| 6 | 1.00 | - | 2-1/2” | 3/8” | 4 | 20C060AT | 20C060AP | 20C060AB |
| 8 | 1.00 | - | 2-3/4” | 7/16” | 4 | 20C080AT | 20C080AP | 20C080AB |
| 8 | 1.25 | - | 2-3/4” | 7/16” | 4 | 20C080BT | 20C080BP | 20C080BB |
| 10 | 1.00 | - | 3” | 1/2” | 4 | 20C100AT | 20C100AP | 20C100AB |
| 10 | 1.25 | - | 3” | 1/2” | 4 | 20C100BT | 20C100BP | 20C100BB |
| 10 | 1.50 | - | 3” | 9/16” | 4 | 20C100CT | 20C100CP | 20C100CB |
| 12 | 1.50 | - | 3-1/4” | 9/16” | 4 | 20C120AT | 20C120AP | 20C120AB |
| 12 | 1.75 | - | 3-1/4” | 9/16” | 4 | 20C120BT | 20C120BP | 20C120BB |
| 14 | 2.00 | - | 3-5/8” | 5/8” | 4 | 20C140AT | 20C140AP | 20C140AB |
| 16 | 2.00 | - | 3-3/4” | 11/16” | 4 | 20C160AT | 20C160AP | 20C160AB |

4 mm thru 6 mm - 12 per pack , 8 mm thru 12 mm - 6 per pack, 13 mm and up - individually packaged

# GENERAL PURPOSE POWER TAPS

## *SST POWER TAPS 03A / 03B SERIES*

**HIGH SPEED STEEL**

### Plug / Through Hole
### Machine Screw / Fractional / Bronze Oxide

Specially designed for use on reversible portable drills, SST™ power taps are guaranteed to work faster and last longer than standard taps in steel, stainless steel and other ferrous or non-ferrous metals. SST™ power taps eliminate slow hand tapping to increase productivity and reduce overall production costs.

- *3 flats to fit any drill chuck without slippage*
- *Special power tip ejects chips ahead of tap and self-aligns with hole axis for high quality threads*
- *Premium HSS body, ground threads, 3-flute plug style with SST surface treatment for long tap life*
- *Special long and resistant shank for tapping deep or difficult-to-reach holes*
- *Packaged in reusable plastic packaging*

| Tap Size | Overall Length | Drill Size | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 6-32 NC | 2 1/2” | #36 | 03A561 | 1 | 10 |
| 6-40 NF | 2 1/2” | #33 | 03A564 | 1 | 10 |
| 8-32 NC | 2 13/16” | #29 | 03A581 | 1 | 10 |
| 8-36 NF | 2 13/16” | #29 | 03A584 | 1 | 10 |
| 10-24 NC | 2 13/16” | #25 | 03A601 | 1 | 10 |
| 10-32 NF | 2 13/16” | #21 | 03A604 | 1 | 10 |
| 12-24 NC | 3 3/16” | #16 | 03A621 | 1 | 10 |
| 12-28 NF | 3 3/16” | #15 | 03A624 | 1 | 10 |
| 1/4”-20 NC | 3 3/16” | #7 | 03B541 | 1 | 10 |
| 1/4”-28 NF | 3 3/16” | #3 | 03B544 | 1 | 10 |
| 5/16”-18 NC | 3 11/16” | F | 03B551 | 1 | 10 |
| 5/16”-24 NF | 3 11/16” | I | 03B554 | 1 | 10 |
| 3/8”-16 NC | 4 3/32” | 5/16” | 03B561 | 1 | 10 |
| 3/8”-24 NF | 4 3/32” | Q | 03B564 | 1 | 10 |
| 7/16”-14 NC | 4 3/32” | U | 03B571 | 1 | 10 |
| 7/16”-20 NF | 3 15/16” | 25/64” | 03B574 | 1 | 10 |
| 1/2”-13 NC | 4 5/16” | 27/64” | 03B581 | 1 | 10 |
| 1/2”-20 NF | 4 5/16” | 29/64” | 03B584 | 1 | 10 |
| 9/16”-12 NC | 4 5/16” | 31/64” | 03B591 | 1 | 10 |
| 9/16”-18 NF | 4 5/16” | 33/64” | 03B594 | 1 | 10 |
| 5/8”-11 NC | 4 5/16” | 17/32” | 03B601 | 1 | 10 |
| 5/8”-18 NF | 4 5/16” | 37/64” | 03B604 | 1 | 10 |
| 3/4”-10 NC | 4 5/16” | 21/32” | 03B621 | 1 | 10 |
| 3/4”-16 NF | 4 5/16” | 11/16” | 03B624 | 1 | 10 |
| 7/8”-9 NC | 4 5/16” | 49/64” | 03B641 | 1 | 10 |
| 7/8”-14 NF | 4 5/16” | 13/16” | 03B644 | 1 | 10 |
| 1”-8 NC | 4 5/16” | 7/8” | 03B661 | 1 | 10 |
| 1”-12 NF | 4 5/16” | 59/64” | 03B664 | 1 | 10 |

Tap drill size marked on shank (tap sizes 12-24 and over).

## *GUARANTEED TO TAP FASTER AND LAST LONGER*

### *Tech tip!*

*For increased cutting efficiency and tool life, use TAPCUT lubricant.*

MADE IN THE USA DRILLCO CUTTING TOOLS

# GENERAL PURPOSE SPIRAL POINT TAPS

NITRO

The angular flutes at the front end of these taps propel the chips ahead of the tap. This reduces loading and clogging in the flutes. Spiral Point taps are ideal for production tapping through holes. Sometimes referred to as "Gun Taps," spiral point taps "shoot" the chips ahead of the tap.

- ***Spiral point taps eject chips ahead of the tap for reduced loading and clogging in flutes***
- ***Bright finish for increased lubricity***
- ***Black oxide surface treatment for longer life***

## *2100N SERIES*
### GENERAL PURPOSE HIGH SPEED STEEL
### Plug / Through Hole
### Machine Screw / Black Oxide

2100N

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2100N Order No. Plug |
|---|---|---|---|---|---|---|---|
| 0 | – | 80 | 1-5/8" | 5/16" | 2 | H1 | 21N000FP |
| 1 | 64 | – | 1-11/16" | 3/8" | 2 | H1 | 21N001CP |
| 1 | – | 72 | 1-11/16" | 3/8" | 2 | H1 | 21N001FP |
| 2 | 56 | – | 1-3/4" | 7/16" | 2 | H2 | 21N002CP |
| 2 | – | 64 | 1-3/4" | 7/16" | 2 | H2 | 21N002FP |
| 3 | 48 | – | 1-13/16" | 1/2" | 2 | H2 | 21N003CP |
| 3 | – | 56 | 1-13/16" | 1/2" | 2 | H2 | 21N003FP |
| 4 | 40 | – | 1-7/8" | 9/16" | 2 | H2 | 21N004CP |
| 4 | – | 48 | 1-7/8" | 9/16" | 2 | H2 | 21N004FP |
| 4 | – | 36 | 1-7/8" | 9/16" | 2 | H2 | 21N004SP |
| 5 | 40 | – | 1-15/16" | 5/8" | 2 | H2 | 21N005CP |
| 5 | – | 44 | 1-15/16" | 5/8" | 2 | H2 | 21N005FP |
| 6 | 32 | – | 2" | 11/16" | 2 | H3 | 21N006CP |
| 6 | – | 40 | 2" | 11/16" | 2 | H2 | 21N006FP |
| 8 | 32 | – | 2-1/8" | 3/4" | 2 | H3 | 21N008CP |
| 8 | – | 36 | 2-1/8" | 3/4" | 2 | H2 | 21N008FP |
| 10 | 24 | – | 2-3/8" | 7/8" | 2 | H3 | 21N010CP |
| 10 | – | 32 | 2-3/8" | 7/8" | 2 | H3 | 21N010FP |
| 12 | 24 | – | 2-3/8" | 15/16" | 2 | H3 | 21N012CP |
| 12 | – | 28 | 2-3/8" | 15/16" | 2 | H3 | 21N012FP |

## *2100N SERIES*
### GENERAL PURPOSE HIGH SPEED STEEL
### Plug / Through Hole
### Fractional / Black Oxide

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2100N Order No. Plug |
|---|---|---|---|---|---|---|---|
| 1/4" | 20 | – | 2-1/2" | 1" | 2 | H3 | 21N116CP |
| 1/4" | – | 28 | 2-1/2" | 1" | 2 | H3 | 21N116FP |
| 5/16" | 18 | – | 2-23/32" | 1-1/8" | 2 | H3 | 21N120CP |
| 5/16" | – | 24 | 2-23/32" | 1-1/8" | 2 | H3 | 21N120FP |
| 3/8" | 16 | – | 2-15/16" | 1-1/4" | 3 | H3 | 21N124CP |
| 3/8" | – | 24 | 2-15/16" | 1-1/4" | 3 | H3 | 21N124FP |
| 7/16" | 14 | – | 3-5/32" | 1-7/16" | 3 | H3 | 21N128CP |
| 7/16" | – | 20 | 3-5/32" | 1-7/16" | 3 | H3 | 21N128FP |
| 1/2" | 13 | – | 3-3/8" | 1-21/32" | 3 | H3 | 21N132CP |
| 1/2" | – | 20 | 3-3/8" | 1-21/32" | 3 | H3 | 21N132FP |
| 9/16" | 12 | – | 3-19/32" | 1-21/32" | 3 | H3 | 21N136CP |
| 9/16" | – | 18 | 3-19/32" | 1-21/32" | 3 | H3 | 21N136FP |
| 5/8" | 11 | – | 3-13/16" | 1-13/16" | 3 | H3 | 21N140CP |
| 5/8" | – | 18 | 3-13/16" | 1-13/16" | 3 | H3 | 21N140FP |
| 3/4" | 10 | – | 4-1/4" | 2" | 3 | H3 | 21N148CP |
| 3/4" | – | 16 | 4-1/4" | 2" | 3 | H3 | 21N148FP |

All sizes are individually packaged

## *2850 SERIES*
### GENERAL PURPOSE HIGH SPEED STEEL
### Plug / Through Hole
### Metric / Bright

2850

| Size (mm) | Pitch Dia. (mm) | No. of Flutes | Pitch Dia. Limits | 2850 Order No. Plug |
|---|---|---|---|---|
| 1,6 | 0,35 | 2 | D3 | 285A016A |
| 1,8 | 0,35 | 2 | D3 | 285A018A |
| 2 | 0,4 | 2 | D3 | 285A020A |
| 2,2 | 0,45 | 2 | D3 | 285A022A |
| 2,5 | 0,45 | 2 | D3 | 285A025A |
| 3 | 0,5 | 2 | D3 | 285A030A |
| 3,5 | 0,6 | 2 | D4 | 285A035A |
| 4 | 0,7 | 2 | D4 | 285A040A |
| 4,5 | 0,75 | 2 | D4 | 285A045A |
| 5 | 0,8 | 2 | D4 | 285A050A |
| 6 | 1 | 2 | D5 | 285A060A |
| 6,3 | 1 | 2 | D5 | 285A063A |
| 7 | 1 | 2 | D5 | 285A070A |

| Size (mm) | Pitch Dia. (mm) | No. of Flutes | Pitch Dia. Limits | 2850 Order No. Plug |
|---|---|---|---|---|
| 8.0 | 1.25 | 2 | D5 | 285A080A |
| 8.0 | 1.00 | 2 | D5 | 285A080B |
| 10 | 1.50 | 3 | D6 | 285A100A |
| 10 | 1.25 | 3 | D5 | 285A100B |
| 12 | 1.75 | 3 | D6 | 285A120A |
| 12 | 1.25 | 3 | D5 | 285A120C |
| 14 | 2.00 | 3 | D7 | 285A140A |
| 14 | 1.50 | 3 | D6 | 285A140B |
| 16 | 2.00 | 3 | D7 | 285A160A |
| 16 | 1.50 | 3 | D6 | 285A160B |
| 18 | 2.50 | 4 | D7 | 285A180A |
| 20 | 2.50 | 4 | D7 | 285A200A |
| 20 | 1.50 | 4 | D6 | 285A200B |

# GENERAL PURPOSE SPIRAL POINT TAPS

## 2100 SERIES
### GENERAL PURPOSE HIGH SPEED STEEL
**Plug / Through Hole**
**Machine Screw / Bright**

2100

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2100 Order No. Plug |
|---|---|---|---|---|---|---|---|
| 0 | – | 80 | 1-5/8” | 5/16” | 2 | H1 | 21A000FP |
| 1 | 64 | – | 1-11/16” | 3/8” | 2 | H1 | 21A001CP |
| 1 | – | 72 | 1-11/16” | 3/8” | 2 | H1 | 21A001FP |
| 2 | 56 | – | 1-3/4” | 7/16” | 2 | H2 | 21A002CP |
| 2 | – | 64 | 1-3/4” | 7/16” | 2 | H2 | 21A002FP |
| 3 | 48 | – | 1-13/16” | 1/2” | 2 | H2 | 21A003CP |
| 3 | – | 56 | 1-13/16” | 1/2” | 2 | H2 | 21A003FP |
| 4 | 40 | – | 1-7/8” | 9/16” | 2 | H2 | 21A004CP |
| 4 | – | 48 | 1-7/8” | 9/16” | 2 | H2 | 21A004FP |
| 4 | – | 36 | 1-7/8” | 9/16” | 2 | H2 | 21A004SP |
| 5 | 40 | – | 1-15/16” | 5/8” | 2 | H2 | 21A005CP |
| 5 | – | 44 | 1-15/16” | 5/8” | 2 | H2 | 21A005FP |
| 6 | 32 | – | 2” | 11/16” | 2 | H3 | 21A006CP |
| 6 | – | 40 | 2” | 11/16” | 2 | H2 | 21A006FP |
| 8 | 32 | – | 2-1/8” | 3/4” | 2 | H3 | 21A008CP |
| 8 | – | 36 | 2-1/8” | 3/4” | 2 | H2 | 21A008FP |
| 10 | 24 | – | 2-3/8” | 7/8” | 2 | H3 | 21A010CP |
| 10 | – | 32 | 2-3/8” | 7/8” | 2 | H3 | 21A010FP |
| 12 | 24 | – | 2-3/8” | 15/16” | 2 | H3 | 21A012CP |
| 12 | – | 28 | 2-3/8” | 15/16” | 2 | H3 | 21A012FP |

## 2100 SERIES
### GENERAL PURPOSE HIGH SPEED STEEL
**Plug / Through Hole**
**Fractional / Bright**

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2100 Order No. Plug |
|---|---|---|---|---|---|---|---|
| 1/4” | 20 | – | 2-1/2” | 1” | 2 | H3 | 21A116CP |
| 1/4” | – | 28 | 2-1/2” | 1” | 2 | H3 | 21A116FP |
| 5/16” | 18 | – | 2-23/32” | 1-1/8” | 2 | H3 | 21A120CP |
| 5/16” | – | 24 | 2-23/32” | 1-1/8” | 2 | H3 | 21A120FP |
| 3/8” | 16 | – | 2-15/16” | 1-1/4” | 3 | H3 | 21A124CP |
| 3/8” | – | 24 | 2-15/16” | 1-1/4” | 3 | H3 | 21A124FP |
| 7/16” | 14 | – | 3-5/32” | 1-7/16” | 3 | H3 | 21A128CP |
| 7/16” | – | 20 | 3-5/32” | 1-7/16” | 3 | H3 | 21A128FP |
| 1/2” | 13 | – | 3-3/8” | 1-21/32” | 3 | H3 | 21A132CP |
| 1/2” | – | 20 | 3-3/8” | 1-21/32” | 3 | H3 | 21A132FP |
| 9/16” | 12 | – | 3-19/32” | 1-21/32” | 3 | H3 | 21A136CP |
| 9/16” | – | 18 | 3-19/32” | 1 21/32 | 3 | H3 | 21A136FP |
| 5/8” | 11 | – | 3-13/16” | 1-13/16” | 3 | H3 | 21A140CP |
| 5/8” | – | 18 | 3-13/16” | 1-13/16” | 3 | H3 | 21A140FP |
| 3/4” | 10 | – | 4-1/4” | 2” | 3 | H3 | 21A148CP |
| 3/4” | – | 16 | 4-1/4” | 2” | 3 | H3 | 21A148FP |

All sizes are individually packaged

## 2100E SERIES
### GENERAL PURPOSE HIGH SPEED STEEL
**Plug / Through Hole**
**Machine Screw / Bright**

2100E

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2100E Order No. Plug |
|---|---|---|---|---|---|---|---|
| 0 | – | 80 | 1-5/8” | 5/16” | 2 | H1 | 21E000FP |
| 1 | 64 | – | 1-11/16” | 3/8” | 2 | H1 | 21E001CP |
| 1 | – | 72 | 1-11/16” | 3/8” | 2 | H1 | 21E001FP |
| 2 | 56 | – | 1-3/4” | 7/16” | 2 | H2 | 21E002CP |
| 2 | – | 64 | 1-3/4” | 7/16” | 2 | H2 | 21E002FP |
| 3 | 48 | – | 1-13/16” | 1/2” | 2 | H2 | 21E003CP |
| 3 | – | 56 | 1-13/16” | 1/2” | 2 | H2 | 21E003FP |
| 4 | 40 | – | 1-7/8” | 9/16” | 2 | H2 | 21E004CP |
| 4 | – | 36 | 1-7/8” | 9/16” | 2 | H2 | 21E004SP |
| 4 | – | 48 | 1-7/8” | 9/16” | 2 | H2 | 21E004FP |
| 5 | 40 | – | 1-15/16” | 5/8” | 2 | H2 | 21E005CP |
| 5 | – | 44 | 1-15/16” | 5/8” | 2 | H2 | 21E005FP |
| 6 | 32 | – | 2” | 11/16” | 2 | H3 | 21E006CP |
| 6 | – | 40 | 2” | 11/16” | 2 | H2 | 21E006FP |
| 8 | 32 | – | 2-1/8” | 3/4” | 2 | H3 | 21E008CP |
| 8 | – | 36 | 2-1/8” | 3/4” | 2 | H2 | 21E008FP |
| 10 | 24 | – | 2-3/8” | 7/8” | 2 | H3 | 21E010CP |
| 10 | – | 32 | 2-3/8” | 7/8” | 2 | H3 | 21E010FP |
| 12 | 24 | – | 2-3/8” | 15/16” | 2 | H3 | 21E012CP |
| 12 | – | 28 | 2-3/8” | 15/16” | 2 | H3 | 21E012FP |

## 2100E SERIES
### GENERAL PURPOSE HIGH SPEED STEEL
**Plug / Through Hole**
**Fractional / Bright**

| Size | NC | NF | Overall Length | Length of Thread | No. of Flutes | Pitch Dia. Limits | 2100E Order No. Plug |
|---|---|---|---|---|---|---|---|
| 1/4” | 20 | – | 2-1/2” | 1” | 2 | H3 | 21E116CP |
| 1/4” | – | 28 | 2-1/2” | 1” | 2 | H3 | 21E116FP |
| 5/16” | 18 | – | 2-23/32” | 1-1/8” | 2 | H3 | 21E120CP |
| 5/16” | – | 24 | 2-23/32” | 1-1/8” | 2 | H3 | 21E120FP |
| 3/8” | 16 | – | 2-15/16” | 1-1/4” | 3 | H3 | 21E124CP |
| 3/8” | – | 24 | 2-15/16” | 1-1/4” | 3 | H3 | 21E124FP |
| 7/16” | 14 | – | 3-5/32” | 1-7/16” | 3 | H3 | 21E128CP |
| 7/16” | – | 20 | 3-5/32” | 1-7/16” | 3 | H3 | 21E128FP |
| 1/2” | 13 | – | 3-3/8” | 1-21/32” | 3 | H3 | 21E132CP |
| 1/2” | – | 20 | 3-3/8” | 1-21/32” | 3 | H3 | 21E132FP |
| 9/16” | 12 | – | 3-19/32” | 1-21/32” | 3 | H3 | 21E136CP |
| 9/16” | – | 18 | 3-19/32” | 1-21/32” | 3 | H3 | 21E136FP |
| 5/8” | 11 | – | 3-13/16” | 1-13/16” | 3 | H3 | 21E140CP |
| 5/8” | – | 18 | 3-13/16” | 1-13/16” | 3 | H3 | 21E140FP |
| 3/4” | 10 | – | 4-1/4” | 2” | 3 | H3 | 21E148CP |
| 3/4” | – | 16 | 4-1/4” | 2” | 3 | H3 | 21E148FP |
| 7/8” | 9 | – | 4-11/16” | 2-7/32” | 3 | H4 | 21E156CP |
| 7/8” | – | 14 | 4-11/16” | 2-7/32” | 3 | H4 | 21E156FP |
| 1” | 8 | – | 5-1/8” | 2-1/2” | 3 | H4 | 21E164CP |
| 1” | – | 12 | 5-1/8” | 2-1/2” | 3 | H4 | 21E164FP |
| 1” | – | 14 | 5-1/8” | 2-1/2” | 3 | H4 | 21E164SP |

#0 thru 1/4” - 12 per pack, 5/16” thru 1/2” - 6 per pack, 9/16” thru 1” - 3 per pack

# GENERAL PURPOSE OVERSIZE SPIRAL POINT TAPS

Oversize taps are similar in design to a standard tap, but with a pitch diameter that is usually 0.003" to 0.005" larger than standard. Oversize taps are used primarily where a part will be plated or treated after tapping. Available in H7 or H11 limits, in hand taps (2003 and 2005 series) or spiral point (2103 and 2105 series).

▷ ***All sizes are individually packaged***

### *2105 SERIES*
### GENERAL PURPOSE HIGH SPEED STEEL
### Fractional / Bright
### .005" Oversize / Plug / Through Hole

2105

| Size | NC | NF | No. of Flutes | 2105 Order No. |
|---|---|---|---|---|
| | | | | Plug |
| 5/16" | 18 | – | 2 | 215A120CP |
| 3/8" | 16 | – | 3 | 215A124CP |
| 7/16" | 14 | – | 3 | 215A128CP |
| 1/2" | 13 | – | 3 | 215A132CP |
| 5/8" | 11 | – | 3 | 215A140CP |

# GENERAL PURPOSE OVERSIZED HAND TAPS

Oversize taps are similar in design to a standard tap, but with a pitch diameter that is usually 0.003" to 0.005" larger than standard. Oversize taps are used primarily where a part will be plated or treated after tapping. Available in H7 or H11 limits, in hand taps (2003 and 2005 series) or spiral point (2103 and 2105 series).

▷ ***All sizes are individually packaged***

### *2005 SERIES*
### GENERAL PURPOSE HIGH SPEED STEEL
### .005" Oversize / Plug & Bottoming
### Through or Blind Hole
### Fractional / Bright

2005

| Size | NC | Pitch Dia. Limits | No. of Flutes | 2005 Order No. | |
|---|---|---|---|---|---|
| | | | | Plug | Bottoming |
| 1/4" | 20 | H11 | 4 | 205A116CP | – |
| 5/16" | 18 | H11 | 4 | 205A120CP | 205A120CB |
| 3/8" | 16 | H11 | 4 | 205A124CP | 205A124CB |
| 7/16" | 14 | H11 | 4 | 205A128CP | 205A128CB |
| 1/2" | 13 | H11 | 4 | | 205A132CB |
| 5/8" | 11 | H11 | 4 | 205A140CP | 205A140CB |

## ANSI PRODUCTION TAPS

NITRO-MAX

Produced with a reduced neck to allow for longer reach, improved coolant flow, and easier chip evacuation. Can be used in a wide range of material groups, including difficult-to-machine materials such as High Tensile Strength Steels and Stainless Steel.

- *Extremely versatile high speed steel with high speed carbon and vanadium contents for exceptional abrasion resistance*
- *Offer higher heat resistance and red hardness over conventional High Speed Steel taps*
- *Can be used for production threading with both conventional or CNC equipment*
- *Black Oxide surface treatment provides improved lubricity and helps prevent the formation of built-up edge*
- *Manufactured to industry recognized USCTI 302A Standards*
- *All sizes are individually packaged*

### *2150N SERIES*

**PRODUCTION M4 PREMIUM HSS**

**Spiral Point / Plug Chamfer / Through Hole**

**Machine Screw, Fractional, & Metric / Black Oxide**

2150N

**Machine Screw & Fractional Sizes**

| Size | NC | NF | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (75%) | 2150N Order No. |
|---|---|---|---|---|---|---|---|---|
| 6 | 32 | – | 2” | 0.110” | 2 | H3 | #36 | 215N006C |
| 8 | 32 | – | 2-1/8” | 0.131” | 3 | H3 | #29 | 215N008C |
| 10 | 24 | – | 2-3/8” | 0.152” | 3 | H3 | #25 | 215N010C |
| 10 | – | 32 | 2-3/8” | 0.152” | 3 | H3 | #21 | 215N010F |
| 1/4” | 20 | – | 2-1/2” | 0.191” | 3 | H3 | #7 | 215N116C |
| 1/4” | – | 28 | 2-1/2” | 0.191” | 3 | H3 | #3 | 215N116F |
| 5/16” | 18 | – | 2-23/32” | 0.238” | 3 | H3 | F | 215N120C |
| 5/16” | – | 24 | 2-23/32” | 0.238” | 3 | H3 | I | 215N120F |
| 3/8” | 16 | – | 2-15/16” | 0.286” | 3 | H3 | 5/16” | 215N124C |
| 3/8” | – | 24 | 2-15/16” | 0.286” | 3 | H3 | Q | 215N124F |
| 7/16” | 14 | – | 3-5/32” | 0.242” | 3 | H3 | U | 215N128C |
| 7/16” | – | 20 | 3-5/32” | 0.242” | 3 | H3 | W | 215N128F |
| 1/2” | 13 | – | 3-3/8” | 0.275” | 3 | H3 | 27/64” | 215N132C |
| 1/2” | – | 20 | 3-3/8” | 0.275” | 3 | H3 | 29/64” | 215N132F |
| 5/8” | 11 | – | 3-13/16” | 0.360” | 3 | H3 | 17/32” | 215N140C |
| 5/8” | – | 18 | 3-13/16” | 0.360” | 3 | H3 | 37/64” | 215N140F |
| 3/4” | 10 | – | 4-1/4” | 0.442” | 3 | H3 | 21/32” | 215N148C |
| 3/4” | – | 16 | 4-1/4” | 0.442” | 3 | H3 | 11/16” | 215N148F |

**Metric Sizes**

| Size | Pitch (mm) | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (75%) | 2150N Order No. |
|---|---|---|---|---|---|---|---|
| M4 | 0.7 | 2-1/8” | 0.131” | 3 | D4 | #30 | 215N040A |
| M5 | 0.8 | 2-3/8” | 0.152” | 3 | D4 | #19 | 215N050A |
| M6 | 1.0 | 2-1/2” | 0.191” | 3 | D5 | #9 | 215N060A |
| M8 | 1.25 | 2-23/32” | 0.238” | 3 | D5 | H | 215N080A |
| M10 | 1.5 | 2-15/16” | 0.286” | 3 | D6 | Q | 215N100A |
| M12 | 1.75 | 3-3/8” | 0.275” | 3 | D6 | Y | 215N120A |

# ANSI PRODUCTION TAPS

## *2160N SERIES*

**PRODUCTION M4 PREMIUM HSS**

**High Spiral Flute / Bottoming Chamfer / Blind Hole**
**Machine Screw, Fractional, & Metric / Black Oxide**

NITRO-MAX

2160N

**Machine Screw & Fractional Sizes**

| Size | NC | NF | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (75%) | 2160N Order No. |
|---|---|---|---|---|---|---|---|---|
| 6 | 32 | – | 2” | 0.110” | 3 | H3 | #36 | 216N006C |
| 8 | 32 | – | 2-1/8” | 0.131” | 3 | H3 | #29 | 216N008C |
| 10 | 24 | – | 2-3/8” | 0.152” | 3 | H3 | #25 | 216N010C |
| 10 | – | 32 | 2-3/8” | 0.152” | 3 | H3 | #21 | 216N010F |
| 1/4” | 20 | – | 2-1/2” | 0.191” | 3 | H3 | #7 | 216N116C |
| 1/4” | – | 28 | 2-1/2” | 0.191” | 3 | H3 | #3 | 216N116F |
| 5/16” | 18 | – | 2-23/32” | 0.238” | 3 | H3 | F | 216N120C |
| 5/16” | – | 24 | 2-23/32” | 0.238” | 3 | H3 | I | 216N120F |
| 3/8” | 16 | – | 2-15/16” | 0.286” | 3 | H3 | 5/16” | 216N124C |
| 3/8” | – | 24 | 2-15/16” | 0.286” | 3 | H3 | Q | 216N124F |
| 7/16” | 14 | – | 3-5/32” | 0.242” | 3 | H3 | U | 216N128C |
| 7/16” | – | 20 | 3-5/32” | 0.242” | 3 | H3 | W | 216N128F |
| 1/2” | 13 | – | 3-3/8” | 0.275” | 3 | H3 | 27/64” | 216N132C |
| 1/2” | – | 20 | 3-3/8” | 0.275” | 3 | H3 | 29/64” | 216N132F |
| 5/8” | 11 | – | 3-13/16” | 0.360” | 4 | H3 | 17/32” | 216N140C |
| 5/8” | – | 18 | 3-13/16” | 0.360” | 4 | H3 | 37/64” | 216N140F |
| 3/4” | 10 | – | 4-1/4” | 0.442” | 4 | H3 | 21/32” | 216N148C |
| 3/4” | – | 16 | 4-1/4” | 0.442” | 4 | H3 | 11/16” | 216N148F |

**Metric Sizes**

| Size | Pitch (mm) | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (75%) | 2160N Order No. |
|---|---|---|---|---|---|---|---|
| M4 | 0.7 | 2-1/8” | 0.131” | 3 | D4 | #30 | 216N040A |
| M5 | 0.8 | 2-3/8” | 0.152” | 3 | D4 | #19 | 216N050A |
| M6 | 1.0 | 2.1/2” | 0.191” | 3 | D5 | #9 | 216N060A |
| M8 | 1.25 | 2.23/32” | 0.238” | 3 | D5 | H | 216N080A |
| M10 | 1.5 | 2.15/16” | 0.286” | 3 | D6 | Q | 216N100A |
| M12 | 1.75 | 3.3/8” | 0.275” | 3 | D6 | Y | 216N120A |

# DIN/ANSI PRODUCTION TAPS

Manufactured to DIN/ANSI specifications, with DIN lengths to allow for longer reach and deeper threading in a single pass.

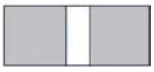
NITRO-MAX

- ***Manufactured from M4 HSS, an extremely versatile high speed steel with high carbon and vanadium contents for exceptional abrasion-resistance***
- ***Offer higher heat resistance and red hardness over conventional High Speed Steel taps***
- ***TiCN (Titanium Carbo Nitride) coating***
  - ***helps to reduce galling, microwelding, seizing, and adhesive wear***
  - ***allows for a smoother threading operation***
  - ***helps to hold sharp edges and reduces the coefficient of friction***
- ***All sizes are individually packaged***

## *2250N SERIES*

## PRODUCTION M4 PREMIUM HSS

### Spiral Point / Plug Chamfer / Through Hole
### Machine Screw, Fractional, & Metric / TiCN Coated



2250N

**Machine Screw & Fractional Sizes**

| Size | NC | NF | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (75%) | 2250N Order No. |
|---|---|---|---|---|---|---|---|---|
| 4 | 40 | – | 2.21” | 0.110” | 2 | H2 | #43 | 225N004C |
| 6 | 32 | – | 2.21” | 0.110” | 2 | H3 | #36 | 225N006C |
| 8 | 32 | – | 2.48” | 0.131” | 3 | H3 | #29 | 225N008C |
| 10 | 24 | – | 2.76” | 0.152” | 3 | H3 | #25 | 225N010C |
| 10 | – | 32 | 2.76” | 0.152” | 3 | H3 | #21 | 225N010F |
| 1/4” | 20 | – | 3.15” | 0.191” | 3 | H3 | #7 | 225N116C |
| 1/4” | – | 28 | 3.15” | 0.191” | 3 | H3 | #3 | 225N116F |
| 5/16” | 18 | – | 3.54” | 0.238” | 3 | H3 | F | 225N120C |
| 5/16” | – | 24 | 3.54” | 0.238” | 3 | H3 | I | 225N120F |
| 3/8” | 16 | – | 3.94” | 0.286” | 3 | H3 | 5/16” | 225N124C |
| 3/8” | – | 24 | 3.94” | 0.286” | 3 | H3 | Q | 225N124F |
| 7/16” | 14 | – | 3.94” | 0.242” | 3 | H3 | U | 225N128C |
| 7/16” | – | 20 | 3.94” | 0.242” | 3 | H3 | W | 225N128F |
| 1/2” | 13 | – | 4.33” | 0.275” | 3 | H3 | 27/64” | 225N132C |
| 1/2” | – | 20 | 4.33” | 0.275” | 3 | H3 | 29/64” | 225N132F |
| 5/8” | 11 | – | 4.33” | 0.360” | 3 | H3 | 17/32” | 225N140C |
| 5/8” | – | 18 | 4.33” | 0.360” | 3 | H3 | 37/64” | 225N140F |
| 3/4” | 10 | – | 4.92” | 0.442” | 3 | H3 | 21/32” | 225N148C |
| 3/4” | – | 16 | 4.92” | 0.442” | 3 | H3 | 11/16” | 225N148F |

**Metric Sizes**

| Size | Pitch (mm) | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (75%) | 2250N Order No. |
|---|---|---|---|---|---|---|---|
| M4 | 0.7 | 2.48” | 0.131” | 3 | D4 | #30 | 225N040A |
| M5 | 0.8 | 2.76” | 0.152” | 3 | D4 | #19 | 225N050A |
| M6 | 1.0 | 3.15” | 0.191” | 3 | D5 | #9 | 225N060A |
| M8 | 1.25 | 3.54” | 0.238” | 3 | D5 | H | 225N080A |
| M10 | 1.5 | 3.94” | 0.286” | 3 | D6 | Q | 225N100A |
| M12 | 1.75 | 4.33” | 0.275” | 3 | D6 | Y | 225N120A |
| M16 | 2.0 | 4.33” | 0.360” | 3 | D7 | 35/64” | 225N160A |

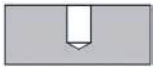
# DIN/ANSI PRODUCTION TAPS

## *2260N SERIES*

**PRODUCTION M4 PREMIUM HSS**

**High Spiral Flute / Bottoming Chamfer / Blind Hole**
**Machine Screw, Fractional, & Metric / TiCN Coated**

NITRO-MAX



2260N

**Machine Screw & Fractional Sizes**

| Size | NC | NF | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (75%) | 2260N Order No. |
|---|---|---|---|---|---|---|---|---|
| 4 | 40 | – | 2.21” | 0.110” | 3 | H2 | #43 | 226N004C |
| 6 | 32 | – | 2.21” | 0.110” | 3 | H3 | #36 | 226N006C |
| 8 | 32 | – | 2.48” | 0.131” | 3 | H3 | #29 | 226N008C |
| 10 | 24 | – | 2.76” | 0.152” | 3 | H3 | #25 | 226N010C |
| 10 | – | 32 | 2.76” | 0.152” | 3 | H3 | #21 | 226N010F |
| 1/4” | 20 | – | 3.15” | 0.191” | 3 | H3 | #7 | 226N116C |
| 1/4” | – | 28 | 3.15” | 0.191” | 3 | H3 | #3 | 226N116F |
| 5/16” | 18 | – | 3.54” | 0.238” | 3 | H3 | F | 226N120C |
| 5/16” | – | 24 | 3.54” | 0.238” | 3 | H3 | I | 226N120F |
| 3/8” | 16 | – | 3.94” | 0.286” | 3 | H3 | 5/16” | 226N124C |
| 3/8” | – | 24 | 3.94” | 0.286” | 3 | H3 | Q | 226N124F |
| 7/16” | 14 | – | 3.94” | 0.242” | 3 | H3 | U | 226N128C |
| 7/16” | – | 20 | 3.94” | 0.242” | 3 | H3 | W | 226N128F |
| 1/2” | 13 | – | 4.33” | 0.275” | 3 | H3 | 27/64” | 226N132C |
| 1/2” | – | 20 | 4.33” | 0.275” | 3 | H3 | 29/64” | 226N132F |
| 5/8” | 11 | – | 4.33” | 0.360” | 4 | H3 | 17/32” | 226N140C |
| 5/8” | – | 18 | 4.33” | 0.360” | 4 | H3 | 37/64” | 226N140F |
| 3/4” | 10 | – | 4.92” | 0.442” | 4 | H3 | 21/32” | 226N148C |
| 3/4” | – | 16 | 4.92” | 0.442” | 4 | H3 | 11/16” | 226N148F |

**Metric Sizes**

| Size | Pitch (mm) | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (75%) | 2260N Order No. |
|---|---|---|---|---|---|---|---|
| M4 | 0.7 | 2.48” | 0.131” | 3 | D4 | #30 | 226N040A |
| M5 | 0.8 | 2.76” | 0.152” | 3 | D4 | #19 | 226N050A |
| M6 | 1.0 | 3.15” | 0.191” | 3 | D5 | #9 | 226N060A |
| M8 | 1.25 | 3.54” | 0.238” | 3 | D5 | H | 226N080A |
| M10 | 1.5 | 3.94” | 0.286” | 3 | D6 | Q | 226N100A |
| M12 | 1.75 | 4.33” | 0.275” | 3 | D6 | Y | 226N120A |
| M16 | 2.0 | 4.33” | 0.360” | 4 | D7 | 35/64” | 226N160A |

# PRODUCTION THREAD FORMING TAPS

NITRO-MAX

Thread forming taps "form" the thread in malleable materials without cutting, eliminating chips. This allows for increased speeds & feeds, and a cleaner threading environment.

- ***Manufactured from M4 HSS, an extremely versatile high speed steel with high carbon and vanadium contents for exceptional abrasion-resistance***
- ***Offer higher heat resistance and red hardness over conventional High Speed Steel taps***
- ***TiCN (Titanium Carbo Nitride) coating***
  - ***helps to reduce galling, microwelding, seizing, and adhesive wear***
  - ***allows for a smoother threading operation***
  - ***helps to hold sharp edges and reduces the coefficient of friction***
- ***All sizes are individually packaged***

## *2270N SERIES*

## PRODUCTION M4 PREMIUM HSS

### Fluteless / Bottoming Chamfer / Through or Blind Hole
### Machine Screw, Fractional & Metric / TiCN Coated

2270N

**Machine Screw & Fractional Sizes**

| Size | NC | NF | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (65%) | 2270N Order No. |
|---|---|---|---|---|---|---|---|---|
| 4 | 40 | – | 2.21" | 0.110" | 0 | H5 | #39 | 227N004C |
| 6 | 32 | – | 2.21" | 0.110" | 0 | H5 | 1/8" | 227N006C |
| 8 | 32 | – | 2.48" | 0.131" | 0 | H5 | #25 | 227N008C |
| 10 | 24 | – | 2.76" | 0.152" | 0 | H6 | 11/64" | 227N010C |
| 10 | – | 32 | 2.76" | 0.152" | 0 | H6 | #16 | 227N010F |
| 1/4" | 20 | – | 3.15" | 0.191" | 0 | H6 | #1 | 227N116C |
| 1/4" | – | 28 | 3.15" | 0.191" | 0 | H6 | A | 227N116F |
| 5/16" | 18 | – | 3.54" | 0.238" | 0 | H7 | 7.3 mm | 227N120C |
| 5/16" | – | 24 | 3.54" | 0.238" | 0 | H7 | M | 227N120F |
| 3/8" | 16 | – | 3.94" | 0.286" | 0 | H7 | S | 227N124C |
| 3/8" | – | 24 | 3.94" | 0.286" | 0 | H7 | T | 227N124F |

**Metric Sizes**

| Size | Pitch (mm) | Overall Length | Square Size | No. of Flutes | Pitch Dia. Limits | Tap/Drill Size (65%) | 2270N Order No. |
|---|---|---|---|---|---|---|---|
| M4 | 0.7 | 2.48" | 0.131" | 0 | D7 | #27 | 227N040A |
| M5 | 0.8 | 2.76" | 0.152" | 0 | D8 | #14 | 227N050A |
| M6 | 1.0 | 3.15" | 0.191" | 0 | D9 | 7/32" | 227N060A |
| M8 | 1.25 | 3.54" | 0.238" | 0 | D10 | M | 227N080A |
| M10 | 1.5 | 3.94" | 0.286" | 0 | D11 | U | 227N100A |

MADE IN THE USA DRILLCO CUTTING TOOLS

# PRODUCTION
# MULTI-APPLICATION SPIRAL POINT TAPS

NITRO

These taps are designed for machine tapping in a wide range of material groups, including difficult-to-machine materials such as stainless steel. The NITRO® multiapplication tap improves thread quality and aids in chip evacuation, eliminating bird nesting.
Available in both spiral point and spiral flute designs, in fractional and metric sizes.

- ***Spiral point taps eject chips ahead of the tap***
- ***A good choice for CNC and machine tapping***
- ***Bright finish for increased lubricity***
- ***All sizes are individually packaged***

## *2100PS SERIES*
## PRODUCTION HIGH SPEED STEEL
### Plug / Through Hole
### Machine Screw & Fractional / Bright

2100PS

| Size | NC | NF | Number of Flutes | Pitch Dia. Limits | 2100PS Order No. |
|---|---|---|---|---|---|
| 4 | 40 | – | 2 | H2 | 21PS004C |
| 4 | – | 48 | 2 | H2 | 21PS004F |
| 5 | 40 | – | 3 | H2 | 21PS005C |
| 5 | – | 44 | 3 | H2 | 21PS005F |
| 6 | 32 | – | 3 | H3 | 21PS006C |
| 6 | – | 40 | 3 | H2 | 21PS006F |
| 8 | 32 | – | 3 | H3 | 21PS008C |
| 8 | – | 36 | 3 | H2 | 21PS008F |
| 10 | 24 | – | 3 | H3 | 21PS010C |
| 10 | – | 32 | 3 | H3 | 21PS010F |
| 12 | 24 | – | 3 | H3 | 21PS012C |
| 12 | – | 28 | 3 | H3 | 21PS012F |
| 1/4” | 20 | – | 3 | H3 | 21PS116C |
| 1/4” | – | 28 | 3 | H3 | 21PS116F |
| 5/16” | 18 | – | 3 | H3 | 21PS120C |
| 5/16” | – | 24 | 3 | H5 | 21PS120F |
| 3/8” | 16 | – | 3 | H3 | 21PS124C |
| 3/8” | – | 24 | 3 | H3 | 21PS124F |
| 7/16” | 14 | – | 3 | H3 | 21PS128C |
| 7/16” | – | 20 | 3 | H3 | 21PS128F |
| 1/2” | 13 | – | 3 | H5 | 21PS132C |
| 1/2” | – | 20 | 3 | H5 | 21PS132F |
| 9/16” | 12 | – | 3 | H5 | 21PS136C |
| 9/16” | – | 18 | 3 | H5 | 21PS136F |
| 5/8” | 11 | – | 3 | H5 | 21PS140C |
| 5/8” | – | 18 | 3 | H5 | 21PS140F |
| 3/4” | 10 | – | 3 | H5 | 21PS148C |
| 3/4” | – | 16 | 3 | H5 | 21PS148F |
| 7/8” | 9 | – | 3 | H6 | 21PS156C |
| 7/8” | – | 14 | 3 | H6 | 21PS156F |
| 1” | 8 | – | 3 | H6 | 21PS164C |
| 1” | – | 12 | 3 | H6 | 21PS164F |

## *2100PS SERIES*
## PRODUCTION HIGH SPEED STEEL
### Plug / Through Hole
### Metric / Bright

| Size | Pitch (mm) | Number of Flutes | Pitch Dia. Limits | 2100PS Order No. |
|---|---|---|---|---|
| M3 | 0.5 | 3 | D3 | 21PS030A |
| M3.5 | 0.6 | 3 | D4 | 21PS035A |
| M4 | 0.7 | 3 | D4 | 21PS040A |
| M5 | 0.8 | 3 | D4 | 21PS050A |
| M6 | 1.0 | 3 | D5 | 21PS060A |
| M7 | 1.0 | 3 | D5 | 21PS070A |
| M8 | 1.25 | 3 | D5 | 21PS080A |
| M8 | 1.0 | 3 | D5 | 21PS080B |
| M10 | 1.5 | 3 | D6 | 21PS100A |
| M12 | 1.75 | 3 | D6 | 21PS120A |
| M12 | 1.25 | 3 | D5 | 21PS120B |
| M14 | 2.0 | 3 | D7 | 21PS140A |
| M14 | 1.5 | 3 | D6 | 21PS140B |
| M16 | 2.0 | 3 | D7 | 21PS160A |
| M16 | 1.5 | 3 | D6 | 21PS160B |
| M18 | 2.5 | 3 | D7 | 21PS180A |
| M18 | 1.5 | 3 | D6 | 21PS180D |
| M20 | 2.5 | 3 | D7 | 21PS200A |
| M20 | 1.5 | 3 | D6 | 21PS200B |
| M22 | 2.5 | 3 | D7 | 21PS220A |
| M22 | 1.5 | 3 | D6 | 21PS220B |
| M24 | 3.0 | 3 | D8 | 21PS240A |

# PRODUCTION
# MULTI-APPLICATION SPIRAL FLUTE TAPS

NITRO

These taps are designed for machine tapping in a wide range of material groups, including difficult-to-machine materials such as stainless steel. The NITRO® multiapplication tap improves thread quality and aids in chip evacuation, eliminating bird nesting. Available in both spiral point and spiral flute designs, in fractional and metric sizes.

- ***Spiral flutes pull chips up out of the workpiece***
- ***Ideal for tapping blind holes***
- ***Bright finish for increased lubricity***
- ***All sizes are individually packaged***

## *2000PF SERIES*
## PRODUCTION HIGH SPEED STEEL
### Bottoming / Blind Hole
### Machine Screw & Fractional / Bright

2000PF

| Size | NC | NF | No. of Flutes | Pitch Dia. Limits | 2000PF Order No. |
|---|---|---|---|---|---|
| 4 | 40 | – | 2 | H2 | 20PF004C |
| 4 | – | 48 | 2 | H2 | 20PF004F |
| 6 | 32 | – | 3 | H3 | 20PF006C |
| 8 | 32 | – | 3 | H3 | 20PF008C |
| 10 | 24 | – | 3 | H3 | 20PF010C |
| 10 | – | 32 | 3 | H3 | 20PF010F |
| 12 | 24 | – | 3 | H3 | 20PF012C |
| 12 | – | 28 | 3 | H3 | 20PF012F |
| 1/4” | 20 | – | 3 | H3 | 20PF116C |
| 1/4” | – | 28 | 3 | H3 | 20PF116F |
| 5/16” | 18 | – | 3 | H3 | 20PF120C |
| 5/16” | - | 24 | 3 | H5 | 20PF120F |
| 3/8” | 16 | - | 3 | H3 | 20PF124C |
| 3/8” | – | 24 | 3 | H3 | 20PF124F |
| 7/16” | 14 | – | 3 | H3 | 20PF128C |
| 7/16” | – | 20 | 3 | H3 | 20PF128F |
| 1/2” | 13 | – | 3 | H5 | 20PF132C |
| 1/2” | – | 20 | 3 | H5 | 20PF132F |
| 9/16” | 12 | – | 3 | H5 | 20PF136C |
| 9/16” | – | 18 | 3 | H5 | 20PF136F |
| 5/8” | 11 | – | 4 | H5 | 20PF140C |
| 5/8” | – | 18 | 4 | H5 | 20PF140F |
| 3/4” | 10 | – | 4 | H5 | 20PF148C |
| 3/4” | – | 16 | 4 | H5 | 20PF148F |
| 7/8” | 9 | – | 4 | H6 | 20PF156C |
| 7/8” | – | 14 | 4 | H6 | 20PF156F |
| 1” | 8 | – | 4 | H6 | 20PF164C |
| 1” | – | 12 | 4 | H6 | 20PF164F |

## *2000PF SERIES*
## PRODUCTION HIGH SPEED STEEL
### Bottoming / Blind Hole
### Metric / Bright

| Size | Pitch (mm) | No. of Flutes | Pitch Dia. Limits | 2000PF Order No. |
|---|---|---|---|---|
| M3 | 0.5 | 3 | D3 | 20PF030A |
| M3.5 | 0.6 | 3 | D4 | 20PF035A |
| M4 | 0.7 | 3 | D4 | 20PF040A |
| M5 | 0.8 | 3 | D4 | 20PF050A |
| M6 | 1.0 | 3 | D5 | 20PF060A |
| M7 | 1.0 | 3 | D5 | 20PF070A |
| M8 | 1.25 | 3 | D5 | 20PF080A |
| M8 | 1.0 | 3 | D5 | 20PF080B |
| M10 | 1.5 | 3 | D6 | 20PF100A |
| M12 | 1.75 | 3 | D6 | 20PF120A |
| M12 | 1.25 | 3 | D5 | 20PF120B |
| M14 | 2.0 | 3 | D7 | 20PF140A |
| M14 | 1.5 | 3 | D6 | 20PF140B |
| M16 | 2.0 | 3 | D7 | 20PF160A |
| M16 | 1.5 | 3 | D6 | 20PF160B |
| M18 | 2.5 | 4 | D7 | 20PF180A |
| M18 | 1.5 | 4 | D6 | 20PF180D |
| M20 | 2.5 | 4 | D7 | 20PF200A |
| M20 | 1.5 | 4 | D6 | 20PF200B |
| M22 | 2.5 | 4 | D7 | 20PF220A |
| M22 | 1.5 | 4 | D6 | 20PF220B |
| M24 | 3.0 | 4 | D8 | 20PF240A |

# PRODUCTION MULTIAPPLICATION SPIRAL FLUTE TAPS

Designed for precision tapping of moderate-to-difficult-to-machine materials. Fast spiral flutes provide new efficiency in chip removal. These taps have continuous fast spiral flutes to lift and discharge chips from deep blind holes.

▷ *All sizes are individually packaged*

## *2000F SERIES*
## PRODUCTION HIGH SPEED STEEL
### Plug & Bottoming / Blind Hole
### Machine Screw & Fractional / Bright

2000F

| Size | NC | NF | Length of Thread | No. of Flutes | 2000F Order No. | |
|---|---|---|---|---|---|---|
| | | | | | Plug | Bottoming |
| 3 | 48 | – | 1/2” | 2 | 20F003CP | 20F003CB |
| 4 | 40 | – | 9/16” | 2 | 20F004CP | 20F004CB |
| 4 | – | 48 | 9/16” | 2 | 20F004FP | 20F004FB |
| 5 | 40 | – | 5/8” | 2 | 20F005CP | 20F005CB |
| 5 | – | 44 | 5/8” | 2 | 20F005FP | 20F005FB |
| 6 | 32 | – | 11/16” | 2 | 20F006CP | 20F006CB |
| 6 | – | 40 | 11/16” | 2 | 20F006FP | 20F006FB |
| 8 | 32 | – | 3/4” | 3 | 20F008CP | 20F008CB |
| 8 | – | 36 | 3/4” | 3 | 20F008FP | 20F008FB |
| 10 | 24 | – | 7/8” | 3 | 20F010CP | 20F010CB |
| 10 | – | 32 | 7/8” | 3 | 20F010FP | 20F010FB |
| 12 | 24 | – | 1” | 3 | 20F012CP | 20F012CB |
| 12 | – | 28 | 1” | 3 | 20F012FP | 20F012FB |
| 1/4” | 20 | – | 1” | 3 | 20F116CP | 20F116CB |
| 1/4” | – | 28 | 1” | 3 | 20F116FP | 20F116FB |
| 5/16” | 18 | – | 1-1/8” | 3 | 20F120CP | 20F120CB |
| 5/16” | – | 24 | 1-1/8” | 3 | 20F120FP | 20F120FB |
| 3/8” | 16 | – | 1-5/16” | 3 | 20F124CP | 20F124CB |
| 3/8” | – | 24 | 1-5/16” | 3 | 20F124FP | 20F124FB |
| 7/16” | 14 | – | 1-7/16” | 3 | 20F128CP | 20F128CB |
| 7/16” | – | 20 | 1-7/16” | 3 | 20F128FP | 20F128FB |
| 1/2” | 13 | – | 1-21/32” | 3 | 20F132CP | 20F132CB |
| 1/2” | – | 20 | 1-21/32” | 3 | 20F132FP | 20F132FB |
| 5/8” | 11 | – | 1-13/16” | 4 | 20F140CP | 20F140CB |
| 3/4” | 10 | – | 2-1/16” | 4 | 20F148CP | 20F148CB |

# PRODUCTION THREAD FORMING TAPS

Thread forming taps “form” the thread rather than cut it, which allows the thread to be created without producing any chips. Thread forming taps can run at faster operating rates than standard cut taps, and generally have a longer tool life, sometimes up to 5x longer in some applications. Ideal in materials such as aluminum, brass, copper, low carbon steels, zinc, and 302-303 stainless steel.

▷ *Thread forming does not produce any chips*
▷ *Thread forming taps have a longer tool life*
▷ *Formed threads are generally stronger than cut threads*
▷ *All sizes are individually packaged*

## *2090 SERIES*
## PRODUCTION HIGH SPEED STEEL
### Plug & Bottoming / Through or Blind Hole
### Machine Screw & Fractional / Bright

2090

| Size | NC | NF | 2090 Order No. | |
|---|---|---|---|---|
| | | | Plug | Bottoming |
| 0 | – | 80 | – | 209A000FB |
| 1 | 64 | – | – | 209A001CB |
| 1 | – | 72 | – | 209A001FB |
| 2 | 56 | – | – | 209A002CB |
| 2 | – | 64 | – | 209A002FB |
| 3 | 48 | – | – | 209A003CB |
| 3 | – | 56 | 209A003FP | 209A003FB |
| 4 | 40 | – | 209A004CP | 209A004CB |
| 4 | – | 48 | 209A004FP | 209A004FB |
| 5 | 40 | – | 209A005CP | 209A005CB |
| 5 | – | 44 | 209A005FP | 209A005FB |
| 6 | 32 | – | 209A006CP | 209A006CB |
| 6 | – | 40 | 209A006FP | 209A006FB |
| 8 | 32 | – | 209A008CP | 209A008CB |
| 8 | – | 36 | 209A008FP | 209A008FB |
| 10 | 24 | – | 209A010CP | 209A010CB |
| 10 | – | 32 | 209A010FP | 209A010FB |
| 12 | 24 | – | 209A012CP | 209A012CB |
| 12 | – | 28 | 209A012FP | 209A012FB |
| 1/4” | 20 | – | 209A116CP | 209A116CB |
| 1/4” | – | 28 | 209A116FP | 209A116FB |
| 5/16” | 18 | – | 209A120CP | 209A120CB |
| 5/16” | – | 24 | 209A120FP | 209A120FB |
| 3/8” | 16 | – | 209A124CP | 209A124CB |
| 3/8” | – | 24 | 209A124FP | 209A124FB |
| 7/16” | 14 | – | 209A128CP | 209A128CB |
| 7/16” | – | 20 | 209A128FP | 209A128FB |
| 1/2” | 13 | – | 209A132CP | 209A132CB |
| 1/2” | – | 20 | 209A132FP | 209A132FB |
| 5/8” | 11 | – | 209A140CP | 209A140CB |
| 5/8” | – | 18 | 209A140FP | 209A140FB |
| 3/4” | 10 | – | 209A148CP | 209A148CB |
| 3/4” | – | 16 | – | 209A148FB |

# TAPER PIPE (NPT)

NPT taps are tapered to provide a tight seal and are used mainly with threaded pipes and pipe fittings. These taps are available in both HSS and carbon steel materials. A carbon tap is used to rethread damaged threads. These NPT taps have a bright finish to increase tool life and reduce chip loading in the flutes.

- ***Bright finish for prolonged life***
- ***Most commonly used to produce a tight sealing thread***
- ***Available in high speed steel and carbon steel***
- ***All sizes are individually packaged***

## *2900 SERIES*

**HIGH SPEED STEEL**

**Through or Blind Hole**

**Fractional / Bright**

2900

| Size | TPI | Overall Length | Length of Thread | No. of Flutes | 2900 Order No. |
|---|---|---|---|---|---|
| 1/16” | 27 | 2-1/8” | 11/16” | 4 | 290A104 |
| 1/8” | 27 | 2-1/8” | 3/4” | 4 | 290A108 |
| 1/4” | 18 | 2-7/16” | 1-1/16” | 4 | 290A116 |
| 3/8” | 18 | 2-9/16” | 1-1/16” | 4 | 290A124 |
| 1/2” | 14 | 3-1/8” | 1-3/8” | 4 | 290A132 |
| 3/4” | 14 | 3-1/4” | 1-3/8” | 5 | 290A148 |
| 1” | 11-1/2 | 3-3/4” | 1-3/4” | 5 | 290A164 |
| 1-1/4” | 11-1/2 | 4” | 1-3/4” | 5 | 290A216 |
| 1-1/2” | 11-1/2 | 4-1/4” | 1-3/4” | 7 | 290A232 |
| 2” | 11-1/2 | 4-1/4” | 1-3/4” | 7 | 290A264 |
| 2-1/2” | 8 | 5-1/2” | 2-9/16” | 8 | 290A332 |
| 3” | 8 | 6” | 2-5/8” | 8 | 290A364 |
| 3-1/2” | 8 | 6-1/2” | 2-11/16” | 8 | 290A432 |
| 4” | 8 | 6-3/4” | 2-3/4” | 8 | 290A464 |

## *2900E SERIES*

**HIGH SPEED STEEL**

**Through or Blind Hole**

**Fractional / Bright**

2900E

| Size | TPI | Overall Length | Length of Thread | No. of Flutes | 2900E Order No. |
|---|---|---|---|---|---|
| 1/16” | 27 | 2-1/8” | 11/16” | 4 | 290E104 |
| 1/8” | 27 | 2-1/8” | 3/4” | 4 | 290E108 |
| 1/4” | 18 | 2-7/16” | 1-1/16” | 4 | 290E116 |
| 3/8” | 18 | 2-9/16” | 1-1/16” | 4 | 290E124 |
| 1/2” | 14 | 3-1/8” | 1-3/8” | 4 | 290E132 |
| 3/4” | 14 | 3-1/4” | 1-3/8” | 5 | 290E148 |
| 1” | 11-1/2 | 3-3/4” | 1-3/4” | 5 | 290E164 |
| 1-1/4” | 11-1/2 | 4” | 1-3/4” | 5 | 290E216 |
| 1-1/2” | 11-1/2 | 4-1/4” | 1-3/4” | 7 | 290E232 |
| 2” | 11-1/2 | 4-1/2” | 1-3/4” | 7 | 290E264 |
| 2-1/2” | 8 | 5-1/2” | 2-9/16” | 8 | 290E332 |
| 3” | 8 | 6” | 2-5/8” | 8 | 290E364 |
| 3-1/2” | 8 | 6-1/2” | 2-11/16” | 8 | 290E432 |
| 4” | 8 | 6-3/4” | 2-3/4” | 8 | 290E464 |

# TAPER PIPE TAPS (NPT)

## *2700E SERIES*

**CARBON**

**Through or Blind Hole**

**Fractional / Bright**

2700E

| Size | TPI | Overall Length | 2700E Order No. |
|---|---|---|---|
| 1/16” | 27 | 2-1/8” | 2700E104 |
| 1/8” | 27 | 2-1/8” | 2700E108 |
| 1/4” | 18 | 2-7/16” | 2700E116 |
| 3/8” | 18 | 2-9/16” | 2700E124 |
| 1/2” | 14 | 3-1/8” | 2700E132 |
| 3/4” | 14 | 3-1/4” | 2700E148 |
| 1” | 11-1/2 | 3-3/4” | 2700E164 |
| 1-1/4” | 11-1/2 | 4” | 2700E216 |
| 1-1/2” | 11-1/2 | 4-1/4” | 2700E232 |
| 2” | 11-1/2 | 4-1/2” | 2700E264 |

# TAPER PIPE TAPS (NPT)

## *02C SERIES*

**CARBON**

### Through or Blind Hole
### Fractional / Bright

Made from tough carbon alloy tool steel to cut new threads or repair damaged threads in pipe fittings. For use in steel and non-ferrous metals.

▷ ***Packaged in reusable plastic packaging***

| Nominal Size Inch | Thread per inch | Drill Size | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| 1/16” | 27 | D | 02C010 | 1 | 10 |
| 1/8” | 27 | 11/32” | 02C020 | 1 | 10 |
| 1/4” | 18 | 7/16” | 02C040 | 1 | 10 |
| 3/8” | 18 | 37/64” | 02C060 | 1 | 10 |
| 1/2” | 14 | 45/64” | 02C080 | 1 | 10 |
| 3/4” | 14 | 59/64” | 02C120 | 1 | 10 |
| 1” | 11 1/2 | 1 5/32” | 02C160 | 1 | 10 |
| 1 1/4” | 11 1/2 | 1 1/2” | 02C200 | 1 | 10 |
| 1 1/2” | 11 1/2 | 1 47/64” | 02C240 | 1 | 10 |
| 2” | 11 1/2 | 2 7/32” | 02C320 | 1 | 10 |

| Corresponding Sets | |
|---|---|
| **Taper Pipe Tap Set** | |
| **Description** | **Order No.** |
| Contains one of each of the following NPT taps: 1/8”: 02C020, 1/4”: 02C040, 3/8”: 02C060, 1/2”: 02C080 | 02C500 |

## *Tech tip!*

*For increased cutting efficiency and tool life, use TAPCUT™ lubricant*

# PIPE TAPS, INTERRUPTED THREAD, & NPS

The Interrupted Thread Pipe Taps have every other thread removed except for the first few at the point. They are used for tapping tough metals or those which have a tendency to load the tap teeth.
Straight Pipe Taps (NPS) are used for hand or machine tapping of straight pipe threads.

▷ ***All sizes are individually packaged***

## *2930 SERIES Interrupted Thread*

**HIGH SPEED STEEL**

**Through or Blind Hole**

**Fractional / Bright**

2930

| Size | TPI | Length of Thread | No. of Flutes | 2930 Order No. |
|---|---|---|---|---|
| 1/8” | 27 | 3/4” | 5 | 293A108 |
| 1/4” | 18 | 1-1/16” | 5 | 293A116 |
| 3/8” | 18 | 1-1/16” | 5 | 293A124 |
| 1/2” | 14 | 1-3/8” | 5 | 293A132 |
| 3/4” | 14 | 1-3/8” | 5 | 293A148 |
| 1” | 11-1/2 | 1-3/4” | 5 | 293A164 |
| 1-1/4” | 11-1/2 | 1-3/4” | 5 | 293A216 |
| 1-1/2” | 11-1/2 | 1-3/4” | 7 | 293A232 |
| 2” | 11-1/2 | 1-3/4” | 7 | 293A264 |

## *2950 SERIES Straight Pipe (NPS)*

**HIGH SPEED STEEL**

**Through or Blind Hole**

**Fractional / Bright**

2950

| Size | TPI | Length of Thread | No. of Flutes | 2950 Order No. |
|---|---|---|---|---|
| 1/8” | 27 | 3/4” | 4 | 295A108 |
| 1/4” | 18 | 1-1/16” | 4 | 295A116 |
| 3/8” | 18 | 1-1/16” | 4 | 295A124 |
| 1/2” | 14 | 1-3/8” | 4 | 295A132 |
| 3/4” | 14 | 1-3/8” | 5 | 295A148 |
| 1” | 11-1/2 | 1-3/4” | 5 | 295A164 |

# SPECIAL PURPOSE TAPS

MADE IN THE USA DRILLCO CUTTING TOOLS

## LEFT HAND TAPS

Left hand taps are used just like normal hand taps except they are rotated counterclockwise to cut left-handed threads in the workpiece. They are for general use in production tapping or hand operations in a wide range of application material groups.

- *Taper – 7-10 pitch chamfer length. Starts the thread square with the workpiece*
- *Plug – 3-5 pitch chamfer length. Generally used in through holes*
- *Bottoming – 1-2 pitch chamfer length. Generates the thread to the bottom*

### *2300 SERIES*

**SPECIAL PURPOSE HIGH SPEED STEEL**

**Taper, Plug, & Bottoming / Through or Blind Hole**
**Machine Screw & Fractional / Bright**

2300

| Size | NC | NF | Overall Length | No. of Flutes | Pitch Dia. Limits | 2300 Order No. | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Taper | Plug | Bottoming |
| 6 | 32 | – | 2” | 4 | H3 | 23A006CT | 23A006CP | 23A006CB |
| 8 | 32 | – | 2-1/8” | 4 | H3 | 23A008CT | 23A008CP | 23A008CB |
| 10 | 24 | – | 2-3/8” | 4 | H3 | 23A010CT | 23A010CP | 23A010CB |
| 10 | – | 32 | 2-3/8” | 4 | H3 | 23A010FT | 23A010FP | 23A010FB |
| 1/4” | 20 | – | 2-1/2” | 4 | H3 | 23A116CT | 23A116CP | 23A116CB |
| 1/4” | – | 28 | 2-1/2” | 4 | H3 | 23A116FT | 23A116FP | 23A116FB |
| 5/16” | 18 | – | 2-23/32” | 4 | H3 | 23A120CT | 23A120CP | 23A120CB |
| 5/16” | – | 24 | 2-23/32” | 4 | H3 | 23A120FT | 23A120FP | 23A120FB |
| 3/8” | 16 | – | 2-5/16” | 4 | H3 | 23A124CT | 23A124CP | 23A124CB |
| 3/8” | – | 24 | 2-5/16” | 4 | H3 | 23A124FT | 23A124FP | 23A124FB |
| 7/16” | 14 | – | 3-5/32” | 4 | H3 | 23A128CT | 23A128CP | 23A128CB |
| 7/16” | – | 20 | 3-5/32” | 4 | H3 | 23A128FT | 23A128FP | 23A128FB |
| 1/2” | 13 | – | 3-3/8” | 4 | H3 | 23A132CT | 23A132CP | 23A132CB |
| 1/2” | – | 20 | 3-3/8” | 4 | H3 | 23A132FT | 23A132FP | 23A132FB |
| 9/16” | 12 | – | 3-19/32” | 4 | H3 | 23A136CT | 23A136CP | 23A136CB |
| 9/16” | – | 18 | 3-19/32” | 4 | H3 | 23A136FT | 23A136FP | 23A136FB |
| 5/8” | 11 | – | 3-3/16” | 4 | H3 | 23A140CT | 23A140CP | 23A140CB |
| 5/8” | – | 18 | 3-3/16” | 4 | H3 | 23A140FT | 23A140FP | 23A140FB |
| 3/4” | 10 | – | 4-1/4” | 4 | H3 | 23A148CT | 23A148CP | 23A148CB |
| 3/4” | – | 16 | 4-1/4” | 4 | H3 | 23A148FT | 23A148FP | 23A148FB |
| 7/8” | 9 | – | 4-11/16” | 4 | H4 | 23A156CT | 23A156CP | 23A156CB |
| 7/8” | – | 14 | 4-11/16” | 4 | H4 | 23A156FT | 23A156FP | 23A156FB |
| 1” | 8 | – | 5-1/8” | 4 | H4 | 23A164CT | 23A164CP | 23A164CB |
| 1” | – | 12 | 5-1/8” | 4 | H4 | 23A164FT | 23A164FP | 23A164FB |
| 1” | – | 14 | 5-1/8” | 4 | H4 | 23A164ST | 23A164SP | 23A164SB |
| 1-1/8” | 7 | – | 5-7/16” | 4 | H4 | 23A208CT | 23A208CP | 23A208CB |
| 1-1/8” | – | 12 | 5-7/16” | 4 | H4 | 23A208FT | 23A208FP | 23A208FB |
| 1-1/4” | 7 | – | 5-3/4” | 4 | H4 | 23A216CT | 23A216CP | 23A216CB |
| 1-1/4” | – | 12 | 5-3/4” | 6 | H4 | 23A216FT | 23A216FP | 23A216FB |
| 1-3/8” | 6 | – | 6” | 4 | H4 | 23A224CT | 23A224CP | 23A224CB |
| 1-3/8” | – | 12 | 6” | 6 | H4 | 23A224FT | 23A224FP | 23A224FB |
| 1-1/2” | 6 | – | 6-1/4” | 4 | H4 | 23A232CT | 23A232CP | 23A232CB |
| 1-1/2” | – | 12 | 6-1/4” | 6 | H4 | 23A232FT | 23A232FP | 23A232FB |

All sizes are individually packaged

# SPECIAL PURPOSE 8-PITCH HAND TAPS

8-pitch hand taps are mainly used in oil field, gas exploration equipment, and power generation plants. They are of a larger diameter, with standard sizes up to 4".

- ***Taper – 7-10 pitch chamfer length. Starts the thread square with the workpiece***
- ***Plug – 3-5 pitch chamfer length. Generally used in through holes***
- ***Bottoming – 1-2 pitch chamfer length. Generates the thread to the bottom***
- ***All sizes are individually packaged***

## *2500 SERIES*

**SPECIAL PURPOSE HIGH SPEED STEEL**

**Taper, Plug, & Bottoming / Through or Blind Hole**
**Fractional / Bright**

2500

| Size | NS | No. of Flutes | 2500 Order No. | | |
|---|---|---|---|---|---|
| | | | Taper | Plug | Bottoming |
| 1-1/8" | 8 | 4 | 25A208T | 25A208P | 25A208B |
| 1-1/4" | 8 | 4 | 25A216T | 25A216P | 25A216B |
| 1-3/8" | 8 | 4 | 25A224T | 25A224P | 25A224B |
| 1-1/2" | 8 | 4 | 25A232T | 25A232P | 25A232B |
| 1-5/8" | 8 | 6 | 25A240T | 25A240P | 25A240B |
| 1-3/4" | 8 | 6 | 25A248T | 25A248P | 25A248B |
| 1-7/8" | 8 | 6 | 25A256T | 25A256P | 25A256B |
| 2" | 8 | 6 | 25A264T | 25A264P | 25A264B |
| 2-1/8" | 8 | 6 | 25A308T | 25A308P | 25A308B |
| 2-1/4" | 8 | 6 | 25A316T | 25A316P | 25A316B |
| 2-3/8" | 8 | 6 | 25A324T | 25A324P | 25A324B |
| 2-1/2" | 8 | 6 | 25A332T | 25A332P | 25A332B |
| 2-5/8" | 8 | 6 | 25A340T | 25A340P | 25A340B |
| 2-3/4" | 8 | 6 | 25A348T | 25A348P | 25A348B |
| 2-7/8" | 8 | 6 | 25A356T | 25A356P | 25A356B |
| 3" | 8 | 6 | 25A364T | 25A364P | 25A364B |
| 3-1/4" | 8 | 6 | 25A416T | 25A416P | 25A416B |
| 3-1/2" | 8 | 6 | 25A432T | 25A432P | 25A432B |
| 3-3/4" | 8 | 6 | 25A448T | 25A448P | 25A448B |
| 4" | 8 | 8 | 25A464T | 25A464P | 25A464B |

# SPECIAL PURPOSE HAND TAPS, SCREW THREAD INSERT (STI)

Screw Thread Insert (STI) taps are dimensionally oversize and utilize a larger tap drill size so that thread they produce will accommodate a helical screw thread insert.

▷ *All sizes are individually packaged*

## *2020 SERIES*

### Plug & Bottoming / Through or Blind Hole
### Machine Screw & Fractional / Bright

2020

| Size | NC | NF | No. of Flutes | 2020 Order No. | |
|---|---|---|---|---|---|
| | | | | Plug | Bottoming |
| 4 | 40 | – | 3 | 202A004CP | 202A004CB |
| 6 | 32 | – | 3 | 202A006CP | 202A006CB |
| 8 | 32 | – | 3 | 202A008CP | 202A008CB |
| 10 | 24 | – | 3 | 202A010CP | 202A010CB |
| 10 | – | 32 | 3 | 202A010FP | 202A010FB |
| 1/4” | 20 | – | 3 | 202A116CP | 202A116CB |
| 1/4” | – | 28 | 3 | 202A116FP | 202A116FB |
| 5/16” | 18 | – | 4 | 202A120CP | 202A120CB |
| 5/16” | – | 24 | 4 | 202A120FP | 202A120FB |
| 3/8” | 16 | – | 4 | 202A124CP | 202A124CB |
| 3/8” | – | 24 | 4 | 202A124FP | 202A124FB |
| 1/2” | 13 | – | 4 | 202A132CP | 202A132CB |
| 1/2” | – | 20 | 4 | 202A132FP | 202A132FB |

# SPECIAL PURPOSE HAND TAPS, PULLEY STYLE

Pulley taps are used for tapping the hubs of pulleys for oil caps or set screws. The long shank is also ideal for reaching holes inaccessible with standard length taps. The thread length is the same length as a standard tap.

▷ *All sizes are individually packaged*

## *2400 SERIES*

### Plug / Through or Blind Hole
### Fractional / Bright & Black

2400

| Size | NC | Flute Length | Overall Length | 2400 Order No. |
|---|---|---|---|---|
| | | | | Plug |
| 1/4” | 20 | 1” | 6” | 24A116C6 |
| 1/4” | 20 | 1” | 8” | 24A116C8 |
| 5/16” | 18 | 1-1/8” | 6” | 24A120C6 |
| 5/16” | 18 | 1-1/8” | 8” | 24A120C8 |
| 3/8” | 16 | 1-1/4” | 10” | 24A124C10 |
| 3/8” | 16 | 1-1/4” | 6” | 24A124C6 |
| 3/8” | 16 | 1-1/4” | 8” | 24A124C8 |
| 7/16” | 14 | 1-7/16” | 6” | 24A128C6 |
| 7/16” | 14 | 1-7/16” | 8” | 24A128C8 |
| 1/2” | 13 | 1-21/32” | 10” | 24A132C10 |
| 1/2” | 13 | 1-21/32” | 12” | 24A132C12 |
| 1/2” | 13 | 1-21/32” | 6” | 24A132C6 |
| 1/2” | 13 | 1-21/32” | 8” | 24A132C8 |
| 5/8” | 11 | 1-13/16” | 10” | 24A140C10 |
| 5/8” | 11 | 1-13/16” | 12” | 24A140C12 |
| 5/8” | 11 | 1-13/16” | 6” | 24A140C6 |
| 5/8” | 11 | 1-13/16” | 8” | 24A140C8 |
| 3/4” | 10 | 2” | 10” | 24A148C10 |
| 3/4” | 10 | 2” | 12” | 24A148C12 |

# HAND TAPS, 6” EXTENSION

The long shank is ideal for reaching holes inaccessible with standard length taps.
The thread length is the same length as a standard tap.

▷ *All sizes are individually packaged*

## *2060 SERIES*

### Plug & Bottoming / Through or Blind Hole
### Machine Screw & Fractional / Bright & Black

2060

| Size | NC | NF | No. of Flutes | 2060 Order No. | |
|---|---|---|---|---|---|
| | | | | Plug | Bottoming |
| 6 | 32 | – | 3 | 206A006CP | 206A006CB |
| 8 | 32 | – | 4 | 206A008CP | 206A008CB |
| 10 | 24 | – | 4 | 206A010CP | 206A010CB |
| 10 | – | 32 | 4 | 206A010FP | 206A010FB |
| 1/4” | 20 | – | 4 | 206A116CP | 206A116CB |
| * 1/4” | 20 | – | 4 | 206A116SP | – |
| 1/4” | – | 28 | 4 | 206A116FP | 206A116FB |
| 5/16” | 18 | – | 4 | 206A120CP | 206A120CB |
| * 5/16” | 18 | – | 4 | 206A120SP | – |
| 5/16” | – | 24 | 4 | 206A120FP | 206A120FB |
| 3/8” | 16 | – | 4 | 206A124CP | 206A124CB |
| * 3/8” | 16 | – | 4 | 206A124SP | – |
| 3/8” | – | 24 | 4 | 206A124FP | 206A124FB |
| 7/16” | 14 | – | 4 | 206A128CP | 206A128CB |
| 7/16” | – | 20 | 4 | 206A128FP | 206A128FB |
| 1/2” | 13 | – | 4 | 206A132CP | 206A132CB |
| 1/2” | – | 20 | 4 | 206A132FP | – |

# SPECIAL PURPOSE COMBINED TAP AND DRILL

Drills and Taps in a single pass, reducing cycle time, and therefore reducing the manufacturing cost of a part. Self-centering point eliminates the need for center drilling or center punching. The drill part of the tool produces a hole correctly sized for approximately 75% of the thread. Can be used in a handheld power tool or a fixed spindle machine tool.

- *Electrical Contractors*
- *Maintenance Depts.*
- *Utility Crews*
- *Mechanics*
- *Installation Crews*

## *2050 SERIES*

### Through or Blind Hole
### Machine Screw & Fractional / Bright

205A6

| No. of Pcs. | Description | Order No. |
|---|---|---|
| 2050 Series Combined Tap and Drill Sets | | |
| 6 | 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20 | 205A6 |

2050

| Size | NC | NF | Length of Thread | 2050 Order No. |
|---|---|---|---|---|
| 4 | 40 | – | 9/16” | 205A004C |
| 4 | – | 48 | 9/16” | 205A004F |
| 5 | 40 | – | 5/8” | 205A005C |
| 5 | – | 44 | 5/8” | 205A005F |
| 6 | 32 | – | 11/16” | 205A006C |
| 6 | – | 40 | 11/16” | 205A006F |
| 8 | 32 | – | 3/4” | 205A008C |
| 8 | – | 36 | 3/4” | 205A008F |
| 10 | 24 | – | 7/8” | 205A010C |
| 10 | – | 32 | 7/8” | 205A010F |
| 12 | 24 | – | 7/8” | 205A012C |
| 12 | – | 28 | 7/8” | 205A012F |
| 1/4” | 20 | – | 15/16” | 205A116C |
| 1/4” | – | 28 | 15/16” | 205A116F |
| 5/16” | 18 | – | 1-1/8” | 205A120C |
| 5/16” | – | 24 | 1-1/8” | 205A120F |
| 3/8” | 16 | – | 1-1/4” | 205A124C |
| 3/8” | – | 24 | 1-1/4” | 205A124F |
| 7/16” | 14 | – | 1-7/16” | 205A128C |
| 7/16” | – | 20 | 1-7/16” | 205A128F |
| 1/2” | 13 | – | 1-21/32” | 205A132C |
| 1/2” | – | 20 | 1-21/32” | 205A132F |

# POWER TAPS AND DRILL BIT SETS

WALTER

03B952

03B953

03B954

| SST power taps and drill bit sets | |
|---|---|
| **Description** | **Order No.** |
| **Power taps:** 10-24 NC, 10-32 NF, 1/4”-20 NC, 5/16”-18 NC and 3/8”-16 NC **Drill bits:** #25, #21, #7, F and 5/16” | 03B952 |

| NC SST power taps and drill bit sets | |
|---|---|
| **Description** | **Order No.** |
| 6-32 NC, 8-32 NC, 10-24 NC, 12-24 NC 1/4”-20 NC, 5/16”-18 NC, 3/8”-16 NC, 7/16”-14 NC and 1/2”-13 NC **Drill bits:** #36, #29, #25, #16, #7, F, 5/16”, U and 27/64” | 03B953 |

| NF SST power taps and drill bit sets | |
|---|---|
| **Description** | **Order No.** |
| **Power taps:** 6-40 NF, 8-36 NF, 10-32 NF, 12-28 NF, 1/4”-28 NF, 5/16”-24 NF, 3/8”-24 NF, 7/16”-20 NF and 1/2”-20 NF **Drill bits:** #33, #29, #21, #15, #3, I, Q, 25/64” and 29/64” | 03B954 |

# TAP SETS / TAP & DRILL SETS

2000N10

400NC2018

| No. of Pieces | Brand | Material | Coating/Finishing | Includes | Order No. |
|---|---|---|---|---|---|
| **2000N & 2000 Series Hand Taps** | | | | | |
| 10 | Nitro® | High Speed Steel | Black Oxide | 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20" | 2000N10 |
| 10 | USA | High Speed Steel | Bright | 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20 | 2000A10 |
| **2100N & 2100 Series Spiral Point Tap Sets** | | | | | |
| 10 | Nitro® | High Speed Steel | Black Oxide | 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20 | 2100N10 |
| 10 | USA | High Speed Steel | Bright | 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20 | 2100A10 |
| **2000N & 2000 Series Tap & Drill Sets** | | | | | |
| 18 | Nitro® | High Speed Steel | Black Oxide | Taps: 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 w/ corresponding 400N series drills | 400NC2018 |
| 18 | Nitro® | High Speed Steel | Black Oxide | Taps: 6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20 w/ corresponding 400N series drills | 400NF2018 |
| 18 | USA | High Speed Steel | Bright | Taps: 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 w/ corresponding 200 series drills | 200C2018 |
| 18 | USA | High Speed Steel | Bright | Taps: 6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20 w/ corresponding 200 series drills | 200F2018 |
| **2800 Series Tap & Drill Sets** | | | | | |
| 18 | USA | High Speed Steel | Bright | Taps: M2.5, M3.0, M3.5, M4.0, M5.0, M6.0, M8.0, M10.0, M12.0 w/ corresponding 800 series drills | 800A2018 |

| Description | Sizes | Order No. |
|---|---|---|
| **Tap Dispensers (Empty)** | | |
| Fractional Tap Dispenser | 1/4" – 1" | 2000FDX |
| Metric Tap Dispenser | 3 mm - 24 mm | 2800DX |

| Pieces | Description | Order No. |
|---|---|---|
| **Tap Index Cases (Empty)** | | |
| 10 | TAP INDEX | 10TDX |
| 18 | UNC TAP & DRILL INDEX | 18CDX |
| 18 | UNF TAP & DRILL INDEX | 18FDX |
| 18 | METRIC TAP & DRILL INDEX | 18MDX |

# TAP WRENCHES

| Tap Capacity | Pipe Tap Capacity | Reamer Capacity | Overall Length | Order No. |
|---|---|---|---|---|
| **2000TW T-Handle Tap Wrenches** | | | | |
| #0 – 3/16” | – | – | – | 2000TW1 |
| #0 – 1/4” | – | – | – | 2000TW2 |
| #10 – 3/8” | – | – | – | 2000TW3 |
| 1/4” – 1/2” | – | – | – | 2000TW4 |
| **20000AW Tap & Reamer Wrenches** | | | | |
| 1/64” – 1/4” | – | 1/8” – 21/64” | 7” | 2000AW0 |
| 5/32” – 1/2” | 1/8” | 11/64” – 7/16” | 11” | 2000AW5 |
| 5/32” – 3/4” | 1/8” – 1/4” | 11/16” – 41/64” | 15” | 2000AW6 |
| 1/4” – 1-1/8” | 1/8” – 3/4” | 9/32” – 29/32” | 19” | 2000AW7 |
| 1/2” – 1-3/8” | 1/8” – 1” | 3/8” – 1.5/32” | 31” | 2000AW7A |
| 3/4” – 1-5/8” | 3/8” – 1-1/4” | 37/64” – 1-11/32” | 40” | 2000AW8 |

2000AW

2000TW

Premium quality tool stock, all jaws and set screws are hardened and tempered for optimum tool life.

WALTER

▷ ***Packaged in reusable plastic packaging***

| Adjustable Tap Wrenches | | | | |
|---|---|---|---|---|
| No. | Capacity | Order No. | Std. Pkg. | Std. Ctn. |
| 1 | 1/16” – 1/4” | 02W010 | 1 | 10 |
| 1 1/2 | 3/16” – 1/2” | 02W015 | 1 | 10 |
| 3 | 1/4” – 3/4” | 02W030 | 1 | 10 |
| 4 | 3/8” – 1” | 02W040 | 1 | 10 |

| T-Handle Tap Wrench With 3-Position Ratchet | | | | |
|---|---|---|---|---|
| No. | Capacity | Order No. | Std. Pkg. | Std. Ctn. |
| 1-T | 6/32 to 1/4” | 02W100 | 1 | 10 |
| 2-T | 1/4” to 1/2” | 02W200 | 1 | 10 |

# TECHNICAL INFORMATION

## COMMON TAPPING TERMS

### Angle of Thread
The angle included between the flanks of the thread measured in an axial plane

### Back Taper
A slight axial relief on the thread of the tap which makes the pitch diameter of the thread near the shank somewhat smaller than that of the chamfered end

### Bottoming Chamfer
The shortest chamfer (1-2 threads long) for threading close to the bottom of blind holes

### Chamfer
The tapering of the threads at the front end of each land of a tap, by cutting away and relieving the crest of the first few teeth, to distribute the cutting action over several teeth

### Chamfer Relief
The gradual decrease in land height from cutting edge to heel on the chamfered portion, to provide clearance for the cutting action as the tap advances

### Chordal Hook Angle
The angle between the chord passing through the root and crest of a thread form at the cutting face, and a radial line through the crest at the cutting edge

### Crest
The top surface joining the two flanks of a thread. The crest of an external thread is at its major diameter, while the crest of an internal thread is at its minor diameter

### Cutting Face
The leading side of the land in the direction of rotation for cutting on which the chip impinges

### Flutes
The longitudinal channels formed in a tap to create cutting edges on the thread profile, and to provide chip spaces and cutting fluid passages

### Height of Thread
The distance between the crest and the base of a thread measured normal to the axis

### Lead
The distance a screw thread advances axially in one complete turn. On a single lead screw or tap, the lead and pitch are identical. On a double-lead screw or tap, the lead is twice the pitch, etc.

### Pitch
The distance from any point on a screw or tap thread to a corresponding point on the next thread, measured parallel to the axis. The pitch equals one divided by the number of threads per inch

### Pitch Diameter
On a straight thread, the diameter of any imaginary coaxial cylinder, the surface of which would pass through the thread profile at such points as to make equal the width of the threads and the width of the spaces cut by the surface of the cylinder
On a taper thread, the diameter at a given distance from a reference plane perpendicular to the axis of an imaginary co-axial cone, the surface of which would pass through the thread profile at such points as to make equal the width of the threads and the width of the spaces cut by the surface of the cone

### Plug Chamfer
The most common chamfer (3-5 threads long), for hand or machine tapping in through or blind holes

### Rake
Any deviation of a straight cutting face of the tooth from a radial line. **Positive Rake** means that the crest of the cutting face is angularly advanced ahead of the balance of the face of the tooth. **Negative Rake** means that the same point is angularly behind the balance of the cutting face of the tooth.
**Zero Rake** means that the cutting face is directly on the center line

### Spiral Point (Chip Driver)
A supplementary angular fluting cut in the cutting face of the land at the chamfer end. It is slightly longer than the chamfer on the tap, and of the opposite hand to that of rotation

### Taper Chamfer
A long chamfer (8-10 threads long) for easier starting and engagement in the workpiece. More working teeth means that less tapping torque is required, and the chip load is reduced on each tooth

### Threads Per Inch
The number of threads in one inch of length

# TECHNICAL INFORMATION
# TAP TROUBLESHOOTING GUIDE

| Trouble | Possible Causes | Corrections |
|---|---|---|
| Oversize Pitch Diameter | Incorrect tap | Use correct "H" limit<br>Use longer chamfered tap |
| | Chip packing | Use spiral pointed tap<br>Use larger drill size<br>Shorten length of thread in blind holes |
| | Galling | Reduce tapping speed<br>Use lubricants |
| Torn or Rough Threads | Dull tap | Resharpen or replace |
| | Chamfer too short | Increase chamfer length |
| | Galling | Use lubricant<br>Reduce speed<br>Use larger drill |
| Breakage | Incorrect tap selection | Increase chamfer length<br>Use spiral pointed taps in through holes<br>Tapping too deep |
| | Excessive tapping torque | Increase hole size<br>Shorten thread length<br>Increase chamfer length |
| | Operating conditions | Reduce tapping speed<br>Avoid bottoming out the tap |
| Chipping | Incorrect tap selection | Increase chamfer length<br>Avoid chip packing in flutes |
| | Operating conditions | Reduce tapping speed<br>Use larger drill<br>Ensure adequate lubricant |
| Excessive Wear | Incorrect tap selection | Increase chamfer length |
| | Operating conditions | Reduce tapping speed<br>Ensure adequate lubricant<br>Use larger drill |

# TECHNICAL INFORMATION
# TAP DRILL SIZES – CUT TAPS

## Regular Taps

| Tap Size | Drill Size | Probable % Thread | Tap Size | Drill Size | Probable % Thread | Tap Size | Drill Size | Probable % Thread |
|---|---|---|---|---|---|---|---|---|
| **0-80** | 3/64” | 71-81 | **10-32** | #21 | 68-76 | **5/8-18** | 37/64” | 58-65 |
| **M1.6-.35** | 1.25 MM | 69-77 | **M5 x .8** | 4.2 MM | 69-77 | **M16 x 2** | 35/64” | 76-81 |
| **1-64** | #53 | 59-67 | **12-24** | #16 | 66-72 | **3/4-10** | 21/32” | 68-72 |
| **M2 x .4** | 1/16” | 72-79 | **12-28** | #15 | 70-78 | **3/4-16** | 11/16” | 71-77 |
| **1-72** | #53 | 67-75 | **M6 x 1** | #10 | 76-84 | **M20 x 2.5** | 11/16” | 74-78 |
| **2-56** | #50 | 62-69 | **1/4-20** | #7 | 70-75 | **7/8-9** | 49/64” | 72-76 |
| **2-64** | #50 | 70-79 | **1/4-28** | #3 | 72-80 | **7/8-14** | 13/16” | 62-67 |
| **M2 x .45** | 2.05 MM | 69-77 | **5/16-18** | F | 72-77 | **M24 x 3** | 53/64” | 72-76 |
| **3-48** | 5/64” | 70-77 | **5/16-24** | I | 67-75 | **1” -8** | 7/8” | 73-77 |
| **3-56** | #46 | 69-78 | **M8 x 1.25** | 6.7 MM | 74-80 | **1”- 12** | 59/64” | 67-72 |
| **4-40** | #43 | 65-71 | **3/8-16** | 5/16” | 72-77 | **1”- 14** | 15/16” | 61-67 |
| **4-48** | #42 | 61-68 | **3/8-24** | Q | 71-79 | **1-1/8”- 7** | 63/64” | 72-76 |
| **M3 x .5** | #40 | 70-79 | **M10 x 1.5** | 8.4 MM | 76-82 | **1-1/8-12** | 1-3/64” | 66-72 |
| **5-40** | #38 | 65-72 | **7/16-14** | U | 70-75 | **M30 x 3.5** | 1-3/64” | 75 |
| **5-44** | #37 | 63-71 | **7/16-20** | 25/64” | 65-72 | **1-1/4 - 7** | 1-7/64” | 76 |
| **M3.5 x .6** | #33 | 72-81 | **M12 x 1.7** | 13/32” | 69-74 | **1-1/4-12** | 1-11/64” | 72 |
| **6-32** | #36 | 71-78 | **1/2-13** | 27/64” | 73-78 | **1-3/8 - 6** | 1-7/32” | 72 |
| **6-40** | #33 | 69-77 | **1/2-20** | 29/64” | 65-72 | **1-3/8-12** | 1-19/64” | 72 |
| **M4 x .7** | 3.25 MM | 74-82 | **M14 x 2** | 15/32” | 76-81 | **M36 x 4** | 1-1/4” | 82 |
| **8-32** | #29 | 62-69 | **9/16-12** | 31/64” | 68-72 | **1-1/2 - 6** | 1-11/32” | 72 |
| **8-36** | #29 | 70-78 | **9/16-18** | 33/64” | 58-65 | **1-1/2-12** | 1-27/64” | 72 |
| **10-24** | #25 | 69-75 | **5/8-11** | 17/32” | 75-79 | **–** | – | – |

## STI Taps

| Tap Size | Drill Size Aluminium | Drill Size Steel, Magnesium, Plastic |
|---|---|---|
| 2-56 | 3/32 | 41 |
| 3-48 | 36 | 7-64 |
| 3-56 | 37 | 36 |
| 4-40 | 31 | 31 |
| 4-48 | 3.0 mm | 31 |
| 5-40 | 3.4 mm | 29 |
| 6-32 | 26 | 25 |
| 6-40 | 26 | 25 |
| 8-32 | 17 | 16 |
| 8-36 | 17 | 16 |
| 10-24 | 13/64 | 5 |
| 10-32 | 7 | 13/64 |
| 12-24 | 1 | 1 |
| 1/4-20 | H | H |
| 1/4-28 | G | 6.7 mm |
| 5/16-18 | Q | Q |
| 5/16-24 | 21/64 | 21/64 |
| 3/8-16 | X | X |
| 3/8-24 | 25/64 | 25/64 |
| 7/16-14 | 29/64 | 29/64 |
| 7/16-20 | 29/64 | 29/64 |
| 1/2-13 | 33/64 | 17/32 |
| 1/2-20 | 29/64 | 29/64 |
| 9/16-12 | 37/64 | 19/32 |
| 9/16-18 | 37/64 | 37/64 |
| 5/8-11 | 21/32 | 21/32 |
| 5/8-18 | 41/64 | 41/64 |
| 3/4-10 | 25/32 | 25/32 |
| 3/4-16 | 49/64 | 49/64 |
| 7/8-9 | 29/32 | 29/32 |
| 7/8-14 | 57/64 | 57/64 |
| 1-8 | 1-1/32 | 1-1/32 |
| 1-12 | 1-1/64 | 1-1/64 |

## Pipe Taps

| Tap Size | Taperpipe NPF & NPTF | Decimal Equivalent | Straight Pipe NPS | Decimal Equivalent |
|---|---|---|---|---|
| 1/8-27 | Q | .3320 | 11/32 | .3438 |
| 1/4-18 | 7/16 | .4375 | 7/16 | .7375 |
| 3/8-18 | 9/16 | .5625 | 37/64 | .5781 |
| 1/2-14 | 45/64 | .7031 | 23/32 | .7188 |
| 3/4-14 | 29/32 | .9062 | 59/64 | .9219 |
| 1”- 11-1/2 | 1-9/64 | 1.1406 | 1-5/32 | 1.1562 |
| 1-1/4”- 11-1/2 | 1-31/64 | 1.4844 | 1-1/2 | 1.5000 |
| 1-1/2”- 11-1/2 | 1-23/32 | 1.7188 | 1-3/4 | 1.7500 |
| 2”- 11-1/2 | 2-3/16 | 2.1875 | 2-7/32 | 2.2188 |
| 2-1/2”- 8 | 2-39/64 | 2.6094 | 2-21/32 | 2.6562 |
| 3”- 8 | 3-15/64 | 3.2344 | 3.2344 | 33/64 |

# TECHNICAL INFORMATION
# TAP DRILL SIZES – THREAD FORMERS

**Note:** Recommended thread percentage for various (Inch standard) tap sizes is shown in the "60% Thread" columns below. This is also the average percentage that is desirable for metric sizes. Use the "Probable Percent of Thread" column in the "Metric Sizes" tables below.

## Machine Screw Sizes

| Tap Size | 75% Thread | | 70% Thread | | 65% Thread | | 60%Thread | | 55% Thread | | 50% Thread | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size |
| **0-80** | 0.0536 | 1.35 mm | 0.0540 | 1.35 mm | 0.0545 | – | 0.0549 | 54 | 0.0554 | 54 | 0.0558 | 1.0 mm |
| **1-64** | 0.0650 | 1.65 mm | 0.0655 | 1.65 mm | 0.0661 | – | 0.0666 | – | 0.0672 | 51 | 0.0677 | 51 |
| **1-72** | 0.0659 | 1.65 mm | 0.0663 | – | 0.0669 | 1.7 mm | 0.0673 | 51 | 0.0679 | 51 | 0.0683 | – |
| **2-56** | 0.0769 | 1.65 mm | 0.0774 | 1.95 mm | 0.0669 | 23498 | 0.0787 | 47 | 0.0794 | 2.0 mm | 0.0799 | – |
| **2-64** | 0.0780 | 5/64 | 0.0785 | 47 | 0.0791 | 2.0 mm | 0.0796 | 2.0 mm | 0.0802 | – | 0.0807 | 2.05 mm |
| **3-48** | 0.0884 | 2.25 mm | 0.0890 | 43 | 0.0898 | 43 | 0.0905 | 2.3 mm | 0.0913 | 2.3 mm | 0.0919 | – |
| **3-56** | 0.0899 | 43 | 0.0904 | – | 0.0911 | 2.3 mm | 0.0917 | 2.8 mm | 0.0924 | 2.35 mm | 0.0929 | 2.35 mm |
| **4-40** | 0.0993 | 2.5 mm | 0.1000 | 39 | 0.1010 | 39 | 0.1018 | 38 | 0.1028 | 2.6 mm | 0.1035 | 2.6 mm |
| **4-48** | 0.1014 | 38 | 0.1020 | 38 | 0.1028 | 2.6 mm | 0.1035 | 2.6 mm | 0.1043 | 37 | 0.1049 | 37 |
| **5-40** | 0.1123 | 34 | 0.1130 | 33 | 0.1140 | 33 | 0.1148 | 2.9 mm | 0.1158 | 32 | 0.1165 | 32 |
| **5-44** | 0.1134 | 33 | 0.1130 | 2.9 mm | 0.1150 | 2.9 mm | 0.1157 | – | 0.1166 | 32 | 0.1173 | 32 |
| **6-32** | 0.1221 | 3.1mm | 0.1230 | 3.1 mm | 0.1243 | – | 0.1252 | 40916 | 0.1264 | 3.2 mm | 0.1274 | – |
| **6-40** | 0.1253 | 1/8 | 0.1260 | 3.2 mm | 0.1270 | 2.9 mm | 0.1278 | 3.25 mm | 0.1288 | 30 | 0.1295 | 30 |
| **8-32** | 0.1481 | 3.75 mm | 0.1490 | – | 0.1503 | 25 | 0.1512 | 3.8 mm | 0.1524 | 24 | 0.1534 | 3.9 mm |
| **8-36** | 0.1498 | 25 | 0.1507 | 3.8 mm | 0.1518 | 25 | 0.1526 | 24 | 0.1537 | 3.9 mm | 0.1546 | 23 |
| **10-24** | 0.1688 | – | 0.1507 | 18 | 0.1717 | 23682 | 0.1729 | 23682 | 0.1746 | – | 0.1758 | – |
| **10-32** | 0.1741 | 17 | 0.1750 | – | 0.1763 | – | 0.1772 | 16 | 0.1784 | 4.5 mm | 0.1794 | – |
| **12-24** | 0.1948 | 10 | 0.1960 | 9 | 0.1977 | 5.0 mm | 0.1989 | 8 | 0.2006 | 5.1 mm | 0.2018 | 7 |
| **12-28** | 0.1978 | 5.0 mm | 0.1989 | 8 | 0.2003 | 8 | 0.1989 | 7 | 0.2028 | – | 0.2039 | 13/16 |

## Fractional Sizes

| Tap Size | 75% Thread | | 70% Thread | | 65% Thread | | 60% Thread | | 55% Thread | | 50% Thread | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size | Theor. Hole Size | Nearest Drill Size |
| **1/4-20** | .2245 | 5.7 mm | .2260 | – | .2280 | 1 | .2295 | 1 | .2315 | – | .2330 | 5.9 mm |
| **1/4-28** | .2318 | – | .2329 | 5.9 mm | .2343 | A | .2354 | 15/64 | .2368 | 6.0 mm | .2379 | B |
| **5/16-18** | 0.2842 | 7.2 mm | .2861 | 7.25 mm | .2879 | 7.3 mm | .2898 | L | .2917 | 7.4 mm | .2936 | – |
| **5/16-24** | 0.2912 | 7.4 mm | .2927 | – | .2941 | M | .2955 | 7.5 mm | .2969 | 19/64 | .2983 | 7.6 mm |
| **3/8-16** | .3431 | 11/32 | .3452 | 8.75 mm | .3474 | S | .3495 | 8.9 mm | .3516 | – | .3537 | 9.0 mm |
| **3/8-24** | .3537 | 9.0 mm | .3552 | 9.0 mm | .3566 | – | .3580 | T | .3594 | 23/64 | .3608 | – |
| **7/16-14** | .4011 | – | .4035 | Y | .4059 | 13/32 | .4084 | – | .4108 | – | .4132 | Z |
| **7/16-20** | 0.4120 | Z | .4137 | 10.5 mm | .4154 | – | .4171 | – | .4188 | – | .4205 | – |
| **1/2-13** | .4608 | – | .4634 | – | .4660 | – | .4686 | 15/32 | .4712 | 12 mm | .4738 | 12 mm |
| **1/2-20** | .4745 | – | .4762 | – | .4779 | – | .4796 | – | .4803 | – | .4830 | 31/64 |

## Metric Sizes

| Metric Tap Size | Tap Drill Size | Decimal Equiv. of Tap Drill (inches) | Theoretical Percentage of thread % | Probable Mean Oversize (inches) | Probable Hole Size (inches) | Probable Percent of Thread % |
|---|---|---|---|---|---|---|
| **M3 x 0.5** | 36 | 0.1065 | 86 | .0026 | .1091 | 67 |
| **–** | 2.7 mm | 0.1062 | 88 | .0026 | .1088 | 70 |
| **M4 x 0.7** | 27 | 0.1440 | 72 | .0032 | .1472 | 54 |
| **–** | 3.6 mm | .1417 | 84 | .0032 | .1449 | 67 |
| **–** | 9/64 | .1406 | 90 | .0032 | .1438 | 73 |
| **M5 x 0.8** | 14 | 0.1820 | 69 | .0035 | .1855 | 53 |
| **–** | 4.6 mm | .1811 | 74 | .0035 | .1846 | 57 |
| **–** | 15 | .1800 | 79 | .0035 | .1835 | 62 |
| **–** | 16 | 0.1770 | 92 | .0035 | .1805 | 76 |
| **M6 x 1** | 7/32 | .2188 | 65 | .0038 | .2226 | 51 |
| **–** | 5.4 mm | .2126 | 88 | .0038 | .2164 | 74 |

| Metric Tap Size | Tap Drill Size | Decimal Equiv. of Tap Drill (inches) | Theoretical Percentage of thread % | Probable Mean Oversize (inches) | Probable Hole Size (inches) | Probable Percent of Thread % |
|---|---|---|---|---|---|---|
| **M8 x 1.25** | 7.4 mm | 0.2910 | 71 | .0042 | .2952 | 59 |
| **–** | L | 0.2900 | 75 | .0042 | .2942 | 62 |
| **–** | 7.3 mm | .2874 | 82 | .0042 | .2916 | 70 |
| **M10 x 1.5** | U | 0.3680 | 64 | .0046 | .3726 | 53 |
| **–** | 9.3 mm | 0.3660 | 69 | .0046 | .3706 | 58 |
| **–** | 9.2 mm | 0.3620 | 78 | .0046 | .3666 | 67 |
| **–** | 23/64 | .3594 | 85 | .0046 | .3640 | 74 |
| **M12 x 1.5** | 11.3 mm | .4449 | 70 | .0047 | .4496 | 57 |
| **–** | 7/16 | .4375 | 86 | .0047 | .4422 | 75 |
| **M12 x 1.75** | 7/16 | .4375 | 75 | .0047 | .4422 | 65 |
| **–** | 11 mm | .4331 | 84 | .0047 | .4378 | 73 |

# CUTTING DATA

NITRO-MAX™

## MATERIAL & SPEED RECOMMENDATIONS

Nitro®-Max can be used in a wide range of materials. CNC type equipment is recommended to achieve maximum performance of the taps.

### Conditions that effect SFM:

- ▷ *Rigidity of fixture*
- ▷ *Spindle runout*
- ▷ *Coolant flow*
- ▷ *Feed mechanism*

| Workpiece Material | 2150N (Sp.Pt) | 2160N (Sp.Fl) | 2250N (Sp.Pt) | 2260N (Sp.Fl) | 2270N (T.F) |
|---|---|---|---|---|---|
| | Speed (SFM) | Speed (SFM) | Speed (SFM) | Speed (SFM) | Speed (SFM) |
| A. Stainless Steel (Free Machining) | 25-50 | 25-50 | 50-80 | 40-70 | 60-100 |
| B. Carbon Steels | | | | | |
| Low Carbon | 50-80 | 40-70 | 50-80 | 30-60 | 80-120 |
| Medium Carbon | 30-60 | 20-50 | 30-60 | 15-40 | 60-90 |
| High Carbon | 10-30 | 10-20 | 10-30 | 10-20 | 20-50 |
| C. Non-Ferrous Materials | | | | | |
| Zinc Die Cast | 75-100 | 60-90 | 80-120 | 80-120 | 150-200 |
| | | 60-110 | 80-120 | 80-120 | 100-150 |
| Brass | 75-100 | 60-90 | 80-120 | 80-120 | 100-150 |
| Plastic | 40-80 | 40-80 | 60-100 | 60-100 | 80-120 |
| D. Aluminum Alloys | | | | | |
| Wrought | 75-100 | 60-90 | 80-120 | 80-120 | 150-200 |
| Cast | 60-100 | 60-100 | 80-120 | 80-120 | 120-180 |
| Unalloyed | 75-100 | 75-100 | 80-120 | 80-120 | 150-200 |

### Maximum cutting speeds for SST power taps - RPM

| Tap dia. | Mild steel | Stainless steel | Aluminum |
|---|---|---|---|
| #6 | 800 | 500 | 1600 |
| #8 | 670 | 400 | 1500 |
| #10 | 600 | 350 | 1400 |
| #12 | 550 | 300 | 1200 |
| 1/4” | 450 | 250 | 1000 |
| 5/16” | 370 | 200 | 850 |
| 3/8” | 300 | 150 | 700 |
| 7/16” | 260 | 120 | 600 |
| 1/2” | 230 | 100 | 500 |

# 03
# DIES

# QUICK PAGES REFERENCES

## THREADING DIES

DRILLCO CUTTING TOOLS

### Adjustable Round Split Dies
High Speed Steel

**Bright Finish**

| Series | Catalog page reference |
|---|---|
| 3000E | 393 |
| 3050E, 3100E | 394 |

### Hexagon Dies
High Speed Steel

**Bright Finish**

| Series | Catalog page reference |
|---|---|
| 3300E, 3350 | 395 |

### Hexagon Dies
Carbon

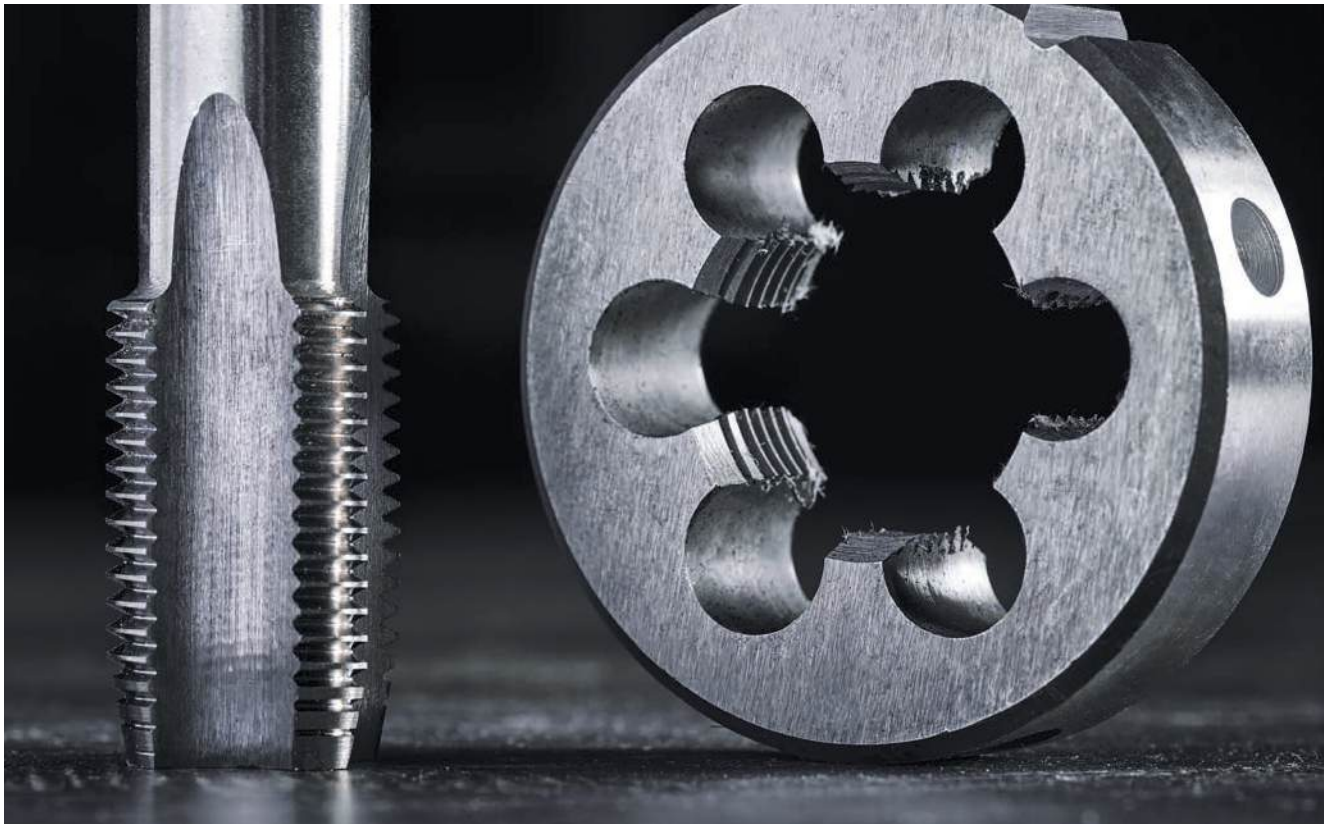
**Bright Finish**

| Series | Catalog page reference |
|---|---|
| 3350-E 8-Pitch, 3360E, 3380E | 3895, 396 |

### Die Stocks

**Bright Finish**
For use with round Adjustable Split Dies

| Series | Catalog page reference |
|---|---|
| 3000DS | 398 |



# ADJUSTABLE ROUND SPLIT DIES

The round split adjustable die may be adjusted through the screws on the holder. Adjustment on the open type is done by turning the three screws on the holder. A die holder or handle is needed for proper operation of round split adjustable dies.

- *Manufactured using a premium grade High Speed Steel material*
- *Bright Finish*
- *Cuts an external thread when held in a die stock*

## *3000E SERIES*

**HIGH SPEED STEEL**

**Machine Screw**

**Fractional / Bright**

3000E

| Size (Inches) | Outer Diameter (O.D.) | | | |
|---|---|---|---|---|
| | 13/16" Order No. | 1" Order No. | 1-1/2" Order No. | 2" Order No. |
| 0 - 80 | 30E000FA | – | – | – |
| 1 - 64 | 30E001CA | – | – | – |
| 1 - 72 | 30E001FA | – | – | – |
| 2 - 56 | 30E002CA | – | – | – |
| 2 - 64 | 30E002FA | – | – | – |
| 3 - 48 | 30E003CA | – | – | – |
| 3 - 56 | 30E003FA | – | – | – |
| 4 - 40 | 30E004CA | 30E004CB | – | – |
| 4 - 48 | 30E004FA | 30E004FB | – | – |
| 5 - 40 | 30E005CA | 30E005CB | – | – |
| 5 - 44 | 30E005FA | – | – | – |
| 6 - 32 | 30E006CA | 30E006CB | – | – |
| 6 - 40 | 30E006FA | 30E006FB | – | – |
| 8 - 32 | 30E008CA | 30E008CB | – | – |
| 8 - 36 | 30E008FA | 30E008FB | – | – |
| 10 -24 | 30E010CA | 30E010CB | – | – |
| 10 - 32 | 30E010FA | 30E010FB | – | – |
| 12 - 24 | 30E012CA | 30E012CB | – | – |
| 12 -28 | 30E012FA | 30E012FB | – | – |
| 1/4 - 20 | 30E116CA | 30E116CB | 30E116CC | 30E116CD |
| 1/4 - 28 | 30E116FA | 30E116FB | 30E116FC | 30E116FD |
| 5/16 - 18 | 30E120CA | 30E120CB | 30E120CC | 30E120CD |
| 5/16 - 24 | 30E120FA | 30E120FB | 30E120FC | 30E120FD |
| 3/8 - 16 | – | 30E124CB | 30E124CC | 30E124CD |
| 3/8 - 24 | – | 30E124FB | 30E124FC | 30E124FD |
| 7/16 - 14 | – | 30E128CB | 30E128CC | 30E128CD |
| 7/16 - 20 | – | 30E128FB | 30E128FC | 30E128FD |
| 1/2 - 13 | – | 30E132CB | 30E132CC | 30E132CD |
| 1/2 - 20 | – | 30E132FB | 30E132FC | 30E132FD |
| 9/16 - 12 | – | – | 30E136CC | 30E136CD |
| 9/16 - 18 | – | – | 30E136FC | 30E136FD |
| 5/8 - 11 | – | – | 30E140CC | 30E140CD |
| 5/8 - 18 | – | – | 30E140FC | 30E140FD |

| Size (Inches) | Outer Diameter (O.D.) | | | |
|---|---|---|---|---|
| | 1-1/2" Order No. | 2" Order No. | 2-1/2" Order No. | 3" Order No. |
| 3/4 - 10 | 30E148CC | 30E148CD | – | – |
| 3/4 - 16 | 30E148FC | 30E148FD | – | – |
| 7/8 - 9 | – | 30E156CD | – | – |
| 7/8 - 14 | – | 30E156FD | – | – |
| 1 - 8 | – | 30E164CD | – | 30E164CF |
| 1 - 12 | – | 30E164FD | – | – |
| 1 - 14 | – | 30E164SD | – | 30E164SF |
| 1-1/8 - 7 | – | – | 30E208CE | 30E208CF |
| 1-1/8 - 12 | – | – | 30E208FE | 30E208FF |
| 1-1/4 - 7 | – | – | 30E216CE | 30E216CF |
| 1-1/4 - 12 | – | – | 30E216FE | 30E216FF |
| 1-3/8 - 6 | – | – | 30E224CE | 30E224CF |
| 1-3/8 -12 | – | – | 30E224FE | 30E224FF |
| 1-1/2 - 6 | – | – | 30E232CE | 30E232CF |
| 1-1/2 - 12 | – | – | 30E232FE | 30E232FF |
| 1-5/8 (5-1/2) | – | – | – | 30E240CF |
| 1-5/8 - 12 | – | – | – | 30E240FF |
| 1-3/4 - 5 | – | – | – | 30E248CF |
| 1-3/4 - 12 | – | – | – | 30E248FF |
| 1-7/8 - 5 | – | – | – | 30E256CF |
| 1-7/8 - 12 | – | – | – | 30E256FF |
| 2 (4-1/2) | – | – | – | 30E264CF |
| 2 - 12 | – | – | – | 30E264FF |

## *Tech tip!*

*The round split adjustable die may be adjusted through the screws on the holder.*
*Adjustment on the open type is done by turning the three screws on the holder.*
*A die holder or handle is needed for proper operation of round split adjustable dies.*

# THREADING ADJUSTABLE ROUND SPLIT DIES

## *3050E SERIES Pipe Dies (NPT)*

**HIGH SPEED STEEL**

**Machine Screw**

**Fractional / Bright**

3050E

| Size (Inches) | Outer Diameter (O.D.) | | | | |
|---|---|---|---|---|---|
| | 1" Order No. | 1-1/2" Order No. | 2" Order No. | 2-1/2" Order No. | 3" Order No. |
| 1/16 - 24 | 305E104B | – | – | – | – |
| 1/8 - 27 | 305E108B | 305E108C | – | – | – |
| 1/4 - 18 | – | 305E116C | – | – | – |
| 3/8 - 18 | – | – | 305E124D | – | – |
| 1/2 - 14 | – | – | 305E132D | – | – |
| 3/4 - 14 | – | – | 305E148D | – | – |
| 1 - 11-1/2 | – | – | – | 305E164E | – |
| 1-1/4 - 11-1/2 | – | – | – | – | 305E216F |
| 1-1/2 - 11-1/2 | – | – | – | – | 305E232F |

3100E

## *3100E SERIES*

**HIGH SPEED STEEL**

**Machine Screw**

**Metric / Bright**

| Size (mm) | Outer Diameter (O.D.) | | |
|---|---|---|---|
| | 13/16" Order No. | 1" Order No. | 1-1/2" Order No. |
| 1.6 x 0.35 | 31E016AA | – | – |
| 2 x 0.40 | 31E020AA | 31E020AB | – |
| 2.2 x 0.45 | – | 31E022AB | – |
| 2.3 x 0.40 | – | 31E023AB | – |
| 2.5 x 0.45 | 31E025AA | 31E025AB | – |
| 2.6 x 0.45 | – | 31E026AB | – |
| 3 x 0.50 | – | 31E030AB | – |
| 3.5 x 0.50 | – | 31E035AB | – |
| 3.5 x 0.60 | – | 31E035BB | – |
| 4 x 0.50 | 31E040AA | 31E040AB | – |
| 4 x 0.70 | 31E040BA | 31E040BB | – |
| 4.5 x 0.50 | – | 31E045AB | – |
| 4.5 x 0.75 | – | 31E045BB | – |
| 5 x 0.50 | – | 31E050AB | – |
| 5 x 0.80 | 31E050BA | 31E050BB | – |
| 5 x 1 | – | 31E050CB | – |
| 6 x 0.50 | – | 31E060AB | – |
| 6 x 0.75 | – | 31E060BB | – |
| 6 x 1 | – | 31E060CB | – |
| 7 x 0.75 | – | 31E070AB | – |
| 7 x 1 | – | 31E070BB | – |
| 8 x 0.75 | – | 31E080AB | – |
| 8 x 1 | – | 31E080BB | – |
| 8 x 1.25 | – | 31E080CB | – |
| 9 x 1 | – | – | 31E090AC |
| 9 x 1.25 | – | 31E090BB | 31E090BC |
| 10 x 0.75 | – | 31E100AB | 31E100AC |
| 10 x 1 | – | 31E100BB | 31E100BC |
| 10 x 1.25 | – | 31E100CB | – |

| Size (mm) | Outer Diameter (O.D.) | | | | |
|---|---|---|---|---|---|
| | 1" Order No. | 1-1/2" Order No. | 2" Order No. | 2-1/2" Order No. | 3" Order No. |
| 10 x 1.5 | 31E100DB | 31E100DC | – | – | – |
| 11 x 1 | – | 31E110AC | – | – | – |
| 11 x 1.5 | 31E110BB | 31E110BC | – | – | – |
| 12 x 1 | – | 31E120AC | – | – | – |
| 12 x 1.25 | – | 31E120BC | – | – | – |
| 12 x 1.5 | – | 31E120CC | – | – | – |
| 12 x 1.75 | – | 31E120DC | – | – | – |
| 14 x 1 | – | 31E140AC | – | – | – |
| 14 x 1.25 | – | 31E140BC | – | – | – |
| 14 x 1.5 | – | 31E140CC | – | – | – |
| 14 x 2 | – | 31E140DC | – | – | – |
| 15 x 1.5 | – | 31E150AC | – | – | – |
| 16 x 1 | – | 31E160AC | – | – | – |
| 16 x 1.5 | – | 31E160BC | – | – | – |
| 16 x 2 | – | 31E160CC | – | – | – |
| 17 x 1.5 | – | 31E170AC | – | – | – |
| 18 x 1.5 | – | 31E180BC | – | – | – |
| 18 x 2 | – | 31E180CC | – | – | – |
| 18 x 2.5 | – | 31E180DC | – | – | – |
| 20 x 1 | – | 31E200AC | 31E200AD | – | – |
| 20 x 1.5 | – | 31E200BC | 31E200BD | – | – |
| 20 x 2 | – | – | 31E200CD | – | – |
| 20 x 2.5 | – | – | 31E200DD | – | – |
| 22 x 1 | – | – | 31E220AD | – | – |
| 22 x 1.5 | – | – | 31E220BD | – | – |
| 22 x 2 | – | – | 31E220CD | – | – |
| 22 x 2.5 | – | – | 31E220DD | – | – |
| 24 x 1.5 | – | – | 31E240AD | – | – |
| 24 x 2 | – | – | 31E240BD | – | – |
| 24 x 3 | – | – | 31E240CD | – | – |
| 26 x 1.5 | – | – | 31E260AD | – | – |
| 30 x 2 | – | – | 31E300BD | – | – |
| 33 x 2 | – | – | – | 31E330AE | – |
| 45 x 4.5 | – | – | – | – | 31E450AF |

# THREADING HEXAGON DIES

Hex rethreading dies are designed for repairing damaged threads on bolts, screws, rods, or studs. Their hexagon shape allows them to be used in a socket, or with a wrench.

- ***Hex Dies are multi-edged, internally threaded tools used for cutting external threads***
- ***Same size as standard hex huts***

## *3300E SERIES*
**HIGH SPEED STEEL**
**Machine Screw**
**Fractional / Bright**
**Threading Dies**

3300E

| Size | Threads Per Inch | Width A/F | 3300E Order No. |
|---|---|---|---|
| 4 | 40 | 19/32” | 33E004C |
| 6 | 32 | 19/32” | 33E006C |
| 8 | 32 | 19/32” | 33E008C |
| 10 | 24 | 19/32” | 33E010C |
| 10 | 32 | 19/32” | 33E010F |
| 12 | 24 | 19/32” | 33E012C |
| 1/4” | 20 | 19/32” | 33E116C |
| 1/4” | 28 | 19/32” | 33E116F |
| 5/16” | 18 | 11/16” | 33E120C |
| 5/16” | 24 | 11/16” | 33E120F |
| 3/8” | 16 | 25/32” | 33E124C |
| 3/8” | 24 | 25/32” | 33E124F |
| 7/16” | 14 | 7/8” | 33E128C |
| 7/16” | 20 | 7/8” | 33E128F |

| Size | Threads Per Inch | Width A/F | 3300E Order No. |
|---|---|---|---|
| 1/2” | 13 | 1-1/16” | 33E132C |
| 1/2” | 20 | 1-1/16” | 33E132F |
| 9/16” | 12 | 1-1/16” | 33E136C |
| 9/16” | 18 | 1-1/16” | 33E136F |
| 5/8” | 11 | 1-1/4” | 33E140C |
| 5/8” | 18 | 1-1/4” | 33E140F |
| 3/4” | 10 | 1-7/16” | 33E148C |
| 3/4” | 16 | 1-7/16” | 33E148F |
| 7/8” | 9 | 1-5/8” | 33E156C |
| 7/8” | 14 | 1-5/8” | 33E156F |
| 1” | 8 | 1-13/16” | 33E164C |
| 1” | 12 | 1-13/16” | 33E164F |
| 1” | 14 | 1-13/16” | 33E164S |

- ***Carbon steel hex dies are for repair work only; not recommended for creating new threads***
- ***Extra thick, allows user to rethread damaged or jammed threads***
- ***Same size as standard hex nuts***

3350E

## *3350E SERIES*
**CARBON**
**Machine Screw**
**Fractional / Bright**
**Rethreading Dies**

| Size | Threads Per Inch | Width A/F | 3350E Order No. |
|---|---|---|---|
| 4 | 40 | 19/32” | 335E004C |
| 4 | 48 | 19/32” | 335E004F |
| 5 | 40 | 19/32” | 335E005C |
| 5 | 44 | 19/32” | 335E005F |
| 6 | 32 | 19/32” | 335E006C |
| 6 | 40 | 19/32” | 335E006F |
| 8 | 32 | 19/32” | 335E008C |
| 8 | 36 | 19/32” | 335E008F |
| 10 | 24 | 19/32” | 335E010C |
| 10 | 32 | 19/32” | 335E010F |
| 12 | 24 | 19/32” | 335E012C |
| 12 | 28 | 19/32” | 335E012F |
| 1/4” | 20 | 19/32” | 335E116C |
| 1/4” | 28 | 19/32” | 335E116F |
| 5/16” | 18 | 11/16” | 335E120C |
| 5/16” | 24 | 11/16” | 335E120F |
| 3/8” | 16 | 25/32” | 335E124C |
| 3/8” | 24 | 25/32” | 335E124F |
| 7/16” | 14 | 7/8” | 335E128C |
| 7/16” | 20 | 7/8” | 335E128F |
| 1/2” | 13 | 1-1/16” | 335E132C |
| 1/2” | 20 | 1-1/16” | 335E132F |
| 9/16” | 12 | 1-1/16” | 335E136C |

| Size | Threads Per Inch | Width A/F | 3350E Order No. |
|---|---|---|---|
| 9/16” | 18 | 1-1/16” | 335E136F |
| 5/8” | 11 | 1-1/4” | 335E140C |
| 5/8” | 18 | 1-1/4” | 335E140F |
| 11/16” | 11 | 1-7/16” | 335E144C |
| 11/16” | 16 | 1-7/16” | 335E144F |
| 3/4” | 10 | 1-7/16” | 335E148C |
| 3/4” | 16 | 1-7/16” | 335E148F |
| 7/8” | 9 | 1-5/8” | 335E156C |
| 7/8” | 14 | 1-5/8” | 335E156F |
| 1” | 8 | 1-13/16” | 335E164C |
| 1” | 12 | 1-13/16” | 335E164F |
| 1” | 14 | 1-13/16” | 335E164S |
| 1-1/8” | 7 | 2” | 335E208C |
| 1-1/8” | 12 | 2” | 335E208F |
| 1-1/4” | 7 | 2-3/16” | 335E216C |
| 1-1/4” | 12 | 2-3/16” | 335E216F |
| 1-3/8” | 6 | 2-3/8” | 335E224C |
| 1-3/8” | 12 | 2-3/8” | 335E224F |
| 1-1/2” | 6 | 2-9/16” | 335E232C |
| 1-1/2” | 12 | 2-9/16” | 335E232F |
| 1-5/8” | 5-1/2 | 3-1/8” | 335E240C |
| 1-5/8” | 12 | 3-1/8” | 335E240F |
| 1-3/4” | 5 | 3-1/8” | 335E248C |

| Size | Threads Per Inch | Width A/F | 3350E Order No. |
|---|---|---|---|
| 1-3/4” | 12 | 3-1/8” | 335E248F |
| 1-7/8” | 5 | 3-1/8” | 335E256C |
| 1-7/8” | 12 | 3-1/8” | 335E256F |
| 2” | 4-1/2 | 3-1/2” | 335E264C |
| 2” | 12 | 3-1/2” | 335E264F |
| 2-1/4” | 4-1/2 | 3-1/2” | 335E316C |
| 2-1/4” | 12 | 3-1/2” | 335E316F |
| 2-1/2” | 4 | 4-1/2” | 335E332C |
| 2-1/2” | 12 | 4-1/2” | 335E332F |
| 2-3/4” | 4 | 4-1/2” | 335E348C |
| 2-3/4” | 12 | 4-1/2” | 335E348F |
| 3” | 4 | 5” | 335E364C |
| 3” | 12 | 5” | 335E364F |
| 3-1/4” | 4 | 5” | 335E416C |
| 3-1/4” | 12 | 5” | 335E416F |
| 3-1/2” | 4 | 5” | 335E432C |
| 3-1/2” | 12 | 5” | 335E432F |
| 3-3/4” | 4 | 6” | 335E448C |
| 3-3/4” | 12 | 6” | 335E448F |
| 4” | 4 | 6” | 335E464C |
| 4” | 12 | 6” | 335E464F |

DRILLCO CUTTING TOOLS

# THREADING HEXAGON DIES

### *3350E SERIES 8-Pitch*

**CARBON**

**Machine Screw**
**Fractional / Bright**
**Rethreading Dies**

3350E

| Size | Threads Per Inch | Width A/F | 3350E Order No. |
|---|---|---|---|
| 1-1/8” | 8 | 2” | 335E208N |
| 1-1/4” | 8 | 2” | 335E216N |
| 1-3/8” | 8 | 2-3/16” | 335E224N |
| 1-1/2” | 8 | 2-3/16” | 335E232N |
| 1-5/8” | 8 | 2-3/8” | 335E240N |
| 1-3/4” | 8 | 2-3/8” | 335E248N |
| 1-7/8” | 8 | 2-9/16” | 335E256N |
| 2” | 8 | 2-9/16” | 335E264N |
| 2-1/4” | 8 | 3-1/8” | 335E316N |
| 2-3/8” | 8 | 3-1/8” | 335E324N |
| 2-1/2” | 8 | 3-1/8” | 335E332N |
| 2-5/8” | 8 | 3-1/8” | 335E340N |
| 2-3/4” | 8 | 3-1/8” | 335E348N |
| 2-7/8” | 8 | 3-1/8” | 335E356N |
| 3” | 8 | 3-1/2” | 335E364N |
| 3-1/4” | 8 | 3-1/2” | 335E416N |
| 3-1/2” | 8 | 3-1/2” | 335E432N |
| 3-3/4” | 8 | 3-1/2” | 335E448N |
| 4” | 8 | 4-1/2” | 335E464N |

# THREADING HEXAGON DIES

### *3380E SERIES Pipe Dies (NPT)*

**CARBON**

**Machine Screw**
**Fractional / Bright**
**Rethreading Dies**

3380E

| Size | Threads Per Inch | Width A/F | 3380E Order No. |
|---|---|---|---|
| 1/8” | 27 | 25/32” | 338E108 |
| 1/4” | 18 | 1-1/16” | 338E116 |
| 3/8” | 18 | 1-1/4” | 338E124 |
| 1/2” | 14 | 1-5/8” | 338E132 |
| 3/4” | 14 | 1-13/16” | 338E148 |
| 1” | 11-1/2 | 2-3/16” | 338E164 |
| 1-1/4” | 11-1/2 | 3-1/8” | 338E216 |
| 1-1/2” | 11-1/2 | 3-1/8” | 338E232 |
| 2” | 11-1/2 | 4” | 338E264 |

# THREADING HEXAGON DIES

### *3360E SERIES*

**CARBON**

**Machine Screw**
**Metric / Bright**
**Rethreading Dies**

3360E

| Size (mm) | Pitch (mm) | Width A/F | 3360E Order No. |
|---|---|---|---|
| 3 | 0.5 | 19/32” | 336E030A |
| 3 | 0.6 | 19/32” | 336E030B |
| 3.5 | 0.6 | 19/32” | 336E035A |
| 4 | 0.7 | 19/32” | 336E040A |
| 4 | 0.75 | 19/32” | 336E040B |
| 4.5 | 0.75 | 19/32” | 336E045A |
| 5 | 0.8 | 19/32” | 336E050A |
| 5 | 0.9 | 19/32” | 336E050B |
| 6 | 1 | 19/32” | 336E060A |
| 6 | 0.75 | 19/32” | 336E060B |
| 6.3 | 1 | 19/32” | 336E063A |
| 7 | 1 | 11/16” | 336E070A |
| 8 | 1 | 11/16” | 336E080A |
| 8 | 1.25 | 11/16” | 336E080B |
| 9 | 1 | 25/32” | 336E090A |
| 9 | 1.25 | 25/32” | 336E090B |
| 10 | 1.25 | 7/8” | 336E100A |
| 10 | 1.5 | 7/8” | 336E100B |
| 11 | 1.5 | 7/8” | 336E110A |
| 12 | 1.25 | 1-1/16” | 336E120A |
| 12 | 1.5 | 1-1/16” | 336E120B |
| 12 | 1.75 | 1-1/16” | 336E120C |
| 14 | 1.5 | 1-1/16” | 336E140A |
| 14 | 2 | 1-1/16” | 336E140B |
| 16 | 1.5 | 1-1/4” | 336E160A |
| 16 | 2 | 1-1/4” | 336E160B |

| Size (mm) | Pitch (mm) | Width A/F | 3360E Order No. |
|---|---|---|---|
| 18 | 1.5 | 1-7/16” | 336E180A |
| 18 | 2.5 | 1-7/16” | 336E180B |
| 18 | 2 | 1-7/16” | 336E180C |
| 20 | 1.5 | 1-5/8” | 336E200A |
| 20 | 2.5 | 1-5/8” | 336E200B |
| 22 | 1.5 | 1-5/8” | 336E220A |
| 22 | 2.5 | 1-5/8” | 336E220B |
| 24 | 2 | 1-13/16” | 336E240A |
| 24 | 3 | 1-13/16” | 336E240B |
| 26 | 1.5 | 2” | 336E260A |
| 27 | 2 | 2” | 336E270A |
| 27 | 3 | 2” | 336E270B |
| 28 | 1.5 | 2” | 336E280A |
| 30 | 2 | 2-3/16” | 336E300A |
| 33 | 2 | 2-3/8” | 336E330A |
| 33 | 3.5 | 2-3/8” | 336E330B |
| 36 | 3 | 2-9/16” | 336E360A |
| 36 | 4 | 2-9/16” | 336E360B |
| 39 | 3 | 3-1/8” | 336E390A |
| 39 | 4 | 3-1/8” | 336E390B |
| 40 | 1.5 | 3-1/8” | 336E400A |
| 42 | 4.5 | 3-1/8” | 336E420B |
| 45 | 1.5 | 3-1/4” | 336E450A |
| 45 | 4.5 | 3-1/4” | 336E450B |
| 48 | 1.5 | 3-1/4” | 336E480A |
| 52 | 1.5 | 3-1/2” | 336E520A |
| 52 | 5 | 3-1/2” | 336E520B |

# TAP & DIE SETS

2000H38

| Material | Pieces | Includes | Case | Order No. |
|---|---|---|---|---|
| **Tap & Hexagon Die Set** | | | | |
| TAPS: HSS USA DIES: Carbon Import | 23 pcs (UNC & UNF)* | Taps & Dies: 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12 & 1/4-18 (NPT). Also: 1/4" to 1" Adjustable Tap Wrench. | Wood | 2000H25 |
| TAPS: HSS USA DIES: Carbon Import | 36 pcs (UNC & UNF) | Taps & Dies: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, & 1/8-27 (NPT). Also: 1/4" to 1" Adjustable Tap Wrench, #0 to 3/8" T-Handle Tap Wrench. | Wood | 2000H38 |
| TAPS: HSS USA DIES: Carbon Import | 58 pcs (UNC & UNF) | Taps & Dies: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12, & 1/8-27, 1/4-18 (NPT). Also: #7 to 1/2" & 1/4" to 1" Adjustable Tap Wrench, #0 to 3/8" T-Handle Tap Wrench. | Wood | 2000H63 |
| TAPS: HSS USA DIES: Carbon Import | 18 pcs (UNC) | Taps & Dies: 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4. Also: #7 to 1/2 Adjustable Tap Wrench, #12 to 1/2" T-Handle Tap Wrench. | Wood | 2000HC20 |
| TAPS: HSS USA DIES: Carbon Import | 18 pcs (UNF) | Taps & Dies: 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4. Also: #7 to 1/2 Adjustable Tap Wrench, #12 to 1/2" T-Handle Tap Wrench. | Wood | 2000HF20 |
| **Tap & Round Adjustable Die Set** | | | | |
| High Speed Steel TAPS: USA DIES: Import | 25 pcs (UNC & UNF) | Taps & Dies: 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12 & 1/4-18 (NPT). Also: 2" Round Die Stock, 1/4" to 1" Adjustable Tap Wrench, and 1 Screwdriver. | Wood | 2000R25 |
| High Speed Steel TAPS: USA DIES: Import | 38 pcs (UNC & UNF) | Taps & Dies: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20 & 1/8-27 (NPT). Also: 1" Round Die Stock, 1/4" to 1" Adjustable Tap Wrench, #0 to 3/8" T-Handle Tap Wrench and 1 Screwdriver. | Wood | 2000R38 |
| High Speed Steel TAPS: USA DIES: Import | 63 pcs (UNC & UNF) | Taps & Dies: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12, & 1/8-27, 1/4-18 (NPT). Also: 1" & 2" Round Die Stock, #7 to 1/2" & 1/4" to 1" Adjustable Tap Wrench, #0 to 3/8" T-Handle Tap Wrench and 2 Screwdrivers. | Wood | 2000R63 |
| High Speed Steel TAPS: USA DIES: Import | 20 pcs (UNC) | Taps & Dies: 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4. Also: 1-1/2" Round Die Stock, #7 to 1/2 Adjustable Tap Wrench, #12 to 1/2" T-Handle Tap Wrench, and 1 Screwdriver. | Wood | 2000RC20 |
| High Speed Steel TAPS: USA DIES: Import | 20 pcs (UNF) | Taps & Dies: 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4. Also: 1-1/2" Round Die Stock, #7 to 1/2 Adjustable Tap Wrench, #12 to 1/2" T-Handle Tap Wrench, and 1 Screwdriver. | Wood | 2000RF20 |

* UNF threads are Unified fine pitch threads, UNC threads are Unified coarse pitch threads.

# TAP & DIE SETS

2800E36

3300EC10

3350C20

| Material | Pieces | Includes | Case | Order No. |
|---|---|---|---|---|
| **Pipe Tap & Die Set** | | | | |
| Carbon | 12 pcs (NPT) | Taper Pipe Taps: 1/8-27, 1/4-18, 3/8-18, 1/2-14, 3/4-14, 1 - 11-1/2. Hexagon Pipe Dies: 1/8-27, 1/4-18, 3/8-18, 1/2-14, 3/4-14, 1 - 11-1/2. | Plastic | 2700C12 |
| **Tap & Die Set** | | | | |
| High Speed Steel | 40 pcs (UNC & UNF) | 4-40 thru 1/2", Round Adjustable Dies | Plastic | 2000E40 |
| Carbon | 36 pcs (Metric) | 4mm thru 12mm, Round Adjustable or Hex Dies | Plastic | 2800C36 |
| High Speed Steel | 36 pcs (Metric) | 4mm thru 12mm, Round Adjustable Dies | Plastic | 2800E36 |
| **Hexagon Die Sets (Dies Only)** | | | | |
| High Speed Steel | 20 pcs (UNC & UNF) | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1" | Wood | 3300E20 |
| High Speed Steel | 10 pcs (UNC) | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1" | Wood | 3300EC10 |
| High Speed Steel | 10 pcs (UNF) | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1" | Wood | 3300EF10 |
| Carbon | 20 pcs (UNC & UNF) | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1" | Wood | 3350C20 |
| Carbon | 10 pcs (UNC) | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1" | Wood | 3350CC10 |
| Carbon | 10 pcs (UNF) | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, & 1" | Wood | 3350CF10 |

## *3000DS SERIES Die Stocks*

### 3 Screw Type

Designed for use with round adjustable split dies.

3000DS

| Size | Overall Length | 3000DS Order No. |
|---|---|---|
| 13/16" | 7" | 3000DS1 |
| 1" | 8 1/4" | 3000DS2 |
| 1-1/2" | 11 3/4" | 3000DS3 |
| 2" | 15 1/2" | 3000DS4 |
| 2-1/2" | 19" | 3000DS5 |
| 3" | 22 1/2" | 3000DS6 |

# 04
# CARBIDE BURRS

# QUICK PAGES REFERENCES

## CARBIDE BURRS

### Single & Double Cut Burrs

**Bright Finish**
For most ferrous metals, hard alloys; aluminum

| Series 7' | Catalog page reference |
|---|---|
| 7000A / 7000AX, 7000B | 401 |
| 7000C / 7000CX, 7000D / 7000DX | 402 |
| 7000E / 7000EX, 7000F / 70000FX, 7000G / 7000GX | 403 |
| 7000H / 7000HX, 7000J, 7000K | 404 |
| 7000L / 7000LX, 7000M, 7000N / 7000NE | 405 |

### Aluminium/Non-Ferrous Cut Burrs

**Bright Finish**
For aluminum and other non-ferrous materials

| Series 7' | Catalog page reference |
|---|---|
| 7000AAL, 7000CAL,7000DAL, 7000EAL, 7000FAL, 7000LAL | 406 |

### Burrs Sets

**Bright Finish**
For high-performance on most ferrous metal, hard alloys; aluminum

| Order No. | Catalog page reference |
|---|---|
| 70S001SC / 70S001DC<br>70S002SC / 70S002DC<br>70S003SC / 70S003DC<br>70S004SC / 70S004DC<br>70S005SC / 70S005DC<br>70S006SC / 70S006DC<br>70S007SC / 70S007DC<br>70S011DC<br>70S010NF | 408 |

### Burrs Display

**Bright Finish**
For high-performance on non-ferrous, aluminium and soft metal

| Order No. | Catalog page reference |
|---|---|
| 70S033SC / 70S033DC | 408 |
| 70S066SC / 70S066DC | |
| 70S099SC / 70S099DC | |

### Point Grinder

**Dialspeed™ 6141**
For fitting and finishing work

| Order No. | Catalog page reference |
|---|---|
| 30A141 | 409 |

# SINGLE & DOUBLE CUT BURRS

Manufactured from premium-grade Tungsten Carbide, they are primarily used to remove burrs (the small flakes of metal) that often remain on the workpiece after the machining process.

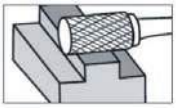
- ***One of the most widely used and versatile cutting tools***
- ***Burrs are available in single cut, double cut, and non-ferrous/aluminum cut***
- ***All sizes are individually packaged***
- ***Special sizes and profiles are available upon request***

## *7000A / 7000AX*

**Shape: Cylindrical**
**Use: Deburring**

7000A

7000AX



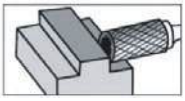
SA Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000A – Cylindrical** | | | | | |
| SA-11 | 1/8” | 1/4” | 1/2” | 7A108BSC | 7A108BDC |
| SA-12 | 1/8” | 1/4” | 5/8” | 7A108ASC | 7A108ADC |
| SA-14 | 3/16” | 1/4” | 5/8” | 7A112ASC | 7A112ADC |
| SA-1 | 1/4” | 1/4” | 5/8” | 7A116ASC | 7A116ADC |
| SA-1L | 1/4” | 1/4” | 1” | 7A116BSC | 7A116BDC |
| SA-2 | 5/16” | 1/4” | 3/4” | 7A120ASC | 7A120ADC |
| SA-2L | 5/16” | 1/4” | 1” | 7A120BSC | 7A120BDC |
| SA-3 | 3/8” | 1/4” | 3/4” | 7A124ASC | 7A124ADC |
| SA-3L | 3/8” | 1/4” | 1” | 7A124BSC | 7A124BDC |
| SA-3XL | 3/8” | 1/4” | 1-1/2” | 7A124CSC | 7A124CDC |
| SA-4 | 7/16” | 1/4” | 1” | 7A128BSC | 7A128BDC |
| SA-5 | 1/2” | 1/4” | 1” | 7A132BSC | 7A132BDC |
| SA-6 | 5/8” | 1/4” | 1” | 7A140BSC | 7A140BDC |
| SA-16 | 3/4” | 1/4” | 3/4” | 7A148ASC | 7A148ADC |
| SA-7 | 3/4” | 1/4” | 1” | 7A148BSC | 7A148BDC |
| SA-9 | 1” | 1/4” | 1” | 7A164BSC | 7A164BDC |
| **Series 7000A – Miniature** | | | | | |
| SA-41 | 1/16” | 1/8” | 1/4' | 70A041SC | 70A041DC |
| SA-42 | 3/32” | 1/8” | 7/16” | 70A042SC | 70A042DC |
| SA-43 | 1/8” | 1/8” | 9/16” | 70A043SC | 70A043DC |
| SA-51 | 1/4” | 1/8” | 1/2” | 70A051SC | 70A051DC |
| SA-52 | 5/32” | 1/8” | 1/2” | 70A052SC | 70A052DC |
| SA-53 | 3/16” | 1/8” | 1/2' | 70A053SC | 70A053DC |
| SA-61 | 1/16” | 3/32” | 1/4” | 70A061SC | 70A061DC |
| SA-63 | 3/32” | 3/32” | 3/8” | 70A063SC | 70A063DC |
| SA-81 | 3/16” | 3/16” | 1/2” | 70A081SC | 70A081DC |
| SA-43L2 | 1/8” | 1/8” | 9/16” | 7A43L2SC | 7A43L2DC |
| SA-43L3 | 1/8” | 1/8” | 9/16” | 7A43L3SC | 7A43L3DC |
| **Series 7000AX – 6” Extra Long** | | | | | |
| SA-1L6 | 1/4” | 1/4” | 1/2” | 7AX116SC | 7AX116DC |
| SA-3L6 | 3/8” | 1/4” | 3/4” | 7AX124SC | 7AX124DC |
| SA-5L6 | 1/2” | 1/4” | 1” | 7AX132SC | 7AX132DC |

## *7000B*

**Shape: Cylindrical with End Cut**
**Use: Interior Contour Work**

7000B



SB Burr Profile

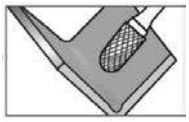
| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000B – Cylindrical With End Cut** | | | | | |
| SB-12 | 1/8” | 1/4” | 5/8” | 7B108ASC | 7B108ADC |
| SB-11 | 1/8” | 1/4” | 1/2” | 7B108BSC | 7B108BDC |
| SB-14 | 3/16” | 1/4” | 5/8” | 7B112ASC | 7B112ADC |
| SB-1 | 1/4” | 1/4” | 5/8” | 7B116ASC | 7B116ADC |
| SB-1L | 1/4” | 1/4” | 1” | 7B116BSC | 7B116BDC |
| SB-2 | 5/16” | 1/4” | 3/4” | 7B120ASC | 7B120ADC |
| SB-2L | 5/16” | 1/4” | 1” | 7B120BSC | 7B120BDC |
| SB-3 | 3/8” | 1/4” | 3/4” | 7B124ASC | 7B124ADC |
| SB-3L | 3/8” | 1/4” | 1” | 7B124BSC | 7B124BDC |
| SB-3XL | 3/8” | 1/4” | 1-1/2” | 7B124CSC | 7B124CDC |
| SB-4 | 7/16” | 1/4” | 1” | 7B128BSC | 7B128BDC |
| SB-5 | 1/2” | 1/4” | 1” | 7B132BSC | 7B132BDC |
| SB-6 | 5/8” | 1/4” | 1” | 7B140BSC | 7B140BDC |
| SB-16 | 3/4” | 1/4” | 3/4” | 7B148ASC | 7B148ADC |
| SB-7 | 3/4” | 1/4” | 1” | 7B148BSC | 7B148BDC |
| SB-9 | 1” | 1/4” | 1” | 7B164BSC | 7B164BDC |
| **Series 7000B – Miniature** | | | | | |
| SB-43 | 1/8” | 1/8” | 9/16” | 70B043SC | 70B043DC |
| SB-51 | 1/4” | 1/8” | 3/16” | 70B051SC | 70B051DC |
| SB-ECO | 1/8” | 1/8” | - | 70BECOSC | 70BECODC |

DRILLCO CUTTING TOOLS

# SINGLE & DOUBLE CUT BURRS

## *7000C / 7000CX*

**Shape: Cylindrical Ball Nose**
**Use: Surface Milling & Contour Work**

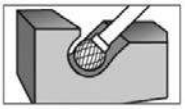


SC Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000C – Cylindrical Ball Nose** | | | | | |
| SC-11 | 1/8” | 1/4” | 1/2” | 7C108BSC | 7C108BDC |
| SC-12 | 1/8” | 1/4” | 5/8” | 7C108ASC | 7C108ADC |
| SC-14 | 3/16” | 1/4” | 5/8” | 7C112ASC | 7C112ADC |
| SC-1 | 1/4” | 1/4” | 5/8” | 7C116ASC | 7C116ADC |
| SC-1L | 1/4” | 1/4” | 1” | 7C116BSC | 7C116BDC |
| SC-2 | 5/16” | 1/4” | 3/4” | 7C120ASC | 7C120ADC |
| SC-2L | 5/16” | 1/4” | 1” | 7C120BSC | 7C120BDC |
| SC-3 | 3/8” | 1/4” | 3/4” | 7C124ASC | 7C124ADC |
| SC-3L | 3/8” | 1/4” | 1” | 7C124BSC | 7C124BDC |
| SC-3XL | 3/8” | 1/4” | 1-1/2” | 7C124CSC | 7C124CDC |
| SC-4 | 7/16” | 1/4” | 1” | 7C128BSC | 7C128BDC |
| SC-5 | 1/2” | 1/4” | 1” | 7C132BSC | 7C132BDC |
| SC-6 | 5/8” | 1/4” | 1” | 7C140BSC | 7C140BDC |
| SC-7 | 3/4” | 1/4” | 1” | 7C148BSC | 7C148BDC |
| SC-9 | 1” | 1/4” | 1” | 7C164BSC | 7C164BDC |
| **Series 7000C – Miniature** | | | | | |
| SC-41 | 3/32” | 1/8” | 7/16” | 70C041SC | 70C041DC |
| SC-42 | 1/8” | 1/8” | 9/16” | 70C042SC | 70C042DC |
| SC-51 | 1/4” | 1/8” | 1/2” | 70C051SC | 70C051DC |
| SC-52 | 5/32” | 1/8” | 1/2” | 70C052SC | 70C052DC |
| SC-53 | 3/16” | 1/8” | 1/2” | 70C053SC | 70C053DC |
| SC-61 | 3/32” | 3/32” | 3/8” | 70C061SC | 70C061DC |
| SC-81 | 3/16” | 3/16” | 1/2” | 70C081SC | 70C081DC |
| SC-42L2 | 1/8” | 1/8” | 9/16” | 7C42L2SC | 7C42L2DC |
| SC-42L3 | 1/8” | 1/8” | 9/16” | 7C42L3SC | 7C42L3DC |
| **Series 7000CX – 6” Extra Long** | | | | | |
| SC-1L6 | 1/4” | 1/4” | 1/2” | 7CX116SC | 7CX116DC |
| SC-3L6 | 3/8” | 1/4” | 3/4” | 7CX124SC | 7CX124DC |
| SC-5L6 | 1/2” | 1/4” | 1” | 7CX132SC | 7CX132DC |

## *7000D / 7000DX*

**Shape: Ball**
**Use: Surface Milling, Deburring & Contour Work**



SD Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000D – Ball Shape** | | | | | |
| SD-12 | 1/8” | 1/4” | 1/8” | 7D108ASC | 7D108ADC |
| SD-14 | 3/16” | 1/4” | 3/16” | 7D112ASC | 7D112ADC |
| SD-1 | 1/4” | 1/4” | 1/4” | 7D116ASC | 7D116ADC |
| SD-2 | 5/16” | 1/4” | 5/16” | 7D120ASC | 7D120ADC |
| SD-3 | 3/8” | 1/4” | 3/8” | 7D124ASC | 7D124ADC |
| SD-4 | 7/16” | 1/4” | 7/16” | 7D128ASC | 7D128ADC |
| SD-5 | 1/2” | 1/4” | 1/2” | 7D132ASC | 7D132ADC |
| SD-6 | 5/8” | 1/4” | 5/8” | 7D140ASC | 7D140ADC |
| SD-7 | 3/4” | 1/4” | 3/4” | 7D148ASC | 7D148ADC |
| SD-9 | 1” | 1/4” | 1” | 7D164ASC | 7D164ADC |
| **Series 7000D – Miniature** | | | | | |
| SD-41 | 3/32” | 1/8” | 3/32” | 70D041SC | 70D041DC |
| SD-42 | 1/8” | 1/8” | 1/8” | 70D042SC | 70D042DC |
| SD-51 | 1/4” | 1/8” | 7/32” | 70D051SC | 70D051DC |
| SD-53 | 3/16” | 1/8” | 5/32” | 70D053SC | 70D053DC |
| SD-61 | 3/32” | 3/32” | 3/32” | 70D061SC | 70D061DC |
| SD-81 | 3/16” | 3/16” | 5/32” | 70D081SC | 70D081DC |
| SD-42L2 | 1/8” | 1/8” | 1/8” | 7D42L2SC | 7D42L2DC |
| SD-42L3 | 1/8” | 1/8” | 1/8” | 7D42L3SC | 7D42L3DC |
| **Series 7000DX – 6” Extra Long** | | | | | |
| SD-1L6 | 1/4” | 1/4” | 7/32” | 7DX116SC | 7DX116DC |
| SD-3L6 | 3/8” | 1/4” | 5/16” | 7DX124SC | 7DX124DC |
| SD-5L6 | 1/2” | 1/4” | 7/16” | 7DX132SC | 7DX132DC |

# SINGLE & DOUBLE CUT BURRS

## *7000E / 7000EX*
**Shape: Oval**
**Use: Contour Work**

7000E

7000EX

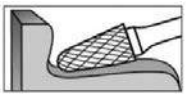
SE Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000E – Oval Shape** | | | | | |
| SE-11 | 3/16” | 1/4” | 5/16” | 7E112ASC | 7E112ADC |
| SE-1 | 1/4” | 1/4” | 3/8” | 7E116ASC | 7E116ADC |
| SE-2 | 5/16” | 1/4” | 5/8” | 7E120ASC | 7E120ADC |
| SE-3 | 3/8” | 1/4” | 5/8” | 7E124ASC | 7E124ADC |
| SE-5 | 1/2” | 1/4” | 7/8” | 7E132ASC | 7E132ADC |
| SE-6 | 5/8” | 1/4” | 1” | 7E140ASC | 7E140ADC |
| SE-7 | 3/4” | 1/4” | 1” | 7E148ASC | 7E148ADC |
| **Series 7000E – Miniature** | | | | | |
| SE-41 | 1/8” | 1/8” | 7/32” | 70E041SC | 70E041DC |
| SE-51 | 1/4” | 1/8” | 3/8” | 70E051SC | 70E051DC |
| SE-53 | 3/16” | 1/8” | 9/32” | 70E053SC | 70E053DC |
| SE-61 | 3/32” | 3/32” | 1/8” | 70E061SC | 70E061DC |
| SE-81 | 3/16” | 3/16” | 9/32” | 70E081SC | 70E081DC |
| SE-41L2 | 1/8” | 1/8” | 7/32” | 7E41L2SC | 7E41L2DC |
| SE-41L3 | 1/8” | 1/8” | 7/32” | 7E41L3SC | 7E41L3DC |
| **Series 7000EX – 6” Extra Long** | | | | | |
| SE-1L6 | 1/4” | 1/4” | 3/8” | 7EX116SC | 7EX116DC |
| SE-3L6 | 3/8” | 1/4” | 5/8” | 7EX124SC | 7EX124DC |
| SE-5L6 | 1/2” | 1/4” | 7/8” | 7EX132SC | 7EX132DC |

## *7000F / 7000FX*
**Shape: Round Tree**
**Use: Narrow Contour Work**

7000F

7000FX

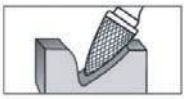

SF Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000F – Round Tree Shape** | | | | | |
| SF-11 | 1/8” | 1/4” | 5/8” | 7F108BSC | 7F108BDC |
| SF-12 | 1/8” | 1/4” | 1/2” | 7F108ASC | 7F108ADC |
| SF-1 | 1/4” | 1/4” | 5/8” | 7F116ASC | 7F116ADC |
| SF-1L | 1/4” | 1/4” | 3/4” | 7F116BSC | 7F116BDC |
| SF-3 | 3/8” | 1/4” | 3/4” | 7F124ASC | 7F124ADC |
| SF-4 | 7/16” | 1/4” | 1” | 7F128ASC | 7F128ADC |
| SF-13 | 1/2” | 1/4” | 3/4” | 7F132ASC | 7F132ADC |
| SF-5 | 1/2” | 1/4” | 1” | 7F132BSC | 7F132BDC |
| SF-6 | 5/8” | 1/4” | 1” | 7F140ASC | 7F140ADC |
| SF-7 | 3/4” | 1/4” | 1” | 7F148ASC | 7F148ADC |
| SF-14 | 3/4” | 1/4” | 1-1/4” | 7F148BSC | 7F148BDC |
| SF-15 | 3/4” | 1/4” | 1-1/2” | 7F148CSC | 7F148CDC |
| **Series 7000F – Miniature** | | | | | |
| SF-41 | 1/8” | 1/8” | 1/4” | 70F041SC | 70F041DC |
| SF-42 | 1/8” | 1/8” | 1/2” | 70F042SC | 70F042DC |
| SF-51 | 1/4” | 1/8” | 1/2” | 70F051SC | 70F051DC |
| SF-53 | 3/16” | 1/8” | 1/2” | 70F053SC | 70F053DC |
| SF-61 | 3/32” | 3/32” | 1/4” | 70F061SC | 70F061DC |
| SF-81 | 3/16” | 3/16” | 1/2” | 70F081SC | 70F081DC |
| SF-42L2 | 1/8” | 1/8” | 1/2” | 7F42L2SC | 7F42L2DC |
| SF-42L3 | 1/8” | 1/8” | 1/2” | 7F42L3SC | 7F42L3DC |
| **Series 7000FX – 6” Extra Long** | | | | | |
| SF-1L6 | 1/4” | 1/4” | 1/2” | 7FX116SC | 7FX116DC |
| SF-3L6 | 3/8” | 1/4” | 3/4” | 7FX124SC | 7FX124DC |
| SF-5L6 | 1/2” | 1/4” | 1” | 7FX132SC | 7FX132DC |

## *7000G / 7000GX*
**Shape: Pointed Tree**
**Use: Surface Milling & Narrow Contour Work**

7000G

7000GX


SG Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000G – Pointed Tree Shape** | | | | | |
| SG-1 | 1/4” | 1/4” | 5/8” | 7G116ASC | 7G116ADC |
| SG-1L | 1/4” | 1/4” | 3/4” | 7G116BSC | 7G116BDC |
| SG-2 | 5/16” | 1/4” | 3/4” | 7G120ASC | 7G120ADC |
| SG-3 | 3/8” | 1/4” | 3/4” | 7G124ASC | 7G124ADC |
| SG-13 | 1/2” | 1/4” | 3/4” | 7G132ASC | 7G132ADC |
| SG-5 | 1/2” | 1/4” | 1” | 7G132BSC | 7G132BDC |
| SG-6 | 5/8” | 1/4” | 1” | 7G140ASC | 7G140ADC |
| SG-7 | 3/4” | 1/4” | 1” | 7G148ASC | 7G148ADC |
| SG-15 | 3/4” | 1/4” | 1-1/2” | 7G148BSC | 7G148BDC |
| **Series 7000G – Miniature** | | | | | |
| SG-41 | 1/8” | 1/8” | 1/4” | 70G041SC | 70G041DC |
| SG-42 | 1/8” | 1/8” | 5/16” | 70G042SC | 70G042DC |
| SG-43 | 1/8” | 1/8” | 3/8” | 70G043SC | 70G043DC |
| SG-44 | 1/8” | 1/8” | 1/2” | 70G044SC | 70G044DC |
| SG-51 | 1/4” | 1/8” | 1/2” | 70G051SC | 70G051DC |
| SG-53 | 3/16” | 1/8” | 1/2” | 70G053SC | 70G053DC |
| SG-61 | 3/32” | 3/32” | 1/4” | 70G061SC | 70G061DC |
| SG-81 | 3/16” | 3/16” | 1/2” | 70G081SC | 70G081DC |
| SG-44L2 | 1/8” | 1/8” | 1/2” | 7G44L2SC | 7G44L2DC |
| SG-44L3 | 1/8” | 1/8” | 1/2” | 7G44L3SC | 7G44L3DC |
| **Series 7000GX – 6” Extra Long** | | | | | |
| SG-1L6 | 1/4” | 1/4” | 1/2” | 7GX116SC | 7GX116DC |
| SG-3L6 | 3/8” | 1/4” | 3/4” | 7GX124SC | 7GX124DC |
| SG-5L6 | 1/2” | 1/4” | 1” | 7GX132SC | 7GX132DC |

DRILLCO CUTTING TOOLS

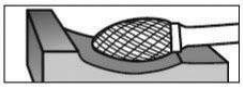
# SINGLE & DOUBLE CUT BURRS

## *7000H / 7000HX*

**Shape: Flame**
**Use: Contour Work**

7000H

7000HX



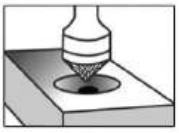
SH Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000H – Flame Shape** | | | | | |
| SH-1 | 1/4” | 1/4” | 1/2” | 7H116ASC | 7H116ADC |
| SH-2 | 5/16” | 1/4” | 3/4” | 7H120ASC | 7H120ADC |
| SH-5 | 1/2” | 1/4” | 1-1/4” | 7H132ASC | 7H132ADC |
| SH-6 | 5/8” | 1/4” | 1-7/16” | 7H140ASC | 7H140ADC |
| SH-7 | 3/4” | 1/4” | 1-5/8” | 7H148ASC | 7H148ADC |
| **Series 7000H – Miniature** | | | | | |
| SH-41 | 1/8” | 1/8” | 1/4” | 70H041SC | 70H041DC |
| SH-53 | 3/16” | 1/8” | 3/8” | 70H053SC | 70H053DC |
| SH-41L2 | 1/8” | 1/8” | 1/4” | 7H41L2SC | 7H41L2DC |
| SH-41L3 | 1/8” | 1/8” | 1/4” | 7H41L3SC | 7H41L3DC |
| **Series 7000HX – 6” Extra Long** | | | | | |
| SH-2L6 | 5/16” | 1/4” | 3/4” | 7HX120SC | 7HX120DC |
| SH-5L6 | 1/2” | 1/4” | 1-1/4” | 7HX132SC | 7HX132DC |

## *7000J*

**Shape: 60° Included Angle**
**Use: Machining of Acute Angle Areas & Countersinking**

7000J

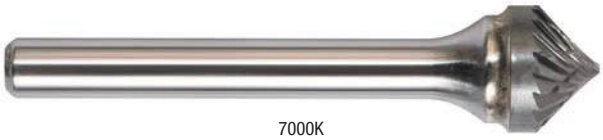


SJ Burr Profile

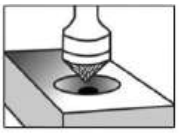
| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000J – 60° Included Angle** | | | | | |
| SJ-1 | 3/16” | 1/4” | 3/16” | 7J116ASC | 7J116ADC |
| SJ-2 | 1/4” | 1/4” | 1/4” | 7J120ASC | 7J120ADC |
| SJ-3 | 5/16” | 1/4” | 1/4” | 7J124ASC | 7J124ADC |
| SJ-5 | 3/8” | 1/4” | 7/16” | 7J132ASC | 7J132ADC |
| SJ-6 | 1/2” | 1/4” | 1/2” | 7J140ASC | 7J140ADC |
| SJ-7 | 5/8” | 1/4” | 5/8” | 7J148ASC | 7J148ADC |
| SJ-9 | 3/4” | 1/4” | 3/4” | 7J164ASC | 7J164ADC |
| **Series 7000J – Miniature** | | | | | |
| SJ-42 | 1/8” | 1/8” | 3/32” | 70J042SC | 70J042DC |

## *7000K*

**Shape: 90° Included Angle**
**Use: Machining of Acute Angle Areas & Countersinking**



7000K



SK Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000K – 90° Included Angle** | | | | | |
| SK-1 | 1/4” | 1/4” | 1/8” | 7K116ASC | 7K116ADC |
| SK-2 | 5/16” | 1/4” | 3/16” | 7K120ASC | 7K120ADC |
| SK-3 | 3/8” | 1/4” | 3/16” | 7K124ASC | 7K124ADC |
| SK-5 | 1/2” | 1/4” | 1/4” | 7K132ASC | 7K132ADC |
| SK-6 | 5/8” | 1/4” | 5/16” | 7K140ASC | 7K140ADC |
| SK-7 | 3/4” | 1/4” | 3/8” | 7K148ASC | 7K148ADC |
| SK-9 | 1” | 1/4” | 1/2” | 7K164ASC | 7K164ADC |
| **Series 7000K – Miniature** | | | | | |
| SK-42 | 1/8” | 1/8” | 7/32” | 70K042SC | 70K042DC |

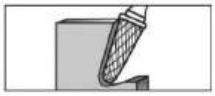
# SINGLE & DOUBLE CUT BURRS

## *7000L / 7000LX*

**Shape: 14° Included Angle**
**Use: Surface Machining & Narrow Contour Work**

7000L

7000LX



SL Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000L – 14° Included Angle** | | | | | |
| SL-1 | 1/4” | 1/4” | 5/8” | 7L116ASC | 7L116ADC |
| SL-2 | 5/16” | 1/4” | 7/8” | 7L120ASC | 7L120ADC |
| SL-3 | 3/8” | 1/4” | 1-1/16” | 7L124ASC | 7L124ADC |
| SL-4 | 1/2” | 1/4” | 1-1/8” | 7L132ASC | 7L132ADC |
| SL-5 | 5/8” | 1/4” | 1-3/16” | 7L140ASC | 7L140ADC |
| SL-6 | 5/8” | 1/4” | 1-5/16” | 7L140BSC | 7L140BDC |
| SL-7 | 3/4” | 1/4” | 1-1/2” | 7L148ASC | 7L148ADC |
| **Series 7000L – Miniature** | | | | | |
| SL-41 | 1/8” | 1/8” | 3/8” | 70L041SC | 70L041DC |
| SL-42 | 1/8” | 1/8” | 1/2” | 70L042SC | 70L042DC |
| SL-53 | 3/16” | 1/8” | 1/2” | 70L053SC | 70L053DC |
| SL-81 | 3/16” | 3/16” | 7/16” | 70L081SC | 70L081DC |
| SL-42L2 | 1/8” | 1/8” | 1/2” | 7L42L2SC | 7L42L2DC |
| SL-42L3 | 1/8” | 1/8” | 1/2” | 7L42L3SC | 7L42L3DC |
| **Series 7000LX – 6” Extra Long** | | | | | |
| SL-1L6 | 1/4” | 1/4” | 5/8” | 7LX116SC | 7LX116DC |
| SL-3L6 | 3/8” | 1/4” | 1-1/16” | 7LX124SC | 7LX124DC |
| SL-4L6 | 1/2” | 1/4” | 1-1/8” | 7LX132SC | 7LX132DC |

## *7000M*

**Shape: Cone**
**Use: Surface Machining & Narrow Contour Work**

7000M

SM Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000M – Cone Shape** | | | | | |
| SM-1 | 1/4” | 1/4” | 1/2” | 7M116ASC | 7M116ADC |
| SM-2 | 1/4” | 1/4” | 3/4” | 7M116BSC | 7M116BDC |
| SM-3 | 1/4” | 1/4” | 1” | 7M116CSC | 7M116CDC |
| SM-3L | 1/4” | 1/4” | 1-1/4” | 7M116DSC | 7M116DDC |
| SM-4 | 3/8” | 1/4” | 5/8” | 7M124ASC | 7M124ADC |
| SM-4L | 3/8” | 1/4” | 1” | 7M124BSC | 7M124BDC |
| SM-5 | 1/2” | 1/4” | 7/8” | 7M132ASC | 7M132ADC |
| SM-6 | 5/8” | 1/4” | 1” | 7M140ASC | 7M140ADC |
| **Series 7000M – Miniature** | | | | | |
| SM-41 | 1/8” | 1/8” | 11/32” | 70M041SC | 70M041DC |
| SM-42 | 1/8” | 1/8” | 7/16” | 70M042SC | 70M042DC |
| SM-43 | 1/8” | 1/8” | 1/2” | 70M043SC | 70M043DC |
| SM-51 | 1/4” | 1/8” | 1/2” | 70M051SC | 70M051DC |
| SM-53 | 3/16” | 1/8” | 1/2” | 70M053SC | 70M053DC |
| SM-61 | 3/32” | 3/32” | 1/4” | 70M061SC | 70M061DC |
| SM-42L2 | 1/8” | 1/8” | 7/16” | 7M42L2SC | 7M42L2DC |
| SM-42L3 | 1/8” | 1/8” | 7/16” | 7M42L3SC | 7M42L3DC |

## *7000N / 7000NE*

**7000N: Shape: Inverted cone**
**7000NE: Shape: Inverted cone with end cut**
**Use: Machining from the rear in hard to reach areas**

7000N

7000NE

SN Burr Profile

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Series 7000N – Inverted Cone** | | | | | |
| SN-1 | 1/4” | 1/4” | 5/16” | 7N116ASC | 7N116ADC |
| SN-2 | 3/8” | 1/4” | 3/8” | 7N124ASC | 7N124ADC |
| SN-4 | 1/2” | 1/4” | 1/2” | 7N132ASC | 7N132ADC |
| SN-6 | 5/8” | 1/4” | 3/4” | 7N140ASC | 7N140ADC |
| SN-7 | 3/4” | 1/4” | 5/8” | 7N148ASC | 7N148ADC |
| **Series 7000N – Miniature** | | | | | |
| SN-41 | 1/8” | 1/8” | 1/8” | 70N041SC | 70N041DC |
| SN-42 | 1/8” | 1/8” | 3/16” | 70N042SC | 70N042DC |
| SN-51 | 1/4” | 1/8” | 1/4” | 70N051SC | 70N051DC |
| SN-53 | 3/16” | 1/8” | 1/4” | 70N053SC | 70N053DC |
| SN-61 | 3/32” | 3/32” | 1/8” | 70N061SC | 70N061DC |
| SN-81 | 3/16” | 3/16” | 1/4” | 70N081SC | 70N081DC |
| **Series 7000NE – Inverted Cone With End Cut** | | | | | |
| SN-1E | 1/4” | 1/4” | 5/16” | 7N116ESC | 7N116EDC |
| SN-2E | 3/8” | 1/4” | 3/8” | 7N124ESC | 7N124EDC |
| SN-4E | 1/2” | 1/4” | 1/2” | 7N132ESC | 7N132EDC |
| SN-7E | 3/4” | 1/4” | 5/8” | 7N148ESC | 7N148EDC |

DRILLCO CUTTING TOOLS

# ALUMINIUM/NON-FERROUS CUT BURRS

Aluminum cut burrs have more aggressive cutting edges for rapid stock removal with minimum chip. Ideal for aluminum and other non-ferrous materials.

## *7000AAL*
### Shape: Cylindrical

7000AAL

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Order No. |
|---|---|---|---|---|
| Series 7000AAL – Cylindrical | | | | |
| SA-1NF | 1/4” | 1/4” | 3/4” | 7AAL116 |
| SA-3NF | 3/8” | 1/4” | 3/4” | 7AAL124 |
| SA-5NF | 1/2” | 1/4” | 1” | 7AAL132 |
| SA-6NF | 5/8” | 1/4” | 1” | 7AAL140 |
| SA-7NF | 3/4” | 1/4” | 1” | 7AAL148 |

## *7000CAL*
### Shape: Cylindrical Ball Nose

7000CAL

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Order No. |
|---|---|---|---|---|
| Series 7000CAL – Cylindrical Ball Nose | | | | |
| SC-1NF | 1/4” | 1/4” | 3/4” | 7CAL116 |
| SC-3NF | 3/8” | 1/4” | 3/4” | 7CAL124 |
| SC-5NF | 1/2” | 1/4” | 1” | 7CAL132 |
| SC-6NF | 5/8” | 1/4” | 1” | 7CAL140 |
| SC-7NF | 3/4” | 1/4” | 1” | 7CAL148 |

## *7000DAL*
### Shape: Ball

7000DAL

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Order No. |
|---|---|---|---|---|
| Series 7000DAL – Ball Shape | | | | |
| SD-1NF | 1/4” | 1/4” | 7/32” | 7DAL116 |
| SD-3NF | 3/8” | 1/4” | 5/16” | 7DAL124 |
| SD-5NF | 1/2” | 1/4” | 7/16” | 7DAL132 |
| SD-6NF | 5/8” | 1/4” | 9/16” | 7DAL140 |
| SD-7NF | 3/4” | 1/4” | 11/16” | 7DAL148 |

## *7000EAL*
### Shape: Oval

7000EAL

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Order No. |
|---|---|---|---|---|
| Series 7000EAL – Oval Shape | | | | |
| SE-1NF | 1/4” | 1/4” | 7/32” | 7EAL116 |
| SE-3NF | 3/8” | 1/4” | 5/16” | 7EAL124 |
| SE-5NF | 1/2” | 1/4” | 7/16” | 7EAL132 |
| SE-6NF | 5/8” | 1/4” | 9/16” | 7EAL140 |
| SE-7NF | 3/4” | 1/4” | 11/16” | 7EAL148 |

## *7000FAL*
### Shape: Round Tree

7000FAL

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Order No. |
|---|---|---|---|---|
| Series 7000FAL – Round Tree Shape | | | | |
| SF-1NF | 1/4” | 1/4” | 3/4” | 7FAL116 |
| SF-3NF | 3/8” | 1/4” | 3/4” | 7FAL124 |
| SF-5NF | 1/2” | 1/4” | 1” | 7FAL132 |
| SF-6NF | 5/8” | 1/4” | 1” | 7FAL140 |
| SF-14NF | 3/4” | 1/4” | 1-1/4” | 7FAL148 |

## *7000LAL*
### Shape: 14° Included Angle

7000LAL

| Tool No. | Cutter Dia. | Shank Dia. | Length of Cut | Order No. |
|---|---|---|---|---|
| Series 7000LAL – 14° Included Angle | | | | |
| SL-1NF | 1/4” | 1/4” | 5/8” | 7LAL116 |
| SL-3NF | 3/8” | 1/4” | 1-1/16” | 7LAL124 |
| SL-4NF | 1/2” | 1/4” | 1-1/8” | 7LAL132 |
| SL-5NF | 5/8” | 1/4” | 1-3/16” | 7LAL140 |
| SL-6NF | 5/8” | 1/4” | 1-5/16” | 7LAL140A |

DRILLCO CUTTING TOOLS

# BURRS SETS

| Set No. | No. of Pieces | Shank Sizes | Includes | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|---|---|
| **Carbide Burr Sets** | | | | | |
| 1 | 8 | 1/4 | SA-1, SC-1, SD-1, SE-1, SF-1, SG-1, SL-1, SM-1 | 70S001SC | 70S001DC |
| 2 | 8 | 1/4 | SA-3, SC-3, SD-3, SE-3, SF-3, SG-3, SL-3, SM-4 | 70S002SC | 70S002DC |
| 3 | 8 | 1/4 | SA-5, SC-5, SD-5, SE-5, SF-5, SG-5, SL-4, SM-5 | 70S003SC | 70S003DC |
| 4 | 10 | 1/4 | SA-1, SA-3, SA-5, SC-1, SC-3, SC-5, SD-3, SF-3, SF-5, SH-1 | 70S004SC | 70S004DC |
| 5 | 10 | 1/4 | SA-5, SC-3, SC-5, SD-5, SE-3, SF-3, SF-5, SG-3, SG-5, SL-4 | 70S005SC | 70S005DC |
| 6 | 8 | 1/8 | SA-43, SC-42, SD-42, SE-41, SF-42, SG-42, SL-41, SN-42 | 70S006SC | 70S006DC |
| 7 | 8 | 1/8 | SA-51, SB-51, SC-51, SD-51, SE-51, SF-51, SG-51, SM-51 | 70S007SC | 70S007DC |
| 8 | 5 | 1/4 | SA-5, SC-5, SF-5, SG-5, SM-5 | N/A | 70S011DC |
| **Aluminum/Non Ferrous Cut** | | | | | |
| 10 | 8 | 1/4 | SA-3NF, SA-5NF, SC-3NF, SC-5NF, SD-3NF, SF-3NF, SF-5NF, SL-3NF | 70S010NF | |

70S004DC

70S011DC

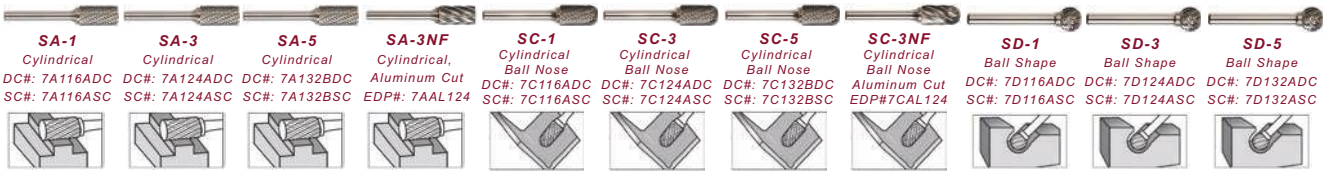
| WALTER Carbide Burr Kit | |
|---|---|
| **Description** | **Order No.** |
| Carbide Burr Production Kit<br>Contains one of each of the following:<br>01V002, 006, 011, 015 and 018 | 01V990 |
| 5-Piece Alu Cut Carbide Burr Kit | 01V995 |
| 10-Piece Double Cut Carbide Burr Kit | 01V996 |

WALTER

# BURRS DISPLAY

- *Burrs are "Made in the USA" at our own state-of-the-art manufacturing facility*
- *A wide range of popular styles and sizes*
- *Comes complete with attractive, compact and light-weight acrylic display, ideal for your showroom and managing your inventory*
- *Display has a lock for added security. There is a shelf hidden in the back for holding additional replenishment inventory, or empty packages*
- *Available in 33, 66, or 99 pieces. The display holds 33 pieces (1 of each). The 66-piece display provides you with an extra piece of each for replenishment of the display. The 99-piece display provides you with 2 extra pieces of each.*
- *Detailed labels (sample pictured below) make filling the display simple and easy*

Storage drawer in back of display




| Displays | Each Set Contains The Following DC & NF Burrs: | Single Cut Order No. | Double Cut Order No. |
|---|---|---|---|
| 33-Piece Display (1 of Each Burr) | SA-1, SA-3, SA-5, SA-3NF, SC-1, SC-3, SC-5, SC-3NF, SD-1, SD-3, SD-5,SE-1, SE-3, SE-5, SE-3NF, SF-1, SF-3, SF-5, SF-3NF, SG-1, SG-3, SG-5, SH-1, SH-5, SJ-1, SJ-3, SL-1, SL-3, SL-4, SL-3NF, SM-1, SM-4, SM-5 | 70S033SC | 70S033DC |
| 66-Piece Display (2 of Each Bur) | | 70S066SC | 70S066DC |
| 99-Piece Display (3 of Each Bur) | | 70S099SC | 70S099DC |

# POINT GRINDER

## DIALSPEED™ 6141

### For fitting and finishing work

The convenient design of this very popular point grinder results in increased performance and operator comfort to let you reach new levels of productivity. Proven electronics and the quality construction of the motor deliver more power to the spindle while the ergonomic housing minimizes fatigue. This tool is the perfect companion to our premium carbide burrs for any deburring or shaping applications.

| RPM | |
|---|---|
| SPEED 1 | 10,000 rpm |
| SPEED 2 | 14,000 rpm |
| SPEED 3 | 18,500 rpm |
| SPEED 4 | 22,000 rpm |
| SPEED 5 | 26,000 rpm |
| SPEED 6 | 30,500 rpm |

| DIALSPEED™ 6141 | |
|---|---|
| Model name | 6141E |
| Order No. | 30A141 |
| Lock-on switch | ✓ |
| AC/DC compatibility | AC compatibility only |
| Soft-StartTM | ✓ |
| Restart protection | ✓ |
| DYNAMAX™ RPM monitoring | ✓ |
| POWERGUARD™ overheat protection | ✓ |
| DIALSPEED™ variable RPM selector | ✓ |
| Collet | 1/4” |
| RPM no-load | 10,000 to 30,500 |
| Amps | 6.4 A |
| Power | 710 W |
| Tool weight | 4.2 lbs |
| Tool length | 13.75” |
| Maximum wheel diameter | 1.5” |
| **Standard equipment** | |
| 1/4 collet | 30B046 |
| Spanner | 48Z019 |
| **Optional equipment** | |
| Cutting guard | 30B051 |

| Flexible shaft | |
|---|---|
| Description | Order No. |
| For delicate finishing work with 6141 and 6145. 1/4” collet, 5 ft. long. | 30B050 |

# **TECHNICAL** INFORMATION

## BURR SELECTION CHART

| Head Style | Description | Use | |
|---|---|---|---|
| SA | Cylindrical | Deburring | |
| SB | Cylindrical with end cut | Interior Contour Work | |
| SC | Cylindrical Ball Nose | Surface Milling & Contour Work | |
| SD | Ball Shape | Surface Milling, Deburring, & Contour Work | |
| SE | Oval Shape | Contour Work | |
| SF | Round Tree Shape | Narrow Contour Work | |
| SG | Pointed Tree Shape | Surface Milling & Narrow Contour Work | |
| SH | Flame Shape | Contour Work | |
| SJ | 60° Included Angle | Machining of Acute Angle Areas & Countersinking | |
| SK | 90° Included Angle | Machining of Acute Angle Areas & Countersinking | |
| SL | 14° Included Angle | Surface Machining & Narrow Contour Work | |
| SM | Cone Shape | Surface Machining & Narrow Contour Work | |
| SN | Inverted Cone | Machining from the Rear in hard to reach areas | |
| SNE | Inverted Cone with end cut | Machining from the Rear in hard to reach areas | |

# TECHNICAL INFORMATION

## Head Profiles / RPM Chart / Speed Recommendations

### Single Cut

DRILLCO's Single Cut produces a smooth finish for general purpose use on steel, cast iron and other ferrous and non-ferrous materials. Most of DRILLCO's Carbide Burrs are available in the Single Cut right hand spiral design.

### Double Cut

DRILLCO's Double Cut, with its chisel type cutting edge, is a machine ground tool built to exacting tolerances of concentricity, size and shape. When combined with precision grinders, this accuracy results in smooth running, fast metal removal and fine finishes.

The right and left hand helical flutes combine to produce a chisel-type cutting tooth. This results in faster penetration and stock removal with minimal bounce or chatter. The Double Cut design also produces an easy-to-handle granular type chip, in most metals, as opposed to the conventional sliver type chips. Throughout its life, the Double Cut gives faster stock removal, less operator fatigue, and maintains a good finish on the widest possible variety of materials.

### Chip Breaker

The addition of a chip breaker will reduce sliver size and improve operator control at a slightly reduced surface finish. Available through special order only.

### Diamond Cut

The Diamond Cut is very effective in heat-treated and tough alloy steels, producing extremely small chips. It offers very good operator control with good stock removal at the sacrifice of finish. The diamond grind will reduce tool life, however. Available through special order only.

### Aluminum Cut

DRILLCO's Aluminum Cut burrs are outstanding on soft or non-ferrous type materials. Use the Aluminum Cut design on aluminum, magnesium, brass, lead and most plastics.

| RPM Chart | |
|---|---|
| **Burr Diameter** | **RPM** |
| 1/16" | 60,000 - 90,000 |
| 1/8" | 40,000 - 70,000 |
| 3/16" | 35,000 - 60,000 |
| 1/4" | 30,000 - 50,000 |
| 5/16" | 20,000 - 40,000 |
| 3/8" | 20,000 - 40,000 |
| 7/16" | 15,000 - 40,000 |
| 1/2" | 15,000 - 40,000 |
| 5/8" | 12,000 - 25,000 |
| 3/4" | 10,000 - 20.000 |
| 1" | 7,500 - 20,000 |
| 1-1/8" | 7,000 - 13,000 |
| 1-1/2" | 5,000 - 10,000 |
| 1-3/4" | 4,500 - 9,000 |
| 2" | 4,000 - 8,000 |

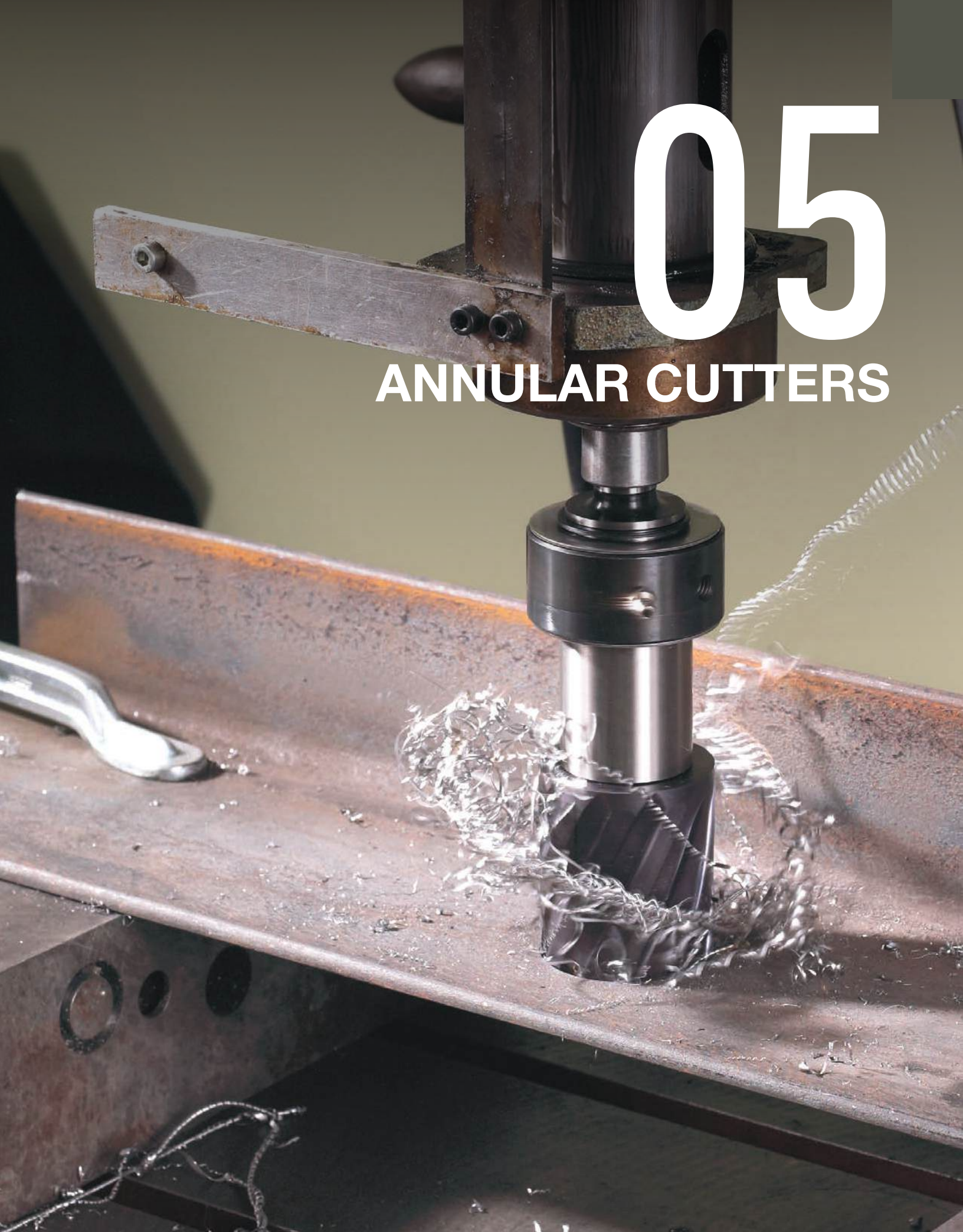
### Speed

High speeds are essential for efficient and economical use of a carbide burr. At high speeds, there will be less tendency for chips to build up in the flute. Also, the burr will cut more freely in corners or pockets and reduce the chances of jamming or wedging.

The selection of operating speeds for a carbide burr is usually less exacting than for most other cutting tools. Rather than specify a different grinder speed for every burr diameter used, one grinder will normally be used for many different burr sizes. However, for most efficient operations, the grinder should be specified with consideration given to the diameter of the burrs that will be used.

Carbide burrs should operate between 1,500 and 3,000 surface feet per minute. Using these guidelines, a grinder can be selected that will efficiently work with a broad range of burr sizes. For example, a 30,000 RPM grinder can be used with a 3/16" to a 3/8" diameter bur. A 22,000 RPM grinder will be satisfactory for burrs ranging from 1/4" to 1/2".

Speeds are an important factor in achieving desired stock removal rates and workpiece finish. Increasing the speed will improve finishes, while lower speeds will remove material more rapidly.



# 05
# ANNULAR CUTTERS

# QUICK PAGES REFERENCES

## ANNULAR CUTTERS

DRILLCO CUTTING TOOLS | WALTER

### High Speed Steel

**Bright Finish**
Forlow-to-medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| | 9100SE, 9200SE | 416 |
| | 9300SE, 9400SE | 417 |

### High Speed Steel + Aluminum (M2AI)

**Bronze Surface Treatment**
For most materials

| Type | Series | Catalog page reference |
|---|---|---|
| SST | 05-A, 05-E | 418 |

### Coated High Speed Steel + Aluminum (M2AI)

**Chromium Aluminium Based Coating**
For longer tool life

| Type | Series | Catalog page reference |
|---|---|---|
| ICECUT™ | 05-B, 05-F | 419 |

### Cobalt Annular Cutters NITRO

**Bronze Finish**
For long life on stainless steel, titanium, high tensile steel, other hard materials

| Type | Series | Catalog page reference |
|---|---|---|
| | 9100N, 9200N, 9300N | 420 |

### Carbide Tipped Annular Cutters

**Bright Finish**
For high performance on cast iron, cast steel, other hard materials

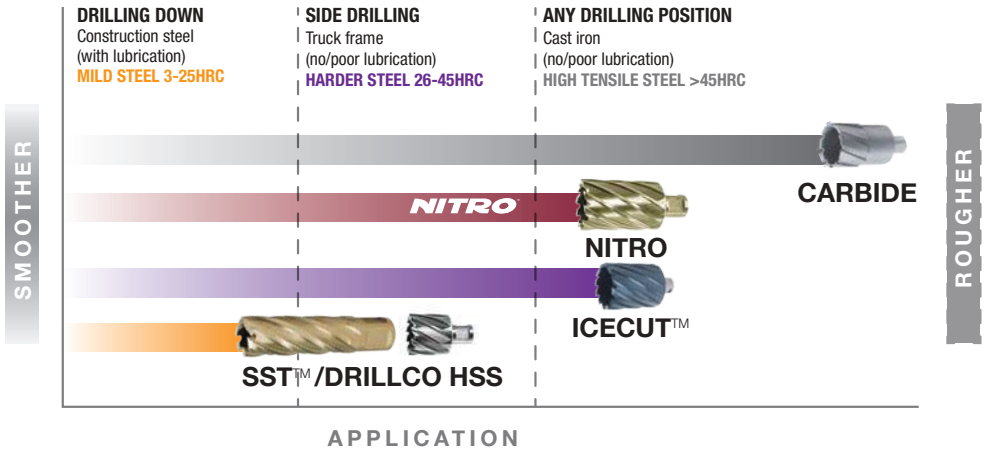
| Type | Series | Catalog page reference |
|---|---|---|
| | 9100CT, 9200CT | 421 |

### Carbide Tipped Annular Cutters

**Bright Finish**
For high performance on cast iron, cast steel, other hard materials

| Type | Series | Catalog page reference |
|---|---|---|
| | 05-D, 05-F, 05-H | 422 |

## ANNULAR CUTTERS PERFORMANCE CHART



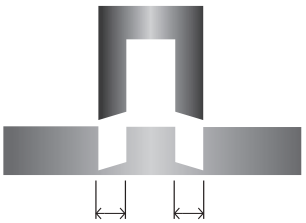
# ANNULAR CUTTERS EXPLAINED

## HIGH-PERFORMANCE ANNULAR CUTTERS

**When drilling large holes through thick, flat metal surfaces, it is often more cost-effective to use an annular cutter, which cuts at the circumference of the circle, instead of cutting through the entire area of the circle. This allows you to make holes faster and more efficiently.**

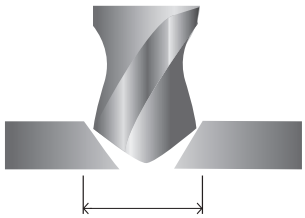
WALTER annular cutters are made from a high-speed steel and aluminum blend (M2AI) that enhances toughness and durability, extending their lifespan. Unlike conventional cutting tools enhanced with cobalt (HSCo), which can become brittle and prone to breakage, WALTER's advanced HSS blend reduces brittleness, providing superior performance under load.
Through graduated hardening and the addition of aluminum, WALTER core cutters gain "micro-flexibility," making them less brittle and longer-lasting than regular HSCo annular cutters. The exclusive triple tooth design and special fluting angle optimize chip evacuation and eliminate debris. WALTER's AlCrN coating on the ICECUT™ line forms a self-lubricating nano-layer when heated, preventing materials from sticking, melting, or deforming. ICECUT™ annular cutters offer the longest lifespan among coated HSS annular cutters.

### Annular cutters

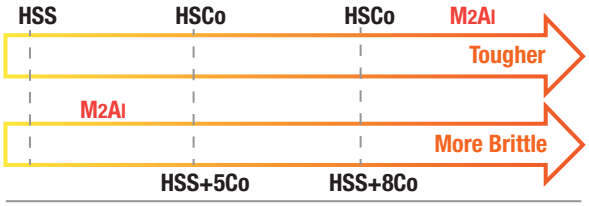


Less metal-to-metal contact reduces friction, thus reducing heat, increasing tool life and efficiency

### Regular twist drills



More metal-to-metal contact increases friction and heat, causing tooling to wear prematurely and resulting in longer cutting time




Adding Cobalt makes cutters more resistant to wear, but also more brittle which makes them more susceptible to breakage under pressure. M2AI provides an ideal blend of extreme toughness without a kind of “micro-flexibility” not found in standard cobalt blends.

## Annular Cutter Selection Chart. Match the Best Cutter for your Application

| | SST™ Core Cut/DRILLCO HSS | ICECUT™ | NITRO™ Cobalt | Carbide (WALTER/DRILLCO) |
|---|---|---|---|---|
| **SPECIFICATIONS** | | | | |
| Diameter Range | 1/2" - 4" | 1/2" - 2-3/8" | 7/16" - 2-1/4" | 1/2" - 4" |
| Drilling Depth | 1", 2", 3" and 4" | Up to 4" depth cutters on selected items | 1", 2" and 3" | 1-1/2", 2", 3", 4" |
| Shank Size | 3/4" and 1-1/4" | 3/4" | 3/4" | 3/4", 1-1/4" |
| Shank Type | Universal & Weldon shank with 2 flats | Universal & Weldon shank with 2 flats | Weldon shank | Universal & Weldon shank with 2 flats* |
| **MATERIAL** | | | | |
| Mild Steel (3 to 25 HRC) | ✔ | ✔ | ✔ | ✔ |
| Harder Steel (26 to 45 HRC) | ✔ | ✔ | ✔ | ✔ |
| Stainless Steel (300 and 400 series) | ✔ | ✔ | ✔ | ✔ |
| Cast Iron | — | ✔ | ✔ | ✔ |
| Aluminum | ✔ | ✔ | ✔ | ✔ |
| Brass and Bronze | ✔ | ✔ | ✔ | ✔ |
| Hardox / Scandia | — | — | ✔ | ✔ |
| Rough / Uneven material | — | — | ✔ | ✔ |
| Railroad Track | — | — | ✔ | ✔ |
| **CHARACTERISTICS** | | | | |
| Cutting Speed | Fast | Very Fast | Very Fast | Extra Fast |
| Cutter Life | Long | Very Long | Very Long | Extra Long |

✔ *Highly Recommended*
✔ *Recommended*

***Metric line available**

# HIGH SPEED STEEL
# ANNULAR CUTTERS

DRILLCO CUTTING TOOLS

## Produce large diameter holes efficiently and quickly with less energy

Rather than drilling out the metal with a solid drill, DRILLCO cutters remove only the periphery of the hole, ejecting a slug at the end of the cut.

- *For a wide range of materials*
- *Up up to 4" diameter and 4" depth of cut*
- *Weldon Shank*

## *9100SE SERIES*
## HIGH SPEED STEEL
### 1" Depth of Cut
### Fractional

| 3/4" SHANK | | |
|---|---|---|
| Size | HSS 9100SE Order No. | HSS 9100SE WITH PINS |
| 7/16" | 91SE128 | 91SE128K |
| 1/2" | 91SE132 | 91SE132K |
| 9/16" | 91SE136 | 91SE136K |
| 5/8" | 91SE140 | 91SE140K |
| 11/16" | 91SE144 | 91SE144K |
| 3/4" | 91SE148 | 91SE148K |
| 13/16" | 91SE152 | 91SE152K |
| 7/8" | 91SE156 | 91SE156K |
| 15/16" | 91SE160 | 91SE160K |
| 1" | 91SE164 | 91SE164K |
| 1-1/16" | 91SE204 | 91SE204K |
| 1-1/8" | 91SE208 | 91SE208K |
| 1-3/16" | 91SE212 | 91SE212K |
| 1-1/4" | 91SE216 | 91SE216K |
| 1-5/16" | 91SE220 | 91SE220K |
| 1-3/8" | 91SE224 | 91SE224K |
| 1-7/16" | 91SE228 | 91SE228K |
| 1-1/2" | 91SE232 | 91SE232K |
| 1-9/16" | 91SE236 | – |
| 1-5/8" | 91SE240 | – |
| 1-11/16" | 91SE244 | – |
| 1-3/4" | 91SE248 | – |
| 1-13/16" | 91SE252 | – |
| 1-7/8" | 91SE256 | – |
| 1-15/16" | 91SE260 | – |
| 2" | 91SE264 | – |
| 2-1/16" | 91SE304 | – |
| 2-1/8" | 91SE308 | – |
| 2-3/16" | 91SE312 | – |
| 2-1/4" | 91SE316 | – |
| 2-5/16" | 91SE320 | |
| 2-3/8" | 91SE324 | |
| 2-7/16" | 91SE328 | |
| 2-1/2" | 91SE332 | |
| 2-9/16" | 91SE336 | |

| 1-1/4" SHANK | |
|---|---|
| Size | HSS 9100SE Order No. |
| 2-5/8" | 91SE340 |
| 2-11/16" | 91SE344 |
| 2-3/4" | 91SE348 |
| 2-13/16" | 91SE352 |
| 2-7/8" | 91SE356 |
| 2-15/16" | 91SE360 |
| 3" | 91SE364 |
| 3-1/16" | 91SE404 |
| 3-1/8" | 91SE408 |
| 3-3/16" | 91SE412 |
| 3-1/4" | 91SE416 |
| 3-5/16" | 91SE420 |
| 3-3/8" | 91SE424 |
| 3-7/16" | 91SE428 |
| 3-1/2" | 91SE432 |
| 3-9/16" | 91SE436 |
| 3-5/8" | 91SE440 |
| 3-11/16" | 91SE444 |
| 3-3/4" | 91SE448 |
| 3-13/16" | 91SE452 |
| 3-7/8" | 91SE456 |
| 3-15/16" | 91SE460 |
| 4" | 91SE464 |

| HSS & Cobalt Annular Cutter Pilot Pins | |
|---|---|
| Description | Order No. |
| 1" depth of cut pilot pin for 1/2" – 2-1/4" | 91SE001 |
| 1" depth of cut pilot pin for 7/16" | 91SE002 |
| 1" depth of cut pilot pin for 2-5/16" & larger sizes | 91SE003 |

91SE7S

## *9200SE SERIES*
## HIGH SPEED STEEL
### 2" Depth of Cut
### Fractional

| 3/4" SHANK | | |
|---|---|---|
| Size | HSS 9200SE Order No. | HSS 9200SE WITH PINS |
| 7/16" | 92SE128 | 92SE128K |
| 1/2" | 92SE132 | 92SE132K |
| 9/16" | 92SE136 | 92SE136K |
| 5/8" | 92SE140 | 92SE140K |
| 11/16" | 92SE144 | 92SE144K |
| 3/4" | 92SE148 | 92SE148K |
| 13/16" | 92SE152 | 92SE152K |
| 7/8" | 92SE156 | 92SE156K |
| 15/16" | 92SE160 | 92SE160K |
| 1" | 92SE164 | 92SE164K |
| 1-1/16" | 92SE204 | 92SE204K |
| 1-1/8" | 92SE208 | 92SE208K |
| 1-3/16" | 92SE212 | 92SE212K |
| 1-1/4" | 92SE216 | 92SE216K |
| 1-5/16" | 92SE220 | 92SE220K |
| 1-3/8" | 92SE224 | 92SE224K |
| 1-7/16" | 92SE228 | 92SE228K |
| 1-1/2" | 92SE232 | 92SE232K |
| 1-9/16" | 92SE236 | - |
| 1-5/8" | 92SE240 | - |
| 1-11/16" | 92SE244 | - |
| 1-3/4" | 92SE248 | - |
| 1-13/16" | 92SE252 | - |
| 1-7/8" | 92SE256 | - |
| 1-15/16" | 92SE260 | - |
| 2" | 92SE264 | - |
| 2-1/16" | 92SE304 | - |
| 2-1/8" | 92SE308 | - |
| 2-3/16" | 92SE312 | - |
| 2-1/4" | 92SE316 | - |
| 2-5/16" | 92SE320 | |
| 2-3/8" | 92SE324 | |
| 2-7/16" | 92SE328 | |
| 2-1/2" | 92SE332 | |
| 2-9/16" | 92SE336 | |

| 1-1/4" SHANK | |
|---|---|
| Size | 9200SE Order No. |
| 2-5/8" | 92SE340 |
| 2-11/16" | 92SE344 |
| 2-3/4" | 92SE348 |
| 2-13/16" | 92SE352 |
| 2-7/8" | 92SE356 |
| 2-15/16" | 92SE360 |
| 3" | 92SE364 |
| 3-1/16" | 92SE404 |
| 3-1/8" | 92SE408 |
| 3-3/16" | 92SE412 |
| 3-1/4" | 92SE416 |
| 3-5/16" | 92SE420 |
| 3-3/8" | 92SE424 |
| 3-1/2" | 92SE432 |
| 3-9/16" | 92SE436 |
| 3-5/8" | 92SE440 |
| 3-11/16" | 92SE444 |
| 3-3/4" | 92SE448 |
| 3-13/16" | 92SE452 |
| 3-7/8" | 92SE456 |
| 4" | 92SE464 |

| HSS & Cobalt Annular Cutter Pilot Pins | |
|---|---|
| Description | Order No. |
| 2" depth of cut pilot pin for 1/2" – 2-1/4" | 92SE001 |
| 2" depth of cut pilot pin for 7/16" only | 92SE002 |
| 2" depth of cut pilot pin for 2-5/16" & larger sizes | 92SE003 |

| HSS Annular Cutters Sets | |
|---|---|
| Includes | |
| 9/16", 5/8", 11/16", 3/4", 13/16", 15/16", and pilot pin | |
| Depth of Cut | Order No. |
| 1" Depth of Cut | 91SE7S |
| 2" Depth of Cut | 92SE7S |

## *9300SE SERIES*
## HIGH SPEED STEEL
### 3” Depth of Cut
### Fractional

| 3/4” SHANK | |
|---|---|
| Size | HSS 9300SE Order No. |
| 3/4” | 93SE148 |
| 13/16” | 93SE152 |
| 7/8” | 93SE156 |
| 15/16” | 93SE160 |
| 1” | 93SE164 |
| 1-1/16” | 93SE204 |
| 1-1/8” | 93SE208 |
| 1-3/16” | 93SE212 |
| 1-1/4” | 93SE216 |
| 1-5/16” | 93SE220 |
| 1-3/8” | 93SE224 |
| 1-7/16” | 93SE228 |
| 1-1/2” | 93SE232 |
| 1-9/16” | 93SE236 |
| 1-5/8” | 93SE240 |
| 1-11/16” | 93SE244 |
| 1-3/4” | 93SE248 |
| 1-13/16” | 93SE252 |
| 1-7/8” | 93SE256 |
| 1-15/16” | 93SE260 |
| 2” | 93SE264 |
| 2-1/16” | 93SE304 |
| 2-1/8” | 93SE308 |
| 2-3/16” | 93SE312 |
| 2-1/4” | 93SE316 |
| 2-5/16” | 93SE320 |
| 2-3/8” | 93SE324 |
| 2-7/16” | 93SE328 |
| 2-1/2” | 93SE332 |
| 2-9/16” | 93SE336 |

| 1-1/4” SHANK | |
|---|---|
| Size | 9300SE Order No. |
| 2-5/8” | 93SE340 |
| 2-11/16” | 93SE344 |
| 2-3/4” | 93SE348 |
| 2-13/16” | 93SE352 |
| 2-7/8” | 93SE356 |
| 2-15/16” | 93SE360 |
| 3” | 93SE364 |
| 3-1/16” | 93SE404 |
| 3-1/8” | 93SE408 |
| 3-3/16” | 93SE412 |
| 3-1/4” | 93SE416 |
| 3-5/16” | 93SE420 |
| 3-3/8” | 93SE424 |
| 3-7/16” | 93SE428 |
| 3-1/2” | 93SE432 |
| 3-9/16” | 93SE436 |
| 3-5/8” | 93SE440 |
| 3-11/16” | 93SE444 |
| 3-3/4” | 93SE448 |
| 3-13/16” | 93SE452 |
| 3-7/8” | 93SE456 |
| 3-15/16” | 93SE460 |
| 4” | 93SE464 |

| Annular Cutter Pilot Pin | |
|---|---|
| Description | Order No. |
| 3” depth of cut pilot pin for 2-5/16” & larger sizes | 93SE003 |

| Annular Cutter Pilot Pin | |
|---|---|
| Description | Order No. |
| 3” depth of cut pilot pin for 1/2” – 2-1/4” | 93SE001 |

## *9400SE SERIES*
## HIGH SPEED STEEL
### 4” Depth of Cut
### Fractional

| 3/4” SHANK | |
|---|---|
| Size | 9400SE Order No. |
| 3/4” | 94SE148 |
| 13/16” | 94SE152 |
| 7/8” | 94SE156 |
| 15/16” | 94SE160 |
| 1” | 94SE164 |
| 1-1/16” | 94SE204 |
| 1-1/8” | 94SE208 |
| 1-3/16” | 94SE212 |
| 1-1/4” | 94SE216 |
| 1-5/16” | 94SE220 |
| 1-3/8” | 94SE224 |
| 1-7/16” | 94SE228 |
| 1-1/2” | 94SE232 |
| 1-9/16” | 94SE236 |
| 1-5/8” | 94SE240 |
| 1-11/16” | 94SE244 |
| 1-3/4” | 94SE248 |
| 1-13/16” | 94SE252 |
| 1-7/8” | 94SE256 |
| 1-15/16” | 94SE260 |
| 2” | 94SE264 |
| 2-1/16” | 94SE304 |
| 2-1/8” | 94SE308 |
| 2-3/16” | 94SE312 |
| 2-1/4” | 94SE316 |
| 2-5/16” | 94SE320 |
| 2-3/8” | 94SE324 |
| 2-7/16” | 94SE328 |
| 2-1/2” | 94SE332 |
| 2-9/16” | 94SE336 |

| 1-1/4” SHANK | |
|---|---|
| Size | 9400SE Order No. |
| 2-5/8” | 94SE340 |
| 2-11/16” | 94SE344 |
| 2-3/4” | 94SE348 |
| 2-13/16” | 94SE352 |
| 2-7/8” | 94SE356 |
| 2-15/16” | 94SE360 |
| 3” | 94SE364 |
| 3-1/16” | 94SE404 |
| 3-1/8” | 94SE408 |
| 3-3/16” | 94SE412 |
| 3-1/4” | 94SE416 |
| 3-5/16” | 94SE420 |
| 3-3/8” | 94SE424 |
| 3-7/16” | 94SE428 |
| 3-1/2” | 94SE432 |
| 3-9/16” | 94SE436 |
| 3-5/8” | 94SE440 |
| 3-11/16” | 94SE444 |
| 3-3/4” | 94SE448 |
| 3-13/16” | 94SE452 |
| 3-7/8” | 94SE456 |
| 3-15/16” | 94SE460 |
| 4” | 94SE464 |

| Annular Cutter Pilot Pin | |
|---|---|
| Description | Order No. |
| 4” depth of cut pilot pin for 1/2” thru 1-7/16” sizes | 94SE001 |
| 4” depth of cut pilot pin for 1-1/2” and larger sizes | 94SE003 |

| Annular Cutters 32.pc Fractional Sizes display | | | |
|---|---|---|---|
| Material | Series | Includes | Item Number |
| NITRO® (Cobalt) | 9100N & 9200N | 1 each of the following: 1/2, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1,1-1/16, 1-1/8, and 6 pins | 912N32D |
| High Speed Steel | 9100SE & 9200SE | | 912SE32D |
| Carbide Tipped | 9100CT & 9200CT | 1 each of the following: 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, and 6 pins | 912CT32D |

WALTER

SST

# HIGH SPEED STEEL
# SST™ CORE CUT ANNULAR CUTTERS

***05A / 05E Series***

**HIGH SPEED STEEL**

**1”, 2” & 3” Depth of Cut**

**Fractional**

## Guaranteed to outperform all uncoated cutters

Super Speed Tip (SST) Core Cutters are made with state-of-the-art surface treatment technology that removes porosity during the fabrication process. This creates a perfectly smooth finish which allows for a better evacuation of material while cutting. It also helps to improve product life and reduce cutting time as it decreases friction with the work surface, which in turn reduces the amount of heat generated.

- ***Cuts faster***
- ***Lasts longer***
- ***Universal shank***
- ***Exclusive SST surface treatment***
- ***Multiple tooth design***
- ***Packaged in reusable plastic packaging***

| Diameter | | Std pkg | Weldon Shank | | | Universal Shank | |
|---|---|---|---|---|---|---|---|
| | | | 1” cutters | 2” cutters | 3” cutters | 1” cutters | 2” cutters |
| Inches | mm | | Order No. | Order No. | Order No. | Order No. | Order No. |
| Use with pilot pin | | | 05Z001 | 05Z002 | 05Z018 | 05Z001 | 05Z002 |
| 7/16” | 11.1 | 1 | | | | 05E007* *Use with pilot pin 05Z029 | |
| 1/2” | 12.7 | 1 | 05A008 | 05A308 | | 05E008 | 05E308 |
| 9/16” | 14.3 | 1 | 05A009 | 05A309 | | 05E009 | 05E309 |
| 5/8” | 15.9 | 1 | 05A010 | 05A310 | | 05E010 | 05E310 |
| 11/16” | 17.5 | 1 | 05A011 | 05A311 | 05A611 | 05E011 | 05E311 |
| 3/4” | 19.0 | 1 | 05A012 | 05A312 | | 05E012 | 05E312 |
| 13/16” | 20.6 | 1 | 05A013 | 05A313 | 05A613 | 05E013 | 05E313 |
| 7/8” | 22.2 | 1 | 05A014 | 05A314 | | 05E014 | 05E314 |
| 15/16” | 23.8 | 1 | 05A015 | 05A315 | 05A615 | 05E015 | 05E315 |
| 1” | 25.4 | 1 | 05A100 | 05A400 | | 05E100 | 05E400 |
| 1-/16” | 27.0 | 1 | 05A101 | 05A401 | 05A701 | 05E101 | 05E401 |
| 1-1/8” | 28.6 | 1 | 05A102 | 05A402 | | 05E102 | 05E402 |
| 1-3/16” | 30.2 | 1 | 05A103 | 05A403 | | 05E103 | 05E403 |
| 1-1/4” | 31.8 | 1 | 05A104 | 05A404 | | 05E104 | 05E404 |
| 1-5/16” | 33.3 | 1 | 05A105 | 05A405 | | 05E105 | 05E405 |
| 1-3/8” | 34.9 | 1 | 05A106 | 05A406 | | 05E106 | 05E406 |
| 1-7/16” | 36.5 | 1 | 05A107 | 05A407 | | 05E107 | 05E407 |
| 1-1/2” | 38.1 | 1 | 05A108 | 05A408 | | 05E108 | 05E408 |
| 1-9/16” | 39.7 | 1 | 05A109 | 05A409 | | | 05E409 |
| 1-5/8” | 41.3 | 1 | 05A110 | 05A410 | | | |
| 1-3/4” | 44.5 | 1 | 05A112 | 05A412 | | | |
| 1-13/16” | 46.0 | 1 | 05A113 | 05A413 | | | |
| 1 7/8” | 47.6 | 1 | 05A114 | 05A414 | | | |
| 1-15/16” | 49.2 | 1 | 05A115 | 05A415 | | | |
| 2” | 51.0 | 1 | 05A200 | 05A500 | | | |
| 2-1/16” | 52.4 | 1 | 05A201 | 05A501 | | | |
| 2-1/8” | 54.0 | 1 | 05A202 | 05A502 | | | |
| 2 -3/16” | 55.6 | 1 | — | 05A503 | | | |
| 2-1/4” | 57.2 | 1 | | 05A504 | | | |
| 2-5/16” | 58.7 | 1 | | 05A505 | | | |
| 2-3/8” | 60.3 | 1 | | 05A506 | | | |

Other sizes are available upon special request. Please speak with your WALTER sales representative.

| SST Core Cut Kits | |
|---|---|
| **Material** | |
| Special bronze SST surface treatment<br>Weldon shank | |
| **Includes** | |
| 1 of each diameter:<br>9/16”, 11/16”, 13/16”, 15/16”, 1”, 1-1/16” and pilot pin” | |
| **Depth of Cut** | **Item Number** |
| 1” annular cutter kit | 05A991 |
| 2” annular cutter kit | 05A992 |

# COATED HIGH SPEED STEEL ICECUT™ ANNULAR CORE CUTTERS

## *05B / 05F Series*

**COATED HIGH SPEED STEEL**

**1”, 2”, 3” & 4” Depth of Cut**

**Fractional**

### Guaranteed to cut more holes in less time!

ICECUT™ annular cutters are coated with an exclusive chromium and aluminum blend (AlCrN), designed for use where lubricants are not permitted or difficult to apply. This technology outperforms cutters coated with Titanium Nitride (TiN) or Titanium Aluminum Nitride (TiAlN). The AlCrN coating generates less heat and withstands temperatures at least 200°C higher than TiAlN cutters, making ICECUT™ more resistant to stress and impact under load.

- *Well-known quality and durability*
- *Lasts longer than uncoated core cutters*
- *Exclusive ICECUT™ AlCrN coating*
- *Fully ground extra large flutes*
- *Packaged in reusable plastic packaging*

**ICECUT™ Core Cut Kits**

**Material**

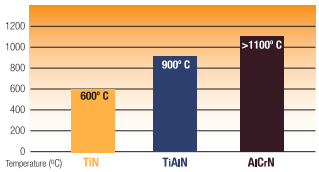
Exclusive ICECUT™ surface coating
Weldon shank

**Includes**

1 of each diameter:
9/16”, 11/16”, 13/16”, 15/16”, 1”, 1-1/16” and pilot pin

| Depth of Cut | Item Number |
|---|---|
| 1” annular cutter kit | 05B991 |
| 2” annular cutter kit | 05B992 |

**Maximum temperature before deformation**




| Diameter | | Std pkg | Weldon Shank | | | | Universal Shank | |
|---|---|---|---|---|---|---|---|---|
| | | | 1” cutters | 2” cutters | 3” cutters | 4” cutters | 1” cutters | 2” cutters |
| Inches | mm | | Order No. | Order No. | Order No. | Order No. | Order No. | Order No. |
| Use with pilot pin | | | 05W001 | 05W002 | 05W018<br>05W032 | 05Z031<br>05Z033 | 05Z001 | 05Z002 |
| 7/16” | 11.1 | 1 | | | | | 05F007*<br>*Use with pilot pin 05Z029 | 05F307*<br>*Use with pilot pin 05Z030 |
| 1/2” | 12.7 | 1 | 05B008 | 05B308 | | | 05F008 | 05F308 |
| 9/16” | 14.3 | 1 | 05B009 | 05B309 | | | 05F009 | 05F309 |
| 5/8” | 15.9 | 1 | 05B010 | 05B310 | | | 05F010 | 05F310 |
| 11/16” | 17.5 | 1 | 05B011 | 05B311 | 05B611 | 05B811 | 05F011 | 05F311 |
| 3/4” | 19.0 | 1 | 05B012 | 05B312 | | | 05F012 | 05F312 |
| 13/16” | 20.6 | 1 | 05B013 | 05B313 | 05B613 | 05B813 | 05F013 | 05F313 |
| 7/8” | 22.2 | 1 | 05B014 | 05B314 | | | 05F014 | 05F314 |
| 15/16” | 23.8 | 1 | 05B015 | 05B315 | 05B615 | 05B815 | 05F015 | 05F315 |
| 1” | 25.4 | 1 | 05B100 | 05B400 | | | 05F100 | 05F400 |
| 1-1/16” | 27.0 | 1 | 05B101 | 05B401 | 05B701 | 05B901 | 05F101 | 05F401 |
| 1-1/8” | 28.6 | 1 | 05B102 | 05B402 | | | 05F102 | 05F402 |
| 1-3/16” | 30.2 | 1 | 05B103 | 05B403 | | | 05F103 | 05F403 |
| 1-1/4” | 31.8 | 1 | 05B104 | 05B404 | | | 05F104 | 05F404 |
| 1-5/16” | 33.3 | 1 | 05B105 | 05B405 | | | 05F105 | 05F405 |
| 1-3/8” | 34.9 | 1 | 05B106 | 05B406 | | | 05F106 | 05F406 |
| 1-7/16” | 36.5 | 1 | 05B107 | 05B407 | | | 05F107 | 05F407 |
| 1-1/2” | 38.1 | 1 | 05B108 | 05B408 | | | 05F108 | 05F408 |
| 1-9/16” | 39.7 | 1 | 05B109 | 05B409 | | | | |
| 1-5/8” | 41.3 | 1 | 05B110 | 05B410 | | | | |
| 1-3/4” | 44.5 | 1 | 05B112 | 05B412 | | | | |
| 1-13/16” | 46.0 | 1 | 05B113 | 05B413 | | | | |
| 1-7/8” | 47.6 | 1 | 05B114 | 05B414 | | | | |
| 1-15/16” | 49.2 | 1 | 05B115 | 05B415 | | | | |
| 2” | 51.0 | 1 | 05B200 | 05B500 | | | | |
| 2-1/16” | 52.4 | 1 | 05B201 | 05B501 | | | | |
| 2-1/8” | 54.0 | 1 | 05B202 | 05B502 | | | | |
| 2-3/16” | 55.6 | 1 | | 05B503 | | | | |
| 2-1/4” | 57.2 | 1 | | 05B504 | | | | |
| 2-5/16” | 58.7 | 1 | | 05B505 | | | | |
| 2-3/8” | 60.3 | 1 | | 05B506 | | | | |

Other sizes are available upon special request. Please speak with your WALTER sales representative.

# COBALT ANNULAR CUTTERS

DRILLCO CUTTING TOOLS

NITRO

**Offer even better performance over the standard High Speed Steel ranges**

- *Cobalt substrate helps deflect heat, allowing for faster speeds and feeds than HSS annular cutters*
- *Suitable for more demanding applications, such as stainless steel and titanium*
- *Bronze surface treatment for added lubricity*
- *Weldon Shank*

## *9100N SERIES*

**COBALT**

**1" Depth of Cut**
**Fractional**

| 3/4" SHANK | |
|---|---|
| **Size** | **NITRO® 9100N Order No.** |
| 7/16" | 91N128 |
| 1/2" | 91N132 |
| 9/16" | 91N136 |
| 5/8" | 91N140 |
| 11/16" | 91N144 |
| 3/4" | 91N148 |
| 13/16" | 91N152 |
| 7/8" | 91N156 |
| 15/16" | 91N160 |
| 1" | 91N164 |
| 1-1/16" | 91N204 |
| 1-1/8" | 91N208 |
| 1-3/16" | 91N212 |
| 1-1/4" | 91N216 |
| 1-5/16" | 91N220 |
| 1-3/8" | 91N224 |
| 1-7/16" | 91N228 |
| 1-1/2" | 91N232 |
| 1-9/16" | 91N236 |
| 1-5/8" | 91N240 |
| 1-11/16" | 91N244 |
| 1-3/4" | 91N248 |
| 1-13/16" | 91N252 |
| 1-7/8" | 91N256 |
| 1-15/16" | 91N260 |
| 2" | 91N264 |
| 2-1/16" | 91N304 |
| 2-1/8" | 91N308 |
| 2-3/16" | 91N312 |
| 2-1/4" | 91N316 |

| 3/4" SHANK | |
|---|---|
| **Size** | **NITRO® 9100N Order No.** |
| 2-5/16" | 91N320 |
| 2-3/8" | 91N324 |
| 2-7/16" | 91N328 |
| 2-1/2" | 91N332 |

| HSS & Cobalt Annular Cutter Pilot Pins | |
|---|---|
| **Description** | **Order No.** |
| 1" depth of cut pilot pin for 1/2" – 2-1/4" | 91SE001 |
| 1" depth of cut pilot pin for 7/16" | 91SE002 |
| 1" depth of cut pilot pin for 2-5/16" & larger sizes | 91SE003 |

| Cobalt Annular Cutters Sets | |
|---|---|
| **Includes** | |
| 9/16", 5/8", 11/16", 3/4", 13/16", 15/16", and pilot pin | |
| **Depth of Cut** | **Order No.** |
| 1" Depth of Cut | 91N7S |
| 2" Depth of Cut | 92N7S |

## *9200N SERIES*

**COBALT**

**2" Depth of Cut**
**Fractional**

| 3/4" SHANK | |
|---|---|
| **Size** | **NITRO® 9200N Order No.** |
| 7/16" | 92N128 |
| 1/2" | 92N132 |
| 9/16" | 92N136 |
| 5/8" | 92N140 |
| 11/16" | 92N144 |
| 3/4" | 92N148 |
| 13/16" | 92N152 |
| 7/8" | 92N156 |
| 15/16" | 92N160 |
| 1" | 92N164 |
| 1-1/16" | 92N204 |
| 1-1/8" | 92N208 |
| 1-3/16" | 92N212 |
| 1-1/4" | 92N216 |
| 1-5/16" | 92N220 |
| 1-3/8" | 92N224 |
| 1-7/16" | 92N228 |
| 1-1/2" | 92N232 |
| 1-9/16" | 92N236 |
| 1-5/8" | 92N240 |
| 1-11/16" | 92N244 |
| 1-3/4" | 92N248 |
| 1-13/16" | 92N252 |
| 1-7/8" | 92N256 |
| 1-15/16" | 92N260 |
| 2" | 92N264 |
| 2-1/16" | 92N304 |
| 2-1/8" | 92N308 |
| 2-3/16" | 92N312 |
| 2-1/4" | 92N316 |

| HSS & Cobalt Annular Cutter Pilot Pins | |
|---|---|
| **Description** | **Order No.** |
| 2" depth of cut pilot pin for 1/2" – 2-1/4" | 92SE001 |
| 2" depth of cut pilot pin for 7/16" | 92SE002 |
| 2" depth of cut pilot pin for 2-5/16" & larger sizes | 92SE003 |

## *9300N SERIES*

**COBALT**

**3" Depth of Cut**
**Fractional**

| 3/4" SHANK | |
|---|---|
| **Size** | **NITRO® 9300N Order No.** |
| 3/4" | 93N148 |
| 13/16" | 93N152 |
| 7/8" | 93N156 |
| 15/16" | 93N160 |
| 1" | 93N164 |
| 1-1/16" | 93N204 |
| 1-1/8" | 93N208 |
| 1-3/16" | 93N212 |
| 1-1/4" | 93N216 |
| 1-5/16" | 93N220 |
| 1-3/8" | 93N224 |
| 1-7/16" | 93N228 |
| 1-1/2" | 93N232 |
| 1-9/16" | 93N236 |
| 1-5/8" | 93N240 |
| 1-11/16" | 93N244 |
| 1-3/4" | 93N248 |
| 1-13/16" | 93N252 |
| 1-7/8" | 93N256 |
| 1-15/16" | 93N260 |
| 2" | 93N264 |
| 2-1/16" | 93N304 |
| 2-1/8" | 93N308 |
| 2-3/16" | 93N312 |
| 2-1/4" | 93N316 |

| Annular Cutter Pilot Pin | |
|---|---|
| **Description** | **Order No.** |
| 3" depth of cut pilot pin | 93SE001 |

# CARBIDE TIPPED ANNULAR CUTTERS

DRILLCO CUTTING TOOLS

## Maximize the performance of any Magnetic Drill Machine

- *Deliver reamer-quality, burr-free holes in a fraction of the time of a twist drill*
- *Eliminates the need for costly pilot holes & step drilling*
- *Larger diameters and depths available by special order*
- *Weldon Shank*

### *9100CT SERIES*
**CARBIDE TIPPED**
**1-3/8" Depth of Cut**
**Fractional**

| 3/4" SHANK | |
|---|---|
| **Size** | **Carbide Tip 9100CT Order No.** |
| 7/16" | – |
| 1/2" | – |
| 9/16" | 91CT136 |
| 5/8" | 91CT140 |
| 11/16" | 91CT144 |
| 3/4" | 91CT148 |
| 13/16" | 91CT152 |
| 7/8" | 91CT156 |
| 15/16" | 91CT160 |
| 1" | 91CT164 |
| 1-1/16" | 91CT204 |
| 1-1/8" | 91CT208 |
| 1-3/16" | 91CT212 |
| 1-1/4" | 91CT216 |
| 1-5/16" | 91CT220 |
| 1-3/8" | 91CT224 |

| Annular Cutter Pilot Pin | |
|---|---|
| **Description** | **Order No.** |
| 1-3/8" depth of cut pilot pin for 3/4" and above | 91CT001 |
| 1-3/8" depth of cut pilot pin for 9/16" - 11/16" | 91CT002 |

### *9200CT SERIES*
**CARBIDE TIPPED**
**2" Depth of Cut**
**Fractional**

| 3/4" SHANK | |
|---|---|
| **Size** | **Carbide Tip 9200CT Order No.** |
| 7/16" | - |
| 1/2" | - |
| 9/16" | 92CT136 |
| 5/8" | 92CT140 |
| 11/16" | 92CT144 |
| 3/4" | 92CT148 |
| 13/16" | 92CT152 |
| 7/8" | 92CT156 |
| 15/16" | 92CT160 |
| 1" | 92CT164 |
| 1-1/16" | 92CT204 |
| 1-1/8" | 92CT208 |
| 1-3/16" | 92CT212 |
| 1-1/4" | 92CT216 |
| 1-5/16" | 92CT220 |
| 1-3/8" | 92CT224 |
| 1-7/16" | 92CT228 |
| 1-1/2" | 92CT232 |
| 1-9/16" | 92CT236 |
| 1-5/8" | 92CT240 |
| 1-11/16" | 92CT244 |
| 1-3/4" | 92CT248 |
| 1-13/16" | 92CT252 |
| 1-7/8" | 92CT256 |
| 1-15/16" | 92CT260 |
| 2" | 92CT264 |
| 2-1/16" | - |
| 2-1/8" | 92CT308 |
| 2-3/16" | - |
| 2-1/4" | 92CT316 |
| 2-3/8" | 92CT324 |

| Annular Cutter Pilot Pin | |
|---|---|
| **Description** | **Order No.** |
| 2" depth of cut pilot pin for 3/4" and above | 92CT001 |
| 2" depth of cut pilot pin for 9/16" - 11/16" | 92CT002 |

912SE32D

DRILLCO CUTTING TOOLS | WALTER

| Material | Series | Includes | Order No. |
|---|---|---|---|
| **32 pc. Fractional Sizes Display** | | | |
| NITRO® (Cobalt) | 9100N & 9200N | 1 each of the following: 1/2, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, and 6 pins. | 912N32D |
| Carbide Tipped* | 9100CT & 9200CT | 1 each of the following: 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, and 6 pins. | 912CT32D |
| High Speed Steel | 9100SE & 9200SE | 1 each of the following: 1/2, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, and 6 pins. | 912SE32D |

91SE7S

| Material | Series | Includes | Order No. |
|---|---|---|---|
| **Annular Cutter Sets, 7 pc.** | | | |
| NITRO® (Cobalt) | 9100N | 9/16, 5/8, 11/16, 3/4, 13/16, 15/16, and 1 pin. | 91N7S |
| High Speed Steel | 9100SE | 9/16, 5/8, 11/16, 3/4, 13/16, 15/16, and 1 pin. | 91SE7S |

*also available with WALTER 05E annular cutters series

WALTER

# CARBIDE TIPPED ANNULAR CUTTERS

## *05D / 05F/ 05HSERIES*

**CARBIDE TIPPED**

**1 1/2", 2", 3" & 4" Depth of Cut**

**Fractional**

### Top performance and maximum productivity on hard metals and uneven surfaces!

WALTER Carbide Core Cut annular cutters accurately drill large diameter holes in a variety of hard or abrasive materials such as stainless steel, cast iron, tough alloys or composite materials. They outperform and outlast conventional HSS cutters and allow for higher speed and feed rates while requiring less effort to cut through some of the industry's toughest metals.

| 3/4" Weldon Shank | | | | | | | |
|---|---|---|---|---|---|---|---|
| Diameter | 1 1/2" cutters | 2" cutters | 3" cutters | 4" cutters | Diameter | 30 mm | 55 mm |
| Inches | Order No. | Order No. | Order No. | Order No. | mm | Order No. | Order No. |
| Use with pilot pin | 05Z019 | 05Z021 | 05Z018 | 05Z031 | | 05Z019 | 05Z021 |
| 1/2" | 05D008 | 05D308 | | | 12 mm | 05F112 | 05F212 |
| 9/16" | 05D009 | 05D309 | | | 13 mm | 05F113 | 05F213 |
| 5/8" | 05D010 | 05D310 | | | 14 mm | 05F114 | 05F214 |
| 11/16" | 05D011 | 05D311 | | | 15 mm | 05F115 | 05F215 |
| | | | | | 16 mm | 05F116 | 05F216 |
| | | | | | 17 mm | 05F117 | 05F217 |
| Use with pilot pin | 05Z020 | 05Z022 | 05Z032 | 05Z033 | | 05Z020 | 05Z022 |
| 3/4" | 05D012 | 05D312 | | 05D812 | 18 mm | 05F118 | 05F218 |
| 13/16" | 05D013 | 05D313 | 05D613 | 05D813 | 19 mm | 05F119 | 05F219 |
| 7/8" | 05D014 | 05D314 | | | 20 mm | 05F120 | 05F220 |
| 15/16" | 05D015 | 05D315 | 05D615 | 05D815 | 21 mm | 05F121 | 05F221 |
| 1" | 05D100 | 05D400 | 05D700 | 05D900 | 22 mm | 05F122 | 05F222 |
| 1-1/16" | 05D101 | 05D401 | 05D701 | 05D901 | 23 mm | 05F123 | 05F223 |
| 1-1/8" | 05D102 | 05D402 | | | 24 mm | 05F124 | 05F224 |
| 1-3/16" | 05D103 | 05D403 | | | 25 mm | 05F125 | 05F225 |
| 1-1/4" | 05D104 | 05D404 | | | 26 mm | 05F126 | 05F226 |
| 1-5/16" | 05D105 | 05D405 | | | 27 mm | 05F127 | 05F227 |
| 1-3/8" | 05D106 | 05D406 | | | 28 mm | 05F128 | 05F228 |
| 1-7/16" | 05D107 | 05D407 | | | 29 mm | 05F129 | 05F229 |
| 1-1/2" | 05D108 | 05D408 | | | 30 mm | 05F130 | 05F230 |
| 1-9/16" | 05D109 | 05D409 | | | 31 mm | 05F131 | 05F231 |
| 1-5/8" | 05D110 | 05D410 | | | 32 mm | 05F132 | 05F232 |
| 1-3/4" | 05D112 | 05D412 | | | 33 mm | 05F133 | 05F233 |
| 1-13/16" | 05D113 | 05D413 | | | 34 mm | 05F134 | 05F234 |
| 1-7/8" | 05D114 | 05D414 | | | 35 mm | 05F135 | 05F235 |
| 1-15/16" | 05D115 | 05D415 | | | 36 mm | 05F136 | 05F236 |
| 2" | 05D200 | 05D500 | 05D716 | 05D916 | 37 mm | 05F137 | 05F237 |
| 2-1/16" | 05D201 | 05D501 | | | 38 mm | 05F138 | 05F238 |
| 2-1/8" | 05D202 | 05D502 | | | 39 mm | 05F139 | 05F239 |
| 2-3/16" | | 05D503 | | | 40 mm | 05F140 | 05F240 |
| 2-1/4" | | 05D504 | | | 41 mm | 05F141 | 05F241 |
| 2-5/16" | | 05D505 | | | 42 mm | 05F142 | 05F242 |
| 2-3/8" | | 05D506 | | | 43 mm | 05F143 | 05F243 |
| | | | | | 44 mm | 05F144 | 05F244 |
| | | | | | 45 mm | 05F145 | 05F245 |
| | | | | | 46 mm | 05F146 | 05F246 |
| | | | | | 47 mm | 05F147 | 05F247 |
| | | | | | 48 mm | 05F148 | 05F248 |
| | | | | | 49 mm | 05F149 | 05F249 |
| | | | | | 50 mm | 05F150 | 05F250 |
| | | | | | 51 mm | 05F151 | 05F251 |

| 1-1/4" Weldon Shank | | | | |
|---|---|---|---|---|
| Use with pilot pin | 05Z019 | 05Z034 | 05Z035 | 05Z036 |
| 2-1/4 | | | 05D720 | 05D920 |
| 2-7/16" | | 05D507 | | |
| 2-1/2" | | 05D508 | 05D724 | 05D924 |
| 2-9/16" | | 05D509 | 05D725 | 05D925 |
| 2-5/8" | | 05D510 | | |
| 2-3/4" | | 05D512 | 05D728 | 05D928 |
| 2-7/8" | | 05D514 | | |
| 3" | | 05D532 | 05D732 | 05D932 |
| 3-1/4" | | 05D536 | 05D736 | 05D936 |
| 3-1/2" | | 05D540 | 05D740 | |
| 3-3/4" | | 05D544 | 05D744 | |
| 4" | | 05D548 | 05D748 | |

| Universal Shank | | |
|---|---|---|
| Dia. | 1" cutters | 2" cutters |
| Inches | Order No. | Order No. |
| Use with pilot pin | 05Z027 | 05Z021 |
| 1/2" | 05H008 | 05H308 |
| 9/16" | 05H009 | 05H309 |
| 5/8" | 05H010 | 05H310 |
| 11/16" | 05H011 | 05H311 |
| Use with pilot pin | 05Z028 | 05Z022 |
| 3/4" | 05H012 | 05H312 |
| 13/16" | 05H013 | 05H313 |
| 7/8" | 05H014 | 05H314 |
| 15/16" | 05H015 | 05H315 |
| 1" | 05H100 | 05H400 |
| 1-1/16" | 05H101 | 05H401 |
| 1-11/8" | 05H102 | 05H402 |
| 1-13/16" | 05H103 | 05H403 |
| 1-11/4" | 05H104 | 05H404 |
| 1-15/16" | 05H105 | 05H405 |
| 1-13/8" | 05H106 | 05H406 |
| 1-17/16" | 05H107 | 05H407 |
| 1-1/2" | 05H108 | 05H408 |

**Carbide Core Cut Kits**

**Material**

Highest quality TCT for premium performance
Weldon shank

**Includes**

1 of each diameter:
9/16", 11/16", 13/16", 15/16", 1", 1-1/16" and pilot pin

| Depth of Cut | Item Number |
|---|---|
| 1-3/8" annular cutter kit | 05D991 |
| 2" annular cutter kit | 05D992 |

# ANNULAR CUTTERS
# ACCESSORIES

## PILOT PINS

Precisely position annular cutters over drilling spot and eject slug after drilling is completed. All WALTER pilot pins are hardened and precision ground to provide the longest life in the industry.

| Cutter family | Diameter | Max. drilling depth | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|
| For use with these cutters | | | | | |
| SST Core Cut and ICECUT™ | 1/2" – 2 3/8" dia. | 1" | 05Z001 | 1 | 10 |
| SST Core Cut and ICECUT™ | 1/2" – 2 3/8" dia. | 2" | 05Z002 | 1 | 10 |
| SST Core Cut and ICECUT™ | 13/16" – 1 1/16" dia. | 3" | 05Z018 | 1 | 10 |
| SST Core Cut and ICECUT™ | 11/16" – 2" dia. | 4" | 05Z031 | 1 | 10 |
| SST Core Cut and ICECUT™ | 7/16" dia. | 1" | 05Z029 | 1 | 10 |
| SST Core Cut and ICECUT™ | 7/16" dia. | 2" | 05Z030 | 1 | 10 |
| 2-piece, SST and ICECUT™ | 11/16" – 2" dia. | 3" | 05Z032 | 1 | 10 |
| 2-piece, SST and ICECUT™ | 11/16" – 2" dia. | 4" | 05Z033 | 1 | 10 |
| For use with these cutters | | | | | |
| CARBIDE core cutters | 1/2" – 11/16" dia. | 1" | 05Z027 | 1 | 10 |
| | 1/2" – 11/16" dia. | 1 1/2" | 05Z019 | 1 | 10 |
| | 1/2" – 11/16" dia. | 2" | 05Z021 | 1 | 10 |
| | 3/4" – 1 1/2" dia. | 1" | 05Z028 | 1 | 10 |
| | 3/4" – 2 3/8" dia. | 1 1/2" | 05Z020 | 1 | 10 |
| | 3/4" – 2 3/8" dia. | 2" | 05Z022 | 1 | 10 |
| | 2 7/16" – 4" dia. | 2" | 05Z034 | 1 | 10 |
| | 13/16" – 1 1/16" dia. | 3" | 05Z018 | 1 | 10 |
| | 2 1/4" – 4" dia. | 3" | 05Z035 | 1 | 10 |
| | 2 1/4" – 4" dia. | 4" | 05Z036 | 1 | 10 |

### Morse taper shank adaptors with coolant inducer

For use of WALTER annular cutters on drilling units with a Morse taper spindle. Coolant inducer feeds coolant through the pilot pin to increase cutter life.

| Morse taper | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| No. 2 | 05Z012 | 1 | 10 |
| No. 3 | 05Z013 | 1 | 10 |
| No. 3 (with 1 1/4" Weldon) | 05Z037 | 1 | 10 |
| No. 3 Extra Length (with 1 1/4" Weldon) | 05Z038 | 1 | 10 |

### Morse taper shank adaptors without coolant inducer

For use of WALTER annular cutters on drilling units with a Morse taper spindle. Ideal for all drilling machines that are equipped with an external cooling source.

| Morse taper | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| No. 2 | 05Z010 | 1 | 10 |
| No. 3 | 05Z011 | 1 | 10 |

### Fein and Nitto adaptors

For use of WALTER annular cutters on all Fein and Nitto magnetic drills.

| Drilling Unit | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|
| Fein (Adaptor) | 05Z014 | 1 | 10 |
| Fein (Pilot Pin) | 05Z016 | 1 | 10 |
| Nitto (Adaptor) | 05Z015 | 1 | 10 |
| Nitto (Pilot Pin) | 05Z017 | 1 | 10 |

### Extension adaptors

Leverage an arbor adaptor with your WALTER core cutters to drill deeper holes. These durable arbor adaptors and allow you to drill up to 4" for a fraction of the price of a full-size core cutter.

| Extension Length | Description | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|
| 1" | Adaptor | 05Z023 | 1 | 10 |
| | Pilot pin | 05Z025 | 1 | 10 |
| 2" | Adaptor | 05Z024 | 1 | 10 |
| | Pilot pin | 05Z026 | 1 | 10 |

# ANNULAR CUTTERS ACCESSORIES

## ADAPTERS

| Description | EDP No. |
|---|---|
| **Machine Accessories** | |
| 1/2" chuck to annular adapter | MA000 |
| **Annular Cutter Reduced & Morse Taper Shank Holders** | |
| Annchuck1- For 1" and 2" length of cut | |
| 1/2" thru 2-1/4" Dia. x 3" LOC | RSA003 |
| 1/2" thru 2-1/4" Dia. x 4" LOC | RSA004 |
| **3/4" Shank Adapters w/ 3 Flats** | |
| ANNADAPT1 | |
| 2-5/16" thru 4" Dia. x 2" LOC | RSA006 |
| 2-5/16" thru 4" Dia. x 3" LOC | RSA007 |
| 2-5/16" thru 4" Dia. x 4" LOC | RSA008 |
| **#2 Morse Taper Shank Adapters** | |
| 7/16" thru 2-1/4" Dia. x 1" & 2" LOC | MTA001 |
| 1/2" thru 2-1/4" Dia. x 3" & 4" LOC | MTA002 |
| **#3 Morse Taper Shank Adapters** | |
| 7/16" thru 2-1/4" Dia. x 1" & 2" LOC | MTA003 |
| 1/2" thru 2-1/4" Dia. x 3" & 4" LOC | MTA004 |
| 2-5/16" thru 4" Dia. x 1" & 2" LOC | MTA005 |
| 2-5/16" thru 4" Dia. x 3" & 4" LOC | MTA006 |
| **#4 Morse Taper Shank Adapters** | |
| 2-5/16" thru 4" Dia. x 1" & 2" LOC | MTA007 |
| 2-5/16" thru 4" Dia. x 3" & 4" LOC | MTA008 |

MA000

MTA003

WALTER
COOLCUT

# TECHNICAL INFORMATION

DRILLCO CUTTING TOOLS WALTER

## Feeds and Speeds for Annular Cutters

| Material to Be Drilled | | HSS Cutter | SST Cutter | ICECUT™ Cutter | Nitro® Cutter | CT Cutter |
|---|---|---|---|---|---|---|
| Cutting Speed In Feet/Min. (SFPM) | | | | | | |
| Steel | Freecutting-Leaded | 100 | 100 | 100 | 150 | 175 |
| | Up To 180 Brinell | 80 to 110 | 80 to 110 | 80 to 110 | 130 | 165 |
| | A-36 | 80 to 110 | 80 to 110 | 80 to 110 | 130 | 165 |
| | 180 To 285 Brinell | 45 to 70 | 45 to 70 | 45 to 70 | 80 | 90 |
| | 285 To 375 Brinell | 30 to 45 | 30 to 45 | 30 to 45 | 55 | 60 |
| | 375 & Up Brinell | 15 to 25 | 15 to 25 | 15 to 25 | 35 | 40 |
| | Manganese (low) | 15 to 20 | 15 to 20 | 15 to 20 | 25 | 30 |
| | Stainless-Freecutting | 30 to 60 | 30 to 60 | 30 to 60 | 70 | 100 |
| | Stainless 304,316, | – | – | – | – | – |
| | 320 & Tougher | 20 to 40 | 20 to 40 | 20 to 40 | 50 | 60 |
| Inconel, Hastelloy | | 25 to 40 | 25 to 40 | 25 to 40 | 55 | 70 |
| Inconel - X | | 20 to 25 | 20 to 25 | 20 to 25 | 35 | 45 |
| Titanium | | 30 to 40 | 30 to 40 | 30 to 40 | 50 | 60 |
| A-286 | | 25 to 35 | 25 to 35 | 25 to 35 | 50 | 60 |

| Material To Be Drilled | | HSS Cutter | SST Cutter | ICECUT™ Cutter | Nitro® Cutter | CT Cutter |
|---|---|---|---|---|---|---|
| Cutting Speed in Feet/Min. (SFPM) | | | | | | |
| Aluminum | | 150 | 150 | 150 | 250 | 450-600 |
| Brass | Ordinary | 150 | 150 | 150 | 250 | 250-550 |
| | Leaded | 200 | 200 | 200 | 300 | 300-600 |
| Bronze | Ordinary | 100 | 100 | 100 | 200 | 200-500 |
| | Hi-tensile | 70 | 70 | 70 | 100 | 100-200 |
| Cast Iron | Soft | 100 | 100 | 100 | 150 | 175 |
| | Medium | 80 | 80 | 80 | 90 | 100 |
| | Hard | 50 | 50 | 50 | 70 | 80 |
| | Chilled | 25 | 25 | 25 | 35 | 40 |
| Copper | | 100 | 100 | 100 | 200 | 250 |
| Magnesium | | Up to 300 | Up to 300 | Up to 300 | 400 | 400-800 |
| Malleable Iron | | 70 | 70 | 70 | 80 | 100-130 |
| Monel | | 40 | 40 | 40 | 50 | 50 |

| Cutter Dia. | Feed Ins./Rev. |
|---|---|
| Operating Feed* | |
| 7/16" to 9/16" | .002 to .006 |
| 5/8' to 3/4" | .003 to .003 |
| 1-3/16"- 1-1/16" | .004 to .008 |
| 1-1/8" - 1-7/16" | .006 to .010 |
| 1-1/2" to 2" | .008 to .012 |
| 2" to 2-1/2" | .012 to .025 |

*Always commence operations at the lower end of RPM.

| CUTTING SPEEDS (SFPM) | DIAMETER | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7/16" | 1/2" | 9/16" | 5/8" | 11/16" | 3/4" | 13/16" | 7/8" | 15/16" | 1" | 1-1/8" | 1-1/4" | 1-3/8" | 1-1/2" | 1-5/8" | 1-3/4" | 2" | 2-1/4" | 2-1/2" |
| 10 | 87 | 76 | 68 | 61 | 56 | 51 | 47 | 44 | 41 | 38 | 34 | 31 | 28 | 25 | 24 | 22 | 19 | 17 | 15 |
| 20 | 175 | 153 | 136 | 122 | 111 | 102 | 94 | 87 | 82 | 76 | 68 | 61 | 56 | 51 | 47 | 44 | 38 | 34 | 31 |
| 30 | 262 | 229 | 204 | 183 | 167 | 153 | 141 | 131 | 122 | 115 | 102 | 92 | 83 | 76 | 71 | 65 | 57 | 51 | 46 |
| 40 | 349 | 306 | 272 | 245 | 222 | 204 | 188 | 175 | 163 | 153 | 136 | 122 | 111 | 102 | 94 | 87 | 76 | 68 | 61 |
| 50 | 437 | 382 | 339 | 306 | 278 | 255 | 235 | 218 | 204 | 191 | 170 | 153 | 140 | 127 | 118 | 109 | 95 | 85 | 76 |
| 60 | 524 | 458 | 407 | 367 | 333 | 306 | 282 | 353 | 245 | 229 | 204 | 183 | 167 | 153 | 141 | 131 | 115 | 102 | 92 |
| 70 | 611 | 535 | 475 | 428 | 389 | 357 | 329 | 306 | 285 | 267 | 238 | 214 | 194 | 178 | 165 | 153 | 134 | 119 | 107 |
| 80 | 700 | 611 | 543 | 489 | 444 | 408 | 376 | 350 | 326 | 306 | 272 | 244 | 222 | 204 | 188 | 175 | 153 | 136 | 122 |
| 90 | 786 | 688 | 611 | 550 | 500 | 458 | 426 | 393 | 367 | 344 | 306 | 275 | 250 | 229 | 212 | 196 | 172 | 153 | 138 |
| 100 | 873 | 764 | 679 | 611 | 556 | 509 | 470 | 436 | 408 | 382 | 340 | 306 | 278 | 255 | 235 | 218 | 191 | 170 | 153 |
| 120 | 1048 | 917 | 815 | 733 | 667 | 611 | 564 | 524 | 489 | 458 | 407 | 367 | 333 | 306 | 282 | 262 | 229 | 204 | 183 |
| 140 | 1222 | 1070 | 950 | 856 | 778 | 713 | 658 | 611 | 571 | 535 | 475 | 428 | 390 | 356 | 329 | 306 | 267 | 238 | 214 |
| 150 | 1310 | 1146 | 1018 | 917 | 833 | 764 | 705 | 655 | 611 | 573 | 509 | 458 | 417 | 382 | 353 | 327 | 286 | 255 | 229 |
| 160 | 1397 | 1222 | 1086 | 978 | 889 | 815 | 752 | 698 | 652 | 611 | 543 | 490 | 444 | 407 | 376 | 350 | 306 | 272 | 244 |
| 180 | 1572 | 1375 | 1222 | 1100 | 1000 | 917 | 846 | 786 | 734 | 688 | 611 | 550 | 500 | 458 | 423 | 393 | 344 | 306 | 275 |
| 200 | 1747 | 1528 | 1358 | 1222 | 1111 | 1020 | 940 | 874 | 815 | 764 | 680 | 611 | 556 | 510 | 470 | 437 | 382 | 340 | 306 |
| 220 | 1920 | 1681 | 1494 | 1345 | 1222 | 1121 | 1034 | 960 | 897 | 840 | 747 | 672 | 611 | 560 | 517 | 480 | 420 | 374 | 336 |
| 240 | 2096 | 1833 | 1630 | 1467 | 1333 | 1222 | 1128 | 1048 | 978 | 917 | 815 | 733 | 667 | 611 | 564 | 524 | 458 | 407 | 367 |
| 250 | 2183 | 1910 | 1697 | 1528 | 1389 | 1274 | 1175 | 1091 | 1020 | 955 | 850 | 764 | 694 | 637 | 588 | 546 | 477 | 424 | 382 |
| 260 | 2270 | 1986 | 1765 | 1590 | 1444 | 1325 | 1221 | 1135 | 1060 | 993 | 883 | 795 | 722 | 662 | 611 | 568 | 497 | 441 | 397 |
| 280 | 2445 | 2140 | 1900 | 1712 | 1556 | 1426 | 1316 | 1222 | 1140 | 1070 | 950 | 856 | 778 | 713 | 658 | 611 | 535 | 475 | 428 |
| 300 | 2620 | 2292 | 2037 | 1834 | 1667 | 1528 | 1410 | 1310 | 1222 | 1146 | 1020 | 917 | 833 | 7 | 705 | 655 | 573 | 510 | 458 |

| Speed and Feed Formulas | | |
|---|---|---|
| SPEED OF CUTTER IN SURFACE FEET PER MINUTE (SFM)<br>SFM = D x .26 x RPM | REVOLUTIONS PER MINUTE (RPM)<br>RPM = SFM x 3.82 divided b Dia. | FEED IN INCHES PER MINUTE (IPM) OR (F)<br>F = f x T x RPM |

# TECHNICAL INFORMATION

## Recommended Cutting Speed for CARBIDE CORE CUT Annular Cutter (RPM)

| Diameter | | Mild Steel | Steel | Steel | Steel | Steel | Stainless Steel | Aluminium |
|---|---|---|---|---|---|---|---|---|
| mm | Inch | 500N/mm² | 750N/mm² | 900N/mm² | 1200N/mm² | 1400N/mm² | | |
| 11.1 | 7/16” | 1147 | 1061 | 1003 | 860 | 717 | 573 | 2580 |
| 12.7 | 1/2” | 1003 | 928 | 878 | 752 | 627 | 502 | 2257 |
| 14.3 | 9/16” | 892 | 825 | 781 | 669 | 558 | 446 | 2007 |
| 15.9 | 5/8” | 802 | 742 | 702 | 602 | 501 | 401 | 1805 |
| 17.5 | 11/16” | 730 | 675 | 638 | 547 | 456 | 365 | 1642 |
| 19.1 | 3/4” | 669 | 619 | 585 | 502 | 418 | 334 | 1505 |
| 20.6 | 13/16” | 617 | 571 | 540 | 463 | 386 | 309 | 1389 |
| 22.2 | 7/8” | 573 | 530 | 502 | 430 | 358 | 287 | 1290 |
| 23.8 | 15/16” | 535 | 495 | 468 | 401 | 334 | 268 | 1204 |
| 25.4 | 1” | 502 | 464 | 439 | 376 | 313 | 251 | 1128 |
| 27.0 | 1-1/16” | 472 | 437 | 413 | 354 | 295 | 236 | 1062 |
| 28.6 | 1-1/8” | 446 | 412 | 390 | 334 | 279 | 223 | 1003 |
| 30.2 | 1-3/16” | 422 | 391 | 370 | 317 | 264 | 211 | 950 |
| 31.8 | 1-1/4” | 401 | 371 | 351 | 301 | 251 | 201 | 903 |
| 33.3 | 1-5/16” | 382 | 353 | 334 | 287 | 239 | 191 | 860 |
| 34.9 | 1-3/8” | 365 | 337 | 319 | 274 | 228 | 182 | 821 |
| 36.5 | 1-7/16” | 349 | 323 | 305 | 262 | 218 | 174 | 785 |
| 38.1 | 1-1/2” | 334 | 309 | 293 | 251 | 209 | 167 | 752 |
| 39.7 | 1-9/16” | 321 | 297 | 281 | 241 | 201 | 161 | 722 |
| 41.3 | 1-5/8” | 309 | 285 | 270 | 231 | 193 | 154 | 694 |
| 42.9 | 1-11/16” | 297 | 275 | 260 | 223 | 186 | 149 | 669 |
| 44.5 | 1-3/4” | 287 | 265 | 251 | 215 | 179 | 143 | 645 |
| 46.0 | 1-13/16” | 277 | 256 | 242 | 208 | 173 | 138 | 623 |
| 47.6 | 1-7/8” | 267 | 247 | 234 | 201 | 167 | 134 | 602 |
| 49.2 | 1-15/16” | 259 | 239 | 227 | 194 | 162 | 129 | 582 |
| 50.8 | 2” | 251 | 232 | 219 | 188 | 157 | 125 | 564 |
| 52.4 | 2-1/16” | 243 | 225 | 213 | 182 | 152 | 122 | 547 |
| 54.0 | 2-1/8” | 236 | 218 | 207 | 177 | 148 | 118 | 531 |
| 55.6 | 2-3/16” | 229 | 212 | 201 | 172 | 143 | 115 | 516 |
| 57.2 | 2-1/4” | 223 | 206 | 195 | 167 | 139 | 111 | 502 |
| 58.7 | 2-5/16” | 217 | 201 | 190 | 163 | 136 | 108 | 488 |
| 60.4 | 2-3/8” | 211 | 195 | 185 | 158 | 132 | 106 | 475 |
| 61.9 | 2-7/16” | 206 | 190 | 180 | 154 | 129 | 103 | 463 |
| 63.5 | 2-1/2” | 201 | 186 | 176 | 150 | 125 | 100 | 451 |
| 65.1 | 2-9/16” | 196 | 181 | 171 | 147 | 122 | 98 | 440 |
| 66.7 | 2-5/8” | 191 | 177 | 167 | 143 | 119 | 96 | 430 |
| 68.3 | 2-11/16” | 187 | 173 | 163 | 140 | 117 | 93 | 420 |
| 69.9 | 2-3/4” | 182 | 169 | 160 | 137 | 114 | 91 | 410 |
| 71.4 | 2-13/16” | 178 | 165 | 156 | 134 | 111 | 89 | 401 |
| 73.0 | 2-7/8” | 174 | 161 | 153 | 131 | 109 | 87 | 393 |
| 74.6 | 2-15/16” | 171 | 158 | 149 | 128 | 107 | 85 | 384 |
| 76.2 | 3” | 167 | 155 | 146 | 125 | 104 | 84 | 376 |
| 77.8 | 3-1/16” | 164 | 151 | 143 | 123 | 102 | 82 | 368 |
| 79.4 | 3-1/8” | 160 | 148 | 140 | 120 | 100 | 80 | 361 |
| 81.0 | 3-3/16” | 157 | 146 | 138 | 118 | 98 | 79 | 354 |
| 82.6 | 3-1/4” | 154 | 143 | 135 | 116 | 96 | 77 | 347 |
| 84.1 | 3-5/16” | 151 | 140 | 132 | 114 | 95 | 76 | 341 |
| 85.7 | 3-3/8” | 149 | 137 | 130 | 111 | 93 | 74 | 334 |
| 87.3 | 3-7/16” | 146 | 135 | 128 | 109 | 91 | 73 | 328 |
| 88.9 | 3-1/2” | 143 | 133 | 125 | 107 | 90 | 72 | 322 |
| 90.5 | 3-9/16” | 141 | 130 | 123 | 106 | 88 | 70 | 317 |
| 92.1 | 3-5/8” | 138 | 128 | 121 | 104 | 86 | 69 | 311 |
| 93.7 | 3-11/16” | 136 | 126 | 119 | 102 | 85 | 68 | 306 |
| 95.3 | 3-3/4” | 134 | 124 | 117 | 100 | 84 | 67 | 301 |
| 96.8 | 3-13/16” | 132 | 122 | 115 | 99 | 82 | 66 | 296 |
| 98.4 | 3-7/8” | 129 | 120 | 113 | 97 | 81 | 65 | 291 |
| 100.0 | 3-15/16” | 127 | 118 | 111 | 96 | 80 | 64 | 287 |
| 101.6 | 4” | 125 | 116 | 110 | 94 | 78 | 63 | 282 |

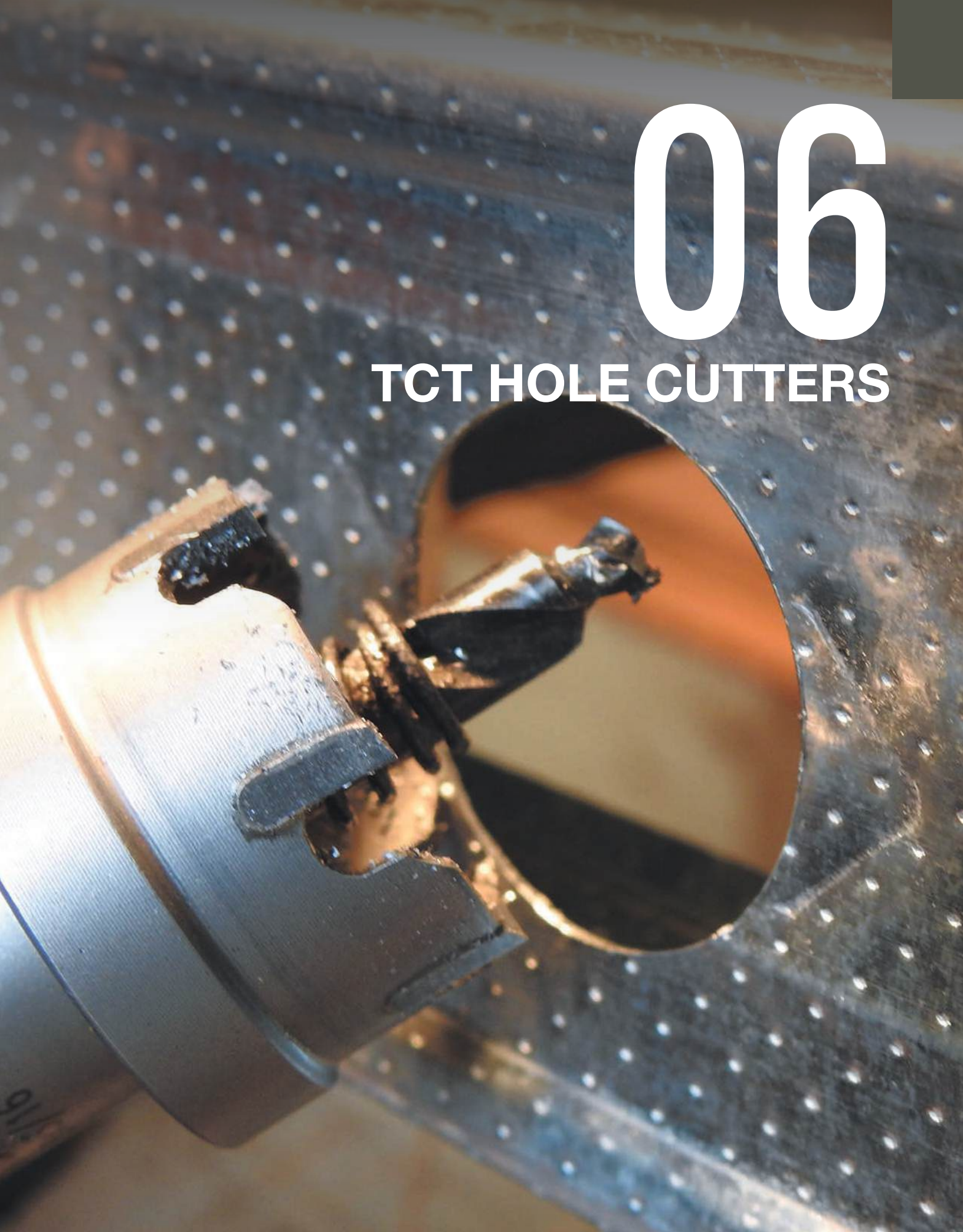
# TECHNICAL INFORMATION

## Recommended Cutting Speed for SST™ CORE CUT and ICECUT™ Annular Cutter (RPM)

| Diameter | | Mild Steel | Steel | Steel | Steel | Steel | Stainless Steel | Aluminium |
|---|---|---|---|---|---|---|---|---|
| mm | Inch | 500N/mm² | 750N/mm² | 900N/mm² | 1200N/mm² | 1400N/mm² | | |
| 11.1 | 7/16” | 717 | 573 | 373 | 287 | 201 | 344 | 1433 |
| 12.7 | 1/2” | 627 | 502 | 326 | 251 | 176 | 301 | 1254 |
| 14.3 | 9/16” | 558 | 446 | 290 | 223 | 156 | 268 | 1115 |
| 15.9 | 5/8” | 501 | 401 | 261 | 201 | 140 | 241 | 1003 |
| 17.5 | 11/16” | 456 | 365 | 237 | 182 | 128 | 219 | 912 |
| 19.1 | 3/4” | 418 | 334 | 217 | 167 | 117 | 201 | 836 |
| 20.6 | 13/16” | 386 | 309 | 201 | 154 | 108 | 185 | 771 |
| 22.2 | 7/8” | 358 | 287 | 186 | 143 | 100 | 172 | 717 |
| 23.8 | 15/16” | 334 | 268 | 174 | 134 | 94 | 161 | 669 |
| 25.4 | 1” | 313 | 251 | 163 | 125 | 88 | 150 | 627 |
| 27.0 | 1-1/16” | 295 | 236 | 153 | 118 | 83 | 142 | 590 |
| 28.6 | 1-1/8” | 279 | 223 | 145 | 111 | 78 | 134 | 557 |
| 30.2 | 1-3/16” | 264 | 211 | 137 | 106 | 74 | 127 | 528 |
| 31.8 | 1-1/4” | 251 | 201 | 130 | 100 | 70 | 120 | 502 |
| 33.3 | 1-5/16” | 239 | 191 | 124 | 96 | 67 | 115 | 478 |
| 34.9 | 1-3/8” | 228 | 182 | 119 | 91 | 64 | 109 | 456 |
| 36.5 | 1-7/16” | 218 | 174 | 113 | 87 | 61 | 105 | 436 |
| 38.1 | 1-1/2” | 209 | 167 | 109 | 84 | 59 | 100 | 418 |
| 39.7 | 1-9/16” | 201 | 161 | 104 | 80 | 56 | 96 | 401 |
| 41.3 | 1-5/8” | 193 | 154 | 100 | 77 | 54 | 93 | 386 |
| 42.9 | 1-11/16” | 186 | 149 | 97 | 74 | 52 | 89 | 372 |
| 44.5 | 1-3/4” | 179 | 143 | 93 | 72 | 50 | 86 | 358 |
| 46.0 | 1-13/16” | 173 | 138 | 90 | 69 | 48 | 83 | 346 |
| 47.6 | 1-7/8” | 167 | 134 | 87 | 67 | 47 | 80 | 334 |
| 49.2 | 1-15/16” | 162 | 129 | 84 | 65 | 45 | 78 | 324 |
| 50.8 | 2” | 157 | 125 | 81 | 63 | 44 | 75 | 313 |
| 52.4 | 2-1/16” | 152 | 122 | 79 | 61 | 43 | 73 | 304 |
| 54.0 | 2-1/8” | 148 | 118 | 77 | 59 | 41 | 71 | 295 |
| 55.6 | 2-3/16” | 143 | 115 | 75 | 57 | 40 | 69 | 287 |
| 57.2 | 2-1/4” | 139 | 111 | 72 | 56 | 39 | 67 | 279 |
| 58.7 | 2-5/16” | 136 | 108 | 70 | 54 | 38 | 65 | 271 |
| 60.4 | 2-3/8” | 132 | 106 | 69 | 53 | 37 | 63 | 264 |

## Recommended Feed for Annular Cutter

| Material | Feed (mm/r) | Coolant (ml/min) |
|---|---|---|
| Steel 500N/mm² | 0.08-0.13 | 60-80 |
| Steel 750N/mm² | 0.08-0.13 | 60-80 |
| Steel 900N/mm² | 0.05-0.1 | 80-100 |
| Steel 1200N/mm² | 0.05-0.1 | 80-100 |
| Steel 1400N/mm² | 0.05-0.1 | 80-100 |
| Stainless Steel | 0.05-0.1 | 150-200 |
| Aluminum | 0.1-0.15 | 80-100 |



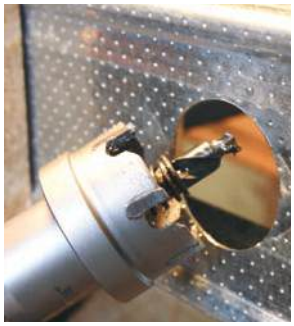
# 06
# TCT HOLE CUTTERS

# TCT HOLE CUTTERS

DRILLCO CUTTING TOOLS

## Ideal for drilling large diameter holes in both ferrous and non-ferrous materials

DRILLCO's line of carbide-tipped hole cutters are ideal for drilling large diameter holes in both ferrous and non-ferrous materials such as sheet metal, steel, aluminum, copper, plastics, brass, cast iron, and the difficult-to-machine stainless steel.
9500CT = thinner material, up to 3/16" depth of cut / 9600CT = thicker material, up to 1" depth of cut



- ***Ultra-hard teeth increase performance and tool life***
- ***Cost effective alternative to bi-metal hole saws***
- ***Excellent portability***
- ***Premium grade tungsten carbide***
- ***Ideal for plumbers, electricians, mechanics, general contractors, HVAC technicians, DIY'ERS***
- ***3-flat shank. Diameters 9/16" to 2-5/8" have a 3/8" shank; 2-11/16" to 4-1/2" have a 1/2" shank***

### *9500CT SERIES*
**CARBIDE TIPPED**
**3/16" Depth of Cut**
**Fractional**

### *9600CT SERIES*
**CARBIDE TIPPED**
**1" Depth of Cut**
**Fractional**

| Size | 9500CT Order No. |
|---|---|
| 9/16" | 95CT136 |
| 5/8" | 95CT140 |
| 11/16" | 95CT144 |
| 3/4" | 95CT148 |
| 13/16" | 95CT152 |
| 7/8" | 95CT156 |
| 15/16" | 95CT160 |
| 1" | 95CT164 |
| 1-1/16" | 95CT204 |
| 1-1/8" | 95CT208 |
| 1-3/16" | 95CT212 |
| 1-1/4" | 95CT216 |
| 1-5/16" | 95CT220 |
| 1-3/8" | 95CT224 |
| 1-7/16" | 95CT228 |
| 1-1/2" | 95CT232 |
| 1-9/16" | 95CT236 |
| 1-5/8" | 95CT240 |
| 1-11/16" | 95CT244 |
| 1-3/4" | 95CT248 |
| 1-13/16" | 95CT252 |
| 1-7/8" | 95CT256 |
| 1-15/16" | 95CT260 |

| Size | 9500CT Order No. |
|---|---|
| 2" | 95CT264 |
| 2-1/16" | 95CT304 |
| 2-1/8" | 95CT308 |
| 2-3/16" | 95CT312 |
| 2-1/4" | 95CT316 |
| 2-5/16" | 95CT320 |
| 2-3/8" | 95CT324 |
| 2-7/16" | 95CT328 |
| 2-1/2" | 95CT332 |
| 2-9/16" | 95CT336 |
| 2-5/8" | 95CT340 |
| 2-11/16" | 95CT344 |
| 2-3/4" | 95CT348 |
| 2-13/16" | 95CT352 |
| 2-7/8" | 95CT356 |
| 2-15/16" | 95CT360 |
| 3" | 95CT364 |
| 3-1/4" | 95CT416 |
| 3-1/2" | 95CT432 |
| 3-5/8" | 95CT440 |
| 3-3/4" | 95CT448 |
| 4" | 95CT464 |

All sizes are individually packaged. Sizes up to 3" have a tab for hanging on a wall display.

| Size | 9600CT Order No. |
|---|---|
| 9/16" | 96CT136 |
| 5/8" | 96CT140 |
| 11/16" | 96CT144 |
| 3/4" | 96CT148 |
| 13/16" | 96CT152 |
| 7/8" | 96CT156 |
| 15/16" | 96CT160 |
| 1" | 96CT164 |
| 1-1/16" | 96CT204 |
| 1-1/8" | 96CT208 |
| 1-3/16" | 96CT212 |
| 1-1/4" | 96CT216 |
| 1-5/16" | 96CT220 |
| 1-3/8" | 96CT224 |
| 1-7/16" | 96CT228 |
| 1-1/2" | 96CT232 |
| 1-9/16" | 96CT236 |
| 1-5/8" | 96CT240 |
| 1-11/16" | 96CT244 |

| Size | 9600CT Order No. |
|---|---|
| 1-3/4" | 96CT248 |
| 1-13/16" | 96CT252 |
| 1-7/8" | 96CT256 |
| 1-15/16" | 96CT260 |
| 2" | 96CT264 |
| 2-1/8" | 96CT308 |
| 2-1/4" | 96CT316 |
| 2-3/8" | 96CT324 |
| 2-1/2" | 96CT332 |
| 2-5/8" | 96CT340 |
| 2-3/4" | 96CT348 |
| 2-7/8" | 96CT356 |
| 3" | 96CT364 |
| 3-1/4" | 96CT416 |
| 3-1/2" | 96CT432 |
| 3-5/8" | 96CT440 |
| 3-3/4" | 96CT448 |
| 4" | 96CT464 |
| 4-1/2" | 96CT532 |

All sizes are individually packaged. Sizes up to 2-5/8" have a tab for hanging on a wall display.

| Set | |
|---|---|
| **Description** | **Order No.** |
| 6pc Set: 7/8", 1", 1-1/8", 1-3/8", 1-3/4", 2" + Two Pilot Drills | 95CT6S |

| Spare Parts | |
|---|---|
| **Description** | **Order No.** |
| HSS Pilot Drill 4.35mm | 95CT001 |
| M6 Screw | 95CT002 |
| Spring M8.5 x 20mm | 95CT003 |
| Allen Wrench | 95CT004 |

| Set | |
|---|---|
| **Description** | **Order No.** |
| 6pc Set: 9/16", 5/8", 11/16", 3/4", 7/8", 1-1/16" + Two Pilot Drills | 96CT6S |

| Spare Parts | |
|---|---|
| **Description** | **Order No.** |
| HSS Pilot Drill 6mm | 96CT001 |
| M6 Screw | 96CT002 |
| Spring M8.5 x 35mm | 96CT003 |
| Allen Wrench | 96CT004 |

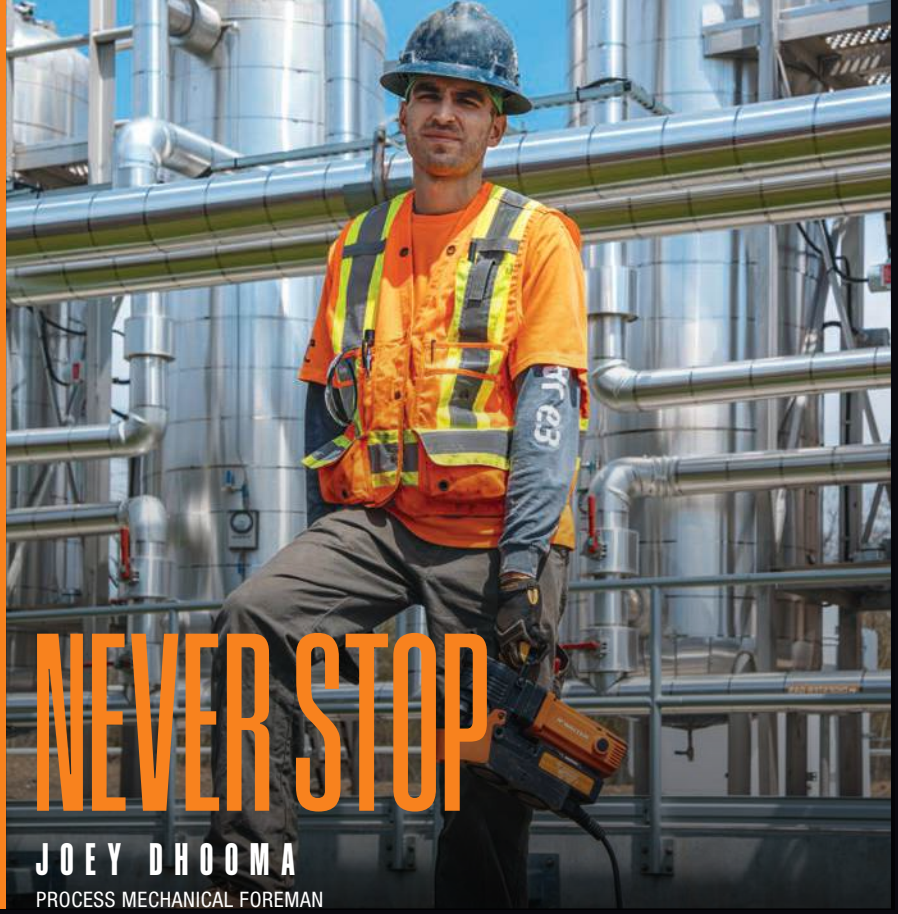
# TECHNICAL INFORMATION

## Speed Recommendations

| Cutter Size | Aluminum | Copper | Steel | Stainless Steel | Alloy Steel | Non-Metallic Material |
|---|---|---|---|---|---|---|
| Revolution Per Minute (RPM) | | | | | | |
| < 13/16” | 1500-1800 | 800-1000 | 700-1000 | 700-800 | 700-900 | 1500-1800 |
| 13/16” - 1-3/16” | 1500-1800 | 800-1000 | 700-800 | 400-600 | 600-700 | 1500-1800 |
| 1-7/32” - 1-9/16” | 1500-1800 | 800-1000 | 500-600 | 350-450 | 450-500 | 1500-1800 |
| 1-5/8” - 2” | 800-1000 | 600-800 | 400-500 | 250-400 | 300-400 | 1000-1500 |
| 2-1/16” - 2-3/8” | 600-850 | 400-600 | 300-400 | 200-300 | 200-300 | 800-1000 |
| 2-7/16” - 3” | 400-600 | 200-400 | 150-200 | 150-200 | 150-200 | 500-800 |
| > 3” | 200-400 | 100-200 | 100-150 | 100-150 | 100-150 | 5000-80 |

## Drilling Recommendations

- Inspect the hole cutter to ensure it is properly assembled and complete before use.
- To operate, use cutters on an electric hand drill, impact drill (rotary type), drill press or similar. Consult your power drill manufacturer's manual to see RPM ranges on low and high settings.
- Let the tool do the work! When beginning the drilling process, use a lower feed rate. Do not apply too much pressure or force onto the cutter or you may damage the carbide teeth.
- During operation, ensure the revolving speed is not too slow. This will help to prevent locking which can damage the tool.
- Shanks have 3-flats to reduce slippage in the chuck. Shank sizes of DRILLCO's TCT Hole Cutters are as follows: 9/16” to 2-5/8” have a 3/8” shank; 2-11/16” to 4” have a 1/2” shank.
- Can be used in a wide range of materials including aluminum, copper, steel, alloy steel, stainless steel, brass, and non-metallic materials such as plastics.
- To ensure optimal performance and extend tool life, a cutting fluid should always be used. DRILLCO offers a wide range of sizes and styles of environmentally safe heavy-duty cutting fluid.



# NEVER STOP

## JOEY DHOOMA

PROCESS MECHANICAL FOREMAN

> "The water never stops flowing here. We need to be precise on everything we do on-site."

As a Process Mechanical Foreman, Joey oversees a team that is implementing a series of major improvements to a large water treatment plant.

The job is not an easy one. He works in snow, rain, and even in blazing hot temperatures as the water tanks he sometimes works in feel like "an oven" in the summer. On top of that, from time to time he finds himself knee-deep in sewage water that is filled with harmful bacteria, which, as you probably guessed, emits an unpleasant smell. But none of that really bothers him. "I never was afraid to get dirty and I think I'm immune to the smell," he says. "Whatever is thrown at us, we always manage to prevail and get through it."

The problem-solving aspect of his work is what motivates him the most. Since the water that goes through the facility can never stop flowing completely, the sequencing of the project becomes a real challenge. "We have to get very creative and develop different methods of diverting the flow of water out of our way." Another facet that he appreciates is the fact that he gets to witness the evolution of the project from its inception to its completion. He occasionally glances back and recognizes how impressive the facility's enhancements have been thus far.

Joey is a perfectionist to the core. He likes it when things are done correctly the first time. A small inaccuracy can lead to catastrophic events. "We have to be on the mark," he says. For someone who strives for perfection, working with the right tools is not optional. "Having the right tools means a lot because you will drill holes faster, cut metal quicker, put things together a lot better. If you don't have the proper tools you will fall behind, you'll be scrounging around site looking for the right stuff, you will waste time and money. It just wouldn't work for us."

We could say that, at the very least, he is very dedicated to his career. He's the one who opens up the job site in the morning and the one that puts the padlock on the gates at night. Just like the thousands of gallons of water that rush through the pipes he installs and repairs every day, Joey never stops.

WALTER
Achieve Greatness™

# 07
# MAGNETIC DRILLS

# QUICK PAGES REFERENCE

| ICECUT FAMILY | | |
|---|---|---|
| Product name | Series | Catalog page reference |
| ICECUT MINI™ | 39D | 436 |
| ICECUT 100™ | | 437 |
| ICECUT 200 | | 438 |
| ICECUT 200PM™ | | 438 |
| ICECUT 250 AUTO™ | | 439 |
| ICECUT 250™ | | 440, 441 |
| ICECUT 250P™ | | 440, 441 |
| ICECUT 300™ | | 442, 443 |
| ICECUT 400™ | | 442, 443 |

# MAGNETIC DRILLS AT A GLANCE

## Magnetic Drills

WALTER Surface Technologies magnetic drills are the most reliable and versatile workhorses on the market. Their compact design allows for easy portability, and the added magnetized safety switch keeps you operating safely. With the addition of the central lubricating system that delivers cutting lubricant directly to the cutter and a complete offering of High Speed Steel, Cobalt, and Carbide Tipped Annular Cutters, you have the most complete solution for your hole making needs.

## Annular Cutters

## Cutting Fluids

Video

Watch the video to learn more about the ICECUT™!

**Mag Drill Selection Chart**

| Model | Order No. | No Load RPM | Dynamax Variable Speed Control | Twist Drill Capacity | Annular Cutter Capacity (Diameter) | Annular Cutter Capacity (Depth) | Accudrill Integrated Ampmeter | Tapping Functionality | Special Features |
|---|---|---|---|---|---|---|---|---|---|
| ICECUT MINI™ | 39D050 | 200-500 RPM | Yes | N/A | 2” | 2” | Yes | No | Largest drilling capacity for a machine of its size |
| ICECUT 100™ | 39D100 | 600 RPM | No | 1/2” (stub length only) | 1-3/8” | 1-1/2” | Yes | No | Compact and mobile |
| ICECUT 200™ | 39D200 | Speed #1: 300 RPM<br>Speed #2: 600 RPM | No | 1/2” | 2” | 2” | Yes | No | 2 speeds for versatile cutting |
| ICECUT 200PM™ | 39D201 | Speed #1: 300 RPM<br>Speed #2: 600 RPM | No | 1/2” | 2” | 2” | Yes | No | Permanent magnet for additional safety |
| ICECUT 250™ | 39D250 | Speed #1: 100-265 RPM<br>Speed #2: 200-500 RPM | Yes | 1/2” | 2-3/8” | 3” | Yes | Yes (up to 3/4”) | Tapping capabilities & variable speed selection |
| ICECUT 250P™ | 39D251 | Speed #1: 100-265 RPM<br>Speed #2: 200-500 RPM | Yes | 1/2” | 2-3/8” | 3” | Yes | Yes (up to 3/4”) | Permanent magnet perfect for curved surfaces |
| ICECUT 250 AUTO™ | 39D252 | Speed #1: 100-265 RPM<br>Speed #2: 200-500 RPM | Yes | 1/2” | 2-3/8” | 3” | Yes | Yes (up to 3/4”) | Manual and auto-feed modes |
| ICECUT 300™ | 39D300 | Speed #1: 70-180 RPM<br>Speed #2: 200-500 RPM | Yes | 1-1/4” | 3” | 3” | Yes | Yes (up to 1-1/8”) | 120° swivel, 2” sliding magnetic base |
| ICECUT 400™ | 39D400 | Speed #1: 45-129 RPM<br>Speed #2: 70-208 RPM<br>Speed #3: 150-434 RPM<br>Speed #4: 240-700 RPM | Yes | 1-1/4” | 4” | 4” | Yes | Yes (up to 1-1/8”) | 120° swivel, 2” sliding magnetic base<br>4-speed gearbox |

# FEATURES

## All ICECUT™ Magnetic Drilling Units

### 1 Centered Control Panel

Centered positioning of the electronics for easy control from any position. Whether it's a personal preference, or if the operation requires drilling from a specific side, the central control panel allows for efficient and easy operation.

### 2 Mandrel Support

Absorbs vibration for added stability and easy centering. The ball bearing support ensures the motor and chuck are perfectly aligned. It also provides smooth and precise cutting operations, and reduces chipping or breakage of the cutter.

### 3 Full-Body Integrated Wiring

For convenience and improved durability. No electrical wires will get in the way while drilling or moving your unit. Moreover, this prevents common failures due to mishandling (like carrying the unit by the wire, or the wire catching on an object).

### 4 Steel Sliding Guard

Easily accessible, and extra safe. Slide guard upwards, position unit, slide guard down and start drilling safely while containing chips and lubricant to prevent them from spilling out onto the rest of the work surface.

### 5 Direct Access

Direct access to carbon brushes makes maintenance simple. The powerful motor will always operate at maximum efficiency, and when it is time to change out the carbon brushes, their easily accessible location makes maintenance very convenient!

### 6 Ergonomic Handle

The ergonomic handle with a smooth grip – sturdy and lightweight - makes moving the unit easy. Its design further reduces overall weight, and the smooth grip ensures easy portability.

### 7 Quick-Release Reversible Handle

Quick-release reversible handle – allows for positioning in confined or restricted spaces. The handle can be removed and reattached on whichever side the operator prefers, making this a very user-friendly system.

### 8 Material & Thickness Detector

Unit will not start when the magnetic holding power is insufficient to secure the unit to the workpiece and operate safely. Prevents accidental starts: unit will not start on any non-ferrous material like wood, plastic, or when held in the air.

### 9 Mechanical Clutch

The ICECUT 200™ has a safety slip clutch, built into the gear drive, that will neutralize momentum and eliminate dangerous backlash for added safety. Prevents cutter breakage.

### Lightweight

At 10 kg (22 lbs.) and 12.2 kg (27 lbs.) respectively, the ICECUT 100™ and ICECUT 200™ are the lightweight champions in their category. With a slim body, simplified carrying handle and powerful magnet, these units were designed with portability and ergonomics in mind.

### Swivel Base

As a feature for the ICECUT 300™ and ICECUT 400™, it allows to swivel the magnetic drill by 60° on each side, and also slide by 3" for a perfect and easy alignment.

### Equipped with SAFETY strap

For added security when hung upside down or for frame drilling operations.

# ICECUT MINI™

## Low-profile magnetic drilling unit for confined spaces

Measuring in at only 7-inches tall, the ICECUT MINI™ is the ultimate compact, low-profile magnetic drilling unit for making holes in tight spaces from H-beams to truck frames, and other applications where space may be limited. This unit has a powerful electromagnet for safety while drilling and has a 2" x 2" drilling capacity, making it the most versatile unit in its class.

- ***Lightweight unit***
- ***Electromagnet for safety and functionality***
- ***Low-profile and compact body allows for making holes in extremely tight spaces (7" tall)***
- ***WALTER's Dynamax™ speed control ensures RPM speeds remain constant even under load***
- ***Accudrill™ system protects unit from overload and the risk of cutter breakage***
- ***2" x 2" drilling capacity—Largest on the market***

***2" x 2" drilling capacity!***
***The largest on the market!***

| ICECUT MINI ™ DIALSPEED™ RPM Setting | |
|---|---|
| SPEED DIAL SETTING | RPM |
| 1 | 250 |
| 2 | 300 |
| 3 | 350 |
| 4 | 400 |
| 5 | 450 |
| 6 | 500 |

"Accudrill" system protects against overload and reduces the risk of cutter breakage. When you want to achieve the most productive drilling operation, you need to make sure you use the most power. This prevents the motor from overloading to reduce damage to the tool itself while also minimizing the risk of eventual damage to the cutter from overheating or movement.

| Order No. | 39D050 |
|---|---|
| Watts | 1200 W |
| Rated Amperage | 10.0 A |
| Speeds | 1 speed variable |
| DYNAMAX speed control | YES |
| No load RPM | 250-500 RPM |
| Rated current | 110-120V |
| Total stroke | 61 mm (2-3/8") |
| Core cutter capacity (diameter) | 2" (50 mm) |
| Core cutter capacity (depth) | 2" (50 mm) |
| Twist drill capacity (diameter) | N/A |
| Weight | 23.14 lbs (10.5 kg) |
| Swivel and sliding magnet | NO |
| Magnetic holding force (at 1") | 10,000N |
| Max drill point pressure | 2248 lbs (1020 kg) |
| Reversible handle | Tool-free ratchet handle |
| Powerguard motor overload protection | YES |
| Short-Circuit protection | YES |
| ACCUDRILL LED Torque display | Integrated Amp meter (both sides) |
| Magnetic field sensor | NO |
| Guard | YES, pivoting |
| Wiring | Internal |
| Lubrication | Not integrated |
| Control board | Rear, S/S switches with LED |
| Arbor | 3/4" Weldon arbor fixed |
| Maintenance | Easy access to carbon brushes |

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

# ICECUT 100™

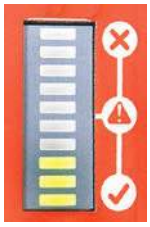
## Compact and portable

When you pair the best drilling machines with highly engineered annular cutters and superior cooling solutions, you know you have the best overall system for consistently drilling holes quickly and precisely with minimal interruption for changing out worn tooling.

- ***Compact***
- ***Extra lightweight***
- ***Perfect when mobility is key***

## *Drilling Made Easy and Safe*

| Order No. | 39D100 |
|---|---|
| Watts | 850 W |
| Speed | 1 speed |
| No load RPM | 600 RPM |
| Rated current | 8 A |
| Core cutter capacity (diameter) | 1 3/8" (35 mm) |
| Core cutter capacity (depth) | 1 1/2" (38 mm) |
| Twist drill capacity (diameter) | 1/2" (stub length only) |
| Tapping function | NO |
| Weight | 22 lbs (10 kg) |
| Swivel and sliding magnet | NO |
| Max drill point pressure | 1875 lbs (850 kg) |
| Reversible handle | Tool free press-button |
| Powerguard electronic overload protection | 15 A |
| Motor overload protection | NO |
| Short-Circuit protection | Integrated fuse |
| Accudrill LED torque display | Integrated Amp meter |
| Magnetic field sensor | Material and thickness detector |
| Tool free guard | Metal, sliding up |
| Wiring | Internal |
| Lubrication | On motor head |
| Control board | Centered, S/S switches with LED |
| Handle | Open on main housing |
| Arbor | Weldon shank with support |
| Maintenance | Easy access to carbon brushes |
| Total Stroke | 2.6" |



"Accudrill" system protects against overload and reduces the risk of cutter breakage. When you want to achieve the most productive drilling operation, you need to make sure you use the most power. This prevents the motor from overloading to reduce damage to the tool itself while also minimizing the risk of eventual damage to the cutter from overheating or movement.

SCAN TO WATCH VIDEO

YouTube

*Video available at The WALTER Network*

**www.youtube.com/user/TheWalterNetwork**

# ICECUT 200™

## The versatile unit

Powerful – 2-speed – yet only 27 lbs – ideal for a wide range of production or job site operations.

# ICECUT 200PM™

## Permanent Magnet Magnetic Drill

Operator safety is the number 1 priority with the new ICECUT 200PM™. By swapping the electromagnetic base for permanent magnet, the machine does not need electricity to be securely fixed in place. This is the perfect unit to use on job sites or any applications that may involve inconsistent power sources.

Permanent Magnet for additional safety. With its double action lever, accidental magnet deactivation can be avoided. The magnet will also remain activated in the event of sudden power loss.

| Order No. | 39D200 | 39D201 |
|---|---|---|
| Watts | 1200 W | 1200 W |
| Speed | 2 speeds | 2 speeds |
| No load RPM | Speed #1: 300 RPM / Speed #2: 600 RPM | Speed #1: 300 RPM / Speed #2: 600 RPM |
| Rated Amperage | 10 A | 10 A |
| Core cutter capacity (diameter) | 2” (50 mm) | 2” (50 mm) |
| Core cutter capacity (depth) | 2” (50 mm) | 2” (50 mm) |
| Twist drill capacity (diameter) | 1/2” | 1/2” |
| Tapping function | NO | NO |
| Weight | 27 lbs (12.2 kg) | 28.6 lbs (13 kg) |
| Swivel and sliding magnet | NO | NO |
| Max drill point pressure | 1875 lbs (850 kg) | 1875 lbs (850 kg) |
| Reversible handle | Tool-Free press button | Tool-Free press button |
| Powerguard electronic overload protection | 15 A | 15 A |
| Motor overload protection | Mechanical clutch | Mechanical clutch |
| Short-Circuit protection | Integrated fuse | Integrated fuse |
| Accudrill LED torque display | Integrated Amp meter | Integrated Amp meter |
| Magnetic field sensor | Material and thickness detector | Material thickness detector |
| Tool free guard | Metal, sliding up | Metal, sliding |
| Wiring | Internal | Internal |
| Lubrication | On motor head | Internal thru feed, on motor head |
| Control board | Centered, S/S switches with LED | Centered, S/S switches with LED |
| Handle | Open with anti-slip support | Open with anti-slip support |
| Arbor | Weldon shank with support | Weldon shank with support |
| Maintenance | Easy access to carbon brushes | Easy access to carbon brushes |
| Total Stroke | 2.9” | 2.9” |

# ICECUT 250 AUTO™

## Continuous Feed Magnetic Drill

Building off the most versatile drilling platform WALTER has to offer, ICECUT 250 AUTO™ comes with all the great features of the 250 model as well as a new continuous feed setting. Just push in the machine's quill and watch the drill do all the work. Automatic feed, automatic return and automatic safety shut off after the hole is completed. This is the unit of choice for working in production style environments. A single operator can operate several machines at once to improve productivity.

- ***Automatic feed and auto-retract***
- ***Twist drilling, core cutting, & tapping functionality***
- ***ACCUDRILL system protects unit from overload and the risk of cutter breakage***
- ***WALTER's DYNAMAX speed control ensures RPM remains constant even under load***

| ICECUT 250 AUTO ™ DIALSPEED™ RPM Setting | | |
|---|---|---|
| SPEED DIAL SETTING | SPEED 1 | SPEED 2 |
| 1 | 100 | 200 |
| 2 | 130 | 260 |
| 3 | 160 | 320 |
| 4 | 200 | 380 |
| 5 | 230 | 440 |
| 6 | 265 | 500 |

| Order No. | 39D252 |
|---|---|
| Watts | 1500 W |
| Rated Amperage | 15.0 A |
| Speeds | 2 speeds variable |
| No load RPM | Speed #1: 100-265 RPM<br>Speed #2: 200-500 RPM |
| Rated current | 110-120V |
| Core cutter capacity (diameter) | 2-3/8" (in manual), 2" (in auto) |
| Core cutter capacity (depth) | 3" (in manual), 2" (in auto) |
| Twist drill capacity (diameter) | 1" |
| Tapping function | YES (up to 3/4"- 16") |
| Weight | 40.78 lbs (18.5 kg) |
| Swivel and sliding magnet | NO |
| Max drill point pressure | 3035 lbs (1377 kg) |
| Reversible handle | NO |
| Powerguard motor overload protection | 20 A |
| Powerguard electronic overload protection | 27 A |
| Short-Circuit protection | Integrated fuse |
| Accudrill LED torque display | Integrated Amp meter |
| Magnetic field sensor | YES |
| Tool free guard | Metal, sliding |
| Wiring | Internal |
| Lubrication | Internal thru feed, on motor head |
| Control board | Centered, S/S switches with LED |
| Handle | 1 on main housing, 1 pistol grip |
| Arbor | Morse Taper 2 shank; 3/4" Weldon |
| Maintenance | Easy access to carbon brushes |
| Total stroke | 6.65" |

Thanks to the drills optimized auto-feed system, cutter life can be extended. The continuous feed also allows for improved productivity and the operation of multiple units at once.

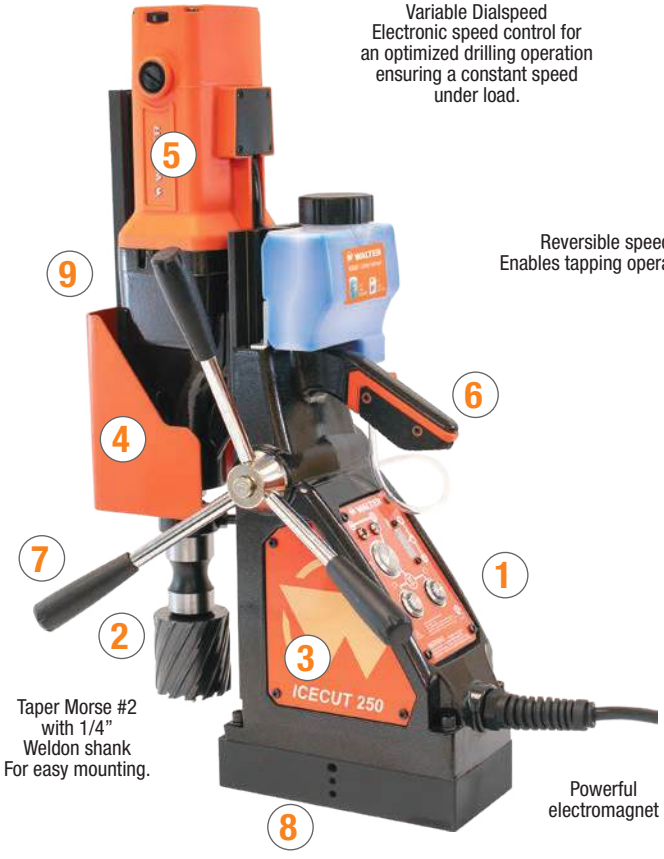
### *Tech tip!*

*Always ensure the coolant tank is filled and a constant stream of ICECUT™ (53C055) is flowing when drilling automatically.*

# ICECUT 250™ AND ICECUT 250P™

## Features

Get all the power and versatility from the ICECUT™ magnetic drilling systems, now available in a more compact size for easy portability. Use the ICECUT 250™ for ultimate versatility when drilling or tapping larger holes. The ICECUT 250P™ is the unit of choice for working on curved surfaces or pipes thanks to a convenient permanent magnet.




Variable Dialspeed
Electronic speed control for an optimized drilling operation ensuring a constant speed under load.

Reversible speed
Enables tapping operations.

Taper Morse #2 with 1/4" Weldon shank For easy mounting.

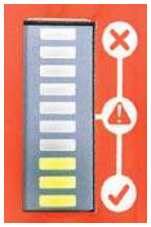
Powerful electromagnet

***Weighs only 35 pounds!***

Variable Dialspeed
Electronic speed control for an optimized drilling operation ensuring a constant speed under load.

Reversible speed
Enables tapping operations.

Two pivoting electromagnetic and standard magnets For curved surface drilling capability.



"Accudrill" system protects against overload and reduces the risk of cutter breakage. When you want to achieve the most productive drilling operation, you need to make sure you use the most power. This prevents the motor from overloading to reduce damage to the tool itself while also minimizing the risk of eventual damage to the cutter from overheating or movement.

SCAN TO WATCH VIDEO

YouTube
*Video available at The WALTER Network*
**www.youtube.com/user/TheWalterNetwork**

# ICECUT 250™

## Lightweight, powerful with variable speed

The powerful, intuitive and lightweight ICECUT 250™ is a truly versatile machine, especially for its size.

# ICECUT 250P™

## Drill faster and easier on pipe-related jobs

The double magnet ICECUT 250P™ sets up fast for pipe applications and is curved-surface-ready.

| ICECUT 250-250P™ DIALSPEED™ RPM Setting | | |
|---|---|---|
| SPEED DIAL SETTING | SPEED 1 | SPEED 2 |
| 1 | 100 | 200 |
| 2 | 130 | 260 |
| 3 | 160 | 320 |
| 4 | 200 | 380 |
| 5 | 230 | 440 |
| 6 | 265 | 500 |

### *Tech tip!*

Use carbide core cutter 05D518 with included morse Tape Shank no. 2 to drill to 2-1/2" large holes.
3/4" Weldon shank
Diameter: 2-1/2"
Length: 1-1/2"

| Order No. | 39D250 | 39D251 |
|---|---|---|
| Watts | 1550 W | 1500 W |
| Speed | 2 speeds + Reversible | 2 speeds + Reversible |
| Dynamax variable speed control | YES | YES |
| No load RPM | 100-500 RPM | 100-500 RPM |
| Rated current | 15 A | 15 A |
| Core cutter capacity (diameter) | 2-1/2" | 2-1/2" |
| Core cutter capacity (depth) | 3" (w/ 2-piece pilot pin) | 3" (w/ 2-piece pilot pin) |
| Twist drill capacity (diameter) | 1/2" | 1/2" |
| Tapping function | YES, up to 3/4" - 16 | YES, up to 3/4" - 16 |
| Weight | 34.1 lbs (15.4 kg) | 39.6 lbs (18 kg) |
| Swivel and sliding magnet | NO | NO |
| Max drill point pressure | 3035 lbs (1376 kg) | 3035 lbs (1376 kg) |
| Reversible handle | Tool-Free press button | Tool-Free press button |
| Powerguard motor overload protection | 20 A | 20 A |
| Powerguard electronic overload protection | 27 A | 27 A |
| Short-Circuit protection | Integrated fuse | Intergrated fuse |
| Accudrill LED torque display | Integrated Amp meter | Integrated Amp meter |
| Magnetic field sensor | Material & thickness detector | NO (Permanent Magnet) |
| Tool free guard | Metal, sliding | Metal, sliding |
| Wiring | Internal | Internal |
| Lubrication | Internal thru feed, on motor head | Internal thru feed, on motor head |
| Control board | Centered, S/S switches with LEDs | Centered, S/S switches with LED |
| Handle | 1 reversible on main housing, 1 pistol grip | 1 reversible on main housing, 1 pistol grip |
| Arbor | Morse Taper 2 shank; 3/4" Weldon | Morse Taper 2 shank; 3/4" Weldon |
| Maintenance | Easy access to carbon brushes | Easy access to carbon brushes |
| Total Stroke | 5.5" | 5.5" |

# ICECUT 300™ and ICECUT 400™

## Features

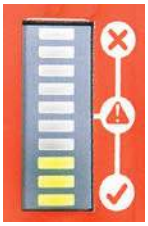
Now you can get all the benefits of using an ICECUT™ magnetic drilling machine while using annular cutters up to 4" wide and a depth of up to 4". To make the drilling operation even safer and easier, each machine features a swivel base for easy positioning of the tool along with our top-of-the-line safety features such as DIALSPEED™, POWERGUARD™, and DYNAMAX™.

## *Drill more, bigger, faster and safer!*

Variable Dialspeed
Electronic speed control for an optimized drilling operation ensuring a constant speed under load.

Powerguard
Electronic overload built-in protection on motor.

"Accudrill" system protects against overload and reduces the risk of cutter breakage. When you want to achieve the most productive drilling operation, you need to make sure you use the most power. This prevents the motor from overloading to reduce damage to the tool itself while also minimizing the risk of eventual damage to the cutter from overheating or movement.



Taper Morse
Weldon shank #3
For easy mounting.

Reversible speed
Enables tapping operations.

Second carrying handle
Located on the back for a safer, more secure grip.

Swivel base
The magnetic drill can swivel 60° on each side, and also slide by 3" for an easy alignment.

# ICECUT 300™

## For deeper, wider holes

With a swivel base and electronic speed control, allows you to drill safer and faster.

# ICECUT 400™

## The most powerful and most versatile unit

With 4 mechanically controlled speeds and a wider RPM range, this powerful tool can tackle any drilling operation with ease.

| Order No. | 39D300 | 39D400 |
|---|---|---|
| Watts | 1800 W | 2000 W |
| Speed | 2 speeds + reversible | 4 speeds + reversible |
| Dynamax variable speed control | YES | YES |
| No load RPM | Speed #1: 70-180 RPM / Speed #2: 200-500 RPM | Speed #1: 45-129 RPM / Speed #2: 70-208 RPM<br>Speed #3: 150-434 RPM / Speed #4: 240-700 RPM |
| Rated current | 18 A | 20 A |
| Core cutter capacity (diameter) | 3” (75 mm) | 4” (100 mm) |
| Core cutter capacity (depth) | 3” (75 mm) | 4” (100 mm) |
| Twist drill capacity (diameter) | 1-1/4” (31.75 mm) | 1-1/4” (31.75 mm) |
| Tapping function | YES (1-1/8”) | YES (1-1/8”) |
| Weight | 52 lbs (23.5 kg) | 54.5 lbs (24.8 kg) |
| Swivel and sliding magnet | Swivel 120°, sliding 2” | Swivel 120°, sliding 2” |
| Max drill point pressure | 4160 lbs (1890 kg) | 4950 lbs (2240 kg) |
| Reversible handle | Tool free press-button | Tool free press-button |
| Powerguard motor overload protection | 22 A | 24 A |
| Powerguard electronic overload protection | 25 A | 27 A |
| Short-Circuit protection | Integrated fuse | Integrated fuse |
| Accudrill LED torque display | Integrated Amp meter | Integrated Amp meter |
| Magnetic field sensor | Material and thickness detector | Material and thickness detector |
| Tool free guard | Metal, sliding up | Metal, sliding up |
| Wiring | Internal | Internal |
| Lubrication | On motor head | On motor head |
| Control board | Centered, s/s switches with LEDS | Centered, S/S switches with LED |
| Handle | 1 on main housing, 1 rear handle | 1 on main housing, 1 rear handle |
| Arbor | Weldon taper morse #3 | Weldon taper morse #3 |
| Maintenance | Easy access to carbon brushes | Easy access to carbon brushes |
| Total Stroke | 9.4” | 10.2” |

WALTER

# MAGNETIC DRILLS FAMILY
# ICECUT™ SYSTEMS

## ICECUT MINI™ - ICECUT 100™ - ICECUT 200™ - ICECUT 200PM™ - ICECUT 250™ ICECUT 250 AUTO™ - ICECUT 250P™ - ICECUT 300™ - ICECUT 400™

Includes a 1/2" chuck adaptor for drilling smaller holes

For larger holes, 1/2" and above, use the magnetic base with the standard Weldon shank

**Comes in a foam padded case for superior protection**

| ICECUT 300™ (39D300) DIALSPEED™ RPM Setting | | | | |
|---|---|---|---|---|
| | RPM | | | |
| | SPEED 1 ↓ | SPEED 2 ↑ | SPEED 3 | SPEED 4 |
| 1 | 70 | 200 | x | x |
| 2 | 92 | 260 | x | x |
| 3 | 114 | 320 | x | x |
| 4 | 136 | 380 | x | x |
| 5 | 158 | 440 | x | x |
| 6 | 180 | 500 | x | x |

| ICECUT 400™ (39D400) DIALSPEED™ RPM Setting (Left/Right) | | | | |
|---|---|---|---|---|
| | RPM | | | |
| | SPEED 1 ↓/↑ | SPEED 2 ↓/↓ | SPEED 3 ↑/↑ | SPEED 4 ↑/↓ |
| 1 | 45 | 70 | 150 | 240 |
| 2 | 62 | 98 | 207 | 332 |
| 3 | 79 | 126 | 264 | 424 |
| 4 | 96 | 154 | 321 | 516 |
| 5 | 113 | 181 | 378 | 608 |
| 6 | 129 | 208 | 434 | 700 |

| Model | Order No. | No load RPM | Motor | Amps | Twist drill capacity (diameter) | Annular cutter | Max. drilling depth | Magnet strength | Weight |
|---|---|---|---|---|---|---|---|---|---|
| ICECUT MINI™ | 39D050 | 250-500 RPM | 120V .A.C. | 10A | N/A | 2" | 2" | 2248 lbs (1019.6 kg) | 23.1 lbs (10.4 kg) |
| ICECUT 100™ | 39D100 | 600 RPM | 120V .A.C. | 8A | 1/2" (stub length only) | 1-3/8" | 1-1/2" | 1875 lbs (850.5 kg) | 22 lbs (9.9 kg) |
| ICECUT 200™ | 39D200 | Speed #1: 300 RPM<br>Speed #2: 600 RPM | 120V .A.C. | 10A | 1/2" | 2" | 2" | 1875 lbs (850.5 kg) | 27 lbs (12.2 kg) |
| ICECUT 200PM™ | 39D201 | Speed #1: 300 RPM<br>Speed #2: 600 RPM | 120V .A.C. | 10A | 1/2" | 2" | 2" | 1875 lbs (850.5 kg) | 28 lbs (12.7 kg) |
| ICECUT 250™ | 39D250 | Speed #1: 100-265 RPM<br>Speed #2: 200-500 RPM | 120V .A.C. | 15A | 1/2" | 2-3/8" | 3" | 3035 lbs (1376.6 kg) | 34.1 lbs (15.4 kg) |
| ICECUT 250 AUTO™ | 39D252 | Speed #1: 100-265 RPM<br>Speed #2: 200-500 RPM | 120V .A.C. | 15A | 1/2" | 2-3/8" | 3" | 3035 lbs (1376.6 kg) | 40 lbs (18 kg) |
| ICECUT 250P™ | 39D251 | Speed #1: 100-265 RPM<br>Speed #2: 200-500 RPM | 120V .A.C. | 15A | 1/2" | 2-3/8" | 3" | 3035 lbs (1376.6 kg) | 39.6 lbs (17.9 kg) |
| ICECUT 300™ | 39D300 | Speed #1: 70-180 RPM<br>Speed #2: 200-500 RPM | 120V .A.C. | 18A | 1 1/4" | 3" | 3" | 4160 lbs (1886.9 kg) | 52 lbs (23.6 kg) |
| ICECUT 400™ | 39D400 | Speed #1: 45-129 RPM<br>Speed #2: 70-208 RPM<br>Speed #3: 150-434 RPM<br>Speed #4: 240-700 RPM | 120V .A.C. | 20A | 1 1/4" | 4" | 4" | 4950 lbs (2945.2 kg) | 54.5 lbs (24.7 kg) |

# STRAIGHT DRILL 716B– 5/8"

End handle drill with a heavy-duty 120V motor and 2-speed gear box. Use low speed to drill large holes with extra torque and high speed to drill small holes. The reversing feature makes this drill also suitable for tapping applications.

| Capacities - Steel | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Model | Order No. | Speed under load | Motor | Max. torque | Amps | Twist drill | Hole saw | Weight |
| 716B | 38A716 | 0-430/760 rev. | 120V A.C. | 30/17 Nm | 9.2 | 5/8" | 3" | 9 lbs (4 kg) |

**STANDARD EQUIPMENT**: 5/8" capacity keyed chuck 22A072, chuck key 22A202, side handle (model 716) 48E063 and 9 ft. cord.

# 08
# REAMERS

# QUICK PAGES REFERENCES

## REAMERS

TRIUMPH TWIST DRILL | DRILLCO CUTTING TOOLS

### Reamers are available in car (shorter) and bridge (longer) length as:

Shank Styles

Taper Shank

Hex Shank

3-Flat Shank

Flute Styles

Spiral Flute

High-Spiral Flute

Straight Flute

### Multi Steps Reamers

High Speed Steel

**Black Oxide**
For enlarging existing holes in steel to a new diameter

| Type | Series | Catalog page reference |
|---|---|---|
| Step | 4700SE | 447 |

### Bridge / Car Reamers

High Speed Steel

**Black Oxide**
For use with morse taper holders

| Type | Series | Catalog page reference |
|---|---|---|
| Bridge Length | 4200, 4250 | 447 |
| Car Length | 150H, 175H | 448 |

### Construction Reamers

High Speed Steel

**Black Oxide**
For better performance on low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 3-Flat Shank | 4275, 4275E, 4285 | 450 |
| Hex Nut Shank | 4290, 4290E, 100HX, 125HX, 150HX | 451 |

### Heavy-Duty Construction Reamers

NITRO

High Speed Steel

**Black and Gold**
For heavy-duty reaming applications

| Type | Series | Catalog page reference |
|---|---|---|
| 3-Flat Shank | 4275N, 4285N | 449 |
| Hex Nut Shank | 125SF, 4290N | 452 |

### Alignment Reamers

High Speed Steel

**Black and Gold Oxide**
For Cast Iron, Non-Ferrous Metals, Stainless Steel

| Type | Series | Catalog page reference |
|---|---|---|
| 3-Flat Shank | TCR | 453 |

### Chucking Reamers

**Bright & Black**
Provides an accurate hole size with a smooth finish

| Type | Series | Catalog page reference |
|---|---|---|
| Chucking | 4300E, 4375E, 4350E | 454 |

### Hand Reamers

**Bright & Black**
Widely used for final sizing of drilled holes

| Type | Series | Catalog page reference |
|---|---|---|
| Hand | 4400E, 4450E | 455 |

### Taper Pin Reamers

**Bright & Black**
For reaming holes to allow a taper pin fastener to fit

| Type | Series | Catalog page reference |
|---|---|---|
| Taper Pin | 4500E, 4550E, 4570E | 456 |

# MULTI-STEPS REAMERS

DRILLCO CUTTING TOOLS

## 15 Sizes, 3 Tools: Clean, Deburr, and Free Holes in Seconds!

- *Feature 3-flat shanks to reduce slippage in the chuck*
- *Shanks are 3/8”*
- *Reamers are made from high quality High Speed Steel (HSS)*
- *Black oxide surface treatment increases wear resistance*

Special geometry split point reduces “walking” when beginning the reaming process. Can start a hole from scratch.

### *4700SE SERIES*
**HIGH SPEED STEEL**
**Flat Reduced Shank**

| Tool# | Description | 4700SE Order No. |
|---|---|---|
| 1 | 5 Steps: 5/16”, 3/8”, 7/16”, 1/2”, 9/16” | 470SE001 |
| 2 | 5 Steps: 9/16”, 5/8”, 11/16”, 3/4”, 13/16” | 470SE002 |
| 3 | 5 Steps: 13/16”, 7/8”, 15/16”, 1”, 1-1/16” | 470SE003 |
| SET | 3pcs: 1 of each Reamer | 470SESET |

**Available in 3 tools, with sizes from 5/16” thru 1-1/16”**

# BRIDGE REAMERS

For enlarging or aligning holes in structural steel, truck and trailer body frames, ship building, and bridge construction applications.

- *For use with morse taper holders*
- *Straight Flute- for a smoother finish;*
  *Spiral Flute- for more aggressive reaming*
- *High Speed Steel*
- *All sizes are individually packaged*

4200 Straight Flute

4250 Spiral Flute

### *4200 / 4250 SERIES*
**HIGH SPEED STEEL**
**Taper Shank**

| Size | Point Dia. | Flute Length | Overall Length | Morse Taper | Straight Flute 4200 Order No. | Spiral Flute 4250 Order No. |
|---|---|---|---|---|---|---|
| 5/16” | 11/64” | 4-3/8” | 8-1/4” | 2 | 420A120 | 425A120 |
| 11/32” | 11/64” | 4-3/8” | 8-1/4” | 2 | 420A122 | 425A122 |
| 3/8” | 7/32” | 4-3/8” | 8-1/4” | 2 | 420A124 | 425A124 |
| 13/32” | 7/32” | 4-3/8” | 8-1/4” | 2 | 420A126 | 425A126 |
| 7/16” | 17/64” | 4-3/8” | 8-1/4” | 2 | 420A128 | 425A128 |
| 15/32” | 9/32” | 5-1/8” | 9” | 2 | 420A130 | 425A130 |
| 1/2” | 5/16” | 5-1/8” | 9” | 2 | 420A132 | 425A132 |
| 17/32” | 11/32” | 5-1/8” | 9” | 2 | 420A134 | 425A134 |
| 9/16” | 3/8” | 5-1/8” | 9” | 2 | 420A136 | 425A136 |
| 19/32” | 3/8” | 5-1/8” | 9” | 2 | 420A138 | 425A138 |
| 5/8” | 25/64” | 6-1/8” | 10” | 2 | 420A140 | 425A140 |
| 21/32” | 25/64” | 7-1/8” | 11-3/4” | 3 | 420A142 | 425A142 |
| 11/16” | 13/32” | 7-1/8” | 11-3/4” | 3 | 420A144 | 425A144 |
| 3/4” | 15/32” | 7-3/8” | 12” | 3 | 420A148 | 425A148 |
| 25/32” | 15/32” | 7-3/8” | 12” | 3 | 420A150 | 425A150 |
| 13/16” | 35/64” | 7-3/8” | 12” | 3 | 420A152 | 425A152 |
| 27/32” | 35/64” | 7-3/8” | 12” | 3 | 420A154 | 425A154 |

| Size | Point Dia. | Flute Length | Overall Length | Morse Taper | Straight Flute 4200 Order No. | Spiral Flute 4250 Order No. |
|---|---|---|---|---|---|---|
| 7/8” | 39/64” | 7-3/8” | 12” | 3 | 420A156 | 425A156 |
| 29/32” | 39/64” | 7-3/8” | 12” | 3 | 420A158 | 425A158 |
| 15/16” | 43/64” | 7-3/8” | 12” | 3 | 420A160 | 425A160 |
| 31/32” | 5/8” | 7-3/8” | 12” | 3 | – | 425A162 |
| 1” | 47/64” | 7-3/8” | 12” | 3 | 420A164 | 425A164 |
| 1-1/32” | 47/64” | 7-3/8” | 12” | 3 | 420A202 | 425A202 |
| 1-1/16” | 13/16” | 7-3/8” | 12” | 3 | 420A204 | 425A204 |
| 1-1/8” | 55/64” | 7-3/8” | 12” | 3 | 420A208 | 425A208 |
| 1-3/16” | 59/64” | 7-3/8” | 12” | 3 | 420A212 | 425A212 |
| 1-1/4” | 63/64” | 7-3/8” | 13” | 4 | 420A216 | 425A216 |
| 1-5/16” | 1-1/16” | 7-3/8” | 13” | 4 | 420A220 | 425A220 |
| 1-3/8” | 1-1/8” | 7-3/8” | 13” | 4 | 420A224 | 425A224 |
| 1-7/16” | 1-3/16” | 7-3/8” | 13” | 4 | 420A228 | 425A228 |
| 1-1/2” | 1-1/4” | 7-3/8” | 13” | 4 | 420A232 | 425A232 |
| 1-9/16” | 1-1/4” | 7-3/8” | 13” | 4 | 420A236 | 425A236 |
| 1-5/8” | 1-3/8” | 7-3/8” | 13” | 4 | 420A240 | 425A240 |

# CAR REAMERS

DRILLCO CUTTING TOOLS

## For enlarging or aligning holes in structural steel, ship building, and bridge construction applications

- *Shorter length permits their use in cramped quarters where Bridge Reamers cannot enter*
- *The approximate length of the tapered section is 50% of the total flute length*
- *For use with morse taper holders*
- *High Speed Steel*
- *All sizes are individually packaged*

### *150H / 175H SERIES*
### HIGH SPEED STEEL
### Straight Flute / Spiral Flute / Taper Shank

150H Straight Flute

175H Spiral Flute

| Size | Flute Length | Overall Length | Morse Taper | Spiral Flute 175H Order No. |
|---|---|---|---|---|
| 1/4” | 2-1/2” | 5-7/16” | 1 | 175H116 |
| 9/32” | 2-1/2” | 5-7/16” | 1 | 175H118 |
| 5/16” | 2-3/4” | 5-11/16” | 1 | 175H120 |
| 11/32” | 2-3/4” | 5-11/16” | 1 | 175H122 |
| 3/8” | 2-3/4” | 5-11/16” | 1 | 175H124 |
| 13/32” | 3-1/2” | 6-15/16” | 2 | 175H126 |
| 7/16” | 3-1/2” | 6-15/16” | 2 | 175H128 |
| 15/32” | 3-1/2” | 7-1/16” | 2 | 175H130 |
| 1/2” | 4” | 7-9/16” | 2 | 175H132 |
| 17/32” | 4” | 7-9/16” | 2 | 175H134 |
| 9/16” | 4” | 7-9/16” | 2 | 175H136 |
| 19/32” | 4-1/2” | 8-1/16” | 2 | 175H138 |
| 5/8” | 4-1/2” | 8-1/16” | 2 | 175H140 |
| 21/32” | 4-1/2” | 8-13/16” | 3 | 175H142 |
| 11/16” | 4-1/2” | 8-13/16” | 3 | 175H144 |
| 23/32” | 4-1/2” | 8-13/16” | 3 | 175H146 |
| 3/4” | 5” | 9-1/2” | 3 | 175H148 |
| 25/32” | 5” | 9-1/2” | 3 | 175H150 |

| Size | Flute Length | Overall Length | Morse Taper | Straight Flute 150H Order No. | Spiral Flute 175H Order No. |
|---|---|---|---|---|---|
| 13/16” | 5” | 9-1/2” | 3 | | 175H152 |
| 27/32” | 5” | 9-1/2” | 3 | | 175H154 |
| 7/8” | 5” | 9-1/2” | 3 | | 175H156 |
| 29/32” | 5” | 9-1/2” | 3 | | 175H158 |
| 15/16” | 5” | 9-1/2” | 3 | 150H160 | 175H160 |
| 31/32” | 5” | 9-1/2” | 3 | | 175H162 |
| 1” | 5” | 9-1/2” | 3 | | 175H164 |
| 1-1/32” | 5” | 9-1/2” | 3 | | 175H202 |
| 1-1/16” | 5” | 9-1/2” | 3 | | 175H204 |
| 1-1/8” | 5” | 9-1/2” | 3 | | 175H208 |
| 1-3/16” | 5” | 9-1/2” | 3 | | 175H212 |
| 1-1/4” | 5” | 9-1/2” | 3 | | 175H216 |
| 1-5/16” | 5” | 10-1/2” | 4 | | 175H220 |
| 1-3/8” | 5” | 10-1/2” | 4 | | 175H224 |
| 1-7/16” | 5” | 10-1/2” | 4 | | 175H228 |
| 1-1/2” | 5” | 10-1/2” | 4 | | 175H232 |
| 1-9/16” | 5” | 10-1/2” | 4 | | 175H236 |
| 1-5/8” | 5” | 10-1/2” | 4 | | 175H240 |

# CONSTRUCTION REAMERS

DRILLCO CUTTING TOOLS

## For enlarging or aligning holes in structural steel, truck and trailer body framers, ship building, and bridge construction applications

NITRO

- *Especially adapted for heavy-duty reaming*
- *Tapered at the point to facilitate entering of holes which are out of alignment*
- *Available in Spiral Flute and High Spiral Flute with 3 Flats Straight Shanks, or with Hex Nut Shanks*
- *Safety collar added on 4285 / 4285N series to help prevent over penetration*
- *All sizes are individually packaged*

4275N Spiral Flute

4285N High Spiral Flute

### *4275N / 4285N SERIES*
### CONSTRUCTION HIGH SPEED STEEL
### 3 Flats Reduced Shank

| Size | Shank Dia. | Flute Length | Overall Length | Spiral Flute 4275N Order No. | High Spiral Flute 4285N Order No. |
|---|---|---|---|---|---|
| 1/4” | 1/4” | 2-1/2” | 4-3/8” | 427N116 | 428N116 |
| 5/16” | 5/16” | 2-3/4” | 4-5/8” | 427N120 | 428N120 |
| 3/8” | 3/8” | 2-3/4” | 4-5/8” | 427N124 | 428N124 |
| 13/32” | 13/32” | 3-1/2” | 5-3/8” | 427N126 | 428N126 |
| 7/16” | 7/16” | 3-1/2” | 5-3/8” | 427N128 | 428N128 |
| 15/32” | 15/32” | 3-3/4” | 5-7/8” | 427N130 | 428N130 |
| 1/2” | 1/2” | 4” | 5-7/8” | 427N132 | 428N132 |
| 17/32” | 1/2” | 4” | 5-7/8” | 427N134 | 428N134 |
| 9/16” | 1/2” | 4” | 5-7/8” | 427N136 | 428N136 |
| 19/32” | 1/2” | 4-1/2” | 6-3/8” | 427N138 | 428N138 |
| 5/8” | 1/2” | 4-1/2” | 6-3/8” | 427N140 | 428N140 |
| .652 | 1/2” | 4-1/2” | 6-3/8” | 427N141 | 428N141 |
| 21/32” | 1/2” | 4-1/2” | 6-3/8” | 427N142 | 428N142 |
| 11/16” | 1/2” | 4-1/2” | 6-3/8” | 427N144 | 428N144 |
| 23/32” | 1/2” | 4-1/2” | 6-3/8” | 427N146 | 428N146 |
| 3/4” | 1/2” | 5” | 6-7/8” | 427N148 | 428N148 |
| .776 | 1/2” | 5” | 6-7/8” | 427N149 | 428N149 |

| Size | Shank Dia. | Flute Length | Overall Length | Spiral Flute 4275N Order No. | High Spiral Flute 4285N Order No. |
|---|---|---|---|---|---|
| 25/32” | 1/2” | 5” | 6-7/8” | 427N150 | 428N150 |
| 13/16” | 1/2” | 5” | 6-7/8” | 427N152 | 428N152 |
| 27/32” | 1/2” | 5” | 6-7/8” | 427N154 | 428N154 |
| 7/8” | 1/2” | 5” | 6-7/8” | 427N156 | 428N156 |
| 29/32” | 1/2” | 5” | 6-7/8” | | 428N158 |
| 15/16” | 1/2” | 5” | 6-7/8” | 427N160 | 428N160 |
| 31/32” | 1/2” | 5” | 6-7/8” | 427N162 | 428N162 |
| 1” | 1/2” | 5” | 6-7/8” | 427N164 | 428N164 |
| 1.027 | 1/2” | 5” | 6-7/8” | 427N201 | 428N201 |
| 1-1/16” | 1/2” | 5” | 6-7/8” | 427N204 | 428N204 |
| 1-1/8” | 3/4” | 5” | 6-7/8” | 427N208 | 428N208 |
| 1-3/16” | 3/4” | 5” | 6-7/8” | 427N212 | 428N212 |
| 1-1/4” | 3/4” | 5” | 6-7/8” | 427N216 | 428N216 |
| 1-5/16” | 3/4” | 5” | 6-7/8” | 427N220 | 428N220 |
| 1-3/8” | 3/4” | 5” | 6-7/8” | 427N224 | 428N224 |
| 1-7/16” | 3/4” | 5” | 6-7/8” | 427N228 | 428N228 |
| 1-1/2” | 3/4” | 5” | 6-7/8” | 427N232 | 428N232 |

Sizes 1-1/8” and above also available with 1/2” shank.
Please call for price and availability.

| No. of Pcs. | Sizes | Order No. |
|---|---|---|
| NITRO® Construction Reamer Set | | |
| 3 | 1/2", 5/8", 3/4" | 427N3S |
| 3 | 1/2", 5/8", 3/4" | 428N3S |

| No. of Pcs. | Sizes | 4275N Order No. | 4285N Order No. |
|---|---|---|---|
| NITRO® Construction Reamer Display Sets | | | |
| 8 | 1 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16 | 427N8D | 428N8D |
| 16 | 2 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16 | 427N16D | 428N16D |
| 24 | 3 each of: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16 | 427N24D | 428N24D |

# CONSTRUCTION REAMERS

## *4275 / 4275E* SERIES*

**CONSTRUCTION HIGH SPEED STEEL**

**Spiral Flute / 3-Flats Reduced Shank**

4275

| Size | Shank Dia. | Flute Length | Overall Length | 4275 Order No. | 4275E Order No. |
|---|---|---|---|---|---|
| 1/4” | 1/4” | 2-1/2” | 4-3/8” | 427A116 | – |
| 5/16” | 5/16” | 2-3/4” | 4-5/8” | 427A120 | 427E120 |
| 3/8” | 3/8” | 2-3/4” | 4-5/8” | 427A124 | 427E124 |
| 13/32” | 13/32” | 3-1/2” | 5-3/8” | 427A126 | – |
| 7/16” | 7/16” | 3-1/2” | 5-3/8” | 427A128 | 427E128 |
| 1/2” | 1/2” | 4” | 5-7/8” | 427A132 | 427E132 |
| 17/32” | 1/2” | 3-3/4” | 5-7/8” | 427A134 | – |
| 9/16” | 1/2” | 4” | 5-7/8” | 427A136 | 427E136 |
| 19/32” | 1/2” | 4-1/4” | 6-3/8” | 427A138 | – |
| 39/64” | 1/2” | 4-1/4” | 6-3/8” | 427A139 | – |
| 5/8” | 1/2” | 4-1/2” | 6-3/8” | 427A140 | 427E140 |
| .652 | 1/2” | 4-1/2” | 6-3/8” | 427A141 | – |
| 21/32” | 1/2” | 4-1/2” | 6-3/8” | 427A142 | – |
| 11/16” | 1/2” | 4-1/2” | 6-3/8” | 427A144 | 427E144 |
| 23/32” | 1/2” | 4-1/2” | 6-3/8” | 427A146 | – |
| 3/4” | 1/2” | 5” | 6-7/8” | 427A148 | 427E148 |
| .776” | 1/2” | 5” | 6-7/8” | 427A149 | – |
| 25/32” | 1/2” | 5” | 6-7/8” | 427A150 | – |
| 13/16” | 1/2” | 5” | 6-7/8” | 427A152 | 427E152 |
| 7/8” | 1/2” | 5” | 6-7/8” | 427A156 | 427E156 |
| 15/16” | 1/2” | 5” | 6-7/8” | 427A160 | 427E160 |
| 1” | 1/2” | 5” | 6-7/8” | 427A164 | 427E164 |
| 1-027 | 1/2” | 5” | 6-7/8” | 427A201 | – |
| 1-1/16” | 1/2” | 5” | 6-7/8” | 427A204 | 427E204 |
| 1-3/32” | 1/2” | 5” | 6-7/8” | 427A206 | – |
| 1-1/8” | 3/4” | 5” | 6-7/8” | 427A208 | – |
| 1-3/16” | 3/4” | 5” | 6-7/8” | 427A212 | – |
| 1-1/4” | 3/4” | 5” | 6-7/8” | 427A216 | – |
| 1-5/16” | 3/4” | 5” | 6-7/8” | 427A220 | – |
| 1-3/8” | 3/4” | 5” | 6-7/8” | 427A224 | – |
| 1-7/16” | 3/4” | 5” | 6-7/8” | 427A228 | – |
| 1-1/2” | 3/4” | 5” | 6-7/8” | 427A232 | – |

Sizes 1-1/8” and above also available with 1/2” shank.
Please call for price and availability.
*Not Made in USA

## *4285 SERIES*

**CONSTRUCTION HIGH SPEED STEEL**

**High Spiral Flute / 3-Flats Reduced Shank**

4285

| Size | Shank Dia. | Flute Length | Overall Length | 4285 Order No. |
|---|---|---|---|---|
| 1/4” | 1/4” | 2-1/2” | 4-3/8” | 428A116 |
| 5/16” | 5/16” | 2-3/4” | 4-5/8” | 428A120 |
| 3/8” | 3/8” | 2-3/4” | 4-5/8” | 428A124 |
| 13/32” | 13/32” | 3-1/2” | 5-3/8” | 428A126 |
| 7/16” | 7/16” | 3-1/2” | 5-3/8” | 428A128 |
| 15/32” | 15/32” | 3-3/4” | 5-7/8” | 428A130 |
| 1/2” | 1/2” | 4” | 5-7/8” | 428A132 |
| 17/32” | 1/2” | 4” | 5-7/8” | 428A134 |
| 9/16” | 1/2” | 4” | 5-7/8” | 428A136 |
| 19/32” | 1/2” | 4-1/2” | 6-3/8” | 428A138 |
| 5/8” | 1/2” | 4-1/2” | 6-3/8” | 428A140 |
| .652 | 1/2” | 4-1/2” | 6-3/8” | 428A141 |
| 21/32” | 1/2” | 4-1/2” | 6-3/8” | 428A142 |
| 11/16” | 1/2” | 4-1/2” | 6-3/8” | 428A144 |
| 23/32” | 1/2” | 4-1/2” | 6-3/8” | 428A146 |
| 3/4” | 1/2” | 5” | 6-7/8” | 428A148 |
| .776 | 1/2” | 5” | 6-7/8” | 428A149 |
| 25/32” | 1/2” | 5” | 6-7/8” | 428A150 |
| 13/16” | 1/2” | 5” | 6-7/8” | 428A152 |
| 27/32” | 1/2” | 5” | 6-7/8” | 428A154 |
| 7/8” | 1/2” | 5” | 6-7/8” | 428A156 |
| 15/16” | 1/2” | 5” | 6-7/8” | 428A160 |
| 1” | 1/2” | 5” | 6-7/8” | 428A164 |
| 1.027 | 1/2” | 5” | 6-7/8” | 428A201 |
| 1-1/32” | 1/2” | 5” | 6-7/8” | 428A202 |
| 1-1/16” | 1/2” | 5” | 6-7/8” | 428A204 |
| 1-1/8” | 3/4” | 5” | 6-7/8” | 428A208 |
| 1-3/16” | 3/4” | 5” | 6-7/8” | 428A212 |
| 1-1/4” | 3/4” | 5” | 6-7/8” | 428A216 |
| 1-5/16” | 3/4” | 5” | 6-7/8” | 428A220 |
| 1-3/8” | 3/4” | 5” | 6-7/8” | 428A224 |
| 1-7/16” | 3/4” | 5” | 6-7/8” | 428A228 |
| 1-1/2” | 3/4” | 5” | 6-7/8” | 428A232 |

Sizes 1-1/8” and above also available with 1/2” shank.
Please call for price and availability.

# CONSTRUCTION REAMERS

## *4290 / 4290E* SERIES*
### CONSTRUCTION HIGH SPEED STEEL
### Spiral Flute / Hex Nut / Car Length

4290

| Size | Hex Dia. | Flute Length | Overall Length | 4290 Order No. | 4290E Order No. |
|---|---|---|---|---|---|
| 1/2” | 1-1/16” | 4” | 5-1/2” | 429A132 | |
| 9/16” | 1-1/16” | 4” | 5-7/8” | 429A136 | |
| 5/8” | 1-1/16” | 4-1/2” | 6” | 429A140 | |
| 11/16” | 1-1/16” | 4-1/2” | 6-3/8” | 429A144 | 429E144 |
| 3/4” | 1-1/4” | 5” | 7” | 429A148 | |
| 13/16” | 1-1/4” | 5” | 7” | 429A152 | 429E152 |
| 7/8” | 1-7/16” | 5” | 7” | 429A156 | |
| 15/16” | 1-7/16” | 5” | 7” | 429A160 | 429E160 |
| 1” | 1-7/16” | 5” | 7” | 429A164 | |
| 1-1/16” | 1-5/8” | 5” | 7” | 429A204 | 429E204 |
| 1-1/8” | 1-5/8” | 5” | 7” | 429A208 | |
| 1-3/16” | 1-13/16” | 5” | 7” | 429A212 | |
| 1-1/4” | 1-13/16” | 5” | 7” | 429A216 | |
| 1-5/16” | 2” | 5” | 7-7/8” | 429A220 | |
| 1-3/8” | 2” | 5” | 7-7/8” | 429A224 | |
| 1-7/16” | 2” | 5” | 7-7/8” | 429A228 | |
| 1-1/2” | 2” | 5” | 7-7/8” | 429A232 | |
| 1-9/16” | 2” | 5” | 7-7/8” | 429A236 | |

*Not Made in USA

## *125HX SERIES*
### CONSTRUCTION HIGH SPEED STEEL
### Spiral Flute / Hex Nut / Bridge Length

125HX

| Size | Hex Dia. | Flute Length | Overall Length | 125HX Order No. |
|---|---|---|---|---|
| 9/16” | 1-1/16” | 5-1/8” | 6-7/8” | 125HX136 |
| 5/8” | 1-1/16” | 6-1/8” | 7-7/8” | 125HX140 |
| 11/16” | 1-1/16” | 7-1/8” | 9-1/4” | 125HX144 |
| 3/4” | 1-1/4” | 7-3/8” | 9-3/8” | 125HX148 |
| 13/16” | 1-1/4” | 7-3/8” | 9-3/8” | 125HX152 |
| 7/8” | 1-7/16” | 7-3/8” | 9-3/8” | 125HX156 |
| 15/16” | 1-7/16” | 7-3/8” | 9-3/8” | 125HX160 |
| 1” | 1-7/16” | 7-3/8” | 9-3/8” | 125HX164 |
| 1-1/16” | 1-5/8” | 7-3/8” | 9-3/8” | 125HX204 |
| 1-1/8” | 1-5/8” | 7-3/8” | 9-3/8” | 125HX208 |
| 1-3/16” | 1-13/16” | 7-3/8” | 9-3/8” | 125HX212 |
| 1-1/4” | 1-13/16” | 7-3/8” | 9-3/8” | 125HX216 |
| 1-5/16” | 2” | 7-3/8” | 10” | 125HX220 |
| 1-3/8” | 2” | 7-3/8” | 10” | 125HX224 |
| 1-7/16” | 2” | 7-3/8” | 10” | 125HX228 |
| 1-1/2” | 2” | 7-3/8” | 10” | 125HX232 |
| 1-9/16” | 2” | 7-3/8” | 10” | 125HX236 |
| 1-5/8” | 2” | 7-3/8” | 10” | 125HX240 |

## *150HX SERIES*
### CONSTRUCTION HIGH SPEED STEEL
### Straight Flute / Hex Nut / Car Length

150HX

| Size | Hex Dia. | Flute Length | Overall Length | 150HX Order No. |
|---|---|---|---|---|
| 1/2” | 1-1/16” | 4” | 5-1/2” | 150HX132 |
| 9/16” | 1-1/16” | 4” | 5-1/2” | 150HX136 |
| 5/8” | 1-1/16” | 4-1/2” | 6” | 150HX140 |
| 11/16” | 1-1/16” | 4-1/2” | 6-3/8” | 150HX144 |
| 3/4” | 1-1/4” | 5” | 7” | 150HX148 |
| 13/16” | 1-1/4” | 5” | 7” | 150HX152 |
| 7/8” | 1-7/16” | 5” | 7” | 150HX156 |
| 15/16” | 1-7/16” | 5” | 7” | 150HX160 |
| 1” | 1-7/16” | 5” | 7” | 150HX164 |
| 1-1/16” | 1-5/8” | 5” | 7” | 150HX204 |
| 1-1/8” | 1-5/8” | 5” | 7” | 150HX208 |
| 1-3/16” | 1-13/16” | 5” | 7” | 150HX212 |
| 1-1/4” | 1-13/16” | 5” | 7” | 150HX216 |
| 1-5/16” | 2” | 5” | 7-7/8” | 150HX220 |

## *100HX SERIES*
### CONSTRUCTION HIGH SPEED STEEL
### Straight Flute / Hex Nut / Bridge Length

100HX

| Size | Hex Dia. | Flute Length | Overall Length | 100HX Order No. |
|---|---|---|---|---|
| 9/16” | 1-1/16” | 5-1/8” | 6-7/8” | 100HX136 |
| 5/8” | 1-1/16” | 6-1/8” | 7-7/8” | 100HX140 |
| 11/16” | 1-1/16” | 7-1/8” | 9-1/4” | 100HX144 |
| 3/4” | 1-1/4” | 7-3/8” | 9-3/8” | 100HX148 |
| 13/16” | 1-1/4” | 7-3/8” | 9-3/8” | 100HX152 |
| 7/8” | 1-7/16” | 7-3/8” | 9-3/8” | 100HX156 |
| 15/16” | 1-7/16” | 7-3/8” | 9-3/8” | 100HX160 |
| 1” | 1-7/16” | 7-3/8” | 9-3/8” | 100HX164 |
| 1-1/16” | 1-5/8” | 7-3/8” | 9-3/8” | 100HX204 |
| 1-1/8” | 1-5/8” | 7-3/8” | 9-3/8” | 100HX208 |
| 1-3/16” | 1-13/16” | 7-3/8” | 9-3/8” | 100HX212 |
| 1-1/4” | 1-13/16” | 7-3/8” | 9-3/8” | 100HX216 |
| 1-5/16” | 2” | 7-3/8” | 10” | 100HX220 |
| 1-3/8” | 2” | 7-3/8” | 10” | 100HX224 |
| 1-7/16” | 2” | 7-3/8” | 10” | 100HX228 |
| 1-1/2” | 2” | 7-3/8” | 10” | 100HX232 |
| 1-9/16” | 2” | 7-3/8” | 10” | 100HX236 |
| 1-5/8” | 2” | 7-3/8” | 10” | 100HX240 |

DRILLCO CUTTING TOOLS

# CONSTRUCTION REAMERS

NITRO SAFETY FIRST

## Protect against the danger and loss of a falling reamer

- *Manufactured from a premium grade of high speed steel*
- *Body and clearance are black and gold surface-treated for maximum lubricity*
- *Two NE040 Magnets are placed 180° apart in hex nut to reduce the risk of the reamer falling out of the socket while in use*
- *Meets OSHA 29CFR Part 1926.759 (falling objects protection)*
- *All sizes are individually packaged*

## *125SF SERIES*
## CONSTRUCTION HIGH SPEED STEEL
### Spiral Flute / Hex Nut / Bridge Length

125SF

| Size | Hex Dia. | Flute Length | Overall Length | 125SF Order No. |
|---|---|---|---|---|
| 9/16” | 1-1/16” | 5-1/8” | 6-7/8” | 125SF136 |
| 5/8” | 1-1/16” | 6-1/8” | 7-7/8” | 125SF140 |
| 11/16” | 1-1/16” | 7-1/8” | 9-1/4” | 125SF144 |
| 3/4” | 1-1/4” | 7-3/8” | 9-3/8” | 125SF148 |
| 13/16” | 1-1/4” | 7-3/8” | 9-3/8” | 125SF152 |
| 7/8” | 1-7/16” | 7-3/8” | 9-3/8” | 125SF156 |
| 15/16” | 1-7/16” | 7-3/8” | 9-3/8” | 125SF160 |
| 1” | 1-7/16” | 7-3/8” | 9-3/8” | 125SF164 |
| 1-1/16” | 1-5/8” | 7-3/8” | 9-3/8” | 125SF204 |

| Size | Hex Dia. | Flute Length | Overall Length | 125SF Order No. |
|---|---|---|---|---|
| 1-1/8” | 1-5/8” | 7-3/8” | 9-3/8” | 125SF208 |
| 1-3/16” | 1-13/16” | 7-3/8” | 9-3/8” | 125SF212 |
| 1-1/4” | 1-13/16” | 7-3/8” | 9-3/8” | 125SF216 |
| 1-5/16” | 2” | 7-3/8” | 10” | 125SF220 |
| 1-3/8” | 2” | 7-3/8” | 10” | 125SF224 |
| 1-7/16” | 2” | 7-3/8” | 10” | 125SF228 |
| 1-1/2” | 2' | 7-3/8” | 10” | 125SF232 |
| 1-9/16” | 2” | 7-3/8” | 10” | 125SF236 |
| 1-5/8” | 2” | 7-3/8” | 10” | 125SF240 |

## *4290N SERIES*
## CONSTRUCTION HIGH SPEED STEEL
### Spiral Flute / Hex Nut / Car Length

4290N

| Size | Hex Dia. | Flute Length | Overall Length | 4290N Order No. |
|---|---|---|---|---|
| 1/2” | 1-1/16” | 4” | 5-1/2” | 429N132 |
| 9/16” | 1-1/16” | 4” | 5-7/8” | 429N136 |
| 5/8” | 1-1/16” | 4-1/2” | 6” | 429N140 |
| 11/16” | 1-1/16” | 4-1/2” | 6-3/8” | 429N144 |
| 3/4” | 1-1/4” | 5” | 7” | 429N148 |
| 13/16” | 1-1/4” | 5” | 7” | 429N152 |
| 7/8” | 1-7/16” | 5” | 7” | 429N156 |

| Size | Hex Dia. | Flute Length | Overall Length | 4290N Order No. |
|---|---|---|---|---|
| 15/16” | 1-7/16” | 5” | 7” | 429N160 |
| 1” | 1-7/16” | 5” | 7” | 429N164 |
| 1-1/16” | 1-5/8” | 5” | 7” | 429N204 |
| 1-1/8” | 1-5/8” | 5” | 7” | 429N208 |
| 1-3/16” | 1-13/16” | 5” | 7” | 429N212 |
| 1-1/4” | 1-13/16” | 5” | 7” | 429N216 |
| 1-5/16” | 2” | 5” | 7-7/8” | 429N220 |

# ALIGNMENT REAMERS

- *Black and Gold surface treatment*
- *For Cast Iron, Non-Ferrous Metals, Stainless Steel*
- *All sizes are individually packaged*

## *TCR SERIES*
**HIGH SPEED STEEL**
### 3-Flat Shank

| Size | Decimal Equivalent | Flute Length | Overall Length | Order No. | Pkg Qty |
|---|---|---|---|---|---|
| 7/16” | .4375 | 2-1/4” | 4” | 072279 | 1 |
| 3/8”* | .3750 | 3-1/16” | 5-1/4” | 072280 | 1 |
| 1/2” | .5000 | 3-3/4” | 5-15/16” | 072281 | 1 |
| 9/16” | .5625 | 4-5/16” | 6-9/16” | 072282 | 1 |
| 5/8” | .6250 | 4-5/16” | 6-9/16” | 072283 | 1 |
| 11/16” | .6875 | 4-13/16” | 7” | 072284 | 1 |
| 3/4” | .7500 | 4-13/16” | 7” | 072285 | 1 |
| 13/16” | .8125 | 5-1/8” | 7-1/4” | 072286 | 1 |
| 7/8” | .8750 | 5-1/8” | 7-1/4” | 072287 | 1 |
| 15/16” | .9375 | 5-1/8” | 7-1/4” | 072288 | 1 |
| 1” | 1.0000 | 5-1/8” | 7-1/4” | 072289 | 1 |
| 1-1/16” | 1.0625 | 5-1/4” | 7-1/4” | 072291 | 1 |
| 1-1/8”** | 1.1250 | 5-1/4” | 7-1/4” | 072292 | 1 |
| 1-3/16”** | 1.1875 | 5-1/4” | 7-1/4” | 072293 | 1 |
| 1-1/4”** | 1.2500 | 5-1/2” | 7-1/2” | 072294 | 1 |
| 1-5/16”** | 1.3125 | 5-1/2” | 7-1/2” | 072295 | 1 |
| 1-3/8”** | 1.3750 | 5-1/2” | 7-1/2” | 072296 | 1 |
| 1-7/16”** | 1.4375 | 5-1/2” | 7-1/2” | 072297 | 1 |
| 1-1/2”** | 1.5000 | 5-1/2” | 7-1/2” | 072298 | 1 |

*3/8” shank
**3/4” shank

| Set | | | | |
|---|---|---|---|---|
| **Style** | **Description** | **Pieces** | **Size Range** | **Order No.** |
| TCR3 | Resealable Plastic Tube | 3 Piece | 1/2”, 5/8”, 3/4” | 072290 |

# CHUCKING REAMERS

DRILLCO CUTTING TOOLS

## Provides a smooth, accurate finish to a hole

- *Designed for general purpose reaming in machines such as drill presses, turret lathes, and screw machines*
- *Shorter and deeper flutes than hand reamers*
- *Regularly pointed with a 45° chamfer*
- *Suitable for machine reaming a wide range of materials*
- *All sizes are individually packaged*

4300E Straight Flute

4375E Spiral Flute

## *4300E / 4375E SERIES*
### Straight Shank / Right Hand Cut

| Size | Flute Length | Overall Length | Straight Flute 4300E Order No. | Spiral Flute 4375E Order No. |
|---|---|---|---|---|
| 1/8” | 7/8” | 3-1/2” | 430E108 | 437E108 |
| 9/64” | 1” | 3-1/2” | 430E109 | 437E109 |
| 5/32” | 1” | 4” | 430E110 | 437E110 |
| 11/64” | 1-1/8” | 4” | 430E111 | 437E111 |
| 3/16” | 1-1/8” | 4-1/2” | 430E112 | 437E112 |
| 13/64” | 1-1/4” | 4-1/2” | 430E113 | 437E113 |
| 7/32” | 1-1/4” | 5” | 430E114 | 437E114 |
| 15/64” | 1-1/2” | 5” | 430E115 | 437E115 |
| 1/4” | 1-1/2” | 6” | 430E116 | 437E116 |
| 17/64” | 1-1/2” | 6” | 430E117 | 437E117 |
| 9/32” | 1-1/2” | 6” | 430E118 | 437E118 |
| 19/64” | 1-1/2” | 6” | 430E119 | 437E119 |
| 5/16” | 1-1/2” | 6” | 430E120 | 437E120 |
| 21/64 | 1-1/2” | 6” | 430E121 | 437E121 |
| 11/32” | 1-1/2” | 6” | 430E122 | 437E122 |
| 23/64” | 1-3/4” | 6” | 430E123 | 437E123 |
| 3/8” | 1-3/4” | 7” | 430E124 | 437E124 |
| 25/64” | 1-3/4” | 7” | 430E125 | 437E125 |
| 13/32” | 1-3/4” | 7” | 430E126 | 437E126 |
| 27/64 | 1-3/4” | 7” | 430E127 | 437E127 |
| 7/16” | 1-3/4” | 7” | 430E128 | 437E128 |
| 15/32” | 1-3/4” | 7” | 430E130 | 437E130 |
| 1/2” | 2” | 8” | 430E132 | 437E132 |
| 17/32” | 2” | 8” | 430E134 | 437E134 |
| 9/16” | 2” | 8” | 430E136 | 437E136 |

| Size | Flute Length | Overall Length | Straight Flute 4300E Order No. | Spiral Flute 4375E Order No. |
|---|---|---|---|---|
| 19/32” | 2” | 8” | 430E138 | 437E138 |
| 5/8” | 2-1/4” | 9” | 430E140 | 437E140 |
| 21/32” | 2-1/4” | 9” | 430E142 | 437E142 |
| 11/16” | 2-1/4” | 9” | 430E144 | 437E144 |
| 23/32” | 2-1/4” | 9” | 430E146 | 437E146 |
| 3/4” | 2-1/2” | 9-1/2” | 430E148 | 437E148 |
| 25/32” | 2-1/2” | 9-1/2” | 430E150 | 437E150 |
| 13/16” | 2-1/2” | 9-1/2” | 430E152 | 437E152 |
| 27/32” | 2-1/2” | 9-1/2” | 430E154 | 437E154 |
| 7/8” | 2-5/8” | 10” | 430E156 | 437E156 |
| 29/32” | 2-5/8” | 10” | 430E158 | 437E158 |
| 15/16” | 2-5/8” | 10” | 430E160 | 437E160 |
| 31/32” | 2-5/8” | 10” | 430E162 | 437E162 |
| 1” | 2-3/4” | 10-1/2” | 430E164 | 437E164 |
| 1-1/32” | 2-3/4” | 10-1/2” | 430E202 | – |
| 1-1/16” | 2-3/4” | 10-1/2” | 430E204 | 437E204 |
| 1-3/32” | 2-3/4” | 10-1/2” | 430E206 | – |
| 1-1/8” | 2-7/8” | 11” | 430E208 | 437E208 |
| 1-5/32” | 2-7/8” | 11” | 430E210 | – |
| 1-3/16” | 2-7/8” | 11” | 430E212 | 437E212 |
| 1-1/4” | 3” | 11-1/2” | 430E216 | 437E216 |
| 1-5/16” | 3” | 11-1/2” | 430E220 | 437E220 |
| 1-3/8” | 3-1/4” | 12” | 430E224 | 437E224 |
| 1-7/16” | 3-1/4” | 12-1/2” | 430E228 | 437E228 |
| 1-1/2” | 3-1/2” | 12-1/2” | 430E232 | 437E232 |

## *4350E SERIES*
### Straight Flute / Straight Shank / Right Hand Cut

4350E

| Size (mm) | Shank Dia. | Flute Length | Overall Length | 4350E Order No. |
|---|---|---|---|---|
| 2.5 | 2.5 | 20 | 70 | 435E025 |
| 3.0 | 3.0 | 20 | 70 | 435E030 |
| 3.2 | 3.2 | 22 | 80 | 435E032 |
| 3.5 | 3.5 | 22 | 80 | 435E035 |
| 4.0 | 4.0 | 22 | 80 | 435E040 |
| 4.5 | 4.5 | 22 | 80 | 435E045 |
| 5.0 | 5.0 | 25 | 90 | 435E050 |
| 6.0 | 6.0 | 28 | 100 | 435E060 |
| 7.0 | 7.0 | 30 | 110 | 435E070 |
| 8.0 | 8.0 | 32 | 120 | 435E080 |
| 9.0 | 9.0 | 36 | 130 | 435E090 |
| 10.0 | 10.0 | 40 | 140 | 435E110 |
| 11.0 | 9.0 | 40 | 145 | 435E111 |

| Size (mm) | Shank Dia. | Flute Length | Overall Length | 4350E Order No. |
|---|---|---|---|---|
| 12.0 | 10.0 | 40 | 155 | 435E112 |
| 13.0 | 11.0 | 45 | 160 | 435E113 |
| 14.0 | 11.0 | 45 | 170 | 435E114 |
| 15.0 | 13.0 | 45 | 175 | 435E115 |
| 16.0 | 13.0 | 45 | 180 | 435E116 |
| 17.0 | 14.0 | 50 | 190 | 435E117 |
| 18.0 | 14.0 | 50 | 195 | 435E118 |
| 19.0 | 16.0 | 50 | 205 | 435E119 |
| 20.0 | 16.0 | 50 | 210 | 435E120 |
| 21.0 | 18.0 | 55 | 215 | 435E121 |
| 22.0 | 18.0 | 55 | 225 | 435E122 |
| 23.0 | 18.0 | 60 | 230 | 435E123 |
| 24.0 | 20.0 | 60 | 240 | 435E124 |

# HAND REAMERS

DRILLCO CUTTING TOOLS

## Widely used for final sizing of drilled holes, by hand

- *The square on the shank-end is suitable for holding in a tap wrench or vise*
- *The cutting edge is ground with a starting taper to provide easy entry*
- *All sizes are individually packaged*

### *4400E / 4450E SERIES*
### Straight Shank with Square

4400E Straight Flute

4450E Spiral Flute

| Size | Flute Length | Overall Length | Straight Flute 4400E Order No. | Spiral Flute 4450E Order No. |
|---|---|---|---|---|
| 1/8” | 1-1/2” | 3” | 440E108 | 445E108 |
| 5/32” | 1-5/8” | 3-1/4” | 440E110 | 445E110 |
| 11/64” | 1-3/4” | 3-1/2” | 440E111 | – |
| 3/16” | 1-3/4” | 3-1/2” | 440E112 | 445E112 |
| 7/32” | 1-7/8” | 3-3/4” | 440E114 | 445E114 |
| 1/4” | 2” | 4” | 440E116 | 445E116 |
| 9/32” | 2-1/8” | 4-1/4” | 440E118 | 445E118 |
| 5/16” | 2-1/4” | 4-1/2” | 440E120 | 445E120 |
| 11/32” | 2-3/8” | 4-3/4” | 440E122 | 445E122 |
| 3/8” | 2-1/2” | 5” | 440E124 | 445E124 |
| 13/32” | 2-5/8” | 5-1/4” | 440E126 | 445E126 |
| 7/16” | 2-3/4” | 5-1/2” | 440E128 | 445E128 |
| 15/32” | 2-7/8” | 5-3/4” | 440E130 | 445E130 |
| 1/2” | 3” | 6” | 440E132 | 445E132 |
| 17/32” | 3-1/8” | 6-1/4” | 440E134 | 445E134 |
| 9/16” | 3-1/4” | 6-1/2” | 440E136 | 445E136 |
| 19/32” | 3-3/8” | 6-3/4” | 440E138 | 445E138 |
| 5/8” | 3-1/2” | 7” | 440E140 | 445E140 |
| 21/32” | 3-11/16” | 7-3/8” | 440E142 | 445E142 |

| Size | Flute Length | Overall Length | Straight Flute 4400E Order No. | Spiral Flute 4450E Order No. |
|---|---|---|---|---|
| 11/16” | 3-7/8” | 7-3/4” | 440E144 | 445E144 |
| 23/32” | 4-1/16 | 8-1/8” | 440E146 | 445E146 |
| 3/4” | 4-3/16” | 8-3/4” | 440E148 | 445E148 |
| 25/32” | 4-3/8” | 8-3/4” | 440E150 | 445E150 |
| 13/16” | 4-9/16” | 9-1/8” | 440E152 | 445E152 |
| 27/32” | 4-11/16” | 9-3/8” | 440E154 | 445E154 |
| 7/8” | 4-7/8” | 9-3/4” | 440E156 | 445E156 |
| 29/32” | 5” | 10” | 440E158 | 445E158 |
| 15/16” | 5-1/8” | 10-1/4” | 440E160 | 445E160 |
| 31/32” | 5-5/16” | 10-5/8” | 440E162 | 445E162 |
| 1” | 5-7/16” | 10-7/8” | 440E164 | 445E164 |
| 1-1/16” | 5-5/8” | 11-1/4” | 440E204 | 445E204 |
| 1-1/8” | 5-13/16” | 11-5/8” | 440E208 | 445E208 |
| 1-3/16” | 6” | 12” | 440E212 | 445E212 |
| 1-1/4” | 6-1/8” | 12-1/4” | 440E216 | 445E216 |
| 1-5/16” | 6-1/4” | 12-1/2” | 440E220 | 445E220 |
| 1-3/8” | 6-5/16” | 12-5/8” | 440E224 | 445E224 |
| 1-7/16” | 6-7/16” | 12-7/8” | 440E228 | 445E228 |
| 1-1/2” | 6-1/2” | 13” | 440E232 | 445E232 |

# TAPER PIN REAMERS

DRILLCO CUTTING TOOLS

Used to finish, shape, or increase the size of holes for a near-perfect fit when inserting taper pins into your workpiece.

**STRAIGHT FLUTE** – for hand use in easy-to-ream materials
**SPIRAL FLUTE** – for hand use in hard-to-ream materials
**HELICAL FLUTE** – for machine reaming on a production basis. Helical design throws the chips forward to relieve packing of the flutes

- ***Designed to ream holes to fit standard taper pins***
- ***Taper Pin Reamers are manufactured with a taper of 1/4" per foot***
- ***Square shank allows hand (straight and spiral flute) reamers to be held in a tap wrench or vise***
- ***All sizes are individually packaged***

## *4500E / 4550E / 4570E SERIES*
### Straight Shank with Square

4500E Straight Flute

4550E Spiral Flute

4570E Helical Flute

| Size | Shank Dia. | Flute Length | Overall Length | Small End Dia. | Large End Dia. | Straight Flute 4500E Order No. | Spiral Flute 4550E Order No. | Helical Flute 4570E Order No. |
|---|---|---|---|---|---|---|---|---|
| 0 | 11/64" | 1-11/16" | 2-15/16" | .1287 | .1638 | 450E000 | 455E000 | 457E000 |
| 2/0 | 5/32" | 1-9/16" | 2-9/16" | .1137 | .1462 | 450E002 | 455E002 | 457E002 |
| 3/0 | 9/64" | 1-5/16" | 2-5/16" | .1029 | .1302 | 450E003 | 455E003 | 457E003 |
| 4/0 | 1/8" | 1-5/16" | 2-5/16" | .0869 | .1142 | 450E004 | 455E004 | |
| 5/0 | 7/64" | 1-3/16" | 2-3/16" | .0719 | .0966 | 450E005 | 455E005 | 457E005 |
| 6/0 | 3/32" | 15/16" | 1-15/16" | .0611 | .0806 | | | 457E006 |
| 7/0 | 5/64" | 13/16" | 1-13/16" | .0497 | .0666 | 450E007 | 455E007 | 457E007 |
| 1 | 3/16" | 1-11/16" | 2-15/16" | .1447 | .1798 | 450E010 | 455E010 | 457E010 |
| 2 | 13/64" | 1-15/16" | 3-3/16" | .1605 | .2008 | 450E020 | 455E020 | 457E020 |
| 3 | 15/64" | 2-5/16" | 3-11/16" | .1813 | .2294 | 450E030 | 455E030 | 457E030 |
| 4 | 17/64" | 2-9/16" | 4-1/16 | .2071 | .2604 | 450E040 | 455E040 | 457E040 |
| 5 | 5/16" | 2-13/16" | 4-5/16" | .2409 | .2994 | 450E050 | 455E050 | 457E050 |
| 6 | 23/64" | 3-11/16" | 5-7/16" | .2773 | .3540 | 450E060 | 455E060 | 457E060 |
| 7 | 13/32" | 4-7/16" | 6-5/16" | .3297 | .4220 | 450E070 | 455E070 | 457E070 |
| 8 | 7/16" | 5-3/16" | 7-3/16" | .3971 | .505 | 450E080 | 455E080 | 457E080 |
| 9 | 9/16" | 6-1/16 | 8-5/16" | .4805 | .6066 | 450E090 | 455E090 | 457E090 |
| 10 | 5/8" | 6-13/16" | 9-5/16" | .5799 | .7219 | 450E100 | 455E100 | 457E100 |

# 09
# END MILLS

# QUICK PAGES REFERENCES

## END MILLS

DRILLCO CUTTING TOOLS

### Heavy-Duty End Mills

Solid Carbide

**Bright Finish**
For steel, stainless steel, titanium, cast iron, brass, bronze

| Type | Series | Catalog page reference |
|---|---|---|
| 2 & 4-Flute Finishing | 7200/7300<br>7250/7350<br>7400/7500 | 459 |
| Ball Nose | 7600/7700<br>7650/7750 | 460 |

### General Purpose End Mills

High Speed Steel

**Bright Finish**
For low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| 2-Flute Finishing | 5075A, 5000A | 461 |
| | 5600A, 5400A | 462 |
| Multi-Flute Finishing | 5100A | 463 |
| | 5150A, 5250A, 5350A | 464 |
| | 5650A, 5500A | 465 |
| Ball Nose | 6400A, 6420A | 466 |

### General Purpose End Mills

Cobalt

**Bright Finish**
For most materials

| Type | Series | Catalog page reference |
|---|---|---|
| 2-Flute Finishing | 6500A, 6900A | 467 |
| Multi-Flute Finishing | 6700A, 6725A<br>6750A, 6950A | 468 |
| Ball Nose | 6650A | 469 |
| Roughing | 7140 | 470 |

# 2 & 4-FLUTE FINISHING END MILLS

Solid carbide end mills often result in the lowest cost per operation. They can be run at impressive feed and speed rates and offer impressive tool life.

- *Run at extremely impressive feed and speed rates - 3x the rates of HSS end mills*
- *Better surface finish on the workpiece*
- *Extended tool life over conventional HSS and Cobalt end mills*

## *7200 / 7300 SERIES 2 & 4-Flute Finishing End Mills*

**HEAVY-DUTY SOLID CARBIDE**

### Regular Length / Center Cutting / Single End Fractional / Bright

7200

7300

| Size | Shank Dia. | Length of Cut | Overall Length | 2-Flutes 7200 Order No. | 4-Flutes 7300 Order No. |
|---|---|---|---|---|---|
| 1/32” | 1/8” | 5/64” | 1-1/2” | 72A102C | 73A102C |
| 3/64” | 1/8” | 7/64” | 1-1/2” | 72A103C | 73A103C |
| 1/16” | 1/8” | 3/16” | 1-1/2” | 72A104C | 73A104C |
| 5/64” | 1/8” | 3/16” | 1-1/2” | 72A105C | 73A105C |
| 3/32” | 1/8” | 9/32” | 1-1/2” | 72A106C | 73A106C |
| 7/64” | 1/8” | 3/8” | 1-1/2” | 72A107C | 73A107C |
| 1/8” | 1/8” | 3/8” | 1-1/2” | 72A108C | 73A108C |
| 9/64” | 3/16” | 1/2” | 2” | 72A109C | 73A109C |
| 5/32” | 3/16” | 1/2” | 2” | 72A110C | 73A110C |
| 11/64” | 3/16” | 5/8” | 2” | 72A111C | 73A111C |
| 3/16” | 3/16” | 5/8” | 2” | 72A112C | 73A112C |
| 7/32” | 1/4” | 5/8” | 2-1/2” | 72A114C | 73A114C |
| 1/4” | 1/4” | 3/4” | 2-1/2” | 72A116C | 73A116C |
| 9/32” | 5/16” | 3/4” | 2-1/2” | 72A118C | 73A118C |
| 5/16” | 5/16” | 13/16” | 2-1/2” | 72A120C | 73A120C |
| 11/32” | 3/8” | 1” | 2-1/2” | 72A122C | 73A122C |
| 3/8” | 3/8” | 1” | 2-1/2” | 72A124C | 73A124C |
| 13/32” | 7/16” | 1” | 2-3/4” | 72A126C | 73A126C |
| 7/16” | 7/16” | 1” | 2-3/4” | 72A128C | 73A128C |
| 15/32” | 1/2” | 1” | 3” | 72A130C | 73A130C |
| 1/2” | 1/2” | 1” | 3” | 72A132C | 73A132C |
| 9/16” | 9/16” | 1-1/8” | 3-1/2” | 72A136C | 73A136C |
| 5/8” | 5/8” | 1-1/4” | 3-1/2” | 72A140C | 73A140C |
| 11/16” | 3/4” | 1-3/8” | 4” | 72A144C | 73A144C |
| 3/4” | 3/4” | 1-1/2” | 4” | 72A148C | 73A148C |
| 7/8” | 7/8” | 1-1/2” | 4” | 72A156C | 73A156C |
| 1” | 1” | 1-1/2” | 4” | 72A164C | 73A164C |

## *7250 / 7350 SERIES 2 & 4-Flute Finishing End Mills*

**HEAVY-DUTY SOLID CARBIDE**

### Extra Long Length / Center Cutting / Single End Fractional / Bright

7250

7350

| Size | Shank Dia. | Length of Cut | Overall Length | 2-Flutes 7250 Order No. | 4-Flutes 7350 Order No. |
|---|---|---|---|---|---|
| 1/8” | 1/8” | 1” | 3” | 725A108C | 735A108C |
| 3/16” | 3/16” | 1-1/8” | 3” | 725A112C | 735A112C |
| 1/4” | 1/4” | 1-1/2” | 4” | 725A116C | 735A116C |
| 5/16” | 5/16” | 1-5/8” | 4” | 725A120C | 735A120C |
| 3/8” | 3/8” | 1-3/4” | 4” | 725A124C | 735A124C |
| 7/16” | 7/16” | 3” | 6” | 725A128C | 735A128C |
| 1/2” | 1/2” | 3” | 6” | 725A132C | 735A132C |
| 5/8” | 5/8” | 3” | 6” | 725A140C | 735A140C |
| 3/4” | 3/4” | 3” | 6” | 725A148C | 735A148C |
| 1” | 1” | 3” | 6” | 725A164C | 735A164C |

## *7400 / 7500 SERIES 2 & 4-Flute Finishing End Mills*

**HEAVY-DUTY SOLID CARBIDE**

### Stub Length / Center Cutting / Double End Fractional / Bright

7400

7500

| Size | Shank Dia. | Length of Cut | Overall Length | 2-Flutes 7400 Order No. | 4-Flutes 7500 Order No. |
|---|---|---|---|---|---|
| 1/32” | 1/8” | 5/64” | 1-1/2” | 74A102C | 75A102C |
| 3/64” | 1/8” | 3/32” | 1-1/2” | 74A103C | 75A103C |
| 1/16” | 1/8” | 1/8” | 1-1/2” | 74A104C | 75A104C |
| 5/64” | 1/8” | 5/32” | 1-1/2” | 74A105C | 75A105C |
| 3/32” | 1/8” | 3/16” | 1-1/2” | 74A106C | 75A106C |
| 7/64” | 1/8” | 7/32” | 1-1/2” | 74A107C | 75A107C |
| 1/8” | 1/8” | 1/4” | 1-1/2” | 74A108C | 75A108C |
| 9/64” | 3/16” | 9/32” | 2” | 74A109C | 75A109C |
| 5/32” | 3/16” | 5/16” | 2” | 74A110C | 75A110C |
| 3/16” | 3/16” | 3/8” | 2” | 74A112C | 75A112C |
| 7/32” | 1/4” | 1/2” | 2-1/2” | 74A114C | 75A114C |
| 1/4” | 1/4” | 1/2” | 2-1/2” | 74A116C | 75A116C |
| 5/16” | 5/16” | 1/2” | 2-1/2” | 74A120C | 75A120C |
| 3/8” | 3/8” | 1/2” | 2-1/2” | 74A124C | 75A124C |
| 7/16” | 7/16” | 9/16” | 2-3/4” | 74A128C | 75A128C |
| 1/2” | 1/2” | 5/8” | 3” | 74A132C | 75A132C |

# HEAVY-DUTY
# BALL NOSE END MILLS

Ball nose end mills are used where rounded details must be machined in a part (for example, a slot with a rounded bottom). They are also used where sharp machined corners must be avoided. Ball nose end mills are also widely used for delicate cuts on contoured surfaces of molds and dies.

- ***Have rounded end cutting edges***
- ***Available as a center cutting tool only***
- ***All sizes are individually packaged***

## *7600 / 7700 SERIES Ball Nose End Mills*

**HEAVY DUTY SOLID CARBIDE**

### Regular Length / Center Cutting / Single End
### Fractional / Bright

7600

7700

| Size | Shank Dia. | Length of Cut | Overall Length | 2-Flutes 7600 Order No. | 4-Flutes 7700 Order No. |
|---|---|---|---|---|---|
| 1/32” | 1/8” | 5/64” | 1-1/2” | 76A102C | 77A102C |
| 3/64” | 1/8” | 7/64” | 1-1/2” | 76A103C | 77A103C |
| 1/16” | 1/8” | 3/16” | 1-1/2” | 76A104C | 77A104C |
| 5/64” | 1/8” | 3/16” | 1-1/2” | 76A105C | 77A105C |
| 3/32” | 1/8” | 9/32” | 1-1/2” | 76A106C | 77A106C |
| 7/64” | 1/8” | 3/8” | 1-1/2” | 76A107C | 77A107C |
| 1/8” | 1/8” | 3/8” | 1-1/2” | 76A108C | 77A108C |
| 9/64” | 3/16” | 1/2” | 2” | 76A109C | 77A109C |
| 5/32” | 3/16” | 1/2” | 2” | 76A110C | 77A110C |
| 11/64” | 3/16” | 5/8” | 2” | 76A111C | 77A111C |
| 3/16” | 3/16” | 5/8” | 2” | 76A112C | 77A112C |
| 7/32” | 1/4” | 5/8” | 2-1/2” | 76A114C | 77A114C |
| 1/4” | 1/4” | 3/4” | 2-1/2” | 76A116C | 77A116C |
| 9/32” | 5/16” | 3/4” | 2-1/2” | 76A118C | 77A118C |
| 5/16” | 5/16” | 1” | 2-1/2” | 76A120C | 77A120C |
| 11/32” | 3/8” | 1” | 2-1/2” | 76A122C | 77A122C |
| 3/8” | 3/8” | 1” | 2-1/2” | 76A124C | 77A124C |
| 13/32” | 7/16” | 1” | 2-3/4” | 76A126C | 77A126C |
| 7/16” | 7/16” | 1” | 2-3/4” | 76A128C | 77A128C |
| 15/32” | 1/2” | 1” | 3” | 76A130C | 77A130C |
| 1/2” | 1/2” | 1” | 3” | 76A132C | 77A132C |
| 9/16” | 9/16” | 1-1/8” | 3-1/2” | 76A136C | 77A136C |
| 5/8” | 5/8” | 1-1/4” | 3-1/2” | 76A140C | 77A140C |
| 11/16” | 3/4” | 1-3/8” | 4” | 76A144C | 77A144C |
| 3/4” | 3/4” | 1-1/2” | 4” | 76A148C | 77A148C |
| 7/8” | 7/8” | 1-1/2” | 4” | 76A156C | 77A156C |
| 1” | 1” | 1-1/2” | 4” | 76A164C | 77A164C |

## *7650 / 7750 SERIES Ball Nose End Mills SERIES*

**HEAVY DUTY SOLID CARBIDE**

### Extra Long Length / Center Cutting / Single End
### Fractional / Bright

7650

7750

| Size | Shank Dia. | Length of Cut | Overall Length | 2-Flutes 7650 Order No. | 4-Flutes 7750 Order No. |
|---|---|---|---|---|---|
| 1/8” | 1/8” | 1” | 3” | 765A108C | 775A108C |
| 3/16” | 3/16” | 1-1/8” | 3” | 765A112C | 775A112C |
| 1/4” | 1/4” | 1-1/2” | 4” | 765A116C | 775A116C |
| 5/16” | 5/16” | 1-5/8” | 4” | 765A120C | 775A120C |
| 3/8” | 3/8” | 1-3/4” | 4” | 765A124C | 775A124C |
| 7/16” | 7/16” | 3” | 6” | 765A128C | 775A128C |
| 1/2” | 1/2” | 3” | 6” | 765A132C | 775A132C |
| 5/8” | 5/8” | 3” | 6” | 765A140C | 775A140C |
| 3/4” | 3/4” | 3” | 6” | 765A148C | 775A148C |
| 1” | 1” | 3” | 6” | 765A164C | 775A164C |

# GENERAL PURPOSE
# END MILLS

## 2-FLUTE FINISHING END MILLS

**For general purpose milling in all types of materials**

- *Hard working center cutting tool*
- *Can be used for multiple operations, plunge cutting, slot milling, and profiling*
- *Ideal tool for milling operations that begin with a plunge cut and heavy cuts where the tool is "buried"*
- *2-flute end mills provide more efficient chip removal than multi-flute end mills*
- *All sizes are individually packaged*

### *5075A SERIES 2-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Long Length / Center Cutting / Single End**
**Fractional / Bright**

5075A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5075A Order No. |
|---|---|---|---|---|---|
| 1/4" | 3/8" | 1-1/4" | 3-1/16" | 2 | 507A116A |
| 5/16" | 3/8" | 1-3/8" | 3-1/8" | 2 | 507A120A |
| 3/8" | 3/8" | 1-1/2" | 3-1/4" | 2 | 507A124A |
| 1/2" | 1/2" | 2" | 4" | 2 | 507A132B |

### *5000A SERIES 2-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Center Cutting / Single End**
**Fractional / Bright**

5000A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5000A Order No. |
|---|---|---|---|---|---|
| 1/8" | 3/8" | 3/8" | 2-5/16" | 2 | 50A108A |
| 11/64" | 3/8" | 7/16" | 2-5/16" | 2 | 50A111A |
| 3/16" | 3/8" | 7/16" | 2-5/16" | 2 | 50A112A |
| 13/64" | 3/8" | 1/2" | 2-5/16" | 2 | 50A113A |
| 7/32" | 3/8" | 1/2" | 2-5/16" | 2 | 50A114A |
| 15/64" | 3/8" | 1/2" | 2-5/16" | 2 | 50A115A |
| 1/4" | 3/8" | 1/2" | 2-5/16" | 2 | 50A116A |
| 17/64" | 3/8" | 9/16" | 2-5/16" | 2 | 50A117A |
| 9/32" | 3/8" | 9/16" | 2-5/16" | 2 | 50A118A |
| 19/64" | 3/8" | 9/16" | 2-5/16" | 2 | 50A119A |
| 5/16" | 3/8" | 9/16" | 2-5/16" | 2 | 50A120A |
| 21/64" | 3/8" | 9/16" | 2-5/16" | 2 | 50A121A |
| 11/32" | 3/8" | 9/16" | 2-5/16" | 2 | 50A122A |
| 23/64" | 3/8" | 9/16" | 2-5/16" | 2 | 50A123A |
| 3/8" | 3/8" | 9/16" | 2-5/16" | 2 | 50A124A |
| 25/64" | 3/8" | 13/16" | 2-1/2" | 2 | 50A125A |
| 13/32" | 3/8" | 13/16" | 2-1/2" | 2 | 50A126A |
| 27/64" | 3/8" | 13/16" | 2-1/2" | 2 | 50A127A |
| 7/16" | 3/8" | 13/16" | 2-1/2" | 2 | 50A128A |
| 29/64" | 3/8" | 13/16" | 2-1/2" | 2 | 50A129A |
| 15/32" | 3/8" | 13/16" | 2-1/2" | 2 | 50A130A |
| 1/2" | 3/8" | 13/16" | 2-1/2" | 2 | 50A132A |
| 1/2" | 1/2" | 1" | 3" | 2 | 50A132B |
| 17/32" | 1/2" | 1-1/8" | 3-1/8" | 2 | 50A134B |
| 9/16" | 1/2" | 1-1/8" | 3-1/8" | 2 | 50A136B |
| 19/32" | 1/2" | 1-1/8" | 3-1/8" | 2 | 50A138B |
| 5/8" | 1/2" | 1-1/8" | 3-1/8" | 2 | 50A140B |
| 5/8" | 5/8" | 1-5/16" | 3-7/16" | 2 | 50A140C |
| 21/32" | 5/8" | 1-5/16" | 3-5/16" | 2 | 50A142C |
| 11/16" | 1/2" | 1-5/16" | 3-5/16" | 2 | 50A144B |
| 11/16" | 5/8" | 1-5/16" | 3-7/16" | 2 | 50A144C |
| 23/32" | 3/4" | 1-5/16" | 3-5/16" | 2 | 50A146D |
| 3/4" | 1/2" | 1-5/16" | 3-5/16" | 2 | 50A148B |
| 3/4" | 5/8" | 1-5/16" | 3-7/16" | 2 | 50A148C |
| 3/4" | 3/4" | 1-5/16" | 3-7/16" | 2 | 50A148D |
| 25/32" | 3/4" | 1-1/2" | 3-5/8" | 2 | 50A150D |
| 13/16" | 5/8" | 1-1/2" | 3-5/8" | 2 | 50A152C |
| 13/16" | 3/4" | 1-1/2" | 3-3/4" | 2 | 50A152D |
| 27/32" | 7/8" | 1-1/2" | 3-5/8" | 2 | 50A154E |
| 7/8" | 5/8" | 1-1/2" | 3-5/8" | 2 | 50A156C |
| 7/8" | 3/4" | 1-1/2" | 3-3/4" | 2 | 50A156D |
| 7/8" | 7/8" | 1-1/2" | 3-3/4" | 2 | 50A156E |
| 29/32" | 7/8" | 1-1/2" | 3-3/4" | 2 | 50A158E |
| 15/16" | 5/8" | 1-1/2" | 3-5/8" | 2 | 50A160C |
| 15/16" | 3/4" | 1-1/2" | 3-3/4" | 2 | 50A160D |
| 15/16" | 7/8" | 1-1/2" | 3-3/4" | 2 | 50A160E |
| 31/32" | 1" | 1-1/2" | 3-3/4" | 2 | 50A162F |
| 1" | 5/8" | 1-1/2" | 3-5/8" | 2 | 50A164C |
| 1" | 3/4" | 1-1/2" | 3-3/4" | 2 | 50A164D |
| 1" | 7/8" | 1-1/2" | 3-3/4" | 2 | 50A164E |
| 1" | 1" | 1-5/8" | 4-1/8" | 2 | 50A164F |
| 1-1/16" | 3/4" | 1-5/8" | 3-7/8" | 2 | 50A204D |
| 1-1/8" | 3/4" | 1-5/8" | 3-7/8" | 2 | 50A208D |
| 1-1/8" | 1" | 1-5/8" | 4-1/8" | 2 | 50A208F |
| 1-3/16" | 3/4" | 1-5/8" | 3-7/8" | 2 | 50A212D |
| 1-1/4" | 3/4" | 1-5/8" | 3-7/8" | 2 | 50A216D |
| 1-1/4" | 7/8" | 1-5/8" | 3-7/8" | 2 | 50A216E |
| 1-1/4" | 1" | 1-5/8" | 4-1/8" | 2 | 50A216F |
| 1-1/4" | 1-1/4" | 1-5/8" | 4-1/8" | 2 | 50A216G |
| 1-3/8" | 3/4" | 1-5/8" | 3-7/8" | 2 | 50A224D |
| 1-3/8" | 1" | 1-5/8" | 4-1/8" | 2 | 50A224F |
| 1-1/2" | 3/4" | 1-5/8" | 4-1/8" | 2 | 50A232D |
| 1-1/2" | 1" | 1-5/8" | 4-1/8" | 2 | 50A232F |
| 1-1/2" | 1-1/4" | 1-5/8" | 4-1/8" | 2 | 50A232G |
| 1-5/8" | 1-1/4" | 1-5/8" | 4-1/8" | 2 | 50A240G |
| 1-3/4" | 3/4" | 1-5/8" | 4-1/8" | 2 | 50A248D |
| 1-3/4" | 1-1/4" | 1-5/8" | 4-1/8" | 2 | 50A248G |
| 1-7/8" | 1-1/4" | 1-5/8" | 4-1/8" | 2 | 50A256G |
| 2" | 3/4" | 1-5/8" | 4-1/8" | 2 | 50A264D |
| 2" | 1-1/4" | 1-5/8" | 4-1/8" | 2 | 50A264G |

# GENERAL PURPOSE
# 2-FLUTE FINISHING END MILLS

## *5600A SERIES 2-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Center Cutting / Single End**
**Metric / Bright**

5600A

| Size (mm) | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5600A Order No. |
|---|---|---|---|---|---|
| 3.0 | 3/8” | 5/16” | 2-5/16” | 2 | 560A030 |
| 3.5 | 3/8” | 7/16” | 2-5/16” | 2 | 560A035 |
| 4.0 | 3/8” | 7/16” | 2-5/16” | 2 | 560A040 |
| 4.5 | 3/8” | 1/2” | 2-5/16” | 2 | 560A045 |
| 5.0 | 3/8” | 1/2” | 2-5/16” | 2 | 560A050 |
| 5.5 | 3/8” | 1/2” | 2-5/16” | 2 | 560A055 |
| 6.0 | 3/8” | 1/2” | 2-5/16” | 2 | 560A060 |
| 6.5 | 3/8” | 9/16” | 2-5/16” | 2 | 560A065 |
| 7.0 | 3/8” | 9/16” | 2-5/16” | 2 | 560A070 |
| 8.0 | 3/8” | 9/16” | 2-5/16” | 2 | 560A080 |
| 9.0 | 3/8” | 9/16” | 2-5/16” | 2 | 560A090 |
| 10.0 | 3/8” | 13/16” | 2-1/2” | 2 | 560A100 |
| 10.5 | 3/8” | 13/16” | 2-1/2” | 2 | 560A105 |
| 11.0 | 3/8” | 13/16” | 2-1/2” | 2 | 560A110 |
| 12.0 | 3/8” | 13/16” | 2-1/2” | 2 | 560A120 |

| Size (mm) | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5600A Order No. |
|---|---|---|---|---|---|
| 12.5 | 1/2” | 1-1/8” | 3-1/8” | 2 | 560A125 |
| 13.0 | 1/2” | 1-1/8” | 3-1/8” | 2 | 560A130 |
| 13.5 | 1/2” | 1-1/8” | 3-1/8” | 2 | 560A135 |
| 14.0 | 1/2” | 1-1/8” | 3-3/8” | 2 | 560A140 |
| 14.5 | 1/2” | 1-1/8” | 3-1/8 | 2 | 560A145 |
| 15.0 | 1/2” | 1-1/8” | 3-1/2” | 2 | 560A150 |
| 16.0 | 5/8” | 1-5/16” | 3-7/16” | 2 | 560A160 |
| 18.0 | 5/8” | 1-5/16” | 3-7/16” | 2 | 560A180 |
| 20.0 | 5/8” | 1-1/2” | 3-3/4” | 2 | 560A200 |
| 22.0 | 3/4” | 1-1/2” | 3-3/4” | 2 | 560A220 |
| 23.0 | 7/8” | 1-1/2” | 3-3/4” | 2 | 560A230 |
| 24.0 | 3/4” | 2” | 4-1/2” | 2 | 560A240 |
| 25.0 | 1” | 2” | 4-1/2” | 2 | 560A250 |
| 32.0 | 1” | 2” | 4-1/2” | 2 | 560A320 |

## *5400A SERIES 2-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Center Cutting / Double End**
**Fractional / Bright**

5400A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5400A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 3-1/16” | 2 | 54A108A |
| 5/32” | 3/8” | 7/16” | 3-1/8” | 2 | 54A110A |
| 3/16” | 3/8” | 7/16” | 3-1/8” | 2 | 54A112A |
| 7/32” | 3/8” | 1/2” | 3-1/8” | 2 | 54A114A |
| 1/4” | 3/8” | 1/2” | 3-1/8” | 2 | 54A116A |
| 9/32” | 3/8” | 9/16” | 3-1/8” | 2 | 54A118A |
| 5/16” | 3/8” | 9/16” | 3-1/8” | 2 | 54A120A |
| 11/32” | 3/8” | 9/16” | 3-1/8” | 2 | 54A122A |
| 3/8” | 3/8” | 9/16” | 3-1/8” | 2 | 54A124A |
| 13/32” | 1/2” | 13/16” | 3-3/4” | 2 | 54A126B |
| 7/16” | 1/2” | 13/16” | 3-3/4” | 2 | 54A128B |

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5400A Order No. |
|---|---|---|---|---|---|
| 15/32” | 1/2” | 13/16” | 3-3/4” | 2 | 54A130B |
| 1/2” | 1/2” | 13/16” | 3-3/4” | 2 | 54A132B |
| 9/16” | 5/8” | 1-1/8” | 4-1/2” | 2 | 54A136C |
| 5/8” | 5/8” | 1-1/8” | 4-1/2” | 2 | 54A140C |
| 11/16” | 3/4” | 1-5/16” | 5” | 2 | 54A144D |
| 3/4” | 3/4” | 1-5/16” | 5” | 2 | 54A148D |
| 13/16” | 7/8” | 1-9/16” | 5-1/2” | 2 | 54A152E |
| 7/8” | 7/8” | 1-9/16” | 5-1/2” | 2 | 54A156E |
| 15/16” | 1” | 1-5/8” | 5-7/8” | 2 | 54A160F |
| 1” | 1” | 1-5/8” | 5-7/8” | 2 | 54A164F |

# GENERAL PURPOSE MULTI-FLUTE FINISHING END MILLS

- *Provide a better finishing capability than the 2-flute end mill*
- *Cutting action is smoother than that of the 2-flute end mill, with less chatter and flutter*
- *Have ample chip carrying capacity*
- *Multi-flute end mills are preferred for profiling, side milling, and shallow slotting applications*
- *All sizes are individually packaged*
- *Non-center cutting end mills have cutting edges only on the sides and are used only for side milling*

## *5100A SERIES Multi-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Non-Center Cutting / Single End**

**Fractional / Bright**

5100A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5100A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 2-5/16” | 4 | 51A108A |
| 11/64” | 3/8” | 1/2” | 2-3/8” | 4 | 51A111A |
| 3/16” | 3/8” | 1/2” | 2-3/8” | 4 | 51A112A |
| 13/64” | 3/8” | 9/16” | 2-7/16” | 4 | 51A113A |
| 7/32” | 3/8” | 9/16” | 2-7/16” | 4 | 51A114A |
| 15/64” | 3/8” | 5/8” | 2-7/16” | 4 | 51A115A |
| 1/4” | 3/8” | 5/8” | 2-7/16” | 4 | 51A116A |
| 17/64” | 3/8” | 11/16” | 2-7/16” | 4 | 51A117A |
| 9/32” | 3/8” | 11/16” | 2-7/16” | 4 | 51A118A |
| 19/64” | 3/8” | 3/4” | 2-1/2” | 4 | 51A119A |
| 5/16” | 3/8” | 3/4” | 2-1/2” | 4 | 51A120A |
| 21/64” | 3/8” | 3/4” | 2-1/2” | 4 | 51A121A |
| 11/32” | 3/8” | 3/4” | 2-1/2” | 4 | 51A122A |
| 23/64” | 3/8” | 3/4” | 2-1/2” | 4 | 51A123A |
| 3/8” | 3/8” | 3/4” | 2-1/2” | 4 | 51A124A |
| 25/64” | 3/8” | 1” | 2-11/16” | 4 | 51A125A |
| 13/32” | 3/8” | 1” | 2-11/16” | 4 | 51A126A |
| 27/64” | 3/8” | 1” | 2-11/16” | 4 | 51A127A |
| 7/16” | 3/8” | 1” | 2-11/16” | 4 | 51A128A |
| 29/64” | 1/2” | 1-1/4” | 3-1/4” | 4 | 51A129A |
| 15/32” | 1/2” | 1-1/4” | 3-1/4” | 4 | 51A130A |
| 31/64” | 1/2” | 1-1/4” | 3-1/4” | 4 | 51A131A |
| 1/2” | 3/8” | 1” | 2-11/16” | 4 | 51A132A |
| 1/2” | 1/2” | 1-1/4” | 3-1/4” | 4 | 51A132B |
| 17/32” | 1/2” | 1-3/8” | 3-3/8” | 4 | 51A134B |
| 9/16” | 1/2” | 1-3/8” | 3-3/8” | 4 | 51A136B |
| 19/32” | 1/2” | 1-3/8” | 3-3/8” | 4 | 51A138B |
| 5/8” | 1/2” | 1-3/8” | 3-3/8” | 4 | 51A140B |
| 5/8” | 5/8” | 1-5/8” | 3-3/4” | 4 | 51A140C |
| 21/32” | 5/8” | 1-5/8” | 3-3/4” | 4 | 51A142C |
| 11/16” | 1/2” | 1-5/8” | 3-5/8” | 4 | 51A144B |
| 11/16” | 5/8” | 1-5/8” | 3-3/4” | 4 | 51A144C |
| 23/32” | 3/4” | 1-5/8” | 3-7/8” | 4 | 51A146D |
| 3/4” | 1/2” | 1-5/8” | 3-5/8” | 4 | 51A148B |
| 3/4” | 5/8” | 1-5/8” | 3-3/4” | 4 | 51A148C |
| 3/4” | 3/4” | 1-5/8” | 3-7/8” | 4 | 51A148D |

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5100A Order No. |
|---|---|---|---|---|---|
| 25/32” | 3/4” | 1-7/8” | 4-1/8” | 4 | 51A150D |
| 13/16” | 5/8” | 1-7/8” | 4” | 6 | 51A152C |
| 13/16” | 3/4” | 1-7/8” | 4-1/8” | 4 | 51A152D |
| 27/32” | 5/8” | 1-7/8” | 4” | 4 | 51A154E |
| 7/8” | 1/2” | 1-5/8” | 3-5/8” | 4 | 51A156B |
| 7/8” | 5/8” | 1-7/8” | 4” | 6 | 51A156C |
| 7/8” | 3/4” | 1-7/8” | 4-1/8” | 4 | 51A156D |
| 7/8” | 7/8” | 1-7/8” | 4-1/8” | 4 | 51A156E |
| 29/32” | 7/8” | 1-7/8” | 4-1/8” | 6 | 51A158E |
| 15/16” | 5/8” | 1-7/8” | 4” | 6 | 51A160C |
| 15/16” | 3/4” | 1-7/8” | 4-1/8” | 4 | 51A160D |
| 15/16” | 7/8” | 1-7/8” | 4-1/8” | 4 | 51A160E |
| 1” | 5/8” | 1-7/8” | 4” | 6 | 51A164C |
| 1” | 3/4” | 1-7/8” | 4-1/8” | 4 | 51A164D |
| 1” | 7/8” | 1-7/8” | 4-1/8” | 4 | 51A164E |
| 1” | 1” | 2” | 4-1/2” | 4 | 51A164F |
| 1-1/16” | 3/4” | 2” | 4-1/4” | 6 | 51A204D |
| 1-1/8” | 3/4” | 2” | 4-1/4” | 6 | 51A208D |
| 1-1/8” | 7/8” | 2” | 4-1/2” | 6 | 51A208E |
| 1-1/8” | 1” | 2” | 4-1/2” | 6 | 51A208F |
| 1-1/4” | 3/4” | 2” | 4-1/4” | 6 | 51A216D |
| 1-1/4” | 7/8” | 2” | 4-1/2” | 6 | 51A216E |
| 1-1/4” | 1” | 2” | 4-1/2” | 6 | 51A216F |
| 1-1/4” | 1-1/4” | 2” | 4-1/2” | 6 | 51A216G |
| 1-3/8” | 3/4” | 2” | 4-1/4” | 6 | 51A224D |
| 1-3/8” | 1” | 2” | 4-1/2” | 6 | 51A224F |
| 1-1/2” | 1” | 2” | 4-1/2” | 6 | 51A232F |
| 1-1/2” | 1-1/4” | 2” | 4-1/2” | 4 | 51A232G |
| 1-1/2” | 1-1/4” | 2” | 4-1/2” | 6 | 51A232H |
| 1-5/8” | 1-1/4” | 2” | 4-1/2” | 6 | 51A240G |
| 1-3/4” | 1-1/4” | 2” | 4-1/2” | 4 | 51A248G |
| 1-3/4” | 1-1/4” | 2” | 4-1/2” | 6 | 51A248H |
| 1-7/8” | 1-1/4” | 2” | 4-1/2” | 6 | 51A256H |
| 2” | 3/4” | 2” | 4-1/2” | 8 | 51A264D |
| 2” | 1-1/4” | 2” | 4-1/2” | 6 | 51A264G |
| 2” | 1-1/4” | 2” | 4-1/2” | 8 | 51A264H |

# GENERAL PURPOSE
# MULTI-FLUTE FINISHING END MILLS

## *5150A SERIES Multi-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Center Cutting / Single End**
**Fractional / Bright**

5150A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5150A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 2-5/16” | 4 | 515A108A |
| 3/16” | 3/8” | 1/2” | 2-3/8” | 4 | 515A112A |
| 7/32” | 3/8” | 5/8” | 2-7/16” | 4 | 515A114A |
| 1/4” | 3/8” | 5/8” | 2-7/16” | 4 | 515A116A |
| 9/32” | 3/8” | 11/16” | 2-1/2” | 4 | 515A118A |
| 5/16” | 3/8” | 3/4” | 2-1/2” | 4 | 515A120A |
| 11/32” | 3/8” | 3/4” | 2-1/2” | 4 | 515A122A |
| 3/8” | 3/8” | 3/4” | 2-1/2” | 4 | 515A124A |
| 13/32” | 3/8” | 1” | 2-11/16” | 4 | 515A126A |
| 7/16” | 3/8” | 1” | 2-11/16” | 4 | 515A128A |
| 15/32” | 3/8” | 1” | 2-11/16” | 4 | 515A130A |
| 1/2” | 1/2” | 1-1/4” | 3-1/4” | 4 | 515A132B |
| 9/16” | 1/2” | 1-3/8” | 3-3/8” | 4 | 515A136B |
| 5/8 | 1/2” | 1-3/8” | 3-3/8” | 4 | 515A140B |
| 5/8” | 5/8” | 1-5/8” | 3-3/4” | 4 | 515A140C |

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5150A Order No. |
|---|---|---|---|---|---|
| 11/16” | 5/8” | 1-5/8” | 3-3/4” | 4 | 515A144C |
| 3/4” | 3/4” | 1-5/8” | 3-7/8” | 4 | 515A148D |
| 3/4” | 3/4” | 1-5/8” | 3-7/8” | 6 | 515A148E |
| 13/16” | 3/4” | 1-7/8” | 4-1/8” | 4 | 515A152D |
| 7/8” | 7/8” | 1-7/8” | 4-1/8” | 4 | 515A156E |
| 15/16” | 3/4” | 1-7/8” | 4-1/8” | 4 | 515A160E |
| 1” | 1” | 2” | 4-1/2” | 4 | 515A164F |
| 1” | 1” | 2” | 4-1/2” | 6 | 515A164G |
| 1-1/8” | 1” | 2” | 4-1/2” | 4 | 515A208F |
| 1-1/8” | 1” | 2” | 4-1/2” | 6 | 515A208G |
| 1-1/4” | 1-1/4” | 2” | 4-1/2” | 6 | 515A216H |
| 1-1/2” | 1-1/4” | 2” | 4-1/2” | 4 | 515A232G |
| 1-1/2” | 1-1/4” | 2” | 4-1/2” | 6 | 515A232H |
| 1-3/4” | 1-1/4” | 2” | 4-1/2” | 6 | 515A248G |
| 2” | 1-1/4” | 2” | 4-1/2” | 6 | 515A264G |

## *5250A SERIES Multi-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Long Length / Center Cutting / Single End**
**Fractional / Bright**

5250A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5250A Order No. |
|---|---|---|---|---|---|
| 1/4” | 3/8” | 1-1/4” | 3-1/16” | 4 | 525A116A |
| 5/16” | 3/8” | 1-3/8” | 3-1/8” | 4 | 525A120A |
| 3/8” | 3/8” | 1-1/2” | 3-1/4” | 4 | 525A124A |
| 1/2” | 1/2” | 2” | 4” | 4 | 525A132B |
| 5/8” | 5/8” | 2-1/2” | 4-5/8” | 4 | 525A140C |
| 3/4” | 3/4” | 3” | 5-1/4” | 4 | 525A148D |
| 3/4” | 3/4” | 3” | 5-1/4” | 6 | 525A148H |
| 7/8” | 7/8” | 3-1/2” | 5-3/4” | 4 | 525A156E |
| 7/8” | 7/8” | 3-1/2” | 5-3/4” | 6 | 525A156H |

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5250A Order No. |
|---|---|---|---|---|---|
| 1” | 1” | 4” | 6-1/2” | 4 | 525A164F |
| 1” | 1” | 4” | 6-1/2” | 6 | 525A164H |
| 1-1/4” | 1-1/4” | 4” | 6-1/2” | 4 | 525A216G |
| 1-1/4” | 1-1/4” | 4” | 6-1/2” | 6 | 525A216H |
| 1-1/2” | 1-1/4” | 4” | 6-1/2” | 4 | 525A232G |
| 1-1/2” | 1-1/4” | 4” | 6-1/2” | 6 | 525A232H |
| 2” | 1-1/4” | 4” | 6-1/2” | 6 | 525A264G |
| 2” | 2” | 6” | 9-3/4” | 6 | 525A264J |

## *5350A SERIES Multi-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Extra-Long Length / Center Cutting / Single End**
**Fractional / Bright**

5350A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5350A Order No. |
|---|---|---|---|---|---|
| 1/4” | 3/8” | 1-3/4” | 3-9/16” | 4 | 535A116A |
| 5/16” | 3/8” | 2” | 3-3/4” | 4 | 535A120A |
| 3/8” | 3/8” | 2-1/2” | 4-1/4” | 4 | 535A124A |
| 15/32” | 1/2” | 3” | 5” | 4 | 535A130A |
| 1/2” | 1/2” | 3” | 5” | 4 | 535A132B |
| 5/8” | 5/8” | 4” | 6-1/8” | 4 | 535A140C |
| 3/4” | 3/4” | 4” | 6-1/4” | 4 | 535A148D |
| 3/4” | 3/4” | 4” | 6-1/4” | 6 | 535A148H |

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5350A Order No. |
|---|---|---|---|---|---|
| 7/8” | 7/8” | 5” | 7-1/4” | 4 | 535A156E |
| 7/8” | 7/8” | 5” | 7-1/4” | 6 | 535A156H |
| 1” | 1” | 6” | 8-1/2” | 4 | 535A164F |
| 1” | 1” | 6” | 8-1/2” | 6 | 535A164H |
| 1-1/4” | 1-1/4” | 6” | 8-1/2” | 6 | 535A216H |
| 2” | 2” | 6” | 9-3/4” | 6 | 535A264G |

# GENERAL PURPOSE MULTI-FLUTE FINISHING END MILLS

## *5650A SERIES Multi-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Center Cutting / Single End**

**Metric / Bright**

5650A

| Size (mm) | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5650A Order No. |
|---|---|---|---|---|---|
| 3.0 | 3/8” | 3/8” | 2-5/16” | 4 | 565A030 |
| 3.5 | 3/8” | 1/2” | 2-3/8” | 4 | 565A035 |
| 4.0 | 3/8” | 1/2” | 2-3/8” | 4 | 565A040 |
| 4.5 | 3/8” | 9/16” | 2-1/2” | 4 | 565A045 |
| 5.0 | 3/8” | 9/16” | 2-1/2” | 4 | 565A050 |
| 5.5 | 3/8” | 5/8” | 2-1/2” | 4 | 565A055 |
| 6.0 | 3/8” | 5/8” | 2-1/2” | 4 | 565A060 |
| 7.0 | 3/8” | 11/16” | 2-1/2” | 4 | 565A070 |
| 8.0 | 3/8” | 3/4” | 2-1/2” | 4 | 565A080 |
| 8.5 | 3/8” | 3/4” | 2-1/2” | 4 | 565A085 |
| 9.0 | 3/8” | 3/4” | 2-1/2” | 4 | 565A090 |
| 10.0 | 3/8” | 1” | 2-11/16” | 4 | 565A100 |
| 10.5 | 3/8” | 1” | 2-11/16” | 4 | 565A105 |
| 11.0 | 3/8” | 1” | 2-11/16” | 4 | 565A110 |
| 12.0 | 1/2” | 1” | 2-11/16” | 4 | 565A120 |
| 12.5 | 1/2” | 1-1/4” | 3-1/4” | 4 | 565A125 |

| Size (mm) | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5650A Order No. |
|---|---|---|---|---|---|
| 13.0 | 1/2” | 1-1/4” | 3-1/4” | 4 | 565A130 |
| 14.0 | 1/2” | 1-3/8” | 3-3/8” | 4 | 565A140 |
| 15.0 | 1/2” | 1-1/8”' | 3-3/8” | 4 | 565A150 |
| 16.0 | 5/8” | 1-5/8” | 3-3/4” | 4 | 565A160 |
| 18.0 | 5/8” | 1-5/8” | 3-3/4” | 4 | 565A180 |
| 20.0 | 5/8” | 1-7/8” | 4-1/8” | 4 | 565A200 |
| 21.0 | 5/8” | 1-7/8” | 4-1/8” | 4 | 565A210 |
| 22.0 | 7/8” | 1-7/8” | 4-1/8” | 4 | 565A220 |
| 23.0 | 7/8” | 1-7/8”' | 4-1/8” | 4 | 565A230 |
| 24.0 | 7/8” | 2” | 4-1/2” | 4 | 565A240 |
| 25.0 | 7/8” | 2” | 4-1/2” | 4 | 565A250 |
| 32.0 | 7/8” | 2” | 4-1/2” | 4 | 565A320 |
| 36.0 | 7/8” | 2” | 4-1/2” | 4 | 565A360 |
| 40.0 | 1-1/4” | 2” | 4-1/2” | 4 | 565A400 |
| 45.0 | 1-1/4” | 2” | 4-1/2” | 4 | 565A450 |

## *5500A SERIES Multi-Flute Finishing End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Center Cutting / Double End**

**Fractional / Bright**

5500A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5500A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 3-1/16” | 4 | 55A108A |
| 5/32” | 3/8” | 7/16” | 3-1/8” | 4 | 55A110A |
| 3/16” | 3/8” | 1/2” | 3-1/4” | 4 | 55A112A |
| 7/32” | 3/8” | 9/16” | 3-1/4” | 4 | 55A114A |
| 1/4” | 3/8” | 5/8” | 3-3/8” | 4 | 55A116A |
| 9/32” | 3/8” | 11/16” | 3-3/8” | 4 | 55A118A |
| 5/16” | 3/8” | 3/4” | 3-1/2” | 4 | 55A120A |
| 11/32” | 3/8” | 3/4” | 3-1/2” | 4 | 55A122A |
| 3/8” | 3/8” | 3/4” | 3-1/2” | 4 | 55A124A |

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 5500A Order No. |
|---|---|---|---|---|---|
| 13/32” | 1/2” | 1” | 4-1/8” | 4 | 55A126B |
| 7/16” | 1/2” | 1” | 4-1/8” | 4 | 55A128B |
| 15/32” | 1/2” | 1” | 4-1/8” | 4 | 55A130B |
| 1/2” | 1/2” | 1” | 4-1/8” | 4 | 55A132B |
| 5/8” | 5/8” | 1-3/8” | 5” | 4 | 55A140C |
| 3/4” | 3/4” | 1-5/8” | 5-5/8” | 4 | 55A148D |
| 7/8” | 7/8” | 1-7/8” | 6-1/8” | 4 | 55A156E |
| 1” | 1” | 1-7/8” | 6-3/8” | 4 | 55A164F |

# GENERAL PURPOSE BALL NOSE END MILLS

Ball nose end mills are used where rounded details must be machined in a part (for example, a slot with a rounded bottom). They are also used where sharp machined corners must be avoided. Ball nose end mills are also widely used for delicate cuts on contoured surfaces of molds and dies.

- ***Have rounded end cutting edges***
- ***Available as a center cutting tool only***
- ***All sizes are individually packaged***

## *6400A SERIES 2-Flute Ball Nose End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Center Cutting / Single End**
**Fractional/Bright**

6400A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6400A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 2-5/16” | 2 | 640A108A |
| 3/16” | 3/8” | 1/2” | 2-3/8” | 2 | 640A112A |
| 1/4” | 3/8” | 5/8” | 2-7/16” | 2 | 640A116A |
| 5/16” | 3/8” | 3/4” | 2-1/2” | 2 | 640A120A |
| 3/8” | 3/8” | 3/4” | 2-1/2” | 2 | 640A124A |
| 7/16” | 1/2” | 1” | 3” | 2 | 640A128B |
| 1/2” | 1/2” | 1” | 3” | 2 | 640A132B |
| 9/16” | 1/2” | 1-1/8” | 3-1/8” | 2 | 640A136B |
| 5/8” | 1/2” | 1-1/8” | 3-1/8” | 2 | 640A140B |
| 5/8” | 5/8” | 1-3/8” | 3-1/2” | 2 | 640A140C |
| 3/4” | 1/2” | 1-5/16” | 3-5/16” | 2 | 640A148B |
| 3/4” | 3/4” | 1-5/8” | 3-7/8” | 2 | 640A148D |
| 13/16” | 3/4” | 2” | 4-1/4” | 2 | 640A152D |
| 7/8” | 3/4” | 2” | 4-1/4” | 2 | 640A156D |
| 7/8” | 7/8” | 2” | 4-1/4” | 2 | 640A156E |
| 15/16” | 3/4” | 2-1/4” | 4-1/2” | 2 | 640A160D |
| 1” | 3/4” | 2-1/4” | 4-1/2” | 2 | 640A164D |
| 1” | 1” | 2-1/4” | 4-3/4” | 2 | 640A164F |
| 1-1/8” | 1” | 2-1/4” | 4-3/4” | 2 | 640A208F |
| 1-1/4” | 1-1/4” | 2-1/2” | 5” | 2 | 640A216G |
| 1-1/2” | 1-1/4” | 2-1/2” | 5” | 2 | 640A232G |

## *6420A SERIES 4-Flute Ball Nose End Mills*

**GENERAL PURPOSE HIGH SPEED STEEL**

**Regular Length / Center Cutting / Single End**
**Fractional/Bright**

6420A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6420A Order No. |
|---|---|---|---|---|---|
| 1/4” | 3/8” | 5/8” | 2-7/16” | 4 | 642A116A |
| 5/16” | 3/8” | 3/4” | 2-1/2” | 4 | 642A120A |
| 3/8” | 3/8” | 3/4” | 2-1/2” | 4 | 642A124A |
| 1/2” | 1/2” | 1-1/4” | 3-1/4” | 4 | 642A132B |
| 5/8” | 5/8” | 1-5/8” | 3-3/4” | 4 | 642A140C |
| 3/4” | 3/4” | 1-5/8” | 3-7/8” | 4 | 642A148D |
| 1” | 1” | 2” | 4-1/2” | 4 | 642A164F |

# GENERAL PURPOSE
# 2-FLUTE FINISHING END MILLS

Cobalt end mills offer increased heat- and wear-resistance over standard HSS end mills. This results in faster operation rates and longer tool life.

- *Cobalt end mills run approximately 10% faster than conventional HSS end mills*
- *Shorter machining times and permits fuller utilization of available machine horsepower*
- *Retain their sharpness for longer, providing more cuts between grinds and less machine downtime, resulting in lower end mill tooling costs*
- *All sizes are individually packaged*

## *6500A SERIES 2-Flute Finishing End Mills*

**COBALT**

### Regular Length / Center Cutting / Single End Fractional / Bright

6500A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6500A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 2-5/16” | 2 | 650A108A |
| 3/16” | 3/8” | 7/16” | 2-5/16” | 2 | 650A112A |
| 1/4” | 3/8” | 1/2” | 2-5/16” | 2 | 650A116A |
| 5/16” | 3/8” | 9/16” | 2-5/16” | 2 | 650A120A |
| 3/8” | 3/8” | 9/16” | 2-5/16” | 2 | 650A124A |
| 7/16” | 3/8” | 13/16” | 2-1/2” | 2 | 650A128A |
| 1/2” | 1/2” | 1” | 3” | 2 | 650A132B |
| 5/8” | 5/8” | 1-5/16” | 3-7/16” | 2 | 650A140C |
| 3/4” | 3/4” | 2-1/4” | 4-1/2” | 2 | 650A148C |
| 3/4” | 3/4” | 1-5/16” | 3-7/16” | 2 | 650A148D |
| 1” | 1” | 1-5/8” | 4-1/8” | 2 | 650A164F |

## *6900A SERIES 2-Flute Finishing End Mills*

**COBALT**

### Regular Length / Center Cutting / Double End Fractional / Bright

6900A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6900A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 3-1/16” | 2 | 690A108A |
| 5/32” | 3/8” | 7/16” | 3-1/8” | 2 | 690A110A |
| 3/16” | 3/8” | 7/16” | 3-1/8” | 2 | 690A112A |
| 7/32 | 3/8” | 1/2” | 3-1/4” | 2 | 690A114A |
| 1/4” | 3/8” | 1/2” | 3-3/8” | 2 | 690A116A |
| 9/32” | 3/8” | 9/16” | 3-3/8” | 2 | 690A118A |
| 5/16” | 3/8” | 9/16” | 3-1/2” | 2 | 690A120A |
| 3/8” | 3/8” | 9/16” | 3-1/2” | 2 | 690A124A |
| 1/2” | 1/2” | 13/16” | 3-3/4” | 2 | 690A132B |
| 5/8” | 5/8” | 1-1/8” | 4-1/2” | 2 | 690A140C |
| 3/4” | 3/4” | 1-5/16” | 5” | 2 | 690A148D |

# GENERAL PURPOSE
# MULTI-FLUTE FINISHING END MILLS

Cobalt end mills offer increased heat- and wear-resistance over standard HSS end mills. This results in faster operation rates and longer tool life.

- *Run about 10% faster than conventional HSS end mills*
- *Shorter machining times and permits fuller utilization of available machine horsepower*
- *All sizes are individually packaged*

## *6700A SERIES Multi-Flute Finishing End Mills*

**COBALT**

### Regular Length / Center Cutting / Single End
### Fractional / Bright

6700A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6700A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 2-5/16” | 4 | 670A108A |
| 3/16” | 3/8” | 1/2” | 2-3/8” | 4 | 670A112A |
| 1/4” | 3/8” | 5/8” | 2-7/16” | 4 | 670A116A |
| 5/16” | 3/8” | 3/4” | 2-1/2” | 4 | 670A120A |
| 3/8” | 3/8” | 3/4” | 2-1/2” | 4 | 670A124A |
| 1/2” | 1/2” | 1-1/4” | 3-1/4” | 4 | 670A132B |
| 5/8” | 5/8” | 1-5/8” | 3-3/4” | 4 | 670A140C |
| 3/4” | 3/4” | 1-5/8” | 3-7/8” | 4 | 670A148D |
| 3/4” | 3/4” | 1-5/8” | 3-7/8” | 6 | 670A148J |
| 1” | 1” | 2” | 4-1/2” | 4 | 670A164F |
| 1-1/4” | 1-1/4” | 2” | 4-1/2” | 4 | 670A216G |
| 1-1/4” | 1-1/4” | 2” | 4-1/2” | 6 | 670A216J |
| 1-1/2” | 1-1/4” | 2” | 4-1/2” | 4 | 670A232G |
| 1-1/2” | 1-1/4” | 2” | 4-1/2” | 6 | 670A232J |
| 2” | 1-1/4” | 2” | 4-1/2” | 6 | 670A264G |

## *6725A SERIES Multi-Flute Finishing End Mills*

**COBALT**

### Medium Length / Center Cutting / Single End
### Fractional / Bright

6725A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6725A Order No. |
|---|---|---|---|---|---|
| 3/8” | 3/8” | 1-1/2” | 3-1/4” | 4 | 672A124A |
| 1/2” | 1/2” | 2” | 4” | 4 | 672A132B |
| 5/8” | 5/8” | 2-1/2” | 4-5/8” | 4 | 672A140C |

## *6750A SERIES Multi-Flute Finishing End Mills*

**COBALT**

### Long Length /Center Cutting / Single End
### Fractional / Bright

6750A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6750A Order No. |
|---|---|---|---|---|---|
| 3/8” | 3/8” | 2-1/2” | 4-1/2” | 4 | 675A124A |
| 1/2” | 1/2” | 3” | 5” | 4 | 675A132B |
| 3/4” | 3/4” | 3” | 5-1/4” | 4 | 675A148D |
| 1” | 1” | 4” | 6-1/2” | 4 | 675A164F |
| 1-1/4” | 1-1/4” | 4” | 6-1/2” | 6 | 675A216G |

## *6950A SERIES 4-Flute Finishing End Mills*

**COBALT**

### Regular Length / Center Cutting / Double End
### Fractional / Bright

6950A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6950A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 3-1/16” | 4 | 695A108A |
| 3/16” | 3/8” | 1/2” | 3-1/4” | 4 | 695A112A |
| 1/4” | 3/8” | 5/8” | 3-3/8” | 4 | 695A116A |
| 5/16” | 3/8” | 3/4” | 3-1/2” | 4 | 695A120A |
| 3/8” | 3/8” | 3/4” | 3-1/2” | 4 | 695A124A |
| 1/2” | 1/2” | 1” | 4-1/8” | 4 | 695A132B |
| 5/8” | 5/8” | 1-3/8” | 5” | 4 | 695A140C |
| 3/4” | 3/4” | 1-5/8” | 5-5/8” | 4 | 695A148D |

# GENERAL PURPOSE BALL NOSE END MILLS

Ball nose end mills are used where rounded details must be machined in a part (ie: a slot with a rounded bottom). They are also used where sharp machined corners must be avoided. Ball nose end mills are also widely used for delicate cuts on contoured surfaces of molds and dies.

- ***Have rounded end cutting edges***
- ***Available as a center cutting tool only***
- ***All sizes are individually packaged***

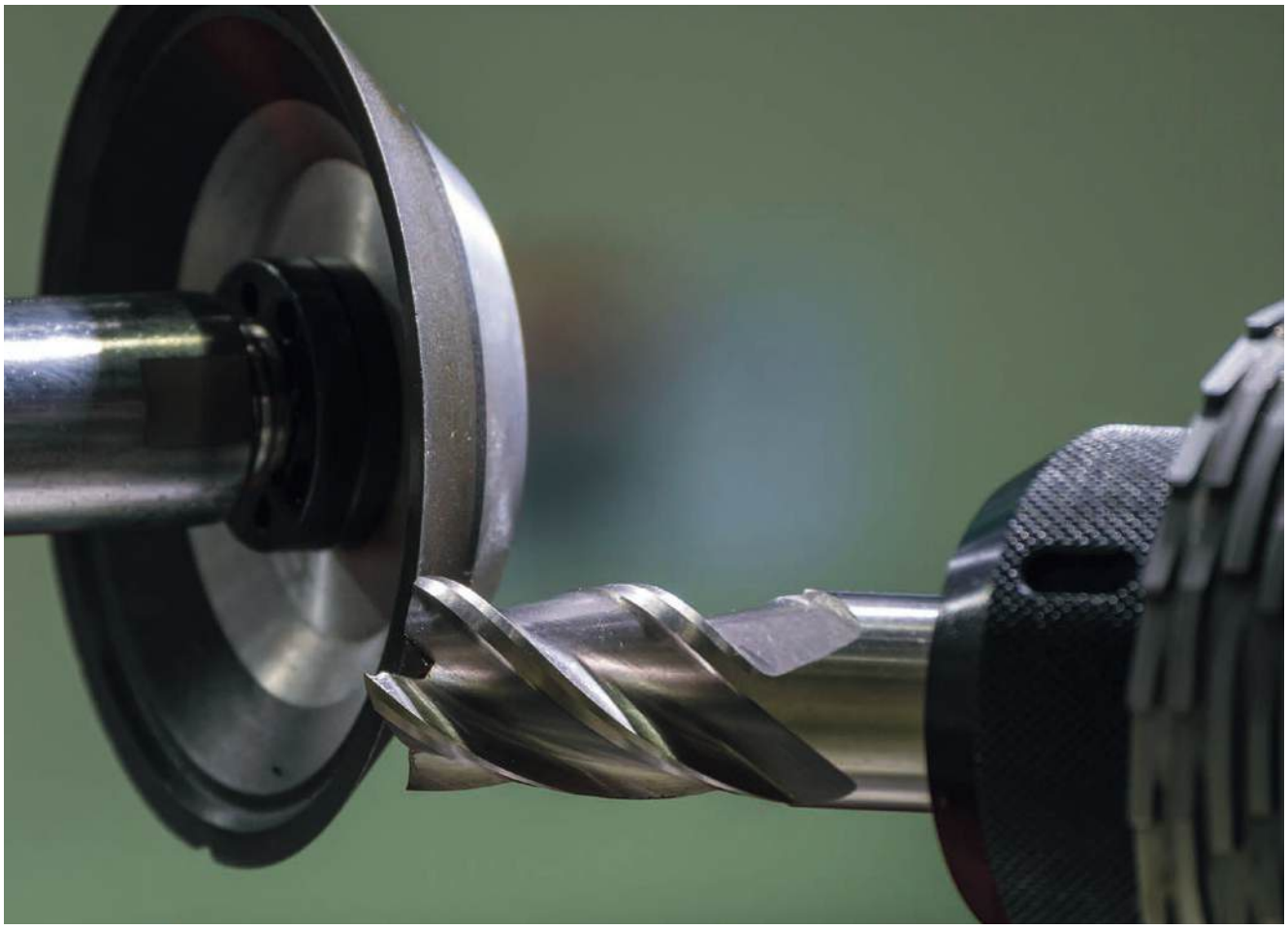
## *6650A SERIES Multi-Flute Ball Nose End Mills*

**COBALT**

### Regular Length / Center Cutting / Single End Fractional / Bright

6650A

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 6650A Order No. |
|---|---|---|---|---|---|
| 1/8” | 3/8” | 3/8” | 2-5/16” | 4 | 665A108A |
| 3/16” | 3/8” | 1/2” | 2-3/8” | 4 | 665A112A |
| 1/4” | 3/8” | 5/8” | 2-7/16” | 4 | 665A116A |
| 5/16” | 3/8” | 3/4” | 2-1/2” | 4 | 665A120A |
| 3/8” | 3/8” | 3/4” | 2-1/2” | 4 | 665A124A |
| 1/2” | 1/2” | 1-1/4” | 3-1/4” | 4 | 665A132B |
| 5/8” | 5/8” | 1-5/8” | 3-3/4” | 4 | 665A140C |
| 3/4” | 3/4” | 1-5/8” | 3-7/8” | 4 | 665A148D |
| 1” | 1” | 2” | 4-1/2” | 4 | 665A164F |
| 1-1/4” | 1-1/4” | 2” | 4-1/2” | 6 | 665A216G |



# ROUGHING END MILLS

Roughing end mills are designed for extremely rapid stock removal. These end mills can remove material up to 3x the rate of regular end mills. Designed to machine low alloy, high strength steels at faster feed and speed rates. Utilizes a wavy tooth form cut. These teeth form many successive cutting edges producing many small chips, resulting in a relatively rough surface finish.

## *7140 SERIES Multi-Flute Roughing End Mills*

**COBALT**

**Regular Length / Center Cutting / Single End**

**Fractional / Bright**

7140

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 7140 Order No. |
|---|---|---|---|---|---|
| 1/2” | 1/2” | 1-1/4” | 3-1/4” | 4 | 714A132B |
| 1/2” | 1/2” | 2” | 4” | 4 | 714A132M |
| 1/2” | 1/2” | 3” | 5” | 4 | 714A132L |
| 5/8” | 5/8” | 3/4” | 2-7/8” | 4 | 714A140C |
| 5/8” | 5/8” | 1-5/8” | 3-3/4” | 4 | 714A140M |
| 5/8” | 5/8” | 3-1/8” | 5-1/4” | 4 | 714A140L |
| 11/16” | 5/8” | 1-5/8” | 3-3/4” | 4 | 714A144C |
| 3/4” | 5/8” | 1-5/8” | 3-3/4” | 4 | 714A148C |
| 3/4” | 3/4” | 1-1/4” | 3-1/2” | 4 | 714A148D |
| 3/4” | 3/4” | 2-1/2” | 4-5/8” | 4 | 714A148M |
| 13/16” | 3/4” | 1-7/8” | 4-1/8” | 5 | 714A152D |
| 7/8” | 3/4” | 1-1/8” | 3-3/8” | 5 | 714A156D |
| 7/8” | 3/4” | 1-7/8” | 4-1/8” | 5 | 714A156M |
| 7/8” | 3/4” | 3-1/2” | 5-5/8” | 5 | 714A156L |
| 7/8” | 7/8” | 1-1/8” | 3-3/8” | 5 | 714A156E |
| 1” | 3/4” | 1-1/2” | 3-3/8” | 5 | 714A164D |

| Size | Shank Dia. | Length of Cut | Overall Length | No. of Flutes | 7140 Order No. |
|---|---|---|---|---|---|
| 1” | 3/4” | 2” | 4-1/4” | 5 | 714A164M |
| 1” | 3/4” | 4” | 6-1/4” | 5 | 714A164L |
| 1” | 1” | 2” | 4-1/2” | 5 | 714A164F |
| 1” | 1” | 6” | 8-1/2” | 5 | 714A164N |
| 1-1/8” | 3/4” | 2” | 4-1/4” | 6 | 714A208D |
| 1-1/8” | 1” | 2” | 4-1/2” | 6 | 714A208F |
| 1-1/8” | 1” | 3-1/2” | 6” | 6 | 714A208L |
| 1-1/4” | 3/4” | 1-1/8” | 3-3/8” | 6 | 714A216D |
| 1-1/4” | 3/4” | 2” | 4-1/4” | 6 | 714A216M |
| 1-1/4” | 1-1/4” | 3” | 5-1/2” | 6 | 714A216G |
| 1-1/4” | 1-1/4” | 6” | 8-1/2” | 6 | 714A216N |
| 1-3/8” | 3/4” | 2” | 4-1/4” | 6 | 714A224D |
| 1-1/2” | 3/4” | 1-1/8” | 3-3/8” | 6 | 714A232D |
| 1-1/2” | 1-1/4” | 2” | 4-1/2” | 6 | 714A232G |
| 1-1/2” | 1-1/4” | 3” | 5-1/2” | 6 | 714A232N |
| 1-1/2” | 1-1/4” | 4” | 6-1/2” | 6 | 714A232L |

# 10
# COUNTERSINKS

# QUICK PAGES REFERENCES

## COUNTERSINKS

DRILLCO CUTTING TOOLS | WALTER

### General Pupose

High Speed Steel

**Bright Finish**
For low to medium tensile strength materials

| Type | Series | Catalog page reference |
|---|---|---|
| Single flute | 3600E | 473 |
| 3-flute | 3700E | 473 |
| 4-flute | 3800E | 474 |
| 6-flute | 3900E | 474 |
| Fluteless | 4000E | 474 |

### Heavy-Duty

High Speed Steel + Aluminum (M2Al)

**AlCrN Coated**
For hard steel

| Type | Series | Catalog page reference |
|---|---|---|
| 4-flute | 01-U | 475 |

# GENERAL PURPOSE COUNTERSINKS

## SINGLE FLUTE

**Single-flute countersinks should be used when multi-flute countersinks chatter or the hole is too small for a multi-flute countersink to enter**

- *60° Countersinks are used for centering*
- *82° Countersinks are used for countersinking flathead screws*
- *90° Countersinks are used for chamfering and deburring*
- *100° Countersinks are used to make screw and rivet holes*
- *All sizes are individually packaged*

### *3600E SERIES Countersink*
**Fractional / Bright**

3600E

| Size | Shank Dia. | Overall Length | No.of Flutes | 60° Order No. | 82° Order No. | 90° Order No. | 100° Order No. |
|---|---|---|---|---|---|---|---|
| 3/16” | 3/16” | 1-1/2” | 1 | 36E112A | 36E112B | 36E112C | 36E112D |
| 1/4” | 1/4” | 2” | 1 | 36E116A | 36E116B | 36E116C | 36E116D |
| 5/16” | 1/4” | 2” | 1 | 36E120A | 36E120B | 36E120C | 36E120D |
| 3/8” | 1/4” | 2” | 1 | 36E124A | 36E124B | 36E124C | 36E124D |
| 1/2” | 1/4” | 2” | 1 | 36E132A | 36E132B | 36E132C | 36E132D |
| 5/8” | 1/2” | 2-3/4” | 1 | 36E140A | 36E140B | 36E140C | 36E140D |
| 3/4” | 1/2” | 2-3/4” | 1 | 36E148A | 36E148B | 36E148C | 36E148D |
| 7/8” | 1/2” | 2-3/4” | 1 | 36E156A | 36E156B | 36E156C | 36E156D |
| 1” | 1/2” | 2-3/4” | 1 | 36E164A | 36E164B | 36E164C | 36E164D |
| 1-1/4” | 3/4” | 3-3/8” | 1 | 36E216A | 36E216B | 36E216C | 36E216D |
| 1-1/2” | 3/4” | 3-3/8” | 1 | 36E232A | 36E232B | 36E232C | 36E232D |
| 2” | 3/4” | 3-3/8” | 1 | 36E264A | 36E264B | 36E264C | 36E264D |

## 3-FLUTE

**Center reamers are designed for countersinking holes for flathead screws and rivets in portable drilling applications**

- *All sizes are individually packaged*

### *3700E SERIES Center Reamer*
**Fractional / Bright**

3700E

| Size | Shank Dia. | Shank Length | Overall Length | No. of Flutes | 60° Order No. | 82° Order No. | 90° Order No. | 100° Order No. |
|---|---|---|---|---|---|---|---|---|
| 1/4” | 3/16” | 3/4” | 1-1/2” | 3 | 37E116A | 37E116B | 37E116C | 37E116D |
| 3/8” | 1/4” | 7/8” | 1-3/4” | 3 | 37E124A | 37E124B | 37E124C | 37E124D |
| 1/2” | 3/8” | 1” | 2” | 3 | 37E132A | 37E132B | 37E132C | 37E132D |
| 5/8” | 3/8” | 1” | 2-1/4” | 3 | 37E140A | 37E140B | 37E140C | 37E140D |
| 3/4” | 1/2” | 1-1/4” | 2-5/8” | 3 | 37E148A | 37E148B | 37E148C | 37E148D |
| 1” | 1/2” | 1-1/4” | 3-1/2” | 3 | 37E164A | 37E164B | 37E164C | 37E164D |
| 1-1/4” | 3/4” | 1-1/2” | 3-1/2” | 3 | 37E216A | 37E216B | 37E216C | 37E216D |
| 1-1/2” | 3/4” | 1-1/2” | 3-1/2” | 3 | 37E232A | 37E232B | 37E232C | 37E232D |
| 2” | 3/4” | 1-1/2” | 3-3/4” | 3 | 37E264A | 37E264B | 37E264C | 37E264D |

# GENERAL PURPOSE COUNTERSINKS

## 4-FLUTE

**Four flute machine countersinks have a longer shank to use in turret lathes and for screw machine work**

▷ *All sizes are individually packaged*

### *3800E SERIES Machine Countersink*

**Fractional / Bright**

3800E

| Size | Shank Dia. | Shank Length | Overall Length | No. of Flutes | 60° Order No. | 82° Order No. | 90° Order No. |
|---|---|---|---|---|---|---|---|
| 1/2” | 1/2” | 2-1/4” | 3-7/8” | 4 | 38E132A | 38E132B | 38E132C |
| 5/8” | 1/2” | 2-1/4” | 4” | 4 | 38E140A | 38E140B | 38E140C |
| 3/4” | 1/2” | 2-1/4” | 4-1/8” | 4 | 38E148A | 38E148B | 38E148C |
| 7/8” | 1/2” | 2-1/4” | 4-1/4” | 4 | 38E156A | 38E156B | 38E156C |
| 1” | 1/2” | 2-1/4” | 4-3/8” | 4 | 38E164A | 38E164B | 38E164C |
| 1-1/4” | 1/2” | 2-1/4” | 5” | 4 | 38E216A | 38E216B | 38E216C |
| 1-1/2” | 1/2” | 2-1/4” | 5-3/8” | 4 | 38E232A | 38E232B | 38E232C |

## 6-FLUTE

**Six flute chaterless countersinks are designed for fast shearing cuts**

▷ *All sizes are individually packaged*

### *3900E SERIES Chatterless Countersink*

**Fractional / Bright**

3900E

| Size | Shank Dia. | Shank Length | Overall Length | No. of Flutes | 60° Order No. | 82° Order No. | 90° Order No. |
|---|---|---|---|---|---|---|---|
| 3/16” | 3/16” | 1” | 1-1/2” | 6 | 39E112A | 39E112B | 39E112C |
| 1/4” | 1/4” | 1” | 2” | 6 | 39E116A | 39E116B | 39E116C |
| 5/16” | 1/4” | 1” | 2” | 6 | 39E120A | 39E120B | 39E120C |
| 3/8” | 1/4” | 1” | 2” | 6 | 39E124A | 39E124B | 39E124C |
| 1/2” | 1/4” | 1” | 2” | 6 | 39E132A | 39E132B | 39E132C |
| 5/8” | 1/2” | 1-1/8” | 2-3/4” | 6 | 39E140A | 39E140B | 39E140C |
| 3/4” | 1/2” | 1-5/16” | 2-3/4” | 6 | 39E148A | 39E148B | 39E148C |
| 7/8” | 1/2” | 1-5/16” | 2-3/4” | 6 | 39E156A | 39E156B | 39E156C |
| 1” | 1/2” | 1-5/16” | 2-3/4” | 6 | 39E164A | 39E164B | 39E164C |
| 1-1/4” | 3/4” | 1-5/8” | 3-3/8” | 6 | 39E216A | 39E216B | 39E216C |
| 1-1/2” | 3/4” | 1-5/8” | 3-1/2” | 6 | 39E232A | 39E232B | 39E232C |
| 1-3/4” | 1” | 2-1/8” | 4-1/4” | 6 | 39E248A | 39E248B | 39E248C |
| 2” | 1” | 2-1/8” | 4-3/8” | 6 | 39E264A | 39E264B | 39E264C |

## FLUTELESS

**Fluteless deburring tools have an angled hole that passes through the center of the tool to reduce vibration and chatter. This creates smooth cuts and prevents chips from clogging the tool**

### *4000E SERIES Deburring Tools*

**Fractional / Bright**

4000E

| Size | Inch Dia. | Shank Dia. | 60° Order No. | 82° Order No. |
|---|---|---|---|---|
| 0 | 1/16” - 15/64” | 1/4” | – | 40E000B |
| 1 | 5/32” - 13/32” | 1/4” | – | 40E001B |
| 2 | 3/16” - 17/32” | 1/4” | – | 40E002B |
| 3 | 5/16” - 25/32” | 1/2” | – | 40E003B |
| 4 | 9/16” - 1-1/16” | 1/2” | – | 40E004B |
| 5 | 5/8” - 1-15/32” | 1/2” | – | 40E005B |
| 6 | 3/4” - 1-3/4” | 5/8” | – | 40E006B |
| 7 | 1” - 2” | 5/8” | – | 40E007B |
| 8 | 1.1/4” - 2-1/2” | 3/4” | – | 40E008B |
| #0 - #4SET | – | – | 40ESETA | 40ESETB |

# HEAVY-DUTY COUNTERSINKS

## 4-FLUTE

### Now with the exclusive ICECUT™ coating

Made of M2AI to minimize vibration and maximize product life. Also features an exclusive AlCrN coating to provide greater heat resistance to further extend product life. The 82° point angle is ideal for countersinking but they can also be used for deburring and chamfering in steel, stainless steel and non-ferrous metals.

- ***Thicker teeth for added stability***
- ***Special coating reducing frictional heat and optimizing tool life***
- ***Special tip geometry for a uniform chamfer***
- ***Packaged in reusable plastic packaging***

01U408

01U006

01U100

| Dia. | Angle | Overall Length | Shank Dia. | Order No. | Std. Pkg. | Std. Ctn. |
|---|---|---|---|---|---|---|
| 1/4” | 82° | 2” | 3/16” | 01U004 | 1 | 10 |
| 5/16” | 82° | 2” | 1/4” | 01U005 | 1 | 10 |
| 3/8” | 82° | 2” | 5/16” | 01U006 | 1 | 10 |
| 1/2” | 82° | 2” | 5/16” | 01U008 | 1 | 10 |
| 5/8” | 82° | 2-1/4” | 3/8” | 01U010 | 1 | 10 |
| 3/4” | 82° | 2-3/4” | 3/8” | 01U012 | 1 | 10 |
| 1” | 82° | 2-3/4” | 3/8” | 01U100 | 1 | 10 |
| 1” | 82° | 1-3/4” | 3/4” | 01U400 | 1 | 10 |
| 1-1/2” | 82° | 2” | 3/4” | 01U408 | 1 | 10 |
| 2” | 82° | 2 -1/4” | 3/4” | 01U500 | 1 | 10 |

| Recommended cutting speed for M2AI HSS Countersinks (82°) | | | | | | |
|---|---|---|---|---|---|---|
| Cutter Dia. | | Aluminium | Copper | Mild | Stainless Steel | Non-metalic Steel |
| Inch | mm | | | | | |
| 1/4” | 6.4 | 1505 | 1404 | 752 | 602 | 1755 |
| 5/16” | 7.9 | 1203 | 1123 | 602 | 481 | 1404 |
| 3/8” | 9.5 | 1004 | 937 | 502 | 401 | 1171 |
| 7/16” | 11.1 | 861 | 803 | 430 | 344 | 1004 |
| 1/2” | 12.7 | 752 | 702 | 376 | 301 | 878 |
| 9/16” | 14.3 | 669 | 624 | 335 | 268 | 781 |
| 5/8” | 15.9 | 602 | 562 | 301 | 241 | 702 |
| 11/16” | 17.5 | 547 | 511 | 274 | 219 | 638 |
| 3/4” | 19.1 | 502 | 468 | 251 | 201 | 585 |
| 13/16” | 20.6 | 463 | 432 | 231 | 185 | 540 |
| 7/8” | 22.2 | 430 | 401 | 215 | 172 | 502 |
| 15/16” | 23.8 | 401 | 375 | 201 | 161 | 468 |
| 1” | 25.4 | 376 | 351 | 188 | 150 | 439 |
| 1-1/16” | 27 | 354 | 331 | 177 | 142 | 413 |
| 1-1/8” | 28.6 | 334 | 312 | 167 | 134 | 390 |
| 1-3/16” | 30.2 | 317 | 296 | 158 | 127 | 370 |
| 1-1/4” | 31.8 | 251 | 234 | 125 | 100 | 293 |
| 1-9/16” | 39.7 | 241 | 225 | 120 | 96 | 281 |
| 1-5/8” | 41.3 | 231 | 216 | 116 | 93 | 270 |
| 1-11/16” | 42.9 | 223 | 208 | 111 | 89 | 260 |
| 1-3/4” | 44.5 | 215 | 201 | 107 | 86 | 251 |
| 1-13/16” | 46 | 208 | 194 | 104 | 83 | 242 |
| 1 7/8” | 47.6 | 201 | 187 | 100 | 80 | 234 |
| 1-15/16” | 49.2 | 194 | 181 | 97 | 78 | 227 |
| 2” | 50.8 | 188 | 176 | 94 | 75 | 219 |

## *Tech tip!*

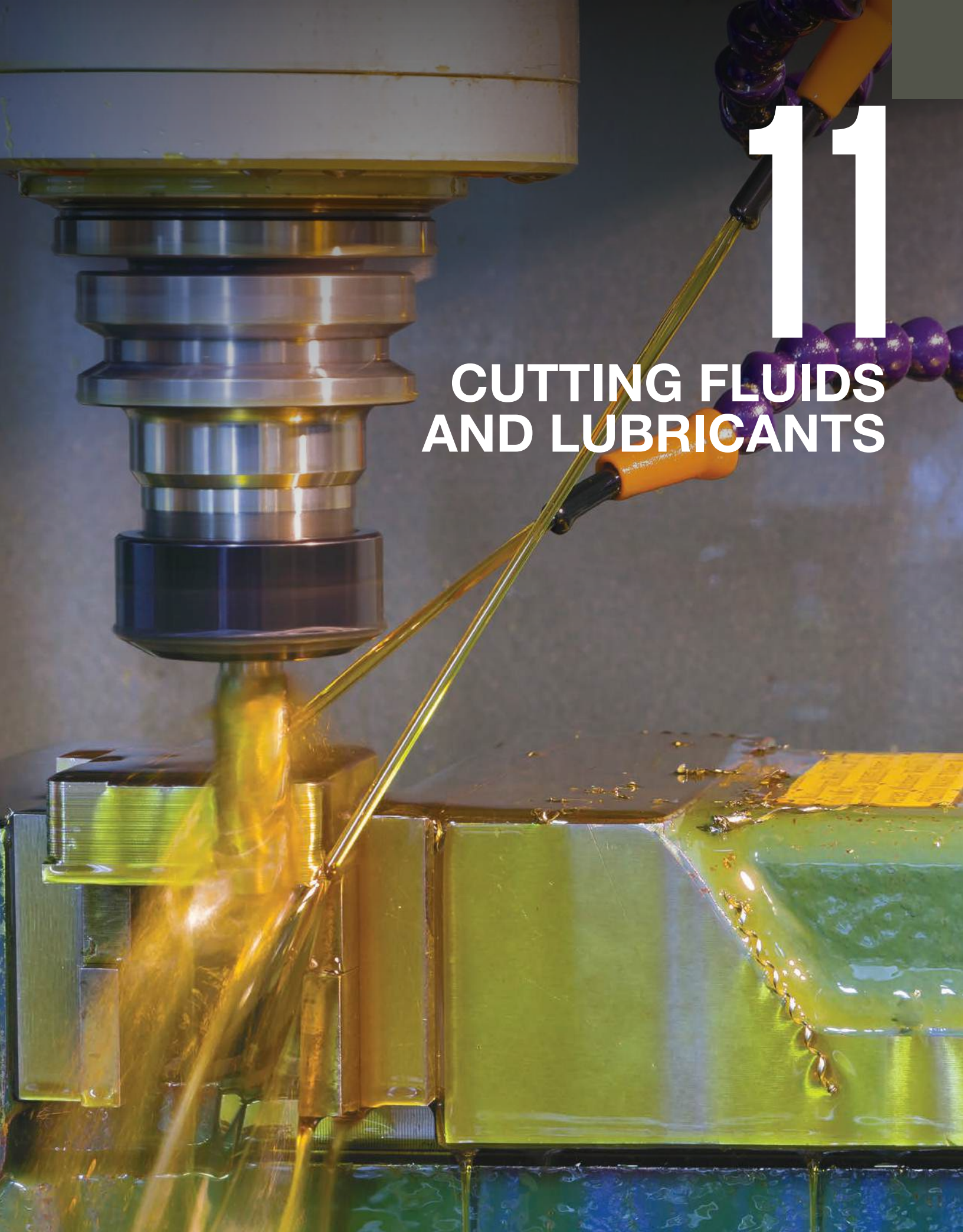
*For increased cutting efficiency and tool life, use COOLCUT™ solid stick lubricant Order No.: 53B013*

# COUNTERSINK SET

Contains the five most popular countersinks (Sizes 1/4", 3/8", 1/2", 3/4", 1") and cutting lubricant. Packaged in a reclosable, resistant plastic case.

| Countersink Set | |
|---|---|
| **Each kit contains** | **Item Number** |
| 01U004, 01U006, 01U008, 01U012, 01U100 | 01U950 |

01U950



# 11

# CUTTING FLUIDS AND LUBRICANTS

# QUICK PAGES REFERENCES

## CUTTING FLUIDS AND LUBRICANTS

WALTER

| HIGH PERFORMANCE CUTTING FLUIDS | | |
|---|---|---|
| Name | Series | Catalog page reference |
| COOLCUT™ | 53B | 480 |
| STAINLESSCUT™ | 53B | 481 |
| ALUCUT™ | 53B | 481 |
| TAPCUT™ | 53A | 482 |
| ICECUT™ | 53C | 482 |

## CNC CUTTING AND GRINDING FLUIDS

WALTER

| WATER-MISCIBLE COOLANTS | | |
|---|---|---|
| Name | Series | Catalog page reference |
| COOLCUT™ 150 | 58A | 484 |
| COOLCUT™ 250 | 58A | 485 |
| COOLCUT™ 200 BF | 58A | 485 |
| COOLCUT™ 400 U | 58A | 486 |
| COOLCUT™ S-30 | 53C | 487 |
| COOLCUT™ S-50 | 53C | 487 |
| COOLCUT™ SYN 400 BF | 58A | 488 |
| COOLCUT™ SYN GRIND | 58A | 488 |

| NEAT CUTTING OILS | | |
|---|---|---|
| Name | Series | Catalog page reference |
| COOLCUT™ | 53B | 489 |
| COOLCUT™ NEO AP | 58B | 490 |
| COOLCUT™ NEO 3724 N | 58B | 490 |
| COOLCUT™ SYN NEO HP | 58B | 491 |

| SLIDEWAY OIL | | |
|---|---|---|
| Name | Series | Catalog page reference |
| COOLCUT™ PROTEC | 58C | 491 |

| ACCESSORIES | | |
|---|---|---|
| Name | Series | Catalog page reference |
| COOLCUT™ Cutting Fluids Proportioning System | | 492 |
| SB 30 System Booster | 53C | 492 |
| COOLCUT™ System Cleaner | 58C | 492 |

# COOLCUT™ FLUIDS AT A GLANCE

| Processes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Name | Turning | Milling | Gear hobbing | Drilling | Deep drilling | Threading tapping | Broaching | Surface and cylindrical grinding | Centerless grinding | Profile grinding |
| COOLCUT™ 150 | • | • | | • | | • | | • | | |
| COOLCUT™ 250 | • | • | | • | | • | | • | • | |
| COOLCUT™ 200BF | • | • | | • | | • | | • | • | • |
| COOLCUT™ 400U | • | • | | • | | • | | • | • | • |
| COOLCUT™ S-30 | • | • | • | • | • | • | • | • | • | • |
| COOLCUT™ S-50 | • | • | | • | • | | • | • | | • |
| COOLCUT™ SYN 400 BF | • | • | | • | • | • | • | • | • | • |
| COOLCUT™ SYN GRIND | | | | | | | | • | | |
| COOLCUT™ | | | | • | • | • | • | | | |
| COOLCUT™ NEO AP | • | • | • | • | • | • | • | | | |
| COOLCUT™ NEO 3724 N | • | • | | • | • | • | • | | | |
| COOLCUT™ SYN NEO HP | • | • | | | | | | | • | • |

| Materials | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Name | Steels | Cast iron | Stainless steel | Aluminum | Yellow metals | Titanium | Carbide | Glass ceramics |
| COOLCUT™ 150 | • | • | | | • | | | |
| COOLCUT™ 250 | • | • | | • | • | | | |
| COOLCUT™ 200BF | • | • | • | • | • | | | |
| COOLCUT™ 400U | • | • | • | • | • | | | |
| COOLCUT™ S-30 | • | | • | • | • | • | | |
| COOLCUT™ S-50 | • | | • | • | | • | • | |
| COOLCUT™ SYN 400 BF | • | | • | • | • | • | | • |
| COOLCUT™ SYN GRIND | • | • | • | • | • | • | | • |
| COOLCUT™ | • | | • | • | • | | | |
| COOLCUT™ NEO AP | • | • | • | • | • | | | |
| COOLCUT™ NEO 3724 N | • | • | • | | | • | | |
| COOLCUT™ SYN NEO HP | • | | • | | • | • | • | |

# HIGH PERFORMANCE CUTTING FLUIDS

## COOLCUT™

### Metal cutting lubricant

COOLCUT™ is a ready-to-use, high-performance metal cutting lubricant that stands up to pressure and heat to reduce tool wear and prevent tool breakage.

*Applications*

- *Machining operations*
- *Drilling*

VOC free

Steel · Stainless Steel · Brass · Alu.

| Description | Size | | Order No. | (M) SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 312 g | 11 oz. | 53B002 | L-01 | 12 |
| Solid stick | 300 g | 300 g | 53B013 | L-22 | 12 |
| Liquid/Squeeze bottle | 350 ml | 11.8 fl.oz. | 53B003 | L-09 | 12 |
| Sprayer | 500 ml | 16.9 oz. | 53B004 | L-09 | 12 |
| Liquid | 3.78 L | 1 gal | 53B005 | L-09 | 1 |
| Liquid | 20 L | 5.2 gal | 53B007 | L-09 | 1 |
| Liquid | 208 L | 55 gal | 53B008 | L-09 | 1 |

| Accessories | Order no. |
|---|---|
| Spout for 20 L square plastic pail | 53L207 |
| Spout for 208 L plastic drum 2" NPT | 53L209 |
| Spout for 208 L plastic drum 3/4" NPT | 53L210 |

*Benefits*

- *Reduces friction and heat*
- *Extends cutting tool life*
- *Improves finish*
- *Increases productivity*

*Features*

- *Contains extreme pressure additives (EP)*
- *Suitable for all ferrous and non-ferrous metals*
- *Non hazardous, biodegradable*
- *Free of solvents and chlorinated ingredients*

# STAINLESSCUT™

## Stainless steel cutting lubricant

STAINLESSCUT™ is a heavy-duty cutting lubricant designed for tough metal cutting operations. Formulated for stainless steel, alloys, and ferrous alloys.

***Applications***
- ***Machining operations***
- ***Drilling***

***Benefits***
- ***Washes off completely with water***
- ***Easy clean-up***
- ***Improves finish to prolong tool life***

Steel Stainless Steel

| Description | Size | | Order No. | (M) SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Aerosol | 312 g | 11 oz. | 53B202 | L-53 | 12 |
| Liquid/Squeeze bottle | 350 ml | 11.8 fl.oz. | 53B203 | L-114 | 12 |
| Liquid | 3.78 L | 1 gal | 53B205 | L-114 | 1 |
| Liquid | 20 L | 5.2 gal | 53B207 | L-114 | 1 |

| Accessories | Order no. |
|---|---|
| Spout for 20 L square plastic pail | 53L207 |

***Features***
- ***Contains extreme pressure additives (EP)***
- ***Solvent-free, sulfur-free, and chlorine-free***
- ***High lubricity and cooling properties***
- ***Non-hazardous***

# ALUCUT™

## Solid stick aluminum cutting lubricant

ALUCUT™ is a high-performance lubricant that extends cutting tool life. Specially formulated for use with aluminum and other non-ferrous metals.

***Applications***
- ***Cutting with circular chopsaws***
- ***Drilling***

***Benefits***
- ***Reduces scoring and chatter marks***
- ***Improves finish***
- ***Increases productivity***
- ***Minimizes waste***

Alu.

| Description | Size | | Order No. | (M)SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Solid stick | 300 g | 10.5 oz. | 53B303 | L-04 | 12 |

***Features***
- ***Clean, precise, stain-free application***
- ***Coats cutting edge or workpiece***
- ***Ideal for inclined, vertical, and overhead surfaces***

# HIGH PERFORMANCE CUTTING FLUIDS

## TAPCUT™

### Thread cutting lubricant

TAPCUT™ lubricant is specially formulated for thread cutting with taps and dies.

***Applications***

- ***Hand tapping***
- ***Machine tapping***

***Benefits***

- ***Taps and dies cut faster and last longer***
- ***Cleans up easily with water***

Steel | Stainless Steel | Brass | Alu.

| Description | Size | | Order No. | (M) SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid/Squeeze bottle | 350 ml | 11.8 fl.oz. | 53A103 | L-115 | 12 |
| Liquid | 3.78 L | 1 gal | 53A105 | L-115 | 1 |
| Liquid | 20 L | 5.2 gal | 53A107 | L-115 | 1 |

| Accessories | Order no. |
|---|---|
| Spout for 20 L square plastic pail | 53L207 |

***Features***

- ***Special antiwear additives for thread cutting***
- ***Produces clean, accurate threads***
- ***Non-hazardous***

## ICECUT™

### Ready-to-use coolant/lubricant

ICECUT™ is a ready-to-use coolant/lubricant specially formulated for use with magnetic drilling units to reduce tool wear and improve production rates.

***Applications***

- ***Drilling with annular cutters, carbide core cutters, and drill bits***

Steel | Stainless Steel | Alu.

| Description | Size | | Order No. | (M) SDS | Std. Pkg. |
|---|---|---|---|---|---|
| | Metric | US Gal | | | |
| Liquid | 3.78 L | 1 gal | 53C055 | L-122 | 1 |
| Liquid | 20 L | 5.2 gal | 53C057 | L-122 | 1 |
| Liquid | 208 L | 45 gal | 53C058 | L-122 | 1 |

| Accessories | Order no. |
|---|---|
| Spout for 20 L square plastic pail | 53L207 |
| Spout for 208 L plastic drum 2” NPT | 53L209 |
| Spout for 208 L plastic drum 3/4” NPT | 53L210 |

***Benefits***

- ***Reduces friction and heat***
- ***Extends cutting tool life***
- ***Increases productivity***
- ***Improves finish***

***Features***

- ***Nitrate-free, amine-free, boron-free, phenol-free and active sulfur-free***

# CNC CUTTING AND GRINDING FLUIDS

## BETTER PERFORMANCE AND PRODUCTIVITY

WALTER Surface Technologies COOLCUT™ cutting fluids can be used for almost any metalworking process. All our products, from machine tool lubricants to water-miscible coolants, special additives and corrosion protection solutions, are designed to work together, minimizing interface problems and achieving the highest process efficiency.

- ***Water-miscible coolants and neat cutting oils for machining with defined and non-defined cutting edges***
- ***Spray mist lubricants for minimum quantity applications***
- ***Forming lubricants with a variety of different formulations for sheet metal, tube, and massive forming***

## LIQUIDS

### Available Sizes

3.78 L / 1 gal.

20 L / 5.2 gal.

200 L / 52.8 gal.

1000 L / 264 gal.

# WATER-MISCIBLE COOLANTS

Water-miscible coolants for metalworking must meet a wide range of technical requirements to achieve best possible machining results and smooth operation. All WALTER COOLCUT™ lubricants meet or exceed requirements to ensure:

*Features*
- *Cutting performance for long tool life and optimal workpiece finish*
- *Corrosion protection for machine parts and workpieces*
- *Compatibility with sensitive materials for components without staining*
- *Stability and flushing action for clean machines and parts*
- *Low foaming even with high cooling lubricant pressure*

## COOLCUT™ 150

### Very finely dispersed semisynthetic lubricant for circular and flat grinding and light machining

COOLCUT™ 150 is a water-miscible coolant for light to medium duty machining without high lubricity demands. It is most suited for steels and cast iron.

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ 150 | 58A157 | C-01 | 20 L |
| COOLCUT™ 150 | 58A158 | C-01 | 200 L |
| COOLCUT™ 150 | 58A159 | C-01 | 1000 L |

| Suitable for water hardness (PPM) | | | | | |
|---|---|---|---|---|---|
| 0-30 | 40-100 | 110-180 | 190-360 | 370-720 | 730-1080 |
| | • | • | • | • | • |

• Preferred • Qualified

*Features*
- *Semisynthetic*
- *Free of secondary amines*
- *Formaldehyde-free*

*Benefits*
- *Applicable for a wide range of water hardness*

*Processes*
- *Turning*
- *Milling*
- *Drilling*
- *Threading tapping*
- *Surface and cylindrical grinding*

*Materials*
- *Steels*
- *Cast iron*
- *Yellow metals*

# COOLCUT™ 250

## Very finely dispersed semisynthetic for grinding and for light- to medium-duty machining

COOLCUT™ 250 is a water-miscible coolant for metal cutting processes on individual machine tools as well as centralized systems. Superior washing action ensures safe chip removal, perfect cooling, and clean working spaces. When it comes down to price, COOLCUT™ 250 offers exceptional value.

***Features***
- ***Formaldehyde-free***
- ***Semisynthetic***
- ***Free of secondary amines***

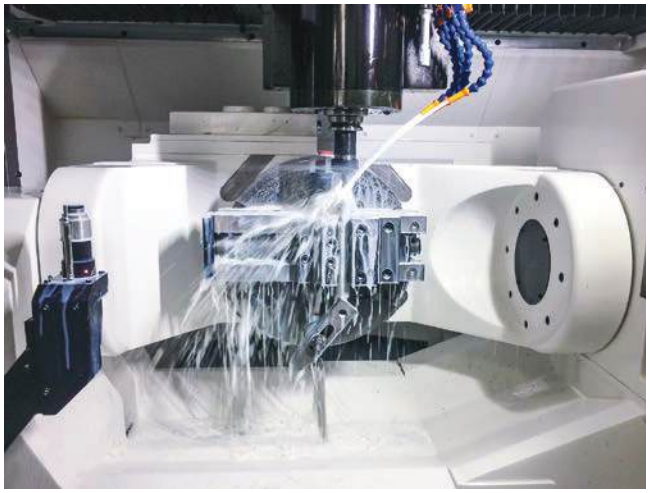
***Benefits***
- ***Good grinding performance***
- ***Ideal price-to-performance ratio***

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ 250 | 58A255 | C-02 | 3.78 L |
| COOLCUT™ 250 | 58A257 | C-02 | 20 L |
| COOLCUT™ 250 | 58A258 | C-02 | 200 L |
| COOLCUT™ 250 | 58A259 | C-02 | 1000 L |

| Suitable for water hardness (PPM) | | | | | |
|---|---|---|---|---|---|
| 0-30 | 40-100 | 110-180 | 190-360 | 370-720 | 730-1080 |
| | | • | • | • | • |

• Preferred • Qualified



## BEST COOLANT FOR BANDSAW

***Processes***
- ***Turning***
- ***Milling***
- ***Drilling***
- ***Threading tapping***
- ***Surface and cylindrical grinding***
- ***Centerless grinding***

***Materials***
- ***Cast iron***
- ***Steels***
- ***Aluminum***
- ***Yellow metals***

# COOLCUT™ 200 BF

## Boron-free coolant for grinding and cutting operations

COOLCUT™ 200 BF is a very safe coolant that offers a great price-to-performance ratio. Its good washing action ensures a clean working area. This coolant is especially suitable for grinding processes as well as all medium-cutting operations like drilling and milling.

***Features***
- ***Semisynthetic***
- ***Boron, Bactericide, and Monoethanolamine (MEA)-free***

***Benefits***
- ***Very finely dispersed emulsion***
- ***Excellent grinding performance***
- ***Perfect price-to-performance ratio***

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ 200 BF | 58A295 | C-09 | 3.78 L |
| COOLCUT™ 200 BF | 58A297 | C-09 | 20 L |
| COOLCUT™ 200 BF | 58A298 | C-09 | 200 L |
| COOLCUT™ 200 BF | 58A299 | C-09 | 1000 L |

| Suitable for water hardness (PPM) | | | | | |
|---|---|---|---|---|---|
| 0-30 | 40-100 | 110-180 | 190-360 | 370-720 | 730-1080 |
| | • | • | • | • | • |

• Preferred • Qualified

***Processes***
- ***Turning***
- ***Milling***
- ***Drilling***
- ***Threading tapping***
- ***Surface and cylindrical grinding***
- ***Centerless grinding***
- ***Profile grinding***

***Materials***
- ***Steels***
- ***Cast iron***
- ***Stainless steel***
- ***Aluminum***
- ***Yellow metals***

# COOLCUT™ 400 U

## Universal semisynthetic cooling lubricant, used for medium-duty machining and grinding

COOLCUT™ 400 U is universally applicable for use in medium-severe cutting and grinding processes. It is suitable when processing mixed materials (cast iron, steels, yellow metals and aluminum). Its superior washing action ensures a clean working area.

*Features*
- *Bactericide-free*
- *Semisynthetic*

*Benefits*
- *Very versatile*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ 400U | 58A507 | C-03E | 20 L |
| COOLCUT™ 400U | 58A508 | C-03E | 200 L |
| COOLCUT™ 400U | 58A509 | C-03E | 1000 L |

| Suitable for water hardness (PPM) | | | | | |
|---|---|---|---|---|---|
| 0-30 | 40-100 | 110-180 | 190-360 | 370-720 | 730-1080 |
| | • | • | • | • | • |

• Preferred • Qualified

## BEST SOLUTION FOR ALUMINUM

*Processes*
- *Turning*
- *Milling*
- *Drilling*
- *Threading tapping*
- *Surface and cylindrical grinding*
- *Centerless grinding*
- *Profile grinding*

*Materials*
- *Steels*
- *Cast iron*
- *Stainless steel*
- *Aluminum*
- *Yellow metals*

# COOLCUT™ S-30

## Premium water-miscible cutting lubricant

COOLCUT™ S-30 is a ready-to-use, high-performance metal cutting lubricant specially designed for automatic and semi-automatic metal-removing operations. For general machining.

*Features*
- *Contains non-chlorinated EP additives*
- *Bactericides-free*
- *High oil content*

*Benefits*
- *Extraordinary cutting performance for optimal tool life and surfaces*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ S-30 | 53C005 | L-119 | 3.78 L |
| COOLCUT™ S-30 | 53C007 | L-119 | 20 L |
| COOLCUT™ S-30 | 53C008 | L-119 | 208 L |
| COOLCUT™ S-30 | 53C009 | L-119 | 1000 L |

| Suitable for water hardness (PPM) | | | | | |
|---|---|---|---|---|---|
| 0-30 | 40-100 | 110-180 | 190-360 | 370-720 | 730-1080 |
| | • | • | • | • | • |

• Preferred • Qualified

*Processes*
- *Turning*
- *Milling*
- *Drilling*
- *Deep drilling*
- *Threading tapping*
- *Broaching*
- *Surface and cylindrical grinding*
- *Centerless grinding*
- *Profile grinding*
- *Gear hobbing*

*Materials*
- *Steels*
- *Stainless steel*
- *Aluminum*
- *Yellow metals*
- *Titanium*

# COOLCUT™ S-50

## Water-miscible cutting lubricant for high-pressure applications

COOLCUT™ S-50 is a high-performance metal cutting lubricant specially designed for automatic and semi-automatic metal-removing operations, even in severe machining processes and high-pressure conditions. Ideal for hard-to-machine materials.

*Features*
- *Formulated with extended corrosion protection*
- *Free of bactericides*
- *Contains non-chlorinated EP additives*

*Benefits*
- *Extends cutting tool life*
- *Works with pressures up to 1,100 psi*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ S-50 | 53C025 | L-109 | 3.78 L |
| COOLCUT™ S-50 | 53C027 | L-109 | 20 L |
| COOLCUT™ S-50 | 53C028 | L-109 | 200 L |
| COOLCUT™ S-50 | 53C029 | L-109 | 1000 L |

| Suitable for water hardness (PPM) | | | | | |
|---|---|---|---|---|---|
| 0-30 | 40-100 | 110-180 | 190-360 | 370-720 | 730-1080 |
| • | • | • | • | • | • |

• Preferred • Qualified

*Processes*
- *Turning*
- *Milling*
- *Drilling*
- *Deep drilling*
- *Broaching*
- *Surface and cylindrical grinding*
- *Profile grinding*
- *Gear hobbing*

*Materials*
- *Steels*
- *Stainless steel*
- *Aluminum*
- *Titanium*
- *Hard metals*

# WATER-MISCIBLE COOLANTS COOLCUT™ SYN 400 BF

## Water-soluble cooling lubricant for grinding and machining of steel and aluminum with high lubrication requirements

COOLCUT™ SYN 400 BF is the most technologically advanced coolant on the market. This coolant is designed for severe grinding and cutting operations with high lubricity demand. It is most suitable for aluminum alloys of all kinds including sensitive aerospace alloys. It is also suitable for steel, stainless steel, titanium, yellow metals and other materials suitable for work with ferrous materials and glass.

*Features*
- *Mineral oil-free, fully synthetic*
- *Free of formaldehyde, boron and secondary amines*

*Benefits*
- *Slightly hazy, colorless solution*
- *High lubricity for severe operations*
- *30% longer sump life vs most coolants*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ SYN 400 BF | 58A407 | C-05 | 20 L |
| COOLCUT™ SYN 400 BF | 58A408 | C-05 | 200 L |

| Suitable for water hardness (PPM) | | | | | |
|---|---|---|---|---|---|
| 0-30 | 40-100 | 110-180 | 190-360 | 370-720 | 730-1080 |
| • | | | | | |

• Preferred • Qualified

*Processes*
- *Turning*
- *Milling*
- *Drilling*
- *Deep drilling*
- *Threading tapping*
- *Broaching*
- *Surface and cylindrical grinding*
- *Centerless grinding*
- *Profile grinding*

*Materials*
- *Steels*
- *Stainless steel*
- *Aluminum*
- *Yellow metals*
- *Titanium*
- *Glass ceramics*

# COOLCUT™ SYN GRIND

## Water-soluble cooling lubricant for circular and flat grinding of ferrous metals

COOLCUT™ SYN GRIND is specially designed for grinding operations. It is most suitable for work with ferrous materials and glass.

*Features*
- *Fully synthetic*
- *Free from secondary amines*
- *Long coolant life, even in poor conditions*

*Benefits*
- *Colorless solution*
- *Excellent grinding performance*
- *Ideal price-to-performance ratio*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ SYN GRIND | 58A707 | C-06 | 20 L |
| COOLCUT™ SYN GRIND | 58A708 | C-06 | 200 L |

| Suitable for water hardness (PPM) | | | | | |
|---|---|---|---|---|---|
| 0-30 | 40-100 | 110-180 | 190-360 | 370-720 | 730-1080 |
| | • | • | • | • | |

• Preferred • Qualified

*Processes*
- *Surface and cylindrical grinding*

*Materials*
- *Steels*
- *Cast iron*
- *Stainless steel*
- *Aluminum*
- *Titanium*
- *Glass ceramics*

# NEAT CUTTING OILS

When your application demands higher lubricating action than cooling capacity, non-water-miscible, neat cutting oils are effective alternatives to water-mixed lubricants. For any specific application, achieving optimal performance with these cutting oils depends on their viscosity as well as the content and effectiveness of their active additives.
The WALTER COOLCUT™ product range covers the entire bandwidth of viscosities, starting with low-viscosity finish oils at approximately 3 mm2/s (40 °C/104 °F) to higher viscosity oils up to approximately 100 mm2/s (40 °C/104 °F) for the most difficult broaching operations. Using high-quality base oils and modern additive technologies, WALTER's COOLCUT™ solutions are optimal for modern machining processes.

*Features*
- *High cutting action for long tool life and good surfaces*
- *Low evaporation base oils reduce the risk of oil mist and fire hazards*
- *Will not irritate skin*

## COOLCUT™

### Metal cutting lubricant

COOLCUT™ is a ready-to-use, high-performance metal cutting lubricant that stands up to pressure and heat to reduce tool wear and prevent tool breakage.

*Features*
- *Contains extreme pressure EP additives*
- *Suitable for all ferrous and non-ferrous metals*
- *Non hazardous, biodegradable*
- *Free of solvents and chlorinated ingredients*
- *Viscosity= 42 mm2/s (400 C)*

*Benefits*
- *Reduces friction and heat*
- *Extends cutting tool life*
- *Improves finish*
- *Increases productivity*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ | 53B005 | L-09 | 3.78 L |
| COOLCUT™ | 53B007 | L-09 | 20 L |
| COOLCUT™ | 53B008 | L-09 | 208 L |

*Processes*
- *Machining operations*
- *Drilling*
- *MQL systems*

*Materials*
- *Steels*
- *Stainless steel*
- *Aluminum*
- *Yellow metals*

# COOLCUT™ NEO AP

## Cutting oil for machining with defined cutting edges

The COOLCUT™ NEO AP is a multifunction oil for medium-duty machining and cutting machine lubrication. COOLCUT™ NEO AP's chlorine-free, chemically active, extreme pressure additives prevent buildup along the cutting edge, even on the most difficult materials such as stainless steel, nickel, and titanium alloys. These oils are suitable for severe cutting processes. They perform best with steel, stainless steel and aluminum. They may also be used in machining of copper alloys if workpieces are cleaned.

*Features*
- *Formulated with low-emission base oils plus effective extreme-pressure additives*
- *Adequate viscosity per process requirements*
- *Viscosity = 25 mm2/s (400 C)*
- *Zinc-free, chlorine-free*

*Benefits*
- *Optimal price-to-performance ratio*
- *Good cutting performance, long tool life*
- *Low fog and evaporation loss*
- *Low drag out*
- *Easy removal with aqueous or hydrocarbon cleaners*

*Processes*
- *Turning*
- *Milling*
- *Gear hobbing*
- *Drilling*
- *Deep drilling*
- *Threading tapping*
- *Broaching*

*Materials*
- *Steels*
- *Cast iron*
- *Stainless steel*
- *Aluminum*
- *Yellow metals*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ NEO AP | 58B305 | C-07 | 3.78 L |
| COOLCUT™ NEO AP | 58B307 | C-07 | 20 L |
| COOLCUT™ NEO AP | 58B308 | C-07 | 200 L |

# COOLCUT™ NEO 3724 N

## High performance cutting oil with EP-additives for severe cutting operations

COOLCUT™ NEO 3724 N is a very high-performance cutting oil made from low-emission base oils and effective EP-additives for severe cutting operations. Universally applicable for turning, milling, broaching, deep drilling, threading and more, this fluid is designed for use specifically on high-tensile materials like high-alloyed steels, Nickel- and Titanium-alloyed steels and stainless steels.

*Features*
- *Chlorine-free and Zinc-free*
- *Low emission base oils*
- *Built with EP-additives*
- *Kinematic viscosity= 16 mm $^2$/s (400 C)*

*Benefits*
- *Highest performance for severe cutting applications*
- *Designed specially for stainless steel and high tensile alloys*
- *Low drag out, low fog, and low evaporation loss*
- *Easy to remove with aqueous or hydrocarbon cleaners*

*Processes*
- *Turning*
- *Milling*
- *Drilling*
- *Deep drilling*
- *Threading tapping*
- *Broaching, slotting*

*Materials*
- *Steels*
- *Cast iron*
- *Stainless steel*
- *Titanium*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ NEO 3724 N | 58B377 | C-14 | 20 L |
| COOLCUT™ NEO 3724 N | 58B378 | C-14 | 200 L |
| COOLCUT™ NEO 3724 N | 58B379 | C-14 | 1000 L |

## COOLCUT™ SYN NEO HP

### Grinding and honing oil

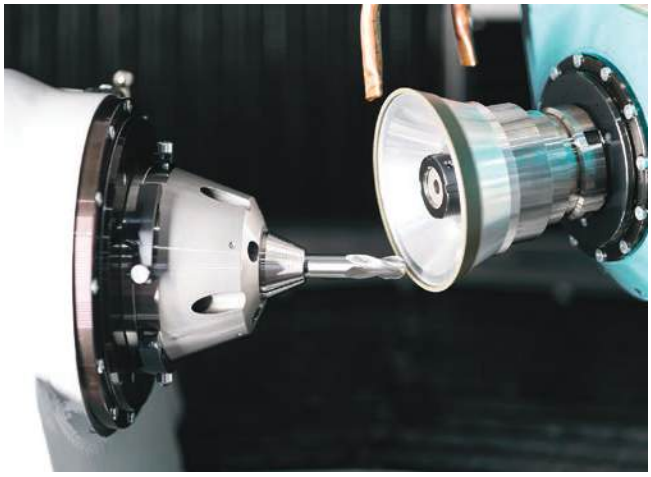
The COOLCUT™ SYN NEO HP is a polyalphaolefin-based high-performance grinding oil. It is primarily for carbide tool grinding. These specially formulated grinding and honing oils allow maximum machining volumes without burning and perform precisely with exceptional grinding results.

*Features*
- *Based on polyalfaolefins (PAO)*
- *Effective wetting agents*
- *Zinc-free, chlorine-free*
- *Kinematic viscosity= 6 mm2/s (400 C)*

*Benefits*
- *Optimal air separation for reliable cooling and maintaining the free wheel's porosity*
- *High grinding performance*
- *Minimal evaporation loss*
- *Extremely low drag out*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ SYN NEO HP | 58B507 | C-08 | 20 L |
| COOLCUT™ SYN NEO HP | 58B508 | C-08 | 200 L |



*Processes*
- *Turning*
- *Milling*
- *Centerless grinding*
- *Profile grinding*

*Materials*
- *Steels*
- *Stainless steel*
- *Yellow metals*
- *Titanium*
- *Carbide*

# SLIDEWAY OIL

## COOLCUT™ PROTEC

### High-performance slideway oil

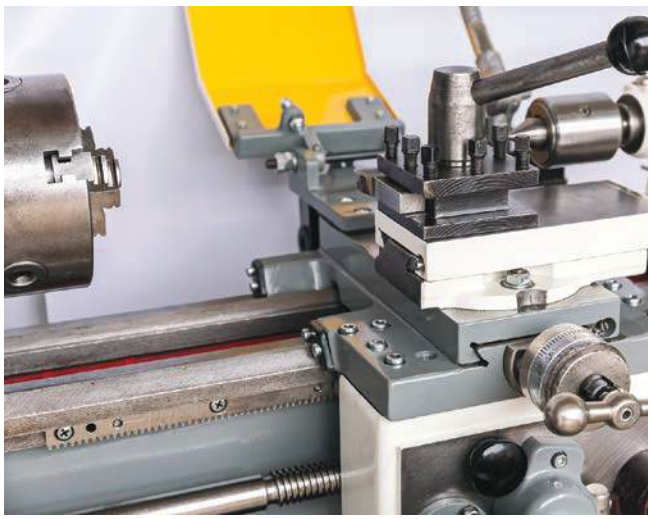
COOLCUT™ PROTEC is a high-performance slideway oil with a special mineral oil base. Effective additives safely avoid stick-slip and ensure optimal prevention of oxidation, corrosion, and wear. This multipurpose oil can be used to lubricate slideways of all kinds under high loads (e.g., machine tools, forming presses) and it is also suitable for hydraulic and general machine lubrication.

*Features*
- *Ash-free*
- *Reduced draining off vertical surfaces*
- *Minimal friction*
- *Compatible with all COOLCUT™ coolants*
- *Kinematic viscosity= 68 mm2/s (400 C)*

*Benefits*
- *Exact and safe positioning of tool and workpiece even under the highest loads, thanks to safe avoiding of stick-slip*
- *Minimization of friction saves energy and smooths movement*
- *Effective prevention of corrosion and wear*
- *Good compatibility with coolants*

VOC free

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT™ PROTEC | 58C007 | C-11 | 20 L |
| COOLCUT™ PROTEC | 58C008 | C-11 | 200 L |

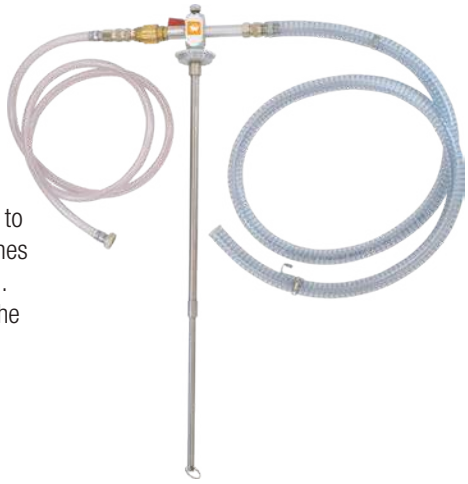


# ACCESSORIES

## COOLCUT™ CUTTING FLUIDS PROPORTIONING SYSTEM

### Mixing device for water-miscible coolants

**Product Number: 53L165**



The WALTER COOLCUT™ proportioning system for water-miscible coolants is an easy way to dilute concentrated coolant with water, to achieve the desired usage concentration. It attaches easily to WALTER drums, and its simple dial guides the flow of concentrate into the solution. By attaching the water hose to your water supply, combined with the Venturi effect, out of the dispensing hose comes the diluted emulsion.

**NOTE:** It is recommended to always confirm the final concentration with a refractometer.

## SB 30 SYSTEM BOOSTER

### Preventive treatment for reduced downtime

Keep your coolant systems in peak working order with this bactericide for metalworking fluids.

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| SB 30 SYSTEM BOOSTER | 53C011 | L-14 | 950 ml |

*Applications*

- *Maintaining biocide action*
- *Maintaining efficiency and cleanliness*

*Features and benefits*

- *Eliminates bacteria, fungus, and yeast*
- *Excellent corrosion protection*
- *Helps to maintain pH levels*
- *Reduces downtime and disposal costs*

## COOLCUT™ SYSTEM CLEANER

### System cleaner and decontaminator for CNC machine tools

The COOLCUT™ System Cleaner is the ideal product to add to your CNC machine tank before completing fluid changeovers and flushes. Biocidal agents help kill bacteria and fungi that might be growing in the machine or fluid reservoirs. Helps ensure your machine is totally clean and decontaminated before adding fresh coolant. Active ingredients help kill odor-causing bacteria and ensure a clean machine before the next replenishment. Add COOLCUT™ System Cleaner to your machine's coolant tank 12-24 hours before draining, then operate normally.

| Name | Product Number | (M)SDS | Size |
|---|---|---|---|
| COOLCUT ™SYSTEM CLEANER | 58C101 | C-12E | 950 ml |
| COOLCUT™ SYSTEM CLEANER | 58C105 | C-12E | 3.78 L |
| COOLCUT™ SYSTEM CLEANER | 58C107 | C-12E | 20 L |

*Features*

- *Ideal for cleaning machine tools*
- *Use before fluid changeovers and machine tank flushes*
- *Use at 3% volume of entire fluid tank*
- *Mechanical cleaning is encouraged as well*
- *Compatible with all brands of coolant*

# SAFETY SOLUTIONS

RESPIRATORY

HEAD AND FACE PROTECTION

ERGONOMICS

EYE PROTECTION

AIR SAMPLING

VENTILATION

CONFINED SPACE EQUIPMENT

OUTDOOR EQUIPMENT

WALL CASES

ALLEGRO® INDUSTRIES | ARCONE® | WALTER

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# 01
# RESPIRATORY

ALLEGRO® INDUSTRIES

# SUPPLIED-AIR RESPIRATOR SYSTEMS

## SAR SYSTEM COMPONENTS

1

### CHOOSE AN ALLEGRO MASK, HOOD, OR HELMET ASSEMBLY

#### HALF-MASK SUPPLIED-AIR RESPIRATOR

9920 Low-Pressure w/ Fitting (No Air Control Assembly needed)

#### FULL-MASK SUPPLIED-AIR RESPIRATOR

9901 Low-Pressure w/ Fitting (No Air Control Assembly needed)
9902 High-Pressure w/o Fitting

#### TYVEK® SUPPLIED-AIR RESPIRATOR

9910 Low-Pressure w/ Fitting (No Air Control Assembly needed)

#### DOUBLE-BIB MAINTENANCE-FREE TYVEK® HOOD

9911-10 Low-Pressure
9911-10 High-Pressure

#### MAINTENANCE-FREE HOODS

9911-20 Low-Pressure Tyvek®
9911-20S Low-Pressure Saran™
9911-20 High-Pressure Tyvek®
9911-20S High-Pressure Saran™

#### DELUXE TYVEK® DOUBLE-BIB HARD HAT HOOD

9909-10 LP, w/ Suspension only
9909-11 LP, w/ Suspension and downtube
9909-10 HP, w/ Suspension only
9909-11 HP, w/ Suspension and downtube

#### ECONOMY SUPPLIED-AIR SHIELD

9903 Low-Pressure
9903 High-Pressure

#### EZ AIR FLEX GRINDING AIR SHIELD

9907-G Low-Pressure
9907-G High-Pressure

#### DELUXE SUPPLIED-AIR SHIELD / HELMET

9904 Low-Pressure
9904 High-Pressure

#### DELUXE SUPPLIED-AIR SHIELD AND WELDING HELMET (BLUE)

9904-W Low-Pressure
9904-W High-Pressure

#### DELUXE SUPPLIED-AIR SHIELD AND WELDING HELMET (BLACK)

9904-WB Low-Pressure
9904-WB High-Pressure

#### EZ AIR FLEX GRINDING / WELDING AIR SHIELD

9907-WADF Low-Pressure
9907-WADF High-Pressure

2 **CHOOSE AN AIR CONTROL DEVICE**

3 **CHOOSE THE APPROPRIATE AIRLINE HOSE**

4 **CHOOSE THE APPROPRIATE AIR SOURCE**

## LOW-PRESSURE SYSTEMS

### *LOW-PRESSURE FLOW ADAPTER*

9910-11 Low-Pressure

### *LOW-PRESSURE SINGLE AIRLINE HOSE*

9100-25 25' Low-Pressure Airline Hose
9100-50 50' Low-Pressure Airline Hose
9100-100 100' Low-Pressure Airline Hose

### *LOW-PRESSURE BREATHING AIR PUMP*

*See page 507*

## HIGH-PRESSURE SYSTEMS

### *HIGH-PRESSURE AIR TEMPERATURE CONTROLLER*

9990 High-Pressure

### *HIGH-PRESSURE PERSONAL AIR COOLER*

9991 High-Pressure

### *ADJUSTABLE HIGH-PRESSURE FLOW CONTROL VALVE*

9992 High-Pressure

### *HIGH-PRESSURE SINGLE AIRLINE HOSE*

9101-25B 25' High-Pressure Airline Hose
9101-50B 50' High-Pressure Airline Hose
9101-100B 100' High-Pressure Airline Hose

### *HIGH-PRESSURE BREATHING AIR FILTRATION PANEL*

*See page 520*

ALLEGRO INDUSTRIES

*We have developed a complete line of NIOSH-approved supplied-air respirator systems. Our Full-Mask SAR and Fully Disposable Hoods offer incredible flexibility and ease of use in confined spaces and contaminated environments. Complete systems come in one box with one part number to make ordering easier and more efficient.*

# RESPIRATOR MASKS, HOODS, AND HELMETS

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

## FULL- AND HALF-MASK SUPPLIED-AIR RESPIRATORS

- Made of silicone rubber for durability and will hold its shape even in extreme heat and cold
- Double-sealing flange and deep chin pocket provide improved face-to-mask seal and comfortable fit
- The replaceable polycarbonate lens offers a wider, distortion-free viewing area with an anti-fog, anti-scratch coating
- Removable hairnet means greater comfort and fits easily under a hard hat
- The unique "over the shoulder" hose design clips at the collar and an adjustable belt holds the air hose out of the way of work
- Comes with OBAC quick-connects (low-pressure)
- Large diameter contoured exhalation valve (high-pressure)
- Designed to connect to Adjustable HP Flow Control Valve, HP Personal Air Cooler, or HP Air Temperature Controller
- One size fits most
- ***NIOSH approval TC-19C-0353 for 9901***
- ***NIOSH approval TC-19C-0437 for 9902***

## HALF-MASK

- Half-mask provides low-pressure, continuous flow protection with the same belt and hose design as the full-mask respirator
- Low-profile design fits under welding shields
- Durable and easy to use with OBAC quick-connects
- Silicone skirt is easy to clean and won't lose its shape in storage
- ***NIOSH approval TC-19C-0355***

MADE IN THE USA

**Tech tip!**
*Wear with Spray socks*
*See page 530*

| Low Pressure | Order No. |
|---|---|
| Full-Mask Supplied-Air Respirator Assembly | 9901 |
| Low-Pressure Half-Mask Supplied-Air Respirator | 9920 |

| High Pressure | Order No. |
|---|---|
| Full-Mask Supplied-Air Respirator w/ HP Personal Air Cooler | 9902-C |
| Full-Mask Supplied-Air Respirator w/ HP Flow Control Valve | 9902-CV |
| Full-Mask Supplied-Air Respirator w/ Temperature Controller | 9902-HC |
| Replacement Full-Mask Assembly | 9902 |

**Accessories**

Lens Covers 25/pkg.
**Order No.** 9901-25

## TYVEK® SUPPLIED-AIR RESPIRATOR HOOD

- Especially comfortable for bearded workers, the hood style respirator is lightweight and loose-fitting to fit comfortably over the head
- A large clear window offers a wide view and complete protection in dirty environments such as spray painting or asbestos abatement
- The convenient disposable design is perfect where respirator cleaning or decontamination is difficult (simply remove the downtube and clamp before disposal)
- Includes OBAC quick-connects
- Each replacement hood comes complete with a hood harness
- ***NIOSH approval TC-19C-0331***

| Low Pressure | Order No. |
|---|---|
| Tyvek® Respirator Hood Assembly | 9910 |
| Replacement Hood w/ Suspension (Downtube not included) | 9910-10 |

YouTube

*Video available on the ALLEGRO INDUSTRIES Channel*

www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

## DOUBLE-BIB MAINTENANCE-FREE TYVEK® HOOD

- Provides the increased protection of two bibs
- Inner bib tucks inside protective garments so airflows down for a cooling effect on the body while the outer bib secures under the arms with hook-and-loop closure to keep the hood from riding up
- Features an extra-large lens for better visibility
- Offers the same convenient design with the downtube and suspension built-in, making the entire hood fully disposable
- Designed to connect to low-pressure or high-pressure flow adapters
- ***NIOSH approval TC-19C-0331 for 9912-D***
- ***NIOSH approval TC-19C-0367 for 9912-C/9911-10***
- ***NIOSH approval TC-19C-0387 for 9912-CV***
- ***NIOSH approval TC-19C-0366 for 9912-HC***

PATENTED BY ALLEGRO

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| Double-Bib Maintenance-Free Tyvek® Hood Assembly w/ LP Flow Adapter and Suspension | 9912-D |
| Replacement Double-Bib Maintenance-Free Tyvek® Hood Assembly w/ Suspension | 9911-10 |

| High Pressure | Order No. |
|---|---|
| Double-Bib Maintenance-Free Tyvek® Hood w/ HP Personal Air Cooler | 9912-C |
| Double-Bib Maintenance-Free Tyvek® Hood w/ HP Flow Control Valve | 9912-CV |
| Double-Bib Maintenance-Free Tyvek® Hood w/ HP Air Temperature Controller | 9912-HC |
| Replacement Double-Bib Maintenance-Free Tyvek® Hood Assembly w/ Suspension | 9911-10 |

## MAINTENANCE-FREE TYVEK® HOOD

- Downtube and head suspension integrated into one-piece assembly causing no need for decontamination of parts since the hood assembly is disposed of after use
- Lightweight, rugged, and reinforced downtube with swivel connection adds flexibility
- Multi-layer sound dampening system made of foam inside breathing tube meets NIOSH requirements
- Split air channel design delivers air inside the hood around the temple area w/ minimal lens fogging
- Large viewing window provides a wide field of vision and generous size makes it ideal for workers with beards or goggles
- Made from Poly-coated DuPont Tyvek®, it's flexible, splash-resistant and seals in airflow
- Easy adjustments are possible with a hook-and-loop closure and absorbent foam headband
- Designed to connect to low-pressure or high-pressure flow adapters
- Hard hat, Ratchet, or Disposable Suspensions available
- ***NIOSH approval TC-19C-0331 for 9910-D***
- ***NIOSH approval TC-19C-0367 for 9911-C/9911-20***
- ***NIOSH approval TC-19C-0387 for 9911-CV***
- ***NIOSH approval TC-19C-0366 for 9911-HC***

PATENTED BY ALLEGRO

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| Maintenance-Free Tyvek® Hood Assembly w/ LP Flow Adapter and Suspension | 9910-D |
| Replacement Maintenance-Free Tyvek® Hood Assembly w/ Suspension | 9911-20 |

| High Pressure | Order No. |
|---|---|
| Maintenance-Free Tyvek® Hood Assembly w/ HP Personal Air Cooler | 9911-C |
| Maintenance-Free Tyvek® Hood Assembly w/ HP Flow Control Valve | 9911-CV |
| Maintenance-Free Tyvek® Hood Assembly w/ HP Air Temperature Controller | 9911-HC |
| Replacement Maintenance-Free Tyvek® Hood w/ Suspension | 9911-20 |

### Accessories

Lens Covers 10/pkg.
**Order No.** 9910-25

# DELUXE TYVEK® DOUBLE-BIB HARD HAT HOOD

- Lightweight, rugged, and reinforced downtube with swivel connection adds flexibility
- Split air channel design delivers air inside the hood around the temple area w/ minimal lens fogging
- Large viewing window provides a wide field of vision
- Double-bib style adds increased protection by simply tucking inner layer into the protective clothing
- Made from DuPont Tyvek®, it's flexible, splash-resistant, and seals in airflow
- Hard hat, Ratchet, or Disposable Suspensions available
- ***NIOSH approval TC-19C-0409***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| Replacement Deluxe Double-Bib Hard hat Hood w/ Suspension Only (Downtube not Included) | 9909-10 |
| Hood w/ Suspension and Downtube | 9909-11 |
| Hood w/ Hard hat | 9909-HD |
| Hood w/ Ratchet | 9909-RD |
| Hood w/ Disposable Suspension | 9909-SD |

| High Pressure | Order No. |
|---|---|
| Replacement Deluxe Double-Bib Hard hat Hood w/ Suspension Only (Downtube not included) | 9909-10 |
| Hood w/ Suspension and Downtube | 9909-11 |
| Hood w/ Hard hat and HP Personal Air Cooler | 9909-CHD |
| Hood w/ Ratchet Suspension and HP Personal Air Cooler | 9909-CRD |
| Hood w/ Suspension and HP Personal Air Cooler | 9909-CSD |
| Hood w/ Hard hat and HP Flow Control Valve | 9909-CVHD |
| Hood w/ Ratchet Suspension and HP Flow Control Valve | 9909-CVRD |
| Hood w/ Suspension and HP Flow Control Valve | 9909-CVSD |
| Hood w/ Hard hat and HP Air Temperature Controller | 9909-HCHD |
| Hood w/ Ratchet Suspension and HP Air Temperature Controller | 9909-HCRD |
| Hood w/ Suspension and HP Air Temperature Controller | 9909-HCSD |

## Accessories

| | |
|---|---|
| Replacement Hard hat | 9909-03 |
| Replacement Hard hat (Canada Purchase Only) | 9909-03C |
| Ratchet Hood Suspension | 9910-03 |
| Lens Covers 10/pkg. | 9910-25 |

# ECONOMY SUPPLIED-AIR SHIELD

- Perfect for use in grinding, chipping, spray painting and auto-body repair applications
- The easy flip-up visor is made of Nylon plastic and offers a wide field of vision
- Lens is polycarbonate and chin guard is polypropylene for added strength
- The shroud is cotton adding comfort and protects against overspray
- Designed to connect to low-pressure or high-pressure flow adapters
- Complies with ANSI Z87.1-2003
- Viewing area of 52.25 sq. in.
- ***NIOSH approval TC-19C-0468***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| Economy Supplied-Air Shield w/ LP Adapter | 9903-D |
| Replacement Economy Supplied-Air Shield | 9903 |

| High Pressure | Order No. |
|---|---|
| Economy Supplied-Air Shield w/ HP Personal Air Cooler | 9903-C |
| Economy Supplied-Air Shield w/ HP Flow Control Valve | 9903-CV |
| Economy Supplied-Air Shield w/ HP Air Temperature Controller | 9903-HC |
| Replacement Economy Supplied-Air Shield | 9903 |

## Accessories

Lens Covers 10/pkg.
**Order No.** 9910-25

***COMPLIES WITH ANSI Z89.1 TYPE 1 CLASS G FOR HEAD PROTECTION***

## EZ AIR FLEX GRINDING AIR SHIELD

- Intended for industrial applications where combined respiratory, eye, and face protection are required, such as: grinding, assembly, facility maintenance, machine operations, painting, and sanding
- Made from DuPont® super tough flame-retardant nylon that can withstand extreme cold/heat without cracking or deforming
- Large shield design accommodates safety glasses under the face shield
- Adjustable durable Pera-Lok locking ratcheting headgear with replaceable ultrasoft sweat band
- Lightweight, comfortable, and easily replaceable 100% cotton FR-treated face seal
- Viewing area: 41.2 sq. in.
- Lightweight at only 0.46 lbs. total
- Air train directs air over the head and across the breathing zone, minimizing fogging
- User control of airflow direction
- APF 25
- Complies with ANSI Z87.1+ for face-shield/eye protection
- ***NIOSH approval TC-19C-0588***

| Low Pressure | Order No. |
|---|---|
| EZ Air Flex Grinding Air Shield Headtop | 9907-G |
| EZ Air Flex Grinding Air Shield Headtop w/ LP Adapter | 9907-DG |

| High Pressure | Order No. |
|---|---|
| EZ Air Flex Grinding Air Shield Headtop w/ HP Personal Air Cooler | 9907-CG |
| EZ Air Flex Grinding Air Shield Headtop w/ HP Flow Control Valve | 9907-CVG |
| EZ Air Flex Grinding Air Shield Headtop w/ HP Air Temperature Controller | 9907-HCG |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

## DELUXE SUPPLIED-AIR SHIELD

- All-in-one head, eye, face, and respiratory protection against hazardous airborne contaminates and flying debris
- Ergonomically designed with superb balance
- No fit testing required
- Can be worn comfortably by personnel with beards and facial hair
- Designed to connect to low-pressure or high-pressure flow adapters
- Complies with ANSI Z89.1 Type 1 Class G for head protection
- Complied with ANSI Z87.1+ for face-shield/eye protection
- APF 1000
- ***NIOSH approval TC-19C-0488***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| Deluxe Supplied-Air Shield w/ LP Adapter | 9904-D |
| Replacement Deluxe Supplied-Air Shield | 9904 |

| High Pressure | Order No. |
|---|---|
| Deluxe Supplied-Air Shield w/ HP Personal Air Cooler | 9904-C |
| Deluxe Supplied-Air Shield w/ HP Flow Control Valve | 9904-CV |
| Deluxe Supplied-Air Shield w/ HP Air Temperature Controller | 9904-HC |
| Replacement Deluxe Supplied-Air Shield | 9904 |

## DELUXE SUPPLIED-AIR SHIELD AND BLACK WELDING HELMET

- Performance proven and a cost-effective system used by foundries, aluminum plants, mines, chemical plants, refineries, auto manufacturers, metal working, and fabrications
- Provides a constant and powerful supply of breathable air from a clean air source
- Provides protection from airborne contaminates including hexavalent chromium applications, flying debris, sparks, chemical, and molten metal splashes
- Visor flips up allowing user to grind and clean metal looking through clear ANSI face shield
- Designed to connect to low-pressure or high-pressure flow adapters
- Large #10 lens included
- Complies with ANSI Z89.1 Type 1 Class G for head protection
- Complied with ANSI Z87.1+ for face-shield/eye protection
- APF 1000
- ***NIOSH approval TC-19C-0488***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| Deluxe Supplied-Air Shield and Black Welding Helmet w/ No Flow Valve | 9904-WB |
| Deluxe Supplied-Air Shield and Black Welding Helmet w/ LP Adapter | 9904-DWB |

| High Pressure | Order No. |
|---|---|
| Deluxe Supplied-Air Shield and Black Welding Helmet w/ HP Personal Air Cooler | 9904-CWB |
| Deluxe Supplied-Air Shield and Black Welding Helmet w/ HP Flow Control Valve | 9904-CVWB |
| Deluxe Supplied-Air Shield and Black Welding Helmet w/ HP Air Temperature Controller | 9904-HCWB |

### Accessories

Snap-on Welding Shield with ADF Lens
**Order No.** 9937-AFFADF

### Accessories

Lens Covers 6/pkg.
**Order No.** 9904-25

### Accessories

Replacement Variable Shade #10 Lens Kit
**Order No.** 9904-35

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## DELUXE SUPPLIED-AIR SHIELD AND BLUE WELDING HELMET

- Performance proven and a cost-effective system used by foundries, aluminum plants, mines, chemical plants, refineries, auto manufacturers, metal working, and fabrications
- Provides a constant and powerful supply of breathable air from a clean air source
- Provides protection from airborne contaminates including hexavalent chromium applications, flying debris, sparks, chemical, and molten metal splashes
- Visor flips up allowing user to grind and clean metal looking through clear ANSI face shield
- Designed to connect to low-pressure or high-pressure flow adapters
- Equipped with variable shade, auto-darkening lens, shade 9-13
- Complies with ANSI Z89.1 Type 1 Class G for head protection
- Complied with ANSI Z87.1+ for face-shield/eye protection
- APF 1000
- ***NIOSH approval TC-19C-0488***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| Deluxe Supplied-Air Shield and Blue Welding Helmet w/ No Flow Valve | 9904-W |
| Deluxe Supplied-Air Shield and Blue Welding Helmet w/ LP Adapter | 9904-DW |

| High Pressure | Order No. |
|---|---|
| Deluxe Supplied-Air Shield and Blue Welding Helmet w/ HP Personal Air Cooler | 9904-CW |
| Deluxe Supplied-Air Shield and Blue Welding Helmet w/ HP Flow Control Valve | 9904-CVW |
| Deluxe Supplied-Air Shield and Blue Welding Helmet w/ HP Air Temperature Controller | 9904-HCW |

**Accessories**

Replacement Variable Shade Lens Kit
**Order No.** 9904-36

## EZ AIR FLEX GRINDING/ WELDING AIR SHIELD

- Intended for industrial applications where combined respiratory, eye, and face protection are required, such as welding, assembly, facility maintenance, grinding, machine operations, and sanding
- Made from DuPont® super tough flame-retardant nylon that can withstand extreme cold/heat without cracking or deforming
- Features a durable flip-up visor to expose a grind shield below that maintains respiratory protection while workers continue grinding or inspecting welds
- Large shield design accommodates safety glasses under the face shield
- Adjustable durable Pera-Lok locking ratcheting headgear with replaceable ultrasoft sweat band
- Lightweight, comfortable, and easily replaceable 100% cotton FR-treated face seal
- Visor dimension: 7" x 5.4" x 0.040"
- Viewing area: 41.2 sq. in.
- Lightweight at only 0.58 lbs. total
- Air train directs air over the head and across the breathing zone, minimizing fogging
- User control of airflow direction
- APF 25
- Equipped with variable shade, auto-darkening lens, shade 5-14
- Complies with ANSI Z87.1+ for face-shield/eye protection
- ***NIOSH approval TC-19C-0588***

| Low Pressure | Order No. |
|---|---|
| EZ Air Flex Grinding/Welding Air Shield Headtop | 9907-WADF |
| EZ Air Flex Grinding/Welding Air Shield Headtop w/ LP Adapter | 9907-DWADF |

| High Pressure | Order No. |
|---|---|
| EZ Air Flex Grinding/Welding Air Shield Headtop w/ HP Flow Control Valve | 9907-CVWADF |
| EZ Air Flex Grinding/Welding Air Shield Headtop w/ HP Personal Air Cooler | 9907-CWADF |
| EZ Air Flex Grinding/Welding Air Shield Headtop w/ HP Air Temperature Controller | 9907-HCWADF |

**Accessories**

Replacement Variable Shade
**Order No.** 9904-36

# SUPPLIED-AIR FLOW VALVES

## LOW-PRESSURE FLOW ADAPTER

Designed to be used with a Low-Pressure Supplied-Air Respirator, the Low-Pressure Flow Adapter allows the hood to connect to a breathing air pump or any low-pressure air source. It is a low-profile, lightweight, plastic threaded fitting that offers the convenience of OBAC quick-connect design with a waist belt and clip assembly. The controller is economical enough to dispose of with the hood assembly or save for use with a replacement hood. It requires an air supply pressure range of 6-50 psi.

**Order No.** 9910-11

## HIGH-PRESSURE AIR TEMPERATURE CONTROLLER

The HP Air Temperature Controller adjusts the amount of air to the hood and adjusts air 25 degrees warmer or cooler than the ambient air for use in cold or hot environments. It includes a waist belt and leather sheath to protect the user from temperature extremes.

**Order No.** 9990

## HIGH-PRESSURE PERSONAL AIR COOLER

The HP Personal Air Cooler is ideal in hot environments, adjusting the airflow from high-pressure air sources as low as 25 degrees colder than ambient air for an improved working environment. Includes a waist belt with the airflow valve.

**Order No.** 9991

## HIGH-PRESSURE ADJUSTABLE-FLOW CONTROL VALVE

The HP Adjustable Flow Control Valve adjusts airflow from any high-pressure air source for greater comfort. It offers a large gripping handle that makes it easy to use with a gloved hand. From the lowest flow position, the control valve will deliver the minimum flow required by NIOSH. Includes a waist belt with the airflow valve.

**Order No.** 9992

## INLET PSI REQUIREMENTS

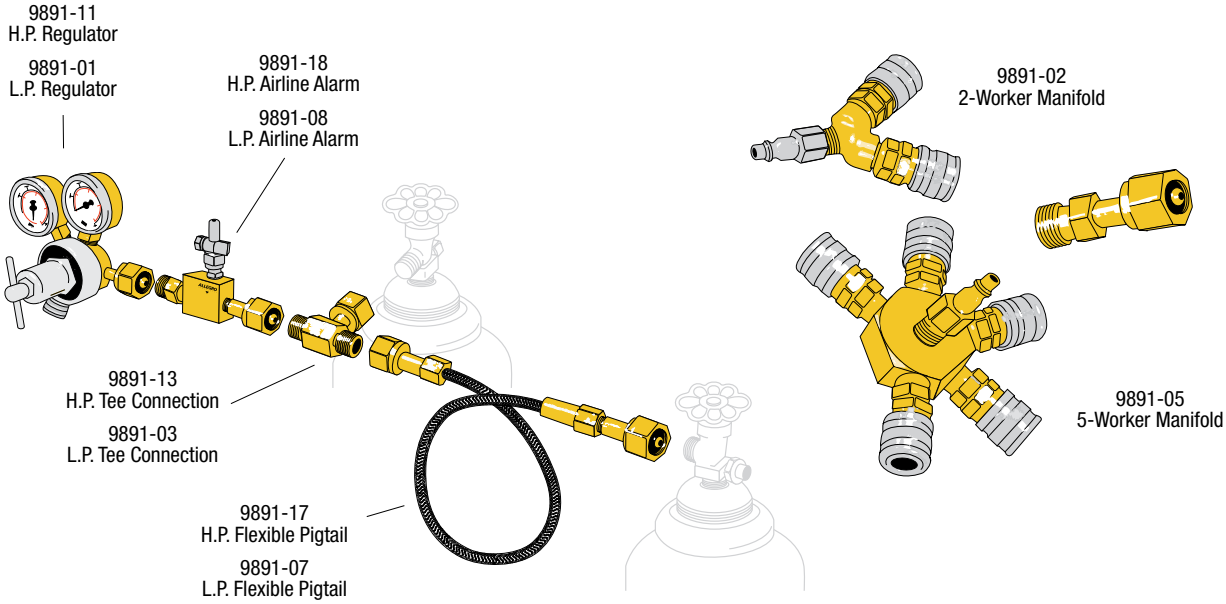
| Respirator | Description | PSI Range 9910-11 (LP) | PSI Range 9990 (HP) | PSI Range 9991 (HP) | PSI Range 9992 (HP) |
|---|---|---|---|---|---|
| 9901/9902 Series | Full Face Mask | 6-50 (9901 Series) | 55-105 | 50-85 | 20-50 |
| 9903 Series | Economy Air Shield | 6-50 | 90-120 | 72-98 | 25-46 |
| 9904 Series | Deluxe Air Shield/Helmet | 6-50 | 90-120 | 68-93 | 27-47 |
| 9909 Series | Hard hat | 6-50 | 80-120 | 65-115 | 23-47 |
| 9910 Series | Tyvek® Hood | 6-50 | | | |
| 9911 Series | Saran™ Hood | 6-50 | 85-110 | 55-85 | 30-48 |
| 9912 Series | Double-Bib Tyvek® Hood | 6-50 | | | |
| 9920 Series | Half Mask | 6-50 | | | |

ALLEGRO INDUSTRIES

# BREATHING AIR
# CASCADE PRODUCTS

## BREATHING AIR CASCADE KITS

Used to reduce high pressure through a series of tee and flexible pigtail connectors, our exclusive Low-Pressure Breathing Air Cascade Kits offer you the ease of ordering all the parts you need for your system with one part number. No more forgetting a piece or mismatched fittings. Inline check valves on both the tee and flexible pigtail (available in both high and low pressure) are used to allow for uninterrupted airflow while replacing depleted cylinders. An optional low-on-air warning device alerts the user when air is low. Individual components are available for adding on to an existing system, or for building a high-pressure breathing air cascade system.




| Breathing Air Cascade System Kits | Order No. | Description | Contents |
|---|---|---|---|
| Low-Pressure Kits without alarm: | 9891-01 | One-Cylinder Cascade Kit | Regulator only |
| | 9890-02 | Two-Cylinder Cascade Kit | Regulator, Tee and Pigtail |
| | 9890-04 | Four-Cylinder Cascade Kit | Regulator, 3 Tees and 3 Pigtails |
| Low-Pressure Kits with alarm: | 9892-01 | One-Cylinder Cascade Kit | Regulator, Alarm |
| | 9892-02 | Two-Cylinder Cascade Kit | Regulator, Tee, Pigtail, Alarm |
| | 9892-04 | Four-Cylinder Cascade Kit | Regulator, 3 Tees, 3 Pigtails, Alarm |

*For high-pressure systems, order appropriate individual components.*
*NOTE: Low-pressure breathing air cascade systems: 3000 psi; high-pressure breathing air cascade systems: 5500 maximum psi.*
*Breathing Air Cascade Kits come standard with Foster/Hansen couplers. Other couplers are available upon request.*

# BREATHING AIR PUMPS

## A-300

Ideal as a super portable, lightweight air source for a single respirator user. Solid performance in applications of one-worker painting, cleaning, sanding, or chemical handling operations.

**Order No.** 9806

MADE IN THE USA

## A-750

Fills the need for a very portable air source for one or two respirator users or a single hood user. Works well in a variety of work environments including painting or refinishing booths.

**Order No** 9821
**Order No** 9821-E

MADE IN THE USA

## A-1500TE, A-1500EX

The easiest way to meet your needs for portable air sources for up to three respirator users or two hood users. Available in explosion-proof configurations for special applications. Applicable for chemical handling and clean-up. The A-1500EX meets Class I Div 1 & 2 Group D. Class II Div 1 & 2 Groups F & G

**Order No.** 9832 (TE)
**Order No.** 9832-E
**Order No.** 9833 (EX)*
**Order No.** 9833-E

MADE IN THE USA

## A-4000AD

Ideal for use when electric power is unavailable or undesirable. Highly effective in work areas where large amounts of compressed air are available such as sandblasting. Air driven motor is protected and lubricated by a high-capacity filter/regulator/lubricator assembly. Requires 75 CFM at 80 psig. Intended for four respirator users or three hood users.

**Order No.** 9850

MADE IN THE USA

***TE:*** *Totally Enclosed*
***EX:*** *Explosion-Proof. EX models come complete with plug.*

## LOW-PRESSURE BREATHING AIR PUMP SPECS

| MODEL NO. | Order No. | MAX. NO. RESP. | MAX. NO HOODS | POWER REQUIRED | LBS. | HP | PSI | CFM |
|---|---|---|---|---|---|---|---|---|
| A-300 | 9806 | 1 | 0 | 4.6/2.3/115/230V AC | 33 | ¼ | 0-15 | 0-5 |
| A-750 | 9821 | 2 | 1 | 9.05/4.6/115/230V AC | 53 | ¾ | 0-15 | 0-10 |
| A-1500TE | 9832 | 3 | 2 | 12.4/6.8-6.2/115/230V AC | 97 | 1 ½ | 0-15 | 0-20 |
| A-1500EX | 9833* | 3 | 2 | 16/8/115/230V AC | 122 | 1 ½ | 0-15 | 0-15 |
| A-4000AD | 9850 | 4 | 3 | 75 CFM @ 80 psig. | 83 | n/a | 0-15 | 0-20 |

**Single-phase explosion-proof motor complete with plug.*

*Offered in 220V/50 Hz. For more information call Customer Service at 800-622-3530*

*WARNING: Breathing Air Pumps are not to be used with generators.*
*WARNING: Air inlet to the pump must be located where breathable air can be assured at all times.*
*WARNING: Breathing Air Pumps should be used only in areas containing sufficient oxygen to support life.*
*Do not use where contaminants are Immediately Dangerous to Life and Health (IDLH).*
*CAUTION: NIOSH-approved respirators and corresponding hose lengths must function at pressures generated by breathing air pumps.*
*Only class "C" (constant flow) respirators will work properly.*
*NOTE: Breathing Air Pumps contaminated with toxic or hazardous materials cannot be returned under guarantee.*

*Cooler subjet to change* *(Pump sold separately)*

## LP ALLEGROAIR AIRLINE COOLING SYSTEM

Perfect, low-cost, portable means of cooling breathing air while keeping workers comfortable and productive. The system is capable of reducing air temperature from 180° F to 50° F. The cooling system is connected to the breathing air pump through a 5' long inlet supply airline. Airflowing through the FDA-Grade PVC coil inside the cooler reduces the air temperature by having ice poured on and around the coil. The outlet air is filtered by a 5-micron particulate air filter. An adjustable relief valve allows the user to adjust the airflow. Can be used with up to 3 workers. Comes with durable wheels and a locking telescoping pull handle. Dimensions: 20"w x 21"d x 24"h, 28 lbs. without ice.

**Order No.** 9820-LP

MADE IN THE USA

## BREATHING AIR PUMP CO MONITOR

The Breathing Air Pump CO Monitor alerts workers using supplied-air respirators when the level of carbon monoxide has exceeded 10 ppm (5 ppm Canada). The CO monitor can be operated in AC or DC mode and uses a single 9-volt alkaline battery. Housed in a portable, rugged molded case with handle and latches for protection and security. Comes with a threaded Tee. Dimensions are 8¼"l x 3½"w x 6¾"h. Weighs 3½ lbs.

**Order No.** 9900-45

MADE IN THE USA

## FLOW TEST KIT FOR CONSTANT FLOW SUPPLIED-AIR RESPIRATORS

CFM tester checks the volume of air that gets to the respirator. A flow meter simply quick-connects onto an airline hose to check the respirator system for NIOSH-compliant airflows. The kit contains a flow meter and a full assortment of quick-connect plugs and adapters to fit all respirator manufacturer's airline hoses. Excellent for use with breathing air pumps.

**Order No.** 9900-40

*NOTE: NIOSH mandates 4 CFM for tight-fitting masks and 6 CFM for hoods.*

## INLET HOSE EXTENSION KIT

Respirators must be supplied with a source of clean, breathable air at all times as per OSHA 29 CFR 1910.134. In order to achieve this requirement, at times it may be necessary to use an inlet hose extension from the breathing air pump to a clean air environment. This can be achieved by connecting one of our inlet hose extension kits, allowing the inlet air source to be 50 feet away from the pump. Or connect up to 5 total kits together for a total of 250 feet away from the pump. Included in the kit are (1) 1"x 50' heavy-duty hose and various fittings to ensure the hose fits to whatever ALLEGRO breathing air pump you have.

**Order No** 9700-65

# LOW-PRESSURE BREATHING AIR PUMP SYSTEMS

## HALF-MASK SYSTEMS

Our complete Half-Mask Systems offer portable, lightweight air sources for one, two, or three workers. They are offered with one, two, or three comfortable half-mask supplied-air respirators, a ¼ hp, ¾ hp, or 1 ½ hp breathing air pump, and one, two, or three 50- or 100-foot breathing air hose(s).

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Half-Mask System w/ 50' Hose | 9205-01 |
| 1-Worker Half-Mask System w/ 100' Hose | 9215-01 |
| 2-Worker Half-Mask System w/ 50' Hoses | 9205-02 |
| 2-Worker Half-Mask System w/ 100' Hoses | 9215-02 |
| 3-Worker Half-Mask System w/ 50' Hoses | 9205-03 |
| 3-Worker Half-Mask System w/ 100' Hoses | 9215-03 |

## FULL-MASK SYSTEMS

The Full-Mask Systems provide a portable air source for one, two, or three respirator users. They include one, two, or three full-mask supplied-air respirators, a ¼ hp, ¾ hp, or 1 ½ hp breathing air pump, and one, two, or three 50- or 100-foot breathing air hose(s).

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Full-Mask System w/ 50' Hose | 9200-01 |
| 1-Worker Full-Mask System w/ 100' Hose | 9210-01 |
| 2-Worker Full-Mask System w/ 50' Hoses | 9200-02 |
| 2-Worker Full-Mask System w/ 100' Hoses | 9210-02 |
| 3-Worker Full-Mask System w/ 50' Hoses | 9200-03 |
| 3-Worker Full-Mask System w/ 100' Hoses | 9210-03 |

SCAN TO WATCH VIDEO

YouTube

*Video available on the ALLEGRO INDUSTRIES Channel*

www.youtube.com/AllegroIndustries

## TYVEK® SUPPLIED-AIR HOOD SYSTEMS

In areas such as painting or asbestos abatement where levels of contamination are low, these complete SAR systems offer a portable air source for one or two workers. They include disposable, lightweight, loose-fitting DuPont Tyvek® hoods, a ¾ hp or 1 ½ hp breathing air pump, and one, or two 50- or 100-foot breathing air hose(s).

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Tyvek® Hood System w/ 50' Hose | 9220-01 |
| 1-Worker Tyvek® Hood System w/ 100' Hose | 9230-01 |
| 2-Worker Tyvek® Hood System w/ 50' Hoses | 9220-02 |
| 2-Worker Tyvek® Hood System w/ 100' Hoses | 9230-02 |

## ECONOMY SUPPLIED-AIR SHIELD SYSTEMS

Perfect for use with grinding, chipping, spray painting, and body repair, our comfortable Supplied-Air Shield is offered as a complete system for one or two workers. They include one or two shields, a ¾ hp, or 1½ hp breathing air pump, and one or two 50-foot breathing air hose(s). Complies with ANSI Z87.1-2003.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Economy Shield System w/ 50' Hose | 9245-01 |
| 2-Worker Economy Shield System w/ 50' Hoses | 9245-02 |

ALLEGRO INDUSTRIES

# LOW-PRESSURE GRINDING AND WELDING SYSTEMS

## EZ AIR FLEX GRINDING AIR SHIELD SYSTEMS

Our EZ Air Flex Grinding Air Shield Supplied-Air Respirator (SAR) provides combined respiratory, eye, and face protection. The grinding shield with a large viewing lens maintains respiratory protection in diverse work environments. The system provides a constant supply of fresh air over the user's face. An APF level of 25 creates an optimal protective pressure inside the respirator headtop keeping away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. Complies with ANSI Z87.1+ for face-shield/eye protection. They include one or two shields, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s).

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker EZ Air Flex Grinding Air Shield System w/ 50' Hose | 9250-01 |
| 2-Worker EZ Air Flex Grinding Air Shield System w/ 50' Hoses | 9250-02 |

## DELUXE SUPPLIED-AIR SHIELD/HELMET SYSTEMS

Our Deluxe Supplied-Air Shield uniquely provides all-in-one head, eye, face, and respiratory protection against hazardous airborne contaminates and flying debris. It delivers a constant and plentiful supply of clean purified air. Our superbly balanced Deluxe Supplied-Air Shield System is offered as a complete system for one or two workers. They include one or two shields, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s). Complies with ANSI Z87.1+.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Deluxe Shield SAR System w/ 50' Hose | 9247-01 |
| 2-Worker Deluxe Shield SAR System w/ 50' Hoses | 9247-02 |

## DELUXE SUPPLIED-AIR SHIELD AND BLUE WELDING HELMET SYSTEMS

Our Deluxe Supplied-Air Shield and Blue Welding Helmet is performance-proven and a cost-effective system used by foundries, aluminum plants, mines, chemical plants, refineries, auto manufacturers, metal working, and fabrication. The Supplied-Air Respirator delivers a constant and powerful supply of breathable air from a clean air source. They include one or two shields/welding helmets, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s). ANSI-certified "all-in-one" system provides respiratory, head, eye and face protection.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Deluxe Blue Welding Helmet System w/ 50' Hose | 9248-01 |
| 2-Worker Deluxe Blue Welding Helmet System w/ 50' Hoses | 9248-02 |

## DELUXE SUPPLIED-AIR SHIELD AND BLACK WELDING HELMET SYSTEMS

Our Deluxe Supplied-Air Shield and Black Welding Helmet is performance-proven and a cost-effective system used by foundries, aluminum plants, mines, chemical plants, refineries, auto manufacturers, metal working, and fabrication. The Supplied-Air Respirator delivers a constant and powerful supply of breathable from a clean air source. They include one or two shields/welding helmets, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s). ANSI-certified “all-in-one” system provides respiratory, head, eye, and face protection.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Deluxe Black Welding Helmet System w/ 50' Hose | 9249-01 |
| 2-Worker Deluxe Black Welding Helmet System w/ 50’ Hoses | 9249-02 |

## EZ AIR FLEX GRINDING/ WELDING AIR SHIELD SYSTEMS

Our EZ Air Flex Grinding/Welding Air Shield Supplied-Air Respirator (SAR) provides combined respiratory, eye, and face protection. The flip-up visor exposes a grind shield below that maintains respiratory protection while grinding or inspecting welds. The system provides a constant supply of fresh air over the user’s face. The optimal protective pressure inside the headtop keeps away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. Complies with ANSI Z87.1+ for face-shield/eye protection. They include one or two grinding/ welding air shields, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s).

| Description | Order No. |
|---|---|
| 1-Worker EZ Air Flex Grinding/Welding Air Shield System w/ 50' Hose | 9251-01 |
| 2-Worker EZ Air Flex Grinding/Welding Air Shield System w/ 50' Hoses | 9251-02 |

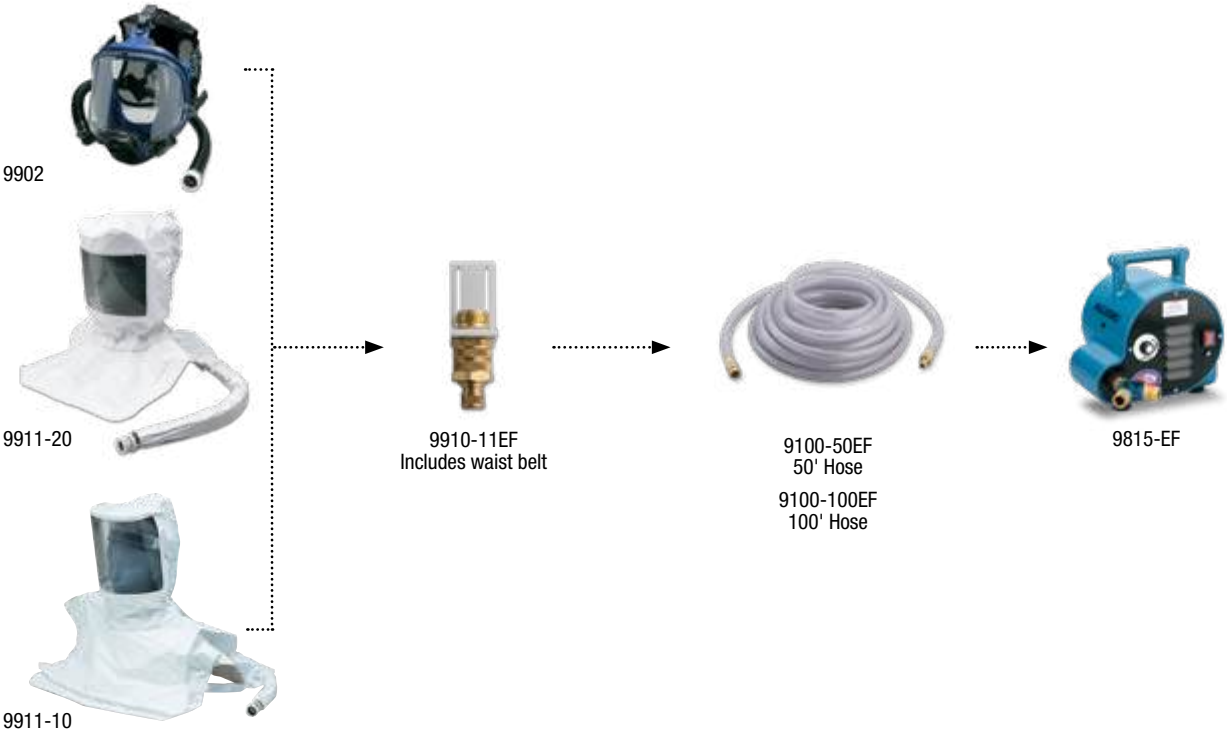
ALLEGRO INDUSTRIES

# LOW-PRESSURE BREATHING AIR BLOWER RESPIRATOR SYSTEMS

*We are proud to offer our NEW Breathing Air Blower Respirator Systems that provide fresh, safe OSHA-compliant breathing air for the NIOSH-APPROVED respirators that are included in our 1- and 2-worker systems. The unit does not heat the breathing air and helps improve worker's safety and comfort while reducing the frequency and duration of breaks. Don't compromise productivity because of hot working environments!*

## BREATHING AIR BLOWER RESPIRATOR SYSTEM COMPONENTS

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| ***CHOOSE AN ALLEGRO RESPIRATOR**** | ***ALLEGRO BREATHING AIR BLOWER RESPIRATOR SYSTEM AIRFLOW ADAPTER**** | ***ALLEGRO BREATHING AIR BLOWER RESPIRATOR SYSTEM AIRLINE HOSE**** | ***ALLEGRO BREATHING AIR BLOWER*** |




**Note: Important to purchase specially designed components for your ALLEGRO Breathing Air Blower Respirator System.*

# BREATHING AIR BLOWER

SCAN TO
WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

*Included in 1-Worker System*

## BREATHING AIR BLOWER

Our Breathing Air Blower is a portable, lightweight, fresh air supply system which provides safe and comfortable breathing air for industrial users who require an OSHA-compliant fresh air supply system while maximizing productivity. While our Breathing Air Blower improves the worker's safety and comfort, it also helps reduce the frequency and duration of breaks on the job. This self-contained, low-maintenance unit includes a removable and washable filter and is contained in a rugged roto-molded plastic housing for longer-lasting durability.

PATENTED BY ALLEGRO

MADE IN THE USA

| Description | Order No. |
|---|---|
| Breathing Air Blower w/ EF Couplers | 9815-EF |
| Breathing Air Blower w/ EF Couplers, 220V AC, 50 Hz | 9815-EFE |

ALLEGRO INDUSTRIES

# LOW-PRESSURE RESPIRATOR MASKS AND HOODS

*LP adapter w/ waist belt included*

## FULL-MASK RESPIRATOR

Made of silicone rubber for better durability and will hold its shape even in extreme heat and cold. The double-sealing flange provides an improved face-to-mask seal and a deep chin pocket provides a better, more comfortable fit. The replaceable polycarbonate lens offers a wider, distortion-free viewing area with an anti-fog, anti-scratch coating. The unique "over the shoulder" hose design clips at the collar and an adjustable belt holds the air hose out of the way of work. ***NIOSH approval TC-19C-0531***

MADE IN THE USA

| Description | Order No. |
|---|---|
| Full-Mask Respirator w/ LP Adapter | 9902-EF |

*LP adapter w/ waist belt included*

## SINGLE BIB MAINTENANCE-FREE TYVEK® HOOD

Made of a poly-coated Tyvek® material, this hood is designed and constructed in one piece with the downtube and head suspension completely integrated. This makes it maintenance-free, eliminating the need for decontamination of the breathing tube or replacement parts since the entire assembly is disposed of after use. The Tyvek® material is flexible, splash-resistant, and seals in the airflow. The hood features a large lens for increased visibility. ***NIOSH approval TC-19C-0532***

PATENTED BY ALLEGRO

MADE IN THE USA

| Description | Order No. |
|---|---|
| Single Bib Maintenance-Free Tyvek® Hood w/ LP Adapter | 9910-EF |

*LP adapter w/ waist belt included*

## DOUBLE-BIB MAINTENANCE-FREE TYVEK® HOOD

Made of a poly-coated Tyvek® material, this hood offers the increased protection of two bibs. The inner bib tucks inside protective garments so airflows down for a cooling effect on the body, and the outer bib secures under the arms with hook-and-loop to keep the hood from riding up. The hood features an extra-large lens for better visibility. It offers the same convenient design with the downtube and suspension built-in, making the complete hood fully disposable. ***NIOSH approval TC-19C-0532***

PATENTED BY ALLEGRO

MADE IN THE USA

| Description | Order No. |
|---|---|
| Double-Bib Maintenance-Free Tyvek® Hood w/ LP Adapter | 9912-EF |

# LOW-PRESSURE BREATHING AIR BLOWER RESPIRATOR SYSTEMS

## FULL-MASK BREATHING AIR BLOWER RESPIRATOR SYSTEMS

Our Full-Mask Breathing Air Blower Respirator Systems provide a portable air source for one or two respirator users. They include one or two NIOSH-approved full-mask supplied-air respirator(s), a breathing air blower, flow meter, and one or two 50-foot breathing air hose(s).

***Includes NIOSH-approved respirator(s).***

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Full-Mask Breathing Air Blower Respirator System w/ 50' Hose | 9200-01A |
| 1-Worker Full-Mask Breathing Air Blower Respirator System w/ 50' Hose, 220V AC, 50 Hz | 9200-01AE |
| 2-Worker Full-Mask Breathing Air Blower Respirator System w/ 50' Hoses | 9200-02A |
| 2-Worker Full-Mask Breathing Air Blower Respirator System w/ 50' Hoses, 220V AC, 50 Hz | 9200-02AE |

## SINGLE BIB HOOD BREATHING AIR BLOWER RESPIRATOR SYSTEMS

Our Single Bib Hood Breathing Air Blower Respirator Systems provide a portable air source for one or two workers. They include one or two NIOSH-approved disposable, lightweight Tyvek® hood(s), a breathing air blower, flow meter, and one or two 50-foot breathing air hose(s).

***Includes NIOSH-approved respirator(s).***

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Single Bib Hood Breathing Air Blower Respirator System w/ 50' Hose | 9221-01A |
| 1-Worker Single Bib Hood Breathing Air Blower Respirator System w/ 50' Hose, 220V AC, 50 Hz | 9221-01AE |
| 2-Worker Single Bib Hood Breathing Air Blower Respirator System w/ 50' Hoses | 9221-02A |
| 2-Worker Single Bib Hood Breathing Air Blower Respirator System w/ 50' Hoses, 220V AC, 50 Hz | 9221-02AE |

## DOUBLE-BIB HOOD BREATHING AIR BLOWER RESPIRATOR SYSTEMS

Our Double-Bib Hood Breathing Air Blower Respirator Systems provide a portable air source for one or two workers. They include one or two NIOSH-approved disposable, lightweight Tyvek® hood(s), a breathing air blower, flow meter, and one or two 50-foot breathing air hose(s).

***Includes NIOSH-approved respirator(s).***

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Double-Bib Hood Breathing Air Blower Respirator System w/ 50' Hose | 9222-01A |
| 1-Worker Double-Bib Hood Breathing Air Blower Respirator System w/ 50' Hose, 220V AC, 50 Hz | 9222-01AE |
| 2-Worker Double-Bib Hood Breathing Air Blower Respirator System w/ 50' Hoses | 9222-02A |
| 2-Worker Double-Bib Hood Breathing Air Blower Respirator System w/ 50' Hoses, 220V AC, 50 Hz | 9222-02AE |

ALLEGRO INDUSTRIES

# LOW-PRESSURE BREATHING COLD AIR RESPIRATOR SYSTEMS

*Don't compromise productivity because of hot working conditions. ALLEGRO is proud to offer our NEW Breathing Cold Air Respirator Source that provides fresh, refrigerated air that offers comfortable, and safe OSHA-compliant cooled breathing air for the NIOSH-APPROVED respirators that are included in our 1- and 2-worker systems. This cooled air helps improve worker's safety and comfort while reducing the frequency and duration of breaks in hot working environments.*

## BREATHING COLD AIR RESPIRATOR SYSTEM COMPONENTS

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| ***CHOOSE AN ALLEGRO RESPIRATOR**** | ***ALLEGRO BREATHING COLD AIR RESPIRATOR SYSTEM AIRFLOW ADAPTER**** | ***ALLEGRO BREATHING COLD AIR RESPIRATOR SYSTEM AIRLINE HOSE**** | ***ALLEGRO BREATHING COLD AIR SOURCE*** |

9902

9911-20

9911-10

9910-11EF
Includes waist belt

9100-50EF
50' Hose

9100-100EF
100' Hose

9825-EF

**Note: Important to purchase specially designed components for your ALLEGRO Breathing Cold Air Respirator System.*

# BREATHING COLD AIR SOURCE

## BREATHING COLD AIR SOURCE

Our Breathing Cold Air Source is a fresh, refrigerated air supply system which provides comfortable and safe cooled breathing air for industrial users who require an OSHA-compliant fresh air supply system, with the advantages of air-conditioned air. It can maximize productivity and minimize the possibility of heat stroke, heat exhaustion, dehydration, nausea, and cramps for your workers. While our Breathing Cold Air Source improves the worker's safety and comfort, it also helps reduce the frequency and duration of breaks on the job. This sealed, low-maintenance unit includes a removable, washable filter and is powder-coated for longer-lasting durability. The NIOSH-approved respirators included in our 1- and 2-worker low-pressure systems feature an airflow valve for increased user comfort. Specs: 120V AC, 60 Hz, 10.5A. Measurements (H x D x W): 23.5" x 15" x 19.5". Weight: 76 lbs. Warning: Air inlet must be placed in clean, Grade "D" breathable air (as specified by OSHA 29 CFR 1910).

MADE IN THE USA

| Description | Order No. |
|---|---|
| Breathing Cold Air Source w/ EF Couplers | 9825-EF |

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

ALLEGRO INDUSTRIES

# LOW-PRESSURE RESPIRATOR
# MASKS AND HOODS

*LP adapter w/ waist belt included*

## FULL-MASK RESPIRATOR

Made of silicone rubber for better durability and will hold its shape even in extreme heat and cold. The double-sealing flange provides an improved face-to-mask seal and a deep chin pocket provides a better, more comfortable fit. The replaceable polycarbonate lens offers a wider, distortion-free viewing area with an anti-fog, anti-scratch coating. The unique "over the shoulder" hose design clips at the collar and an adjustable belt holds the air hose out of the way of work. ***NIOSH approval TC-19C-0531***

MADE IN THE USA

| Description | Order No. |
|---|---|
| Full-Mask Respirator w/ LP Adapter | 9902-EF |

*LP adapter w/ waist belt included*

## SINGLE BIB MAINTENANCE-FREE TYVEK® HOOD

Made of a poly-coated Tyvek® material, this hood is designed and constructed in one piece with the downtube and head suspension completely integrated. This makes it maintenance-free, eliminating the need for decontamination of the breathing tube or replacement parts since the entire assembly is disposed of after use. The Tyvek® material is flexible, splash-resistant and seals in the airflow. The hood features a large lens for increased visibility. ***NIOSH approval TC-19C-0532***

PATENTED BY ALLEGRO MADE IN THE USA

| Description | Order No. |
|---|---|
| Single Bib Maintenance-Free Tyvek® Hood w/ LP Adapter | 9910-EF |

*LP adapter w/ waist belt included*

## DOUBLE-BIB MAINTENANCE-FREE TYVEK® HOOD

Made of a poly-coated Tyvek® material, this hood offers the increased protection of two bibs. The inner bib tucks inside protective garments so airflows down for a cooling effect on the body, and the outer bib secures under the arms with hook-and-loop to keep the hood from riding up. The hood features an extra-large lens for better visibility. It offers the same convenient design with the downtube and suspension built-in, making the complete hood fully disposable. ***NIOSH approval TC-19C-0532***

PATENTED BY ALLEGRO MADE IN THE USA

| Description | Order No. |
|---|---|
| Double-Bib Maintenance-Free Tyvek® Hood w/ LP Adapter | 9912-EF |

# LOW-PRESSURE BREATHING COLD AIR RESPIRATOR SYSTEMS

## FULL-MASK BREATHING COLD AIR RESPIRATOR SYSTEMS

Our Full-Mask Breathing Cold Air Respirator Systems provide a portable cold air source for one or two respirator users. They include one or two NIOSH-approved full-mask supplied-air respirator(s), a breathing cold air source, and one or two 100-foot breathing air hose(s).

***Includes NIOSH-approved respirator(s).***

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Full-Mask Breathing Cold Air Respirator System w/ 100' Hose | 9200-01CA |
| 2-Worker Full-Mask Breathing Cold Air Respirator System w/ 100' Hoses | 9200-02CA |

## SINGLE BIB HOOD BREATHING COLD AIR RESPIRATOR SYSTEMS

Our Single Bib Hood Breathing Cold Air Respirator Systems provide a portable cold air source for one or two workers. They include one or two NIOSH-approved disposable, lightweight Tyvek® hood(s), a breathing cold air source, and one or two 100-foot breathing air hose(s).

***Includes NIOSH-approved respirator(s).***

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Single Bib Hood Breathing Cold Air Respirator System w/ 100' Hose | 9221-01CA |
| 2-Worker Single Bib Hood Breathing Cold Air Respirator System w/ 100' Hoses | 9221-02CA |

## DOUBLE-BIB HOOD BREATHING COLD AIR RESPIRATOR SYSTEMS

Our Double-Bib Hood Breathing Cold Air Respirator Systems provide a portable cold air source for one or two workers. They include one or two NIOSH-approved disposable, lightweight Tyvek® hood(s), a breathing cold air source, and one or two 100-foot breathing air hose(s).

***Includes NIOSH-approved respirator(s).***

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Double-Bib Hood Breathing Cold Air Respirator System w/ 100' Hose | 9222-01CA |
| 2-Worker Double-Bib Hood Breathing Cold Air Respirator System w/ 100' Hoses | 9222-02CA |

ALLEGRO INDUSTRIES

# HIGH-PRESSURE BREATHING AIR FILTRATION PANELS AND ACCESSORIES

9872-40

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

## CARRY-AIR™ AND WALL-AIR™ FILTRATION PANELS

MADE IN THE USA

ALLEGRO's Air Filtration Panels convert shop air used for pneumatic tools and equipment to clean, breathable, Grade D air. They provide 1 to 8+ airline respirators a portable source of up to 15, 30, 60, or 100 CFM of breathable air from 5-125 psig. All models meet NIOSH requirements for point-of-attachment

- An optional Carbon Monoxide (CO) Monitor add-on to meet OSHA requirements (Optional in Wall-Air™ and Carry-Air™ models, Standard in Multi-regulator models)
- Can be operated in AC or DC modes
- 90 dB Audible alarm activates when CO exceeds 10 ppm (5 ppm in Canada)
- External-powered LED lit visual signal
- The 3-stage filtration system purifies compressed air by removing water, oil and particulate contaminants
  - 1st stage: 5-micron particulate filter element and automatic mechanical drain
  - 2nd stage: 0.010-micron coalescing filter element and manual drain
  - 3rd stage: 0.003 ppm activated carbon filter element and manual drain
- Filter replacement indicators (5 and 8 worker panels only)
- Pressure regulator includes a pressure gauge and adjustment knob with locking ring
- Pressure relief valve protects the CO monitor and respirators in the event of regulator failure
- Remote strobe alarm available (optional)
- All brass plumbing with quick-disconnect Hansen couplers (All filtration panel specifications are listed in the charts at the bottom of page 533)

### *CARRY-AIR™*

- Housed in a rugged molded case with carrying handle and latches for protection and security
- Portable or mountable
- 16-gauge, black powder-coated steel stand for support
- Includes external connections for use w/ remote alarms (Order numbers available on page 533)

### *WALL-AIR™*

- Allows for larger units providing more CFM to be used
- 12-gauge black powder-coated steel mounting bracket
- Easily accessible filters for quick replacement (Order numbers available on page 533)

# CARRY-AIR™ AND WALL-AIR™ INLINE FILTRATION PANELS

MADE IN THE USA

Our single outlet and single inlet inline filtration panels provide airline respirators a portable source of clean, breathable, Grade D air while ideally designed for filtering air anywhere within the airline system downstream from outlets. All models meet NIOSH requirements of point-of-attachment.

- An optional CO Monitor add-on to meet OSHA requirements
- Can be operated in AC or DC modes
- 90 dB Audible alarm activates when CO exceeds 10 ppm (5 ppm in Canada)
- External-powered LED lit visual signal
- Includes external connections
- The 3-stage filtration system purifies compressed air by removing water, oil and particulate contaminants
  - 1st stage: 5-micron particulate filter element and automatic mechanical drain
  - 2nd stage: 0.010-micron coalescing filter element and manual drain
  - 3rd stage: 0.003 ppm activated carbon filter element and manual drain
- Pressure regulator includes a pressure gauge and adjustment knob with locking ring
- Pressure relief valve protects the CO monitor and respirators in the event of regulator failure
- Remote strobe alarm available (optional)
- All brass plumbing with quick-disconnect Hansen couplers
  (All filtration panel specifications are listed in the charts at the bottom of page 533)

9878-150

## *CARRY-AIR™ INLINE FILTRATION PANELS*

- Provides up to 8+ airline respirators a portable source of up to 100 CFM of breathable air from 5-125 psig.
- Housed in a portable, rugged molded case with carrying handle and latches for protection and security
- 16-gauge, black powder-coated steel stand for support included
- Inlet side: ¾" Hansen plug, made of Zinc plated case-hardened steel
- Outlet side: ½" NPT male nipple, made of Brass

| Description | Order No. |
|---|---|
| Carry-Air™ Inline Filtration Panel | 9878-100 |

## *WALL-AIR™ INLINE FILTRATION PANELS*

- Provides up to 12 airline respirators a portable source of up to 150 CFM of breathable air from 5-125 psig.
- 12-gauge black powder-coated steel wall-mounting bracket included (to keep work area clean)
- Inlet side: 1" NPT male nipple, made of Brass
- Outlet side: ¾" NPT male nipple, made of Brass

| Description | Order No. |
|---|---|
| Wall-Air™ Inline Filtration Panel w/ CO Monitor | 9878-150 |
| Wall-Air™ Inline Filtration Panel w/o CO Monitor | 9878-151 |

ALLEGRO INDUSTRIES

# HIGH-PRESSURE BREATHING AIR FILTRATION PANELS AND ACCESSORIES

## MULTI-REGULATOR AIR FILTRATION PANELS

- Each regulator can be individually adjusted at different pressure settings for different types of respirators and can also be used for supplying separate outlets for air tools
- CO monitor is integrated to meet OSHA requirements for continuous monitoring of CO levels
- Housed in a portable, rugged molded case with carrying handle and latches for protection and security
- Acrylic window to monitor pressure gauges
- 16-gauge, black powder-coated steel stand for support

| Description | Order No. |
|---|---|
| 4-Worker Multi-Regulator Air Filtration Panel | 9874-MR |
| 6-Worker Multi-Regulator Air Filtration Panel | 9876-MR |

## BREATHING AIR FILTRATION PANEL SPECS

| Breathing Air Filtration Panels | | Order No. | Max. Flow | Max. Inlet | Dimensions (W x H x D) | Weight (LBS.) |
|---|---|---|---|---|---|---|
| Carry-Air™ | 1-Worker | 9873 | 15 CFM | 150 psig. | 16" x 13" x 7" | 11 |
| | 2-Worker | 9872 Series | 30 CFM | 150 psig. | 18" x 12" x 6" | 14 |
| | 5-Worker | 9875 Series | 60 CFM | 150 psig. | 21" x 14½" x 6¾" | 19 |
| | 8-Worker | 9878 Series | 100 CFM | 150 psig. | 23" x 16½" x 7½" | 25 |
| Carry-Air™ Multi-Regulator | 4-Worker* | 9874-MR | 60 CFM | 125 psig. | 21" x 14½" x 6¾" | 21 |
| | 6-Worker* | 9876-MR | 100 CFM | 150 psig. | 23" x 16½" x 7½" | 27 |
| Carry-Air™ 100 CFM Panel | 1-8 Worker | 9878-100 | 100 CFM | 150 psig. | 23" x 16½" x 7½" | 21 |
| Wall-Air™ | 1-Worker | 9873-40 | 15 CFM | 150 psig. | 21¼" x 8¼" x 7¾" | 11 |
| | 2-Worker | 9872-40 Series | 30 CFM | 150 psig. | 21¼" x 8¼" x 7¾" | 11 |
| | 5-Worker | 9875-40 Series | 60 CFM | 150 psig. | 22" x 8½" x 7½" | 15 |
| | 8-Worker | 9878-40 Series | 100 CFM | 150 psig. | 25" x 14" x 7" | 21 |
| Wall-Air™ 150 CFM Panel w/ CO | 1-12 Worker | 9878-150 | 150 CFM | 150 psig. | 22" x 19" x 10" | 27 |
| Wall-Air™ 151 CFM Panel w/o CO | 1-12 Worker | 9878-151 | 150 CFM | 150 psig. | 22" x 19" x 10" | 2 |

*Note: All above air sources come standard with Foster/Hansen couplers. Other couplers are available on request.*

## BREATHING AIR FILTRATION PANEL ORDER NUMBERS

| | 1-Worker | 2-Worker | 5-Worker | 8+ -Worker |
|---|---|---|---|---|
| Carry-Air™ w/ CO Monitor | 9873 | 9872 | 9875 | 9878 |
| Wall-Air™ w/ CO Monitor | 9873-40 | 9872-40 | 9875-40 | 9878-40 |
| Carry-Air™ w/o CO Monitor | | 9872-W/O | 9875-W/O | 9878-W/O |
| Wall-Air™ w/o CO Monitor | | 9872-40W/O | 9875-40W/O | 9878-40W/O |
| Carry-Air™ Inline Panel (1-8 Worker) | 9878-100 | 9878-100 | 9878-100 | 9878-100 |
| Wall-Air™ Inline Panel (1-12 Worker) w/ CO Monitor | 9878-150 | 9878-150 | 9878-150 | 9878-150 |
| Wall-Air™ Inline Panel (1-12 Worker) w/o CO Monitor | 9878-151 | 9878-151 | 9878-151 | 9878-151 |

YouTube
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www.youtube.com/AllegroIndustries

## CO MONITOR CALIBRATION TEST KIT

The CO Monitor Calibration Kit is essential for the proper operation of our CO Monitor. It's a two-point calibration for accurate monitoring of filtered air by the Oil-Less Compressor, Carry-Air™, and Wall-Air™ Filtration Panels.

- Kit includes: 17-liter cylinder each of Span Gas and Zero Gas, a constant flow-pressure regulator with gauge and tubing housed in a durable plastic case with integrated carrying handle
- No tools or adjustments needed
- CO Monitor should be calibrated once every two weeks with normal usage

MADE IN THE USA

| Description | Order No. |
|---|---|
| CO Monitor Calibration Test Kit | 9872-60 |
| Calibration Span Gas | 9872-61 |
| Calibration Zero Gas | 9872-62 |

## REMOTE CO MONITOR

When attached to any air source or filter panel, the Remote CO Monitor alerts workers using Supplied-Air Respirators when the level of carbon monoxide has exceeded 10 ppm (5 ppm Canada). An optional CO monitor is available for continuous monitoring of CO levels.

- Housed in a portable, rugged molded case with carrying handle and latches for protection and security
- Can be operated in AC or DC mode
- Uses a single 9-volt alkaline battery
- Maximum regulator inlet pressure is 150 psi
- Coupling pigtail and kit included for fast and easy adaptation to an existing air filtration system
- All brass plumbing with quick-disconnect ¼" Hansen plug

**Order No.** 9871-02

MADE IN THE USA

## SOURCE PRE-FILTERS

Where inlet air quality is especially low, this particulate assembly helps extend the life of the filter panel's disposable filters by removing liquids and contaminates down to 5 microns.

- Offered in free-standing or wall-mounted configurations
- Black powder-coated steel
- The Source Pre-Filter (9350-03) includes a spring-loaded relief valve made from brass and is equipped with an adjustable regulator and pressure gauge to meet the NIOSH requirement for point-of-attachment.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Source Pre-filter | 9350-03 |
| Deluxe Source Pre-filter | 9350-04 |

## 4-WORKER AIRLINE FILTER

This airline filter is designed to remove oil, mist, water vapor, and particulates down to 0.5 microns from breathing grade compressed air. The filter is placed in-line between the breathing air source and the respirator airline hose. Air enters the filter through the inlet port and once the air has been filtered, moisture is removed and drained through a drain valve located at the bottom of the airline filter.

- Comes with a four-worker manifold for multiple respirator users
- Made of impact and corrosion-resistant steel, it is ideally suited for rugged environments
- "Pot" type filter utilizes a large capacity quality filter cartridge to provide longer life
- Can be wall or floor mounted
- Meets OSHA regulation 1910-94 (6) (i) and 1910-94 (6) (ii). 75 CFM

MADE IN THE USA

**Order No.** 9874-W/O

*When application requires CO monitoring the ALLEGRO Remote CO monitor can be attached to the manifold. (Remote CO Monitor and Airline Filter Sold Separately).*

### *REPLACEMENT FILTER CARTRIDGES*

Quality Filter Cartridges provide better and longer life filtration. Universal design allows filter cartridge to fit into many filter brands on the market.

**Order No.** 3100-02

*Panel sold separately*

*Cooler subjet to change*

## REMOTE CO ALARM WITH STROBE

Designed and built to be an additional means of warning users of an ALLEGRO Filtration Panel when the carbon monoxide level has exceeded 10 PPM (5 PPM in Canada).

- Housed in a portable, rugged molded case with carrying handle and latches for protection and security
- Can also be wall-mounted
- Connects to the filtration panel with the included 50' cable allowing user to keep the alarm closer to working areas
- Includes both a loud 90 decibel, UL-approved, audio alarm and highly visible red strobe light with a yellow powder-coated cage to protect light
- Can be attached to any of our Air Filtration Panels *(Sold separately)*

**Order No.** 9871-01

### *ECONOMY REMOTE CO ALARM WITH STROBE*

The Economy CO Alarm has the same features as the Remote CO Alarm (PN 9871-01) with a smaller profile.

- Housed in a molded carry case with 25' of cable
- Yellow powder-coated cage *(optional)*

MADE IN THE USA

| Description | Order No. |
|---|---|
| Economy Remote CO Alarm w/ Strobe | 9871-01EC |
| 50' Extension Cord | 9871-50E |

## POINT-OF-ATTACHMENT AIR CONTROL SYSTEM

This Point-of-Attachment Air control system connects to any breathing air source. It's designed to meet the NIOSH requirement for point-of-attachment for a SAR breathing system.

- Housed in a portable, rugged molded case with carrying handle and latches for protection and security
- Can also be wall-mounted
- Includes an adjustable pressure regulator, pressure gauge, and a brass spring-loaded pressure relief valve
- Maximum regulator inlet pressure is 150 psi
- Maximum over pressure: 300 psi
- Meets NIOSH requirements for point of attachment

**Order No.** 9871-03

### *ECONOMY P.O.A.*

The Economy P.O.A. has the same features as our Point-of-Attachment Air Control System without a carry case.

**Order No.** 9871-03EC

MADE IN THE USA

## HP ALLEGROAIR AIRLINE COOLING SYSTEM

Designed for greater user comfort and increased worker productivity, the ALLEGRO Air Airline Cooling System is a low-cost and portable means of cooling breathing air produced by high-pressure breathing source such as a filtration panel or compressor not to exceed 150 psi.

- Reduces air temperature from 180° F to as low as 50° F
- Durable wheels and locking telescope pull handle
- 5' long inlet supply hose
- Heavy-duty Hansen inlet coupler
- Uses FDA-Grade, 3-A sanitary standard, PVC tubing for temperature cooling coil
- Pressure regulator includes a pressure gauge and adjustable knob with locking ring
- Inline 5-micon particulate filter with manual drain
- Single outlet coupler can adapt quickly to accept 3-worker manifold
- Use with filtration panels, cascade system, or compressor
- Cooling system will provide cool air for hours
- Dimensions: 21"l x 20"w x 24"h, 28 lbs. (without ice)

**Order No.** 9820-HP

MADE IN THE USA

# HIGH-PRESSURE BREATHING AIR FILTRATION PANELS AND ACCESSORIES

## BREATHING AIR FILTRATION PANEL CARTS

Our Breathing Air Filtration Panel Carts filter impurities and hydrocarbons from an air compressor to convert to breathable air. All components are housed in a portable and rugged molded case mounted on a powder-coated steel cart w/ telescopic handle for ease of storage and shipping. To meet OSHA requirements, an optional CO monitor is available for continuous monitoring of carbon monoxide levels.

- 9874-EFC Panel provides up to 60 CFM (101.94 $m^3$/hr) of air within a 5-125 PSI (0.34-8.62 bar) range.
- 9878-EFC Panel provides up to 100 CFM (169.9 $m^3$/hr) of air within a 5-125 PSI (0.34-8.62 bar) range.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 4-Worker Breathing Air Filtration Panel Cart | 9874-EFC |
| 8-Worker Breathing Air Filtration Panel Cart | 9878-EFC |

YouTube
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SCAN TO WATCH VIDEO

ALLEGRO INDUSTRIES

# SAR PHARMACEUTICAL HOOD SYSTEMS

## PHARMACEUTICAL HOODS SYSTEM COMPONENTS

**1 CHOOSE AN ALLEGRO HOOD ASSEMBLY**

9911-29

9911-29S

**2 CHOOSE AN AIR CONTROL DEVICE**

9990

9991

9992

**3 CHOOSE THE APPROPRIATE AIRLINE HOSE**

Single High-Pressure Airline Hose

9101-25
25' HP Airline Hose

9101-50
50' HP Airline Hose

9101-100
100' HP Airline Hose

**4 CONNECT TO ANY HIGH-PRESSURE AIR SOURCE**

Breathing Air Filtration Panel

*See page 530*

## *ALLEGRO HOODS EXCEL IN THIRD PARTY TEST AT U.S. ARMY'S EDGEWOOD CHEMICAL BIOLOGICAL CENTER*

U.S. ARMY EDGEWOOD CHEMICAL BIOLOGICAL CENTER
Since 1917–A Tradition of Solutions

ALLEGRO Industries contracted the US Army's ECBC (Edgewood Chemical Biological Center) to perform a third-party test using a protocol similar to the one used on a limited number of styles in the 1996 study. The protocol had to be slightly modified to adapt to the procedures used by the ECBC. The goal of this test was to certify and record actual simulated workplace protection factors (SWPF) of the ALLEGRO Hoods and to compare the results of these tests to those hoods tested in the 1996 ORC Study. The test results show that the ALLEGRO hoods do perform at least equal to those that now have an OSHA variance of APF (Assigned Protection Factor) 1000 as a result of the ORC Study.

ALLEGRO's objective for the Protection Factor test was to determine the efficiency of the ALLEGRO Supplied-Air Hood (SAH) in protecting the wearer from aerosolized chemical and airborne biological particles. The tests conducted at ECBC incorporated the use of fifteen (15) civilian test subjects. Each test subject was submitted to twelve two-minute-long exercises. The exercises used were derived from the 1996 ORC Study and were chosen because of their similarity to everyday tasks performed in the pharmaceutical manufacturing environment. All subjects were tested twice in each hood configuration in the aerosolized ECBC Test Chamber.

The sophisticated equipment ECBC used to record the results during the test offered 1200 data points for each exercise. The state-of-the-art facility is capable of detecting fit factors up to 100,000. An analysis of the test results indicates that, at the 5th percentile, ALLEGRO's hoods tested to a fit factor of the maximum of 100,000.

# SAR PHARMACEUTICAL HOODS

*The ALLEGRO Pharmaceutical Maintenance-Free Tyvek® Hood and the Pharmaceutical Maintenance-Free Saran™ Hood are NIOSH-approved and the unique design is patented.*

These hoods are engineered for ultimate protection, job performance, and maintenance-free, one-time use. The ALLEGRO high-pressure hoods are specifically designed to seal in airflow and seal out harmful chemical and airborne particulates.

Both the Tyvek® and the Saran™ hoods have a patented breathing tube integrated directly into the hood. The tube is splash-resistant and entirely disposable. Although made flexible for on-the-job performance, the multi-layer foam tubing material prevents downtubes from being crushed or twisted, with the tube's foam layers providing a sound-dampening system both unique and made in accordance with stringent NIOSH requirements.

These hoods are engineered without head harness for freedom of movement and comfort. Hook-and-loop underarm straps keep the hood from riding up. Each hood has a 8" x 14" viewing window which offers an extensive field of vision and aptly accommodates workers with beards or goggles. The hoods can be used with an adjustable HP Flow Control Valve ALLEGRO HP Personal Air Cooler or an ALLEGRO HP Air Temperature Controller.

## DOUBLE-BIB PHARMACEUTICAL MAINTENANCE-FREE TYVEK® HOOD

Constructed from polycoated Tyvek®, this double-bib hood offers greater protection for workers. Inner bib tucks into garments, allowing air to flow down across the body for a cooling effect. ***NIOSH approval TC-19C-0357***

**Order No.** 9911-29

## DOUBLE-BIB PHARMACEUTICAL MAINTENANCE-FREE SARAN™ HOOD

Constructed from Saran™-coated Tyvek®, this double-bib hood features heat-taped seams to form a liquid- and gas-tight seal. Impermeable to air and moisture, the Saran™ Hood protects workers effectively against a broad range of chemicals and other hazardous materials. ***NIOSH approval TC-19C-0357***

**Order No.** 9911-29S

ALLEGRO INDUSTRIES

# RESPIRATOR FIT TESTING

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
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## BITTER (DENATONIUM BENZOATE) AND SWEET (SACCHARIN) FIT TEST KITS

The Bitter Fit Test Kit offers qualitative OSHA-compliant fit testing for disposable and reusable dust and mist respirators. Denatonium Benzoate creates an unmistakable bitter taste that indicates breakthrough in the respirator fit. Disposable glass ampules make pouring solution into nebulizer easier and reduces the chance of contamination.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Bitter (Denatonium Benzoate) Test Kit | 2041 |
| Deluxe Fit Test Kit* | 2041-DLX |
| Sensitivity solution only, 6/box | 2041-11K |
| Test solution only, 6/box | 2041-12K |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

When the sweet taste of saccharin is detected, the respirator has failed its fit test. The Sweet Fit Test Kit offers OSHA-compliant testing of disposable and reusable dust and mist respirators. Includes: a polycoated hood, sensitivity and fit test solutions, two nebulizers with labels, 2 sets of atomizers, wire cleaner, fit test documentation, and instructions. Replacement solutions are in ampules.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Sweet (Saccharin) Test Kit | 2040 |
| Sensitivity solution only, 6/box | 2040-11K |
| Test solution only, 6/box | 2040-12K |
| Deluxe Fit Test Kit* | 2040-DLX |

**Deluxe Fit Test Kit comes in a rigid molded case.*

## DELUXE BANANA OIL KIT

Isoamyl Acetate (banana oil) offers the oldest method of testing respirator fit. Its strong, readily identifiable odor will be recognized if respirators don't obtain a proper fit. The kit contains all the equipment necessary to perform a proper fit test, including a fit test tent, jars, 1- 8 oz. jar kit, paper towels, disposable bags, and other necessary components, all housed in a convenient storage and carry case.

**Order No.** 0202

MADE IN THE USA

## STANDARD BANANA OIL KIT

Designed for quick fit testing, the Standard Kit contains two 1 oz. bottles of test agents, vinyl test enclosure, measuring pipette, and paper towels in a handy carry bag.

**Order No** 0203

MADE IN THE USA

### *BANANA OIL KIT REPLACEMENT SOLUTION*

| Description | Order No. |
|---|---|
| 1 oz. Solution | 0203-01 |

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www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

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## STANDARD SMOKE TEST KIT

For qualitative fit testing of air-purifying respirators, this Smoke Test Kit offers everything needed for meeting OSHA's protocol for fit testing with smoke. Includes irritant smoke tubes, aspirator assembly, and record form in a protective carry pouch.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Kit | 2050 |
| Replacement Tubes, 6/box | 2050-01 |

## DELUXE PUMP SMOKE TEST KIT

The Deluxe Pump Smoke Test Kit includes a smoke fit tube pump with batteries which generates the required 200 ml per minute of smoke, six smoke tubes with caps, and instructions. Meets OSHA 29 CFR 1910.134 requirements.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Kit | 2055 |
| Replacement Tubes, 6/box | 2050-01 |

## RESPIRATOR FIT CHECK AMPULES

Provides a fast, safe, and easy method to perform qualitative respirator fit checks. When activated, the ampules give off a non-irritating odor of banana oil (Isoamyl Acetate). If banana odor is detected by the wearer, the respirator must be adjusted or replaced.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 10/box | 0201 |

ALLEGRO INDUSTRIES

# RESPIRATOR ACCESSORIES

SCAN TO WATCH VIDEO

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## SPRAY SOCKS

Provides comfortable protection against overspray and other particulates. Spray Sock fits over the head and can be worn with goggles, half-mask, or full-mask respirators. The stretch knit material is breathable and cool to wear. One size fits all.

| Description | Order No. |
|---|---|
| 144/case | 1410 |
| 12/pkg | 1410-12 |
| Flame-retardant Spray Sock | 1410-12FR |

## SPRAY SOCK DISPENSER BOX

Our comfortable Spray Socks (PN 1410) are available individually packaged in a handy dispenser box.

| Description | Order No. |
|---|---|
| 12/box | 1410-01 |

## RESPIRATOR CLEANING SWABS

Easy-to-use and good for cleaning full- and half-mask respirators as well as removing residues. Contains non-sterile, one-sided swabs with low lint cotton tip and wood shaft.

| Description | Order No. |
|---|---|
| 100/bag, 10 bags/box | 0205 |

## ARM SOCK

Protect arms from paint overspray, dust, and other particulates. 16" long and made of 100% cotton. Provides for a comfortable fit from wrist to shoulder.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 144/case | 1440 |
| 12/pkg | 1440-12 |

# RESPIRATOR CLEANING

1001 3001

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
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## RESPIRATOR CLEANING PADS

These large 5" x 8" individually foil-packaged towelettes containing 70% Isopropyl Alcohol are designed specifically for rubber respirator facepieces. The box is designed as a wall-mounted dispenser but can be wall-mounted using the box holder (PN 1001-02) instead.

**Order No.** 1001

## ALCOHOL-FREE CLEANING PADS

These large 5" x 8" individually foil-packaged towelettes containing Benzalkonium Chloride are designed specifically for rubber respirator facepieces and other personal safety equipment where the manufacturer recommends using a non-alcohol cleaning wipe. Will not harm even the most sensitive rubber respirator facepieces. The box is designed as a wall-mounted dispenser but can be wall-mounted using the box holder (PN 1001-02) instead.

MADE IN THE USA

**Order No.** 3001

## POP-UP WIPES CANISTER HOLDER

Impact-resistant ABS holder mounts on the wall to store wipe canisters for quick and easy access.

| Description | Order No. |
|---|---|
| Wall Mount | 5001-01 |

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
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## THE BIG ONES

Available with the same cleaning ingredients as our Cleaning Pads, these extra-large 8" x 11" towelettes are perfect for big cleaning jobs such as full face and supplied-air respirators.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Alcohol, 50/box | 1001-05 |
| Alcohol-Free, 50/box | 3001-05 |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## WIPE DOWNS FOR EQUIPMENT

Easy-to-use 6" x 7½" wipes for respirator and other personal safety equipment clean-up. These Benzalkonium Chloride and alcohol wipes reduce the hazard of contamination.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 220/canister | 5001 |

## ECONOMY RESPIRATOR CLEANING KIT WITH LIQUID CLEANER

Our Economy Respirator Cleaning Kit is a low-cost and convenient cleaning and storage solution for full face and half-mask respirators. Kit includes 32 oz. ready-to-use diluted liquid detergent with sprayer, two scrubbing sponges, 100 individual sterile storage bags and seals. Meets OSHA recommendations (29 CFR 1910.134 Appendix B).

MADE IN THE USA

| Description | Order No. |
|---|---|
| Economy Cleaning Kit | 4003 |
| Replacement Liquid Respirator Cleaner, 32 oz., 946 ml | 5004 |
| Disposable Storage Bags, 100/pkg | 4001-05 |

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YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## RESPIRATOR CLEANING KIT WITH LIQUID CLEANER

All the same features as our Respirator Cleaning Kit with the added convenience of a concentrate gallon liquid disinfectant soap. EPA-registered.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Cleaning Kit | 4002 |
| Replacement Liquid Cleaner, 1 Gallon | 5003-U |
| Disposable Storage Bags, 100/pkg | 4001-05 |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## RESPIRATOR CLEANING KIT WITH DRY SOAP

Convenient cleaning and storage for full face, and half-mask respirators. Contains ninety 1/2 oz. packets of water-soluble cleaner, air bulb, brush, 100 each sterile storage bags and seals, and large 17-quart, two-sided bucket. Kit meets OSHA recommendations.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Cleaning Kit | 4001 |
| Dry Replacement Soap | 4001-02 |
| Disposable Storage Bags, 100/pkg. | 4001-05 |

# SUPPLIED-AIR GRINDING AND WELDING HELMET SYSTEMS

## SUPPLIED-AIR GRINDING AND WELDING HELMET SYSTEM COMPONENTS

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| ***CHOOSE AN ALLEGRO HOOD ASSEMBLY*** | ***CHOOSE AN AIR CONTROL DEVICE*** | ***CHOOSE THE APPROPRIATE AIRLINE HOSE*** | ***CHOOSE THE CORRECT AIR SOURCE*** |

9903

9907-G

9904

9904-W

9904-WB

9907-WADF

9910-11

9990

9991

9992

Single Low-Pressure Airline Hose

9100-25
25' LP Airline Hose

9100-50
50' LP Airline Hose

9100-100
100' LP Airline Hose

Low-Pressure Air Source

Single High-Pressure Airline Hose

9101-25B
25' HP Airline Hose

9101-50B
50' HP Airline Hose

9101-100B
100' HP Airline Hose

High-Pressure Air Source

## SAR REPLACEMENT VARIABLE SHADE LENS KITS

Made for all welding processes including TIG and TIG pulsing. Lens features both optical and magnetic arc detection system, ensuring the filter will not open (turn from dark to light) even if the sensors become blocked. Designed with the capability to detect light and magnetic waves that occur during welding. Optomagnetic sensors can be adjusted from 0 to 6 feet in range. It is solar powered with dual sensors. Kit includes auto-darkening welding filter and mounting frame.

9904-35

9904-36

| Description | Order No. |
|---|---|
| Use w/ 9904-W and 9907-WADF | 9904-36 |
| Use w/ 9904-WB | 9904-35 |

ALLEGRO INDUSTRIES

# SUPPLIED-AIR GRINDING AND WELDING HELMETS

## ECONOMY SUPPLIED-AIR SHIELD

- Perfect for use with grinding, chipping, spray painting, and auto body repair
- The easy flip-up visor is made of Nylon plastic and offers a wide field of vision
- Lens is polycarbonate and chin guard is polypropylene for added strength
- The shroud is cotton, adding comfort and protecting against overspray
- Designed to connect to low-pressure or high-pressure flow adapters
- Complies with ANSI Z87.1-2003
- ***NIOSH approval TC-19C-0468***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| W/ LP Adapter | 9903-D |
| Replacement Economy Supplied Air Shield | 9903 |

| High Pressure | Order No. |
|---|---|
| W/ HP Personal Air Cooler | 9903-C |
| W/ HP Flow Control Valve | 9903-CV |
| W/ HP Air Temperature Controller | 9903-HC |
| Replacement Economy Supplied Air Shield | 9903 |

**Accessories**

Lens Covers 10/pkg.
**Order No.** 9903-25

## EZ AIR FLEX GRINDING AIR SHIELD

- Intended for industrial applications where combined respiratory, eye, and face protection are required, such as: grinding, assembly, facility maintenance, machine operations, and sanding
- Made from DuPont® super tough flame-retardant nylon that can withstand extreme cold/heat without cracking or deforming
- Large shield design accommodates safety glasses under the face shield
- Adjustable durable Pera-Lok locking ratcheting headgear with replaceable ultrasoft sweat band
- Lightweight, comfortable, and easily replaceable 100% cotton FR-treated face seal
- Viewing area: 41.2 sq. in.
- Lightweight at only 0.46 lbs. total
- Air Train directs air over the head and across the breathing zone, minimizes fogging
- User control of airflow direction
- Optional snap-on welding shield with ADF lens also available (PN 9937-WFFADF)
- APF 25
- Complies with ANSI Z87.1+ for face-shield/eye protection
- ***NIOSH approval TC-19C-0588***

| Low Pressure | Order No. |
|---|---|
| Headtop | 9907-G |
| Headtop w/ LP Adapter | 9907-DG |

| High Pressure | Order No. |
|---|---|
| Headtop w/ HP Personal Air Cooler | 9907-CG |
| Headtop w/ HP Flow Control Valve | 9907-CVG |
| Headtop w/ HP Air Temperature Controller | 9907-HCG |

**Accessories**

Snap-on Welding Shield with ADF Lens
**Order No.** 9937-AFFADF

## DELUXE SUPPLIED-AIR SHIELD/HELMET

- All-in-one head, eye, face, and respiratory protection against hazardous airborne contaminates and flying debris
- Ergonomically designed with superb balance
- No fit testing required
- Can be worn comfortably by personnel with beards and facial hair
- Designed to connect to low-pressure or high-pressure flow adapters
- Complies with ANSI Z89.1 Type 1 Class G for head protection
- Complied with ANSI Z87.1+ for face-shield/eye protection
- APF 1000
- ***NIOSH approval TC-19C-0488***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| W/ LP Adapter | 9904-D |
| Replacement Deluxe Supplied Air Shield | 9904 |

| High Pressure | Order No. |
|---|---|
| W/ HP Personal Air Cooler | 9904-C |
| W/ HP Flow Control Valve | 9904-CV |
| W/ HP Air Temperature Controller | 9904-HC |
| Replacement Deluxe Supplied Air Shield | 9904 |

**Accessories**

Lens Covers 6/pkg.
**Order No.** 9904-25

## DELUXE SUPPLIED-AIR SHIELD AND BLUE WELDING HELMET

Performance-proven and a cost-effective system used by foundries, aluminum plants, mines, chemical plants, refineries, auto manufacturers, metal working, and fabrications. This helmet offers protection from airborne contaminates including hexavalent chromium applications, flying debris, sparks, and chemical and molten metal splashes. The helmet flips, allowing user to grind and clean metal looking through clear ANSI face shield. Equipped with variable shade, auto-darkening lens, shade 9-13. ANSI-certified face shield and head protection. APF 1000*.

***NIOSH approval TC-19C-0488***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| w/ No Flow Valve | 9904-W |
| w/ LP Adapter | 9904-DW |

| High Pressure | Order No. |
|---|---|
| w/ HP Personal Air Cooler | 9904-CW |
| w/ HP Flow Control Valve | 9904-CVW |
| w/ HP Air Temperature Controller | 9904-HCW |

**Accessories**

Replacement Variable Shade Lens Kit
**Order No.** 9904-36

## DELUXE SUPPLIED-AIR SHIELD AND BLACK WELDING HELMET

This is a cost-effective system used by foundries, aluminum plants, mines, chemical plants, refineries, auto manufacturers, metal working, and fabrications. Performance-proven with a constant and powerful supply of breathable air from a clean air source, this helmet offers protection from airborne contaminates including hexavalent chromium applications, flying debris, sparks, and chemical and molten metal splashes. The helmet flips, allowing user to grind and clean metal looking through clear ANSI face shield. Large #10 lens included. ANSI-certified face shield and head protection. APF 1000*.

***NIOSH approval TC-19C-0488***

MADE IN THE USA

| Low Pressure | Order No. |
|---|---|
| w/ No Flow Valve | 9904-WB |
| w/ LP Adapter | 9904-DWB |

| High Pressure | Order No. |
|---|---|
| w/ HP Personal Air Cooler | 9904-CWB |
| w/ HP Flow Control Valve | 9904-CVWB |
| w/ HP Air Temperature Controller | 9904-HCWB |

**Accessories**

Replacement Variable Shade Lens Kit
**Order No.** 9904-35

## EZ AIR FLEX GRINDING/WELDING AIR SHIELD

A versatile solution with combined respiratory, eye, and face protection for welding, assembly, facility maintenance, grinding, machine operations, and sanding applications. A flip-up visor reveals a grind shield below which maintains respiratory protection while grinding or inspecting welds. Fresh air constantly circulates over the user's face, and an APF level of 25 creates protective pressure inside the headtop to keep away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. Complies with ANSI Z87.1+ for face-shield/eye protection. ***NIOSH approval TC-19C-0588***

| Low Pressure | Order No. |
|---|---|
| Air Shield Headtop | 9907-WADF |
| w/ LP Adapter | 9907-DWADF |

| High Pressure | Or der No. |
|---|---|
| w/ HP Personal Air Cooler | 9907-CVWADF |
| w/ HP Flow Control Valve | 9907-CWADF |
| w/ HP Air Temperature Controller | 9907-HCWADF |

**Accessories**

Replacement Variable Shade Lens Kit
**Order No.** 9904-36

ALLEGRO INDUSTRIES

# SUPPLIED-AIR GRINDING HELMET SYSTEMS

## EZ AIR FLEX GRINDING AIR SHIELD SYSTEMS

Our EZ Air Flex Grinding Air Shield Supplied-Air Respirator (SAR) provides combined respiratory, eye, and face protection. The grinding shield with a large viewing lens maintains respiratory protection in diverse work environments. The system provides a constant supply of fresh air over the user's face. An APF level of 25 creates an optimal protective pressure inside the respirator headtop keeping away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. Complies with ANSI Z87.1+ and CAN/CSA Z94.3 for face-shield/eye protection. Includes one or two air shields, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s).

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker EZ Air Flex Grinding Air Shield System w/ 50' Hose | 9250-01 |
| 2-Worker EZ Air Flex Grinding Air Shield System w/ 50' Hoses | 9250-02 |

## DELUXE SUPPLIED-AIR SHIELD/HELMET SYSTEMS

Our Deluxe Supplied-Air Shield uniquely provides all-in-one head, eye, face, and respiratory protection against hazardous airborne contaminates and flying debris. It delivers a constant and plentiful supply of clean purified air. Our superbly balanced Deluxe Supplied-Air Shield System is offered as a complete system for one, or two workers. They include one or two shields, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s). Complies with ANSI Z87.1+.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Deluxe Shield SAR System w/ 50' Hose | 9247-01 |
| 2-Worker Deluxe Shield SAR System w/ 50' Hoses | 9247-02 |

## ECONOMY SUPPLIED-AIR SHIELD SYSTEMS

Perfect for use with grinding, chipping, spray painting, and body repair; our comfortable Supplied-Air Shield is offered as a complete system for one, or two workers. They include one or two shields, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s). Complies with ANSI Z87.1-2003.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Economy Shield System w/ 50' Hose | 9245-01 |
| 2-Worker Economy Shield System w/ 50' Hoses | 9245-02 |

# SUPPLIED-AIR GRINDING AND WELDING HELMET SYSTEMS

## DELUXE SUPPLIED-AIR SHIELD AND BLUE WELDING HELMET SYSTEMS

Our Deluxe Supplied-Air Shield and Blue Welding Helmet is performance-proven and a cost-effective system used by foundries, aluminum plants, mines, chemical plants, refineries, auto manufacturers, metal working, and fabrication. The Supplied-Air Respirator delivers a constant and powerful supply of breathable air from a clean air source. They include one or two shields/welding helmets, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s). ANSI-certified "all-in-one" system provides respiratory, head, eye, and face protection.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Deluxe Blue Welding Helmet System w/ 50' Hose | 9248-01 |
| 2-Worker Deluxe Blue Welding Helmet System w/ 50' Hoses | 9248-02 |

## DELUXE SUPPLIED-AIR SHIELD AND BLACK WELDING HELMET SYSTEMS

Our Deluxe Supplied-Air Shield and Black Welding Helmet is performance-proven and a cost-effective system used by foundries, aluminum plants, mines, chemical plants, refineries, auto manufacturers, metal working, and fabrication. The Supplied-Air Respirator delivers a constant and powerful supply of breathable from a clean air source. They include one or two shields/welding helmets, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s). ANSI-certified "all-in-one" system provides respiratory, head, eye, and face protection.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Deluxe Black Welding Helmet System w/ 50' Hose | 9249-01 |
| 2-Worker Deluxe Black Welding Helmet System w/ 50' Hoses | 9249-02 |

## EZ AIR FLEX GRINDING/ WELDING AIR SHIELD SYSTEMS

Our EZ Air Flex Grinding/Welding Air Shield Supplied-Air Respirator (SAR) provides combined respiratory, eye, and face protection. The flip-up visor exposes a grind shield below that maintains respiratory protection while grinding or inspecting welds. The system provides a constant supply of fresh air over the user's face. The optimal protective pressure inside the headtop keeps away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. Complies with ANSI Z87.1+ for face-shield/eye protection. Includes one or two grinding/welding air shields, a ¾ hp or 1 ½ hp breathing air pump, and one or two 50-foot breathing air hose(s).

| Description | Order No. |
|---|---|
| 1-Worker EZ Air Flex Grinding/Welding Air Shield System w/ 50' Hose | 9251-01 |
| 2-Worker EZ Air Flex Grinding/Welding Air Shield System w/ 50' Hoses | 9251-02 |

ALLEGRO INDUSTRIES

# ABRASIVE BLASTING

*The Nova Series is your number one choice for economical Abrasive Blasting Helmets which meet safety standards worldwide. Reliable, durable, and designed to help reduce worker fatigue, reduce downtime replacing parts, and increase worker productivity. Built to last in rugged environments with an abrasion-resistant polyethylene helmet shell.*

## ABRASIVE BLASTING HELMETS SYSTEM COMPONENTS

**1 CHOOSE A HELMET ASSEMBLY**

NV20-00

NV30-00

**2 CHOOSE AN AIR CONTROL DEVICE**

2015

NV20-16

4000-01

4000-20

**3 CHOOSE THE APPROPRIATE AIRLINE HOSE**

Low-Pressure Airline Hose

2035
50' LP Airline Hose

2036
100' LP Airline Hose

High-Pressure Airline Hose

2028
25' HP Airline Hose

2029
50' HP Airline Hose

**4 CONNECT TO AIR SOURCE**

Airline Filter w/ T-Connection

## NOVA 3® BLASTING HELMET

The NOVA 3® series respirator combines breakthrough protection technology with advanced comfort and functionality surpassing even the most rigorous industry standards. Designed to optimize safety and productivity as well as to minimize worker downtime, the helmet has a host of features that maximize its lifetime value. The NOVA 3® is designed and engineered to distribute the helmet's weight evenly across the head and shoulders for optimum comfort and ease of worker movement, reducing fatigue. In addition, a ratchet-adjusted neck pad ensures your head is supported. The Peel Offs Lens System is a unique "FIT AND SAVE™" system of pre-folded tabs. This means workers can quickly tear off just one layered lens at a time. The helmet complies with ANSI Z87.1 for eye protection and ANSI Z89.1 for head protection providing a high level of protection for the worker.

| Description | Order No. |
|---|---|
| Nova 3® Helmet w/ HP Flow Control Valve | NV30-00 |
| Nova 3® Helmet w/ Cooler | NV30-00HC |
| Nova 3® Helmet w/ Heater | NV30-00H |
| Replacement Peel Offs, 50/pkg. | NV37-25 |

MADE IN THE USA

## NOVA 2000™ BLASTING HELMET

Lightweight pillow foam padding ensures the helmet always sits comfortably on your head. The padding is hook-and-loop mounted and easily removed for hygienic cleaning. The large wrap-around double lens allows optimum vision without irritating side glare. Optional tear-off lenses are also available. The helmet complies with ANSI Z87.1 for eye protection and ANSI Z89.1 for head protection providing a high level of protection for the worker. Air duct distribution diffuses an even flow of breathing air throughout the helmet to cool the head and face and prevents the lens from fogging. Multi-layered sound-deadening foam makes this helmet the quietest on the market. This helmet is offered with a HP Adjustable Flow Control Valve, Cooler, Heater, or Low-Pressure Constant Flow Valve. ***NIOSH-approved***

MADE IN THE USA

| Description | Order No. |
|---|---|
| HP Nova 2000™ Helmet w/ HP Flow Control Valve | NV20-00 |
| HP Nova 2000™ Helmet w/ Cooler | NV20-00HC |
| HP Nova 2000™ Helmet w/ Heater | NV20-00H |
| LP Nova 2000™ Helmet w/ Constant Flow Valve | NV20-00LP |
| Replacement Peel Offs, 50/pkg. | NV20-17 |

*WARNING: Do NOT use Silica sand as an abrasive medium. The use of Silica sand can cause serious respiratory disease or death. (OSHA reference: https://www.osha.gov/silica/)*

# TEMPERATURE CONTROLLER AND FLOW VALVES

## AIR TEMPERATURE CONTROLLER

These valves adjust the amount of air to the helmet and adjust air 25° F warmer or cooler than the ambient air for use in cold or hot environments.

| Description | Order No. |
|---|---|
| HP Cooler w/ Belt | 4000-01 |
| HP Heater w/ Belt | 4000-20 |

## ADJUSTABLE HP FLOW CONTROL VALVE

NIOSH-approved, injection-moulded, HP Flow Control Valve assembly provides the wearer with the ability to adjust the air flowing into the helmet. The adjustment barrel is easy to turn even with blasting gloves on. Comes with waist belt.

| Description | Order No. |
|---|---|
| HP Flow Control Valve w/ Belt | NV20-16 |

## LOW-PRESSURE FLOW ADAPTER

The low-pressure supplied-air respirator adapter allows the helmet to connect to an ambient air pump or any low-pressure air source. Low-profile, lightweight plastic threaded fitting offers the convenience of quick-connect design with belt and clip assembly.

| Description | Order No. |
|---|---|
| LP Constant Flow Adapter w/ Belt | 2015 |

*Refer to Nova 2000™ and Nova 3® Matrix (above) for NIOSH-approved configurations.*

## AIRLINE FILTER

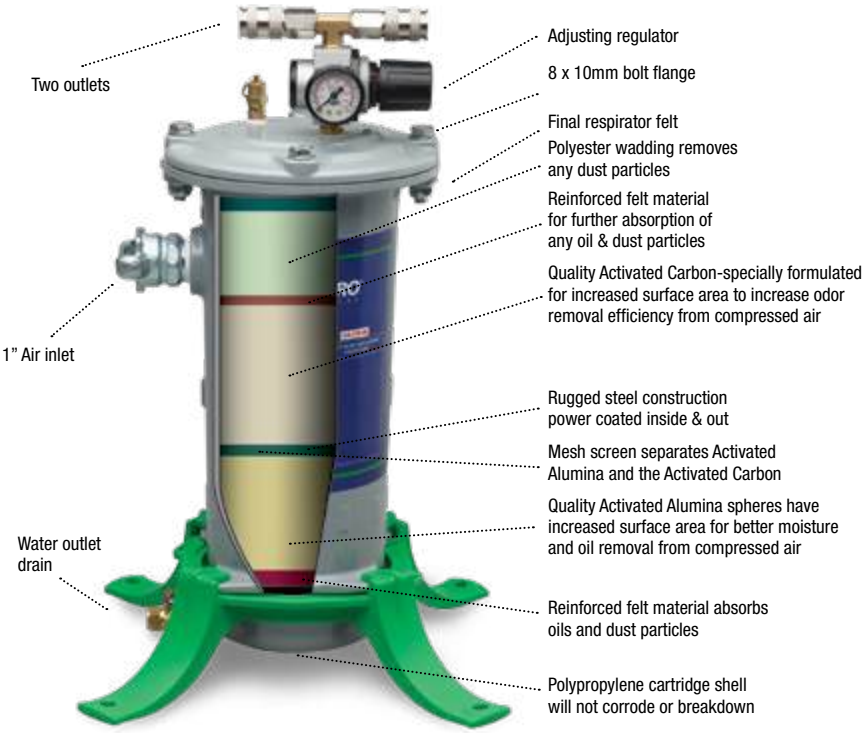
Made for rugged environments, this “Pot” type filter utilizes a large capacity quality filter cartridge to provide longer life filtration. Greater material surface area provides increased absorption of oil, water, and odors. Made of impact and corrosion-resistant aluminum and equipped with an airline regulator and two outlets. 75 CFM

**Order No.** 3000-01

## REPLACEMENT FILTER CARTRIDGES

Quality filter cartridges provide better and longer life filtration. Universal design allows filter cartridge to fit into many filter brands on the market.

**Order No.** 3100-02




# ABRASIVE BLASTING HELMET LOW-PRESSURE SYSTEMS

## NOVA 2000™ HELMET LOW-PRESSURE SYSTEM

The Nova 2000™ is your number one choice Abrasive Blasting Helmet built for reliable, durable use and increased worker productivity. The complete One-Worker Blasting Helmet system provides a portable air source for one user. It includes a Nova helmet, ¾ HP pump, and 50' of airline hose.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1-Worker Blasting Helmet System w/ 50' Hose | 9285-01 |

# POWERED AIR-PURIFYING RESPIRATOR SYSTEMS

*When it comes to exposure to hazardous fumes and particles, respiratory safety should be every worker's priority. A Powered Air-Purifying Respirator (PAPR) system can protect metalworkers, welders, and MRO professionals by filtering out dangerous particles. These units provide higher levels of respiratory protection compared to half-face respirators or disposable masks. Discover the AIRPLUS® and EZ-AIR systems by ARCONE® and ALLEGRO.*

## Features

- ***High-capacity battery allows up to two full work shifts; reduces downtime***
- ***Full charge in 6 hours***
- ***3-phase alarm system for increased user awareness***
- ***Flexible breathing tube reduces torque on neck and increases mobility***

***AIRPLUS® blower model also includes a spark arrestor and pre-filter***

## BASIC SYSTEM SPECIFICATIONS

| **Blower Unit** | |
|---|---|
| Type | Flow Control |
| Motor speed | 6,000-10,000 RPM |
| Air supply (min/max) | 170 LPM/260 LPM (6/9.5 CFM)* |
| Case | Impact-Proof ABS |
| Filter cartridge | Single plug-in |
| Filter | HEPA |
| Expandable breathing tube | 31.5 in to 63 in |
| Pre-filter | Yes |
| Spark arrestor | Yes |

| **Battery** | |
|---|---|
| Type | Lithium-ion |
| Voltage | 7.4 V |
| Operating time | 14 hours at minimum fan speed |
| Charging time | 6 hours |
| Charging cycles | 500 |

| **Charger** | |
|---|---|
| Type | DC rectifier |
| Voltage | 120 V / 60 Hz |
| Output current | 8.4 V, 1500 mA |
| Approvals | UL |

ALLEGRO INDUSTRIES

# POWERED AIR-PURIFYING RESPIRATOR SYSTEMS

*Every work environment is different. That's why WALTER offers the most comprehensive line of PAPR systems in the market. There are several headtops to choose from and build the perfect PAPR system to meet your job site needs.*

**MRO OR HEALTHCARE** | **GRINDING & WELDING**

SARAN™-COATED TYVEK® HOOD

EZ AIR FLEX | EZ AIR GRINDING/ WELDING | EZ AIR ECONOMY | EZ AIR DELUXE

AIRPLUS® AIRSHIELD® | AIRSHIELD® FLIP FRONT | VISION® X81VX | VISION® BFFVX

**APF 25**

**MATERIAL RESISTANCE** → **WELDING PERFORMANCE** → **WELDING PERFORMANCE**

***COMPATIBLE WITH ALLEGRO EZ AIR BLOWER***

***COMPATIBLE WITH ARCONE® AIRPLUS®***

***FILTER TYPE:***
High-efficiency particulate air filter (HEPA) will protect against:
- ▷ ***Hazardous solid dust particles, metal fumes, and mists***
- ▷ ***Stainless steel (hexavalent chromium), galvanized steel (Zinc oxide), steel/ manganese alloys, cadmium, and lead fumes.***

| AIRPLUS® COMPONENT | TYPICAL REPLACEMENT CADENCE | NOTES |
|---|---|---|
| Pre-filter | Once a week | Regular replacement of the pre-filter extends the life of the HE particulate filter, saving on consumable costs. |
| HEPA P3 Filter | At least every month | Do daily checks with airflow indicator and replace when airflow indicator falls below the minimum flow line. |
| Spark Arrestor | As needed | Replace if deformed and no longer fitting well. |

# MRO AND HEALTHCARE PAPR SYSTEMS

## EZ AIR PAPR HOOD

Our EZ Air Powered Air-Purifying Tyvek® Hooded Respirator is a complete particulate system intended for industrial and healthcare workers where combined respiratory, eye, and face protection are required. It includes a motorized, lithium-ion battery-operated system that provides a constant supply of fresh, filtered air over the user's face. At an APF level of 25, it creates an optimal protective pressure inside the respirator hood keeping away harmful particulates. This complete PAPR assembly is also extremely lightweight weighing just under 4 pounds total! Recommended applications are facility maintenance and healthcare facilities. ***NIOSH-approved***

Complete PAPR includes:

- ***Poly-coated DuPont Tyvek® Hood***
- ***Breathing tube***
- ***Blower***
- ***Waist belt***
- ***Battery and charger***
- ***Flow tester***
- ***HEPA filter***

POLY-COATED DUPONT TYVEK® HOOD

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## EZ AIR PAPR POLY-COATED DUPONT TYVEK® HOOD

| Description | Order No. |
|---|---|
| EZ Air Tyvek® PAPR Hood | 9933 |
| Replacement Tyvek® Hood Assembly with Suspension | 9933-21 |

Complete PAPR assembly:

- Fully disposable hood with bonded/taped seams
- Air channel design delivers air inside hood across the breathing zone with minimal lens fogging
- Lightweight, disposable one-piece suspension with absorbent head band
- Flexible breathing tube inside the downtube sleeve of the hood reduces decontamination time
- Breathing tube directs the air up and over the user's head to allow the air to disperse across the lens to prevent fogging and reduce CO2 build up inside the hood
- Single filter design is easy to install and remove; NIOSH-approved HEPA Filter (42 CFR, Part 84); Filters 99.97% of particulates larger than 0.3 microns
- Rugged, lightweight, and low-profile ABS blower is quiet at 65 dB
- 7.4 V rechargeable lithium-ion battery operates up to 17 hours (minimum speed), 9 hours (maximum speed) on a full charge
- 110-240 Vac, 50-60 Hz smart charger (International kit available with removable plug)
- Waist belt features large heavy-duty belt clips, easy to attach while wearing gloves

ALLEGRO INDUSTRIES

# GRINDING AND WELDING PAPR SYSTEMS

*Our extensive line of high-quality grinding and welding products provide workers with better comfort, less fatigue, and improve productivity. ALLEGRO EZ Air PAPRs are intended for industrial applications where respiratory, eye, and face protection are required.*

## EZ AIR PAPR SYSTEM COMPONENTS

### 1 CHOOSE A GRINDING OR WELDING HEADTOP

| | For grinding applications | For grinding and welding applications | For grinding and welding applications | For grinding and welding applications |
|---|---|---|---|---|
| **Order No.** | **9937-BHTG** | **9937-BHTWADF** | **9935-BHTX54V** | **9935-BHTX81V** |
| Viewing Area (square inches) | 41.2 | 7.1 | 7.25 | 12.6 |
| HD Technology | N/A | ✓ | ✓ | ✓ |
| Light Shade | N/A | 4 | 4 | 3 |
| Dark Shade | N/A | 9-13 | 5-14 | 5-14 |
| Variable Sensitivity | N/A | ✓ | ✓ | ✓ |
| Variable Delay | N/A | ✓ | ✓ | ✓ |
| X-Tig Mode | N/A | | | ✓ |
| Cut & Grind Mode | N/A | ✓ | ✓ | ✓ |
| TIG Rating | N/A | 25 | 5 | <5 |
| Arc Sensors | N/A | 4 | 4 | 5 |
| Digital | N/A | ✓ | ✓ | ✓ |
| Solar power | N/A | ✓ | ✓ | ✓ |
| **PAPR Kit Order No.** | **9937-G** | **9937-WADF** | **9935** | **9935-DLX** |

### 2 ADD BLOWER ASSEMBLY

9935-BLW
(Shown disassembled)
Includes downtube w/ FR cover, battery, charger, belt, flow tester, HEPA filter, and storage bag

### 3 REPLACEMENT HEPA FILTER

9935-FIL
Replacement (HEPA)

# GRINDING AND WELDING
# PAPR SYSTEMS

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## EZ AIR FLEX SHIELD PAPR

Our EZ Air Flex Shield Powered Air-Purifying Respirator (PAPR) is a complete particulate system providing combined respiratory, eye, and face protection. The durable grinding shield features a large viewing lens that maintains respiratory protection. This motorized, lithium-ion battery-operated system provides a constant supply of fresh, filtered air over the user's face. At an APF level of 25, it creates an optimal protective pressure inside the respirator headtop keeping away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. Recommended applications are grinding, assembly, facility maintenance, machine operations, and sanding. Suggested industries include automotive, food and beverage, pharmaceutical, general manufacturing, metal production and fabrication, military maintenance, repair, and operation (MRO), transportation, and in medical applications. Complies with ANSI Z87.1+ and for face-shield/eye protection. ***NIOSH-approved***

- Made from DuPont® super tough flame-retardant nylon that can withstand extreme cold/heat without cracking or deforming
- Large shield design (41.2 in²) accommodates safety glasses under the face shield
- Adjustable durable Pera-Lok locking ratcheting headgear with replaceable ultrasoft sweat band
- Comfortable and easily replaceable 100% cotton FR-treated face seal
- Complete headtop assembly weighs 0.46 lbs.
- Shell is 0.28 lbs.
- Air train directs air over the head and across the breathing zone, minimizing fogging
- User control of airflow direction
- Fully open-air setting to mitigate fogging
- Fully closed-air setting to channel airflow to breathing zone
- Lightweight, super comfortable 100% FR-treated face seal
- Easy-change face seal, no more nuts and bolts to fiddle around with

9937-AFFADF
*(Optional snap-on welding shield w/ ADF lens)*

Complete PAPR assembly includes:

- ***Shield***
- ***Downtube w/ FR cover***
- ***Blower***
- ***Battery***
- ***Waist belt***
- ***Charger***
- ***Flow tester***
- ***HEPA filter***
- ***Storage bag***

| Description | Order No. |
|---|---|
| EZ Air Flex Shield PAPR | 9937-G |
| EZ Air Flex Shield | 9937-BHTG |
| Optional Snap-On Welding Shield with ADF lens | 9937-AFFADF |

ALLEGRO INDUSTRIES

# GRINDING AND WELDING
# PAPR SYSTEMS

SCAN TO WATCH VIDEO

YouTube

*Video available on the ALLEGRO INDUSTRIES Channel*

www.youtube.com/AllegroIndustries

## EZ AIR FLEX GRINDING/WELDING PAPR

Our EZ Air Flex Grinding/Welding Powered Air-Purifying Respirator (PAPR) is a complete particulate system providing combined respiratory, eye, and face protection. The welding helmet features a durable flip-up visor with a grind shield below that maintains respiratory protection while grinding or inspecting welds. This motorized, lithium-ion battery-operated system provides a constant supply of fresh, filtered air over the user's face. At an APF level of 25, it creates an optimal protective pressure inside the respirator headtop keeping away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. Recommended applications are welding, assembly, facility maintenance, grinding, machine operations, and sanding. Suggested industries include automotive, food and beverage, pharmaceutical, general manufacturing, metal production and fabrication, military maintenance, repair and operation (MRO), and transportation. Complies with ANSI Z87.1+ for face-shield/eye protection. ***NIOSH-approved***

- Made from DuPont® super tough flame-retardant nylon that can withstand extreme cold/heat without cracking or deforming
- Adjustable durable Pera-Lok locking ratcheting headgear with replaceable ultrasoft sweat band
- Large shield design accommodates safety glasses under the face shield
  - Visor dimension: 7" x 5.4" x 0.040"
  - Viewing area: 41.2 sq. in.
  - Visor thickness: 0.067"
- Complete with comfortable sweatband
- Complete headtop assembly weighs 0.58 lbs.
  - Shell is 0.28 lbs.
  - Visor is 0.12 lbs.
- Direct flow into the helmet with new air-manifold system
- User control of airflow direction
  - Fully open-air setting to mitigate fogging
  - Fully closed-air setting to channel airflow to breathing zone
  - Partially closed air setting for taking the sweat out of welding
  - Lightweight, super comfortable 100% FR-treated face seal
  - Easy-change face seal, no more nuts and bolts to fiddle around with
- APF 25

Complete PAPR assembly includes:

- ▷ ***Welding shield w/ ADF lens***
- ▷ ***Downtube w/ FR cover***
- ▷ ***Blower***
- ▷ ***Battery***
- ▷ ***Waist belt***
- ▷ ***Charger***
- ▷ ***Flow tester***
- ▷ ***HEPA filter***
- ▷ ***Storage bag***

| Description | Order No. |
|---|---|
| EZ Air Flex Grinding/Welding PAPR | 9937-WADF |
| EZ Air Flex Grinding/Welding Headtop | 9937-BHTWADF |
| Replacement ADF Lens Kit | 9904-36 |

# GRINDING AND WELDING
# PAPR SYSTEMS

## EZ AIR PAPR

Our EZ Air Powered Air-Purifying Respirator (PAPR) is a complete particulate system intended for industrial applications where combined respiratory, eye, and face protection is required. It is a motorized, lithium-ion battery-operated system that provides a constant supply of fresh, filtered air over the user's face. At an APF level of 25, it creates an optimal protective pressure inside the respirator headtop keeping away harmful gases, vapors, particulates, and fumes (dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone*). Recommended applications are welding, assembly, facility maintenance, grinding, machine operations, and sanding. Suggested industries include automotive, food and beverage, general manufacturing, metal production and fabrication, military maintenance, repair and operation (MRO), and transportation.

Complete PAPR includes:

- ***Welding shield w/ Lens***
- ***Downtube w/ FR cover***
- ***Blower***
- ***Waist belt***
- ***Battery and Charger***
- ***Flow Tester***
- ***HEPA filter***
- ***Storage bag***

**Always consult an Industrial Hygienist or Safety Expert to determine if APF will be acceptable for the measured concentration level of your application.*

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

ALLEGRO INDUSTRIES

# GRINDING AND WELDING
# PAPR SYSTEMS

## EZ AIR ECONOMY PAPR

Complete PAPR assembly with 9935-X54V ADF lens:

- Filter size: 4.5" x 5.25"
- UV/IR: Up to shade 16, permanent outer coating to protect eyes
- Battery: Solar Cells primary with digital lithium-powered backup (lasts 5-10 years)
- Switching time: 1/10,000
- Light Shade Modes: 4
- TIG rating: 5 Amps
- Grind mode: Yes

| Description | Order No. |
|---|---|
| EZ Air Economy PAPR Assembly | 9935 |
| EZ Air Economy PAPR Assembly (For International Charging) | 9935-E |
| Replacement ADF Lens Kit | 9935-X54V |

## EZ AIR DELUXE PAPR

Complete PAPR assembly with 9935-X81V ADF lens:

- Filter size: 4.5" x 5.25"
- UV/IR: Up to shade 16, permanent outer coating to protect eyes
- Battery: Solar Cells primary with digital lithium-powered backup (lasts 5-10 years)
- Switching time: 1/10,000
- Light Shade Modes: 3
- TIG rating: 5 Amps
- Grind mode: Yes

| Description | Order No. |
|---|---|
| EZ Air Deluxe PAPR Assembly | 9935-DLX |
| EZ Air Deluxe PAPR Assembly (For International Charging) | 9935-DLXE |
| Replacement ADF Lens Kit | 9935-X81V |

## X54V AND X81V ADF LENS CHART

| Viewing Area (W x H) | Dark Shade | Magnetic Sensor | Warranty | Standards | Order No. |
|---|---|---|---|---|---|
| 1.9" x 3.8" | 5-14 | No | 3 years | ANSI/CSA | 9935-X54V |
| 3.2" x 3.9" | 5-14 | Yes "X-TIG" | 3 years | ANSI/CSA | 9935-X81V |

## X54V ADF LENS

- Viewing area: 1.9" x 3.8"
- UV/IR: Up to shade 16, permanent outer coating to protect eyes
- Battery: Solar Cells primary with digital lithium-powered backup (lasts 5-10 years)
- Switching time: 1/10,000
- Light Shade Modes: 4
- TIG rating: 5 Amps
- Grind mode: Yes

**Order No.** 9935-X54V (Included in Economy model)

## X81V ADF LENS

- Viewing area: 3.2" x 3.9"
- UV/IR: Up to shade 16, permanent outer coating to protect eyes
- Battery: Solar Cells primary with digital lithium-powered backup (lasts 5-10 years)
- Switching time: 1/10,000
- Light Shade Modes: 3
- TIG rating: Below 5 amps
- Grind mode: Yes

**Order No.** 9935-X81V (Included in Deluxe model)

# GRINDING AND WELDING
# PAPR SYSTEMS

*Our extensive line of accessible grinding and welding respiratory products provide workers with better comfort, less fatigue, and improved productivity. The ARCONE® AIRPLUS® PAPR systems are intended for entry-level industrial welding and grinding applications where respiratory, eye, and face protection are required. All ARCONE® models also come with a spark arrestor and pre-filter for added safety.*

## AIRPLUS® SYSTEM COMPONENTS

1

### CHOOSE A GRINDING OR WELDING HEADTOP

| | AIRSHIELD® | AIRSHIELD® FLIP FRONT | VISION® with X81VX | VISION® with BFFVX |
|---|---|---|---|---|
| | For grinding applications | For welding and grinding | For mostly welding applications | For mostly welding applications |
| | | | | |
| **Order No.** | **AP-AR-SH** | **AP-4500V-AIR** | **AP-X81VX-1500** | **AP-BFFVX-1500** |
| Viewing Area (square inches) | 41.2 | 7.1 | 12.6 | 17.05 |
| HD Technology | N/A | | ✓ | ✓ |
| Light Shade | N/A | 4 | 3 | 3 |
| Dark Shade | N/A | 9-13 | 5-14 | 5-13 |
| Variable Sensitivity | N/A | ✓ | ✓ | ✓ |
| Variable Delay | N/A | ✓ | ✓ | |
| X-Tig Mode | N/A | | ✓ | ✓ |
| Cut & Grind Mode | N/A | ✓ | ✓ | ✓ |
| TIG Rating | N/A | 25 | <5 | 5 |
| Arc Sensors | N/A | 4 | 5 | 3 |
| Digital | N/A | | ✓ | ✓ |
| Solar power | N/A | ✓ | ✓ | ✓ (also comes with USB charger) |
| **PAPR Kit Order No.** | **AP1K-AIRSH** | **AP1K-A-4500V** | **AP1K-V-X81VX** | **AP1K-V-BFFVX** |

2

### ADD BLOWER ASSEMBLY

3

### REPLACEMENT HEPA FILTER

## AIRPLUS® SYSTEMS

| Order No. | Description |
|---|---|
| AP-1 | AIRPLUS® Powered Air-Purifying System includes Battery, Battery Charger, Waist Belt, Flexible Breathing Tube and Flame-Retardant Cover, Airflow Indicator, Powered Respirator with HEPA filter, Spark Arrestor (2) and Pre-Filter (2). |

## AIRPLUS® PARTS AND ACCESSORIES

| Order No. | Description |
|---|---|
| AP-BAT-03 | AIRPLUS® Battery |
| AP-BLW-02 | AIRPLUS® Blower Unit (includes one P3 Filter) |
| AP-CHG-03 | AIRPLUS® Battery Charger |
| AP-FIL-03-4 | AIRPLUS® HEPA Filter (4-Pack) |
| AP-FIL-03-12 | AIRPLUS® HEPA Filter (12-Pack) |
| AP-FIL-04-10 | AIRPLUS® Pre-Filter (10 pack) |
| AP-WBT-01 | AIRPLUS® Waist Belt (34.5") |
| AP-WBT-02 | AIRPLUS® Heavy-Duty Leather Waist Belt (52.9") |
| AP-WBT-EXT | AIRPLUS® Waist Belt Extension (10") |
| AP-AFI-01 | AIRPLUS® AirfLow Indicator |
| AP-SA-01-2 | AIRPLUS® Spark Arrestor (2-pack) |
| AP-WBTSP-01 | AIRPLUS® Waist Belt with Suspender |
| CA-CAC-02 | Duffle Bag |

AP-FIL-03-4
AIRPLUS® HEPA filter (4-Pack)

AP-FIL-03-12
AIRPLUS® HEPA filter (12-Pack)

ARCONE®

# GRINDING AND WELDING
# PAPR SYSTEMS

AP1K-AIRSH

## AIRSHIELD® PAPR SYSTEM

ARCONE®'s AIRSHIELD® Powered Air-Purifying Respirator (PAPR) is a complete particulate system providing combined respiratory, eye, and face protection, suitable for grinding applications with large viewing area. This motorized, lithium-ion battery-operated system provides a constant supply of fresh, filtered air over the user's face. The optimal protective pressure inside the respirator headtop keeps away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. This unit is recommended for grinding, assembly, facility maintenance, machine operations, and sanding. Complies with ANSI Z87.1+ for face-shield/eye protection. ***NIOSH-approved***

- Made from DuPont® super tough flame-retardant nylon that can withstand extreme cold/heat without cracking or deforming
- Large shield design (41.2 in²/265.6 cm²) accommodates safety glasses under the face shield
- Adjustable durable Pera-Lok locking ratcheting headgear with replaceable ultrasoft sweat band
- Comfortable and easily replaceable 100% cotton FR-treated face seal
- Complete headtop assembly weighs 0.46 lbs. (208 grams)
- Shell is 0.28 lbs. (130 grams)
- Air Train directs air over the head and across the breathing zone, minimizing fogging
- User control of airflow direction
  - Fully open-air setting to mitigate fogging
  - Fully closed-air setting to channel airflow to breathing zone
  - Lightweight, super comfortable 100% FR-treated face seal
  - Easy-change face seal; remove or replace with ease
- APF 25

Complete PAPR assembly includes:

- ▷ ***Welding shield***
- ▷ ***Breathing tube with FR cover***
- ▷ ***AIRPLUS® blower unit***
- ▷ ***Lithium-ion battery***
- ▷ ***Charger***
- ▷ ***FR waist belt***
- ▷ ***Flow tester***
- ▷ ***HEPA filter***
- ▷ ***Pre-filter***
- ▷ ***Spark arrestor***
- ▷ ***Duffle bag***

| Description | Order No. |
|---|---|
| AIRPLUS®: AIRSHIELD® | AP-AR-SH |
| AP FACE SEAL FOR AIRSHIELD® | AP-HFS-02 |
| 2 PK CLEAR VISOR FOR AIRSHIELD® | AIR-CL |
| AIRPLUS® AIRDUCT ASSEMBLY W HEADGEAR | AP-AIRDUCT-01 |
| AIRPLUS® HG KIT: KNOBS, SCREWS | AP-HG-K |
| AIRPLUS® SWEATBAND 2 PACKS | AP-SWB-01 |

# GRINDING AND WELDING
# PAPR SYSTEMS

AP1K-A-4500V

## AIRSHIELD® FLIP FRONT PAPR SYSTEM

The ARCONE® flip-front Grinding/Welding Powered Air-Purifying Respirator (PAPR) is a complete particulate system providing combined respiratory, eye, and face protection. The welding flip-front features a 4500V lens with True Color Technology with a grind shield below that maintains respiratory protection while grinding or inspecting welds. This motorized, lithium-ion battery-operated system provides a constant supply of fresh, filtered air over the user's face. With an APF level of 25, it creates an optimal protective pressure inside the respirator headtop keeping away particulates of dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone. Recommended applications are welding, assembly, facility maintenance, grinding, machine operations, and sanding. Complies with ANSI Z87.1+ for face-shield/eye protection. ***NIOSH-approved***

- Made from DuPont® super tough flame-retardant nylon that can withstand extreme cold/heat without cracking or deforming
- Adjustable durable Pera-Lok locking ratcheting headgear with replaceable sweat band
- Large shield design accommodates safety glasses under the face shield
  - Viewing area: 41.2 sq. in. (26560 mm2)
  - Visor thickness: 0.067" (1.7 mm)
- Flip-up welding visor features
  - 7.1-square-inch viewing area
  - Dark shade 9-13
  - TIG Rating of 25
  - 4 Arc Sensors
  - Solar-powered welding lens; no need for replaceable batteries
- Complete headtop assembly weighs 0.58 lbs. (265 grams)
- Direct flow into the helmet with new air-manifold system
- User control of airflow direction
  - Fully open-air setting to mitigate fogging
  - Fully closed-air setting to channel airflow to breathing zone
  - Partially closed-air setting for taking the sweat out of welding
  - Lightweight, super comfortable 100% FR-treated face seal
  - Easy-change face seal
- APF 25

Complete PAPR assembly includes:

- ***Welding shield***
- ***Breathing tube with FR cover***
- ***AIRPLUS® blower unit***
- ***Lithium-ion battery***
- ***Charger***
- ***FR waist belt***
- ***Flow tester***
- ***HEPA filter***
- ***Pre-filter***
- ***Spark arrestor***
- ***Duffle bag***
- ***Headgear: 15-HG***
- ***Sweatbands: 06-HGSB-2 (2 Pack for the Front) ; 07-HGSB (1 for Rear)***

| Description | Order No. |
|---|---|
| AIRPLUS®: AIRSHIELD® | AP-AR-SH |
| AIRSHIELD® ADF FLIP FRONT | AIR-ADFFA |
| 4500V 4/9-13 REPLACEMENT | 4500V |
| PACKAGED 110X90MM COVER PLATE | 04-OP |
| 10 PACK 90 X 110 MM COVER PLATE | 04-OP-10 |
| PACKAGED 2X4 COVER PLATE | 03-OP |
| 10 PACK 2X4" COVER PLATE | 03-OP-10 |
| 2 PK CLEAR VISOR FOR AIRSHIELD® | AIR-CL |
| AP FACE SEAL FOR AIRSHIELD® | AP-HFS-02 |

ARCONE®

# GRINDING AND WELDING
# PAPR SYSTEMS

## VISION® BFFVX PAPR SYSTEM

The ARCONE® PAPR System with VISION® BFFVX welding helmet combines the long battery life from the AIRPLUS® with the large viewing area and unparalleled optical clarity of the VISION® BFFVX welding hood. This unit is intended for industrial welding applications where respiratory protection is required. With an APF level of 25, it creates an optimal protective pressure inside the respirator headtop keeping away harmful gases, vapors, particulates, and fumes (dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone*). Complies with ANSI Z87.1+ and CAN/CSA Z94.3 for face-shield/eye protection. ***NIOSH-approved***

| Description | Order No. |
|---|---|
| VISION® Helmet QUICK FACE SEAL | AP-HFS-03 |
| VISION® QUICK FACE SEAL KIT | AP-QCFS-K1 |
| AIRPLUS® AIRDUCT ASSEMBLY W HEADGEAR | AP-AIRDUCT-01 |
| BFF FILTER WITH USB CORD | BFFVX |
| PACKAGED 4X5, 5X4 COVER PLATE | 02-OP |
| 10 PACK OF 4X5, 5X4 COVER PLATE | 02-OP-10 |
| AIRPLUS® HG KIT: KNOBS, SCREWS | AP-HG-K |
| AIRPLUS® SWEATBAND 2 PACKS | AP-SWB-01 |

### *BFFVX LENS SPECIFICATION*

- *17-square-inch viewing area*
- *Light state: 3*
- *Dark state: 5-13*
- *Largest viewing area in its category*
- *HD technology*
- *Grind mode*
- *2 optical sensors, 1 magnetic sensor*
- *Fully solar-powered, with additional USB charger*

# GRINDING AND WELDING
# PAPR SYSTEMS

AP1K-V-X81VX

## VISION® X81VX PAPR SYSTEM

The ARCONE® PAPR System with VISION® X81VX welding helmet combines the long battery life from the AIRPLUS® with the unparalleled optical clarity and sensitivity of the VISION® X81VX welding hood. This unit is intended for industrial welding applications where respiratory protection is required. With an APF level of 25, it creates an optimal protective pressure inside the respirator headtop keeping away harmful gases, vapors, particulates, and fumes (dust, steel, manganese, stainless steel, chromium, galvanized steel, cadmium, lead, and ozone*). Complies with ANSI Z87.1+ and CAN/CSA Z94.3 for face-shield/eye protection. ***NIOSH-approved***

| Description | Order No. |
|---|---|
| VISION® Helmet QUICK FACE SEAL | AP-HFS-03 |
| VISION® QUICK FACE SEAL KIT | AP-QCFS-K1 |
| AIRPLUS® AIRDUCT ASSEMBLY W HEADGEAR | AP-AIRDUCT-01 |
| 81MM DIGITAL FILTER WITH X-TIG | X81VX |
| PACKAGED 4X5, 5X4 COVER PLATE | 02-OP |
| 10 PACK OF 4X5, 5X4 COVER PLATE | 02-OP-10 |
| PACKAGED 110X90MM COVER PLATE | 04-OP |
| 10 PACK 90 X 110 MM COVER PLATE | 04-OP-10 |
| AIRPLUS® HG KIT: KNOBS, SCREWS | AP-HG-K |
| AIRPLUS® SWEATBAND 2 PACKS | AP-SWB-01 |

### *X81VX LENS SPECIFICATION*

- *12.6-square-inch viewing area*
- *Light state: 3*
- *Dark state: 5-14*
- *HD Technology*
- *Grind mode*
- *4 optical sensors*
- *1 magnetic sensor*

ARCONE®

# THE AIRPLUS® SYSTEM

| Number | Description | Part Number |
|---|---|---|
| 1 | Face Seal | AIRSHIELD®/AIRSHIELD® FLIP FRONT: AP-HFS-02<br>VISION® QUICK FACE SEAL: AP-HFS-03<br>VISION® FACE SEAL: AP-HFS-01<br>*model held by fastener |
| 2 | Airduct assembly with headgear | AP-AIRDUCT-01 |
| 3 | Breathing tube & fire retardant cover<br>Fire retardant cover replacement (cover only) | AP-BTC-03<br>AP-BT3-FR |
| 4 | Flame-retardant waistbelt | AP-WBT-01 |
| 5 | Battery charger with universal plugs | AP-CHG-03 |
| 6 | Heavy-duty lithium-ion 6-cell battery | AP-BAT-03 |
| 7 | AIRPLUS® blower unit | AP-BLW-02 |
| 8 | HEPA filter (Pack of 4 or 12) | AP-FIL-03-4 (Pack of 4)<br>AP-FIL-03-12 (Pack of 12) |
| 9 | Pre-filter (10 pack) | AP-FIL-04-10 |
| 10 | Spark arrestor (2 pack) | AP-SA-01-2 |
| 11 | Airflow indicator | AP-AFI-01 |

# STORAGE & CARRY BAGS

## RESPIRATOR STORAGE BAGS

Reusable storage bags keep equipment contaminant free. Large (14" x 16") transparent bag with zipper. Made of tough 10 mil. poly to last longer and hold half-mask or full-mask sizes. Cleaning instructions are printed on bag.

| Description | Order No. |
|---|---|
| 14"w x 16"h | 2000 |

## LARGE DISPOSABLE RESPIRATOR STORAGE BAGS

Single use disposable storage bags with gusset help prevent cross contamination of any personal safety equipment such as respirators or earmuffs. These large bags come with pressure-sensitive seals where cleaning information can be recorded. Packaged with 100 in a reusable storage bag.

| Description | Order No. |
|---|---|
| 11"w x 8"d x 21"h | 4001-05 |

## EXTRA-LARGE DISPOSABLE RESPIRATOR STORAGE BAGS

Reduce personal safety equipment contamination by using these extra-large single use disposable storage bags. Built with gusset for extra space, these bags are perfect for full-masks, half-masks, and earmuffs. Pressure sensitive labels allow for cleaning documentation. Packaged with 50 in a reusable storage bag.

| Description | Order No. |
|---|---|
| 12"w x 8"d x 28"h | 4001-06 |

## RESPIRATOR AND EQUIPMENT CARRY BAGS

Belt mounted for carrying respirators, gloves, goggles, and small tools. Constructed of lightweight nylon reinforced vinyl fabric with hook-and-loop closure to protect equipment from dust and moisture. Available in half-mask and full-mask sizes.

| Description | Order No. |
|---|---|
| Half-Mask Size (7"w x 4"d x 9"h) | 2010 |
| Full-Mask Size (9"w x 5"d x 11"h) | 2020 |

## FULL-MASK STORAGE BAG

This easy-to-store 16" x 14" bag is made with cotton outer fabric and fleece inside to protect mask. A clear plastic window pocket allows for personal identification. Designed with a drawstring closure, an added locking device feature and special hook which allows you to hang bag when stored. Will fit all full-size mask respirators.

| Description | Order No. |
|---|---|
| 16"w x 14"h | 2025 |

## DELUXE FULL-MASK STORAGE BAG

This 10" diameter full-mask storage bag features a durable polyester outer shell and fleece inside that protects mask from scratches. Added features include a breathable PVC mesh covering, drawstring closure, and carrying strap designed to be used over the shoulder or for hand carry. Zippered inside and outside pockets allow extra storage for lens protectors and accessories. Hook is provided to hang bag when stored and drain hole is at base of bag. Clear plastic window pouch for personal identification. Will accommodate all sizes of full-mask respirators.

| Description | Order No. |
|---|---|
| 10" diameter x 12"h | 2025-01 |

# DONE RIGHT

**KORY NIEMI**
SENIOR WELDER

> "You're only as good as your last job. So I need consistent, efficient tools to outdo myself."

For as long as he can remember, Kory Niemi has loved working, getting physical, and taking pride in his craft. When at the crossroads between attending university or enrolling in trade school, he chose the latter, embarking on what's now become his career and passion: welding massive industrial structures.

"Since my first school project," he says, "I've always wanted to feel great about my work and to know it's the absolute best it can be."

Now a senior welder with 15 years of experience under his belt, Kory's projects are intimidating in size and complexity. His employer manufactures large industrial tanks, stacks, pressure vessels, and custom equipment, some pieces weighing up to 244 tons.

"Everything needs to run smoothly, everything needs to flow, and I need tools I can rely on." He describes the long days he spends working at heights and inside tight, uncomfortable spaces, as well as the rigorous inspections his pieces go through. "My work needs to be flawless because it goes through X-rays and tons of testing. If something fails, it delays the whole process and time gets wasted."

Kory attributes his meticulousness and commitment to precision to his family, who taught him at a young age to always do things right. "I want every weld to be perfect and I want every piece to shine," he says, adding that his desire to keep evolving and getting better often keeps him up at night. "Working isn't just something I like doing, it's something I need to do," he emphasizes.

The last and most satisfying part of each job, he says, is watching the piece leave the shop on its way to its final destination. "We have to take the doors off the warehouse to get it out, the police come to guide traffic and hydro teams lift the power lines so it can pass underneath." Once the structure disappears over the horizon, Kory heads back inside, flips down his helmet, and gets to work on his next piece.

His teacher once told him, "You're only as good as your last job" – a philosophy that continues to guide him today. "I want each job to always exceed the last one that I did. That's my drive."

WALTER
Achieve Greatness™

# 02

# HEAD AND FACE PROTECTION

ARCONE®

*ARCONE®'s above-the-neck head and face protection solutions make safety accessible to every welder. Our solutions provide superior optical clarity and sensitivity and larger viewing areas to help increase welding quality and productivity without sacrificing safety.*

# AUTO-DARKENING PROTECTION

## WELDING LENS SHADE SELECTION GUIDE

Choose the shade that's right for your welding application. Shade numbers are given as a guide only and may be varied to suit individual needs.

| Process | Electrode size in inches (mm) | Arc current (Amperes) | Minimum protective Shade | Suggested shade No. (Comfort) |
|---|---|---|---|---|
| Shielded Metal Arc Welding (SMAW) | Less than 3/32 (2.4)<br>3/32–5/32 (2.4–4.0)<br>5/32–1/4 (4.0–6.4)<br>More than 1/4 (6.4) | Less than 60<br>60–160<br>160–250<br>250–550 | 7<br>8<br>10<br>11 | —<br>10<br>12<br>14 |
| Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW) | | Less than<br>60–160<br>160–250<br>250–500 | 60<br>10<br>10<br>10 | 7<br>11<br>12<br>14 |
| Gas Tungsten Arc Welding (GTAW) | | Less than 50<br>50–150<br>150–500 | 8<br>8<br>10 | 10<br>12<br>14 |
| Air Carbon Arc (Light) | | Less than 500 | 10 | 12 |
| Cutting (CAC-A) (Heavy) | | 500–1000 | 11 | 14 |
| Plasma Arc Welding (PAW) | | Less than 20<br>20–100<br>100–400<br>400–800 | 6<br>8<br>10<br>11 | 6 to 8<br>10<br>12<br>14 |
| Plasma Arc Cutting (PAC) | | Less than 20<br>20–40<br>40–60<br>60–80<br>80–300<br>300–400<br>400–800 | 4<br>5<br>6<br>8<br>8<br>9<br>10 | 4<br>5<br>6<br>8<br>9<br>12<br>14 |
| Torch Brazing (TB) | | — | — | 3 or 4 |
| Torch Soldering (TS) | | — | — | 2 |
| Carbon Arc Welding (CAW) | | — | — | 14 |

**PRO TIP!**

As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum.

*The chart above is published in ANSI Z49.1 – "Safety in Welding, Cutting and Allied Processes" on AWS.org*

**NEW** HD

***ARCONE® LENSES OFFER BETTER OPTICAL CLARITY, SO WELDERS CAN SEE COLORS LIKE THEY'VE NEVER SEEN BEFORE.***

## HD TECHNOLOGY

See color in its truest form with ARCONE®'s new HD Technology. This innovative technology increases the range of visible light when looking through the lens, and while welding. By increasing the range of light, more natural colors can be seen, providing a clearer, more defined view of your work area.

HD Technology allows a wider range of visible light on the color spectrum, versus True Color, which tends to be more on the blue side of the spectrum, showing a slightly blue tint when looking through the lens.

*CALIFORNIA RESIDENTS • WARNING: Reproductive Harm - www.P65Warnings.ca.gov.*

# AUTO-DARKENING LENSES

*Looking for an upgrade to your existing welding lens?*
*We've got you covered with the ARCONE® SINGLES Retro-fit Lens lineup.*

- *HD Technology*
- *Compatible with most 2 x 4 welding helmets*
- *Light shade of 2.5 provides clearer view when not in use*
- *Low-power solar technology allows lens to function without drawing much energy*
- *No battery changes. Ever.*

SS240-V

S240-10

| Order No. | Description and dimensions | Light shade | Dark shade | Sensitivity | Grind mode | Delay | Tig rating | Sensors | Viewing area (sq. In.) |
|---|---|---|---|---|---|---|---|---|---|
| **SINGLES®** | **HIGH-DEFINITION TECHNOLOGY** | | | | | | | | |
| S240-8 | SINGLES HD 2x4" (2 x 4 ¼ x .2") | 2.5 | 8 | Fixed | N | N | 50 | 2 | 5.25 |
| S240-9 | SINGLES HD 2x4" (2 x 4 ¼ x .2") | 2.5 | 9 | Fixed | N | N | 50 | 2 | 5.25 |
| S240-10 | SINGLES HD 2x4" (2 x 4 ¼ x .2") | 2.5 | 10 | Fixed | N | N | 50 | 2 | 5.25 |
| S240-11 | SINGLES HD 2x4" (2 x 4 ¼ x .2") | 2.5 | 11 | Fixed | N | N | 50 | 2 | 5.25 |
| S240-12 | SINGLES HD 2x4" (2 x 4 ¼ x .2") | 2.5 | 12 | Fixed | N | N | 50 | 2 | 5.25 |
| S450-9 | SINGLES HD 4x5" (4 ½ x 5 ¼ x .2") | 2.5 | 9 | Fixed | N | N | 50 | 2 | 5.25 |
| S450-10 | SINGLES HD 4x5" (4 ½ x 5 ¼ x .2") | 2.5 | 10 | Fixed | N | N | 50 | 2 | 5.25 |
| S450-11 | SINGLES HD 4x5" (4 ½ x 5 ¼ x .2") | 2.5 | 11 | Fixed | N | N | 50 | 2 | 5.25 |
| S450-12 | SINGLES HD 4x5" (4 ½ x 5 ¼ x .2") | 2.5 | 12 | Fixed | N | N | 50 | 2 | 5.25 |
| S540-10 | SINGLES HD 5x4" (5 ¼ x 4 ½ x .2") | 2.5 | 10 | Fixed | N | N | 50 | 2 | 5.25 |
| S540-11 | SINGLES HD 5x4" (5 ¼ x 4 ½ x .2") | 2.5 | 11 | Fixed | N | N | 50 | 2 | 5.25 |
| S540-12 | SINGLES HD 5x4" (5 ¼ x 4 ½ x .2") | 2.5 | 12 | Fixed | N | N | 50 | 2 | 5.25 |
| **SUPER SINGLES VARIABLE®** | **HIGH-DEFINITION TECHNOLOGY** | | | | | | | | |
| SS240-V | SUPER SINGLES Variable 2 x 4" (2 x 4 ¼" x .25") | 3 | 6-13 | Fixed | Y | Variable | 10 | 2 | 5.25 |
| **TRADESMAN** | **Entry-level 2 x 4 retrofit auto-darkening welding lens** | | | | | | | | |
| T240-10 | Tradesman ADF 2x4 | 3 | 10 | Fixed | N | N | 50 | 2 | 5.25 |

ARCONE®

# AUTO-DARKENING LENSES

| Order No. | Description and dimensions | Light Shade | Dark Shade | Sensitivity | Grind Mode | Delay | TIG Rating | Sensors | Viewing Area (sq. in.) | Battery | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Professional-grade** | Entry-level, for welders who occasionally grind. Best options for students! | | | | | | | | | | |
| 1000F | Shade Master® Professional-Grade True Color Technology | 4 | 9-13 | Variable | Y | Variable | 25 | 2 | 6.0 | | |
| 4500V | Shade Master Digital Professional-Grade True Color Technology | 4 | 5/7/9-13 | Variable | Y | Variable | 5 amp | 4 | 7.28 | CR2450 Backup Battery | ***NEW & IMPROVED*** |
| **Digital industrial** | Industrial-grade lenses for welders who perform diverse welding work, TIG weld, and require clearest vision. | | | | | | | | | | |
| X54V | 5x4" Digital ASIC (5 ¼ x 4 ½ x .244") | 4 | 9-13 | Variable | Y | Variable | 5 | 2 | 7.25 | | |
| X54Vi | 5x4" Digital ASIC HD (5 ¼ x 4 ½ x .267") | 4 | 5-14 | Variable | Y | Variable | 5 | 4 | 7.25 | | |
| **HD digital industrial** | Industrial-grade, for welders working on complex and varied projects. ARCONE®'s most premium lens. | | | | | | | | | | |
| X81VX | Xtreme® Digital ASIC w/ X-TIG - HD 5x4" (5 ¼ x 4 ½ x .295") | 3 | 5-14 | Variable | Y | Variable | 3 | 5 | 12.6 | | |
| **XTREME®** | Industrial-grade lenses for welders who perform different tasks, TIG weld, and require a larger viewing area. | | | | | | | | | | |
| X450V | Xtreme® 4x5" Variable (4 ½ x 5 ¼ x .267") | 3 | 9-12 | Variable | Y | Variable | 5 | 4 | 12.6 | | |
| **BFF®** | Industrial-grade; for welders working on complex and varied projects. This lens has the largest viewing area in its category. | | | | | | | | | | |
| BFFVX | BFF HD Digital Lens with X-TIG | 3 | 5-13 | Variable | Y | 2 delay settings: Delay 0.1 and 2 sec. | 5 | 3 | 17 | | ***NEW & IMPROVED*** |

| Order No. | Description and dimensions | Light shade | Dark shade | Sensitivity | Grind mode | Delay | Tig rating | Sensors | Viewing area |
|---|---|---|---|---|---|---|---|---|---|
| **SHADE MASTER®** | Professional European-model lens, smaller and lighter format | | | | | | | | |
| 5500V | Shade Master® ASIC - 110x90mm | 4 | 5-14 | 8 Settings | Y | 8 Settings | 5 | 2 | 7.25 |
| 7500VX | Shade Master® ASIC w/ X-TIG & HD - 110x90mm | 3 | 5-14 | 8 Settings | Y | 8 Settings | <5 | 3 | 9.3 |

***SEE COLOR IN ITS TRUEST FORM WITH ARCONE®'S HD TECHNOLOGY.***

*This innovative technology increases the range of visible light when looking through the lens and while welding. By increasing the range of light, more natural colors can be seen, providing a clearer, more defined view of your work area.*

# REDUCE DOWNTIME SPENT SCRAPING SPATTER & REPLACING WELDING NOZZLES

5x

WALTER'S 5X LONGER-LASTING CERAMIC-COATED NOZZLES WILL **REDUCE YOUR OPERATION COSTS!**

See page 42 for all available models

WALTER ARCONE®

# WELDING HELMET SERIES

*Every welder is different. That's why we offer a wide selection of lens options, all specifically designed to help you optimize your welding productivity.*

## HAWK® WELDING HELMET SERIES

The HAWK® provides excellent head, neck and ear coverage.

▷ ***Can be retrofitted with any ARCONE® SINGLES Lens***

## CARRERA™ WELDING HELMET SERIES

The CARRERA™ ARCONE® helmet is ultra-light and has a sleek, modern wider-fit design.

▷ ***Built with many features from the premium welding hoods, but designed with budget in mind***

▷ ***Wider fit can accommodate half-mask respirators***

***NEW!***

***NEW & IMPROVED***

***NEW SPY WELDING HELMET***

| Order No. | H-0300 | S240-10-0300 | SS240-V-0300 | 1000F-0100 | 4500V-0100 | 3500V-1600 |
|---|---|---|---|---|---|---|
| **Best for:** | Passive lens for the occasional welder, DIY | Entry-level for the occasional welder, students, DIY | | Entry-level for the occasional welder, students, DIY | | |
| Viewing Area | 8.5 sq. in | 5.25 sq. in | 5.25 sq. in | 6 sq. in | 7.28 sq. in. | 12.2 sq. in |
| HD Technology | | HD | HD | | | |
| Light Shade | | 2.5 | 3 | 4 | 4 | 3 |
| Dark Shade | 10 | 10 | 6-13 | 9-13 | 5/7/9-13 | 5-8/ 9-13 |
| Variable Sensitivity | | | | ✓ | ✓ | ✓ |
| Variable Delay | | | ✓ | ✓ | ✓ | ✓ |
| X-TIG® | | | | | | |
| Mode | | | Grind, Weld | Grind, Weld | Grind, Cut, Weld | Grind, Cut, Weld |
| TIG Rating | | 50 amps | 10 amps | 25 amps | 5 amps | <5 amps |
| Arc Sensors | n/a | 2 | 2 | 2 | 4 | 4 |
| Digital | | | ✓ | | ✓ | ✓ |
| Solar powered | | ✓ | ✓ | ✓ | Solar & Battery | ✓ |

**Viewing Area:** The total area through which the user can see. Larger viewing areas tend to be preferable for welding in different positions or all-day use because they increase peripheral vision.

**HD Technology:** This innovative technology increases the range of visible light seen through the lens providing a clearer, more defined view of the work area.

**Light State:** The shade when the welding filter is not welding. The lighter the light state, the better the welder can see their work area.

**Dark State:** The range of shades that determine how dark the filter will get when the arc is struck. Required darkness depends on the welding application.

**Variable Sensitivity:** Welding lens feature that allows the user to set the sensitivity of the sensors. High sensitivity is required for low-light or low amperage applications; Low Sensitivity is ideal for intense light- or high-amperage applications.

**Variable Delay:** Lens feature that allows the welder to set the number of seconds it takes the lens to switch back to its light shade after the weld is complete.

## VISION® WELDING HELMET SERIES

The VISION® helmet is light, slim, and will fit into tight areas, all while offering optimal face, ear and neck coverage.

- ▷ ***Best-in-class optical clarity and sensitivity***
- ▷ ***Patented cover plate quick-change system***
- ▷ ***Dust and water resistance***
- ▷ ***Meet ANSI and CSA standards***

## ORBIT™ WELDING HELMET

Three high-definition auto-darkening lenses provide optimal peripheral vision

- ▷ ***24-square-inch viewing area thanks to 3 lenses that improve peripheral view of surroundings***
- ▷ ***Wider-fit design made for comfortable welding***

***NEW & IMPROVED*** ***NEW & IMPROVED***

| Order No. | V-1500 | 1000F-1500 | 4500V-1500 | X54V-1500 | X54VI-1500 | X81VX-1500 | BFFVX-1500 | BFFVX3-1800 |
|---|---|---|---|---|---|---|---|---|
| **Best for:** | Passive lens for the occasional welder, DIY | Entry-level for the occasional welder, students, DIY | | Professional for the everyday welder | | Industrial for the everyday welder working on different types of complex projects | | Industrial-grade; for welders needing great peripheral vision |
| Viewing Area | 25.5 sq. in | 6 sq. in. | 7.28 sq. in | 7.25 sq. in. | 7.25 sq. in. | 12.6 sq. in | 17 sq. in | 24 sq. in. (17.05 main, 2 x 3.5 sq. in ADF side-lenses) |
| HD Technology | | | | HD | HD | HD | HD | HD |
| Light Shade | | 4 | 4 | 4 | 4 | 3 | 3 | 3 |
| Dark Shade | 10 | 9-13 | 5/7/9-13 | 9-13 | 5-14 | 5-14 | 5-13 | 5-13 |
| Variable Sensitivity | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Variable Delay | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| X-TIG® | | | | | | ✓ | ✓ | ✓ |
| Cut & Grind Mode | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| TIG Rating | | 25 amps | 5 amps | 5 amps | 5 amps | 3 amps | 5 amps | 3 amps |
| Arc Sensors | n/a | 2 | 4 | 2 | 4 | 5 | 3 | 3 |
| Digital | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Solar powered | | ✓ | Solar & Battery | ✓ | ✓ | ✓ | Solar/USB rechargeable battery | Solar/USB rechargeable battery |

**X TIG®:** A mode designed for welding in an environment with obstructed views. Sensors are triggered by the electromagnetic field created when welding.

**Cut & Grind Mode:** Ideal if you frequently switch between welding, cutting, or grinding.

**Tig Rating:** The minimum light or amperage for which the auto-darkening lens will activate.

**Arc Sensors:** An increased number of arc sensors makes the lens more sensitive and provides better lens response.

**Digital:** Whether or not the auto-darkening lens has a digital display.

**Solar Powered:** Whether or not the lens has a solar battery. ARCONE®'s VISION® BFFVX hood can last up to 6 months on a single charge.

ARCONE®

# HAWK® WELDING HELMET SERIES

*The HAWK® is perfect for general welding applications. It is one of the lightest helmets, comfortable for all-day use. The HAWK® provides excellent head, neck, and ear coverage.*

## HAWK® BENEFITS

- *2x4" viewing area*
- *03-OP outside and inside cover plate*
- *04-HG replacement headgear*
- *Can be retrofitted with any ARCONE® SINGLES lens*
- *HD Technology*
- *Good face, ear, and neck face coverage*
- *Lightweight hood*
- *Wide fit, can be worn with glasses underneath*

## ALL HAWK® HOODS INCLUDE

HD Technology Solar-powered

*NEW & IMPROVED*

| Order No. | T240-10-0300 | S240-10-0300 | SS240-V-0300 |
|---|---|---|---|
| Viewing Area | 5.25 sq. in | 5.25 sq. in | 5.25 sq. in |
| HD Technology | HD | HD | HD |
| Light Shade | 3 | 2.5 | 3 |
| Dark Shade | 10 | 10 | 6-13 |
| Variable Sensitivity | Fixed Sensitivity | Fixed Sensitivity | Fixed Sensitivity |
| Variable Delay | | | ✓ |
| Grind Mode | ✓ | | ✓ |
| TIG Rating | 50 amps | 50 amps | 10 amps |
| Arc Sensors | 2 | 2 | 2 |
| Solar powered | ✓ | ✓ | ✓ |
| Inside and Outside Cover Plate | 03-OP | 03-OP | Ext: 03-OP Int: 03-IP Digital Display |

*For full accessories listing, please see page 570*

# CARRERA™ WELDING HELMET SERIES

0100

0110

0141

0171

## CARRERA™ BENEFITS

- *Unparalleled optical clarity and sensitivity reduces eye strain*
- *True Color Technology broadens viewable color range for better view of the weld pool*
- *Lightweight shell for all-day comfort*
- *Wider fit can accommodate an elastomeric half-mask underneath*

*Available with different decal versions!*

***NEW & IMPROVED***

| | 1000F-0100 | 4500V-0100 |
|---|---|---|
| **Best for:** | Budget-friendly for welders who occasionally grind. | For welders who occasionally grind and appreciate a larger viewing area. |
| Viewing Area | 6 sq. in. | 7.23 sq. in |
| Light Shade | 4 | 4 |
| Dark Shade Range | 9-13 | 5/7/9-13 |
| Variable Sensitivity | ✓ | ✓ |
| Variable Delay | ✓ | ✓ |
| Grind Mode | ✓ | ✓ |
| TIG Rating | 25 amps | 5 amps |
| Arc Sensors | 2 | 4 |
| Solar-Powered | ✓ | Solar & Battery |
| Outside Cover Plate | 04-OP | 04-OP |
| Inside Cover Plate | 03-OP | 03-OP |

*For full accessories listing, please see page 570*

## ALL CARRERA™ HOODS INCLUDE

ARCONE®

# SPY™ AUTO-DARKENING WELDING HELMET

*The ARCONE® SPY™ helmet is your versatile, go-to hood for all welding projects, perfect for students and industrial welders alike seeking performance and advanced features. Combining a large viewing area with a wide shade range, this hood provides an unparalleled vision. With its comfort-first design, the SPY™ helmet is designed to keep welders productive all day, regardless of the environment.*

## SPY™ BENEFITS

- *Large 12.2 square inch viewing area with wide variety of shade options for versatility to perform a variety of welding tasks*
- *TrueColor Technology broadens viewable color range for better view of the weld pool*
- *Ratchet headgear with integrated foam pad allows for maximum all-day comfort*
- *Powered by replaceable CR2450 battery & solar panel*
- *Can be used for low-amp TIG welding*

## SPY™ HELMET INCLUDES

Grind mode | True Color Technology | Wide Dark Shade Range

| Order No. | 3500V-1600 |
|---|---|
| Viewing Area | 12.2 sq. in. |
| Digital | ✓ |
| Light Shade | 3 |
| Dark Shade Range | 5-8 / 9-13 |
| Sensitivity | 10 levels |
| Delay | 0.2 to 1 second |
| Mode | Grind, Cut & Weld |
| TIG Rating | <5 amps |
| Arc Sensors | 4 |
| Solar powered | ✓ |
| Outside cover plate | 02-OP |
| Inside cover plate | 07-IP |

*For full accessories listing, please see page 570*

# VISION® WELDING HELMET SERIES

1500

1523

1555

## VISION BFFVX BENEFITS

- *17.05-square-inch viewing area improves weld pool vision as well as peripheral view of surroundings*
- *Unparalleled optical clarity and sensitivity*
- *X-TIG mode for welding when views are obstructed*
- *Slim fit design made for welding in tight areas*
- *Solar powered means no battery changes. Ever.*
- *USB charger for on-the-go charging*
- *Patented cover-plate quick-change system*
- *New & Improved! Digital lens*

***LARGEST VIEWING AREA***

***NEW & IMPROVED***

## ALL VISION® HOODS INCLUDE

Best-in-class optical clarity and sensitivity | Wide Dark Shade Range | HD Technology | Patented cover-plate Quick Release system | Solar-powered

16-HG

***NEW!***
***VISION® helmet improved headgear!***

### INCREASED COMFORT FOR THE WELDER

ARCONE®'s new and improved headgear includes a comfort gel pad specially designed for all-day wear.

| | X54V-1500 | X54VI-1500 | X81VX-1500 | BFFVX-1500 |
|---|---|---|---|---|
| **Best for:** | Professional-grade; for welders who TIG weld and like clear vision | Professional-grade; budget-friendly for welders who perform wide range of tasks and like clear vision | Industrial-grade; for welders working of complex varied projects. This is ARCONE®'s most premium hood. | Industrial-grade; for welders working of complex varied projects requiring good vision. |
| Viewing Area | 7.25 sq. in. | 7.25 sq. in. | 12.6 sq. in | 17.05 sq. in |
| HD Technology | HD | HD | HD | HD |
| Light Shade | 4 | 4 | 3 | 3 |
| Dark Shade | 9-13 | 5-14 | 5-14 | 5-13 |
| Variable Sensitivity | ✓ | ✓ | ✓ | ✓ |
| Variable Delay | ✓ | ✓ | ✓ | |
| X-TIG® | | | ✓ | ✓ |
| Grind Mode | ✓ | ✓ | ✓ | ✓ |
| TIG Rating | 5 amps | 5 amps | 3 amps | 5 amps |
| Arc Sensors | 2 | 4 | 5 | 3 |
| Digital | ✓ | ✓ | ✓ | ✓ |
| Solar powered | ✓ | ✓ | ✓ | ✓ (Also includes USB charger) |
| Outside Cover Plate | 02-OP | 02-OP | 02-OP | 02-OP |
| Inside Cover Plate | 08-IP | 08-IP | 04-OP | 02-OP |

*For full accessories listing, please see page 570*

WALTER

# ORBIT™ WELDING HELMET

*Three high-definition auto-darkening lenses provide optimal peripheral vision*

## *ORBIT™ BFFVX3 BENEFITS*

- *24-square-inch viewing area thanks to 3 lenses that improve peripheral view of surroundings*
- *External controls for shade adjustment and grind mode*
- *Unparalleled optical clarity and sensitivity*
- *X-TIG mode for welding when views are obstructed*
- *Wider-fit design made for comfortable welding*
- *Solar-powered*
- *USB charger included for on-the-go back-up charging*

## *ORBIT™ HOODS INCLUDE*

| Order No. | BFFVX3-1800 |
|---|---|
| **Best for:** | Industrial-grade; for welders needing great peripheral vision |
| Viewing Area | 24 sq. in. |
| HD Technology | ✓ |
| Light Shade | 3 |
| Dark Shade Range | 5-13 |
| Side Windows Dark Shade | 6 |
| Variable Sensitivity | ✓ external controls |
| Variable Delay | 0.1 to 2 seconds |
| X-TIG | ✓ |
| Grind Mode | ✓ external controls |
| TIG Rating | < 5 amps |
| Arc Sensors | 3 |
| Digital | ✓ |
| Solar-Powered | ✓ |
| Outside Cover Plate | 10-OP |
| Inside Main Cover Plate | 02-OP |
| Inside Side Cover Plates | 11-IP |

*For full accessories listing, please see page 570*

***INCLUDES RACHET HEADGEAR WITH INTEGRATED GEL PAD FOR ADDED COMFORT***

WALTER
WELD NOZZLE
WALTER

ARCONE®

# ACCESSORIES

*ARCONE®'s standard-size cover plates are lightweight and can be used in most standard-sized welding helmets.*

Can also be used with other manufacturer's helmets.

## INSIDE AND OUTSIDE COVER PLATES

| Order No. | Order No for pack of 10 | Description | Compatible lens | Compatible Helmets* |
|---|---|---|---|---|
| 02-OP | 02-OP-10 | For inside and outside | BFFVX, S450, S540, X450V | VISION® Series |
| 02-OP | 02-OP-10 | For outside | 3500V, X54V, X54Vi | VISION® Series |
| 03-OP | 03-OP-10 | For inside and outside | S240 | Hawk® Series |
| 03-OP | 03-OP-10 | For outside | SS240-V | Hawk® Series |
| 03-IP | | For inside | SS240-V | Hawk® Series |
| 04-OP | 04-OP-10 | For inside | X81VX | VISION® Series |
| 04-OP | 04-OP-10 | For outside | 1000F, 4500V | CARRERA™ Series |
| 07-IP | | For inside | 3500V | Spy™ Series |
| 08-IP | | For inside | X54V, X54Vi | VISION® Series |
| 10-OP | | For outside | BFFVX3 | Orbit™ Series |
| 02-OP | | For inside main lens | BFFVX3 | Orbit™ Series |
| 11-IP | | For inside side lenses | BFFVX3 | Orbit™ Series |

**Cover plates can be used with any standard-size welding helmet.*

02-OP

## INSIDE COVER PLATE SHADE UPGRADES

| Order No. | Description |
|---|---|
| 03IP-1 | Passive Shade 1 Upgrade for 2 x 4" helmets |
| 03IP-2 | Passive Shade 2 Upgrade for 2 x 4" helmets |
| 04IP-1 | Passive Shade 1 Upgrade for CARRERA™ ARCONE® 90 x 110 mm helmets (04-OP-1) |
| 04IP-2 | Passive Shade 2 Upgrade for CARRERA™ ARCONE® 90 x 110 mm helmets (04-OP-2) |

*ARCONE® headgear and sweatbands can be retrofitted into any ARCONE® welding helmet to get you the perfect, customized fit.*

03-HGSB AND 06-HGSB-2

## HEADGEARS AND SWEATBANDS

| Order No. | Description |
|---|---|
| 03-HGSB | FatBoy® Ultra-absorbent sweatband |
| 04-HG | Economical ratchet headgear with cloth sweatband |
| 04-HGSB-5 | Lightweight felt sweatbands (5-Pack) |
| 06-HG | ComfaGear® ratchet headgear with deluxe sweatband |
| 06-HGSB-2 | Deluxe sweatbands (2-Pack) |
| 07-HGSB | Single rear felt sweatband |
| 15-HG | ComfaGear® ratchet headgear with deluxe sweatband and large knobs |
| 16-HG | VISION® headgear ratchet with added gel pad for added comfort |
| 16-HGGP | Replacement gel pad for 16-HG |
| 17-HG | Industrial headgear with deluxe rear foam sweatband |
| 17-HGSB-R | Rear foam sweatband |

16-HG

# ARCONE® DIOPTER/CHEATER LENSES

- *The Standard Magnifying Lens is perfect for helmets like the VISION® that have a built-in mag lens holder*
- *The Universal Magnifying Lens replaces your 2 x 4" rear cover plate, ideal with our CARRERA™ ARCONE® welding helmet, or with the mounts for any manufacturer's 5 x 4" or 4 x 5" welding helmets*

UML-300

## STANDARD MAGNIFYING LENS

*(Mag lens holder required)*

| Order No. | Description |
|---|---|
| VML-100 | 1.00 Strength |
| VML-150 | 1.50 Strength |
| VML-200 | 2.00 Strength |
| VML-250 | 2.50 Strength |

## UNIVERSAL MAGNIFYING LENS

*(Fits all manufacturer's mount helmets, kit is included)*

| Order No. | Description |
|---|---|
| UML-100 | 1.00 Strength |
| UML-150 | 1.50 Strength |
| UML-200 | 2.00 Strength |
| UML-250 | 2.50 Strength |
| UML-300 | 3.00 Strength |

ARCONE®

# ARCONE VISION® REPLACEMENT PARTS

| | Inside Cover Plates | | | | Outside Cover Plate | Headgear | | | | Sweatband | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Front | | Rear | |
| **Lens Model** | 02-OP | 04-OP | 08-IP | 02-IP-AF (Optional) | 02-OP | 04-HG | 06-HG | 15-HG | 16-HG | 04-HGSB-5 | 06-HGSB-2 | 07-HGSB | 16-HGGP |
| BFFVX | ✓ | | | ✓ | ✓ | | | | ✓ | | ✓ | | ✓ |
| X81VX | | ✓ | | ✓ | | | | | ✓ | | ✓ | | ✓ |
| X54V | | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | ✓ |
| X54VI | | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | ✓ |
| Passive | | | | † | ✓ | ✓ | | | | ✓ | | | |

# ARCONE® VISION® 911 REPLACEMENT PARTS

| | Inside Cover Plate | Outside Cover Plate | Headgear | Sweatband |
|---|---|---|---|---|
| **Lens type** | 03-OP | 04-OP | 04-HG | 04-HGSB-5 |
| ADF | ✓ | ✓ | ✓ | ✓ |
| Passive | | ✓ | ✓ | ✓ |

# ARCONE® HAWK® REPLACEMENT PARTS

| | Inside Cover Plate | | | Outside Cover Plate | Headgear | Sweatband |
|---|---|---|---|---|---|---|
| **Lens type** | 03-OP | 03-IP (SS240-V*) | 03-OP (Other) | 03-OP | 04-HG | 04-HGSB-5 |
| ADF | ✓ | | | ✓ | ✓ | ✓ |
| Passive | | | | ✓ | ✓ | ✓ |

# ARCONE® CARRERA™ REPLACEMENT PARTS

| | Inside Cover Plate | Outside Cover Plate | Headgear | | Sweatband | | | Center Section | Thumbscrew |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Front | Front | Rear | | |
| **Lens type** | 03-OP | 04-OP | 04-HG | 17-HG | 04-HGSB-5 | 06-HGSB-2 | 17-HGSB-R | CAR-CS | CAR-SCR |
| ADF | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | |
| Passive | | ✓ | ✓ | | | | | | |

# ARCONE® SPY™ REPLACEMENT PARTS

| | Inside Cover Plates | Outside Cover Plate | Headgear | Sweatband | |
|---|---|---|---|---|---|
| | | | | Front | Rear |
| **Lens Model** | 07-IP | 02-OP | 17-HG | 17-HGSB-R | 06-HGSB |
| ADF | ✓ | ✓ | ✓ | ✓ | ✓ |

# WALTER ORBIT™ REPLACEMENT PARTS

| | Inside Cover Plates | | Outside Cover Plate | Headgear | Sweatband | |
|---|---|---|---|---|---|---|
| | | | | | Front | Rear |
| **Lens Model** | 11-IP (2 pack for side lenses) | 02-OP (center lens) | 10-OP | 16-HG | 06-HGSB-2 | 16-HGGP |
| BFFVX3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

# WELDING ACCESSORIES

BAG-CANVAS-01

| Order No. | Description |
|---|---|
| CG-01 | Leather chin guard, flexible, protects chin and neck. One size fits all ARCONE® Helmets & most other Welding Helmets. |
| CA-CAC-02 | Polyester/Canvas duffle bag |
| BAG-HELMET-01 | Nylon drawstring bag |

BAG-HELMET-01

CG-01
*Helmet sold separately*

CA-CAC-02

ARCONE®

# BROWGUARDS & VISORS

- *All models provide full face and eye protection against sparks, spatter, small particles, and non-hazardous liquids.*
- *Made for most work applications including grinding, cutting, brazing, and machining.*
- *Browguards offer a sleek wrap-around design that can be worn comfortably with impact-resistant safety glasses*
- *Meet CSA Z94.3 standards*

| | Cutting & Grinding | | | | | Brazing and plasma cutting | |
|---|---|---|---|---|---|---|---|
| Order No. | BG-FL | BG-1* | BG1-2CL* | BG2-2CL | BG4-K | BG-FF-5 | BG-FF-8 |
| Application | Entry-level, basic protection | Professional and industrial cutting & grinding | | Industrial cutting & grinding, best face protection. Includes a chin guard (for BG4-K only). | | Cutting & brazing | Plasma cutting |
| Dimensions | 8 x 15 ½ x 0.04 in | 16 x 8 x 0.06 in | 16 x 9 x 0.06 in | 16 x 9 x 0.06 in | 16 x 9 x 0.06 in | 16 x 9 x 0.06 in | 16 x 9 x 0.06 in |
| Material | P.E.T.G. | Injection-moulded Polycarbonate | | | | Injection-moulded Polycarbonate | |
| Crown Size | 4 in | 3 in | 3 in | 4 in | 3 in | 4 in | 4 in |
| Headgear Material | Nylon | Nylon | Nylon | Nylon | Nylon | Nylon | Nylon |
| Ratchet Suspension | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

** CSA approved.*

### *DIMENSIONS*
Larger visor dimensions provide more protection for ears, face, and neck.

### *MATERIALS*
Visor material; visors made from injection-molded polycarbonate provide better protection, longer life, and are more resistant to scratching.

### *CROWN SIZE*
Larger crown sizes provide more head protection.

### *HEADGEAR MATERIAL*
Nylon provides longer life than HDPE.

# BROWGUARDS & VISORS

## AIRSHIELD®

| Order No. | Description |
|---|---|
| AIR-SH | AIRSHIELD® High-Impact Grinding Visor (7" x 5.4" x .040") |
| AIR-HEL | AIRSHIELD® Replacement Shell |
| AIR-CL | AIRSHIELD® Visor (8.75" x 5.5" x .040") (2-Pack) |
| AIR-WHA-04 | Adapter to attach ARCONE® welding helmet to AIRSHIELD® using 04-HG |
| AIR-WHA-10 | Adapter to attach ARCONE® welding helmet to AIRSHIELD® using 15-HG |
| SUHHA-03 | Hard hat Adapter, Slotted for V-Crown Hard hats |

** does not meet CSA*

AIR-SH
AIRSHIELD®

## VISORS

ARCONE® visors provide the protection you need.

Visors are molded from strong polycarbonate (injection-molded ), not thin materials or materials that yellow over time. Visors are available in two different styles: a more traditional square-fit (168CL-PC) or a more rounded-fit for additional protection (2CL-PC). Visors come in clear, dark green, IR3 and IR5 shades. The 168 and 02 visors are CSA approved when used in combination with our BG1 Browguard. ARCONE® cost-performance durable visors fit most manufacturer browguards.

| | Order No. | Size | Description |
|---|---|---|---|
| Rounded design Polycarbonate Injection-moulded | 2CL-PC | 16" x 9" x .060" | Clear (each) |
| | 2CL-PC-50 | 16" x 9" x .060" | Clear, 50-Pack |
| | 2DGN-PC | 16" x 9" x .060" | Dark Green (each) |
| | 2DGN-PC-50 | 16" x 9" x .060" | Dark Green, 50-Pack |
| Chin guard | FS-CH | N/A | Clear Polycarbonate chin guard for 2CL Visor |
| Square design polycarbonate Injection-moulded | 168CL-PC | 16" x 8" x .060" | Clear (each) |
| | 168CL-PC-50 | 16" x 8" x .060" | Clear, 50-Pack |
| | 168DG-PC | 16" x 8" x .060" | Dark Green (each) |
| | 168DG-PC-50 | 16" x 8" x .060" | Dark Green, 50-Pack |
| | 168IR3-PC | 16" x 8" x .060" | IR3 (each) |
| | 168IR3-PC-50 | 16" x 8" x .060" | IR3, 50-Pack |
| | 168IR5-PC | 16" x 8" x .060" | IR5 (each) |
| | 168IR5-PC-50 | 16" x 8" x .060" | IR5, 50-Pack |
| PETG - Flat stock | 1910CL-PE-10 | 19" x 9.75" x .040" | Clear visor, 10-pack |
| | 1910DG-PE-10 | 19" x 9.75" x .040" | Dark Green visor, 10-pack |
| | 1910IR5-PE-10 | 19" x 9.75" x .040" | IR5 visor, 10-pack |
| PETG | FLV-0815040-10 | 8" x 15.5" x .040" | Clear FL visor, 10-Pack |
| | FLV-0815040-100 | 8" x 15.5" x .040" | Clear FL visor, 100-Box |
| | FLV-0815060-10 | 8" x 15.5" x .060" | Clear FL visor, 10-Pack |
| | FLV-0815060-100 | 8" x 15.5" x .060" | Clear FL visor, 100-Box |

2CL-PC
CLEAR VISOR

168IR5-PC
IR5 VISOR

1910DG-PE
DARK GREEN PETG

FVL-0815060-10
CLEAR FL VISOR

ARCONE®

# HARD HATS

*Our slotted hard hat is made from polyethylene and is offered with ratchet headgear.*

White V-Crown Hard hat
w/ VISION® helmet
and SUHHA-02 adapter

***Available V-CROWN Combinations:***
- ▷ ***Welding Helmet***
- ▷ ***Visor with FSHHA-01 Adapter***

## SMOOTH DOME

Type 1

Sleek and modern style is ideal for welding applications and attachments. Rain trough and slotted design high-density polyethylene shell to accommodate all the latest accessories such as hearing protection, face shields, forestry kits or welding protection. Ratchet adjustment to properly fit all head sizes large or small. Attachment points for chin straps.
HH-T1 CSA Type 1 Class E and ANSI Type I Class E.

| Order No. | Description | Color |
|---|---|---|
| HH-T1-OR | Safety hard hat Type 1 | Orange |
| HH-T1-WR | Safety hard hat Type 1 | White |
| HH-T1-YR | Safety hard hat Type 1 | Yellow |

## V-CROWN

Type 2

Hard hat with HDPE shell with rain trough, foam liner, 4-point nylon suspension, ratchet adjustment and 4 anchor points for chin strap. Foam liner to offer added lateral front, side and back protection.
HH-T2 CSA Type 2 Class E and ANSI Type II Class E.

| Order No. | Description | Color |
|---|---|---|
| HH-T2-OR | Safety hard hat Type 2 | Orange |
| HH-T2-WR | Safety hard hat Type 2 | White |
| HH-T2-YR | Safety hard hat Type 2 | Yellow |

## HARD HAT ADAPTERS

| Order No. | Description |
|---|---|
| SUHHA-02 | Hard hat adapter for welding helmet ARCONE®, MSA, North, Honeywell, Dynamic, and more |
| SUHHA-03 | Hard hat adapter for welding helmet - Slotted for ARCONE® HH-VC series only |
| UHHA-01 | Universal hard hat adapter (for non-slotted hard hats) |
| FSHHA-01 | Universal hard hat adapter for visor |
| FSHHA-02 | Hard hat slotted adapter for visor |
| FSHHA-03 | Fibre-metal hard hat adapter for welding helmet |

FSHHA-01
*(168 Visor & HH not included)*

SUHHA-02

SUHHA-03

UHHA-01

FSHHA-03

FSHHA-01

FSHHA-02

# 03

# ERGONOMICS

ALLEGRO INDUSTRIES

*ALLEGRO's extensive line of ergonomic solutions was designed to improve comfort and worker safety to help keep fabricators productive. These products combine high-quality materials and design engineering for long-lasting all-day wear.*

# KNEE PADS

*ALLEGRO knee pads are designed with superior comfort and support in mind. No matter the job at hand, our knee pads feature lightweight yet strong construction to keep you comfortable so you can focus on the work.*

## MAXKNEE

### MAXKNEE

For rough abrasive surfaces

Perfect for kneeling on rough abrasive surfaces, MaxKnee is excellent for any application that demands maximum performance. It is designed with a hard poly cap that resists abrasion and works with an extra-long pad for optimum comfort. Available with two comfortable, fully adjustable elastic straps connecting with hook-and-loop closures.

**Order No.** 7102

### *QUICKMAX*

Quick-release buckle eliminates readjustments

MAXKNEE is also available with a durable quick-release buckle that eliminates the need to re-adjust the straps.

**Order No.** 7102-Q

### GEL MAXKNEE

For maximum comfort for all-day wear

Hard poly-cap design features a silica gel insert pad for maximum comfort that cushions and protects the knee cap. Two fully adjustable elastic straps with hook-and-loop closure offer comfort and stability.

**Order No.** 7102-GEL

## FLEXKNEE

### FLEXKNEE

For long-lasting wear

Designed with lightweight pads capped by large abrasion-resistant rubber caps for long-lasting wear. The wrap-around rubber cap design allows maximum flexibility while maintaining a secure fit. Excellent for non-slip, hard surface work environments. Designed with hook-and-loop closures.

**Order No.** 7103

### BLACK FLEXKNEE

The same Flexknee you know and love, in Black

The favored pad of government and municipal workers, the Black FlexKnee offers the same features as our popular FlexKnee, including hook-and-loop straps.

**Order No.** 7103-02

### GEL FLEXKNEE

For maximum comfort against hours of kneeling

Designed with a large abrasion-resistant poly cap, the silica gel cushion inserts and protects the knee cap by dispersing pressure that can build from hours of kneeling. 1 ½" nylon reinforced elastic dual straps and hook-and-loop closures offer durability and stability, not to mention comfort and flexibility.

**Order No.** 7103-GEL

### *QUICKFLEX*

FlexKnee is also available with a durable quick-release buckle that eliminates the need for readjusting the straps.

**Order No.** 7103-Q

## ULTRA FLEXKNEE

Designed with extended knee protection to limit falling debris

Ultra-durable, flexible, and lightweight, our Ultra FlexKnee provides maximum comfort for any wearer's knee. The flexible eco-friendly PVC material is ribbed across the kneeling surface for non-slip stability. It is designed to hold its shape better and is constructed with inner foam rubber for greater comfort and water resistance. Unique, easy-to-adjust rubber straps help to offer a comfortable, custom fit.

| Description | Order No. |
|---|---|
| Ultra FlexKnee | 6987 |
| Replacement straps 4/pkg. | 6988-04 |

## ECONOMY NON-MARKING FLEXKNEE

For delicate floor protection

Protect delicate flooring with our non-marking rubber FlexKnee. Extra-long ribbed cap provides workers with additional working surface and prevents slipping and sliding. Elastic straps with hook-and-loop closure ensures a snug fit.

**Order No.** 7103-04

## NON-MARKING FLEXKNEE

For delicate floor protection

A non-marking polyurethane cap is featured on our FlexKnee to allow workers to move around the work area without marking or damaging a delicate surface such as tiling. Hook-and-loop straps allow for a custom fit and make donning quick and easy.

**Order No.** 7103-01

# SOFTKNEE

## ULTRA GEL FLEXKNEE

Designed with extended knee protection to limit falling debris

This knee pad is ultra-durable, flexible, and comfortable for all-day use, day after day. The lightweight poly material is ribbed across the knee for easy flexing while providing maximum comfort above the knee. The kneeling surface is designed to hold its contoured shape and is constructed with a silica gel pad insert which cushions the kneecap allowing maximum protection and comfort. Unique and easy-to-adjust rubber straps offer a comfortable, custom fit.

| Description | Order No. |
|---|---|
| Ultra Gel Flex Knee | 6987-GEL |
| Replacement straps 4/pkg. | 6988-04 |

## SOFTKNEE

Designed for convenience in non-abrasive environments

A tough blend of cloth and EVA foam makes these pads extra comfortable, and easy to wear in non-abrasive environments. These lightweight yet durable knee pads can be worn over or under pants as they slip on and off quickly without straps or buckle attachments.

**Order No.** 7105

## DELUXE SOFTKNEE

Ultra-comfortable, with work surface protection

An extra-wide foam pad makes this knee pad the most comfortable in the industry. Designed with a tough water-resistant cover and no kneecaps, it is perfect for jobs where protecting the work surface is a primary concern. 1 ½" elastic straps are adjustable and are equipped with hook-and-loop closures.

**Order No.** 6998

## Best for welding

### LEATHER KNEE PAD

For welding and concrete work

This knee pad features tough abrasion-resistant leather for maximum protection and a soft cushion back for increased comfort. Elastic straps with hook-and-loop closures ensure a secure fit. Because of its resistance to heat and fire, this pad is ideal for welding and construction applications.

**Order No.** 6991

### WELDING KNEE PAD

Designed for welding applications

Tough heat-resistant leather that wraps over the top and down the back of the pad offers maximum protection from flying sparks. It features soft cushioning to ensure comfort, elastic straps that maintain a secure fit with the convenient quick-release buckle, and a non-marking poly cap that increases protection. Because of its resistance to heat, this knee pad is ideal for welding or any construction application such as concrete or flooring work.

**Order No.** 6991-01Q

### STANDARD KNEE PAD

For wet, damp areas

One-piece molded rubber construction offers greater comfort at a low cost. Its surface grid provides skid resistance even in wet areas and superior protection on hard surfaces such as home and garden use. It also features adjustable hook-and-loop straps that ensure a secure fit.

**Order No.** 7101

MADE IN THE USA

## CONTOUR KNEE PADS

### ECONOMY CONTOUR KNEE PAD

Non-slip design

Lightweight and low-profile, our 1/2" outer foam rubber design allows for greater comfort with flexible spring back memory. These pads are lined for extra absorption and the ribbed kneeling surface helps to minimize slippage. The 1 ½" hook-and-loop straps add stability and adjust for a custom fit.

**Order No.** 7100-02

### CONTOUR KNEE PAD

Designed for masonry work

This soft 1/2" foam rubber pad is contoured to the shape of the knee. It's designed to allow easy side-to-side movement on hard surfaces and can be used in wet environments. The contoured shape allows the 1 ½" hook-and-loop straps to be worn more loosely for greater comfort. Perfect for laying brick and other masonry work.

**Order No.** 7100

MADE IN THE USA

## GEL KNEE

Designed for abrasion-resistant applications and all-day wear

This neoprene knee pad features a soft, flexible, and abrasion-resistant riveted poly cap for added durability, and a silica gel pad insert for maximum comfort. A 2"-wide strap features a hook-and-loop closure that ensures a snug fit.

**Order No.** 6986-GEL

## DELUXE QUICKFLEX

Designed to provide the most all-around protection

Offering the most protection available, our Deluxe QuickFlex is a completely unique knee pad. The large, 3/4" thick pad has a hinge design that provides protection and ease of movement above and below the cap, and a wrap-around design for greater side protection. The large poly cap is molded to conform to the shape of the knee for maximum protection. The double strap system uses 1 ½" straps with deluxe quick-release buckles and allows for easy adjustment and a snug fit while ensuring greater stability.

**Order No.** 6990

## DELUXE COMFORT KNEE

For delicate floor protection

Maximum support, comfort, and protection are provided by EVA foam, inner PVC pads, and a neoprene back with breathing holes. The nylon material will not mark delicate flooring, while the neoprene straps are comfortable, and the hook-and-loop closures allow for an easy, adjustable fit.

**Order No.** 6985

## VALUE PLUS KNEE PAD

Designed for resistance to oily environments

The most cost-effective knee pad in dirty, dusty environments. Comes with two fully adjustable straps with hook-and-loop closure for a custom fit. The poly cap is stitched on for greater strength and won't allow particles underneath to cause discomfort. Tough polyester fabric exterior protects a high-density lightweight foam core, and the long pad provides extra comfort.

**Order No.** 6999

ALLEGRO INDUSTRIES

# BACK SUPPORT

*We offer an impressive line of ergonomic products including our top-of-the-line patented Flexbak® featuring a unique three-part support system providing a custom fit and unrivaled lumbar support. Our deluxe Spanbak offers dual side closure providing abdominal support and comfort.*

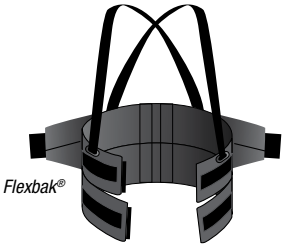
## FLEXBAK®

### The most versatile back brace in the industry

Flexbak® helps reduce back stress and strain with a design so unique it's patented. Its three-part support is the key to a system that provides maximum back support with ease of movement. Because no two bodies are exactly the same, this 9" medical-style truss uses two internal support panels above and below the waist surrounded by an elastic third panel. These combine to produce maximum bracing without pinching or riding up. Available in four sizes. Suspenders included.

| Size | Waist | Order No. |
|---|---|---|
| Small | 26" to 36" | 7115-01 |
| Medium | 36" to 48" | 7115-02 |
| Large | 48" to 58" | 7115-03 |
| X Large | 58" to 68" | 7115-04 |

PATENTED BY ALLEGRO



*Flexbak®*

## SPANBAK

### Detachable suspenders for added convenience

Spanbak features a two-part closing design in breathable spandex backed with rubber grip webbing to help prevent ride-up. Polyethylene plastic stays provide support and strength. This easy-care, washable belt is 8" wide and available in five sizes (S through XXL) in black. Includes detachable suspenders.

| Size | Waist | Order No. |
|---|---|---|
| Small | 33" to 36" | 7190-01 |
| Medium | 37" to 40" | 7190-02 |
| Large | 41" to 44" | 7190-03 |
| X Large | 45" to 48" | 7190-04 |
| XX Large | 49" to 54" | 7190-05 |

## BODYBELT

### Widest back support with detachable suspenders

The Bodybelt offers a serious 9" wide back support with two-part closure. The medical-style elastic back and non-elastic side panels include polyethylene plastic stays with gripping material to eliminate ride-up. It features removable, fully adjustable suspenders and is available in black in four sizes.

| Size | Waist | Order No. |
|---|---|---|
| Small | 26" to 36" | 7160-01 |
| Medium | 36" to 48" | 7160-02 |
| Large | 48" to 58" | 7160-03 |
| X Large | 58" to 68" | 7160-04 |

## ALL FIT BACK SUPPORT

### Widest belt design with added breathability

High-performance 9 1/2" wide belt design offers full support and fit for most wearers from small to large. Comfortable neoprene pad fits center of back over spine. Breathable Spandex, vented V-pulls and front padded cushions all allow added comfort. Four polyethylene plastic stays mean greater fit. Comes in reusable zipper storage bag.

| Size | Waist | Order No. |
|---|---|---|
| Small – Large | 26" to 48" | 7170 |

## ECONOMY BELT

### Elastic back panel for increased comfort

This economical support is designed with an 8" elastic back panel, positive hook-and-loop material front panels, and 3" wide elastic V-shaped side pulls. Includes wide detachable elastic suspenders. Available in black, in four sizes.

| Size | Waist | Order No. |
|---|---|---|
| Small | 26" to 32" | 7176-01 |
| Medium | 32" to 38" | 7176-02 |
| Large | 38" to 47" | 7176-03 |
| X Large | 47" to 56" | 7176-04 |

## ECONOMY HI-VIZ

### Hi-Viz color perfect for road work

Offers the added safety of high-visibility green suspenders and side elastic pulls. Excellent for road work.

| Size | Waist | Order No. |
|---|---|---|
| Small | 26" to 32" | 7178-01 |
| Medium | 32" to 38" | 7178-02 |
| Large | 38" to 47" | 7178-03 |
| X Large | 47" to 56" | 7178-04 |

## LIFTBAK

### Maximum support for all-day wear

A rugged 5" belt with rigid foam that forms to the body for maximum support. Buckle and locking closure hold securely yet allows easy adjustment. Brushed lining and soft edges add to comfort and a wide 2" nylon strap provides additional support to the waterproof foam core. Its rugged nylon shell is designed for freedom of movement for easy, all-day wear.

| Size | Waist | Order No. |
|---|---|---|
| Small | 26" to 36" | 7130-01 |
| Medium | 36" to 48" | 7130-02 |
| Large | 48" to 58" | 7130-03 |
| X Large | 58" to 68" | 7130-04 |

## BACK SUPPORT REUSABLE BAG

Our handy zipper bag is perfect for storage. A clear plastic front for easy viewing of product and polypro breathable sides allow the belt to air out while being stored. The hanging loop allows the bag to be easily displayed. Comes as standard packaging for Spanbak, Deluxe Spanbak, Economy Belts, Economy Hi-Viz, All Fit and Body Belt.

ALLEGRO INDUSTRIES

# WRIST AND ELBOW SUPPORT

## DUAL-FLEX™

### For firm wrist support

Designed for firm support, the Dual-Flex™ contains four stays on the front and back of the wrist to limit flexion (downward) and extension (upward) movement and encourage neutral wrist position. The straps wrap completely around the wrist for added support. Easy to put on, it is lined to keep hands dry and fits both right and left hands. Available in black.

| Size | Order No. |
|---|---|
| Small | 7212-01 |
| Medium | 7212-02 |
| Large | 7212-03 |
| X Large | 7212-04 |

## RIST-RAP

### For lighter wrist support with movability

An elastic wrapping for the wrist that helps support it while lifting or during other activities. Shown is Rist-Rap with Thumb. The thumb loop provides added support. Sold in pairs or individually in black. One size fits all.

| Size | Color | Order No. |
|---|---|---|
| One Size | Black (Pair) | 7211 |
| | Black w/ thumb (Ea.) | 7211-03 |

## DELUXE ELBOW PAD

### For strong elbow support without damaging surfaces

This strong support offers abrasion-resistant flexible caps backed by soft foam padding. Fully adjustable hook-and-loop closures along with elastic sleeves provide a comfortable, custom fit. One size fits all.

| Size | Color | Order No. |
|---|---|---|
| One Size | Black (Pair) | 7104 |

## FLEXRIST®

### For light support

The comfortable all-around support of neoprene that can be worn on either the right or left hand. Available in black.

| Size | Color | Order No. |
|---|---|---|
| Regular | Black | 7111-01 |
| X Large | Black | 7111-02 |

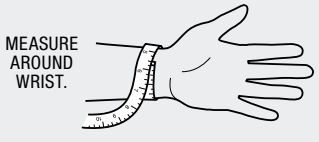
## THIN FLEXRIST®

### For light support underneath work gloves

Same great features as Flexrist®, but slightly thinner to fit easily into work gloves.

| Size | Color | Order No. |
|---|---|---|
| One Size | Black | 7311 |

## WRIST SUPPORT SIZING INFORMATION




| | |
|---|---|
| X Small | 4 1/2" to 5 1/2" |
| Small | 5 1/2" to 6 1/2" |
| Medium | 6 1/2" to 7 1/2" |
| Large | 7 1/2" to 8 1/2" |
| X Large | 8 1/2" to 9 1/2" |

# HEAT STRESS PRODUCTS

*Our cooling products are designed to protect and provide comfort for workers who must function in high-heat environments. We cater to the demands of construction workers, firefighters, welders, and factory workers. Our water-activated products are made from a unique non-toxic polymer that will keep you cool from 24 to 72 hours.*

## VORTEX COOLING OR HEATING VEST

Delivering constant and adjustable cooling or heating, the Vortex Vest is especially popular for workers in confined spaces as well as foundries, steel mills, asbestos abatement, and paint baking operations. With no moving parts, the vortex tube forces a simple heat exchange to separate compressed air into hot and cold airstreams. The PVC vest delivers continuous cooled or heated air through its perforated, inner lining. This vest offers full range of motion and can be worn under protective clothing.

| Description | Order No. |
|---|---|
| Vest w/ Plastic Cooler, Std | 8300 |
| Vest only, Std | 8300-01 |
| Vest only, XL, 200 lbs. + | 8300-01L |
| Plastic Vortex Cooler w/ Snap Tite Plug | 8300-95 |
| Plastic Vortex Heater w/ Snap Tite Plug | 8310-95 |
| Metal Vortex Heater/Cooler w/ Snap Tite Plug | 8300-90 |
| Metal Vortex Cooler w/ Snap Tite Plug, 25 CFM | 9991-25 |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## LOW PROFILE VORTEX COOLING VEST

This air vest is designed to afford cooling to personnel in circumstances where air conditioning is not feasible. The vest connects to any existing clean compressed air source. Engineered jets keep the wearer continuously cooled with refrigerated air. The airflow enhances the body's natural evaporative cooling. The airflow additionally keeps the grit, dust, and fibers out. Available with a vortex cooler for additional cooling effect.

**Order No.** 8450

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

### *VEST HOSE*

| Description | Order No. |
|---|---|
| Air Source Hose 50' w/ Snap Tite Coupler, plug | 8400-50 |
| Air Source Hose 100' w/ Snap Tite Coupler, plug | 8400-100 |

## STANDARD VEST FOR COOLING INSERTS

Ideal for under HazMat suits and other protective clothing. This vest features four pockets for inserts, zipper front, and adjusts with hook-and-loop over shoulder and side straps to help achieve a snug fit. Added comfort with 2 layers of 100% cotton. Royal Blue. (Inserts not included)

| Size | Weight | Chest | Order No. |
|---|---|---|---|
| Large | 100-175 lbs. | 34" to 44" | 8413-03 |
| X Large | 175-250 lbs. | 46" to 48" | 8413-04 |
| XX Large | 250 lbs. + | 50" to 52" | 8413-05 |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

### *FEATHER ICE INSERT*

MADE IN THE USA

Freezes like ice but stays cold up to three times as long. Reusable packs deliver a constant temperature of below 50° F. The pliable powder conforms to your body when frozen. Non-toxic. Lightweight. 4/pkg.

**Order No.** 8413-11

### *PHASE CHANGE INSERT*

MADE IN THE USA

Safe, non-toxic PCM (Phase Change Material) freezes in a freezer or ice water (perfect for use on the job site). Delivers a constant temperature of 65° F for several hours depending on application, environmental and physiological variables. Each insert measures 6" x 14" and weighs just 16 oz. 4/pkg.

**Order No.** 8414-11

## HIGH-VIZ COOLING VEST

This vest is ideal for wearing where Hi-Viz safety apparel is needed in hot working conditions. It features four pockets for inserts, a zippered front, hook and loop adjustment straps over the shoulders, and side straps to help achieve a perfect fit. Added comfort is provided with 2 layers of 100% cotton. Flame-resistant. Available in Hi-Viz yellow color.
Meets ANSI 107-2020
NOTE: Inserts not included

| Size | Weight | Chest | Order No. |
|---|---|---|---|
| Large | 100-175 lbs. | 34" to 44" | 8413-03HV |
| X Large | 175-250 lbs. | 46" to 48" | 8413-04HV |
| XX Large | 250 lbs. + | 50" to 52" | 8413-05HV |

## STANDARD COOLING VEST

Our Standard Cooling Vest is lightweight and when soaked in water for 5 to 9 minutes, provides all-day cooling comfort. Snap closures allow for quick-access. Available in royal blue in 3 sizes, made from 100% cotton, and is hand washable.

| Size | Weight | Chest | Order No. |
|---|---|---|---|
| Standard | 100-175 lbs. | 34" to 44" | 8401-03 |
| X Large | 175-250 lbs. | 46" to 48" | 8401-04 |
| XX Large | 250 lbs. + | 50" to 52" | 8401-05 |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## STANDARD COOLING WRAP

Our water-activated lightweight and comfortable wrap can be tied around the neck or forehead for all-day cooling comfort. Ideal for all types of working environments and outdoor recreation. Available in royal blue in 100% cotton and is hand washable.

**Order No.** 8405

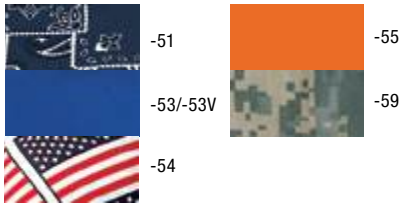
YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## COOL OFFS

Keep cool all-day long with our dual-use Cool Offs. Quilted into four sections for an even distribution of hydration material. Just soak in cold water for 5 to 9 minutes. The cooling crystals go to work to keep you cool for days. Lightweight and comfortable, 38" long (longest on market). It can be worn around neck or tied as a headband. Our unique button-hole closure allows for a secure fit. The outer shell is 100% cotton and comes in 6 colors and patterns.

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

| Colors and Patterns | Order No. |
|---|---|
| Cowboy Blue | 8405-51 |
| Royal Blue, Velcro | 8405-53V |
| Royal Blue | 8405-53 |
| American Flag | 8405-54 |
| Orange | 8405-55 |
| Digital Camouflage | 8405-59 |



## DELUXE NECK COOLING WRAP

Stay extra cool by soaking wrap in the cooler or chill in the freezer. This royal blue wrap is lightweight, comfortable, and low-profile. The 3" width band size increases cooling effect. Hook-and-loop closures keep this band in place. 100% cotton. Hand washable.

**Order No.** 8405-01

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## COOLING SKULL CAP

These four disks are lightweight and low-profile, but after soaking for 5 to 9 minutes, you can enjoy a cooling effect for up to 72 hours. The contoured design allows for a great fit and attaches with hook-and-loop tabs into any type of hat, including hard hats.

**Order No.** 8411-01

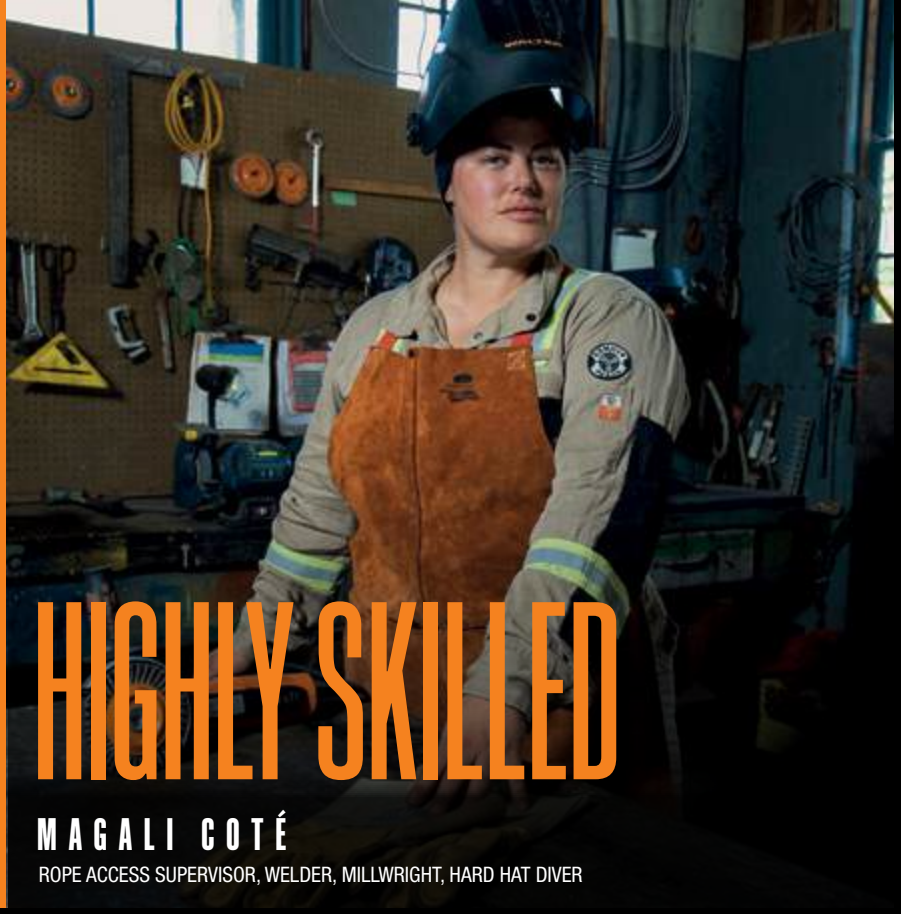
YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## HARD HAT COOLING LINER

Simply soak this liner for 5 to 9 minutes in cold water and feel instant relief that lasts all-day. Attaches to the hard hat harness with an easy elastic/hook-and-loop closure. One size fits all. Liner is 100% cotton and comes in royal blue. Hand washable.

**Order No.** 8407

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries



# HIGHLY SKILLED

## MAGALI COTÉ

ROPE ACCESS SUPERVISOR, WELDER, MILLWRIGHT, HARD HAT DIVER

> "I've worked on hydro dams, mines, huge industrial projects. I need to perform and I need my tools to perform, too."

Magali Côté's never lived a boring day in her life. The freewheeling Jane of all Trades has half a dozen job titles, a persistent need to be under water, and an Instagram account revealing a life of adventure in some of the world's most extreme environments.

Professionally, she works as a commercial diver, rope access supervisor, welder, and millwright - dangling from bridges, cutting and grinding the sides of hydro dams, and solving problems at remote northern job sites where the sun never sets. On her days off she sets free-diving records and takes spontaneous 30-hour road trips to San Diego on her Triumph.

While crafting a career to align with our passions has become increasingly common, Magali's taken the concept, molded it to perfection and buffed it to a lustrous shine. She lives by her motto, "If somebody made it, I can fix it," and believes that with the right tools and attitude, anything is possible and every job can be made easier.

"I got to where I am now by always saying yes," she says when explaining how she developed her vast array of skills and credentials. "When I was five, my dad gave me a set of wood chisels and that's how I realized I loved working with my hands. When I got older and left home, he gave me my first toolbox along with the philosophy that life is all about adding new tools to your box."

Today, her toolboxes are as loaded as her work schedule. But when it's time to get down to business, her needs are simple: "For me, tools should be practical and powerful," she explains. "Whether I'm hanging off the side of a refinery or welding 3000 feet underground in a potash mine, I need tools I can count on, they need to be an extension of my hands."

Besides having the right equipment and experience, Magali regards her grit and creativity as the real drivers of her success. "I look at these huge job sites like they're jungle gyms where I need to use my brain to get the job done right and done safely," she says. "And I've learned a lot about myself my constantly having to tolerate such extreme conditions."

While some might think being a woman in such a male-dominated industry might be a challenge, Magali confidently explains that it isn't: "I'm a champion of women in this industry and there's nothing a man can do that we can't do. My advice for women starting in this field is to do your best, stay consistent, keep doing your thing and you'll blend right in."

WALTER
Achieve Greatness™

# 04

# EYE PROTECTION

ARCONE®

*WALTER eye protection solutions help workers see clearly, for longer. Our protective eyewear is made from high-quality materials made to keep users safe. Choose from a wide array of models with different finishes for the application at hand in addition to a variety of lens cleaning options for the ultimate eye protection in any environment.*

# SAFETY GLASSES

*ARCONE® safety glasses provide protection and comfort and are available in many different styles to suit your needs and budget.*

Each style is lightweight and durable. Some styles come with IR3 and IR5 lenses for cutting and brazing.
Meets ANSI Z87 or Z87+ safety standards and CSA Z94.3.

| Lens Selection Guide | Light Transmission Percentage |
|---|---|
| **CLEAR** Allows maximum light transmission. Suitable for indoor or low-light conditions. | ***91%*** |
| **INDOOR/OUTDOOR** Offers protection from bright indoor lighting or some sunlight. | ***50%*** |
| **SMOKE** Excellent tint for all-around outdoor use, this is a typical sunglass tint. | ***15%*** |
| **AMBER** Perfect for low or flat-light conditions both inside and outside. | ***80%*** |
| **MOCHA** Excellent filter for blue light and outside sunlight conditions. | ***22%*** |
| **CHOCOLATE** Excellent filter for blue light and outside sunlight conditions. | ***22%*** |
| **SILVER MIRROR** An additional filter reducing outdoor glare. Ideal for sunny conditions. | ***16%*** |
| **COLORED MIRROR** Mirror surface over a smoke lens diminishes glare and absorbs outdoor light. Ideal for sunlight. | ***16%*** |
| **IR LENSES** Use when infrared protection is required, typically in cutting or brazing applications. Consult safety director for shade 3 or 5 operation. | |

## SE-1000 SERIES

The SE-1000 Series proves that quality and performance can come in an economical package. Offers superior eye protection and ultra-lightweight face coverage. Wide fit. Available in multiple lens/finish configurations.
Blocks up to 99.9% UV. Meets Z87.1 and CSA Z94.3.

| Order No. | Frame Color | Lens Type | Finish | Coating | Anti-Scratch |
|---|---|---|---|---|---|
| SE-1000 | Clear | Clear | None | Hard-coated | ✓ |
| SE-1001 | Gray | Smoke | Gray Mirror | Hard-coated | ✓ |
| SE-1002 | Tan | Indoor/Outdoor | I/O Mirror | Hard-coated | ✓ |
| SE-1003 | Blue | Smoke | Blue Mirror | Hard-coated | ✓ |
| SE-1004 | Purple/Blue | Smoke | Purple/Blue | Hard-coated | ✓ |
| SE-1005 | Amber | Amber | None | Hard-coated | ✓ |
| SE-1006 | Smoke | Smoke | None | Hard-coated | ✓ |
| SE-1007 | Clear | Mocha | None | Hard-coated | ✓ |

# SE-2000 SERIES

The SE-2000 Series offers added comfort features such as rubber tips as well as diopter models. The SE-2000 series also comes in various lens/finish combinations, including IR5 for cutting & brazing operations. Blocks up to 99.9% UV. Meets Z87.1 & CSA Z94.3.

| Order No. | Frame Color | Lens Type | Finish | Coating | Anti-Scratch | Strength |
|---|---|---|---|---|---|---|
| SE-2000 | Clear | Clear | None | Uncoated | | N/A |
| SE-2001 | Gray | Smoke | Silver Mirror | Hard-coated | ✓ | N/A |
| SE-2002 | Tan | Indoor/Outdoor | I/O Mirror | Hard-coated | ✓ | N/A |
| SE-2003 | Blue | Smoke | Blue Mirror | Hard-coated | ✓ | N/A |
| SE-2004 | Purple/Green | Smoke | Purple/Green | Hard-coated | ✓ | N/A |
| SE-2005 | Amber | Amber | None | Hard-coated | ✓ | N/A |
| SE-2006 | Smoke | Smoke | None | Hard-coated | ✓ | N/A |
| SE-2007 | Mocha | Mocha | Brown Mirror | Hard-coated | ✓ | N/A |
| SE-2008 | Smoke | IR5* | None | Hard-coated | ✓ | N/A |
| SE-2009 | Smoke | IR3* | None | Hard-coated | ✓ | N/A |
| SE-2100 | Clear | 1.0 Diopter Bifocal | None | Hard-coated | ✓ | +1.0 |
| SE-2150 | Clear | 1.5 Diopter Bifocal | None | Hard-coated | ✓ | +1.5 |
| SE-2200 | Clear | 2.0 Diopter Bifocal | None | Hard-coated | ✓ | +2.0 |
| SE-2250 | Clear | 2.5 Diopter Bifocal | None | Hard-coated | ✓ | +2.5 |
| SE-2300 | Clear | 3.0 Diopter Bifocal | None | Hard-coated | ✓ | +3.0 |

**Do not wear IR3 and IR5 while driving*

# SE-7000 SERIES

The SE-7000 series features added ear and nose comfort as well as ample eye and face coverage; suitable for safety use as well as everyday wear. The SE-7000 series comes in multiple lens/finish combinations including IR3 and IR5, as well as silver, blue, and red mirror. Blocks up to 99.9% UV. Meets Z87.1 & CSA Z94.3.

| Order No. | Frame Color | Lens Type | Finish | Coating | Anti-Scratch |
|---|---|---|---|---|---|
| SE-7000 | Black Gloss | Clear | Anti-fog | Hard-coated | ✓ |
| SE-7001 | Black Gloss | Smoke | Silver Mirror | Hard-coated | ✓ |
| SE-7002 | Black Gloss | Indoor/Outdoor | I/O Mirror | Hard-coated | ✓ |
| SE-7003 | Black Gloss | Chocolate | Blue Revo Mirror | Hard-coated | ✓ |
| SE-7004 | Black Gloss | Mocha | Red Revo Mirror | Hard-coated | ✓ |
| SE-7008 | Black Gloss | IR5* | None | Hard-coated | ✓ |
| SE-7009 | Black Gloss | IR3* | None | Hard-coated | ✓ |

**Do not wear IR3 and IR5 while driving*

ARCONE®

# SAFETY GOGGLES

*ARCONE® safety goggles have been designed with both safety and comfort in mind, available in a variety of styles, colors, and lens options.*

All goggles also come with a pouch that doubles as a lens cleaner.
Meets ANSI Z87 safety standards.

## ACTION

The Action Goggle provides additional protection with its adjustable strap and interior pads that provide all-day comfort and an extra seal around the eyes.

| Order No. | Frame Color | Lens Type | Finish | Coating |
|---|---|---|---|---|
| G-ACT-A1101 | Flat Black | Clear | Silver Mirror | Hard-coated |
| G-ACT-B1204 | Black Gloss | Smoke | Blue/Purple Revo | Hard-coated |

## CORONADO

A clean, low-cut padding around the eyes increases protection as well as comfort. Removable temples give way to a strap should you desire a tighter fit. Looking great has never been safer.

| Order No. | Frame Color | Lens Type | Finish | Coating |
|---|---|---|---|---|
| G-COR-A1301 | Flat Black | IR3 | Mirror finish | Hard-coated |

## THE FLY

The Fly is easily recognizable by the large round viewing area. Whether you are outdoors or working in an environment where you need full coverage, the Fly is your perfect choice.

| Order No. | Frame Color | Lens Type | Finish | Coating |
|---|---|---|---|---|
| G-FLY-A1101 | Flat Black | Clear | Silver Mirror | Hard-coated |
| G-FLY-B1202 | Black Gloss | Smoke | Yellow/Orange Mirror | Hard-coated |
| G-FLY-A1301 | Flat Black | IR3 | None | Hard-coated |

# SAFETY GOGGLES AND ACCESSORIES

## HOLLYWOOD

Hollywood goggles provide a hip style without compromising comfort.
Thick foam completely surrounds the eyes ensuring no penetration.
Removable temples give way to a strap should you desire a tighter fit.
Diopter inserts available from 1.0 to 3.0 in half-shade increments.

| Order No. | Frame Color | Lens Type | Finish | Coating |
|---|---|---|---|---|
| G-HOL-B1205 | Black Gloss | Smoke | Blue/Green Mirror | Hard-coated |
| G-HOL-A1501 | Flat Black | IR5 | Mirror Finish | Hard-coated |

## HOLLYWOOD DIOPTERS

| Order No. | Diopter |
|---|---|
| D-HOL-1.0 | +1.00 Strength |
| D-HOL-1.5 | +1.50 Strength |
| D-HOL-2.0 | +2.00 Strength |
| D-HOL-2.5 | +2.50 Strength |
| D-HOL-3.0 | +3.00 Strength |

## G-CLIP

The G-Clip is another eyewear option that provides IR protection and comfort
for cutting and brazing. The G-Clip can be used to protect against the sun's infrared.
To use, clip these removable lenses onto regular eyeglasses.

| Order No. | Lens Type | Finish | Coating | Anti-Scratch |
|---|---|---|---|---|
| G-CLIP-05 | IR5 | None | Hard-coated | ✓ |

ALLEGRO INDUSTRIES

# LENS CLEANING

*ALLEGRO's quick-dry, alcohol-based, anti-fog, anti-static lens care solutions provide everything you need to effectively clean and care for your eyewear, helping you and your team work safely and efficiently. From pre-moistened lens cleaning wipes to lens cleaning stations, our wide assortment is available in a wide variety of packaging options to meet your site's specific needs.*

**Order No.** 0350-200PU

**Order No.** 0350-20PPD

**Order No.** 0350-20PP

## EYEWEAR CLEANING WIPES

Perfect for cleaning eyewear, these 100 individually wrapped pre-moistened wipes feature anti-fog, anti-static, silicone-free cleaning. Excellent on glass or polycarbonate lenses, the large 5" x 8" wipes are stored in a wall-mounted cardboard dispenser. Dimensions: 4 3/4"w x 2 5/8"d x 9"h

MADE IN THE USA

| Description | Order No. |
|---|---|
| 100/box | 0350 |
| Bulk (1000) | 0350-1000 |

## BUCKET EYEWEAR CLEANING WIPES

This easy-to-use container offers a bulk pack of 200 individually wrapped lens cleaning towelettes in a 6" x 7" clear reusable plastic globe. Can be table- or wall-mounted.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 200/bucket | 0350-20 |

## CANISTER LENS WIPES

Easy-to-use canister design allows for quick access to wipes. 100 pre-moistened 5" x 8" wipes. Canister dimensions: 3 3/4"w x 6 1/2"h

MADE IN THE USA

| Description | Order No. |
|---|---|
| 100/canister | 0353 |

YouTube

*Video available on the ALLEGRO INDUSTRIES Channel*

www.youtube.com/AllegroIndustries

## LARGE DISPOSABLE CLEANING STATION

Designed for busy work sites, this disposable station features a 16 oz. anti-static, anti-fog, non-silicone lens cleaner dispenser and 1200 non-abrasive, low-lint 5" x 8" tissues in a heavy-duty, recyclable cardboard tabletop or wall-mounted dispenser. Dimensions: 8 3/4"w x 5"d x 12 3/4"h

MADE IN THE USA

| Description | Order No. |
|---|---|
| 1200/container | 0355 |

## SMALL DISPOSABLE CLEANING STATION

Features 600 easy-dispensing non-abrasive, low-lint 5"x 8" lens tissues and an 8 oz. anti-static, anti-fog, non-silicone lens cleaner that removes dirt and oil from glasses and lenses. The heavy-duty, recyclable cardboard dispenser may be mounted to the wall or used as a tabletop dispenser. Dimensions: 7"w x 5 1/8"d x 8 1/4"h

MADE IN THE USA

| Description | Order No. |
|---|---|
| 600/container | 0355-01 |

## PLASTIC DISPOSABLE CLEANING STATION

This attractive disposable plastic container dispenses 760 soft, non-abrasive, low-lint tissues and 8 oz. anti-static, anti-fog, non-silicone cleaning liquid. Wall mounts with either double-sided tape (included) or mounting holes. Dimensions: 4 3/4"w x 3 1/4"d x 12"h

MADE IN THE USA

| Description | Order No. |
|---|---|
| 760/container | 0351 |

# BUILT TO LAST

**ROB REID**

IRONWORKER & GENERAL FOREMAN

"Everything I built is still standing. It's an accomplishment."

The job of an ironworker is both physically demanding and often dangerous. "You need a little more backbone than most to do the crazy job that we do."

Meet Rob Reid, a proud ironworker for over 20 years.

Rob has always been drawn to the metalworking industry. At the age of 17, he was already working as a steel fabricator building plywood mills. However, spending the scorching summer months in the shop wasn't for him. His solution: get out on the field and start building.

Throughout the years, Rob contributed to the construction of several infrastructure mega projects. In fact, one of the things he likes the most about his job is knowing that the fruit of his labor will most likely pass the test of time and remain standing for many more generations.

Rob has recently worked on the world's longest cable-stayed bridge connecting two countries: The Gordie Howe Bridge. It is over 120ft wide and over 780ft high. The Bridge between Windsor, Ontario, and Detroit, Michigan will be among the top five longest bridges in North America.

We asked Rob about the challenges of working at great heights and having cranes and pieces above his head. "You can't think about the danger. It becomes an everyday thing!" Rob says. "Safe tools allow me to do a better job, so I can focus on the task at hand. We already face a lot of hazards on-site, so safety is key."

If you need help with something on the site, Rob is your go-to guy. He's always there to try to make everyone's job easier by sharing his tricks of the trade and tips for working more efficiently. And he does so with the best of attitudes: "I believe I'm a pretty easygoing guy. I'm just trying to make everybody's day go by easier. There is no sense in bringing the grouchy to work, so I'm always smiling and laughing." When asked what sets him apart from his coworkers, without hesitation, he said: "experience."

"I'm just proud to be an ironworker."

Rob has no intention of stopping or retiring anytime soon. "I don't see an end yet, I just keep going". Just like every structure, he works on, Rob is built to last.

WALTER
Achieve Greatness™

# 05
# AIR SAMPLING

ALLEGRO INDUSTRIES

# AIR SAMPLING PRODUCTS

*Working in atmospheres likely to contain dangerous particulates requires reliable constant air monitoring. Keep your team safe with ALLEGRO's industry-leading air sampling products that provide continuous monitoring to keep workers safe from mold, asbestos, lead and other particulates.*

## JARLESS SAMPLING PUMP

Lightweight and low maintenance, this rotary vane sampler has a sampling range of 0-30 LPM and is an excellent resource for sampling asbestos (25mm cassettes), lead (37mm cassettes) and mold. This sampler is the best value in the market today, meets OSHA and AHERA standards and comes complete with six feet of vinyl tubing, inline filters, rubber feet, for stability, handle, and built-in switch. Optional adjustment aluminum stand. Weight: 10 lbs.

| Description | Order No. |
|---|---|
| T-101 Jarless Sampling Pump with Stand | 9801 |
| T-101 Jarless Sampling Pump without Stand | 9801-88 |

## FLOW METER

Our flow meter is separate from the pump to allow the user to set the flow for more than one pump with the same meter. Features an expanded scale and includes necessary adapters for use with particulate cassettes. 0-20 LPM.

**Order No.** 9804-03

MADE IN THE USA

### 1 *LEAD CASSETTE*

MADE IN THE USA

This 37mm, MCE cassette is .8µm mixed cellulose ester and is specifically designed for lead sampling. Note: Use with 9804-19 adapter

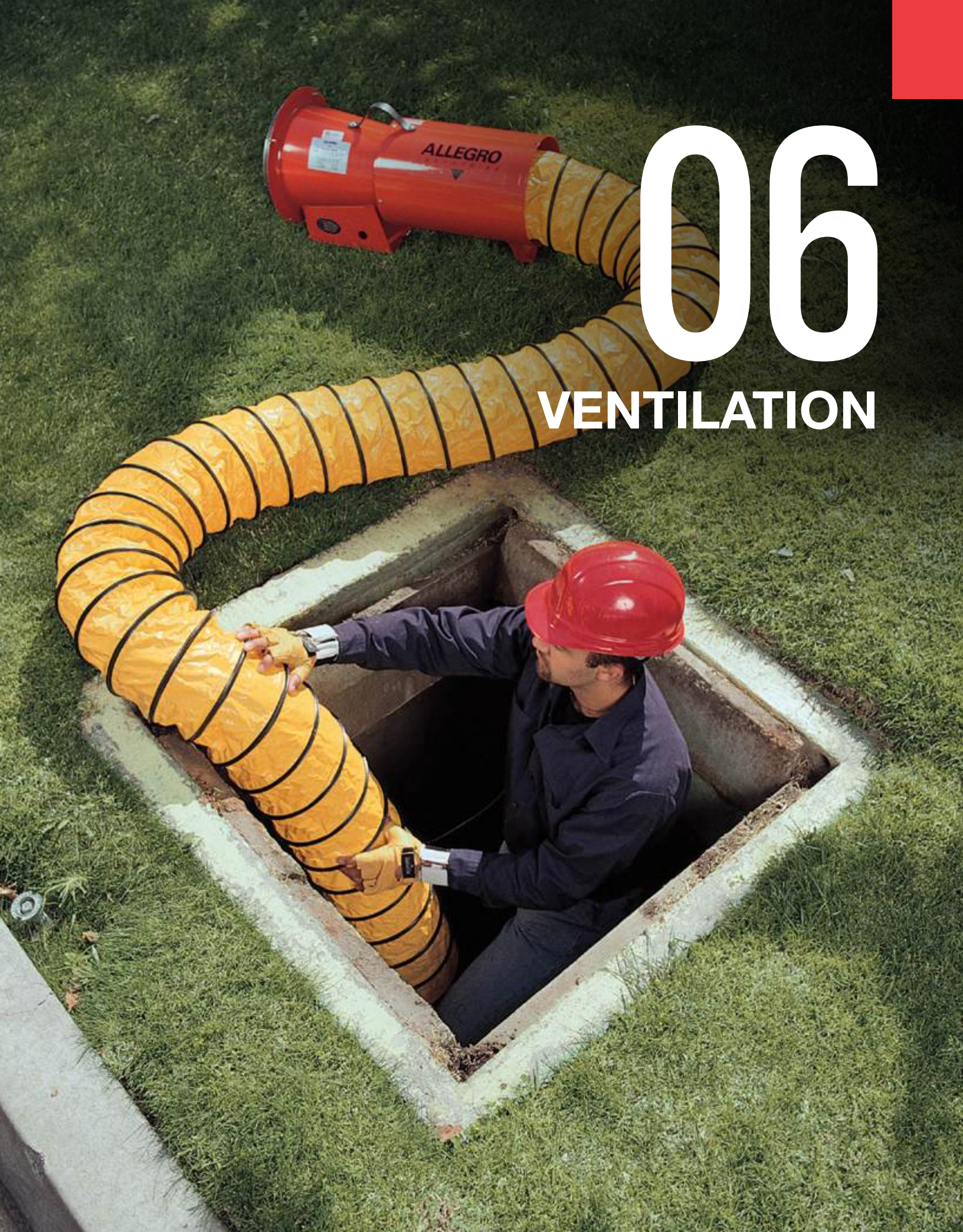
### 2 *TEM CASSETTE*

This 25mm, .45µm + -5.0µm cassette is designed for asbestos final clearance testing. The cassettes incorporate a 2" static conductive extension cowl and meet all applicable standards.

### 3 *PCM CASSETTE*

A 25mm cassette with .8µm pore size for asbestos sampling. The high-quality cassette incorporates a 2" cowl and meets stringent quality standards.

| Name | Count | Order No. |
|---|---|---|
| Lead Cassette | 50/box | 9804-14 |
| TEM Cassette | 50/box | 9804-17 |
| PCM Cassette | 50/box | 9804-16 |




# 06
# VENTILATION

ALLEGRO INDUSTRIES

*The breadth of the ALLEGRO ventilation blower line has set it apart from the competition for over three decades! Made from high-quality products, our fully certified blowers are the safest and most reliable solutions for any type of work environment or application while adhering to the OSHA standard.*

## Features

- ***Most comprehensive product line on the market!***
- ***Solutions designed for a wide range of applications and industries***
- ***Industry-leading innovation***
- ***CE-certified and CSA-approved options***
- ***Made from high-quality, reliable, and durable materials***
- ***Stackable products for ease of storage***
- ***Lightweight solutions***
- ***E-version options wired to meet international standards***
- ***Options designed to fit American Petroleum Institute (API) standard tanks***

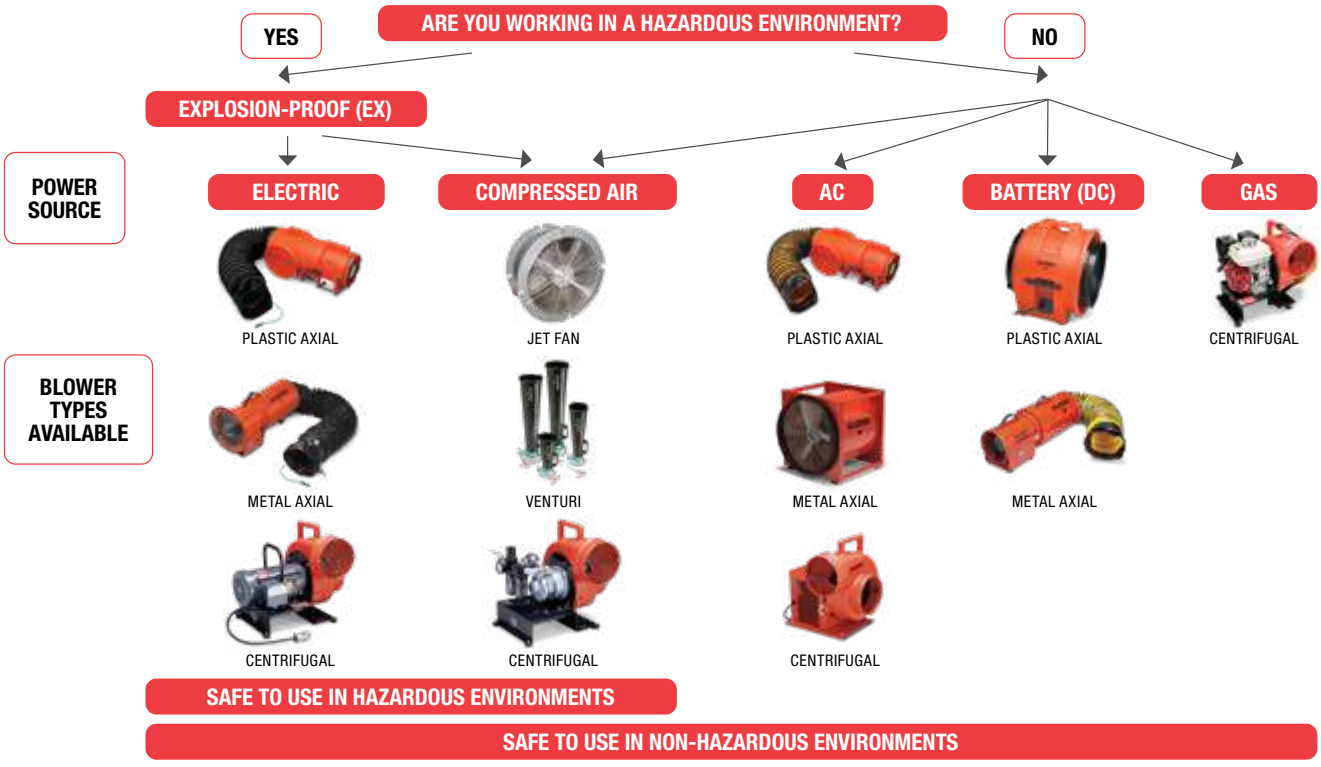
## Benefits

- ***Longer blower life helps lower total cost of ownership***
- ***Easy transport to and from the job site***
- ***Complete blower systems ensure you have everything you need to keep your space well ventilated***
- ***Expert technical support and service***

| | About | Features | When To Use |
|---|---|---|---|
| AXIAL | • Designed for high airflow with lower pressure*<br>• Plastic and metal versions offered<br>• Can be used with in-line axial booster blowers as a velocity accelerator for longer duct distances | • Lightweight<br>• Low-cost | • When portability and cost are major factors<br>• When working in smaller confined spaces<br>• Best for short distances with minimal ducting and bends |
| CENTRIFUGAL | • Uses a “squirrel cage” design creating high amounts of CFM with very high air pressure*<br>• They are typically heavier than axial blowers | • Air does not cross over motor, minimizing contamination risk | • Best for moving air longer distances, using long or multiple lengths of duct and more 90° bends |
| VENTURI | • Operates with compressed air being pushed through a pneumatic hose<br>• Generates very high amount of CFM*<br>• No fan or moving parts | • Low maintenance<br>• Designed to fit American Petroleum Institute (API) standard tanks | • Best for tanks<br>• Used for pushing or removing air from tanks or other large areas to rapidly remove gases prior to entry |
| JET FANS | • Operate with compressed air being pushed through a pneumatic air hose<br>• Generates very high CFM* | • Designed to fit American Petroleum Institute (API) standard tanks | • Best for tanks or other large areas<br>• Used for pushing or removing air from tanks or other large areas to rapidly remove gases prior to entry |

**When selecting a blower, all ventilators have two characteristics to consider:*
*1. Air pressure – Force of air volume is measured by inch of water gauge (WG) 2. Airflow – Air volume delivered and measured by cubic feet per minute (CFM)*

## HOW TO CHOOSE YOUR ALLEGRO BLOWER



Scan this code to access our Blower CFM calculator.

### VENTILATION AIR EXCHANGE CHART

ALLEGRO Industries recommends air exchange at a rate of at least 20 times per hour.

| Confined Space Volume Cubic Feet) | Blower Cubic Feet Per Min. (CFM) Output Needed* |
|---|---|
| 1000 | 333 |
| 2000 | 667 |
| 3000 | 1000 |
| 4000 | 1333 |
| 5000 | 1667 |
| 6000 | 2000 |
| 7000 | 2333 |
| 8000 | 2667 |
| 9000 | 3000 |
| 10000 | 3333 |

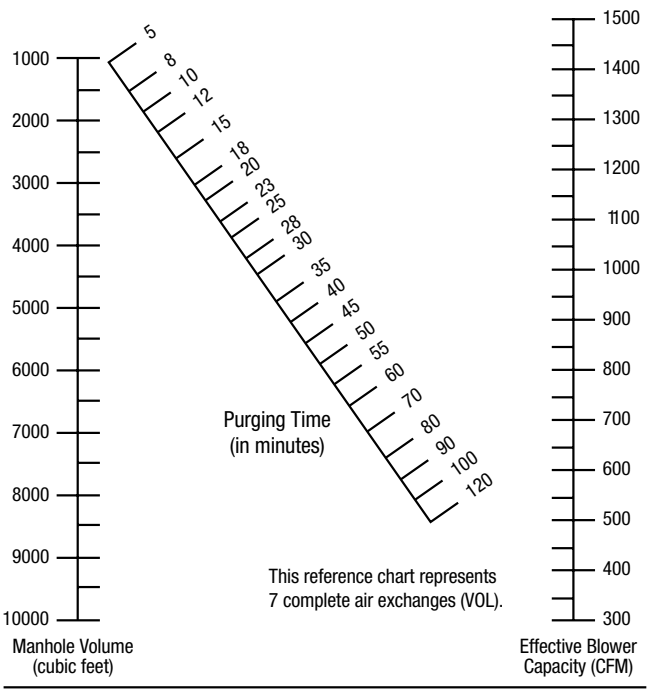
**Take into account 90º bends of ducting. See specifications under each blower description.*

# VENTILATION NOMOGRAPH

BLOWER CFM SELECTOR APP — DOWNLOAD IT TODAY

### USE OF ALIGNMENT CHART:

1. Place straightedge on manhole volume (left scale).
2. Place other end of straightedge on blower capacity (right scale).
3. Read required purging time, in minutes, on diagonal scale.
4. If two blowers are used, add the two capacities, then proceed as above.
5. When toxic gases are encountered, increase purging time 50%.
6. Effective blower capacity is measured with one, or two 90° bends in standard 15-foot blower hose. See chart.




# HAZARDOUS LOCATION INFORMATION

Reference: Explosion-Proof Blowers: 9503, 9509-01, 9513-05, 9514-05, 9514-06, 9515-01, 9515-50EX, 9525-01, 9525-50EX, 9538, 9538-15, 9538-25, 9538-50, 9539-12EX, 9539-12EXI, 9548, 9548-15, 9548-25, 9558, 9558-15, 9558-25* National Electrical Code (NEC) A hazardous location is an area where the possibility of explosion and fire is created by the presence of flammable gases, vapors, dusts, fibers, or flyings. NOTE: Fibers and flyings are not likely to be suspended in the air, but can collect around machinery or on lighting fixtures and where heat, a spark, or hot metal can ignite them.

### CLASS I

(NEC-500-5)
Those areas in which flammable gases or vapors may be present in the air in sufficient quantities to be explosive or ignitable.

### CLASS II

(NEC-500-6)
Those areas made hazardous by the presence of combustible dust.

### CLASS III

(NEC-500-7)
Those areas in which there are easily ignitable fibers or flyings present, due to type of material being handled, stored, or processed.

### DIVISION I

(NEC-800-5, 6, 7)
In the normal situation, hazard would be expected to be present in everyday production operations or during frequent repair and maintenance activity.

### DIVISION 2

(NEC-500-5, 6, 7)
In the abnormal situation, material is expected to be confined within closed containers or closed systems and will be present only through accidental rupture, breakage or unusual faulty operation.

### GROUPS

(NEC-500-3)
The gases and vapors of Class I locations are broken into four groups by the code: A, B, C, and D. These materials are grouped according to the ignition temperature of the substance, its explosion pressure and other flammable characteristics. The dust locations of Class II are designated E, F, and G. These groups are classified according to the ignition temperature and the conductivity of the hazardous substance.
*NOTE: For detailed group descriptions refer to NEC-500-3.*

### TYPICAL CLASS I LOCATIONS

- Petroleum refineries and gasoline storage and dispensing areas.
- Industrial firms that use flammable liquids in dip tanks for parts cleaning or other operations.
- Petrochemical companies that manufacture chemicals from gas and oil.
- Dry cleaning plants where vapors from cleaning fluids can be present.
- Companies that have spraying areas where they coat product with paint or plastics.
- Aircraft hangers and fuel servicing areas.
- Utility gas plants and operations involving storage and handling or liquefied petroleum gas or natural gas.

### TYPICAL CLASS II LOCATIONS

- Grain elevators, flour and feed mills.
- Plants that manufacture, use or store magnesium or aluminum powders.
- Plants that have chemical or metallurgical processes, producers of plastics, medicines, and fireworks, etc.
- Producers of starch or candies.
- Spice-grinding plants, sugar plants, and cocoa plants.
- Coal preparation plants and other carbon-handling or processing areas.

### TYPICAL CLASS III LOCATIONS

- Textile mills, cotton gins, cotton seed mills, and flax processing plants.
- Any plant that shapes, pulverizes, or cuts wood and creates sawdust or flyings.

** WARNING: Explosion-proof blowers must be used with statically conductive ducting.*

ALLEGRO INDUSTRIES

# AXIAL PLASTIC BLOWERS

*ALLEGRO Axial Plastic blowers are lightweight, portable, and durable units designed for use in rugged environments. They are made from corrosion-, UV- and chemical-resistant "safety orange" colored polyethylene for high visibility. They feature a molded-in carry handle for easy portability to and from the job site. All units are compact, super quiet, and provide the necessary ventilation to keep your workers comfortable, all while keeping them safe.*

SCAN TO WATCH THE BLOWER IN ACTION

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## 8" AXIAL AC PLASTIC MINI-PAK BLOWER

This new all-in-one blower w/ ducting is the lightest and shortest in the industry. The high-output compact design stores ducting inside the blower housing for an all-in-one unit for ease of operation, transportation, and storage. Available with either 15' or 25' of ducting.

*NOTE: A separate 8"duct (not included) can be attached to the intake side of the blower to draw air.*

### *AC MODEL*

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 791 CFM | 703 CFM | 621 CFM |
| 19 lbs. | 1/3 hp | 115V-230V AC, 50/60 Hz |

| Description | Order No. | |
|---|---|---|
| 8" Axial AC Plastic Mini-Pak Blower and 15' Ducting 19 lbs. | 9532-15 | |
| | 9532-15E | e |

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 760 CFM | 674 CFM | 602 CFM |
| 23 lbs. | 1/3 hp | 115V-230V AC, 50/60 Hz |

| Description | Order No. | |
|---|---|---|
| 8" Axial AC Plastic Mini-Pak Blower and 25' Ducting 23 lbs. | 9532-25 | |
| | 9532-25E | e |

CE *Complies with the relevant European product safety directives.*

e *Blowers offered in 220V/50 Hz. Does not meet the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113. For more information call Customer Service at 800-622-3530.*

ETL Intertek *Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8", 12" or 16" ducting based on the diameter of the blower. Free Air calculated at blower.*

* *See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

** *Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

## 8" AXIAL AC PLASTIC BLOWER

This compact unit features a polypropylene nine-blade fan, a steel/powder-coated grill, and carry handle that is molded into the blower. The bottom enclosure ensures safe and convenient storage of electrical components.

### *AC MODEL*

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 831 CFM | 709 CFM | 586 CFM |
| 17 lbs. | 1/3 hp | 115V-230V AC, 50/60 Hz |

| Description | Order No. | |
|---|---|---|
| 8" Axial Axial AC Plastic Blower without Canister | 9533 | ETL CE |
| | 9533-E | e |

### *DC MODEL*

This unit features a polypropylene nine-blade fan, a steel/powder-coated grill. The bottom enclosure ensures safe and convenient storage of electrical components.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 816 CFM | 526 CFM | 442 CFM |
| 17 lbs. | 1/4 hp | 12V DC |

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" Axial DC Plastic Blower without Canister | 9536 |

### *EXPLOSION-PROOF MODEL*

This blower also features an electric, explosion-proof, single-phase motor that is UL-listed and CSA-certified and includes a NEMA-rated 115V plug for use with explosion-proof socket (sold separately). The bottom enclosure ensures safe and convenient storage of electrical components. Meets Class I, Divisions 1 and 2, Groups C and D and Class II, Divisions 1 and 2, Groups F and G Hazardous Location Requirements.*

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 900 CFM | 650 CFM | 625 CFM |
| 20 lbs. | 1/3 hp | 115V AC, 60 Hz |

MADE IN THE USA

| Description | Order No. | |
|---|---|---|
| 8" Axial Explosion-Proof Plastic Blower without Canister | 9538 | ETL |
| | 9538-E | e |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

# 8" AXIAL AC PLASTIC BLOWER WITH CANISTER & DUCTING

This versatile system features our 8" Axial blower with your choice of ducting in our regular-sized canister. This lightweight unit is designed with the quick-connect clipping system which allows workers to attach the canister, tools-free, to the input side for powerful extraction or output side for ventilation. The ducting stores conveniently within the canister. Special design features include blower and canister built-in carry handles.

- ***Available with 15', 25', or 50' ducting***
- ***Tool-free quick-connect clipping system for the cannister***
- ***Built0in on/off switch***
- ***Safety Orange" color for easy on-site visibility***

### *AC MODEL*

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 831 CFM | 709 CFM | 586 CFM |
| | 1/3 hp | 115V-230V AC, 50/60 Hz |

| Description | Order No. |
|---|---|
| 8" Axial AC Plastic Blower with Compact Canister and 15' Ducting - 25 lbs. | 9533-15 |
| | 9533-15E |
| 8" Axial AC Plastic Blower with Compact Canister and 25' Ducting - 30 lbs. | 9533-25 |
| | 9533-25E |
| 8" Axial AC Plastic Blower with Canister and 50' Ducting - 40 lbs. | 9533-50 |
| | 9533-50E |

### *DC MODEL*

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 816 CFM | 526 CFM | 442 CFM |
| | 1/4 hp | 12V DC |

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" Axial DC Plastic Blower with Compact Canister and 15' Ducting - 25 lbs. | 9536-15 |
| 8" Axial DC Plastic Blower with Compact Canister and 25' Ducting - 30 lbs. | 9536-25 |
| 8" Axial DC Plastic Blower with Canister and 50' Ducting - 38 lbs. | 9536-50 |

SCAN TO WATCH VIDEO

YouTube
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www.youtube.com/AllegroIndustries

# 8" AXIAL EXPLOSION-PROOF PLASTIC BLOWER WITH CANISTER & DUCTING

This unit features a polypropylene nine-blade fan and a steel/powder-coated grill. The bottom enclosure ensures safe and convenient storage of electrical components.

- ***Electric, explosion-proof, single-phase motor (UL-listed, CSA-certified)***
- ***NEMA-rated 115V plug***
- ***Quick-connect clipping system for tools-free attachment of canister***
- ***Powerful extraction (input side) or ventilation (output side)***
- ***Meets Hazardous Location Requirements: Class I, Divisions 1 and 2, Groups C and D, Class II, Divisions 1 and 2, Groups F and G***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 900 CFM | 650 CFM | 625 CFM |
| 20 lbs. | 1/3 hp | 115V AC, 60 Hz |

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" Axial Explosion-Proof Plastic Blower with Compact Canister and 15' Statically Conductive Ducting - 31 lbs. | 9538-15 |
| | 9538-15E |
| 8" Axial Explosion-Proof Plastic Blower with Compact Canister and 25' Statically Conductive Ducting - 36 lbs. | 9538-25 |
| | 9538-25E |
| 8" Axial Explosion-Proof Plastic Blower with Canister and 50' Statically Conductive Ducting - 46 lbs. | 9538-50 |
| | 9538-50E |

ALLEGRO INDUSTRIES

# 8” AXIAL AC AND DC PLASTIC BLOWER SYSTEM WITH MVP

The Complete Ventilation System includes everything you’ll need for your confined space site. Systems include:

- ***8" lightweight plastic blower, duct canister with 15' of ducting***
- ***Manhole Ventilation Passthru (MVP), with 6' of ducting***

| Description | Order No. | |
|---|---|---|
| 8” AC Plastic Blower System with 8” MVP | 9520-33M | |
| 8” DC Plastic Blower System with 8” MVP | 9520-36M | USA |
| 8" AC EX-Proof Plastic Blower System w/ 8" Ex-Proof MVP (9533-15 Blower) | 9520-38MEX | |

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*Image above represents standard blower only*

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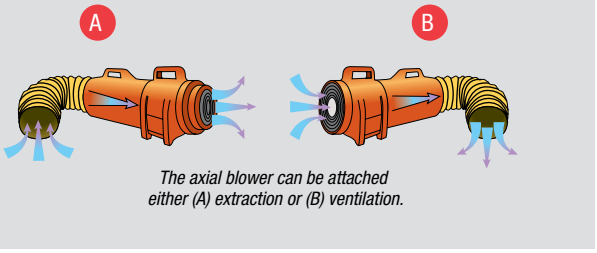


*The axial blower can be attached either (A) extraction or (B) ventilation.*

# 12” AXIAL AC PLASTIC BLOWER WITH CANISTER & DUCTING

This lightweight and super quiet unit features a polyethylene housing and canister assembly. The quick-connect clipping system allows workers to attach the canister, tools-free, to the input side for powerful extraction or output side for ventilation.

- ***Molded carry handle***
- ***Available with 15' or 25' of PVC-coated vinyl and polyester ducting***
- ***Ducting stores easily within the storage canister***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1842 CFM | 1004 CFM | 933 CFM |
| 28 lbs. | 1 hp | 115V-230V AC, 50/60 Hz |

| Description | Order No. | |
|---|---|---|
| 12” Axial AC Plastic Blower | 9543 | ETL Intertek, CE |
| | 9543-E | e |
| 12” Axial AC Plastic Blower with Canister and 15’ Ducting - 43 lbs. | 9543-15 | ETL Intertek, CE |
| | 9543-15E | e |
| 12” Axial AC Plastic Blower with Canister and 25’ Ducting - 49 lbs. | 9543-25 | ETL Intertek, CE |
| | 9543-25E | e |

# 12” AXIAL DC PLASTIC BLOWER WITH CANISTER & DUCTING

Designed for applications requiring larger air output, our 12” Axial DC Plastic Blower features a 1/4 hp motor with an efficient three-blade impeller in a rugged, lightweight polyethylene housing.

- ***Complete system with alligator clips and storage canister***
- ***Available with 15' or 25' of ducting***
- ***Powered by standard car or truck batteries***

| Free Air | One 90˚ Bend | Two 90˚ Bends | |
|---|---|---|---|
| 1330 CFM | 1005 CFM | 808 CFM | MADE IN THE USA |
| 28 lbs. | 1/3 hp | 12V DC | |

| Description | Order No. |
|---|---|
| 12” Axial DC Plastic Blower | 9546 |
| 12” Axial DC Plastic Blower with Canister and 15’ Ducting - 43 lbs. | 9546-15 |
| 12” Axial DC Plastic Blower with Canister and 25’ Ducting - 49 lbs. | 9546-25 |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

# 12” AXIAL EXPLOSION-PROOF PLASTIC BLOWER WITH CANISTER & DUCTING

This compact and super quiet unit features a polypropylene six-blade fan, a steel/powder-coated grill, and a molded carry handle. The bottom enclosure ensures safe and convenient storage of electrical components.

- ***Electric, explosion-proof, single-phase motor (UL/CSA listed)***
- ***NEMA-rated 115V plug for use with explosion-proof socket (sold separately)***
- ***Quick-connect clipping system for tools-free attachment of canister***
- ***Powerful extraction (input side) or ventilation (output side)***
- ***Meets Hazardous Location Requirements: Class I, Divisions 1 and 2, Groups C and D, Class II, Divisions 1 and 2, Groups F and G***

| Free Air | One 90˚ Bend | Two 90˚ Bends | MADE IN THE USA |
|---|---|---|---|
| 1484 CFM | 1174 CFM | 1014 CFM | |
| 28 lbs. | 1/3 hp | 120V AC, 60 Hz | |

| Description | Order No. | |
|---|---|---|
| 12” Axial Explosion-Proof Plastic Blower | 9548 | ETL |
| | 9548-E | e |
| 12” Axial Explosion-Proof Plastic Blower with Canister and 15' Statically Conductive Ducting - 47 lbs. | 9548-15 | ETL |
| | 9548-15E | e |
| 12” Axial Explosion-Proof Plastic Blower with Canister and 25' Statically Conductive Ducting - 54 lbs. | 9548-25 | ETL |
| | 9548-25E | e |

# 12” AXIAL AC AND DC PLASTIC BLOWER SYSTEM WITH MVP

Everything needed for your confined space site is in this Complete Ventilation System from ALLEGRO. Systems include:

- ***12" lightweight plastic blower, duct canister with 15' of ducting***
- ***Manhole Ventilation Passthru (MVP), with 6' of ducting***

| Description | Order No. | |
|---|---|---|
| 12” Axial AC Plastic Blower System with 12” MVP | 9520-43M | ETL CE |
| 12” Axial DC Plastic Blower System with 12” MVP | 9520-46M | USA |

*CE Complies with the relevant European product safety directives.*

*e Blowers offered in 220V/50 Hz. Does not meet the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113. For more information call Customer Service at 800-622-3530.*

*ETL Intertek Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8”, 12” or 16” ducting based on the diameter of the blower. Free Air calculated at blower.*

* *See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

** *Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

## 16” AXIAL AC PLASTIC BLOWER WITH CANISTER & DUCTING

This high-output blower is ideally suited for large confined spaces such as paper mills, tank purging, or utility sites. The quick-connect clipping system allows workers to attach the canister, tools-free, to the input side for powerful extraction or output side for ventilation. Added features include:

- ***Molded carry handle, built-in on/off switch***
- ***Enclosed electrical components***
- ***15' or 25' of PVC-coated vinyl***
- ***Polyester ducting which stores easily within the storage canister***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 3200 CFM | 2350 CFM | 2250 CFM |
| 40 lbs. | 1 hp | 115V AC, 60 Hz |

| Description | Order No. | |
|---|---|---|
| 16” Axial AC Plastic Blower | 9553 | |
| 16” Axial AC Plastic Blower with Canister and 15’ Ducting - 66 lbs. | 9553-15 | |
| 16” Axial AC Plastic Blower with Canister and 25’ Ducting - 72 lbs. | 9553-25 | |

## 16” AXIAL DC PLASTIC BLOWER WITH CANISTER & DUCTING

This high-output blower is perfect for large confined spaces such as paper mills, tank purging, or utility sites where access to electricity might not be readily available. The quick-connect clipping system allows workers to attach the canister, tools-free, to the input side for powerful extraction or output side for ventilation.

- ***Designed to be used with standard car or truck batteries***
- ***Corrosion-, UV-, and chemical-resistant "safety orange" polyethylene***
- ***Delivers both positive and negative airflow from a six-blade polypropylene fan***
- ***Super quiet operation***
- ***Molded carry handle with built-in On/Off switch***
- ***Enclosed electrical components***
- ***Available as a complete system with storage canister, 15' or 25' of ducting, and alligator clips***

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## 16” AXIAL EXPLOSION-PROOF PLASTIC BLOWER WITH CANISTER & DUCTING

This electric explosion-proof blower is perfect for large confined spaces in statically conductive environments. The quick-connect clipping system allows workers to attach the canister, tools-free, to the input side for powerful extraction or output side for ventilation.

- ***Single-phase motor with NEMA-rated 115V plug (for use with explosion-proof socket, sold separately) Bottom enclosure for safe and convenient storage of electrical components***
- ***Meets Hazardous Location Requirements: Class I, Divisions 1 and 2, Groups C and D, Class II, Divisions 1 and 2, Groups F and G***
- ***Certified to CSA Standard C22.2 No.113***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 2849 CFM | 2290 CFM | 1951 CFM |
| 52 lbs. | 3/4 hp | 115/208-230V AC, 60 Hz |

MADE IN THE USA

| Description | Order No. | |
|---|---|---|
| 16” Axial Explosion-Proof Plastic Blower | 9558 | |
| 16” Axial Explosion-Proof Plastic Blower with Canister and 15' Statically Conductive Ducting - 78 lbs. | 9558-15 | |
| 16” Axial Explosion-Proof Plastic Blower with Canister and 25' Statically Conductive Ducting - 85 lbs. | 9558-25 | |

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 2359 CFM | 1666 CFM | 1587 CFM |
| 48 lbs. | 1/2 hp | 12V DC |

| Description | Order No. | |
|---|---|---|
| 16” Axial DC Plastic Axial Blower | 9556 | |
| 16” Axial DC Plastic Blower with Canister and 15’ Ducting - 74 lbs. | 9556-15 | |
| 16” Axial DC Plastic Blower with Canister and 25’ Ducting - 81 lbs. | 9556-25 | |

# AXIAL INDUSTRIAL PLASTIC BLOWERS

*ALLEGRO Axial Industrial Plastic blowers are lightweight, portable, and durable units designed for use in industrial environments. They are made from corrosion-, UV- and chemical-resistant "safety orange" colored polyethylene for high visibility. They feature a molded-in carry handle and enclosed electrical components for easy portability to and from the job site. All units are compact, super quiet, and feature a stackable design that allows for multiple units to be used in minimum space.*

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## 8" AXIAL AC INDUSTRIAL PLASTIC BLOWER

This lightweight, portable, single-phase motor blower is ideally suited for light industrial or utility confined space applications. This unit features enclosed electrical components with built-in On/Off switch making it a valuable blower. Ducting can be added to both inlet and outlet side of blower for ventilation or extraction purposes.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 865 CFM | 550 CFM | 350 CFM |
| 16 lbs. | 1/3 hp | 115V AC, 60 Hz |

**Order No.** 9539-08

## 12" AXIAL DC INDUSTRIAL PLASTIC BLOWER

This blower delivers both positive and negative airflow and is perfect for larger confined spaces such as paper mills, tank purging, or utility sites. Our DC blowers are designed to be used with standard car or truck batteries as the source of power.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1450 CFM | 1075 CFM | 900 CFM |
| 19 lbs. | 1/4 hp | 12V DC |

MADE IN THE USA

**Order No.** 9539-12DC

*Complies with the relevant European product safety directives.*

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8", 12" or 16" ducting based on the diameter of the blower. Free Air calculated at blower.*

* *See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

** *Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

## 12" AXIAL AC INDUSTRIAL PLASTIC BLOWER

This single-phase motor blower is ideally suited for large confined spaces such as paper mills, tank purging, or utility sites. This blower delivers both positive and negative airflow.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 2180 CFM | 1330 CFM | 1255 CFM |
| 31 lbs. | 1 hp | 115V AC, 60 Hz |

**Order No.** 9539-12

## 12" AXIAL EXPLOSION-PROOF INDUSTRIAL PLASTIC BLOWER

This electric, lightweight, and easily portable explosion-proof blower is ideally suited for large confined spaces in statically conductive environments.

- ***Single-phase motor with NEMA-rated 115V plug (for use with explosion-proof socket, sold separately)***
- ***Meets Hazardous Location Requirements: Class I, Divisions 1 and 2, Groups C and D, Class II, Divisions 1 and 2, Groups F and G***
- ***Certified to CSA Standard C22.2 No.113***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1475 CFM | 1300 CFM | 1200 CFM |
| 25 lbs. | 1/3 hp | 115V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9539-12EX

# 8” AND 12” AXIAL AC INDUSTRIAL PLASTIC BLOWER SYSTEMS WITH MVP

The complete Ventilation System includes everything you’ll need for your confined space site! Systems include:

- ▷ *8” or 12” Axial AC Industrial Plastic Blower*
- ▷ *Includes 15' of ducting*
- ▷ *Storage Bag*
- ▷ *8” or 12” Manhole Ventilation Passthru (MVP), with 6' of ducting*

| Description | Order No. | |
|---|---|---|
| 8” Axial AC Industrial Plastic Blower System with 8” MVP | 9520-398M | |
| 12” Axial AC Industrial Plastic Blower System with 12” MVP | 9520-3912M | |

# 16” AXIAL DC INDUSTRIAL PLASTIC BLOWER

Lightweight, portable, and durable, this high-output blower is ideally suited for large confined spaces such as paper mills, tank purging, or utility sites where access to electricity might not be readily available. It is designed to be used with standard car or truck batteries.

- ▷ *Made from corrosion-, UV-, and chemical-resistant "safety orange" colored polyethylene*
- ▷ *Delivers both positive and negative airflow from a six-blade polypropylene fan*
- ▷ *Super quiet operation*
- ▷ *Molded carry handle with built-in On/Off switch Enclosed electrical components*

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 2359 CFM | 1666 CFM | 1587 CFM |
| 48 lbs. | 1/2 hp | 12V DC |

MADE IN THE USA

**Order No.** 9539-16DC

# 16” AXIAL AC INDUSTRIAL PLASTIC BLOWER

Lightweight, portable, and durable, this high-output blower is ideally suited for large confined spaces such as paper mills, tank purging, or utility sites. This blower delivers both positive and negative airflow from a three-blade polypropylene fan. Certified to CSA Standard C22.2 No.113.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 3200 CFM | 2350 CFM | 2250 CFM |
| 40 lbs. | 1 hp | 115V AC, 60 Hz |

**Order No.** 9539-16

# 16” AXIAL EXPLOSION-PROOF INDUSTRIAL PLASTIC BLOWER

This electric, explosion-proof blower is ideally suited for large confined spaces in statically conductive environments.

- ▷ *Single-phase motor with NEMA-rated 115V plug (for use with explosion-proof socket, sold separately)*
- ▷ *Meets Hazardous Location Requirements: Class I, Divisions 1 and 2, Groups C and D, Class II, Divisions 1 and 2, Groups F and G*
- ▷ *Certified to CSA Standard C22.2 No.113*

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 2849 CFM | 2290 CFM | 1951 CFM |
| 51 lbs. | 3/4 hp | 115V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9539-16EX

# AXIAL INLINE
# BOOSTER PLASTIC BLOWERS

*Ducting Not Included*

## 8” AND 12” AXIAL AC INLINE BOOSTER PLASTIC BLOWERS

Designed for use when there is a need to run long lengths of ventilation ducting while maintaining a high CFM, this blower allows ducting to be attached to both the intake and exhaust ends. Multiple blowers can be placed in series to achieve positive or negative ventilation. These lightweight, portable, single-phase motor blowers are ideally suited for industrial or utility confined space applications, featuring super quiet performance and a “safety orange” color.

- ***Molded carry handles for easy transport***
- ***Stackable design with built-in On/Off switches***
- ***Enclosed electrical components for added safety***
- ***Certified to CSA STD C22.2 No 113 and Air Delivery certified CEESI***

**Order No**. 9539-08I
**Order No**. 9539-12I

*Ducting Not Included*

## 12” AXIAL EXPLOSION-PROOF INLINE BOOSTER PLASTIC BLOWER

Designed for use when there is a need to run long lengths of statically conductive ducting while maintaining a high CFM. This explosion-proof blower allows statically conductive ducting to be attached to both the intake and exhaust ends. Multiple blowers can be placed in series to achieve positive or negative ventilation.

- ***Electric, lightweight, and easily portable***
- ***Ideally suited for large confined spaces in statically conductive environments***
- ***Single-phase motor with NEMA-rated 115V plug (for use with explosion-proof socket, sold separately)***
- ***Meets Hazardous Location Requirements: Class I, Divisions 1 and 2, Groups C and D, Class II, Divisions 1 and 2, Groups F and G***

**Order No.** 9539-12EXI

*Complies with the relevant European product safety directives.*

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

ALLEGRO INDUSTRIES

# AIR BAGS

*Exclusive to ALLEGRO, these air bag blowers are designed for operations that are constantly on the go. These metal axial blowers are built into a heavy-duty polyester bag forming an all-in-one unit. Designed with zippered ends that allow blower use without removing blower from the bag. Zipper openings allow for plug/cord inlet and outlet.*

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## AIR BAG 8

Featuring an 8" metal blower system with 15' or 25' ducting built into a heavy-duty polyester bag forming an all-in-one unit for ease of operation. Polypropylene nine-blade fan, steel/powder-coated housing and grill, carry handle with molded-in 2-speed switch.

- ***60 Hz, 1.4 Amps, 2-speed On/Off switch***
- ***Ducting: Single-Ply lightweight vinyl/ polyester PVC-coated***
- ***Yellow with black wear-strip and integrated nylon attachment strap on one end***
- ***Dimensions: 27"l x 15"w x 12"h***

### *AC MODEL*

| | | |
|---|---|---|
| Free Air | 760 CFM | |
| (high speed) | 1/4 hp | 120V, 60 Hz |

| Description | Order No. |
|---|---|
| AC with 15' Ducting - 25 lbs. | 9535-08 |
| AC with 25' Ducting - 29 lbs. | 9535-08L |

### *DC MODEL*

| | | |
|---|---|---|
| Free Air | 668 CFM | |
| (high speed) | 1/4 hp | 12V DC |

| Description | Order No. |
|---|---|
| DC with 15' Ducting - 26 lbs. | 9535-08DC |
| DC with 25' Ducting - 29 lbs. | 9535-08LDC |

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8", 12" or 16" ducting based on the diameter of the blower. Free Air calculated at blower.*

* *See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

** *Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

# AIR BAG 12

Featuring a 12" metal blower system with 15' or 25' ducting built into a heavy-duty polyester bag forming an all-in-one unit for ease of operation. Polypropylene nine-blade fan, steel/powder-coated housing and grill, carry handle with molded-in 2-speed switch.

- ***60 Hz, 3.8 Amps, 2-speed On/Off switch***
- ***Ducting: Single-Ply lightweight vinyl/polyester PVC-coated***
- ***Yellow with black wear-strip and integrated nylon attachment strap on one end***
- ***Dimensions: 28"l x 16"w x 14"h***

### *AC MODEL*

| | | |
|---|---|---|
| Free Air | 1840 CFM | |
| (high speed) | ½ hp | 120V AC, 60 Hz |

| Description | Order No. |
|---|---|
| AC with 15' Ducting - 35 lbs. | 9535-12 |
| AC with 25' Ducting - 41 lbs. | 9535-12L |

### *DC MODEL*

| | | |
|---|---|---|
| Free Air | 1360 CFM | |
| (high speed) | ½ hp | 12V DC |

| Description | Order No. |
|---|---|
| DC with 15' Ducting - 36 lbs. | 9535-12DC |
| DC with 25' Ducting - 39 lbs. | 9535-12LDC |

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# 8" AND 12" AIR BAG BLOWER SYSTEMS WITH MVP

The complete Ventilation System includes everything you'll need for your confined space site. Systems include:

- ***8" or 12" Metal all-in-one Air Bag Blower with 15' ducting***
- ***8" or 12" Manhole Ventilation Passthru (MVP), with 6' of ducting***

| Description | Order No. |
|---|---|
| 8" AC Air Bag Blower System with 8" MVP | 9520-358M |
| 12" AC Air Bag Blower System with 12" MVP | 9520-3512M |

ALLEGRO INDUSTRIES

# AXIAL METAL BLOWERS

## 8" AXIAL AC METAL BLOWER

This compact, lightweight 8" Axial Blower offers the highest output available from an AC electric motor. It is designed with tough steel construction, a durable grill, a convenient carrying handle, and rubber feet. Its small profile means easy storage. Certified to CSA STD C22.2 No 113. Air delivery certified CEESI.

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 1275 CFM | 661 CFM | 582 CFM |
| 19 lbs. | 1/3 hp | 120V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9513
**Order No.** 9513-E

## 8" AXIAL DC METAL BLOWER

Perfect for locations where electricity is not available, this lightweight and easily portable 8" DC Axial Metal Blower may be operated off a standard car or truck battery. It features a 1/4 hp, 12V DC electric motor with thermal protector and single-speed performance. Alligator clips are included.

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 1150 CFM | 800 CFM | 650 CFM |
| 18 lbs. | 1/4 hp | 12V DC |

MADE IN THE USA

**Order No.** 9506

## 8" AXIAL AC METAL BLOWER WITH CANISTER & DUCTING

Engineered for convenience, this 8" Axial Blower is an all-in-one ventilation system. The design allows ducting to collapse into a built-in canister for easy storage.

- ***Can be stored vertically to use minimal space***
- ***Includes blower, built-in storage canister, and 15 or 25 feet of ducting***
- ***Certified to CSA STD C22.2 No 113***
- ***Air delivery certified CEESI***

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 1275 CFM | 661 CFM | 582 CFM |
| 32 lbs. | 1/3 hp | 120V AC, 60 Hz |

MADE IN THE USA

| Description | Order No. |
|---|---|
| 15 ft. of Ducting | 9514 |
| 15 ft. of Ducting | 9514-E |

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 1275 CFM | 661 CFM | 582 CFM |
| 46 lbs. | 1/3 hp | 120V AC, 60 Hz |

| Description | Order No. |
|---|---|
| 25 ft. of Ducting | 9514-25 |
| 25 ft. of Ducting | 9514-25E |

## 8" AXIAL DC METAL BLOWER WITH CANISTER & DUCTING

This complete, all-in-one ventilation system includes an 8" Axial Blower powered by a 12-volt DC motor, with 15 or 25 feet of ducting and a built-in storage canister.

- ***Lightweight system with handle and feet for portability***
- ***Easy to store***
- ***Designed to be used with standard car or truck batteries***

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 1150 CFM | 800 CFM | 650 CFM |
| 31 lbs. | 1/4 hp | 12V DC |

MADE IN THE USA

| Description | Order No. |
|---|---|
| 15 ft. of Ducting | 9506-01 |

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 1150 CFM | 800 CFM | 650 CFM |
| 37 lbs. | 1/4 hp | 12V DC |

| Description | Order No. |
|---|---|
| 25 ft. of Ducting | 9506-25 |

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# 8” AXIAL EXPLOSION-PROOF METAL BLOWER

This blower features an electric, explosion-proof, single-phase motor that is UL-listed and includes a NEMA-rated 115V plug.

- ***Tough steel construction***
- ***Meets Hazardous Location Requirements: Class I, Divisions 1 and 2, Groups C and D, Class II, Divisions 1 and 2, Groups F and G***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 890 CFM | 825 CFM | 770 CFM |
| 31 lbs. | 1/3 hp | 115V AC, 60 Hz |

| Description | Order No. | |
|---|---|---|
| Blower only | 9513-05 | |
| | 9513-05E | |
| 8” Axial Explosion-Proof Blower with Canister & 15 ft. of Statically Conductive Ducting - 49 lbs. | 9514-05 | |
| | 9514-05E | |
| 8” Axial Explosion-Proof Blower with Canister & 25 ft. of Statically Conductive Ducting - 57 lbs. | 9514-06 | |
| | 9514-06E | |

# 8” AXIAL AC AND DC METAL BLOWER SYSTEMS WITH MVP

Easy-to-order, easy-to-use Complete Ventilation Systems including all the most requested equipment you need for your confined space site.
The systems include:

- ***8" Axial AC or DC Blower, duct canister with 15' of ducting***
- ***Manhole Ventilation Passthru (MVP), with 6' of ducting***

| Description | Order No. |
|---|---|
| 8” AC Axial Blower System with 8” MVP | 9520-14M |
| 8” DC Axial Blower System with 8” MVP | 9520-06M |
| 8" AC EX- Proof Axial Blower System w/ 8" Ex-Proof MVP (9514-15 Blower) | 9520-05MEX |

**Image above represents standard blower only*

*Blowers offered in 220V/50 Hz. Does not meet the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113. For more information call Customer Service at 800-622-3530.*

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8”, 12” or 16” ducting based on the diameter of the blower. Free Air calculated at blower.*

** See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

*** Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

## 8" AXIAL AC METAL COM-PAX-IAL BLOWER

Weighing 13% less than our 9513, this blower features a venturi inlet to increase CFM. Designed with tough steel construction, rubber feet, handle, and a durable grill. Complete with AC electric motor. Blower sold separately or with quick-connect canister with 15' or 25' ducting included.

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 778 CFM | 645 CFM | 496 CFM |
| 17 lbs. | 1/3 hp | 120V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9534

## 8" AXIAL DC METAL COM-PAX-IAL BLOWER

Designed to run off a standard car or truck battery when you're on the road. A 12V DC electric motor with single-speed performance is included in this lightweight and easy-to-store blower. It also features a cord with a handle, alligator clips, durable grill, and tough steel construction that's built to last.

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 796 CFM | 667 CFM | 480 CFM |
| 16 lbs. | 1/4 hp | 12V DC |

MADE IN THE USA

**Order No.** 9537

## 8" AXIAL AC METAL COM-PAX-IAL BLOWER WITH CANISTER & DUCTING

This lightweight and compact Com-pax-ial blower is an all-in-one ventilation system sold with quick-connect 15' or 25' ducting canister which attaches quickly without tools with Cam-lock latches.

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 778 CFM | 645 CFM | 496 CFM |
| | 1/3 hp | 120V AC, 60 Hz |

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" AC Com-pax-ial Blower with 15' Ducting Canister Assembly - 34 lbs. | 9534-15 |
| 15' Canister Conversion Kit (use with 9534 & 9537) | 9534-15C |
| 8" AC Com-pax-ial Blower with 25' Ducting Canister Assembly - 37 lbs. | 9534-25 |
| 25' Canister Conversion Kit (use with 9534 & 9537) | 9534-25C |

*Blowers offered in 220V/50 Hz. Does not meet the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113. For more information call Customer Service at 800-622-3530.*

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8", 12" or 16" ducting based on the diameter of the blower. Free Air calculated at blower.*

* *See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

** *Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

## 8" AXIAL DC METAL COM-PAX-IAL BLOWER WITH CANISTER & DUCTING

Designed to run off a standard car or truck battery, this lightweight and easy-to-store blower features a 12V DC electric motor with single speed performance. The quick-connect canister with 15' or 25' ducting attaches quickly without tools. It also includes a cord with handle, alligator clips, and Cam-lock latches for secure connections. The durable grill and tough steel construction ensure this blower is built to last.

- ***Cord with handle and alligator clips***
- ***Cam-lock latches for secure connections***
- ***Durable grill and tough steel construction***

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 796 CFM | 667 CFM | 480 CFM |
| 31 lbs. | 1/4 hp | 12V DC |

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" DC Com-pax-ial Blower with Canister & 15 ft. of Ducting | 9537-15 |

| Free Air | One 90° Bend | Two 90° Bends |
|---|---|---|
| 796 CFM | 667 CFM | 480 CFM |
| 36 lbs. | 1/4 hp | 12V DC |

| Description | Order No. |
|---|---|
| 8" DC Com-pax-ial Blower with Canister & 25 ft. of Ducting | 9537-25 |

## 12” AXIAL AC STANDARD METAL BLOWER

Designed for applications requiring larger amounts of air output, the Standard 12” Axial Blower offers a 1/3 hp motor with an efficient three-blade impeller in a rugged, lightweight metal housing. Certified to CSA Standard C22.2 No.113

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1763 CFM | 1401 CFM | 1227 CFM |
| 27 lbs. | 1/3 hp | 120V AC, 60 Hz |

**Order No.** 9509

## 12” AXIAL AC HIGH-OUTPUT METAL BLOWER

Designed for applications requiring larger amounts of air output, this 12” Axial High-Output Blower features a 1/2 hp motor with efficient three-blade impeller in a rugged, lightweight, and portable metal housing. Certified to CSA Standard C22.2 No.113.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 2202 CFM | 1674 CFM | 1598 CFM |
| 40 lbs. | 1/2 hp | 115V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9509-50
**Order No.** 9509-50E

## 12” AXIAL AC STANDARD METAL BLOWER SYSTEM WITH MVP

The complete Ventilation System includes everything you’ll need for your confined space site! The systems include:

- *12” Axial AC Standard Metal Blower*
- *Includes 15' of ducting*
- *Storage Bag*
- *12” Manhole Ventilation Passthru (MVP), with 6' of ducting*

MADE IN THE USA

| Description | Order No. |
|---|---|
| 12” Axial AC Standard Metal Blower System with 12" MVP | 9520-09M |

## 12” AXIAL EXPLOSION-PROOF METAL BLOWER

Designed for applications requiring larger amounts of air output, this blower features a 1/3 hp single-phase motor with an efficient three-blade impeller in a rugged, lightweight metal housing. It includes a NEMA-rated 125V plug for use with an explosion-proof socket (sold separately).

- *Meets Class I, Division 1 and 2, Groups C & D*
- *Meets Class II, Division 1 and 2, Groups F & G*
- *Certified to CSA Standard C22.2 No.113*

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1636 CFM | 1255 CFM | 1156 CFM |
| 33 lbs. | 1/3 hp | 115V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9509-01
**Order No.** 9509-01E

## 12” AXIAL DC METAL BLOWER

Designed for applications requiring larger amounts of air output, the DC 12” Axial Metal Blower offers a 1/4 hp motor with an efficient three-blade impeller in a rugged, lightweight metal housing. Our DC Blowers are designed to be used with standard car or truck batteries as the source of power.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1685 CFM | 1220 CFM | 1020 CFM |
| 24 lbs. | 1/4 hp | 12V DC |

MADE IN THE USA

**Order No.** 9529

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## 16” AXIAL AC STANDARD METAL BLOWER

Designed for very large confined spaces, this large 1/2 hp 16” Standard Axial Metal Blower delivers high output for drawing or pushing air. The durable and tough metal housing holds a six-blade impeller.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 3400 CFM | 2800 CFM | 2300 CFM |
| 47 lbs. | 1/2 hp | 115V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9515
**Order No.** 9515-E

## 16” AXIAL DC STANDARD METAL BLOWER

Designed for applications requiring a large amount of output. This DC Standard Metal Blower features a 1/2 hp motor with an efficient six-blade impeller in a rugged metal housing with handles on each side for easy portability. Our DC Blowers are designed to be used with standard car or truck batteries as the source of power.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 2929 CFM | 1981 CFM | 1762 CFM |
| 54 lbs. | 1/2 hp | 12V DC |

MADE IN THE USA

**Order No.** 9515-DC

## 16” AXIAL AC HIGH-OUTPUT METAL BLOWER

Designed for applications requiring a maximum amount of output, this 16” High-Output Blower offers a 2 hp electric motor housed in a rugged metal casing. Its efficient three-blade impeller and high-powered motor allow for high airflow. Includes a special 30 amp plug.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 5500 CFM | 4950 CFM | 4400 CFM |
| 74 lbs. | 2 hp | 115V-230V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9516

## 16” AXIAL EXPLOSION-PROOF METAL BLOWER

Designed for use in applications requiring a large amount of output in a hazardous location environment, our 16” Axial Explosion-Proof Metal Blower features a 1/2 hp single-phase motor and an efficient six-blade impeller fan in a rugged metal housing. It includes a NEMA-rated 115V plug for use with an explosion-proof socket (sold separately).

- ***Rugged metal housing***
- ***Efficient six-blade impeller fan***
- ***Meets Class I, Division 1 and 2, Groups C & D, and Class II, Division 1 and 2, Groups F & G***
- ***Certified to CSA Standard C22.2 No.113***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 2900 CFM | 1800 CFM | 1750 CFM |
| 67 lbs. | 1/2 hp | 115V-230V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9515-01

## 16” AXIAL EXPLOSION-PROOF HIGH-OUTPUT METAL BLOWER

Designed for applications requiring maximum output, this unit features a housing made from 16-gauge cold rolled steel, powder-coated in “safety orange,” and holds a three-blade impeller. Powered by a 1 ½ hp, 3450 RPM UL-listed, IECex/ATEX/INMETRO certified motor, it also includes a 115V plug and interchangeable flange for intake or exhaust mounting.

- ***Integrated carry handles for easy transport***
- ***Steel/zinc plated grill***
- ***4 rubber feet***
- ***Built-in On/Off switch and voltage change switch***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 4839 CFM | 2942 CFM | 2926 CFM |
| 62 lbs. | 1 ½ hp | 115V-230V AC, 50/60 Hz |

MADE IN THE USA

**Order No.** 9515-50EX
**Order No.** 9515-50EXE

## 20" AXIAL AC STANDARD METAL BLOWER

Designed for applications requiring maximum output, this unit features a housing made from 16-gauge cold rolled steel, powder-coated in "safety orange," and holds a three-blade impeller. It also includes an interchangeable flange for intake or exhaust mounting.

- ***Integrated carry handles for easy transport***
- ***Steel/zinc plated grill***
- ***Includes 4 rubber feet***
- ***UL-listed and certified to CSA Standard C22.2 No.113***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 4650 CFM | 3150 CFM | 2950 CFM |
| 56 lbs. | 1/2 hp | 115V AC, 60 Hz |

**Order No.** 9525
**Order No.** 9525-E

## 20" AXIAL EXPLOSION-PROOF METAL BLOWER

Designed for use in applications requiring a large amount of output in a hazardous location environment, our 20" Axial Explosion-Proof Metal Blower features a 1/2 hp single-phase motor and an efficient three-blade impeller fan in a rugged metal housing. It also includes a NEMA-rated 115V plug for use with an explosion-proof socket (sold separately).

- ***UL-listed***
- ***Meets Class I, Division 1 and 2, Groups C & D***
- ***Meets Class II, Division 1 and 2, Groups F & G***
- ***Certified to CSA Standard C22.2 No.113***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 4650 CFM | 3150 CFM | 2950 CFM |
| 75 lbs. | 1/2 hp | 115V-230V AC, 60 Hz |

**Order No.** 9525-01
**Order No.** 9525-01E

## 20" AXIAL AC HIGH-OUTPUT METAL BLOWER

Designed for applications requiring maximum output, this unit features a housing made from 16-gauge cold rolled steel, powder-coated in "safety orange," and holds a four-blade impeller. It also includes an interchangeable flange for intake or exhaust mounting.

- ***Integrated carry handles for easy transport***
- ***Steel/zinc plated grill***
- ***4 rubber feet***
- ***UL-listed and certified to CSA Standard C22.2 No.113***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 7500 CFM | 6700 CFM | 6130 CFM |
| 83 lbs. | 2 hp | 115V-230V AC, 60 Hz |

**Order No.** 9525-50

## 20" AXIAL EXPLOSION-PROOF HIGH-OUTPUT METAL BLOWER

Designed for applications requiring maximum output, this unit features a housing made from 16-gauge cold rolled steel, powder-coated in "safety orange," and holds a three-blade impeller. Powered by a 1 ½ hp, 3450 RPM UL-listed, IECex/ATEX/INMETRO certified motor, it includes a 115V plug and an interchangeable flange for intake or exhaust mounting.

- ***Integrated carry handles for easy transport***
- ***Steel/zinc plated grill***
- ***4 rubber feet***
- ***Built-in On/Off switch and voltage change switch***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 6837 CFM | 5268 CFM | 4829 CFM |
| 71 lbs. | 1 ½ hp | 115V-230V AC, 50/60 Hz |

**Order No.** 9525-50EX
**Order No.** 9525-50EXE

*Blowers offered in 220V/50 Hz. Does not meet the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113. For more information call Customer Service at 800-622-3530.*

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8", 12" or 16" ducting based on the diameter of the blower. Free Air calculated at blower.*

* *See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

** *Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

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# 26” AXIAL AC STANDARD METAL BLOWER

Designed for applications requiring maximum output, the 26” Axial Standard Metal Blower offers the highest output of any of our ventilation blowers. The housing is made from 16-gauge cold rolled steel and powder-coated in “safety orange,” holding a three-blade impeller.

- ***Interchangeable flange for intake or exhaust mounting***
- ***Integrated carry handles for easy transport***
- ***Steel/zinc plated grill***
- ***4 rubber feet***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 9570 CFM | 8610 CFM | 7750 CFM |
| 105 lbs. | 2 hp | 115V AC, 60 Hz |

MADE IN THE USA

**Order No.** 9530

# CENTRIFUGAL BLOWERS

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## CENTRIFUGAL STANDARD BLOWER

Excellent for ventilating most confined spaces, this unit is designed with a tough, lightweight polyethylene housing, metal safeguards, and a steel fan for durability. Two 8" ports offer positive ventilation or fume extraction, and the metal base with feet provides greater stability. The electric 1/3 hp motor is cage-enclosed for protection.

- ***On/Off switch and built-in carry handle for increased portability***
- ***Works well with generators***
- ***Air delivery certified CEESI***
- ***Certified to CSA Standard C22.2 No. 113***

| Free Air | One 90˚ Bend | Two 90˚ Bends | |
|---|---|---|---|
| 1066 CFM | 839 CFM | 745 CFM | MADE IN THE USA |
| 38 lbs. | 1/3 hp | 115V AC, 60 Hz | |

**Order No.** 9504

*Blowers offered in 220V/50 Hz. Does not meet the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113. For more information call Customer Service at 800-622-3530.*

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8", 12" or 16" ducting based on the diameter of the blower. Free Air calculated at blower.*

* *See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

** *Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

## CENTRIFUGAL HIGH-OUTPUT BLOWER

Designed for larger confined space environments that require faster purge times, this unit features a tough, lightweight polyethylene housing for durability, with metal safeguards and a steel fan for added safety. Two 8" ports offer positive ventilation or fume extraction, and the metal base with feet provides greater stability.

- ***Electric 3/4 hp motor with higher CFM output, cage-enclosed for protection***
- ***On/Off switch and built-in carry handle for increased portability***
- ***Certified to CSA Standard C22.2 No. 113***

| Free Air | One 90˚ Bend | Two 90˚ Bends | |
|---|---|---|---|
| 1570 CFM | 1100 CFM | 900 CFM | MADE IN THE USA |
| 45 lbs. | 3/4 hp | 115V-230V AC, 60 Hz | |

**Order No.** 9504-50
**Order No.** 9504-50E

## CENTRIFUGAL TWO-SPEED BLOWER

This blower offers greater flexibility with high speed for applications such as purging an area, and lower speed for very dusty environments. The 8" ports allow for positive or negative ventilation, and the steel box-mounted electric motor and tough polyethylene housing ensure durability.

- ***Inline GFI for safety***
- ***Steel base for stability***
- ***Designed for both high-speed and low-speed applications***
- ***Durable construction with 8" ports for versatile ventilation***

***LOW SPEED***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 760 CFM | 500 CFM | 360 CFM |
| 64 lbs. | 3/4 hp | 115V AC, 60 Hz |

***HIGH SPEED***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1850 CFM | 1050 CFM | 800 CFM |
| 64 lbs. | 3/4 hp | 115V AC, 60 Hz |

**Order No.** 9507

## CENTRIFUGAL HEAVY-DUTY BLOWER

High performance and durability are built into this Heavy-Duty Blower. Its large 1 ½ hp motor and 8" ports deliver high CFM allowing workers to draw out or push air in. The electric motor is totally enclosed, and the high-impact polyethylene housing offers greater durability.

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1700 CFM | 1200 CFM | 960 CFM |
| 61 lbs. | 1 ½ hp | 115V-230V AC, 60 Hz |

**Order No.** 9502

## CENTRIFUGAL HEAVY-DUTY EXPLOSION-PROOF BLOWER

This blower features an electric, explosion-proof, single-phase motor that is UL-listed and CSA-certified, including a NEMA-rated 115V plug for use with an explosion-proof socket (sold separately). Its ABS housing provides non-sparking safety, and the smart compact design allows for easy use and storage without sacrificing airflow.

- ***Meets Class I, Divisions 1 and 2, Groups C and D***
- ***Meets Class II, Divisions 1 and 2, Groups F and G Hazardous Location Requirements****
- ***Designed for non-sparking safety***
- ***Compact design for easy use and storage***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1570 CFM | 1100 CFM | 900 CFM |
| 76 lbs. | 3/4 hp | 115V-230V AC, 60 Hz |

**Order No.** 9503
**Order No.** 9503-E

## CENTRIFUGAL GAS BLOWER (BRIGGS & STRATTON)

Perfect for remote locations where electricity is unavailable, this gasoline-powered, 5 hp blower offers high flow rates. The 8" ports and steel guards ensure safety, while the polyethylene housing with a built-in handle provides durability and convenience. It is designed with a sturdy metal base to minimize rocking and offer greater stability.

- ***Powered by 3.2 quarts of gasoline for 3-4 hours of running time***
- ***Includes 6-foot inlet hose extension***
- ***Built-in handle for easy transport***
- ***Sturdy metal base for stability***

| Free Air | One 90˚ Bend | Two 90˚ Bends |
|---|---|---|
| 1390 CFM | 1152 CFM | 1079 CFM |
| 62 lbs. | 5 hp | Briggs & Stratton |

**Order No.** 9505

## CENTRIFUGAL GAS BLOWER (HONDA)

Perfect for remote locations where electricity is unavailable, this gasoline-powered, 4.8 hp, 4-stroke blower offers high flow rates and the durability of a Honda engine. The 8" ports and steel guards ensure safety, while the polyethylene housing with a built-in handle provides durability and convenience during transport.

- ***Sturdy metal base minimizes blower rocking and offers greater stability***
- ***Includes 6-foot inlet hose extension***
- ***Built-in handle for easy transport***
- ***High flow rates with Honda engine durability***

| Free Air | One 90˚ Bend | Two 90˚ Bends | |
|---|---|---|---|
| 1420 CFM | 910 CFM | 845 CFM | MADE IN THE USA |
| 58 lbs. | 4.8 hp | Honda (four stroke) | |

**Order No.** 9505-50

## CENTRIFUGAL AIR-DRIVEN BLOWER

Ideal for areas where a compressor is readily available, this air-driven model requires 30 CFM at 40 psi. It uses an aluminum fan for explosion-proof requirements and includes a steel base, polyethylene housing, 2-stage filter, regulator, and lubricator.

*If used in hazardous environments, use statically conductive ducting.*

| Free Air | One 90˚ Bend | Two 90˚ Bends | |
|---|---|---|---|
| 1800 CFM | 1350 CFM | 900 CFM | MADE IN THE USA |
| 43 lbs. | | | |

**Order No.** 9508

## CENTRIFUGAL STANDARD BLOWER SYSTEM WITH MVP

Our Complete Ventilation Systems include all the most requested equipment you need for your confined space site. The systems include:

- ***Your choice of Centrifugal Blower***
- ***Includes 15' of ducting***
- ***Storage Bag***
- ***Manhole Ventilation Passthru (MVP), with 6' of ducting***

MADE IN THE USA

| Description | Order No. | |
|---|---|---|
| 8" AC Standard Blower System w/ MVP (9504 Blower) | 9520-04M | ETL |
| 8" High-Output Blower System w/ MVP (9504-50 Blower) | 9520-50M | ETL |
| 8" Briggs & Stratton Gas Blower System w/ MVP (9505 Blower) | 9520-05M | |
| 8" 2-Speed Blower System w/ MVP (9507 Blower) | 9520-07M | |
| 8" Heavy-Duty Explosion-Proof Blower System w/ MVP (9503 Blower) | 9520-03M | ETL |
| 8" Heavy Duty Explosion-Proof Blower System w/EX MVP (9503 Blower) | 9520-03MEX | |

*Blowers offered in 220V/50 Hz. Does not meet the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113. For more information call Customer Service at 800-622-3530.*

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

*CFM calculated using 15' x 8", 12" or 16" ducting based on the diameter of the blower. Free Air calculated at blower.*

* *See Hazardous Location Information on page 601. Warning: Explosion-proof blowers must be used with statically conductive ducting.*

** *Explosion-Proof Blowers require an explosion-proof socket. See page 624.*

ALLEGRO INDUSTRIES

# VENTURI BLOWERS

*Our Venturi Blowers are a perfect solution to moving air in refineries, utility and power plants, shipyards, paper and pulp plants, marine and steel industries, and manhole operations.*

Use our Venturi Blowers to remove poisonous, explosive, or hazardous fumes from confined spaces such as process towers, tanks, and large pipes. You can cool workers in elevated temperature conditions or cool heavy equipment that may be in danger of overheating with a blast of directed air. Our line of high-performance, lightweight Venturi Blowers helps to create a safe, healthy working environment leading to greater efficiency and productivity. Welding fumes, hot air, gases, and smoke can all be removed quickly and easily while our Venturi Blowers can also be used to move fresh air into a manhole.

***METAL***

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

***PLASTIC***

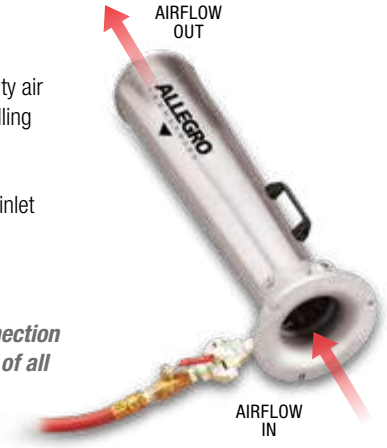
YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

## OPERATION

Compressed air or saturated steam is the power source for our Venturi Blower line. Small volumes of high-velocity air (from the compressed air source) run through the casting and out the nozzle jets, creating a venturi action or pulling action that creates large volumes of air through the venturi and out the air diffuser.
A 1" to 1 ½" hose with a "crows foot" connection is recommended from your air supply source to the side inlet connection. The compressor size required can be determined by checking the chart on air consumed at various inlet pressures. Operate this Venturi Blower on air or steam lines limited to 140 psi.

- ***Choose from Metal or Anti-Static Plastic Linear Low-Density Polyethylene (LLDPE)***
- ***Lightweight construction***
- ***Convenient carry handles for one-person portability to any location***
- ***No guards required***
- ***Multiple inlet ports***
- ***Sturdy steel galvanized steel diffuser***
- ***All models include a crow's foot inlet connection***
- ***Static ground wire is attached to the base of all blowers (for use in hazardous locations)***
- ***Single-piece cast aluminum inlet housing***




## SPECIFICATIONS

MADE IN THE USA

| Overall Length | Diameter of Base | Diameter Top of Horn | NPT Size | Bolt Circle Diameter | Basic Slot Diameter | Net Weight | Order No. |
|---|---|---|---|---|---|---|---|
| 16.75" | 7.31" | 6.00" | .5" | 6.56" | 0.4" | 5.5 lbs. | 9518-03S |
| 16.75" | 7.31" | 6.00" | .5" | 6.56" | 0.4" | 4.4 lbs. | 9518-13S (plastic) |
| 30.50" | 7.31" | 7.00" | .5" | 6.56" | 0.4" | 8.5 lbs. | 9518-03 |
| 30.50" | 7.31" | 7.00" | .5" | 6.56" | 0.4" | 6.2 lbs. | 9518-13 (plastic) |
| 44.25" | 11.25" | 12.50" | 1" | 10.50" | 0.4" | 22.3 lbs. | 9518-06 |
| 44.25" | 11.25" | 12.50" | 1" | 10.50" | 0.4" | 14.9 lbs. | 9518-16 (plastic) |
| 46.06" | 14.37" | 14.25" | 1" | 13.62" | 0.5" | 36.0 lbs. | 9518-08 |
| 46.06" | 14.37" | 14.25" | 1" | 13.62" | 0.5" | 26.3 lbs. | 9518-18 (plastic) |
| 48.00" | 17.50" | 15.75" | 1" | 15.50" | 0.6" | 42.0 lbs. | 9518-10 |

*Overall length can vary up to 1/2"* *Diameter Top of Horn can vary up to 1/4"*

# AIRFLOW

### TOTAL AIRFLOW

| 60 PSIG. | 80 PSIG. | 100 PSIG. | Order No. | |
|---|---|---|---|---|
| 865 CFM | 1080 CFM | 1205 CFM | 9518-03S | 9518-13S |
| 1135 CFM | 1310 CFM | 1465 CFM | 9518-03 | 9518-13 |
| 2560 CFM | 3020 CFM | 3700 CFM | 9518-06 | 9518-16 |
| 4215 CFM | 4810 CFM | 5435 CFM | 9518-08 | 9518-18 |
| 6180 CFM | 7305 CFM | 8220 CFM | 9518-10 | |

### AIR CONSUMED

| 60 PSIG. | 80 PSIG. | 100 PSIG. | Order No. | |
|---|---|---|---|---|
| 30 SCFM | 40 SCFM | 50 SCFM | 9518-03S | 9518-13S |
| 30 SCFM | 40 SCFM | 50 SCFM | 9518-03 | 9518-13 |
| 60 SCFM | 80 SCFM | 100 SCFM | 9518-06 | 9518-16 |
| 110 SCFM | 140 SCFM | 180 SCFM | 9518-08 | 9518-18 |
| 190 SCFM | 250 SCFM | 380 SCFM | 9518-10 | |

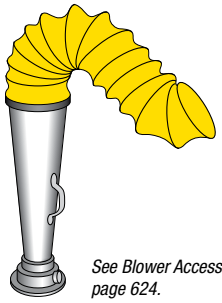
### FREE AIR INDUCTION RATIOS *(Airflow divided by Air Consumed)*

| 60 PSIG. | 80 PSIG. | 100 PSIG. | Order No. | |
|---|---|---|---|---|
| 28.83 | 27.00 | 24.10 | 9518-03S | 9518-13S |
| 37.83 | 32.75 | 29.30 | 9518-03 | 9518-13 |
| 42.67 | 37.75 | 37.00 | 9518-06 | 9518-16 |
| 38.32 | 34.36 | 30.19 | 9518-08 | 9518-18 |
| 32.53 | 29.22 | 21.63 | 9518-10 | |

Example:
When using 9518-03S or 9518-13S with air supply 60 PSIG. and 30 SCFM, the total outlet airflow will generate up to 865 CFM.

Models 9518-03, 9518-03S, 9518-13, and 9518-13S use 8-inch ducting.

Models 9518-06, 9518-08, 9518-10, 9518-16, and 9518-18 use 16-inch ducting.



*See Blower Accessories page 624.*

### ACCESSORY PART NUMBERS

| Description | Order No. |
|---|---|
| Duct to Duct Connector for 8" Ducting | 9500-01 |
| Duct to Duct Connector for 16" Ducting | 9600-01 |
| Adapter/Reducer 16" to 8" | 9600-50 |
| Storage Bag for 8" Ducting | 9500-45 |
| Storage Bag for 16" Ducting | 9600-45 |
| Storage Rack for 8" Ducting | 9500-35 |
| Storage Rack for 16" Ducting | 9600-36 |

### DUCTING PART NUMBERS

| Description | Order No. |
|---|---|
| 15' of 8" Ducting | 9500-15 |
| 25' of 8" Ducting | 9500-25 |
| 15' of 8" Statically Conductive Ducting | 9500-15EX |
| 25' of 8" Statically Conductive Ducting | 9500-25EX |
| 15' of 16" Ducting | 9600-15 |
| 25' of 16" Ducting | 9600-25 |
| 15' of 16" Statically Conductive Ducting | 9600-15EX |
| 25' of 16" Statically Conductive Ducting | 9600-25EX |

# PNEUMATIC BLOWERS

## 20" JET FAN

This heavy-duty aluminum fan can be used as a blower or exhaust by simply reverse mounting. Compressed air is pushed through a nozzle at the end of each blade, creating up to 10,500 CFM at 100 psig. The fan features heavy-duty ball bearings that are permanently lubricated and sealed for the life of the fan.

- ▷ *3/4" side mount inlet connector*
- ▷ *Spark resistant*
- ▷ *Easy to transport with recessed handles or can be rolled*
- ▷ *Dimensions: 9 7/8"h x 24 3/4" diameter*

MADE IN THE USA

**Order No.** 9518-20

## 24" JET FAN

Compressed air is pushed through a nozzle at the end of each blade, propelling the fan at speeds up to 16,000 RPM at 100 psig. This heavy-duty aluminum fan can be used as a blower or exhaust by simply reverse mounting.

- ▷ *3/4" side mount inlet connector*
- ▷ *Heavy-duty ball bearings permanently lubricated and sealed for the life of the fan*
- ▷ *Spark-resistant unit*
- ▷ *Easy to transport with recessed handles or can be rolled*
- ▷ *Dimensions: 11 3/4"h x 32 3/4" diameter*

MADE IN THE USA

**Order No.** 9518-24

# CFM AT GIVEN STATIC PRESSURE (IN WG)

| Jet Fan Size | Inlet Pressure (PSIG) | Air Consumption (SCFM) | Static Pressure (in inches of water) | | | | |
|---|---|---|---|---|---|---|---|
| | | | 0" | 1" | 2" | 3" | 4" |
| 20" Jet Fan | 40 | 60 | 6,000 | 3,600 | 1,600 | 200 | — |
| | 60 | 114 | 7,500 | 5,900 | 3,900 | 2,300 | 1,200 |
| | 80 | 186 | 9,000 | 7,700 | 6,000 | 4,400 | 3,200 |
| | 100 | 292 | 10,500 | 9,200 | 7,800 | 6,300 | 4,800 |
| 24" Jet Fan | 40 | 76 | 8,200 | 2,400 | — | — | — |
| | 60 | 147 | 11,000 | 6,500 | — | — | — |
| | 80 | 225 | 12,900 | 9,900 | 6,200 | 3,400 | 1,200 |
| | 100 | 338 | 16,000 | 14,000 | 11,300 | 8,300 | 6,300 |

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# BLOWER ACCESSORIES

## ADAPTER REDUCER

Our lightweight, yellow and black, soft nylon adapter reducer is rugged enough to stand up to any working condition and is designed for most air handling capabilities. Its flexible and collapsible design allows for easy storage when not in use. The reducer is available in three models and includes a duct-to-duct connector.

*Note: 16" reducers can NOT be used with 9516 a nd 9515-50EX blowers.*

MADE IN THE USA

| Description | Order No. |
|---|---|
| 12" - 8" Flexible Vinyl | 9550-50 |
| 16" - 8" Flexible Vinyl | 9600-50 |
| 16" - 12" Flexible Vinyl | 9600-55 |

## EXPLOSION-PROOF SOCKET

Designed for use in hazardous locations. Features an iron mounting box with triple coat finish and spring-loaded door keeping dust out of receptacle when plug is not in use. When plug is in use, a neoprene gasket inside receptacle seals around plug keeping out dirt, water, dust, and other foreign matter.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 110V | 9503-03 |
| 220V | 9503-06 |

## BLOWER FILTER BOX

Hook up your existing blower with 8" ducting to the back of our Filter Box. It filters the ambient air from or to the blower through the Filter Box. Can be attached on either inlet or outlet side of blower for positive or negative filtration. Filters particulates and dust. Made of galvanized sheet metal. Operates with up to two filters inserted at once. One filter included. Dimensions are 24"l x 24"w. Weighs 13 lbs.

**Order No.** 9500-34

MADE IN THE USA

## DUCT-TO-DUCT CONNECTOR

Allows safe connection of additional ducting for remote locations, this connector is constructed of galvanized steel with a raised lip to hold ducting in place.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" diameter | 9500-01 |
| 12" diameter | 9550-01 |
| 16" diameter | 9600-01 |
| 20" diameter | 9650-01 |
| 26" diameter | 9700-26 |

## STANDARD EXTENSION CORD

This 50' yellow extra heavy-duty cord powers 15 AMP, 120V. Weather-resistant at temperature range of -40° F to 140° F (-40° C to 60° C). Includes rugged and durable clear molded plugs. Meets OSHA specifications and UL-listed. Weighs 13 lbs.

**Order No.** 9540-50

MADE IN THE USA

## Y-DUCT CONNECTOR

Our Y-Duct Connectors help distribute airflow in multiple directions. Made of industrial-grade galvanized sheet metal and sized to fit standard 8", 12", 16" or 20" circular ducting. The adapter inlets measure 8" x 8" x 8", 12" x 12" x 12", 16" x 16" x 16" or 20" x 20" x 20" respectively. Easily connects to your ducting by using standard ring clamps. Using multiple Y-Duct Connectors with other fittings may reduce your airflow.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" diameter, 4 lbs. | 9500-Y |
| 12" diameter, 7 lbs. | 9550-Y |
| 16" diameter, 10 1/2 lbs. | 9600-Y |
| 20" diameter, 16 lbs. | 9650-Y |

## EXPLOSION-PROOF EXTENSION CORD

This 50' black extension cord comes with a 20 AMP connector and plug. Weather-resistant at a temperature range of -40° F to 221° F (-40° C to 105° C). Flexible and provides excellent abrasion resistance. UL-listed and CSA-certified for indoor and outdoor use. CSA Certifications: Class I Division 1 & 2 Groups B, C, and D; Class II, Division 1 & 2 Groups F* and G. Weighs 15.5 lbs.

**Do not use where electrically conductive dusts are present (most coal dust is not electrically conductive).*

MADE IN THE USA

| Description | Order No. |
|---|---|
| 110V | 9540-50EX |
| 220V | 9540-60EX |

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# DUCTING

*Statically conductive ducting is black.*

MADE IN THE USA

## DUCTING

We can handle all your ducting needs with our extensive offering in five different diameters: 8", 12", 16", 20", and 26". The 8" ducting is available in 6', 15', and 25' lengths. The 12", 16", 20", and 26" ducting are available in 15' and 25' lengths. Lightweight and retractable, this ducting is designed for maximum air handling capabilities and built for dual-direction flow with minimum friction loss.

- ***Made from vinyl and polyester materials with PVC coating***
- ***Non-collapsible design with yellow and black weather strip for visibility***
- ***Meets ASTM 227 specs***
- ***Temperature resistance up to 180° F***

| | 8" | 12" | 16" | 20" | 26" |
|---|---|---|---|---|---|
| 6 feet | 9500-06 | 9550-06 | | | |
| 15 feet | 9500-15 | 9550-15 | 9600-15 | 9650-15 | 9700-15 |
| 25 feet | 9500-25 | 9550-25 | 9600-25 | 9650-25 | 9700-25 |

## STATICALLY CONDUCTIVE DUCTING

We offer ducting in four different diameters: 8", 12", 16", and 20", available in 15' and 25' lengths for static conductive environments. This lightweight and retractable ducting is designed for maximum air handling capabilities with dual direction flow and low friction loss, providing a safe, positive means of discharging static build-up.

- ***Made from vinyl and polyester materials with a neoprene coating***
- ***Temperature resistance up to 250° F***
- ***Integrated with extended solid grounding wire at each end***
- ***Meets ASTM Specs and UL-94-VO requirements***
- ***Rated to 1,000,000 OHMS or less per square inch***

| | 8" | 12" | 16" | 20" |
|---|---|---|---|---|
| 15 feet | 9500-15EX | 9550-15EX | 9600-15EX | 9650-15EX |
| 25 feet | 9500-25EX | 9550-25EX | 9600-25EX | 9650-25EX |

## LAY FLAT DUCTING

Lightweight air ventilation tubing, similar to a plastic bag, is manufactured from durable clear polyethylene. Engineered for maximum elasticity, flexibility, toughness, and resistance to splitting and tearing, it is most commonly used for transferring large volumes of forced air to confined areas, such as water restoration projects, building renovations, or other temporary applications. This tubing is not designed for permanent installations and collapses when airflow stops.

- ***Unaffected by moisture and most chemicals***
- ***Resistant to bacterial and fungal growth, making it suitable for use in food preparation areas***
- ***Temperature range: 41° F to 150° F (5° C to 65° C)***
- ***22" diameter flat***
- ***Length: 500'***

MADE IN THE USA

| Description | Order No. |
|---|---|
| Fits up to 14" blowers | 9500-500 |
| Fits 16" and 20" blowers | 9600-500 |

## STO-SACK

This lightweight self-storage bag with attached ducting is designed for convenient storage and easy transport of ducting. Available in different diameters and lengths, the bag features flame-retardant materials, a fastening belt to attach directly to a blower, a drawstring closure to store ducting in the bag, and a built-in carry handle.

- ***Ideal for moving large volumes of air, smoke, or fumes using portable and temporary ventilation blowers under positive pressure***
- ***Made of single-ply, PVC-coated, flame-retardant vinyl and polyester materials***
- ***Temperature range: -20° F to 180° F (-28.8° C to 82.22° C)***
- ***Retractable, non-collapsible design with Class 1 hard-drawn spring steel wire helix***
- ***Includes fastening cuff to attach the bag to the blower***
- ***Yellow color with black weather strip***
- ***Meets ASTM 227 specifications***

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" x 15' Ducting | 9500-15SB |
| 8" x 15' Statically Conductive Ducting | 9500-15EXSB |
| 8" x 25' Ducting | 9500-25SB |
| 8" x 25' Statically Conductive Ducting | 9500-25EXSB |
| 12" x 15' Ducting | 9550-15SB |
| 12" x 15' Statically Conductive Ducting | 9550-15EXSB |
| 12" x 25' Ducting | 9550-25SB |
| 12" x 25' Statically Conductive Ducting | 9550-25EXSB |

## PLASTIC DUCTING STORAGE CANISTERS

Constructed from Linear Low-Density Polyethylene (LLDPE), this lightweight canister holds 25' of either 8" or 12" ducting. Transporting this canister is made easy with the molded-in carry handle. A secured lid with strap and side release plastic buckle are additional design features to this convenient storage canister.

MADE IN THE USA

| Description | Order No. |
|---|---|
| 8" Plastic Ducting Storage Canister | 9500-55 |
| 12" Plastic Ducting Storage Canister | 9550-55 |

## DUCT STORAGE BAG

For easy storage and transportation. Polyester bag with cylinder shape for tight controlled fit will hold up to 25 feet of 8", 12", 16" or 20" ducting. Features double zipper for ease of access, reinforced carry handle and shoulder strap.

| Description | Order No. |
|---|---|
| 8" Ducting | 9500-45 |
| 12", 16" or 20" Ducting | 9600-45 |

ALLEGRO INDUSTRIES

# MANHOLE VENTILATION PASSTHRU

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## 8” MANHOLE VENTILATION PASSTHRU (MVP)

The first manhole system that combines a low-profile manhole air vent, 90° elbow, and built-in mounting all in one unit. This compact and lightweight unit comes with a collapsible duct, made from vinyl and polyester with PVC coating, stored in a small storage bag, which can be quickly released and dropped into the manhole. The ducting springs back into shape once the worker is inside.

- ***Heat resistant up to 180° F***
- ***Meets ASTM 227 specs and is UL 94V-0 flame-retardant***
- ***Manhole cover fits into a flat channel corner for stabilization***
- ***Constructed from Linear Low-Density Polyethylene (LLDPE)***
- ***Easy to store and ships in one small carton***
- ***Recyclable***

MADE IN THE USA

| Description | Order No. | |
|---|---|---|
| 8" Manhole Ventilation Passthru (MVP) | 9510-50 | |
| 8" Manhole Ventilation Passthru (MVP) with 15' Ducting | 9510-55 | |

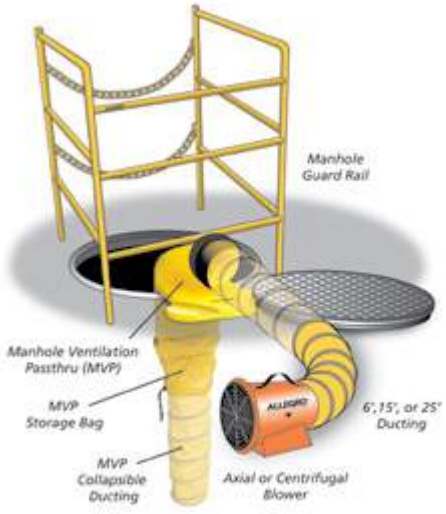
## 12” MANHOLE VENTILATION PASSTHRU (MVP)

The first manhole system that combines the low-profile manhole air vent, 90° elbow, and built-in mounting all in one unit. This unit comes with a collapsible duct for easy entry, made from vinyl and polyester with PVC coating, stored in a small storage bag that can be dropped down into the manhole with a quick release of the drawstring. The collapsible duct springs back into shape once the worker is down into the manhole. The ducting is heat resistant up to 180° F, meets ASTM 227 specs, and is UL 94V-0 flame-retardant.

- ***Manhole cover fits into a flat channel corner for stabilization***
- ***Compact, lightweight, and made from Linear Low-Density Polyethylene (LLDPE)***
- ***Not statically conductive***
- ***Easy to store and ships in one small carton***
- ***Recyclable***

MADE IN THE USA

| Description | Order No. | |
|---|---|---|
| 12" Manhole Ventilation Passthru (MVP) | 9510-60 | |
| 12" Manhole Ventilation Passthru (MVP) with 15' Ducting | 9510-65 | |



# 8" EX-PROOF MANHOLE VENTILATION PASSTHRU (MVP)

The first explosion-proof system that combines the low-profile manhole air vent, 90° elbow, and built-in mounting all in one unit. This unit comes with a collapsible duct for easy entry, stored in a small storage bag that can be dropped into the manhole with a quick release of the drawstring. The Collapsible duct springs back into shape once the worker is down into the manhole. The ducting made from neoprene-coated, single ply, vinyl and polyester materials, heat resistant up to 250° F (121.1° C), meets ASTM 227 specs, and is UL 94V-0 flame retardant.

- ***Manhole cover fits into a flat channel corner for stabilization***
- ***Compact, lightweight, and made from Linear Low-Density Polyethylene (LLDPE) conductive material***
- ***Easy to store and ships in one small carton***
- ***Recyclable***

| Description | Order No. |
|---|---|
| 8" EX-Proof Manhole Ventilation Passthru (MVP) | 9510-50EX |

ALLEGRO INDUSTRIES

# HIGH-OUTPUT FANS

*Swing Arm Mount Sold Separately*

SCAN TO WATCH VIDEO

YouTube

*Video available on the ALLEGRO INDUSTRIES Channel*

www.youtube.com/AllegroIndustries

*Wall Mount Sold Separately*

## HIGH-OUTPUT FAN

ALLEGRO's NEW series of High-Output Fans are versatile enough to withstand tough working conditions in warehouses and industrial settings; all while offering a refreshing breeze. These durable fans are built for high-velocity performance and superior distance of air throw to keep your employees comfortable as well as maximize their productivity.

- ***High CFM output***
- ***Made from lightweight, high-impact Linear Low-Density Polyethylene (LLDPE)***
- ***Venturi-style inlet helps create even, non-disturbed airflow***
- ***Vibrant yellow color for easy visibility***
- ***360° turn radius and 130° tilt angle to push air where it's needed most***
- ***Low energy consumption***
- ***Powder-coated steel yoke bracket that's easily mountable***
- ***Available with optional swing arm or wall mount brackets***

MADE IN THE USA

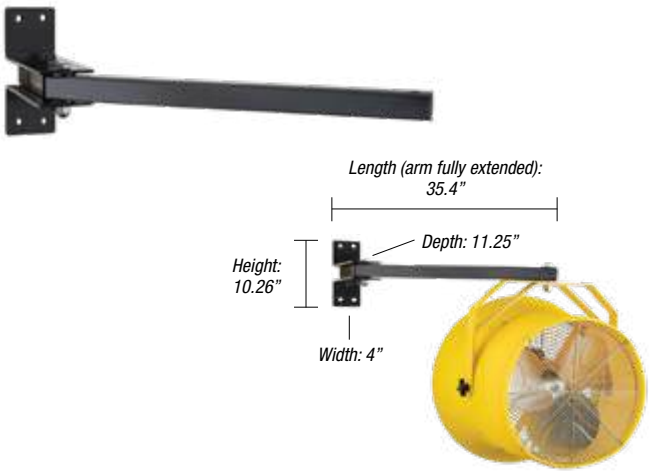
| Diameter | Length | Width | Height | Weight | CFM | Order No. |
|---|---|---|---|---|---|---|
| 18" | 16" | 24.5" | 16" | 44 lbs. | 4179 | 9541-18 |
| 22" | 16" | 29" | 16" | 48 lbs. | 5606 | 9541-22 |

## HIGH-OUTPUT FAN WALL MOUNT

Our metal Wall Mount is made from 1/4" and is designed to mount either of our 18" or 22" High-Output Fans. Fan-mounting hardware is included while mounting hardware to the surface is not.

MADE IN THE USA

| Description | Order No. |
|---|---|
| High-Output Fan Wall Mount (4"w x 20"d x 26.25"h) | 9541-05 |




## HIGH-OUTPUT FAN SWING ARM MOUNT

Our metal Swing Arm Mount is made from 1/4" and is designed to mount either of our 18" or 22" High-Output Fans. The Swing Arm moves freely to position our fans in the optimal position you want. Fan-mounting hardware is included while mounting hardware to the surface is not.

MADE IN THE USA

| Description | Order No. |
|---|---|
| High-Output Fan Wall Mount (4"w x 11.25"d x 35.4"l) | 9541-10 |

ALLEGRO INDUSTRIES

# CARPET BLOWERS

## THREE SPEED CARPET DRYER BLOWER

Designed for speed drying of wet carpets, pads, floors, and walls. Lightweight, plastic, blue housing that holds a squirrel cage fan and is stackable for convenient storage. The integrated carry handle allows for easy transport. Flat outlet allows blower to be directed under carpets. UL-listed. Certified to CSA STD C22.2 No 113.

| | |
|---|---|
| Dimension | 20”w x 17”d x 20”h |
| Weight | 28 lbs. |
| Power Supply | ½ hp 115V AC, 60 Hz |

**Order No.** 9519-03
**Order No.** 9519-03E

*Blowers offered in 220V/50 Hz. Does not meet the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113. For more information call Customer Service at 800-622-3530.*

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

# 07

# CONFINED SPACE EQUIPMENT

ALLEGRO INDUSTRIES

# LID LIFTERS

## MAGNETIC MANHOLE LID LIFTER

Safe and strain-free removal of manhole covers

Designed for quick and safe removal and replacement of manhole covers by yourself. Minimizes stress and strain on the back and body. Collapsible for easy storage and transport. Can access uneven textured surfaces found on manhole covers with dual position lifting points to provide the power to break loose the most stubborn covers. For safety purposes, the magnet must be in contact with manhole cover to be engaged.

- ***Reduces strain on operator when lifting manhole covers***
- ***Eliminates the use of pry bars***
- ***Folds for easy transport to worksite***
- ***Moves covers up to 36" in diameter***
- ***Offered with a steel or aluminum dolly***
- ***Lifts Up To 900lbs***

MADE IN THE USA

| Description | Order No. |
|---|---|
| Steel Dolly and 660 lb. Magnet (lift weight)* | 9401-25 |
| Steel Dolly and 900 lb. Magnet (lift weight)* | 9401-26 |
| Aluminum Dolly and 660 lb. Magnet (lift weight)* | 9401-25A |
| Aluminum Dolly and 900 lb. Magnet (lift weight)* | 9401-26A |
| Steel Dolly | 9401-27 |
| Aluminum Dolly | 9401-27A |

**See spec sheets for flat and round item lifting weights.*

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## COMPACT MAGNETIC LID LIFTER

This lightweight, one-piece compact magnetic lid lifter makes moving the toughest manhole covers easy. It features a durable aluminum handle and base with rubber grips on the handles for secure handling. The magnets are surrounded by impaction protection guards and a storage tray allows for mobility during transportation. The magnets are made from rare neodymium that doesn't wear out.

- ***Three magnets (3.5"l x 2"w, 12 lbs.) provide 150 lbs. of lifting capacity***
- ***Shell Guard: 13"l x 8"w***
- ***Lid Lifter: 34"h, 14 lbs.***

**Order No.** 9401-35

MADE IN THE USA

## MANHOLE LID LIFTER

The toughest manhole covers are easy to move with this one-piece lifter. It features a long all-steel handle that provides the leverage necessary to lift the heaviest lids. For safe storage, the alloy steel hook recesses and locks into the pole. Rubber grips on the handle and foot prevent slips and cadmium-plating fights rust. 42" long, 9 lbs.

**Order No.** 9401-20

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

SCAN TO WATCH VIDEO

## MAGNETIC VALVE BOX LID LIFTER

Our series of lightweight Magnetic Valve Box Lid Lifters are specifically designed to eliminate the need to bend over when lifting and removing cast iron utility and valve box covers reducing strain on your back and body. The magnetic field penetrates texture surfaces of lids and allows the operator to ergonomically lift the casting out of the way reducing toe and finger injuries. They also feature a locking On/Off handle for safety, which makes removing covers quick and easy.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Magnetic Valve Box Lid Lifter (lift weight: 50 lbs.) | 9401-40 |
| Deluxe Magnetic Valve Box Lid Lifter (lift weight: 75 lbs.) | 9401-45 |

# LID LIFTER ACCESSORIES

These accessories are ONLY for the Magnetic Manhole Lid Lifter (9401-25/9401-26 series)

## MAGNET

Offered in two strengths, the lifting magnet will lift manhole lids up to 660 lbs. The heavy-duty magnet with lift manhole lids up to 900 lbs. Requires no special tools or power sources.

| Description | Order No. |
|---|---|
| 660 lb. Magnet (lift weight)* | 9401-28 |
| 900 lb. Magnet (lift weight)* | 9401-28S |

**See spec sheets for flat and round item lifting weights.*

## MAGNETIC LID LIFTER SPREADER BAR

Allows the use of two magnets simultaneously for those extra-heavy and oversized lids or grates. Bar hangs onto existing dolly without the need to assemble. Magnets not included.
Weighs 6 lbs.

**Order No.** 9401-31

MADE IN THE USA

## MAGNETIC LID LIFTER EXTENSION

Extends the overall length by 7 inches to increase the leverage for heavier lids. Also extends the distance from the wheels for very large lids. Attached to the existing dolly with set screw and pin.

**Order No.** 9401-33

MADE IN THE USA

## STORM GRATE LIFTING ADAPTER

Three hooks for easy lifting and moving rectangular storm grates.

**Order No.** 9401-30

MADE IN THE USA

## MAGNETIC LID LIFTER HOOK

Designed to angle the hook for those hard-to-reach manholes. The zinc-plated, 5/0 chain is 24 inches long for adjustability. Made of 4130 tempered steel to hold up to the heaviest lids. Heat treated to 30-35 RC & oil quench. Also included: anchor shackle (3/8" diameter, $^{3}/_{8}$" pin., $^{13}/_{16}$" spread) and threaded connector ($^{3}/_{8}$" diameter, $^{27}/_{16}$"l x $^{3}/_{4}$"w).

**Order No.** 9401-32

MADE IN THE USA

## LARGE 10" PUNCTURE PROOF WHEELS

10" puncture-proof wheels increase footprint for use on soft ground. Drop axles ensure height remains the same as when using standard wheels.

**Order No.** 9401-29

MADE IN THE USA

ALLEGRO INDUSTRIES

# CONFINED SPACE ACCESSORIES

## MANHOLE GUARD RAIL

- *Strong, one-inch tubular .078-gauge steel*
- *Power-coated in safety yellow for a durable finish and high visibility*
- *Easy, tool-free assembly*
- *One-piece construction*
- *Protected entry and exit with rail locks and hooking chains*
- *Accommodates signs, flags, or lights*
- *Compatible with guard rail tent, umbrellas, or winch (9401 model only)*

**This assembly is to be used as a "Temporary Barrier Railing" only. See OSHA 1910.146(c)(5)(ii)(B)*

| Description | Order No. |
|---|---|
| 33" Manhole Guard Rail | 9401 |
| 42" Manhole Guard Rail | 9401-05 |

## HIGH-IMPACT POLYMER MANHOLE SHIELD

Constructed of rugged, lightweight Polyethylene with bright yellow material that resists fading.

- *Fits 28", 30", and 32" diameter manholes*
- *Inflatable seal ensures a watertight seal*
- *4 outrigger support gussets for stabilization*
- *12" tall to keep water and mud out of the manhole during work*
- *Can be used with ALLEGRO guard rail*

**Order No.** 9401-12

MADE IN THE USA

SCAN TO WATCH VIDEO

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## GUARD RAIL WINCH

Raising and lowering equipment into confined spaces can be impossible without this durable winch.

- *Lightweight and portable*
- *300 lb. capacity*
- *Easy mounting on 9401-model guard rail*
- *Side pieces made of high-tensile, heavy gauge aluminum*
- *Yellow finish that resists weather and wear*
- *Winch bar made of rugged high-tensile steel tubing with 3" drum for fast recovery*
- *Load control and security with two independent ratchet systems & double-disc automatic brake*
- *Strong and durable 1/2" and 35' nylon braided rope*
- *Guard rail not included*

*WARNING: Not for use as a personal retrieval device.*

| Description | Order No. |
|---|---|
| Guard Rail Winch | 9401-10 |
| 35' Winch Rope | 9401-36 |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

# MANHOLE SAFETY CROSS

The Manhole Safety Cross is a two-bar system that interlocks in the center to reduce the manhole opening size minimizing the chance of falling into the manhole. This unique safety device installs in seconds, stores easily, and causes zero damage to the manhole or street. For added safety, each bar is labeled with warning stickers and numbered for easy installation. Available in small and large adjustable size options.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Adjustable Small Manhole Safety Cross (fits 18", 21", and 24" manhole openings | 9406-24A |
| Adjustable Large Manhole Safety Cross (fits 26", 30", and 36" manhole openings) | 9406-36A |

ALLEGRO INDUSTRIES

# DEWATERING PUMPS

*Portable and submergible pumps are excellent for manholes, vaults, construction sites, and all dewatering needs. They offer top discharging which allows continuous operation at low water levels and extended dry runs without overheating. Includes synthetic rubber wear parts and vortex impeller for durability. All pumps and hoses feature fire hose-style quick-connect fittings, and a V-ring system to protect the shaft seal from abrasives.*

## SLUDGE PUMP

Excellent for pumping standing water containing sand, solids, leaves, or debris at a maximum of 50 gallons per minute. Submersible to 39 feet and continuous running water level to 3 1/2". 1/2 hp motor.

**Order No.** 9404-04

## STANDARD DEWATERING PUMP

Excellent for manholes, vaults, construction sites, and all dewatering needs. Offers top discharging and allows continuous operation in low water levels. Includes synthetic rubber wear parts and vortex impeller. Fire hose quick-connect fitting. Offers easy disassembly with one 12mm box/ socket wrench.

**Order No.** 9404-02

## PUMP DISCHARGE HOSE

Features tough PVC material, collapsible design for compact storage and fire-hose quick-connect design. Measures 50' x 2".

**Order No.** 9404-50

## SPECIFICATIONS

| Model | Discharge Bore Inch | Motor Output HP | Phase | Total Head* (MAX.) ft. | Capacity (MAX.) gal/min | Rated Current-Amps | Starting Method | Weight | Length of Cable ft. | Dimensions inches | | C.W.L.* inch | Order No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Diameter | Height | | |
| Standard Pump | 2 | 2/3 | Single | 39 1/2 | 63 1/2 | 5.4 | Capacitor | 21 | 32 | 7 3/8 | 12 | 2 | 9404-02 |
| Sludge Pump | 2 | 1/2 | Single | 39 | 50 | 5.1 | Capacitor | 25 | 20 | 9 1/2 | 13 3/8 | 3 1/2 | 9404-04 |

*Max. Cable Length (including standard 32 ft.): * Total Head - Maximum depth pump may be submerged. * C.W.L. - Continuous Running Water Level*

# 08

# OUTDOOR EQUIPMENT

ALLEGRO INDUSTRIES

# WORK TENTS AND HEATERS

*Constructed to the highest standards for durability and ease of use, you'll find our line of outdoor equipment stands up to the elements in even the harshest of conditions. These work tents and heaters are made with high-quality materials and are designed to keep your onsite workers as comfortable as they are safe.*

SCAN TO WATCH VIDEO

YouTube

*Video available on the ALLEGRO INDUSTRIES Channel*

www.youtube.com/AllegroIndustries

## ECONOMY WORK TENT

Utility shelter springs from backpack into a full-size (6'd x 6'w x 7'h) tent in seconds. It is made from water-resistant, flame-retardant, and UV-treated nylon with 360° reflective striping. Quick set-up from the inside or outside, with two floor-to-floor fiber poles for better stability and structural strength. One large door and two large windows offer easy access for workers and equipment, an open bottom allows for protection while working over manhole covers or excavation sites.

- ***Available in hi-viz green***
- ***Compact and lightweight design***
- ***Includes twelve yellow 9" plastic stakes***
- ***Folds to 31"l x 2½"h***
- ***Weighs 22 lbs.***

**Order No.** 9403-66

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YouTube

*Video available on the ALLEGRO INDUSTRIES Channel*

www.youtube.com/AllegroIndustries

## DELUXE WORK TENT

Easy to use and very durable, the Deluxe Work Tent features quick set-up from the inside or outside with a fiberglass rod frame. These frames are uniquely designed to not pull out or poke through the fabric. A handy attached roll-up flap provides compact storage and easy transport and means no missing storage bag. Offered in two sizes, it is available in a one-door design with zipper closure or a two-door design with one zipper and one roll-up door. The pitch roof style provides extra headroom and structural strength and repels snow and water. Frame rods are bolted for increased stability and the unbreakable hinges are made of rolled steel. The free-standing structural stability is excellent in windy conditions. For safety, side panels are hi-viz green, and the white color of the tent allows proper lighting for color matching. Included is a blower duct tube in the rear of the tent, and a covered window. Flame-retardant. Weighs 32 lbs. MADE IN THE USA

| Description | Order No. |
|---|---|
| 6'w x 6'd x 6½'h, 1 door | 9401-66 |
| 8'w x 8'd x 7½'h, 1 door | 9401-88 |
| 6'w x 6'd x 6½'h, 2 doors | 9402-66 |
| 8'w x 8'd x 7½'h, 2 doors | 9402-88 |

*Height measured from peak of roof*

## TENT HEATER

Our lightweight Tent Heater offers a rugged, heavy-duty design with an all-steel housing, enclosed heating elements, and a sealed motor. This powerful heater will raise the temperature 50˚ F (10˚ C) in a work tent. It is UL-listed, CSA-approved, requires 110V AC, and offers 1500 watts of 5000 BTU with 115 CFM airflow. 12"l x 8"w x 12"h. Weighs 14 lbs.

**Order No.** 9401-50

## HI-VIZ GREEN UTILITY CANOPY SHELTER

The perfect shelter for confined space sites, utilities or any workplace where shade/shelter is needed. Affordable and featuring hi-viz green for visibility, this polyester canopy offers 100% UV protection, meets CPAI 84 fire code, and is water- and fire-resistant. Powder-coated steel frame requires no tools for setup. Rust-proof ABS foot pads provide greater ground stability and pull-pin leg adjusters offer easy height adjustment and leveling capacity. This canopy offers a full truss ceiling design. Included are four steel stakes and nylon rope for securing canopy shelter and storage bag. Easy pop-up for quick set-up and tear-down. Comes with a convenient carry/storage bag. Dimensions: 10' x 10' Clearance from ground to lowest tress 7'1" (maximum) Overall height 11' (maximum). Weighs 53 lbs.

**Order No.** 9403-10

## SIDE WALL KIT

This optional Kit for the Canopy (9403-10) includes a continuous 3-wall panel. The white color of the side wall panel allows proper lighting for color matching. Made of 210D Polyester and meets CPAI 84 fire code.

**Order No.** 9403-11

*Meets the CSA requirements for the following product safety standards: Fans and Ventilators, C22.2 No. 113*

ALLEGRO INDUSTRIES

# UMBRELLAS

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YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
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*Guardrail sold separately*

## DELUXE UMBRELLA

This 84" diameter umbrella offers low-cost protection from sun and rain. It features heavy-duty vinyl in safety yellow with a sturdy 92" two-part metal pole that tilts for convenience. It can be pushed into the ground or strapped to the manhole guard rail. For easy storage, it collapses to 4' x 6" in length.

**Order No.** 9403

## NONCONDUCTIVE UMBRELLA

This 84" diameter Nonconductive Umbrella will protect you from the sun and rain at your job site. Constructed of waterproof UV-treated laminated vinyl with poles and fittings made from non-metallic material and leather-reinforced ends for added safety. The sturdy 48" pole with extension allows for adjustability measures up to 96". Set up and break down in seconds. Water-resistant storage bag included.

**Order No.** 9403-03

MADE IN THE USA

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
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## ECONOMY UMBRELLA

Using the same heavy-duty safety yellow vinyl as the Deluxe Umbrella, the Economy model uses a strong, pointed 84" two-part wood pole, is 68" in diameter and collapses to 4' x 6" in length.

**Order No.** 9403-01

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

## UMBRELLA STAND

When the umbrella pole cannot be driven into the ground, this metal stand with four locking legs offers stability and ensures against collapse. The legs fold up for compact storage and easy transport.

**Order No.** 9403-05

MADE IN THE USA

# 09

# WALL CASES

ALLEGRO INDUSTRIES

# WALL CASES

*ALLEGRO's comprehensive line of convenient storage products allow your respiratory equipment to last longer and work more efficiently. In addition, our defibrillator storage line is designed for quick and easy access—essential to storing life-saving equipment.*

## HI-VIZ HEAVY-DUTY SINGLE SCBA WALL CASE

Designed for a single SCBA, this low-profile wall-mounted case provides protection from dust, moisture, and damaging plant environments. The roto-molded material makes this case lightweight yet extremely rugged. Available in hi-viz yellow or green, ALLEGRO wall cases are easy to spot in the work environment. Two viewing windows allow easy visibility of the SCBA gauges and internal bracket and straps keep the SCBA secure. Comes standard with universal cylinder bracket. Can be mounted in a corner to reduce profile. Recyclable.

Exterior 17"w x 14"d x 32"h
Interior 15 3/4"w x 12 3/4"d x 28"h
Weight 18 lbs.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Hi-Viz Yellow | 4125 |
| Hi-Viz Green | 4150 |

## HI-VIZ HEAVY-DUTY DUAL SCBA WALL CASE

Built to store two SCBA units, this low-profile, hi-viz yellow or green wall-mounted case is rugged yet lightweight. Built for simple, fast installation, this wall case is also recyclable and built from Linear Low-Density Polyethylene (LLDPE). Four viewing windows on each side allow easy visibility of the SCBA gauges. Cylinder brackets and straps support the entire weight of the SCBAs. Comes with two universal wall brackets. Recyclable.

Exterior 34"w x 14"d x 32"h
Interior 31 1/2"w x 12 3/4"d x 28"h
Weight 38 lbs.

MADE IN THE USA

| Description | Order No. |
|---|---|
| Hi-Viz Yellow | 4325 |
| Hi-Viz Green | 4350 |

## ALL-WEATHER SCBA WALL CASE

Our 4600 series All-Weather SCBA Wall Cases are designed for the storage of wall-mounted SCBAs to withstand the harshest environmental and plant conditions. Made of injection-molded polypropylene, these watertight, crushproof, and dustproof cases are very lightweight but extremely rugged and durable. These cases feature a large viewing window to allow for easy visibility of the SCBA gauges. The walk-away cylinder bracket or cylinder strap supports the entire weight of the SCBA and keeps it secure inside the case.

Exterior 20.1"w x 12.1"d x 31.1"h
Interior 17.3"w x 10.6"d x 28.4"h
Weight 17 lbs., 21 lbs., or 22 lbs. (see below)

MADE IN THE USA

| Description | Order No. |
|---|---|
| Wall Case w/ Nylon Strap, 17 lbs. | 4600 |
| Wall Case w/ 5.25" Bracket, 21 lbs. | 4605 |
| Wall Case w/ 6.75" Bracket, 22 lbs. | 4606 |
| Wall Case w/ 7.25" Bracket, 22 lbs. | 4607 |

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## SCBA COVER KITS

The Deluxe SCBA Cover Kit protects SCBAs from dirt and UV light. Hook-and-loop closure offers quick access. Includes heavy vinyl cover, silk screened identification, masonite backboard, and a deluxe tough, yellow steel cylinder bracket.

| Description | Order No. |
|---|---|
| w/ 5 1/4" clip | 4110-15 |
| w/ 6 3/4" clip | 4110-16 |
| w/ 7 1/4" clip | 4110-17 |
| Cover and Backboard only | 4110-18 |

4111 SERIES

4110-04

## DELUXE SCBA BRACKET

The Deluxe SCBA Bracket is constructed of durable coated steel.

| Description | Order No. |
|---|---|
| 5 1/4" clip fits 30 min., hp | 4111-05 |
| 6 3/4" clip fits 30 min., lp & 45 min., hp | 4111-06 |
| 7 1/4" clip fits 60 min., hp | 4111-07 |

## EBA BRACKET

For escape breathing apparatus. 4 3/4" clip fits 5/10-minute EBA.

**Order No.** 4110-04

*SCBA and Mask Not Included*

## SCBA BAG

Easy to transport and store, this durable rectangular carry bag features reinforced handles, shoulder strap and dual zipper entry. Internal padding protects SCBA and mask. Accessory zipper pouch and internal straps with side release buckle. Size: 30"l x 12"w x 13"h

**Order No.** 4100-45

MADE IN THE USA

# DELUXE AND STANDARD WALL CASE

Our Deluxe and Standard wall cases protect respirators against damaging plant and window environments. They are made of corrosion-resistant ABS with ultraviolet inhibitors. Nonmetallic hinges and latches prevent rust while a rubber door seal protects equipment from dust and moisture. The Deluxe Case comes with shelf and single SCBA cylinder bracket. The Standard Case offers the same large capacity, without shelf or bracket.

SCAN TO WATCH VIDEO

| | |
|---|---|
| Exterior | 20”w x 13”d x 32 1/2”h |
| Interior | 18”w x 10”d x 28”h |
| Weight | 13 lbs. |

MADE IN THE USA

| Description | Order No. |
|---|---|
| Deluxe Wall Case | 4100 |
| Standard Wall Case | 4101 |

YouTube
*Video available on the ALLEGRO INDUSTRIES Channel*
www.youtube.com/AllegroIndustries

# HI-VIZ HEAVY-DUTY EMERGENCY RESPIRATOR WALL CASE

Designed to hold up to two 5 or 10 min EBAs and protect equipment from dust, moisture, and plant environments. This lightweight wall case can be mounted in a corner and the hi-viz green color makes locating easy. Made of Linear Low-Density Polyethylene (LLDPE), the rugged design features a window for easy visibility of equipment and is recyclable.

| | |
|---|---|
| Exterior | 14”w x 10”d x 21”h |
| Interior | 12 3/4”w x 8 3/4”d x 17”h |
| Weight | 10 lbs. |

MADE IN THE USA

**Order No.** 4550

# RESPIRATOR STORAGE WALL CASE

Perfect for storing APRs, cartridges, and other respirator accessories such as fit testing kits, storage bags, and cleaning supplies. One shelf included.

| | |
|---|---|
| Exterior | 14”w x 9 1/2”d x 18”h |
| Interior | 12”w x 7 1/2”d x 16”h |
| Weight | 4 lbs. |

MADE IN THE USA

**Order No.** 4400

# EMERGENCY RESPIRATOR WALL CASE

Holds up to two 5- or 10-minute EBAs. Made of corrosion-resistant ABS with ultraviolet inhibitors. No interior shelves.

| | |
|---|---|
| Exterior | 14”w x 9 1/2”d x 21”h |
| Interior | 12”w x 7 1/2”d x 19”h |
| Weight | 4 lbs. |

MADE IN THE USA

**Order No.** 4500

# LOCKOUT / TAGOUT WALL CASE

This case can be used both inside and outside. Made to protect supplies from dust and the elements. Comes with three shelves and can be securely locked.

| | |
|---|---|
| Exterior | 14”w x 9 1/2”d x 18”h |
| Interior | 12”w x 7 1/2”d x 16”h |
| Weight | 6 lbs. |

MADE IN THE USA

**Order No.** 4400-L

## PAPR WALL CASE

This lightweight design features two windows allowing for quick identification of contents. Covered pass-through allows charging while storing and will keep dirt and moisture out. You can store your PAPR without disassembling the breathing tube. Includes two shelves and storage space for batteries, cartridges, and filters.

| | |
|---|---|
| Exterior | 20”w x 13”d x 32 1/2”h |
| Interior | 18”w x 10”d x 28”h |
| Weight | 14 lbs. |

MADE IN THE USA

**Order No.** 4100-P

## GENERIC ONE DOOR STORAGE CABINET

Heavy-duty steel cabinet includes two adjustable shelves, handle, and inspection window. This durable, convenient cabinet also includes a label kit with 17 custom labels (see list below).

| | |
|---|---|
| Exterior | 14”w x 13”d x 30”h |
| Interior | 13 3/4”w x 12 3/4”d x 29 3/4”h |
| Weight | 26 lbs. |

MADE IN THE USA

**Order No.** 4200

## FIRE EXTINGUISHER WALL CASE

Designed to protect fire extinguishers from dust and harsh workplace environments. Made of high-impact, corrosion-resistant ABS. High-visibility red case makes locating easy. Holds all major extinguishers up to 30 lb. size.

| | |
|---|---|
| Exterior | 20”w x 13”d x 32 1/2”h |
| Interior | 18”w x 10”d x 28”h |
| Weight | 9 lbs. |

MADE IN THE USA

**Order No.** 3100

## GENERIC WALL CASES

These cases are all made of corrosion-resistant ABS with ultraviolet inhibitors. The rubber door seal protects against dust and moisture, while the non-metallic hinges and latches prevent rust. You can customize these wall cases with our label kit. 17 label titles include:

*BioSafety Products*
*Fire Extinguisher*
*Fire Blanket*
*Hearing Protection*
*Hand Protection*
*Maintenance Supplies*
*Safety Documents, MSDS*
*Personal Protection Equipment (PPE)*
*Respirator Fit Test Equipment*
*Instruments*
*Respirator Storage*
*Disposable Respirators*
*Lockout/Tagout*
*Safety Glasses*
*Visitor Specs*
*Spill Kit*
*First Aid*

### *SMALL YELLOW CASE WITH LABEL KIT AND 1 SHELF:*

| | |
|---|---|
| Exterior | 14”w x 9 1/2”d x 18”h |
| Interior | 12”w x 7 1/2”d x 16”h |
| Weight | 4 lbs. |

### *ALL MEDIUM CASES WITH LABEL KIT AND 1 SHELF:*

| | |
|---|---|
| Exterior | 14”w x 9 1/2”d x 21”h |
| Interior | 12”w x 7 1/2”d x 19”h |
| Weight | 5 lbs. |

MADE IN THE USA

| Description | Order No. |
|---|---|
| Small Yellow w/ Label Kit, 1 shelf | 4400-Y |
| Medium Yellow w/ Label Kit, 1 shelf | 4500-Y |
| Medium White w/ Label Kit, 1 shelf | 4500-W |
| Shelf | 4511-00 |
| Label Kit (17 Labels) | 4500-10 |

ALLEGRO INDUSTRIES

# DEFIBRILLATOR STORAGE

## PLASTIC DEFIBRILLATOR WALL CASE

White case made of corrosion-resistant ABS plastic and hi-viz defibrillator graphics. Special features include a 6”x 10” window and right-hand door opening. Fits up to three optional slide-in shelves (sold individually).

| | |
|---|---|
| Exterior | 14”w x 9 1/2”d x 18”h |
| Interior | 12”w x 7 1/2”d x 16”h |
| Weight | 3 lbs. |

MADE IN THE USA

| Description | Order No. |
|---|---|
| Wall Case | 4400-D |
| Shelf | 4511-00 |

## PLASTIC DEFIBRILLATOR WALL CASE WITH STROBE

This white Defibrillator Wall Case is made of corrosion-resistant ABS plastic and includes hi-viz defibrillator graphics. It also features a 9-volt battery-powered 130-decibel alarm that goes off when the door is opened, a fully sealed, waterproof strobe light, a 6" x 10" window and right-hand door opening. Fits up to three optional slide-in shelves (sold individually).

MADE IN THE USA

**Order No.** 4400-DS

## PLASTIC DEFIBRILLATOR WALL CASE WITH ALARM

This plastic defibrillator wall case includes the same great features as our 4400-D with a 9-volt battery-powered 130-decibel alarm that goes off when the door is opened.

**Order No.** 4400-DA

## SMALL METAL DEFIBRILLATOR WALL CASE WITH ALARM

This metal defibrillator wall case comes in a corrosion-resistant electrostatic white finish. Defibrillator graphics are dominantly displayed. Other features include a 13”x 13” window on door front, right-hand door opening and recessed handle. Also included is a battery-operated audio alarm. Includes metal shelf.

| | |
|---|---|
| Exterior | 20 1/4”w x 9 1/4”d x 20 1/4”h |
| Interior | 20 1/8”w x 8 3/4”d x 20”h |
| Weight | 23 lbs. |

MADE IN THE USA

**Order No.** 4210-01

# PRODUCT LISTING


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