MSA
The Safety Company

# MSA Safety Equipment Catalog

Volume 23, Number 1 • 2026–2027



WE KNOW WHAT'S AT STAKE.

## MSA Online

Find product & tradeshow information and view trending MSA & Safety Industry news.



### ■ Website

Visit **MSAsafety.com** for product info, part numbers, literature, approvals, and more. Leverage the power of our website by using our product simulators, configurators, product demo videos, etc.

### ■ YouTube

View our extensive 200+ video library and link to our product demo, product maintenance, "How it's Made", and customer testimonial videos.

*youtube.com/@msanorthamerica424*

### ■ Blogs

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*msasafety.com/blogs*

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| | |
|---|---|
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| **Instagram** | *instagram.com/msasafety* |
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| **Facebook** | *facebook.com/msasafety* |
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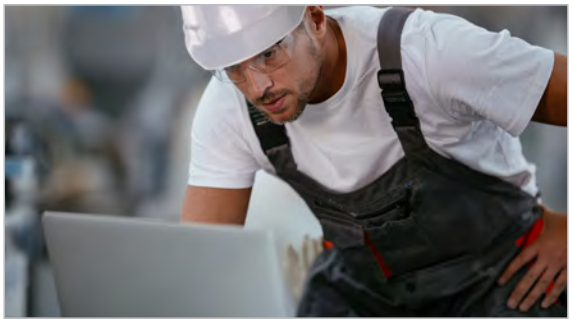

## PPE Training & Safety Education

MSA has helped protect our customers for over 100 years in all facets of personal protective equipment and services. With this in mind, we recognize that education and training play an integral part as well. We offer:

- **Virtual Led Training (VLT)** — a customized, real-time learning experience conducted by an MSA Instructor via video conferencing.
- **MSA-U® Online Training** — get access to over 150 courses day or night—for free.
- **In-Person Training at One of our State-of-the-Art MSA Training Centers** — allows us to teach students how to safely select, inspect and use PPE in true-to-life simulations.
- **On-Site Safety Training** — we can help you reduce lost time and liability through on-site documented competent equipment inspections.
- **On-Site Survey, Hazard Assessment, & Audit** — an MSA trained professional will conduct a walkthrough of your facility and provide a comprehensive written report documenting risks and recommendations.

**See pp. 204–208 for more information about MSA's training options.**

**For more information,**
**visit https://us.msasafety.com/training**

## Questions?
## Email us at training@msasafety.com

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## Customer Service

Our multiple-award-winning Customer Service Center proves that MSA strives for continuous improvement in customer satisfaction. Every year brings positive changes: better-trained associates with more advanced processes, resulting in improved service and faster solutions. Each Customer Service Associate's computer workstation can simultaneously handle a variety of applications, and an automated call distributor monitors and routes call flow to ensure peak performance. Customer Service continues to look for ways to improve its relationship with customers via surveys. Our goal is to provide exceptional customer service, which in turn creates customer loyalty.

**The MSA Customer Service Center provides:**

- **Pre-Sales Support**
  - Prepare quotations/bids
  - Product support and recommendations
- **Sales Order Support**
  - Process purchase orders
  - Provide price and availability information
  - Order status/delivery information
- **Post-Sales Support**
  - Product support—use and troubleshooting
  - Shipment tracking
  - Order/shipment issue resolution
  - Repair service notifications—return authorizations
  - Credit and corrected invoice requests

### Customer Service Center Phone Numbers:

**Toll-free**.....1-800-MSA-2222
**Toll-free Fire Service**.....1-877-672-3473 (FIRE)
**Toll-free FGFD**.....1-800-672-4678
**After-hours Emergencies**.....1-800-MSA-5555

### Customer Service Center Emails:

**U. S. Customer Service**.....us.cs@msasafety.com
**Canada**.....canada.cs@msasafety.com
**Fire Service**.....fire.cs@msasafety.com
**FGFD**.....customer.service@msasafety.com
**General**.....info.us@msasafety.com

### Order Submission:

**U. S. Customer Service**.....placeorder@msasafety.com
**Canada**.....caorders@msasafety.com
**Fire Service**.....fireorder@msasafety.com
**FGFD**.....perminstorder@msasafety.com

### Mailing Address:

**Customer Service Center**
MSA Corporate Center
1000 Cranberry Woods Drive
Cranberry Twp, PA 16066

### N. A. Export Customer Service

Our extensive network of distributors, representatives and MSA-affiliate companies covers most major cities worldwide. Highly-trained international customer service associates guide your export orders from placement to delivery. MSA uses all major air and ocean freight forwarders and courier services due to their ability to consolidate multiple orders and minimize freight expenses. Associates understand international inspections, certifications, licensing and other customs issues necessary for successful importation.

### To contact N. A. Export Customer Service:

**Toll-free in the U.S.**.....1-800-MSA-7777
**Email**.....Lamzonecs@MSAsafety.com



# Respiratory Protection

Air-Purifying Respirators
Powered Air-Purifying Respirators
Air-Line Respirators
Self-Contained Breathing Apparatus





Back to TOC

## Advantage® 420 Half-Mask Respirator



- UniBond over-mold facepiece, AnthroCurve™ face seal, and low-profile design ensures excellent comfort and fit
- Easily switches between lock-down and drop-down mode
- Built-in moisture release chin cup hole, and extra-wide head and neck straps
- Designed for easy integration with other personal protective equipment such as safety glasses and welding shields
- Latex-free
- ***Applications include:*** asbestos abatement, painting, welding, sanding & grinding

| | Small | Medium | Large | |
|---|---|---|---|---|
| **Advantage 420 Respirator** | **10102182** | **10102183** | **10102184** | Advantage 420 Assembly (includes facepiece, head cradle, elastic straps, buckle set, yoke with lever, two (2) inhalation valves, one (1) exhalation valve) |

## Easy 3-Step Donning Process




## Advantage® 200 LS Half-Mask Respirator



- Lightweight, cost-efficient
- Thermoplastic rubber increases softness and decreases weight
- Patented MultiFlex® System equalizes pressure on the face-seal area, ensuring the respirator doesn't collapse during wear
- AnthroCurve face seal conforms to each user's face
- ***Applications include:*** asbestos abatement, painting, welding, sanding & grinding

For more information, please see MSA bulletin 1012-42-MC.

| | Small | Medium | Large | |
|---|---|---|---|---|
| **Advantage 200 LS Respirator** | **815696** | **815692** | **815700** | Advantage 200 LS Respirator, with **2-piece** neckstrap |
| | **815448** | **815444** | **815452** | Advantage 200 LS Respirator, with **single** neckstrap |

## Comfo® Classic Half-Mask Respirator



- SoftFeel® rubber and silicone facepieces enhance softness, increasing wearer comfort
- Face seal design provides secure, comfortable fit
- Color-coded sizing system makes sorting and identification easy

For more information, please see MSA bulletin 1021-02-MC.

| | Small | Medium | Large | |
|---|---|---|---|---|
| Comfo Classic Facepieces | 808075 | 808074 | 808076 | Comfo Classic Facepiece, SoftFeel hycar |
| | 808072 | 808071 | 808073 | Comfo Classic Facepiece, SoftFeel silicone |

## Advantage® 900 Half-Mask Respirator

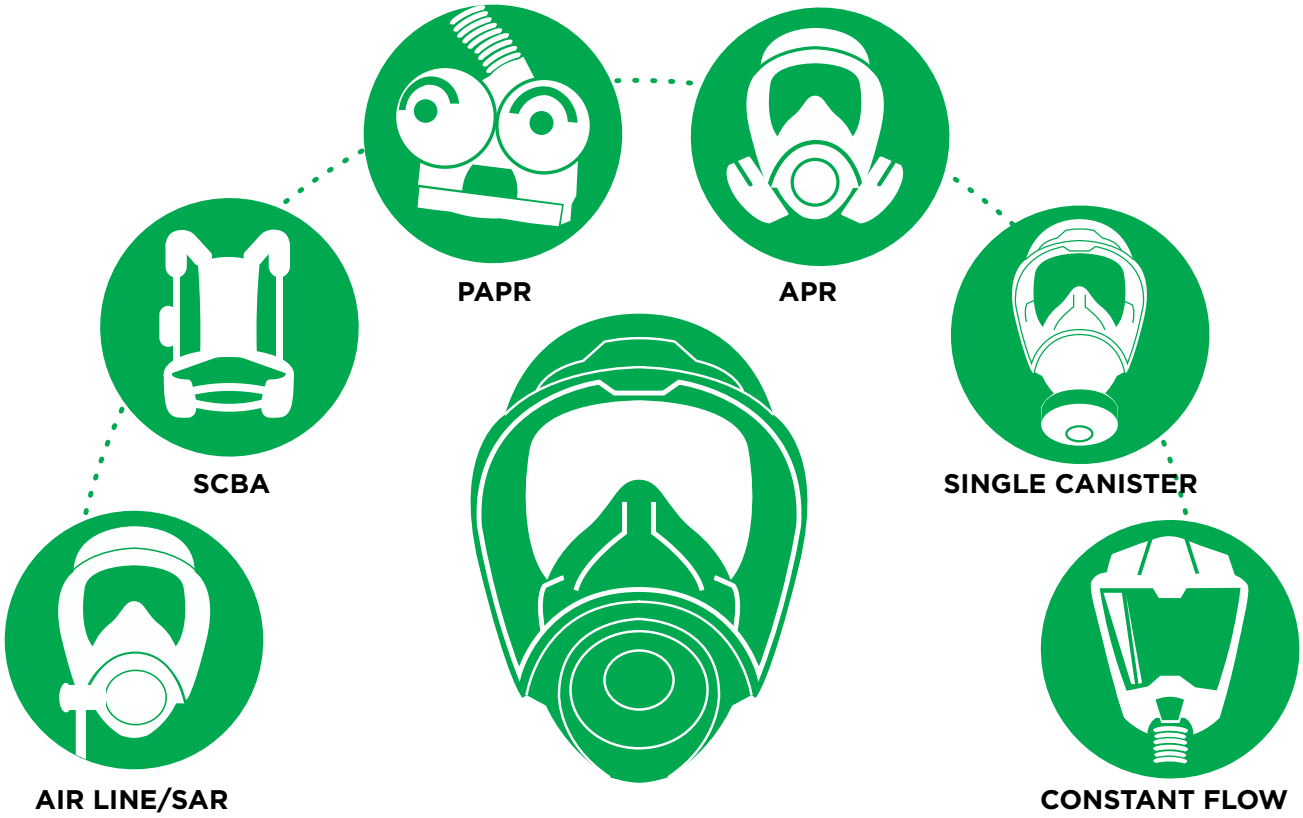


- Innovative and secure respiratory solution for essential workers, first responders, and healthcare workers.
- The Advantage 900 Respirator achieves source control by filtering exhaled breath.
- Cost-effective and eco-friendly alternative to disposable filtering facepiece respirators.
- Enables user protection up to P100 level.
- Mechanical speaking diaphragm helps to improve communication.

| | Small | Medium | Large | |
|---|---|---|---|---|
| Advantage 900 Respirator | 10218527 | 10218528 | 10218529 | Advantage 900 Respirator |



## G1™ Single Facepiece Platform




# G1 SINGLE FACEPIECE PLATFORM

- ✓ Reduced facepiece inventory
- ✓ Reduced time and expense of fit testing
- ✓ Lower respirator program expenses
- ✓ Simplified employee training, cleaning procedures and maintenance
- ✓ Reduced parts inventory

**Look for this graphic in the upper right-hand corner to identify the G1 Single Facepiece Platform.**



## APPROVED RESPIRATORY PLATFORMS USING THE G1 FACEPIECE

### Industrial Respiratory Platforms *(All head harnesses may be used)*

| SCBA/PD Air Line | APR | PAPR & Continous Flow |
|---|---|---|
| G1 Industrial SCBA | Twin Cartridge Full Face Respirator – Advantage Cartridges ‡ | Optimiair TL PAPR † |
| G1 Premaire Cadet Escape | Twin Cartridge Full Face Respirator – Threaded Comfo Cartridges ‡ * | Optimair Mask Mounted PAPR† |
| G1 Cadet | Single Canister Industrial Gas Mask & P100 † | G1 Constant Flow Air Line † |
| G1 Premaire System | | |

### First Responder Respiratory Platforms *(Kevlar or rubber G1 head harness only)*

| SCBA/PD Air Line | APR | PAPR |
|---|---|---|
| G1 SCBA – NFPA | G1 CBRN Gas Mask † | G1 PAPR – CBRN † |

** Comfo Cartridge Adapter Required* *‡ Twin Port APR Adapter Required* *† Single Port APR Adapter Required*







## G1™ Single Facepiece Platform

| Small | Medium | Large | G1 Facepiece Options |
|---|---|---|---|
| 10188954 | 10188955 | 10188956 | G1 Facepiece with 4-pt. polyester head harness |
| 10156461 | 10156462 | 10156463 | G1 Facepiece with rubber head harness |
| 10156458 | 10156459 | 10156460 | G1 Facepiece with 4-pt. Kevlar head harness |
| 10161812 | 10161813 | 10161814 | G1 Facepiece with 5-pt. Kevlar head harness |

*(See G1 Facepiece Assemble to Order (ATO) matrix below for additional options)*

| Part No. | G1 Facepiece Accessories |
|---|---|
| 10144231–SP | Single Port APR Adapter |
| 10199720 | Twin Port APR Adapter |
| 10246693 | G1 Lens Cover, clear |
| 10246694 | G1 Cover Lens, smoke |
| 10144230 | Spectacle Kit |
| 805078 | Quik-Check III Fit Test Adapter* |
| 10056424 | Advantage Fit Test Adapter** |
| 809999 | Advantage Adapter Kit for Comfo Style Cartridges |

**Single port APR Adapter Required*
***Twin port APR Adapter Required*



*G1—poly cloth harness*



*G1—rubber head harness*



*G1—kevlar head harness*



*10144231-SP Single Port APR Adapter*



*10199720 Twin Cartridge APR Adapter*

## MSA G1 Facepiece Industrial

Ordering Selection Matrix

**A Application**
- F Fire (Cannot order Polyester Head Harness with this option)
- L Industrial with Carton
- M Inuustrial without Carton

**B Size**
- S Small
- M Medium
- L Large

**C Material**
- 1 Hycar

**D Nosecup**
- 0 None
- S Small
- M Medium
- L Large

**E Head Harness**
- 0 None
- 4 4 pt Adjustable
- 5 5 pt Adjustable
- P 4 pt Polyester (May not be used on G1 NFPA)
- R Rubber

**F Neckstrap**
- 0 None
- C Cloth
- R Rubber

**G Regulator Connection**
- 1 Fixed Push-to- Connect

**Note:**
Part numbered facepieces are also available
An additional surcharge will be added to configurations that are classified as hazardous materials

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-G1FP | | | 1 | | | | 1 | |
| | A | B | C | D | E | F | G | Qty |

PART NUMBER

## Advantage® 3000 Series Full-Facepiece Respirators

- Full-face respirator features innovative design to lower breathing resistance
- Integrated nosecup reduces lens fogging
- Silicone facepiece increases wearer comfort
- Scratch-resistant, optically correct wraparound lens provides wide field-of-vision
- Optional European-style Advantage head harness dons like a catcher's mask
- Applications include: asbestos abatement, welding, sanding & grinding

For more information, please see MSA bulletin 1012-42-MC.



*Advantage 3200 Respirator with rubber harness and chemical cartridges*



*Advantage 3200 Facepiece with European-style harness*



*Advantage 3100 Facepiece with rubber harness*

| | Small | Medium | Large | |
|---|---|---|---|---|
| **Advantage 3200 Facepieces Twin-Port** | **10028996** | **10028995** | **10028997** | Advantage 3200 Facepiece, with **rubber** head harness |
| | **10031340** | **10031309** | **10031341** | Advantage 3200 Facepiece, with **European-style** harness |
| **Advantage 3100 Facepieces Single-Port** | **10028999** | **10028998** | **10029000** | Advantage 3100 Facepiece, with **rubber** head harness |
| | **10031343** | **10031342** | **10031344** | Advantage 3100 Facepiece, with **European-style** harness |

## Ultra-Twin® Full-Facepiece Respirator

- Ideal for defense against toxic chemicals
- Wide lens is scratch resistant
- Speaking diaphragm provides clear communications
- Nosecup reduces lens fogging

*Ultra-Twin Respirator (small) with GMC threaded metal Comfo Cartridges*



| | Small | Medium | Large | |
|---|---|---|---|---|
| **Ultra-Twin Facepieces** | **471298** | **471286** | **471310** | Ultra-Twin Facepiece, **hycar** |
| | **480263** | **480259** | **480267** | Ultra-Twin Facepiece, **silicone** |

## Ultra Elite® Twin-Cartridge Full-Facepiece Respirator

- Widely used mask provides excellent comfort and protection
- Distortion-free lens allows wide field-of-view
- Models include Hycar rubber and silicone versions
- Unique airflow prevents lens fogging
- Speaking diaphragm provides excellent close-range communication



| | Small | Medium | Large | |
|---|---|---|---|---|
| **Ultra Elites Facepieces** | **10016755** | **10016756** | **10016757** | Ultra Elite Facepiece, SoftFeel silicone, **with** twin-cartridge adapter |
| | **493064** | **493020** | **493108** | Ultra Elite Facepiece, SoftFeel hycar, **less** twin-cartridge adapter |
| | **493072** | **493028** | **493116** | Ultra Elite Facepiece, SoftFeel silicone, **less** twin-cartridge adapter |

## Advantage® 4000 Series Full-Facepiece Respirators

- Both twin-port and single-port facepieces are compatible with several MSA respirator models, including air-purifying respirators, supplied-air respirators, and powered air-purifying respirators
- Standard nosecup reduces lens fogging
- Components lock into place in seconds for quick, convenient performance

For more information, please see MSA bulletin 1012-42-MC.



*Advantage 4100 Facepiece, single port, w/net head harness*



*Advantage 4200 Facepiece w/polyester net head harness & GMA/OV cartridges*



*Welder's Adapter for Advantage 4200 Respirator*

| | Small | Medium | Large | |
|---|---|---|---|---|
| **Advantage 4200 Facepieces Twin-Port Hycar** | **10083785** | **10083781** | **10083789** | Advantage 4200 Facepiece, with **polyester net** head harness, hycar |
| | **10083787** | **10083783** | **10083791** | Advantage 4200 Facepiece, with **rubber head** harness, hycar |
| | **10108570** | **10108568** | **10108572** | Advantage 4200 Facepiece, with **Kevlar net** head harness, hycar |
| **Advantage 4200 Facepieces Twin-Port Silicone** | **10083784** | **10083760** | **10083788** | Advantage 4200 Facepiece, with **polyester net** head harness, silicone |
| | **10083786** | **10083782** | **10083790** | Advantage 4200 Facepiece, with **rubber head** harness, silicone |
| | **10108569** | **10108567** | **10108571** | Advantage 4200 Facepiece, with **Kevlar net** head harness, silicone |
| **Advantage 4200 Facepieces* Single-Port Hycar** | **10083797** | **10083793** | **10083801** | Advantage 4100 Facepiece, with **polyester net** head harness, hycar |
| | **10083799** | **10083795** | **10083803** | Advantage 4100 Facepiece, with **rubber head** harness, hycar |
| | **10108576** | **10108574** | **10108578** | Advantage 4100 Facepiece, with **Kevlar net** head harness, hycar |
| **Advantage 4200 Facepieces* Single-Port Silicone** | **10083796** | **10083792** | **10083800** | Advantage 4100 Facepiece, with **polyester net** head harness, silicone |
| | **10083798** | **10083794** | **10083802** | Advantage 4100 Facepiece, with **rubber head** harness, silicone |
| | **10108575** | **10108573** | **10108577** | Advantage 4100 Facepiece, with **Kevlar net** head harness, silicone |

**Adapter not included. See below chart for adapter part number.*



*rubber head harness*



*polyester net head harness*



*Kevlar net head harness*

| | Part No. | Description |
|---|---|---|
| **Facepiece Adapter Assemblies for Advantage 4000 Facepieces** | **10065328** | Adapter assembly, twin-cartridges |
| | **10065329** | Adapter assembly, push-to-connect |
| | **10065330** | Adapter assembly, Rd 40 |

| | Part No. | Description |
|---|---|---|
| **Welder's Accessories for Advantage 4200 Twin-Port Facepieces** | **10077063** | Clip-On Welder's Adapter, with cover lens, less filter plate |

## Ultra Filter Respirators

- Ultra Filter Respirators, comprised of Ultravue Facepiece and Ultra Filter Cartridge, offer protection against particulate hazards
- Cartridge provides large, effective filter area



| | Part No. | Description |
|---|---|---|
| **Threaded Respirator Ultra-Filter Cartridges** | **10010420** | Round Ultra FIlter Cartridge, box of 6 |
| | **10010421** | Round Ultra FIlter Cartridge, box of 50 |

## Advantage® Respirator Cartridges

The Advantage line of particulate, chemical and combination cartridges is NIOSH-certified to 42 CFR, Part 84 and provides lightweight, low-profile performance. Cartridges fit 200 LS and 420 Half-Mask, G1, 1000, 3000 and 4000 Series Full-Facepiece Advantage Respirators.

| MSA Cartridge Description | Re-Order Part Number | Color Coding | Acid Gases: Organic Vapor (OV) | Chlorine (CL) | Sulfur Dioxide (SD) | Chlorine Dioxide (CD) | Hydrogen Chloride (HC) | Hydrogen Sulfide (HS) | Ammonia (AM) | Methylamine (MA) | Formaldehyde (FM) | Hydrogen Fluoride (HF) | Mercury Vapor (MV) | Filter Type & Efficiency: P100 | R95 | N95 | See Notes below |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Organic Vapor (GMA) | 815355 | | ● | | | | | | | | | | | | | | 2,3 |
| Organic Vapor w/N95 Prefilter (GMA) | 815355 w/815394 or 816357 | | ● | | | | | | | | | | | | | ● | 2,3,5 |
| Organic Vapor w/R95 Prefilter (GMA) | 815355 w/815397 | | ● | | | | | | | | | | | | ● | | 2,3,5 |
| Organic Vapor/P100 (GMA) | 815362 | | ● | | | | | | | | | | | ● | | | 2,3,4 |
| Acid Gas (GMB) | 815356 | | | ● | ● | ● | ● | ● | | | | | | | | | 2 |
| Acid Gas w/N95 Prefilter (GMB) | 815356 w/815394 or 816357 | | | ● | ● | ● | ● | ● | | | | | | | | ● | 2,5 |
| Acid Gas w/R95 Prefilter (GMB) | 815356 w/815397 | | | ● | ● | ● | ● | ● | | | | | | | ● | | 2,5 |
| Acid Gas/P100 (GMB) | 815363 | | | ● | ● | ● | ● | ● | | | | | | ● | | | 2,4 |
| Organic Vapor/Acid Gas (GMC) | 815357 | | ● | ● | ● | ● | ● | ● | | | | | | | | | 2,3 |
| Organic Vapor/Acid Gas w/N95 Prefilter (GMC) | 815357 w/815394 or 816357 | | ● | ● | ● | ● | ● | ● | | | | | | | | ● | 2,3,5 |
| Organic Vapor/Acid Gas w/R95 Prefilter (GMC) | 815357 w/815397 | | ● | ● | ● | ● | ● | ● | | | | | | | ● | | 2,3,5 |
| Organic Vapor/Acid Gas/P100 (GMC) | 815364 | | ● | ● | ● | ● | ● | ● | | | | | | ● | | | 2,3,4 |
| Ammonia/Methylamine (GMD) | 815358 | | | | | | | | ● | ● | | | | | | | 2,3 |
| Ammonia/Methylamine w/N95 Prefilter (GMD) | 815358 w/815394 or 816357 | | | | | | | | ● | ● | | | | | | ● | 2,3,5 |
| Ammonia/Methylamine w/R95 Prefilter (GMD) | 815358 w/815397 | | | | | | | | ● | ● | | | | | ● | | 2,3,5 |
| Ammonia/Methylamine/P100 (GMD) | 815365 | | | | | | | | ● | ● | | | | ● | | | 2,3,4 |
| Multigas (GME) | 815359 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | 2,3 |
| Multigas w/N95 Prefilter (GME) | 815359 w/815394 or 816357 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | ● | 2,3,5 |
| Multigas w/R95 Prefilter (GME) | 815359 w/815397 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | | 2,3,5 |
| Multigas/P100 (GME) | 815366 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | | 2,3,4 |
| Iodine Vapor/P100 (GMI)* | 815641 | | ● | | | | | | | | | | | ● | | | 2,4 |
| Chlorine/Mecury Vapor (Mersorb) | 815361 | | | ● | | | | | | | | | ● | | | | 2 |
| Chlorine/Mecury Vapor w/N95 Prefilter (Mersorb) | 815361 w/815394 or 816357 | | | ● | | | | | | | | | ● | | | ● | 2,5 |
| Chlorine/Mercury Vapor/P100 (Mersorb) | 815368 | | | ● | | | | | | | | | ● | ● | | | 2,4 |
| Low-Profile P100 | 815369 Pack of 2<br>10123079 Pack of 100 | | | | | | | | | | | | | ● | | | 1,4 |
| P100 with Splash Guard | 10146939 Pack of 2 | | | | | | | | | | | | | ● | | | 1,4 |
| N95 Snap-On Prefilter and Cover | 815394 Pack of 10<br>816357 Box of 50<br>815392 Reusable Snap-On Cover, 2 in a pkg | | | | | | | | | | | | | | | | |

**Definitions**

**N95-Particulate Filter (95% filter efficiency level)** effective against particulate aerosols free of oil; time use restrictions may apply.

**R95-Particulate Filter (95% filter efficiency level)** effective against all particulate aerosols; time use restrictions may apply.

**P100-Particulate Filter (99.97% filter efficiency level)** effective against all particulate aerosols.

** Effective against, but not NIOSH-approved, for Iodine Vapor.*

**WARNING**

An appropriate cartridge change-out schedule must be developed by a qualified professional, unless the cartridge/canister utilizes an end-of-service-life indicator. The change-out schedule must take into account all factors that may influence respiratory protection including specific work practices and other conditions unique to the worker's environment. If using against substances having poor warning properties, there is no secondary means of knowing when to replace the cartridges/canister. In such cases, take appropriate additional precautions to prevent overexposure, which may include a more conservative change-out schedule or using an air-supplied respirator or SCBA. Failure to follow this warning can result in serious personal injury or death. As a reference, below is a partial list of substances having poor warning properties:

- Acrolein
- Aniline
- Arsine
- Bromine
- Carbon monoxide
- Diisocyanates
- Dimethyl sulfate
- Hydrogen cyanide
- Hydrogen selenide
- Methanol
- Methyl bromide
- Methyl chloride
- Methylene chloride
- Nickel carbonyl
- Nitric acid
- Nitro compounds
  - Nitrogen oxides
  - Nitroglycerin
  - Nitromethane
- Phosgene
- Phosphine
- Phosphorus trichloride
- Stibine
- Sulfur chloride
- Urethane or other diisocyanate-containing paints
- Vinyl chloride

**Notes**

1. Do not use in atmospheres containing less than 19.5 percent oxygen, in atmospheres containing gases or vapors or in atmospheres immediately dangerous to life and health.
2. Do not use in atmospheres containing less than 19.5 percent oxygen, or in atmospheres immediately dangerous to life and health.
3. Do not wear for protection against organic vapors with poor warning properties or those which generate high heats of reaction with the sorbent material in the cartridge.
4. 99.97 percent efficient against 0.3 micron DOP.
5. Both a prefilter and cover must be used with the cartridge in order to obtain R95 or N95 particulate protection.

## Comfo® Respirator Cartridges

The Comfo line of particulate, chemical and combination cartridges is NIOSH-certified to 42 CFR, Part 84. Cartridges fit Comfo Classic, Ultra-Twin, Ultra Elite Twin-Cartridge and Duo-Twin Respirators, and certain half-mask and full-face G1, Advantage Respirators with Adapter (P/N 809999).

| | | | Acid Gases | | | | | | | | | | | | Filter Type & Efficiency (See Definitions on previous page) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MSA Cartridge Description | Re-Order Part Number | Color Coding | Organic Vapor | Chlorine | Sulfur Di-oxide | Chlorine Dioxide | Hydrogen Chloride | Hydrogen Sulfide | Ammonia | Methylamine | Formalde-hyde | Hydrogen Fluoride | Mercury Vapor | P100 | R95 | N95 | See Notes on p. 8 |
| | | | OV | CL | SD | CD | HC | HS | AM | MA | FM | HF | MV | | | | |
| Organic Vapor (GMA) | 464031 (10 in box) | | ● | | | | | | | | | | | | ● | ● | 2,3,5 |
| Organic Vapor/P100 (GMA) | 815178 (6 in box) | | ● | | | | | | | | | | | ● | | | 2,3,4 |
| Acid Gas (GMB) | 464032 (10 in box) | | | ● | ● | ● | ● | ● | | | | | | | ● | ● | 2,5 |
| Acid Gas/P100 (GMB) | 815179 (6 in box) | | | ● | ● | ● | ● | ● | | | | | | ● | | | 2,4 |
| Organic Vapor/Acid Gas (GMC) | 464046 (10 in box) | | ● | ● | ● | ● | ● | ● | | | | | | ● | | | 2,3,5 |
| Organic Vapor/Acid Gas/P100 (GMC) | 815180 (6 in box) | | ● | ● | ● | ● | ● | ● | | | | | | | ● | ● | 2,3,4 |
| Ammonia/Methylamine (GMD) | 464033 (10 in box) | | | | | | | | ● | ● | | | | | | | 2,3,5 |
| Ammonia/Methylamine/P100 (GMD) | 815181 (6 in box) | | | | | | | | ● | ● | | | | ● | ● | ● | 2,3,4 |
| Multigas (GME) | 492790 (10 in box) | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | 2,3,5 |
| Multigas/P100 (GME) | 815182 (6 in box) | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | | 2,3,4 |
| Iodine Vapor/P100 (GMI)* | 815184 (6 in box) | | ● | | | | | | | | | | | ● | | | 2,4 |
| Chlorine/Mercury Vapor/P100 (Mersorb) | 815185 (6 in box) | | | ● | | | | | | | | | ● | ● | | | 2,4 |
| Low-Profile P100 | 815177 (10 in box) | | | | | | | | | | | | | ● | | | 1,4 |
| Sparkfoe® P100 | 815176 (10 in box) | | | | | | | | | | | | | ● | | | 1,4 |
| Sparkfoe Low-Profile P100 | 10153412 (16 in box) | | | | | | | | | | | | | ● | | | 1,4 |
| Prefilter and Cover N95 | 816662 N95 (10 in pkg.)<br>816661 N95 (50 in pkg.)<br>489353 Reusable snap-on cover (1 in pkg.; 2 req.) | | | | | | | | | | | | | | | ● | 1 |
| Prefilter and Cover R95 | 816287 R95 (20 in box)<br>489219 R95 Reusable snap-on cover (1 in pkg.;2 req.) | | | | | | | | | | | | | | ● | | 1 |

** Effective against, but not NIOSH-approved for Iodine Vapor.* *Note: See WARNING on previous page.*

## Flexi-Filter® Pads for Advantage Respirators

These low-profile, flexible pads fit well under a welding hood and with other personal protective equipment. They offer great balance and weight distribution for maintaining a good face seal, while their swept-back design provides improved vision and comfort.

| | | | Filter Type & Efficiency (See Definitions on previous page) | | | See Notes on p. 8 |
|---|---|---|---|---|---|---|
| MSA Filter Description | Part No. | Color Coding | P100 | P95 | N95 | Notes |
| Flexi-Filter/P100 | 818342 | | ● | | | 1,4 |
| Flexi-Filter/P100 w/Nuisance Level OV, Ozone Removal | 818343 | | ● | | | 1,4 |
| Flexi-Filter/P100 w/Nuisance Level AG, HF Removal | 818344 | | ● | | | 1,4 |
| Flexi-Filter/N95 | 818346 | | | | ● | 1 |
| Flexi-Filter/N95 w/Nuisance Level OV Removal | 818347 | | | | ● | 1 |
| Flexi-Filter/P95 | 818354 | | | ● | | 1 |
| Flexi-Filter/P95 w/Nuisance Level OV Removal | 818355 | | | ● | | 1 |

## Facepiece Accessories

| | Part No. | Description | |
|---|---|---|---|
| **Advantage 420 Accessories** | **10097887** | Storage poly bag |  |
| | **468730** | Carrying pouch with belt loops for half-mask respirators | |
| | **809999** | Advantage Adapter for threaded cartridges, package of 2 | |
| | **10056424** | Advantage Quantitative Fit Test Adapter | |
| **Advantage 200 LS Accessories** | **809999** | Advantage Adapter for threaded cartridges, package of 2 |  |
| | **10056424** | Advantage Quantitative Fit Test Adapter | |
| | **468730** | Carrying pouch for half-mask respirators | |
| **Comfo Classic Accessories** | **812022** | QuikChek II Fit-Test Adapter for Comfo Respirators |  |
| | **803196** | QuikChek II Replacement Kit with 25 ft of sampling tubing and 25 connectors, clips, and suction cups | |
| | **468730** | Carrying pouch with belt loops for half-mask respirators | |
| **Advantage 3000 Accessories** | **10029298** | Spectacle Kit for Advantage Respirators |  |
| | **10056424** | Advantage Quantitative Fit Test Adapter | |
| | **10031542** | Cover Lens, clear, box of 25 | |
| | **10031543** | Cover Lens, smoke-tinted, box of 25 | |
| | **D2056734** | Black plastic carrying/storage case | |
| **Advantage 4000 Accessories** | **10029298** | Spectacle Kit for Advantage Respirators |  |
| | **10056424** | Advantage Quantitative Fit Test Adapter, for Advantage 4200 Facepieces | |
| | **805078** | QuikChek III Fit Test Adapter for Advantage 4100 Facepieces* | |
| | **10031542** | Cover Lens, clear, box of 25 | |
| | **10031543** | Cover Lens, smoke-tinted, box of 25 | |
| | **10077063** | Clip-On Welders Adapter for Advantage 4200 Twin-Port Facepiece, with cover lens, less filter plate | |
| | **10065326** | Clip-On Welders Adapter for Advantage 4100 Single-Port Facepiece, with cover lens, less filter plate | |
| | **D2056734** | Black plastic carrying/storage case | |
| **Ultra-Twin/ Ultravue® Accessories** | **454819** | Spectacle Kit for Ultra-Twin/Ultravue |  |
| | **812022** | QuikChek II Fit-Test Adapter for Ultra-Twin Respirator | |
| | **803196** | QuikChek II Replacement Kit with 25 ft of sampling tubing and 25 connectors, clips, and suction cups | |
| | **803622** | Twin-Cartridge Adapter for Ultravue Facepieces | |
| | **456975** | Cover Lens, clear, box of 25 | |
| | **480326** | Cover Lens, smoke-tinted, box of 25 | |
| | **813138** | Nosecup, black, small | |
| | **813139** | Nosecup, black, medium | |
| | **813140** | Nosecup, black, large | |
| | **D2056734** | Black plastic carrying/storage case | |
| **Ultra Elite Accessories** | **804638** | Spectacle Kit for Ultra Elite Respirator, side wire support |  |
| | **493581** | Spectacle Kit for Ultra Elite Respirator, center support | |
| | **805078** | QuikChek III Fit-Test Adapter for Ultra Elite Respirators | |
| | **817446** | QuikChek IV Adapter for Ultravue/Ultra Elite facepieces w/¼-turn quick-disconnect, w/Type H cartridge | |
| | **803622** | Twin-Cartridge Adapter for Ultra Elite Facepieces | |
| | **491500** | Cover Lens, clear, box of 25 | |
| | **805456** | Cover Lens, smoke-tinted, box of 25 | |
| | **D2056734** | Black plastic carrying/storage case | |

**Also requires RD40 Adapter P/N 10065330*

## Cleaning Supplies

### MSA Confidence® Plus 2 Germicidal Cleaner

Mix with warm water for a germicidal cleaner that is effective against various micro-organisms including immunodeficiency virus Type 1 (HIV-1, associated with AIDS). EPA-approved for use on safety equipment.

### Personal Safety Equipment Towelettes

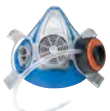
Provides an excellent method for wiping and refreshing respirators, hardhats, and other safety equipment between full cleaning periods.




| | Part No. | Description |
|---|---|---|
| **MSA Confidence® Plus 2 Germicidal Cleaner** | **10009971** | US |
| | **10032737** | Canada |
| **Personal Safety Equipment Towelettes** | **697383** | Box of 100 individually wrapped towelettes (7¼" x 5") |
| | **697382** | Canister with 220 towelettes (7¼" x 6") |
| | **10022871** | "The Big Ones", box of 50 individually wrapped towelettes (8" x 11") |

## MSA Respirator Fit Test Compliance

29 CFR Part 1910.134


Advantage 200LS Respirator


Advantage 420 Respirator


Comfo Classic Respirator


G1 Facepiece


Advantage 3100 Respirator


Advantage 3200 Respirator


Advantage 4100 Respirator


Advantage 4200 Respirator


Advantage 1000/ Millennium Respirator


Ultra-Twin Respirator


Ultravue Respirator


Ultra Elite Respirator

| | Part No. | Description |
|---|---|---|
| **MSA Respirator Fit Test Kits** | **697444** | Bitrex qualitative fit test kit |
| | **801628** | Banana oil qualitative fit test kit |
| | **697285** | Sensitivity solution (saccharin) |
| | **697445** | Sensitivity solution (bitrex) |
| | **697286** | Replacement fit-test (saccharin) solution, ampoules |
| | **697446** | Replacement fit-test (bitrex) solution, ampoules |
| | **697447** | #1 Sensitivity nebulizer |
| | **697459** | #2 Fit-test nebulizer |
| | **697448** | Test hood (same for both) |

## Online Response® Respirator Selector

Available at *MSAsafety.com/responseguide*

- Helps identify the proper respirator you need
- Has broadest range of respiratory protective devices available
- Recommends respirators for more than 700 chemical hazards



## Cartridge Life Expectancy Calculator

Available at *MSAsafety.com/responseguide*

MSA's interactive web pages help users determine the life expectancy of specific respirator cartridges in various hazardous situations. This information provides guidance for how long a cartridge should be used before it must be replaced.



## Fit Test Compliance Reference Guide

| Respirator Description | Class | APF | OSHA Acceptable Fit Test Methods | Required Fit Factor Quantitative | MSA Fit Test Adapter Required | Cartridge Type | Probed Facepiece P/N (if applicable) | Controlled Negative Pressure (OHD) Quan Fit Test Adapter |
|---|---|---|---|---|---|---|---|---|
| **Advantage 200 LS** | Half-Mask Negative Pressure | 10 | Qualitative or Quantitative | 100 | **Advantage Adapter #10056424** | Bayonet or threaded with adapter #809999 | **S (816515), M (816513), L (816517)** | OHD P/N 9513-0210 |
| **Advantage 420** | Half-Mask Negative Pressure | 10 | Qualitative or Quantitative | 100 | **Advantage Adapter #10056424** | Bayonet or threaded w/adapter #809999 | **S (10107710), M (10107731), L (10107732)** | OHD P/N 9513-0210 |
| **Advantage 420** | Half-Mask Negative Pressure | 10 | Qualitative or Quantitative | 100 | **Advantage Adapter #10056424** | Bayonet only | **N/A** | OHD P/N 9513-0210 |
| **Comfo Classic** | Half-Mask Negative Pressure | 10 | Qualitative or Quantitative | 100 | **Quik Chek® II Adapter #812022** | Threaded | **S (808255), M (808249), L (808261)** | OHD P/N 9513-0109 |
| **Advantage 3100** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500 | **Quik Chek III Adapter #805078** | N/A | **N/A** | OHD P/N 9513-0210 |
| **Advantage 3200** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500 | **Advantage Adapter #10056424** | Bayonet or threaded w/adapter #809999 | **N/A** | OHD P/N 9513-0210 |
| **Advantage 4100** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500 | **Quik Chek III Adapter #805078**<br>**Use with RD 40 Adapter #10065330** | N/A | **N/A** | OHD P/N 9513-0130 |
| **Advantage 4200** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500 | **Advantage Adapter #10056424** | Bayonet or threaded w/adapter #809999 | **N/A** | OHD P/N 9513-0210 |
| **Advantage 1000** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500 | **Advantage Adapter #10056424** | Bayonet | **N/A** | OHD P/N 9513-0210 |
| **Ultra-Twin** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500 | **Quik Chek II Adapter #812022** | Threaded | **S (482025), M (482024), L (482026)** | OHD P/N 9513-0109 |
| **Ultravue** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500 | **Quik Chek I Adapter #802710** | N/A | **S (482009), M (482008), L (482010)** | OHD P/N 9513-0130 |
| **Ultra-Elite** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500 | **Quik Chek III Adapter #805078** | N/A | **S (813211), M (813209), L (813213)** | OHD P/N 9513-0130 |
| **G1 Pressure Demand** | Full-Face Positive Pressure | 10,000 SCBA<br>1000 Air-Line | Qualitative or Quantitative | 500 | **Quik Chek III Adapter #805078**<br>**Use with Single Port APR adapter #10144231-SP**<br>**Advantage Adapter 10056424**<br>**Use with Twin Port APR Adapter 10199720** | N/A | **N/A** | OHD P/N 9513-0130<br>OHD P/N 9513-0210 |
| **Millennium Facepiece** | Full-Face Negative Pressure | 50 | Qualitative or Quantitative* | 500<br>2000± | **Quik Chek III Adapter #805078** | Threaded | **Probe Assembly (10006227)** | OHD P/N 9513-0130 |
| **Ultra Elite Pressure-Demand** | Full-Face Positive Pressure | 10,000 SCBA<br>1000 Air-Line | Qualitative or Quantitative | 500† | **APR Fit Test Adapter Kit, #10044576**<br>**APR Fit Test Adapter Kit, Slide Version #10107229 (10032511 APR adapter only)**<br>**APR Fit Test Adapter Kit, Push-to-Connect #10107256 (10040052 APR adapter only)**<br>**Quik Chek Adapter Kit, Firehawk #10044576‡** | Bayonet | **Negative Pressure S (813211), M (813209), L (813213)** | OHD P/N 9513-0380 |
| **Ultra Elite Respirator** | Full-Face Positive/ Negative Pressure | 10,000 SCBA 50 APR | Qualitative or Quantitative | 500† SCBA 2000± APR | **Responder Fit Test Kit #10082555** | Threaded | **N/A** | N/A |

** If only qualitative fit test is performed on a full-face negative pressure respirator, then an APF of only 10 can be assigned. If a quantitative fit test is performed, the APF is 50.*

*± MSA recommends a fit factor of 2000 if the application is a CBRN environment.*

*† For quantitative fit testing of pressure-demand facepiece, the facepiece must be tested in a negative pressure mode which requires a minimum fit factor of 500.*

*‡ The Quik-Chek Adapter allows quantitative fit tests to be performed on a pressure demand Ultra Elite Firehawk facepiece by only trained and qualified personnel. Special probed facepiece is not required.*

## OptimAir® Mask-Mounted Air Purifying Respirator (PAPR) *with Type HE OptiFilter® XL*

**OptimAir Mask-Mounted PAPR Kits** consist of motor/blower, NiMH battery, dual-rate charger, one Type HE OptiFilter XL Cartridge, PVC decon belt, and choice of facepiece. Housing of polycarbonate/polyester construction and stainless steel connectors result in extreme durability. NIOSH-approved as mask-mounted PAPR. **OptimAir Mask-Mounted PAPR offers a full two-year warranty.**



### Features

***Motor/blower assembly***

- Assembly threads onto facepiece inlet; does not impede vision or facepiece fit.
- Connects to battery pack with heavy-duty lockable stainless steel power cable connector.
- Lightweight, compact design.
- Low maintenance, easy decontamination.

***Compact, lightweight, NiMH battery pack***

- Sealed 12.5-oz. NiMH battery pack is small enough to fit in most pockets.
- NiMH batteries do not have NiCad battery memory effect.
- Battery pack is water-resistant for easy shower decontamination.
- Operates for more than eight hours under most conditions.

### Approvals and Standards

OptimAir Mask-Mounted PAPR carries NIOSH approval No.TC-21C-0823. Filters must be replaced when air flow drops below 4 cfm (115 lpm).
***NOTE:*** *OptimAir Mask-Mounted PAPR is not NIOSH-approved for use with gas, chemical, or combination cartridges. Use only Type HEOptiFilter XL Filter.*

## OptimAir Mask-Mounted PAPR Kits

- Single hip-hugging design for motor blower, cartridges
- Battery provides lightweight comfort and fit
- Low-profile motor blower offers optimal airflow through a crush-proof breathing tube
- Ergonomic battery pack allows for free movement within confined spaces
- Approved with Advantage 3000, Advantage 4000, Ultra Elite, or G1 Facepiece.

| | Small | Medium | Large | Description |
|---|---|---|---|---|
| **Advantage 3100 PAPR** | **10095181** | **10095182** | **10095183** | With **rubber** head harness |
| **Advantage 4100 PAPR*** | **10095193** | **10095189** | **10095197** | Black silicone with **rubber** harness |
| | **10095194** | **10095190** | **10095198** | Black Hycar with **rubber** harness |

**Requires RD40 Adapter P/N 10065330*

Use to create Kits with any other facepieces, for G1 facepiece use, requires G1 Single Port APR adapter P\N 10144231-SP

| | Description | Part No. |
|---|---|---|
| **Upgrade Kit** | OptimAir Mask-Mounted PAPR Upgrade Kit, less facepiece | **10095166** |

## OptimAir Mask-Mounted PAPR Upgrade Kits

Upgrade Kits include: motor/blower, NiMH battery, dual-rate battery charger and cable, one Type HE OptiFilter XL Cartridge, and waist belt. Use your present facepiece or order facepiece separately from ordering chart.

| | Description | | | Part No. |
|---|---|---|---|---|
| **Upgrade Kit** | OptimAir Mask-Mounted PAPR Upgrade Kit, less facepiece | | | **10095166** |
| **Replacement Facepieces** **G1** *Also requires single-port APR adapter P/N 10144231-SP* | **Facepiece** | **Small** | **Medium** | **Large** |
| | G1 Facepiece with 4-pt. polyester head harness | **10188954** | **10188955** | **10188956** |
| | G1 Facepiece with rubber head harness | **10156461** | **10156462** | **10156463** |
| | G1 Facepiece with 4-pt. Kevlar head harness | **10156458** | **10156459** | **10156460** |
| **Replacement Facepieces** **Advantage 3100** | **Facepiece** | **Small** | **Medium** | **Large** |
| | Advantage 3100 Facepiece, with rubber head harness | **10028999** | **10028998** | **10029000** |
| | Advantage 3100 Facepiece, with European-style head harness | **10031343** | **10031342** | **10031344** |
| **Replacement Facepieces** **Advantage 4100** *Also requires RD40 Adapter P/N 1006533* | **Material** | **Small** | **Medium** | **Large** |
| | Advantage 4100 Facepiece, black silicone w/net head harness | **10083796** | **10083792** | **10083800** |
| | Advantage 4100 Facepiece, black Hycar rubber w/net head harness | **10083797** | **10083793** | **10083801** |
| **Replacement Facepieces** **Ultra Elite** | **Material** | **Small** | **Medium** | **Large** |
| | Ultra Elite, silicone rubber head harness | **493072** | **493028** | **493116** |
| | Ultra Elite, Hycar rubber head harness | **493064** | **493020** | **493108** |

| | Part No. | Description |
|---|---|---|
| **Parts and Accessories** | **10095162** | Battery pack assembly, packaged |
| | **10095163** | Motor/blower assembly, w/o cable, packaged |
| | **10095164** | Cable assembly, packaged |
| | **10095165** | Charger, packaged |
| | **487995** | Flow check device |
| | **491046** | Adapter for flow check device |
| | **473902** | Replacement belt, PVC |
| | **D2056734** | Carrying/storage case, black plastic |
| | **10009971** | MSA Confidence Plus Germicidal Cleaner, 32 oz. bottle |
| | **492827** | Waist belt for OptimAir Mask-Mounted PAPRs, optional, polyurethane-coated nylon belt, 67" long |
| | **9961** | Waist belt for OptimAir Mask-Mounted PAPRs, no-decon applications, uncoated nylon web waist belt |

| | Part No. | Color Code | Purifying Protection Code | Description |
|---|---|---|---|---|
| **OptiFilter Cartridges** | **10042346** | | **HE** | OptiFilter XL, Type HE, 20/box |
| | **496081** | | **HE** | OptiFilter XL, Type HE, 6/box |

## Optrel PAPR for Welding and Grinding

### Helix Pure Air PAPR

The Helix Pure Air Welding Helmet features an innovative slide-up design to seamlessly switch from welding to grinding that ensures balance, minimizes weight and allows for overhead welding.

### Clearmaxx Air PAPR

The Clearmaxx PAPR Grinding Hood combines an unparalleled clear view of your workspace and respiratory protection for optimal safety.

### e3000X PAPR System

Powering this product lineup is the e3000X PAPR system. NIOSH-approved, it offers 3 blower speeds and alerts for low flow and battery levels.



*Clearmaxx Air PAPR Kit PN 10246306*



*Helix Pure Air PAPR Kit 10246307*

| | Part No. | Description |
|---|---|---|
| **PAPR Kits** | **10246307** | Helix Pure Air PAPR Kit - Helix CLT w/Carry Bag |
| | **10246306** | Clearmaxx Air PAPR Kit - Clearmaxx w/Carry Bag |
| | **10246324** | Optrel e3000X PAPR Kit - No Headgear |
| **PAPR Headgear** | **10246347** | Helix Pure Air - Helix CLT |
| | **10246346** | Helix Pure Air - Helix Quattro |
| | **10246345** | Helix Pure Air - Helix CLT with Hard Cap |
| | **10246344** | Helix Pure Air - Helix Quattro with Hard Cap |
| | **10246343** | Clearmaxx Air |
| **PAPR Filters and Cartridges** | **10246314** | Type HE Filter for e3000X PAPR |
| | **10246311** | e3000X Pre Filter (set of 50) |
| | **10246312** | Mountain Breeze (MB) Nuisance Level Starter Kit |
| | **10246313** | MB Nuisance Level Filter Replacement - Set of 50 |
| | **10246315** | Spark Protector |
| | **10250047** | Combination Gas / HE Filter for e3000X PAPR* |



## OptimAir® TL Powered Air-Purifying Respirator

- Single hip-hugging design for motor blower, cartridges
- Low-profile motor blower offers optimal airflow through a crush-proof breathing tube
- Ergonomic battery pack allows for free movement within confined spaces
- Unit automatically adjusts flow rates for altitude changes via an internal pressure sensor
- Audible and visual alarms indicate low flow condition and low battery voltage
- Available with standard or extended-life battery
- Approved with hoods as listed or for facepiece use with Advantage 3000, Advantage 4000, Ultra Elite, or G1 Facepiece. Facepiece style breathing tube required. Single port adapters required for G1 and Advantage 4000 Facepieces




### Standard OptimAir TL Kits

*Kits include:* PAPR, motor/blower, battery, Smart Charger, breathing tube, and decon belt.

| | Part No. | Description |
|---|---|---|
| **OptimAir TL Kit for facepieces** | **10081115** | OptimAir TL Kit with **long-life** battery |
| **OptimAir TL Kit for hoods** | **10081117** | OptimAir TL Kit with **long-life** battery |

### OptimAir TL Response Kits

*Kits include:* PAPR, extended life battery, charger, breathing tube, hood and 2 Type HE cartridges.

| | Part No. | Description |
|---|---|---|
| **OptimAir TL Response Kits** | **10214805** | OptimAir TL Kit with **low-profile white hood** and Type HE cartridges |
| | **10214891** | OptimAir TL Kit with **full single-bib hood** and Type HE cartridges |

### Tychem® QC (polyethylene-coated Tyvek) Hoods

| | Single Bib | Double Bib | Suspension | Packaging |
|---|---|---|---|---|
| **Hoods threaded connector** | **10083329** | **10083330** | Yes | 4-pack |
| | **10095739** *(white)* **10095748** *(yellow)* | **10095743** *(white)* **10095749** *(yellow)* | No | 20-pack |
| **Hoods standard** | **10083383** | **10083384** | Yes | 4-pack |
| | **10095740** | **10095744** | No | 20-pack |



*Tychem hood*

### Tychem SL (Saranex-coated Tyvek)

| | Single Bib | Double Bib | Suspension | Packaging |
|---|---|---|---|---|
| **Hoods threaded connector** | **10083381** | **10083382** | Yes | 4-pack |
| | **10095741** | **10095745** | No | 20-pack |
| **Hoods standard** | **10083385** | **10083386** | Yes | 4-pack |
| | **10095742** | **10095746** | No | 20-pack |

### Low-Profile Hoods

| | Part No. | Color | Packaging |
|---|---|---|---|
| **Hoods Low-profile** | **10083329** | White | 4-pack |
| | **10083383** | White | 20-pack |



*Low-profile hood*

## OptimAir® TL Powered Air-Purifying Respirator

### Facepiece Accessories

| | Part No. | Description |
|---|---|---|
| Facepiece Accessories | 10065330 | RD-40 Inlet assembly, required for all Advantage 4100 facepieces |
| | 10144231-SP | Single Port 40mm adapter for G1 Facepiece |
| | 10049630 | Hose for facepiece |

### Other Accessories

| | Part No. | Description |
|---|---|---|
| Hood Suspensions | 10103864 | 20-pack |
| | 10078469 | 1 each |
| Hood Accessories | 10083843 | Hose clamp for standard hood, 6-pack |
| | 10049631 | Hood hose |
| | 10082281 | Hood hose, extended length |
| | 10083618 | Sweatband for hood suspension, 10-pack |
| | 10082441 | Cover lens for hood, 10-pack |
| | 10089665 | Fastener kit, hood to V-Gard helmet |
| Cartridges | 10080455 | HE cartridge (6-pack) |
| | 10154877 | HE cartridge (54-pack) |
| | 10080454 | HE/OV/CL/CD/HC/HS/SD/HF cartridge (6-pack) |
| | 10080456 | HE/AM/CL/CD/FM/HC/HS/MA/SD/HF cartridge (6-pack) |
| | 10224473 | HE/OV/MV cartridge (6 pack) |
| | 10068152 | Spark Guard cartridge cover (single unit) (2 req.) |

| | Part No. | Description |
|---|---|---|
| Batteries and Chargers for OptimAir TL PAPR | 10076110 | Standard battery charger |
| | 10076109 | Long-life battery |
| | 10076107 | Long-life battery charger |
| Decon Accessories for OptimAir TL PAPR | 10075799 | Decon cover, 5-pack, natural |
| | 10087152 | Decon cover, 5-pack, yellow |
| | 10078201 | Decon belt (backpack buckle) |
| | 10074725 | Decon belt (cam lock buckle) |
| Other Accessories for OptimAir TL PAPR | 10085084 | O-ring replacement, hose hood, 10-pack |
| | 10049623 | Comfort belt |
| | 10081414 | Cartridge receptacle cover |
| | 10059112 | Shoulder strap |
| | 10088150 | Blower unit only |
| | 10217723 | Coupling nut for hood hose, 10 pack |

## Welder's Adapter for Full-Facepiece Respirators

- Molded of polycarbonate plastic, which has high resistance to impact, heat, and welding splatter
- Clip-on adapter attaches to facepiece by molded-in clips
- Large vision area—4½" x 5¼"—provides unobstructed view of work
- Supplied with impact-resistant cover lens; desired filter plate is ordered separately



| | Part No. | Description |
|---|---|---|
| Welder's Adapters | 472859 | Clip-On Welder's Adapter for **Ultravue and Ultra Twin Facepieces**; with cover lens, less filter plate |
| | 806482 | Clip-On Welder's Adapter for **Ultra Elite Facepiece**; with cover lens, less filter plate |
| | 10077063 | Clip-On Welder's Adapter for **Advantage 4200 Twin-Port Facepiece**; with cover lens, less filter plate |
| | 10065326 | Clip-On Welder's Adapter for **Advantage 4100 Single-Port Facepiece**; with cover lens, less filter plate |
| | 10250497 | Clip-On Welders Adapter for **G1 Facepiece**; with cover lens, less filter plate |
| Accessories | 10250048 | Auto Darkening Filter (ADF) for MSA Welding Adapters |
| | 696095 | Cover Lens |

## Chin-Type Gas Masks

The **MSA Chin-Type Gas Mask** is a full-facepiece air-purifying respirator with a single canister, designed for respiratory protection or escape against specific gases or a group of gases as indicated by canister identification. Chin-Type Gas Masks can be used for many applications including paper mills, chemical plants, agri-business, fumigation and HazMat situations. Chin canisters are provided for one of four hazard groups:

1. Phosphine/ammonia/chlorine/P100
2. Hydrogen fluoride/chlorine/P100
3. Organic vapor/P100
4. Formaldehyde/acid gas/chlorine dioxide/hydrogen sulfide/P100


*G1*


*Advantage 3100*


*Advantage 4100*


*Ultravue*


*Ultra Elite*

Gas mask use is restricted to entry into, or work within, atmospheres that are within canister limitations. They are not intended for oxygen-deficient atmospheres (less than 19.5% $O_2$). Gas masks may be used for escape only from atmospheres in which the contaminant concentration does not exceed the gas mask maximum use concentration. Chin-Type Gas Masks have the following maximum use limitations:

**Routine use:** 50 times the Permissible Exposure Level (PEL) — Do not exceed the Immediately Dangerous to Life or Health (IDLH) concentration.

**Escape use:** contaminant concentrations up to gas mask maximum use concentrations, providing there is sufficient oxygen to support life.

Gas masks are generally suitable for ventilated areas with relatively stable concentration levels. They should never be used within confined spaces, or where oxygen deficiency and/or high gas concentrations may exist.

| MSA Facepieces | Material Options | | Head Harness | | |
|---|---|---|---|---|---|
| | Silicone | Hycar Rubber | Net | Rubber | Kevlar |
| G1 | | ■ | ■ | ■ | ■ |
| Advantage® 4100 | ■ | ■ | ■ | ■ | ■ |
| Advantage 3100 | ■ | | | ■ | |
| Ultravue® | ■ | ■ | | ■ | |
| Ultra Elite® | ■ | ■ | | ■ | |

*All facepieces offer:*

- Three sizes to accommodate many users.
- Scratch-resistant polycarbonate lens with wide field of vision.
- Nosecup to reduce lens fogging in low temperatures or high humidity.
- Optional lens cover for additional scratch resistance.

**For G1 and Advantage 4100 Facepieces, a single port APR adapter is required for converting it into a single port gas mask configuration.**

Gas mask facepieces, canisters and storage cases are sold separately.

| | Small | Medium | Large | Description |
|---|---|---|---|---|
| G1 Facepieces | 10188954 | 10188955 | 10188956 | G1 Facepiece, with 4-pt. **polyester** head harness |
| G1 Single Port APR Adapter Required — P\N 10144231-SP | 10156461 | 10156462 | 10156463 | G1 Facepiece, with **rubber** head harness |
| | 10156458 | 10156459 | 10156460 | G1 Facepiece, with 4-pt. **Kevlar** head harness |
| Advantage 3100 Single-Port Facepieces | 10028999 | 10028998 | 10029000 | Advantage 3100 Facepiece, with **rubber** head harness |
| | 10031343 | 10031342 | 10031344 | Advantage 3100 Facepiece, with **European-style** head harness |
| Advantage 4100 Single-Port Facepieces | 10083796 | 10083792 | 10083800 | Advantage 4100 Facepiece, black **silicone**, with **polyester net** head harness |
| | 10083798 | 10083794 | 10083802 | Advantage 4100 Facepiece, black **silicone**, with **rubber** head harness |
| Advantage 4100 RD 40 Adapter Required — P\N 10065330 | 10108576 | 10108573 | 10108577 | Advantage 4100 Facepiece, black **silicone**, with **Kevlar net** head harness |
| | 10083797 | 10083793 | 10083801 | Advantage 4100 Facepiece, black **hycar**, with **polyester net** head harness |
| | 10083799 | 10083795 | 10083803 | Advantage 4100 Facepiece, black **hycar**, with **rubber** head harness |
| | 10108576 | 10108574 | 10108578 | Advantage 4100 Facepiece, black **hycar**, with **Kevlar net** head harness |
| Ultravue Facepieces | 480251 | 480247 | 480255 | Ultravue Facepiece, black **silicone** |
| | 471218 | 457126 | 471230 | Ultravue Facepiece, black **hycar** |
| Ultra Elite Facepieces | 493072 | 493028 | 493116 | Ultra Elite Facepiece, black **silicone** |
| | 493064 | 493020 | 493108 | Ultra Elite Facepiece, black **hycar** |

## Chin-Type Gas Masks

| MSA Canister Identification | Purfying Protection Code | Color Coding | Approval | Maximum Escape Use Conditions | | Gas/Vapor | Single Canister |
|---|---|---|---|---|---|---|---|
| | | | | *% Volume* | *PPM* | | |
| Phosphine/ammonia/chlorine/P100 canister | PH/AM/CL | | TC-14G-0274 | 0.50%<br>0.15% | 5000<br>1500 | Ammonia, Chlorine<br>Phosphine | **10059903*** |
| Organic vapor/P100 canister also effective against organic iodides and iodide vapors | OV | | TC-14G-0279 | 0.50% | 5000 | Organic Vapors, also effective against organic iodides and iodide vapors | **10067469*** |
| Hydrogen fluoride/chlorine/P100 canister | HF/CL | | TC-14G-0280 | 0.10% | 1000<br>5000 | Hydrogen Fluoride<br>Chlorine | **10067491*** |
| Formaldehyde/acid gas/chlorine dioxide/ hydrogen sulfide/P100 canister | FM/AG/ CD/HS | | TC-14G-0282 | 0.05%<br>0.50%<br>0.10% | 500<br>5000<br>1000 | Formaldehyde<br>Acid Gas, Hydrogen Sulfide<br>Chlorine Dioxide | **10067470*** |

*Canister contains a P100 particulate filter (99.97% filter efficiency level) against all particulate amounts.

### Optional Carrying/Storage Plastic Case

Optional carrying/storage plastic case with carrying strap and separate wall-mounting bracket is ideal for storage in car trunks and tool lockers.

| | Part No. | Description |
|---|---|---|
| **Storage Cases** | **10075204** | Phosphine/ammonia/chlorine/P100 |
| | **10075207** | Organic vapor/P100 |
| | **10075206** | Formaldehyde/acid gas/chlorine dioxide/ hydrogen sulfide/P100 Advantage® 4100 |



*Carrying/Storage Plastic Case*

### Accessories

| | Part No. | Description |
|---|---|---|
| **Lens Covers** | **10246693** | G1 Lens Cover, clear (25/Pkg) |
| | **10246694** | G1 Cover Lens, smoke (25/Pkg) |
| | **10031542** | Advantage 3100/4100 clear lens covers (25/pkg.) |
| | **10031543** | Advantage 3100/4100 smoke-tinted lens covers (25/pkg.) |
| | **456975** | Ultravue Facepiece clear lens covers (25/pkg.) |
| | **480326** | Ultravue Facepiece smoke-tinted lens covers (25/pkg.) |
| | **491500** | Ultra Elite Facepiece clear lens covers (25/pkg.) |
| | **805456** | Ultra Elite Facepiece smoke-tinted lens covers (25/pkg.) |
| **Welder's Adapters** | **472859** | Clip-On Welder's Adapter for Ultravue and Ultra Twin Facepiece; with cover lens, less filter plate |
| | **806482** | Clip-On Welder's Adapter for Ultra Elite Facepiece; with cover lens, less filter plate |
| | **10065326** | Clip-On Welder's Adapter for Advantage 4100 Facepiece; with cover lens, less filter plate |
| | **10250947** | G1 Welding Shield Adapter |
| **Spectacle Kits** | **10144230** | Prescription Eyeglass Kit for G1 |
| | **10029298** | Prescription Eyeglass Kit for Advantage 3100, 4100 |
| | **454819** | Prescription Eyeglass Kit for Ultravue Facepiece |
| | **804638** | Prescription Eyeglass Kit for Ultra Elite Facepiece |
| **Cleaning Accessories** | **10009971** | MSA Confidence Plus Germicidal Cleaner, 32 oz. bottle |



*G1 Lens Covers*



*Clip-On Welder's Adapters*



*G1 Spectacle Kit*



*Confidence Plus Cleaner*

## Riot Control and CBRN Gas Masks

- Provides respiratory protection against chemical warfare, civil unrest and CBRN threats
- High-performance, custom-fit comfort in a variety of military and riot-style masks
- Attracts, regains and neutralizes contaminants
- Flexible lens with a wider field of view for superior visibility
- Permeation-resistant construction
- Built-in speaking diaphragm



*Millennium Gas Mask (for use with CBRN or RIot Control canisters)*



*Advantage 1000 Riot Control Gas Mask*

| | Small | Medium | Large | Description |
|---|---|---|---|---|
| **Millennium CBRN/ Riot Control Gas Mask** | **10051286** | **10051287** | **10051288** | Millennium Gas Mask, with nosecup, drinking tube, and clear polycarbonate outsert *(Order either Riot Control or CBRN canisters separately.)* |
| **Advantage 1000 Riot Control Gas Mask** | **813860** | **813859** | **813861** | Advantage 1000 Riot Control Mask, complete with canister, nosecup, and identification tag *(NOTE: the Advantage 1000 Riot Control Mask is NOT CBRN approved and uses Riot Control canisters only.)* |

| | Part No. | Description |
|---|---|---|
| **Riot Control Canisters** | **818264** | Millennium riot control canisters, box of 6 |
| | **817590** | Advantage 1000 riot control canisters, box of 6 |
| **CBRN Canister** | **10046570** | CBRN canister, for Millennium and Ultra Elite Facepieces |
| **GME Canister** | **10160594** | GME-P100, CS\CN Riot Control Canister |
| **Lens Outsert For Millennium Facepiece** | **10008907** | Polycarbonate lens outsert, clear, small |
| | **10008906** | Polycarbonate lens outsert, clear, medium/large |
| | **10008908** | Polycarbonate lens outsert, tinted, medium/large |
| **Lens Outsert For Advantage 1000 Facepiece** | **806463** | Polycarbonate lens outsert, clear, small |
| | **806462** | Polycarbonate lens outsert, clear, medium/large |
| **Other Accessories For Millennium And Advantage 1000 Facepieces** | **10034184** | Gas mask pouch, military style |
| | **817040** | Black nylon bag |
| **Other Accessories For Millennium And Advantage 1000 Facepieces** | **10034184** | Gas mask pouch, military Sstyle |
| | **817040** | Black nylon bag |
| | **816137** | Advantage 1000/Millennium spectacle kit |

## MSA G1™ CBRN APR

- G1 APR Facepiece Assembly does not include the CBRN Canister or APR Adapter, must be ordered separately.
- The G1 CBRN APR is approved for the 4-point harness, 5-point harness, and rubber harness.
- The neckstrap is also approved in both kevlar and rubber.
- The standard G1 facepiece nosecup is not approved for CBRN applications and the CBRN nosecup is not approved for use in a traditional firefighting situation.
- If using the standard G1 facepiece in a traditional firefighting situation and CBRN environment, use the CBRN nosecup for the Fit Test.



| | Small | Medium | Large | Description |
|---|---|---|---|---|
| **Facepiece Assemblies** | **10194379** | **10194380** | **10194381** | G1 APR Facepiece Assembly |

| | Part No. | Description |
|---|---|---|
| **Riot Control Canister** | **10160594** | GME-P100, CN\CS Riot Control Canister |
| **Nosecup Kits** | **10189322** | Replacement Kit, CBRN Nosecup, G1 Facepiece, LG |
| | **10189323** | KIT, REPL, CBRN Nosecup, G1 Facepiece, MD/SM |
| **Airguides** | **10191617** | Airguide CBRN, G1 Facepiece, left |
| | **10191618** | Airguide CBRN, G1 Facepiece, right |

| | Part No. | Description |
|---|---|---|
| **Miscellaneous** | **10194547** | Cover, G1 Filter Adapter |
| | **10194548** | Washer, RD40, green |
| | **10194549** | Button, G1 Filter Adapter |
| | **10046570** | Canister, CBRN, PKG, Threaded |
| | **10144231-SP** | Kit, Filter Adapter Assy, G1 Facepiece |

## G1™ Powered Air-Purifying Respirators (PAPRs)



- Long-life unit provides non-IDLH respiratory protection for up to 8 hours
- Responder unit is compatible with MSA Millennium and Ultra Elite facepieces
- Batteries can be "hot-swapped"
- *Applications include:* CBRN incidents, civil disturbances, clandestine labs

The G1 PAPR Kits do not come with cartridges and must be ordered separately.

| | Part No. | Description |
|---|---|---|
| **G1 PAPR Kits less cartridge** | **10204811** | G1 PAPR Kit, 30-inch breathing tube, $LiSO_2$ battery, adapter |
| | **10204812** | G1 PAPR Kit, 36-inch breathing tube, $LiSO_2$ battery, adapter |
| | **10204813** | G1 PAPR Kit, 30-inch breathing tube, NiMH battery, adapter |
| | **10204814** | G1 PAPR Kit, 36-inch breathing tube, NiMH battery, adapter |
| | **10204815** | G1 PAPR Kit, 30-inch breathing tube, $LiSO_2$ battery |
| | **10204816** | G1 PAPR Kit, 36-inch breathing tube, $LiSO_2$ battery |
| | **10204817** | G1 PAPR Kit, 30-inch breathing tube, NiMH battery |
| | **10204818** | G1 PAPR Kit, 36-inch breathing tube, NiMH battery |
| | **10193956** | Breathing tube, 30-inch, G1 PAPR |
| | **10193957** | Breathing tube, 36-inch, G1 PAPR |
| | **10144231-SP** | G1 APR Single Port Adapter |

## S-CAP™ Fire Escape Hood






*Wall box*

- Filters out CO and smoke; designed for minimum rated service time of 15 min.
- Universal size: easily fitted with quick donning and effective within seconds
- Minimal training required
- Wide field of view lens and highly visible yellow hood

| | Part No. | Description |
|---|---|---|
| **S-CAP Fire Escape Hood** | **10064644** | S-CAP in cardboard box |
| | **10064645** | S-CAP in wall box |

## W65 Self-Rescuer Respirator






- Convenient, portable self-rescuer provides emergency protection against CO
- One-time-use device for escape purposes only
- Lightweight—only 2.2 lbs.
- Rugged stainless steel case
- Unit should not be used in atmospheres containing less than 19.5 percent oxygen or in atmospheres containing other toxic gases and vapors

| | Part No. | Description |
|---|---|---|
| **W65 Self-Rescuer Respirator** | **455299** | W65 Self-Rescuer Respirator, complete in carton |
| **Holster** | **455535** | Leather Holster—adapts Self-Rescuer to belts up to 21/2 inches in width |
| | **460027** | Neoprene Holster—adapts Self-Rescuer to belts up to 21/2 inches in width |
| **Protective Boot** | **449428** | Protective Boot |
| **Self-Rescuer Training Model** | **455696** | Training Model, in red case |

Other MSA Products for Mining Applications
*For miner's cap lamp and support system, see p. 94. For ALTAIR 4X MSHA Portable Gas Detector, see p. 64.*

## Constant Flow Air-Line Respirator

- Full-facepiece protection with G1 and Advantage 4100 facepiece options. Ultra Elite and Ultravue facepieces also approved for use.
- Ideal for use in shipbuilding, utilities, chemical, petrochemical, and pharmaceutical industries.
- A wide range of applications including welding, painting and handling certain hazardous materials in non-IDLH environments
- Complete assemblies are available and include a web support belt, air-flow control valve with quick disconnect, breathing tube and a choice of facepiece.



***Note:*** *MSA Air-Supply Hose and other accessories, see p. 29. For separate quick-disconnect plugs and sockets, see p. 28. See pages 20–21 for typical Pressure Demand Air-Line and Constant Flow Air-Line Systems setup.*

| | G1 Facepiece *Medium size* | Advantage 4100 Facepiece *Medium size* | No Facepiece May be used with any approved facepieces *Includes G1 adapter* | Quick-disconnect |
|---|---|---|---|---|
| **Constant Flow Complete Assemblies** **High-pressure control valve** (35–40 psig inlet pressure for 8–300 ft. of hose) | **10250824** | **10088132** | **10250832** | Snap-Tite aluminum |
| | **10250825** | **10088134** | **10250833** | Foster/Schrader steel |
| | **10250826** | **10088136** | **10250834** | Hansen brass |
| | **10250827** | **10088135** | **10250835** | CEJN Locking chrome-plated brass |
| **Constant Flow Complete Assemblies** **Low-pressure control valve** (10–15 psig inlet pressure for 8–50 ft. of hose) | **10250828** | **10088107** | **10250836** | Snap-Tite aluminum |
| | **10250829** | **10088109** | **10250837** | Foster/Schrader steel |
| | **10250830** | **10088121** | **10250838** | Hansen brass |
| | **10250831** | **10088110** | **10250839** | CEJN Locking chrome-plated brass |

## G1 Facepiece Options

| | Small | Medium | Large | Description |
|---|---|---|---|---|
| **G1 Facepiece Options** | **10188954** | **10188955** | **10188956** | G1 Facepiece w/**4-pt. polyester head harness** |
| | **10156461** | **10156462** | **10156463** | G1 Facepiece w/**rubber head harness** |
| | **10156458** | **10156459** | **10156460** | G1 Facepiece w/**4-pt. Kevlar head harness** |
| | **10161812** | **10161813** | **10161814** | G1 Facepiece w/**5-pt. Kevlar head harness** |

*See G1 Facepiece Assemble to Order (ATO) matrix for additional options.*

**Single port APR Adapter Required*
***Twin port APR Adapter Required*

## G1 Facepiece Accessories

| | Part No. | Description |
|---|---|---|
| **APR Adapters** | **10144231–SP** | Single Port APR Adapter |
| | **10199720** | Twin Port APR Adapter |
| **G1 Lens Covers** | **10246693** | G1 Lens Cover, clear |
| | **10246694** | G1 Cover Lens, smoke |
| **Spectacle Kit** | **10144230** | Spectacle Kit |
| **Fit Test Adapters** | **805078** | Quik-Check III Fit Test Adapter* |
| | **10056424** | Advantage Fit Test Adapter** |

## Duo-Twin™ Respirators

- Use where ample air supply is available, such as that provided by air compressor
- If air supply fails, user is automatically protected by air-purifying cartridges which protect against a variety of contaminants
- Should not be used in atmospheres containing less than 19.5% oxygen
- NIOSH approved
- Applications: pharmaceutical, chemical, petrochemical, and nuclear industries

Assemblies come complete with facepiece, breathing tube, adapter assembly/regulator, web belt and Foster steel plug and socket assembly.



*Duo-Twin Respirator with Advantage 4000 Facepiece*

| | Part No. | Description |
|---|---|---|
| **Duo-Twin Respirator Complete Assemblies** | **10091873** | Constant-Flow Duo-Twin Respirator with **Advantage 4200 Facepiece** Uses Advantage Respirator Cartridges listed on p. 8 |
| | **490143** | Constant-Flow Duo-Twin Respirator with **Ultravue Facepiece** Uses Comfo Respirator Cartridges listed on p. 9 |

## Abrasi-Blast™ Supplied-Air Respirator

- Provides respiratory and upper body protection for personnel engaged in abrasive blasting
- Heavy, rubber hood protects against rebounding abrasive materials
- In addition to hood, respirator includes facepiece with lens housing, breathing tube, lens cartridge, flow-control device, air-supply hose, support belts
- Removable flat-glass cover lens
- Choose waist-length or shoulder-length style





| | Waist-Length Hood | Shoulder-Length Hood | Description |
|---|---|---|---|
| **Complete Assemblies with Advantage 4000 Facepiece** | **10089177** | **10089210** | Abrasi-Blast Respirator with **Advantage 4000 Facepiece**<br>Includes hood, medium facepiece with net head harness (10089910), lens housing, one lens cartridge (three 0.12›› untempered glass cover lenses per cartridge), breathing tube (470734), web belt (9961), and adjustable valve connector with Snap-Tite (AL) socket assembly. Flow-control device: 35–40 psi. ***Order air-supply hose separately.*** |
| **Complete Assemblies with Duo-Flo Constant Flow Advantage 4000 Facepiece** | **10116961** | **10116962** | Abrasi-Blast Respirator with **Duo-Flo Constant-Flow Advantage 4000 Facepiece**<br>Includes hood, medium facepiece with net head harness (10089910), lens housing, one lens cartridge (three 0.12" untempered glass cover lenses per cartridge), breathing tube (457158), web belt (9961), and adjustable valve connector with Snap-Tite (AL) socket assembly. Flow-control device: 35–40 psi. |
| **Complete Assemblies with Ultravue Facepiece**<br><br>**Assemblies can be specially ordered with different options** | **468716** | **468720** | Abrasi-Blast Respirator with **Ultravue Facepiece**<br>Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. **Inlet Pressure Range: 10–15 psi**. |
| | **468718** | **468722** | Abrasi-Blast Respirator with **Ultravue Facepiece**<br>Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. **Inlet Pressure Range: 35–40 psi**. |
| | **478116** | **478117** | Abrasi-Blast Respirator with **Ultravue Facepiece**<br>Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. **Abrasi-Blast Duo-Flo**. |

| | Part No. | Description |
|---|---|---|
| **Lens Cartridges**<br>**12 cartridges per carton** | **473798** | 0.09"-thick, untempered lens; 3 per cartridge; recommended use: medium blasting |
| | **473800** | 0.09"-thick, tempered lens; 3 per cartridge; recommended use: medium blasting |
| | **10013407** | 0.12"-thick, untempered, laminated lens; 1 per cartridge; recommended use: heavy blasting |
| | **473802** | 0.12"-thick, untempered, laminated lens; 2 per cartridge; recommended use: heavy blasting |
| | **481742** | 0.12"-thick, untempered, laminated lens; 3 per cartridge; recommended use: heavy blasting |

## G1™ Cadet Supplied-Air Respirator

The G1 Cadet is a pressure-demand, Type C supplied-air respirator with mask-mounted regulator for use in non-IDLH environments. The G1 facepiece can support multiple applications and respirator platforms including Supplied Air, SCBA, APR, and PAPR.

- The G1 Facepiece provides a wide field of view and is available with choice of rubber, polyester or Kevlar head harness to meet your specific needs such as decontamination, comfort and heat/spark resistance.
- Regulator hose lengths in either 30" or 42" lengths can accommodate front, or back positioning of the air line attachment.
- Comfortable waist belt options include secure attachment and nomex, nylon or urethane coating to meet the specific use, comfort, decontamination needs of the work environment.
- Regulator keeper on belt provides secure mounting when not in use.
- Select from a full line of fittings to meet your installation and facility needs.
- Multiple hose options and lengths to provide up to 300' of air supply.
- Compatible with multiple G1 based respirator platforms to support a complete respiratory program.



| | Part No. | Waist Belt | Regulator — Hose Length | Facepiece |
|---|---|---|---|---|
| **G1 Cadet Respirator Options** | **10239083** | Nomex | 42" | G1 Medium with 5 pt. Kevlar |
| | **10225585** | Nylon | | G1 Medium with Rubber |
| | **10225594** | Nylon | | G1 Medium with Poly Cloth |
| | **10225589** | Nomex | | None |
| | **10225591** | Nylon | | |
| | **10225593** | Urethane | | |
| | **10225587** | Nomex | 30" | G1 Medium with 5 pt. Kevlar |
| | **10225586** | Nylon | | G1 Medium with Rubber |
| | **10225584** | Nylon | | G1 Medium with Poly Cloth |
| | **10225588** | Nomex | | None |
| | **10225590** | Nylon | | |
| | **10225592** | Urethane | | |

| | Part No. | Description |
|---|---|---|
| **G1 Facepiece Accessories** | **10144230** | Spectacle Kit |
| | **10144231–SP** | Single Port APR Adapter |
| | **10199720** | Twin Port APR Adapter |
| | **10225911** | G1 Lens Cover, Clear |
| | **10225951** | G1 Cover Lens, Smoke |
| | **805078** | Quik-Check III Fit Test Adapter* |
| | **10056424** | Advantage Fit Test Adapter** |

**Single port APR Adapter Required*
***Twin port APR Adapter Required*



## PremAire® Cadet Supplied-Air Respirator

The Premaire Cadet is a pressure-demand, Type C supplied-air respirator with mask-mounted regulator for use in non-IDLH environments.

- Approved with Advantage 4000 and Ultra Elite push-to-connect facepieces.
- Shares function with G1 Cadet Supplied Air Respirator



| | Part No. | Description |
|---|---|---|
| **PremAire Cadet Kits** | **10108493** | PremAire Cadet Air-Line Respirator with **Foster Steel** quick-disconnects, 50-foot section neoprene air-supply hose with **Foster Steel Plug** |
| | **10108594** | PremAire Cadet Air-Line Respirator with **Snap-Tite Aluminum** quick-disconnects, 50-foot section neoprene air-supply hose with **Snap -Tite Aluminum Plug** |

## PremAire Cadet Respirator Assemblies

| | Facepiece | with 30" IP (intermediate pressure) hose | | with 42" IP (intermediate pressure) hose | |
|---|---|---|---|---|---|
| | | no fittings | Snap-Tite AL fittings | no fittings | Snap-Tite AL fittings |
| **PremAire Cadet Complete Assemblies** | Ultra Elite | **10054790** | **10054792** | **10054791** | **10054793** |
| | Advantage 4000 | **10081100** | **10081098** | **10081171** | **10081099** |
| | Less facepiece | **10121413** | — | **10121416** | — |




## Facepieces for PremAire Cadet and PremAire Cadet Escape Respirators

### Ultra Elite Facepieces



### Advantage 4000 Facepieces



| | Small | Medium | Large | Description |
|---|---|---|---|---|
| **Ultra Elite Facepieces** **Push-To-Connect Adapter** | **10037650** | **10037648** | **10037652** | hycar, **rubber** head harness, nosecup |
| | **10043417** | **10043413** | **10043431** | silicone, **rubber** head harness, nosecup |
| | **10043419** | **10043415** | **10043433** | hycar, **SpeeD-ON** head harness, nosecup |
| | **10043430** | **10043416** | **10043434** | silicone, **SpeeD-ON** head harness, nosecup |
| | **Small** | **Medium** | **Large** | **Description** |
| **Advantage 4000 Facepieces** **Push-To-Connect Adapter** | **10075911** | **10075905** | **10075917** | hycar, **rubber** head harness, nosecup |
| | **10075910** | **10075904** | **10075916** | silicone, **rubber** head harness, nosecup |
| | **10075915** | **10075909** | **10075921** | hycar, **polyester net** head harness, nosecup |
| | **10075914** | **10075908** | **10075920** | silicone, **polyester net** head harness, nosecup |
| | **10108547** | **10108561** | **10108565** | hycar, **Kevlar net** head harness, nosecup |
| | **10108545** | **10108549** | **10108563** | silicone, **Kevlar net** head harness, nosecup |

***Note:*** *See p. 29 to order quick-disconnects for use with the PremAire and PremAire Cadet Systems (column 2 for the plug and column 5 for the socket assembly).*

## G1™ PremAire® Cadet Escape Respirator



### MSA G1 Facepiece offers:

- Wide field of view, 86%
- Comfortable, robust seal geometry to help ensure secure seal every time facepiece is donned
- An open port to provide low breathing resistance, both on- and off-air

### PremAire Cadet Escape Respirator with G1 Facepiece features:

- Low-profile escape cylinders that can be worn on either right or left hip, making movements easier in tight spaces
- Escape cylinders rated at 5-, 10- and 15-minutes
- Pressure gauge recessed into valve housing that protects gauge and reduces size and profile
- Two harness materials: standard nylon for chemical resistance and Kevlar for high heat environments or those with spark potential
- NIOSH approval as combination supplied-air respirator and self-contained breathing apparatus

| | Part No. | Description |
|---|---|---|
| **G1 PremAire Cadet Escape Respirators** | **10192832** | G1 PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum cylinder, nylon carrier, G1 facepiece with rubber head harness, Hansen brass fittings, with case |
| | **10192833** | G1 PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum cylinder, nylon carrier, G1 facepeice with rubber head harness, no fittings, no case |
| | **10192834** | G1 PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum cylinder, nylon carrier, no facepiece, no fittings, no case |
| | **10192835** | G1 PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum cylinder, nylon carrier, no facepiece, Hansen brass fittings, no case |
| | **10167678** | G1 PremAire Cadet Escape Air-Line Respirator, **15-minute** carbon egress cylinder, kevlar strap carrier/harness, G1 Facepiece, 4 pt adjustable head harness, less fittings, hard case |
| | **10167679** | G1 PremAire Cadet Escape Air-Line Respirator, **15-minute** carbon egress cylinder, kevlar strap carrier/harness, G1 Facepiece, 4 pt adjustable head harness, Hansen brass fittings, less case |
| | **10167680** | G1 PremAire Cadet Escape Air-Line Respirator, **10-minute** carbon egress cylinder, nylon strap carrier/harness, G1 Facepiece, 5 pt adjustable head harness, less fittings, less case |

## G1 PremAire® Cadet Escape Respirator

Ordering Selection Matrix

MSA The Safety Company

**A Type**

| | |
|---|---|
| PCG | PremAire Cadet Escape G1 |

**B Carrier & Harness Type**

| | |
|---|---|
| 1 | Nylon, strap carrier, standard |
| 2 | Kevlar, strap carrier, standard |
| 3 | Nylon, bag carrier, standard |
| 4 | Kevlar, bag carrier, standard |

**Notes:**
Aluminum escape cylinders are not compatible with bag carriers.

**C Pad Option**

| | |
|---|---|
| 0 | None |
| 1 | Shoulder |

**D Escape Cylinder**

| | |
|---|---|
| A | 5-minute aluminum |
| B | 10-minute aluminum |
| C | 5-minute carbon |
| D | 10-minute carbon |
| E | 15-minute carbon |
| F | 5-minute aluminum, less air |
| G | 10-minute aluminum, less air |
| H | 5-minute carbon, less air |
| J | 10-minute carbon, less air |
| K | 15-minute carbon, less air |

**E MMR Regulator**

| | |
|---|---|
| A | G1 Regulator, purge cover |

**F G1 Facepiece**

| | |
|---|---|
| 1 | None |
| 2 | G1 Facepiece with 4-pt adjustable head harness, medium[1] |
| 3 | G1 Facepiece with 5-pt adjustable head harness, medium[1] |
| 4 | G1 Facepiece with rubber head harness, medium[1] |

**Notes:**
If desired facepiece is not available here, choose "None" and select from the G1 Facepiece ATO.

**G Quick Disconnect**

| | |
|---|---|
| 0 | None |
| A | Snap-Tite, aluminum |
| B | Snap-Tite, stainless steel |
| C | Snap-Tite, brass |
| D | Hansen, stainless steel |
| E | Hansen, brass |
| F | Foster, steel |
| G | Foster, stainless steel |
| H | Foster, brass |
| J | Snap-Tite, locking, aluminum |
| K | Snap-Tite, locking, stainless steel |
| M | Snap-Tite, locking, brass |
| N | Foster, stainless steel |
| P | Cejn, locking |

**H Case**

| | |
|---|---|
| 0 | None |
| 1 | Hard plastic case |

**Key:**
[1] Facepiece includes nosecup, but does not include neckstrap.

**Note:**
An additional surcharge will be added to configurations that are classified as hazardous materials

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | PCG | | | | | | | | |
| A | A | B | C | D | E | F | G | H | Qty |

PART NUMBER

## PremAire® Cadet Escape Respirator

- Approved with Advantage 4000 and Ultra Elite push-to-connect facepieces
- Shares function and similar options to G1 Premaire Cadet Escape

| | Part No. | Description |
|---|---|---|
| **PremAire Cadet Escape Kits** **Includes medium Advantage 4000 Facepieces** | **10108496** | PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, with Hansen brass quick-disconnects, 50-foot section of neoprene air-supply hose with Hansen brass plug |
| | **10108592** | PremAire Cadet Escape Air-Line Respirator, **10-minute** aluminum egress cylinder, with Hansen brass quick-disconnects, 50-foot section of neoprene air-supply hose with Hansen brass plug |



## PremAire Cadet Escape Respirators

| | Part No. | Description |
|---|---|---|
| **PremAire Cadet Escape Respirators** | **10087895** | PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, nylon strap carrier/harness, **less facepiece**, less fittings, less case |
| | **10087897** | PremAire Cadet Escape Air-Line Respirator, **10-minute** aluminum egress cylinder, nylon strap carrier/harness, **less facepiece**, less fittings, less case |
| | **10092034** | PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, nylon strap carrier/harness, **Advantage 4000 Facepiece**, hycar, polyester net head harness, Hansen brass fittings, less case |
| | **10092036** | PremAire Cadet Escape Air-Line Respirator, **10-minute** aluminum egress cylinder, nylon strap carrier/harness, **Advantage 4000 Facepiece**, hycar, polyester net head harness, Hansen brass fittings, less case |
| | **10093988** | PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, nylon strap carrier/harness, **Advantage 4000 Facepiece**, hycar, polyester net head harness, less fittings, with hard case |
| | **10093986** | PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, nylon strap carrier/harness, **Ultra Elite Facepiece**, hycar, rubber head harness, less fittings, with hard case |
| | **10093987** | PremAire Cadet Escape Air-Line Respirator, **10-minute** aluminum egress cylinder, nylon strap carrier/harness, **Ultra Elite Facepiece**, hycar, rubber head harness, less fittings, with hard case |

## PremAire® Cadet Escape Respirator

Ordering Selection Matrix

MSA The Safety Company

### A Type
PC PremAire Cadet Escape

### B Carrier & Harness Type
1 Nylon, strap carrier, standard
2 Kevlar, strap carrier, standard
3 Nylon, bag carrier, standard
4 Kevlar, bag carrier, standard
**Notes:**
Aluminum escape cylinders are not compatible with bag carriers.

### C Pad Option
0 None
1 Shoulder

### D Escape Cylinder
A 5-minute aluminum
B 10-minute aluminum
C 5-minute carbon
D 10-minute carbon
E 15-minute carbon
F 5-minute aluminum, less air
G 10-minute aluminum, less air
H 5-minute carbon, less air
J 10-minute carbon, less air
K 15-minute carbon, less air

### E MMR Regulator
A Firehawk, pushto- connect, solid cover
C Firehawk, slideto- connect, solid cover
**Notes:**
Firehawk, slide regulators not compatible with Advantage 4000 facepiece.

### F Facepiece
A None
B Ultra Elite, hycar, small
C Ultra Elite, hycar, medium
D Ultra Elite, hycar, large
E Ultra Elite, silicone, small
F Ultra Elite, silicone, medium
G Ultra Elite, silicone, large
H Advantage 4000, hycar, small
J Advantage 4000, hycar, medium
K Advantage 4000, hycar, large
L Advantage 4000, silicone, small
M Advantage 4000, silicone, medium
N Advantage 4000, silicone, large
P Ultra Elite, hycar, responder, small
Q Ultra Elite, hycar, responder, medium
R Ultra Elite, hycar, responder, large
S Ultra Elite, Hycar, responder, small, communication ready
T Ultra Elite, hycar, responder, medium, communication ready
U Ultra Elite, hycar, responder, large, communication ready

### G Nosecup
0 None
1 Ultra Elite, medium
2 Ultra Elite, large
**Notes:**
Nosecup standard with Advantage 4000 facepiece.

### H Head Harness
0 None
1 Ultra Elite rubber
2 Ultra Elite SpeeD-ON
3 Advantage 4000 rubber
4 Advantage 4000 Poly net
5 Advantage 4000 Kevlar net

### I Quick Disconnect
0 None
A Snap-Tite, aluminum
B Snap-Tite, stainless steel
C Snap-Tite, brass
D Hansen, stainless steel
E Hansen, Brass
F Foster, steel
G Foster, stainless steel
H Foster, Brass
J Snap-Tite, locking, Aluminum
K Snap-Tite, locking, stainless steel
M Snap-Tite, locking, brass
N Foster, stainless steel
P Cejn, chrome

### J Case
0 None
1 Hard plastic case

**Note:**
An additional surcharge will be added to configurations that are classified as hazardous materials

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | PC | | | | | | | | | | |
| | A | B | C | D | E | F | G | H | I | J | Qty |

PART NUMBER

## PremAire® Air-Supplied Respirator System

The **PremAire System** is a **Type-C supplied-air respirator** that provides unmatched flexibility in a supplied air respirator.

- Now approved with the G1 Facepiece which can be used to support a full respiratory program including Air-Line, SCBA, APR and PAPR.
- May be configured with an escape cylinder option that permits emergency escape from Immediately Dangerous to Life or Health (IDLH) atmospheres.
- Air Line-only configurations without escape cylinder available for non IDLH atmospheres.
- A dual-supply option that lets workers connect from one pressurized continuous air source to another without losing air flow continuity.
- Vortex tube option that delivers whole-body temperature control for added worker comfort.



*PremAire System Manifold*

### Complete PremAire System Assemblies

| | Part No. | Description |
|---|---|---|
| **PremAire Complete Assemblies with G1 Facepiece** | **10249971** | PremAire System w/medium G1 Facepiece with rubber harness, **5-minute** aluminum cylinder, right hip mount with case |
| | **10249972** | PremAire System w/medium G1 Facepiece with rubber harness, **10-minute** aluminum cylinder, right hip mount with case |
| **PremAire Complete Assemblies with Firehawk STC Regulator** | **10045164** | PremAire System System w/ Firehawk Slide-To-Connect Regulator, **5-minute** 3AL aluminum cylinder, right hip model, with case |
| | **10045165** | PremAire System System w/ Firehawk Slide-To-Connect Regulator, **10-minute** 3AL aluminum cylinder, right hip model, with case |

### G1 Upgrade Kits for Premaire System

| | Part No. | Description |
|---|---|---|
| **G1 Upgrde Kits for PremAire System** | **10249967** | Premaire system G1 upgrade kit, 30" regulator hose, **purge** |
| | **10249968** | Premaire system G1 upgrade kit, 42" regulator hose, **purge** |
| | **10249969** | Premaire system G1 upgrade kit, 30" regulator hose, **solid cover** |
| | **10249970** | Premaire system G1 upgrade kit, 42" regulator hose, **solid cover** |

***Note:*** *any upgrade requires flow testing by an MSA Authorized CARE service center prior to return to service.*

### G1 Facepiece Options

| | Small | Medium | Large | Description |
|---|---|---|---|---|
| **G1 Facepiece Options** | **10188954** | **10188955** | **10188956** | G1 Facepiece with **4-pt. polyester head harness** |
| | **10156461** | **10156462** | **10156463** | G1 Facepiece with **rubber head harness** |
| | **10156458** | **10156459** | **10156460** | G1 Facepiece with **4-pt. Kevlar head harness** |
| | **10161812** | **10161813** | **10161814** | G1 Facepiece with **5-pt. Kevlar head harness** |

*See G1 Facepiece Assemble to Order (ATO) matrix for additional options.*


*G1 Facepiece*

### Replacement Kits and Accessories

| | Part No. | Description |
|---|---|---|
| **Replacement Kits** | **800696** | Cylinder Kit w/fully-wound, carbon-fiber, 5-minute cylinder, for right hip |
| | **800706** | Vortex Tube Kit with 6-inch hose, cool-only version |
| | **801012** | Vortex Tube Kit with 12-inch hose, cool-only version |
| | **811940** | PremAire System Air-Line Filter Kit |
| | **812217** | TransportAire System assembly with cylinder carrier, regulator, regulator-to-hose adapter,and high-pressure Audi-Larm Audible Alarm |
| **Support Belts** | **494030** | Nylon web support belt |
| | **492827** | Polyurethane-coated nylon support belt, black |
| | **802811** | Nomex support belt |

### PremAire System Options

**Escape-Cylinder Option**



**Dual-Supply Option**



**Portable Air Supply Option**



**Vortex Tube Option**



## Other Facepiece Options

| | Small | Medium | Large | Description |
|---|---|---|---|---|
| **Advantage 4000 Facepieces for Firehawk PTC MMR Regulator** | 10075911 | 10075905 | 10075917 | hycar, **rubber** head harness, nosecup |
| | 10075910 | 10075904 | 10075916 | silicone, **rubber** head harness, nosecup |
| | 10075915 | 10075909 | 10075921 | hycar, **polyester net** head harness, nosecup |
| | 10075914 | 10075908 | 10075920 | silicone, **polyester net** head harness, nosecup |
| **Ultra Elite Facepieces for Firehawk PTC MMR Regulator** | 10037650 | 10037648 | 10037652 | hycar, **rubber** head harness, nosecup |
| | 10043417 | 10043413 | 10043431 | silicone, **rubber** head harness, nosecup |
| | 10043419 | 10043415 | 10043433 | hycar, **SpeeD-ON** Head Harness, nosecup |
| | 10043430 | 10043416 | 10043434 | silicone, **SpeeD-ON** Head Harness, nosecup |



*Ultra Elite Facepiece*



*Advantage 4000 Facepiece*

# PremAire® Supplied-Air Respirator System

Ordering Selection Matrix

MSA The Safety Company

### A Type
PS Prem Aire System

### B Belt Assembly
1 Nylon
2 Urethane
3 Nomex

### C Escape Cylinders
0 None
1 5-min right hip carbon fiber
2 5-min left hip carbon fiber
3 5-min right hip aluminum
4 5-min left hip aluminum
5 10-Min right hip carbon fiber
6 10-min left hip carbon fiber
7 10-min right hip aluminum
8 10-min left hip aluminum

### D Dual-Supply
0 None
1 8" Hose less QD
2 15" Hose less QD

### E MMR Regulators [2]
E Firehawk STC 30" solid cover
F Firehawk STC 42" solid cover
G Firehawk PTC 30" solid cover
H Firehawk PTC 42" solid cover
J Firehawk STC 30" no by-pass
K Firehawk STC 42" no by-pass
L Firehawk PTC 30" no by-pass
M Firehawk PTC 42" no by-pass
N G1 Premaire Regulator, Solid, 30"
O G1 Premaire Regulator, Solid, 42"
P G1 Premaire Regulator, Purge, 30"
Q G1 Premaire Regulator, Purge, 42"

**Notes:**
Must choose No By-Pass option when ordering a PremAire less escape cylinder. Note: Firehawk slide regulators not compatible with Advantage 4000 facepiece.

### F Facepiece Type
0 None
1 Non-NFPA
2 NFPA

**Notes:**
NFPA facepiece is Ultra Elite (UE).

### G Facepiece
0 None
1 Ultra Elite hycar
2 Ultra Elite silicone
E Advantage 4000, hycar, poly net harness
F Advantage 4000, silicone, poly net head harness
G Advantage 4000, hycar, rubber head harness
H Advantage 4000, silicone, rubber head harness
J Advantage 4000, hycar, Kevlar head harness
K Advantage 4000, silicone, Kevlar head harness
L G1 hycar, rubber head harness
M G1 hycar, poly net head harness
N G1 hycar, Kevlar 4pt head harness
P G1 hycar, Kevlar 5pt head harness

### H Facepiece Size
0 None
S Small
M Medium
L Large

### I Nosecup
0 None (only if you have no facepiece)
1 UE-medium
2 UE-large

### J Head Harness
0 None
1 Ultra Elite, Rubber
2 Ultra Elite, EZ-Don, small
3 Ultra Elite, EZ-Don, medium
4 Ultra Elite, EZ-Don, large
5 Ultra Elite, SpeeD-ON
6 Advantage 4000 rubber
7 Advantage 4000 poly net
8 Advantage 4000 Kevlar net
9 G1 Rubber
A G1 Poly
B G1 Kevlar 4PT
C G1 Kevlar 5PT

### K Quick-Disconnect
A None [1]
B Snap-Tite alum
C Snap-Tite SST
D Snap-Tite brass
E Hansen SST
F Hansen brass
G Foster steel
H Foster SST
I Foster brass
J Cejn chrome

**Notes:**
[1] Unit requires use of a Quick-Disconnect to maintain approval.
Note: If you have selected the Dual-Supply option,you will need two of the same Quick-Disconnects. Just put one letter in the part number to indicate your selection, but when you calculate the price of your system, make sure you include a price for each Quick-Disconnect.

### L Case
0 None
1 Hard case
2 Soft case

**Note:**
This matrix must only be used for ordering complete PremAire Systems. This matrix cannot be used for ordering individual components (i.e., facepieces, escape cylinders, etc.). Please order components separately using their standard MSA part number.

An additional surcharge will be added to configurations that are classified as hazardous materials

**Key:**
[1] For applications strictly limited to non-IDLH atmospheres, NIOSH requires that the respirator system be configured without a bypass on the mask-mounted regulator (MMR). Please contact MSA Customer Service for more information.

| C-PS | PS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | K | L | Qty |

PART NUMBER

## Air-Line Systems and Accessories

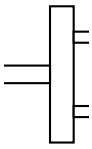
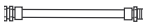
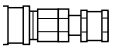
### Quick-Disconnects for Air-Line Respirators and Air-Supplied Hoods

Quick-disconnect assemblies connect air-supply hoses to the manifold and to the air source.

For more information, please see MSA's Pocket Guide to Air-Line Systems (Bulletin 0114-14-MC).

### Standard Air-Line Setup

***Note:*** Respirator approvals include all fittings and hoses from the respirator up to, but not including, the manifold/point of attachment to the air source. Breathing air couplings and fittings must be incompatible with other non-respirable air or other gas systems.

| Manifold/ Point of Attachment | QD 1 Female Socket 1/4" NPT | QD 2 Male Plug w/Female 1/4" NPT | QD 3 Union Adapter 1/4" NPT x 3/4" UNF | Air-Line Hose | QD 4 Female Socket Assembly | Respirator |
|---|---|---|---|---|---|---|
|  *Dual outlet shown. Images not to scale.* |  |  |  |  |  |  |
| **Quick-Disconnects & Adapters**<br>(AL) = Aluminum<br>(S) = Steel<br>(SST) = Stainless Steel<br>(BR) = Brass<br>**Interchangeability**<br>A B C D E F<br>*Fittings with the same letter code are interchangeable* | Used at manifold or point of attachment to air source. | Plugs into the female socket (QD 1) at the manifold or point of attachment. Also installed on the respirator to plug into socket assembly (QD 4). | Used at the end of the air line hose to connect to the male plug (QD 2). Teflon tape used to attach to the male plug. | See air-line hose information on the following page. A maximum total 300' and 6 hose sections is allowed on most pressure demand and high pressure constant flow setups. | Used to connect air-supply hose to male plug (QD 2) on respirator. | Male plug (QD 2) connects respirator to female socket assembly. |
| Snap-Tite (AL) C | 66272 | 66274 | 69542 | | 455019 | |
| Snap-Tite (SST) C | 629673 | 629672 | 808358 | | 471778 | |
| Snap-Tite (BR) C | 630305 | 630307 | 69542 | | 471777 | |
| Hansen (SST) A | 628768 | 628208 | 808358 | | 471779 | |
| Hansen (BR) D | 630311 | 630313 | 69542 | | 471501 | |
| Foster (S) B | 628770 | 55716 | 69542 | | 467044 | |
| Foster (SST) B | 636459 | 636460 | 808358 | | 801016 | |
| Foster (BR) A | 629980 | 629981 | 69542 | | 470194 | |
| Schrader (S) B | SEE FOSTER (S) | SEE FOSTER (S) | SEE FOSTER (S) | | SEE FOSTER (S) | |
| CEJN Locking (Chrome-Plated BR) E | 631870 | 479026 | 69542 | | 479001 | |
| CEJN Locking (Chrome) E | – | 479026 | 69542 | | 476956 | |
| Snap-Tite Locking (AL) F | – | 479027 | 69542 | | 479032 | |
| Snap-Tite Locking (SST) F | – | 479028 | 808358 | | 479033 | |
| Snap-Tite Locking (BR) F | – | 479029 | 69542 | | 479034 | |
| Foster Locking (SST) D | 636473 | 637851 | 808358 | | 800805 | |

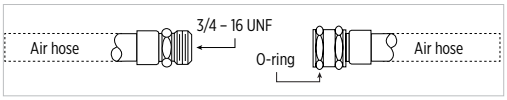
## Air-Line Systems and Accessories

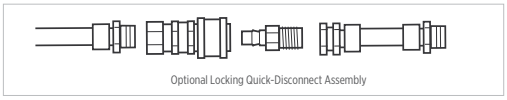
### Approved Air-Supply Hose (⅜" ID)

- Available in smooth, reinforced, lightweight polyvinylchloride (PVC); chemical-resistant black neoprene; or smooth, coiled nylon
- Must be used with respirators in this section to maintain NIOSH certifications

| | | Temperature Ranges | Brass Hose Coupling | Stainless Steel Hose Coupling | Length |
|---|---|---|---|---|---|
| Neoprene Air-Supply Hose |  | -25° to 212°F | 481071 | 481077 | 8 ft. |
| | | | 455020 | 481078 | 15 ft. |
| | | | 455021 | 481079 | 25 ft. |
| | | | 455022 | 481080 | 50 ft. |
| PVC Air-Supply Hose |  | 32° to 120°F | 481051 | 481057 | 8 ft. |
| | | | 471511 | 481058 | 15 ft. |
| | | | 471512 | 481059 | 25 ft. |
| | | | 471513 | 481060 | 50 ft. |
| | | | 484225 | — | 100 ft. |
| Coiled Nylon Air-Supply Hose |  | 0° to 160°F | 491513[1] | — | 8 ft. |
| | | | 491514[1] | — | 15 ft. |
| | | | 491515[1] | — | 25 ft. |
| | | | 474043[1] | — | 50 ft. |

[1] *Recommended usable length 4–25 ft*




***Note:*** Do not use non-locking quick-disconnects to interconnect air supply hoses. Locking quick-disconnects may be used or hoses may be threaded together directly as shown at left.

### Locking Quick-Disconnects for Air-Supply Hose

Locking quick-disconnects are the only means to interconnect lengths of MSA air-supply hose (besides directly threading the air-supply hose together). For most systems, you can use up to 12 sections of hose to make up maximum length.

| | Part No. | Description |
|---|---|---|
| CEJN Locking QDs | 479009 | CEJN locking quick-disconnect assembly, socket and plug (CHROME) |
| | 476956 | CEJN locking female quick-disconnect socket (CHROME) |
| | 476955 | CEJN locking male (w/ male 3/4" NPT) quick-disconnect plug (CHROME) |
| Snap-Tite Locking QDs | 479010 | Snap-Tite locking quick-disconnect assembly, socket and plug (AL) |
| | 479032 | Snap-Tite locking female quick-disconnect socket (AL) |
| | 479015 | Snap-Tite locking male (w/ male 3/4" NPT) quick-disconnect plug (AL) |
| | 479011 | Snap-Tite locking quick-disconnect assembly, socket and plug (SST) |
| | 479033 | Snap-Tite locking female quick-disconnect socket (SST) |
| | 479016 | Snap-Tite locking male (w/ male 3/4" NPT) quick-disconnect plug (SST) |

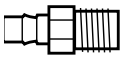
### Inlet Pressure Gauge

- Enables user to check pressure at inlet of MSA air-supply hose, thereby assuring that air pressure is within certified range

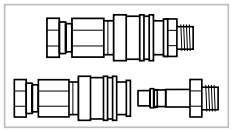


| | Part No. | Description |
|---|---|---|
| Inlet Pressure Gauge | 476734 | Inlet pressure gauge, w/Snap-Tite fitting |
| | 476735 | Inlet pressure gauge, w/Foster or Schrader fitting |
| | 476737 | Inlet pressure gauge, w/Hansen fitting |
| | 492586 | Inlet pressure gauge, less quick-disconnect[2] |

[2] *See chart below for quick-disconnects for inlet pressure gauge.*

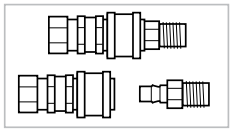
| Quick-Disconnects & Adapters<br>(AL) = Aluminum<br>(S) = Steel<br>(SST) = Stainless Steel<br>(BR) = Brass<br>**Interchangeability**<br>A B C D E F<br>*Fittings with the same letter code are interchangeable* | Male Plug w/Female 1/4" NPT<br><br>Used when connecting Inlet Pressure Gauge. |
|---|---|
| Snap-Tite (AL) C | 66272 |
| Snap-Tite (SST) C | 629673 |
| Snap-Tite (BR) C | 630305 |
| Hansen (SST) A | 628768 |
| Hansen (BR) D | 630311 |
| Foster (S) B | 628770 |
| Foster (SST) B | 636459 |
| Foster (BR) A | 629980 |
| Schrader (S) B | SEE FOSTER (S) |
| CEJN Locking (Chrome-Plated BR) E | 631870 |
| Foster Locking (SST) D | 636473 |

*CEJN Quick-Disconnect Socket & Plug Assembly*



*CEJN Q-D Socket*
*CEJN Q-D Plug*

*Snap-Tite Quick-Disconnect Socket & Plug Assembly*



*Snap-Tite Q-D Socket*
*Snap-Tite Q-D Plug*

### Control Valve with Quick-Disconnect Assembly

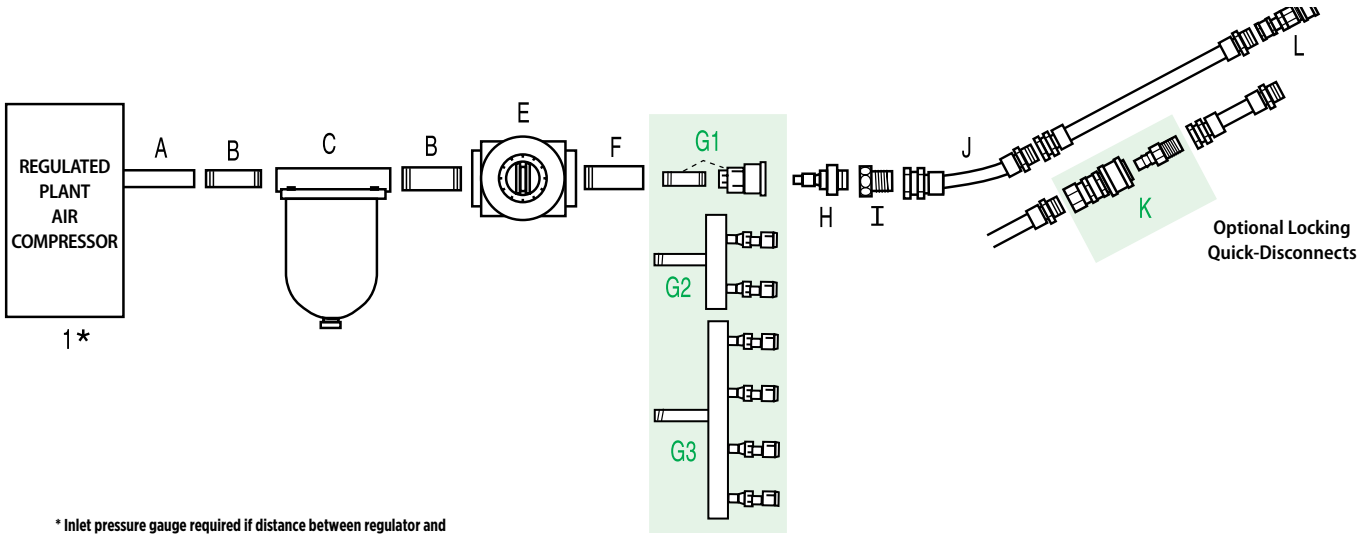
High-pressure control valve, gold, inlet pressure range of 35-40 psig for hose lengths of 8 to 300 feet. Low-pressure control valve, black, inlet pressure range of 10-15 psig for hose lengths of 8 to 50 feet.



## Air-Line Systems and Accessories

Type-C Supplied-Air Respirators, more commonly referred to as air-line respirators, are designed to provide long-duration respiratory protection. For in-depth information on these systems, please see MSA Bulletin 0114-14-MC.

### Typical Plant-Suppled Air-Line Systems: Constant Flow or Pressure Demand System




* Inlet pressure gauge required if distance between regulator and manifold is 10' or greater (See p. 30)

Select One Outlet Connection: G1, G2, or G3

| | | |
|---|---|---|
| 1 | PLANT AIR COMPRESSOR | Not supplied by MSA |
| A | OUTLET FITTING FOR SYSTEM | Varies with system |
| B | NIPPLE | (½" x ½" x 1-½" NPT) P/N 68833 |
| c | AIR LINE FILTER | P/N 81857 |
| E | PRESSURE REGULATOR | P/N 66716 |
| F | OUTLET CONNECTIONS | Bushing (½" M x ¼" F) P/N 625528 |
| G1 | FEMALE SOCKET NIPPLE | Female Socket–P/N varies with type (See p. 29–column QD 1)<br>Nipple–¼" x ¼" NPT–(needed only w/Female Socket) P/N 459867 |
| G2 | 2-OUTLET MANIFOLD | Foster Steel P/N 84416<br>Snap-Tite Aluminum P/N 486053 (See p. 32) |
| G3 | 4-OUTLET MANIFOLD | Foster Steel P/N 474370<br>Snap-Tite Aluminum P/N 93931 (See p. 32) |

| | | |
|---|---|---|
| H | MALE PLUG WITH MALE 1/4" NPT | (See p. 29–column QD 2) |
| I | UNION ADAPTER | (See p. 29–column QD 3) |
| J | MSA AIR-SUPPLY HOSE | P/N varies with type (See p. 30) |
| K | OPTIONAL LOCKING QUICK-DISCONNECT ASSEMBLIES for interconnecting lengths of MSA air-supply hose | CEJN Locking Quick-Disconnect Assembly (Chrome) P/N 479009<br>Snap-Tite Locking Quick-Disconnect Assembly (Aluminum) P/N 479010 |
| L | FEMALE SOCKET ASSEMBLY | P/N varies with type (See p. 29– column 5) |

### Pressure Regulator

- Used with plant air compressor system to reduce compressor pressure to desired operating pressure
- Maintains pressure on outlet side until readjusted for use with inlet pressure of up to 125 psig



| | Part No. | Description |
|---|---|---|
| **Pressure Regulator** | **66716** | Pressure regulator |

### Air-line Filter

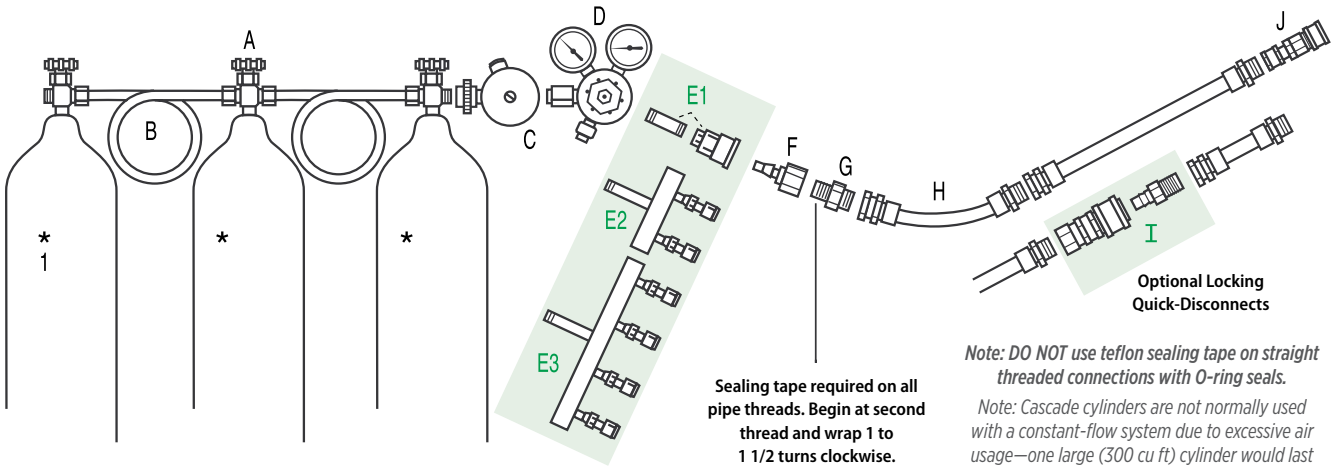
- Removes minimum of 99% of 0.3 micron and larger particulates, including dusts, mists, fumes, smoke, and petroleum vapors. Does ***not*** remove carbon monoxide.
- Can be used at inlet pressures up to 125 psig



| | Part No. | Description |
|---|---|---|
| **Air-line Filter** | **81857** | With 1/2" NPT female inlet and outlet |
| | **488041** | With 3/4"-16 straight threads |
| | **484923** | Replacement Filter Kit |

## Air-Line Systems and Accessories

### Typical Cascade Cylinder Air-Line Systems: Pressure Demand System




* 2400 psig Cascade System

Select One Outlet Connection: E1, E2, or E3

Sealing tape required on all pipe threads. Begin at second thread and wrap 1 to 1 1/2 turns clockwise.

***Note: DO NOT use teflon sealing tape on straight threaded connections with O-ring seals.***

*Note: Cascade cylinders are not normally used with a constant-flow system due to excessive air usage—one large (300 cu ft) cylinder would last one working person only about 15 minutes. Therefore, using cascade cylinders with a pressure-demand system is recommended.*

| | | |
|---|---|---|
| 1 | AIR CYLINDER | Not supplied by MSA |
| A | AIR TEE BLOCK | P/N 68850 or P/N 10081206 (See below) |
| B | AIR PIGTAIL | P/N 68851 or P/N 10081205 (See below) |
| C | AUDI-LARM WARNING DEVICE | P/N 85078 or P/N 492307 (See below) |
| D | AIR CYLINDER PRESSURE REGULATOR | P/N 68858 or P/N 633352 (See below) |
| E1 | OUTLET CONNECTIONS | Female Socket—P/N varies with type (See p. 29); Nipple ¼" x ¼" NPT (needed only w/Female Socket) P/N 459867 |
| E2 | 2-OUTLET MANIFOLD | Foster Steel P/N 84416<br>Snap-Tite Aluminum P/N 486053 (See below) |
| E3 | 4-OUTLET MANIFOLD | Foster Steel P/N 47370<br>Snap-Tite Aluminum P/N 93931 (See below) |

| | | |
|---|---|---|
| F | MALE PLUG WITH FEMALE 1/4" NPT | P/N varies with type (See p. 29) |
| G | UNION ADAPTER | (See p. 29) |
| H | MSA AIR-SUPPLY HOSE | P/N varies with type (See p. 30) |
| I | OPTIONAL LOCKING QUICK-DISCONNECT ASSEMBLIES FOR INTERCONNECTING LENGTHS OF MSA AIR-SUPPLY HOSE | CEJN Locking Quick-Disconnect Assembly (Chrome) P/N 479009 (See p. 30)<br>Snap-Tite Locking Quick-Disconnect Assembly (Aluminum) P/N 479010 (See p. 30) |
| J | FEMALE SOCKET ASSEMBLY | P/N varies with type (See p. 29) |

### Cascade System Accessories

Components for assembling cascade system, which consists of bank of respirable-air cylinders (user-supplied) that supply a flow of air to pressure-demand air-supplied respirators



| | Part No. | Description |
|---|---|---|
| Cascade System Accessories | 85078 | Audi-Larm Warning Device, low-pressure CGA 346, 0–3000 psig |
| | 492307 | Audi-Larm Warning Device, high-pressure CGA 347, 0–5500 psig |
| | 68850 | Air coupler tee—low-pressure CGA 346, 0–3000 psig |
| | 10081206 | Air coupler tee—high-pressure CGA 347, 0-5500 psig |
| | 68851 | Air pigtail—low-pressure CGA 346, 0–3000 psig |
| | 10081205 | Air pigtail—high pressure CGA 347, 0-5500 psig |
| | 68858 | Air cylinder pressure regulator, dual-gauge, 0-3000 psig |
| | 633352 | High-pressure air cylinder regulator, dual-gauge, 0-5500 psig |
| | 55716 | Male air-supply hose adapter for Foster quick-disconnects (for PVC hose) |
| | 69542 | Union adapter (required to attach male plug) |

### Manifolds

Required when using multiple (2–4) respirators from single air source

***Note:*** *Gauge required when greater than 10' between air-line point of connection and regulator*



| | Manifolds | |
|---|---|---|
| | 4-outlet | 2-outlet |
| With Foster quick-disconnects | 47370 | 84416 |
| With Snap-Tite quick-disconnects | 93931 | 486053 |
| Less quick-disconnects | 488914 | 84418 |

## Air-Line Accessories

### Industrial Air Cart

Industrial Air Cart permits up to 4 NIOSH-approved air-line respirators to be connected to 2 one-hour 4,500 psig breathing apparatus cylinders (not included). See table below for cylinder ordering information. 60-minute cylinder will provide maximum air supply.

#### Features

- Two-wheel poly powder-coated cart, two sets of double-cylinder straps, air-line hose rack and adjustable pull handle
- 5,500 psig pressure regulator reduces 4,500 psig cylinder air to proper air-line respirator inlet pressure
- Low-pressure cylinder alarm whistle
- An outlet pressure gauge operates in 0-125 psig range
- Four-outlet manifold is available with 4 outlet fitting options

For more information, please see MSA bulletin 0114-28-MC.



**Cart Weight and Dimensions**

*Size:* 35" H x 21" W x 15.25" D
*Unit Weight:* 38.5 pounds without cylinders

| | With union adapters | With Snap-Tite aluminum quick-disconnects | With Foster steel quick-disconnects | With Hansen brass quick-disconnects |
|---|---|---|---|---|
| **Industrial Air Cart** | **10107537** | **10107779** | **10107780** | **10107811** |

### The TransportAire™ System

- Impact-resistant handle with urethane-coated nylon straps that fit around standard MSA SCBA air cylinder (purchased separately), regulator, and regulator-to-hose adapter
- Audi-Larm device provided standard on high-pressure system, optional for low-pressure system
- Designed for use with MSA supplied-air respirators equipped with dual-supply option, which improves worker mobility; workers need not remain tethered to single air-supply hose throughout work period



| | Part No. | Description |
|---|---|---|
| **TransportAire System** | **812217** | TransportAire Assembly, **high-pressure** (4500 psig)—complete with cylinder carrier, regulator, and regulator-to-hose adapter, and Audi-Larm low-pressure warning device |
| | **10125955** | TransportAire Assembly, **low-pressure** (2216 psig)—complete with cylinder carrier, regulator, and regulator-to-hose adapter |
| | **85078** | Low-pressure Audi-Larm assembly |
| | **491513** | 8-ft. Coiled nylon hose |

### Cylinders

| | Part No. | Description |
|---|---|---|
| **Cylinders** | **807586** | **L-30*** carbon-wrapped cylinder, 30-minute NIOSH service-life rating, 2216 psig, weight (empty): 8 lb. 0 oz. |
| **All cylinder weights shown are approximate.** | **816115** | **L-30+*** carbon-wrapped cylinder, 30-minute NIOSH service-life rating, 3000 psig, weight (empty): 9 lb. 8 oz. |
| | **10127944-SP** | **H-30SL***, SuperLite, 30-minute NIOSH service-life rating, 4500 psig, weight (empty): 6 lb. 9 oz. |
| | **807570** | **H-45*** carbon-wrapped cylinder, 45-minute NIOSH service-life rating, 4500 psig, weight (empty): 9 lb. 7 oz. |
| | **10127945-SP** | **H-45SL**, SuperLite, 45-minute NIOSH service-life rating, 4500 psig, weight (empty): 8 lb. 8 oz. |
| | **10127946-SP** | **H-60SL***, SuperLite, 60-minute NIOSH service-life rating, 4500 psig, weight (empty): 10 lb. 12 oz. |
| | **809872** | **Aluminum** cylinder, 30-minute NIOSH service-life rating, 2216 psig, weight (empty): 18 lb. 0 oz. |

**These cylinders are capable of custom options. Contact MSA Customer Service at 1-800-MSA-2222 for more information. All weights approximate.*

## Air-Line Accessories

### Breathing Air Distribution System Filtration Box




- Portable Grade-D filtration system provides breathing air for up to four air-line respirators
- Housed in a rugged polymer case
- Equipped with three-stage filtration, pressure regulator, four-outlet manifold and continuous flow 115 VAC carbon monoxide monitor
- May be used in portable or stationary position
- Can be ordered with specific fittings or union adapter for direct breathing air hose connection or custom fitting.

| | For use in the United States (Carbon Monoxide monitor set at 10 ppm) | For use in Canada (Carbon Monoxide monitor set at 5 ppm) | Description |
|---|---|---|---|
| **Filtration Boxes** **75 CFM** *Note: Prior revisions of these Part Number items were 50 CFM.* | **10107538** | **10113347** | With **union** adapters |
| | **10107814** | **10113349** | With **Snap-Tite aluminum** quick-disconnects |
| | **10107812** | **10113348** | With **Foster Steel** quick-disconnects |
| | **10107813** | **10113346** | With **Hansen Brass** quick-disconnects |

| | | |
|---|---|---|
| **Other Replacement Parts and Accessories** | **10108138** | Upright support bracket |
| | **10107741** | Remote audible alarm with mounted visual strobe and guard, includes 50 ft. cable and 9-12 VDC |
| | **10107527** | Calibration Kit (for U.S. models), 20 ppm CO, zero air, regulator and case, 17-liter size |
| | **10107526** | Calibration Kit (for Canadian models), 10 ppm CO, zero air, regulator and case, 17-liter size |
| | **10116617** | Calibration Gas, 20 ppm CO |
| | **10116618** | Calibration Gas, 10 ppm CO |
| | **10116619** | Calibration Gas, 0 ppm CO |
| **Breathing Air Distribution Supply Hoses for Inlet Ports** **from plant air system to filtration box** | **10113330** | Hose, 50 feet, Industrial Interchange Connections, ½-inch NPT male and female |
| | **10113341** | Hose, 100 feet, Industrial Interchange Connections, ½-inch NPT male and female |
| | **10113328** | Quick-Disconnect Socket, Hansen Industrial, ½-inch male NPT |
| | **10113329** | Quick-Disconnect Plug, Hansen Industrial, ½-inch male NPT |

| | 50 CFM* | 75 CFM | 100 CFM* | Description |
|---|---|---|---|---|
| **Filter Change Kits** | **10107545** | **10253415** | **10107541** | Filter Change Kit, first stage |
| | **10107546** | **10253416** | **10107542** | Filter Change Kit, second stage |
| | **10107544** | **10253417** | **10107543** | Filter Change Kit, third stage |

**Note 50 and 100 CFM boxes are no longer available. Replacement filter change kits remain available.*

### Breathing Air Distribution System—Point of Attachment Box




- Up to four air-line respirators
- Housed in a rugged polymer case
- May be used in portable or stationary position
- Extends range of breathing air systems

| | With union adapters | With Snap-Tite aluminum quick-disconnects | With Foster steel quick-disconnects | With Hansen brass quick-disconnects |
|---|---|---|---|---|
| **Point of Attachment Box** | **10107536** | **10107822** | **10107823** | **10107821** |

## TransAire® 5 and TransAire® 10 Escape Respirators

- Provides emergency air in dangerous and deadly atmospheres, including those with high concentrations of toxic gases or vapors or oxygen deficiency
- 5- and 10-minute standard-flow air supply
- One-control operation for swift exit
- Compact and lightweight for easy egress from tight spaces
- Fog-reducing hoods in urethane or Teflon easily fit over eyeglasses and facial hair
- Rugged, high-density polyethylene carrying case available
- Washable nylon cloth carrier can be worn on waist, neck or shoulder




**Respirators include cylinder, carrier, hood tube, and hood assembly**

| | Part No. | Description |
|---|---|---|
| **TransAire 5 Escape Respirator** | **10008292** | With **aluminum** cylinder |
| | **10066739** | With **aluminum** cylinder, less air |
| **TransAire 10 Escape Respirator** | **10008293** | With **aluminum** cylinder |
| | **10083327** | With **full -wound carbon** cylinder |
| | **10066740** | With **aluminum** cylinder, less air |

## Accessories

Chemical-resistant ABS plastic cases resist weathering, moisture, and corrosion to ensure escape respirators stay in ready-to-use condition.




| | Part No. | Description |
|---|---|---|
| **Accessories** | **696192** | Single-unit wall-mounting case |
| | **696193** | Two-unit wall-mounting case |
| | **10012530** | Single unit carrying case, yellow polyethylene, with handle, for all escape respirators |

## MSA Airline Respirator Selection Guide




The easy-to-follow MSA Airline Respirator Selection Guide is a web-based tool designed to help configure an airline assembly starting at the PremAire Cadet Escape Respirator, and ending at the point of the attachment.

Available at: http://webapps.msasafety.com/product-selection-guide/airline/

# G1™ Industrial SCBA



## G1 Facepiece

### Lightweight & Low-Profile

- Enhance situational awareness and visibility through a wide field of view.
- Prevent potential cross-contamination when units are shared through unique mask design, which restricts exhaled air from entering the mask-mounted regulator.
- Open port design allows for lower breathing resistance both on and off air with the goal of reducing fatigue.
- Enable short-range communication with mechanical speaking diaphragm.
- Meet a variety of user needs with head harness options available in Kevlar, rubber, or polyester.

## G1 Carrier and Harness Assembly

### Customized Comfort & Fit

- Clean quickly with easy-to-remove soft goods.
- Improve harness durability in tough environments with nanosphere-coated webbing to improve resistance to water and chemical exposure.
- Increase comfort with optional shoulder pads and lumbar support to help reduce fatigue.
- Improve ease of donning through shoulder pad placement to reduce twisting and increase comfort.
- Choose either nylon or Kevlar harness components and cylinder bands to meet the needs of your work environment.

| | Part Number | Description |
|---|---|---|
| G1 Industrial SCBA<br>G1 iRC | 10215805 | Low-pressure 30-min. aluminum cylinder, nylon harness without padding and chest strap, medium G1 Facepiece with polyester head harness, hard case included |
| | 10215806 | Low-pressure 30-min. aluminum cylinder, nylon harness without padding and chest strap, medium G1 Facepiece with polyester head harness, no case |
| | 10215807 | High-pressure 45-min. low-profile carbon cylinder, nylon harness with shoulder and lumbar pads, no chest strap, medium G1 Facepiece with polyester head harness, hard case included |
| | 10215808 | High-pressure 45-min. low-profile carbon cylinder, Kevlar harness with shoulder and lumbar pads, no chest strap, metal cylinder band, medium G1 Facepiece with 4-pt. Kevlar head harness, hard case included |

### Cylinders

- Choose from two different low-pressure (2216 psig), 30-minute-rated cylinders; or
- Four high-pressure (4500 psig) carbon-wrapped cylinders in 30-, 45- or 60-minute durations.



### Cylinder Connection

Choose from a quick-connect cylinder attachment for easy change out, or standard threaded connection. The color-coded band on first stage reducer provides an at-glance indicator as to whether the system is high- or low-pressure.



### Shoulder-mounted Quick-Fill® System EBS Accessory

This optional connection allows for SCBA cylinder refill from a mobile compressor or cascade system. It also allows transfilling between two SCBA wearers, providing an emergency breathing system in IDLH atmospheres.



### Air-Line Attachment

The optional air-line attachment creates a second port for air-line connection to an independent air source, such as an air compressor or cascade system, to conserve cylinder air for emergency escape.



## G1™ Industrial SCBA

# MSA G1 Industrial SCBA

Ordering Selection Matrix

### A SCBA Type

**NEW G1 iRC**

| | |
|---|---|
| 5 | 2216 w/ threaded remote cylinder connection |
| 6 | 2216 w/ quickconnect remote cylinder connection |
| 7 | 4500 w/ threaded remote cylind |
| 8 | 4500 w/ quickconnect remote cylinder connection |

### B Harness Assembly

| | |
|---|---|
| 1 | Nylon harness, no padding |
| 2 | Nylon harness, shoulder pads only |
| 3 | Nylon harness, lumbar pad only |
| 4 | Nylon harness, shoulder pads and lumbar pad |
| 5 | Kevlar harness, padding included |
| 6 | Reflective Kevlar with padding, adjustable lumbar |

**Notes:**
Option 6 cannotinclude an Air-Line Attachmentfrom Column I.

### C Harness Chest Strap

| | |
|---|---|
| 0 | None |
| 1 | Chest strap |

### D Cylinder Cradle

| | |
|---|---|
| 1 | Fabric band cradle |
| 2 | Metal band cradle, turn latch |
| 3 | Metal band cradle, G1 latch |

### E Cylinder

| | |
|---|---|
| A | None |
| B | 3AL aluminum, 2216 psi |
| C | 30 min carbon, 2216 psi |
| D | 3AL aluminum, 2216 psi, less air |
| E | 30 min carbon, 2216 psi, less air |
| F | 30 min carbon, 4500 psi |
| G | 45 min carbon, 4500 psi |
| H | 45 min carbon, low profile, 4500 psi |
| J | 60 min carbon, 4500 psi |
| K | 30 min carbon, 4500 psi, less air |
| L | 45 min carbon, 4500 psi, less air |
| M | 45 min carbon, low profile, 4500 psi, less air |
| N | 60 min carbon, 4500 psi, less air |

### F Cylinder Handwheel

| | |
|---|---|
| 0 | None |
| 1 | Non-locking |
| 2 | Locking |

**Notes:**
Only choose"none" if cylinder isnot being purchasedin Column E.

### G MMR Regulator Type

| | |
|---|---|
| A | Continuous hose, hard cover |
| B | Threaded hose, hard cover |
| C | Quick connect hose, hard cover |
| D | Universal quick connect hose, hard cover |
| E | Continuous hose, purge cover |
| F | Threaded hose, purge cover |

### H Pressure Gauge

| | |
|---|---|
| 1 | Standard pressure gauge |
| 2 | Pressure gauge with Quick-Fill® |
| 3 | Pressure gauge with Quick-Fill, 3ft. hose w/Quick-Fill pouch |

### I Air-Line Attachment

| | |
|---|---|
| A | None |
| B | Snap-Tite, aluminum |
| C | Snap-Tite, stainless steel |
| D | Snap-Tite, brass |
| E | Hansen, stainless steel, HK Series |
| F | Hansen, brass, 3000 Series |
| G | Hansen, stainless steel, 3000 series |
| H | Foster, steel |
| J | Foster, stainless steel |
| K | Foster, brass |
| L | Snap-Tite, locking, aluminum |
| M | Snap-Tite, locking, stainless steel |

### J Emergency Breathing System

| | |
|---|---|
| A | None |
| B | ExtendAire® II, universal coupler, less airline adapter |
| C | ExtendAire II, universal coupler, w/ airline adapter Snap-Tite, aluminum |
| D | ExtendAire II, universal coupler, w/ airline adapter, Snap-Tite, stainless steel |
| G | ExtendAire II, universal coupler, w/ airline adapter, Hansen, brass, 3000 series |
| T | ExtendAire II, less airline adapter |
| U | ExtendAire II, w/airline adapter, no quick-disconnect coupler |
| V | ExtendAire II w/airline adapter, Snap-Tite, aluminum |
| W | ExtendAire II w/airline adapter, Snap-Tite, stainless steel |
| Y | ExtendAire II w/airline adapter, Hansen, stainless steel, HK series |

### K Facepiece

| | |
|---|---|
| A | None |
| B | Small w/small nosecup, 4-pt. polyester head harness |
| C | Small w/small nosecup, 5-pt. rubber head harness |
| D | Small w/small nosecup, 4-pt. Kevlar head harness |
| E | Small w/small nosecup, 5-pt. Kevlar head harness |
| F | Medium w/medium nosecup, 4-pt. polyester head harness |
| G | Medium w/medium nosecup, 5-pt. rubber head harness |
| H | Medium w/medium nosecup, 4-pt. Kevlar head harness |
| J | Medium w/medium nosecup, 5-pt. Kevlar head harness |
| K | Large w/large nosecup, 4-pt. polyester head harness |
| L | Large w/large nosecup, 5-pt. rubber head harness |
| M | Large w/large nosecup, 4-pt. Kevlar head harness |
| N | Large w/large nosecup, 5-pt. Kevlar head harness |

**Notes:**
Regulator keeper isincluded with every unit.Facepiece clip is includedon Kevlar harnesses only.Neckstrap is not included.

### L Case

| | |
|---|---|
| 0 | None |
| 1 | Hard case |
| 2 | Soft case |

**Note:**
An additional surcharge will be added to configurations that are classified as hazardous materials

Selections cannot be made from both section I, Air Line Attachment and from Column J, Emergency Breathing Support. If a selection is made from either of these sections, the other section must be coded A-None.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A-G1IN | | | | | | | | | | | | | |
| | A | B | C | D | E | F | G | H | I | J | K | L | Qty |

PART NUMBER

# G1™ Industrial SCBA

## MSA G1 SCBA Cylinders for Threaded Remote Connection

| Cylinder Pressure | Cylinder Duration | Connection Type | Air | Less Air |
|---|---|---|---|---|
| 2216 psig | 30-minute | Threaded | **10156422-SP** | **10156431-SP** |
| 2216 aluminum | 30-minute | Threaded | **10213697** | **10213701** |
| 4500 psig | 30-minute | Threaded | **10156423-SP** | **10156432-SP** |
| 4500 psig | 45-minute LP[1] | Threaded | **10156424-SP** | **10156433-SP** |
| 4500 psig | 45-minute | Threaded | **10156425-SP** | **10156434-SP** |
| 4500 psig | 60-minute | Threaded | **10156426-SP** | **10156435-SP** |

## MSA G1 SCBA Cylinders for Quick-Connect Remote Connection

| Cylinder Pressure | Cylinder Duration | Connection Type | Air | Less Air |
|---|---|---|---|---|
| 2216 psig | 30-minute | Quick-connect | **10175706** | **10175711** |
| 2216 aluminum | 30-minute | Quick-connect | **10213698** | **10213702** |
| 4500 psig | 30-minute | Quick-connect | **10175707** | **10175712** |
| 4500 psig | 45-minute LP[1] | Quick-connect | **10175708** | **10175713** |
| 4500 psig | 45-minute | Quick-connect | **10175709** | **10175714** |
| 4500 psig | 60-minute | Quick-connect | **10175710** | **10175715** |

*PLEASE NOTE: Quick-connect cylinder adapter must be ordered for each cylinder separately.*

## Cylinders, Adapters & Upgrade Kits

| Part Number | Description |
|---|---|
| **10149701-SP** | Quick-Connect adapter, 2216 PSIG |
| **10149702-SP** | Quick-Connect adapter, 4500 PSIG |
| **10158389** | Type 2 Dovetail Retainer Kit fro H30 |
| **10158390** | Type 3 Dovetail Retainer Kit for H45LP |
| **10158401** | Type 4 Dovetail Retainer Kit for L30 (Aluminum or Carbon), and H45 |
| **10158402** | Type 5 Dovetail Retainer Kit for H60 |
| **10193164** | G1 AirHawk II, continuous hose, hard cover |
| **10193165** | G1 AirHawk II, quick-connect hose, hard cover |
| **10193166** | G1 AirHawk II, threaded hose, hard cover |
| **Part Number** | **Direct Connect Cylinders *** |
| **10183006** | 2216 PSIG, 30-min., low-pressure aluminum cylinder, threaded connection |
| **10183005** | 2216 PSIG, 30-min., low-pressure carbon cylinder, threaded connection |
| **10183007** | 4500 PSIG, 30-min., high-pressure carbon cylinder, threaded connection |
| **10183008** | 4500 PSIG, 45-min., high-pressure carbon cylinder, threaded connection |
| **10183009** | 4500 PSIG, 45-min., high-pressure, low-profile carbon cylinder, threaded connection |
| **10183010** | 4500 PSIG, 60-min., high-pressure carbon cylinder, threaded connection |

** Not compatible with G1 Industrial SCBA with remote connect cylinders*

## Storage Cabinets

- Chemical resistant ABS plastic case resists weathering, moisture, and corrosion to ensure SCBA stay in ready-to-use condition

| | Part No. | Description |
|---|---|---|
| **Storage Cabinets** | **10052744** | Single case for SCBA supplied with LP30, HP45, HP60 and low-profile cylinders |
| | **10052745** | Single case for SCBA supplied with H30 cylinders only |

[1]*Low profile version of the 45-minute, 4500 psig cylinder*

## G1 Facepiece

| Part Number | Description |
|---|---|
| **10188954** | G1 Facepiece, small, 4-pt. polyester head harness |
| **10188955** | G1 Facepiece, medium, 4-pt. polyester head harness |
| **10188956** | G1 Facepiece, large, 4-pt. polyester head harness |
| **10156461** | G1 Facepiece, small, rubber head harness |
| **10156462** | G1 Facepiece, medium, rubber head harness |
| **10156463** | G1 Facepiece, large, rubber head harness |
| **10156458** | G1 Facepiece, small, 4-pt. Kevlar head harness |
| **10156459** | G1 Facepiece, medium, 4-pt. Kevlar head harness |
| **10156460** | G1 Facepiece, large, 4-pt. Kevlar head harness |

*See G1 Facepiece ATO for additional options.*

## G1 Accessories

| Part Number | Description |
|---|---|
| **10144230** | Spectacle kit for G1 Facepiece |
| **10144231-SP** | APR adapter for G1 Facepiece *(single canister)* |
| **496081** | Type H filter, 6 pack |
| **10160594** | GME P100 canister |
| **10067469** | OV/P100 canister |
| **805078** | Quick Chek® III fit test adapter |
| **10199720** | APR Adapter, twin cartridge for G1 facepiece |






# Connected Firefighter Solution Overview

The MSA Connected Firefighter Platform is a system of devices and solutions to help keep your team safe, connected, and able to make proactive and confident decisions—on and off the fire ground. The platform is comprised of the **G1™ SCBA, MSA HUB Fire Service, LUNAR® Connected Device, and FireGrid™.** The Connected Firefighter Platform is supported by our cloud connected products which enable incident management and inventory management, as well as reporting and analytics.

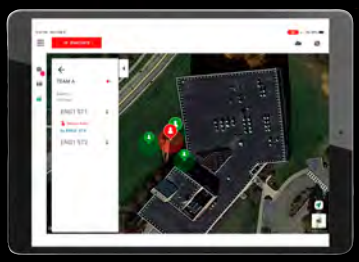
## Incident Comannd

### ■ LOCAL MONITORING

With advancements in technology, tablet-based local monitoring extends visibility of all cloud connected users on-scene, devices being used and their associated statuses to Incident Command. With MSA's local monitoring application, FireGrid Monitor, information such as alarms, warnings, search status, estimated location, teams and air status complement existing tools, techniques, and processes to aid in more confident decision making.







### ■ SEARCH AND RESCUE




When a device is in alarm, all LUNAR devices within the vicinity are notified with the personaliz ation of the device in alarm and the reason for the alarm—motion, manual, or hardware. In addition to each team member being notified, Incident Command is also notified in FireGrid Monitor about which device is in alarm, when the search starts, and who is searching. When a search begins, the searcher is given distance and directional information in addition to having their thermal imaging. Search and rescue functionality operates on the LUNAR-to-LUNAR network and is available with or without cellular connectivity.

### ■ SITUATIONAL AWARENESS



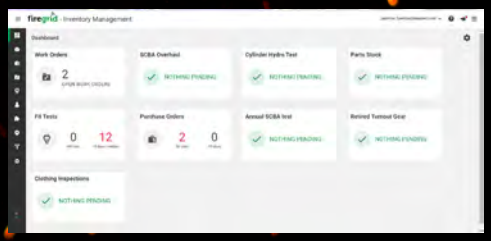

LUNAR provides personal thermal imaging with edge detection to identify hot spots and ventilation points, improving situational awareness and making it easier to navigate through environments with low visibility.

**FirstNet®**

LUNAR is available for use on FirstNet, the only nationwide communications network built with and for first responders and those who support them.

## Inventory Management Compliance

In MSA's web-based application, FireGrid Web, manage assets, work orders, purchase orders, tests, people, parts, and other details for your department. This asset management application supports MSA's SCBAs, facepieces, cylinders, HUBs, LUNARs, turnout gear, and helmets, as well as competitive turnout gear and helmets. Depending on product type, asset management will retain information such as type, model, serial number, sizing information, usage status, inspection/cleaning information, issued department/asset location, history or personnel assigned to, all aiding in compliance and data to aid in better fleet utilization.

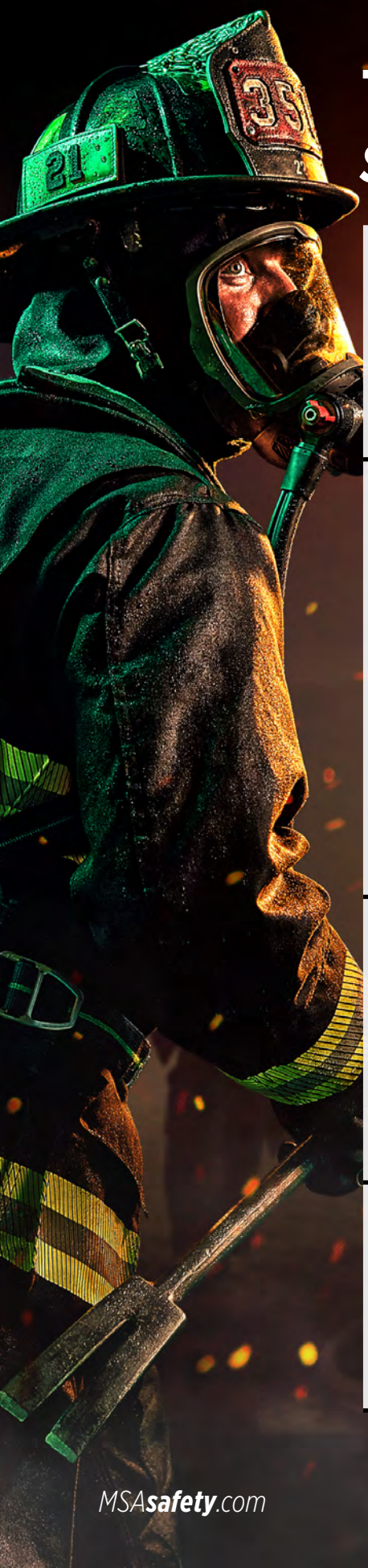


## Reports and Analytics

After-scene data is automatically sent, aggregated and stored for report generation and data analytics—device and incident information. Each reported incident is listed on the Reports page. Incidents can be filtered by date or alarm type, and reports can be created for each incident.



MSA
The Safety Company



# The MSA G1™ SCBA XR Edition *stands out from the crowd.*

## FACEPIECE

- Open port design with cross-contamination protection
- Comfortable and easy to use, with low breathing resistance on and off air
- Zero electronics, reducing weight, snag hazards and cost

## COMMUNICATIONS

- Loud and clear communications are included with every G1 SCBA
- Intelligently removes background and inhalation noise, helping your commands to be heard

## CONTROL

- Integrated Thermal Imaging Camera (TIC) allows firefighter to see within dark, smoke-filled environments
- Five user-selectable palettes—10+ additional programmable palettes available via MSA A2 Software
- Compatible with all G1 SCBA via simple field upgrade
- Control module provides both colorLCD and analog displays
- Display automatically turns on when control module is lifted into viewing position
- No matter which button is pressed, necessary information displays
- Improved visibility through *buddy lights*

## COMFORT

- Swiveling, adjustable lumbar pad properly positions SCBA weight
- Improved comfort, balance, fit
- Low profile swiveling lumbar pad reduces weight and positions backframe close to the body

## POWER

- Single power source
- Uses alkaline or rechargeable battery
- Eliminates the need to maintain multiple battery sizes or multiple battery locations
- Low cost of ownership

## SITUATIONAL AWARENESS

- Wide field of view through the G1 Facepiece
- Seven three-stage buddy lights providing 360-degree visibility of pressure status
- Highly reflective material on shoulder straps and cylinder band
- Optional integrated TIC provides visibility when it is needed most

## READY FOR THE FUTURE

- Bluetooth connectivity, RFID, Near Field Communication (NFC), long-range radio
- Quickly update the G1 SCBA with the latest advancements through Bluetooth technology, ensuring the SCBA you buy today can easily adapt to meet your needs far into the future

## INFORMATION

- HUD provides more information than ever before and can be customized to meet your SOP; cylinder pressure, battery status, evacuation (optional), and so much more

## BUILT JUST FOR YOU

- Control module and HUD display required information; easily customized to meet your existing standard operating procedure
- Modular designs allows for quick component change

# MSA G1 SCBA Fire Service Edition

Ordering Selection Matrix

### A System Pressure
- 4 4500 psig
- 5 5500 psig [1]

### B Cylinder Connection
- 2 CGA Threaded Remote Connection
- 4 CGA Quick Connect Remote Connection

### C Harness
- 3 Serviceable Tunnel without Chest Strap
- 4 Serviceable Tunnel with Chest Strap
- 9 Serviceable Tunnel without Chest Strap No PASS
- 10 Serviceable Tunnel with Chest Strap No PASS

### D Cradle Type
- M Metal Band

### E Lumbar Type
- A Adjustable Swiveling Lumbar Pad
- D Adjustable Swiveling, Solid buckle
- P Low Profile Swiveling Lumbar Pad
- R Low Profile Swiveling Lumbar Pad, Solid Buckle
- 1 Rescue Belt II Crosby Hook, 50'
- 2 Rescue Belt II Carabiner, 50'
- 8 Rescue Belt II Lightning GT Hook, 50' Aramid/ Nylon Rope

### F Regulator Type
- 1 Purge Cover T4 Left Shoulder
- 2 Solid Cover T4 Left Shoulder

### G Regulator Hose Type
- C Continuous
- Q Quick Connect

### H Emergency Breathing Support
- 0 None
- 1 Waist Mounted Quick-Fill [1]
- 2 ExtendAire II
- 3 Waist Mounted Quick-Fill and ExtendAire II [1]
- 4 Hose and pouch
- 5 Waist-mounted Quick-Fill w/hose and pouch[1]
- 6 ExtendAire II w/ hose and pouch
- 7 Waist-mounted Quick-Fill w/hose and pouch, ExtendAire II [1]
- A Pouch only

### J Speaker Module
- L Left Chest [2]
- 0 None

### K PASS
- A PASS Right Shoulder [2]
- C PASS Telemetry Right Shoulder [2]
- E PASS Right Shoulder w/ Integrated TIC [2]
- G PASS Telemetry Right Shoulder w/ Integrated TIC [2]
- H No PASS Right Shoulder [2][4]
- J No PASS Telemetry Right Shoulder [2][4]
- K No PASS Right Shoulder w/ Integrated TIC [2][4]
- L No PASS Telemetry Right Shoulder w/ Integrated TIC [2][4]

### L Battery Type
- A Alkaline
- R Rechargeable [3]

**Notes:**
If Telemetry is ordered R must be selected.

**Key:**
- [1] SCBA to SCBA Transfilling is not available with the 5500psig operating system
- [2] As Worn
- [3] Charger sold separately
- [4] Can only be combined with Harness option 9 or 10

**Note:**
An additional surcharge will be added to configurations that are classified as hazardous materials

| A-G1FS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Qty |

PART NUMBER



# MSA G1 Facepiece

Ordering Selection Matrix

**A Application**
F Fire

**B Size**
S Small
M Medium
L Large

**C Material**
1 Hycar

**D Nosecup**
0 None
S Small
M Medium
L Large

**E Head Harness**
0 None
4 4 pt Adjustable
5 5 pt Adjustable
R Rubber

**F Neckstrap**
0 None
C Cloth
R Rubber

**G Regulator Connection**
1 Fixed Push-to- Connect

**Note:**
Part numbered facepieces are also available
An additional surcharge will be added to configurations that are classified as hazardous materials

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-G1FP | | | 1 | | | | 1 | |
| | A | B | C | D | E | F | G | Qty |

PART NUMBER

## MSA G1™ SCBA Facepieces

| Part No. | Type | Size | Nosecup Size | Head Harness | ATO Configuration |
|---|---|---|---|---|---|
| 10156458 | Fire service | Small | Small | 4-pt. adjustable | G1FP-F-S-1-S-4-0-1 |
| 10156459 | Fire service | Medium | Medium | 4-pt. adjustable | G1FP-F-M-1-M-4-0-1 |
| 10156460 | Fire service | Large | Large | 4-pt. adjustable | G1FP-F-L-1-L-4-0-1 |
| 10156461 | Fire service | Small | Small | Rubber | G1FP-F-S-1-S-R-0-1 |
| 10156462 | Fire service | Medium | Medium | Rubber | G1FP-F-M-1-M-R-0-1 |
| 10156463 | Fire service | Large | Large | Rubber | G1FP-F-L-1-L-R-0-1 |
| 10161812 | Fire service | Small | Small | 5-pt. adjustable | G1FP-F-S-1-S-5-0-1 |
| 10161813 | Fire service | Medium | Medium | 5-pt. adjustable | G1FP-F-M-1-M-5-0-1 |
| 10161814 | Fire service | Large | Large | 5-pt. adjustable | G1FP-F-L-1-L-5-0-1 |





# MSA G1™ SCBA Cylinders

## Standard, Lightweight Carbon Cylinders

MSA Standard, Lightweight Carbon Cylinders (also known as SuperLite Cylinders) are a staple in the Fire Service. Available in 4500 and 5500 psi, these cylinders are durable and lightweight. The cylinder is wound thousands of times with high-strength carbon fibers impregnated with epoxy resin. A final over-wrap of fiberglass fibers enhances abrasion resistance. Then, a glow-in-the-dark luminescent band is applied for improved night visibility.




4500 psi Standard
*green band*




5500 psi Standard
*blue band*




## G1 SCBA Cylinder Options

MSA G1 SCBA Cylinders are available for purchase in a wide variety of options and ability for customization.

### Connection Type



**Threaded Remote Connection**

Threaded Remote Connection is available in CGA 347 (4500 and 5500 psi) for a traditional, thread-on connection.



**Quick-Connect Remote Connection**

The Quick-Connect option is available for rapid, quick changing of cylinders. The Quick-Connect Cylinders come with an installed adapter to easily push-to-connect with the remote handwheel.

### Handwheel Type



**Standard Handwheel**

The Standard handwheel allows for simple and easy opening and closing of the cylinder valve by turning the handwheel knob.



**Locking Handwheel**

The Locking handwheel locks when the cylinder valve is in an open position. It requires only a simple turning motion of the handwheel to open the cylinder, but to close the cylinder valve the user must pull the handwheel outward and then turn to close.

### Custom Logo




For easy-to-read cylinder identification, MSA can customize any G1 Cylinder to have a department's logo wrapped under the clear coat of the cylinder. This customization can be done by either a reflective or paper band in single or multi-color.

#### Custom Labels

*Single Color*

BFC BFC

*Multi Color*

08-01 08-01 08-01

## G1 SCBA Cylinder Specs

| Standard, Lightweight Carbon Cylinders | | | | | |
|---|---|---|---|---|---|
| **Cylinder Pressure** | **Service Time** | **Available Breathable Air** | **Cylinder Height (w/Valve)** | **Cylinder Diameter** | **Cylinder Weight (Full)** |
| ***30-minute Cylinders*** | | | | | |
| **4500 PSI** | 30 Minutes | 45 ft.$^3$ | 21.4" (544 mm) | 5.4" (137 mm) | 10.4 lb. (4.7 kg) |
| **5500 PSI** | 30 Minutes | 45 ft.$^3$ | 21.0" (533 mm) | 5.0" (127 mm) | 9.9 lb. (4.5 kg) |
| ***45-minute Cylinders*** | | | | | |
| **4500 PSI** | 45 Minutes *(low-profile)* | 65 ft.$^3$ | 23.1" (587 mm) | 6.3" (160 mm) | 13.9 lb. (6.3 kg) |
| **4500 PSI** | 45 Minutes | 65 ft.$^3$ | 21.0" (533 mm) | 6.8" (173 mm) | 14.4 lb. (6.5 kg) |
| **5500 PSI** | 45 Minutes | 65 ft.$^3$ | 22.7" (577 mm) | 5.8" (147 mm) | 13.5 lb. (6.1 kg) |
| ***60-minute Cylinders*** | | | | | |
| **4500 PSI** | 60 Minutes | 87 ft.$^3$ | 23.9" (607 mm) | 7.1" (180 mm) | 17.2 lb. (7.8 kg) |
| **5500 PSI** | 60 Minutes | 87 ft.$^3$ | 22.7" (577 mm) | 6.7" (170 mm) | 17.4 lb. (7.9 kg) |

## G1 SCBA Cylinder Ordering Information

### MSA G1 SCBA Standard Cylinders for Threaded Remote Connection

| Cylinder Pressure | Cylinder Type | Connection Type | Handwheel Type | Air | Less Air |
|---|---|---|---|---|---|
| **4500 PSIG** | 30-minute | Threaded | Standard | **10156423-SP** | **10156432-SP** |
| **4500 PSIG** | 45-minute *(low-profile)* | Threaded | Standard | **10156424-SP** | **10156433-SP** |
| **4500 PSIG** | 45-minute | Threaded | Standard | **10156425-SP** | **10156434-SP** |
| **4500 PSIG** | 60-minute | Threaded | Standard | **10156426-SP** | **10156435-SP** |
| **5500 PSIG** | 30-minute | Threaded | Standard | **10185508** | **10185602** |
| **5500 PSIG** | 45-minute | Threaded | Standard | **10185509** | **10185603** |
| **5500 PSIG** | 60-minute | Threaded | Standard | **10185510** | **10185604** |

### MSA G1 SCBA Standard Cylinders for Quick-Connect Remote Connection

| Cylinder Pressure | Cylinder Type | Connection Type | Handwheel Type | Air | Less Air |
|---|---|---|---|---|---|
| **4500 PSIG** | 30-minute | Quick-Connect | Standard | **10175707** | **10175712** |
| **4500 PSIG** | 45-minute *(low-profile)* | Quick-Connect | Standard | **10175708** | **10175713** |
| **4500 PSIG** | 45-minute | Quick-Connect | Standard | **10175709** | **10175714** |
| **4500 PSIG** | 60-minute | Quick-Connect | Standard | **10175710** | **10175715** |
| **5500 PSIG** | 30-minute | Quick-Connect | Standard | **10181628** | **10181708** |
| **5500 PSIG** | 45-minute | Quick-Connect | Standard | **10181629** | **10181709** |
| **5500 PSIG** | 60-minute | Quick-Connect | Standard | **10181630** | **10181710** |

### MSA G1 SCBA Standard Cylinders for Threaded & Quick-Connect Remote Connection w/Locking Handwheel

| Cylinder Pressure | Cylinder Type | Connection Type | Handwheel Type | Air | Less Air |
|---|---|---|---|---|---|
| **4500 PSIG** | 30-minute | Threaded | Locking | **10191802** | **10191838** |
| **4500 PSIG** | 45-minute *(low-profile)* | Threaded | Locking | **10191806** | **10191842** |
| **4500 PSIG** | 45-minute | Threaded | Locking | **10191804** | **10191840** |
| **4500 PSIG** | 60-minute | Threaded | Locking | **10191808** | **10191844** |
| **4500 PSIG** | 30-minute | Quick-Connect | Locking | **10191803** | **10191839** |
| **4500 PSIG** | 45-minute *(low-profile)* | Quick-Connect | Locking | **10191807** | **10191843** |
| **4500 PSIG** | 45-minute | Quick-Connect | Locking | **10191805** | **10191841** |
| **4500 PSIG** | 60-minute | Quick-Connect | Locking | **10191809** | **10191845** |

## MSA G1 SCBA Eclipse Cylinders

| Cylinder Pressure | Cylinder Type | Connection Type | Handwheel Type | Air | Less Air |
|---|---|---|---|---|---|
| **4500 PSIG** | 30-minute | Threaded | Standard | **10204941** | **10204965** |
| **4500 PSIG** | 45-minute *(low-profile)* | Threaded | Standard | **10204945** | **10204969** |
| **4500 PSIG** | 30-minute | Quick-Connect | Standard | **10204942** | **10204966** |
| **4500 PSIG** | 45-minute *(low-profile)* | Quick-Connect | Standard | **10204946** | **10204970** |
| **4500 PSIG** | 30-minute | Threaded | Locking | **10204943** | **10204967** |
| **4500 PSIG** | 45-minute *(low-profile)* | Threaded | Locking | **10204947** | **10204971** |
| **4500 PSIG** | 30-minute | Quick-Connect | Locking | **10204944** | **10204968** |
| **4500 PSIG** | 45-minute *(low-profile)* | Quick-Connect | Locking | **10204948** | **10204972** |

## MSA G1 SCBA Cylinder Accessories

| PART NO. | Description |
|---|---|
| **10149702-SP** | Quick-Connect adapter for 4500/5500 psig cylinders |
| **10158389** | Retainer kit for 4500 psig, 30-min. cylinder (type 2 dovetail) |
| **10158390** | Retainer kit for 4500 psig, 45-min. low-profile cylinder (type 3 dovetail) |
| **10158401** | Retainer kit for 4500 psig, 45-min. cylinder (type 4 dovetail) |
| **10158402** | Retainer kit for 4500 psig, 60-min. cylinder (type 5 dovetail) |
| **10162403** | Quick-Connect adapter for fill station |
| **10183992** | Kit, protective cap & boot for 30-min. cylinder |
| **10183993** | Kit, protective cap & boot for 45-min. low-profile cylinder |




### Cap & Boot

The Cap & Boot provide a protective rubber cover to the top and bottom of the cylinder.

Only available for Standard, Lightweight Carbon Cylinders in 30-minute and 45-minute LP 4500 psi.

## MSA G1 SCBA Accessories

### MSA G1 SCBA Accessories

| Part No. | Description |
|---|---|
| **10148740-SP** | Replacement alkaline battery pack |
| **10148741-SP** | Replacement rechargeable battery pack |
| **10158385** | Rechargeable battery charging station |
| **10158403** | Tool Kit |
| **10083875** | RFID tag |
| **10158407** | RFID reader/writer |
| **10175021-SP** | G1 Control Module w/ Integrated TIC upgrade kit – 4500/5500 psig |

### MSA G1 SCBA Facepiece Accessories

| Part No. | Description |
|---|---|
| **10144230** | Spectacle Kit for G1 Facepiece |
| **10144220-SP** | Replacement cloth neck strap |
| **10159699-SP** | Replacement rubber neck strap |
| **10144231-SP** | Single Port APR Filter adapter assembly |
| **10199720** | Twin Port APR Filter adapter assembly |
| **805078** | Quick Chek® III Fit Test Adapter |

## MSA G1™ Soft Goods Kits

The G1 SCBA Soft Goods can be easily removed for enhanced cleaning protocols and provides a second set of G1 Soft Goods to reduce out-of-service time and extend the life of your SCBA's soft good components.

| Part No. | Description |
|---|---|
| **10181021** | G1 Soft Goods Kit (serviceable tunnel straps, low profile swivel lumbar, 4-pt harness) |
| **10181022** | G1 Soft Goods Kit (serviceable tunnel straps, swiveling lumbar, 4-pt harness) |
| **10181023** | G1 Soft Goods Kit (serviceable tunnel straps, low profile swivel lumbar, 5-pt harness) |
| **10181024** | G1 Soft Goods Kit (serviceable tunnel straps, swiveling lumbar, 5-pt harness) |




*MSA G1 Soft Goods Kits*

## MSA Rescue Belt II System for MSA G1™ SCBA

MSA's innovative device for emergency egress, the Rescue Belt II System for the G1 SCBA, is an integrated personal escape system that allows firefighters to rappel to safety should they become trapped in a building's upper level. G1 Rescue Belt II System is NFPA 1983-certified for use as a personal escape system for emergency escape when installed on MSA-approved air masks. Device can also be used as a standalone product when not installed on an air mask. The Rescue Belt II System can be ordered as an MSA G1 SCBA option or as an individually-sold component for upgrade of your existing MSA G1 SCBA.



Ergonomically-contoured Ara-Shield rescue belt pouch stores:

- 50-ft. FireTech 32 rescue rope
- Auto-locking Sterling F4 Descender
- Choice of Crosby, Lightning, Lightning GT hook, or carabiner

| Rope | Connectors | | | |
|---|---|---|---|---|
| *50-ft. FireTech 32*<br>*50-ft. MSA SafeTech* |  Crosby hook |  Carabiner |  Lightning hook |  Lightning GT hook |
| **50-ft. FireTech 32** | **10173088** | **10173089** | **10173090** | **10173101** |
| **50-ft. MSA SafeTech** | **10173102** | **10173103** | **10173104** | **10173105** |

## MSA Accountability System

**A new way to monitor vital information**

- Each MSA HUB can monitor as many as 50 firefighters; multiple HUBs can be used on a single computer.
- MSA G1 SCBA Air Mask with telemetry transmits to incident command the firefighter's name, team assignment, cylinder pressure, service-time remaining, PASS alarms (motion or manual), thermal alarms, battery status, radio connectivity, and evacuation acknowledgement.

**A fireground management system**

- Personalized ID tags for each firefighter tell incident command exactly who is on scene.
- Integrated PAR (personnel accountability report) timer helps manage radio calls to each team.
- Incident command can manually add firefighters who are not wearing SCBA or mutual aid firefighters, so all personnel can be accounted for.

**Intuitive and easy to use**

- Assign firefighters to teams by clicking on firefighter's icon and dragging to appropriate team.
- Critical information is available at a screen glance due to large number of firefighters that can display, as well as pictorial information format.
- Receive both audible and visual indications of critical events such as PASS alarms or low-pressure alarms.



**Two-way evacuation feature**

- Individual firefighter, team of firefighters or all firefighters can be evacuated with click of a button.
- When incident command transmits an alarm through MSA G1 SCBA Air Mask, they'll know that the firefighter received it, as unit automatically sends confirmation message to the HUB.
- Firefighters hear evacuation alarm on their personal PASS devices. Visual HUD indications and control module icon alert firefighter that it is time to evacuate.
- By simply pressing control module, firefighters can send manual confirmation to acknowledge that they have received and understand critically important evacuation message.
- Although certain concrete and steel commercial structures can challenge any radio signal, MSA's Accountability System coverage with radio technology provides highly reliable performance for one-mile line-of-sight range.
- Due to spread-spectrum design, system does not interfere with other high-band radio frequency equipment.
- For additional safety, both HUB and firefighter modules have icon message to inform users if firefighter leaves radio signal range, so that alternate accountability measures, such as voice contact with teammates, can be taken.

### MSA HUB Fire Service and Replacement Parts

| Part No. | Description |
|---|---|
| **10197700** | MSA HUB Fire Service – US |
| **10201790-SP** | Wall power supply |
| **10204998-SP** | Power cable for car installation (82 ft./25 m) |
| **10201801-SP** | Multi antenna with antenna cable for car installation (9.8 ft./3 m) |
| **10201944-SP** | LRR antenna for car installation |
| **10205446-SP** | Antenna cable for LRR antenna (10 ft./3 m) |

### MSA HUB Fire Service Accessories

| Part No. | Description |
|---|---|
| **10195741-SP** | Ethernet kit (Fire Service Standard) |
| **10195743-SP** | Ethernet cable, 66 ft./20 m (Fire Service) |
| **10195747-SP** | Ethernet cable, 16 ft./5 m (Fire Service) |
| **10203364** | Wall brackets (all) |

## MSA G1™ Rescue Breathing Options

### MSA G1 ExtendAire™ System




The all new MSA G1 ExtendAire II System is a Universal Emergency Breathing Supply System (UEBSS) accessory that uses intermediate pressure air to provide firefighters with emergency breathing air.

The G1 ExtendAire II System allows firefighters to quickly and easily interconnect to a fellow firefighter's air supply. The ExtendAire II System integrated into the G1 SCBA, providing mobility and easy access during emergency situations.The system uses locking quick-connects with integrated check valve.

The new MSA G1 ExtendAire II System features an integrated rescue hose and manifold assembly that uses both male and female quick-connect fittings. The system is stowed in a low-profile pouch that mounts on the carrier assembly, positioned to help prevent snagging and accidental opening.

#### Approvals & Standards

The G1 ExtendAire II is NIOSH approved and NFPA 1970-2025 edition compliant.

| | | |
|---|---|---|
| **ExtendAire II System** | G1 ExtendAire II can be configured on the purchase of a new G1 SCBA or by installing a field upgradeable conversion kit. | |
| | **Part No.** | **Description** |
| | **10205767** | G1 ExtendAire II System Conversion Kit, UEBSS, 2018 Ed. |
| | **10203820** | Replacement pouch for G1 ExtendAire II System, UEBSS, 2018 Ed. and 2025 Ed. |
| | **10156464** | G1 ExtendAire II System Conversion Kit, 2013 Ed. |
| | **10156466-SP** | Replacement pouch for G1 ExtendAire II System, 2013 Ed. |

#### MSA G1 Airline Capabilities

The MSA G1 ExtendAire II also provides an airline solution for quick connection at emergency events requiring an extended air supply like bucket operations, Hazmat or confined spaces. An airline adapter connects to the ExtendAire II manifold assembly, to provide external air from distances up to 300 feet away.

| | | |
|---|---|---|
| **Airline Adapters for ExtendAirE II System** | **Part No.** | **Description** |
| | **10188834** | Airline Adapter, Snap-Tite Aluminum, ExtendAire II, UEBSS |
| | **10188835** | Airline Adapter, Snap-Tite Stainless Steel, ExtendAire II, UEBSS |
| | **10188836** | Airline Adapter, Snap-Tite Brass, ExtendAire II, UEBSS |
| | **10188837** | Airline Adapter, Hansen Stainless Steel, ExtendAire II, UEBSS |
| | **10188838** | Airline Adapter, Hansen Brass, ExtendAire II, UEBSS |
| | **10188840** | Airline Adapter, Foster Steel, ExtendAire II, UEBSS |
| | **10188841** | Airline Adapter, Foster Stainless Steel, ExtendAire II, UEBSS |
| | **10188842** | Airline Adapter, Foster Brass, ExtendAire II, UEBSS |
| | **10188843** | Airline Adapter, Steel, Locking, Aluminum, ExtendAire II, UEBSS |
| | **10188844** | Airline Adapter, Steel, Locking, Stainless Steel, ExtendAire II, UEBSS |
| | **10188845** | Airline Adapter, Steel, Locking, Brass, ExtendAire II, UEBSS |
| | **10188846** | Airline Adapter, Foster, Locking, Stainless Steel, ExtendAire II, UEBSS |
| | **10188847** | Airline Adapter, Ceijn, Locking, ExtendAire II, UEBSS |

## MSA G1™ Quick-Fill System

The Quick-Fill System lets MSA air mask users refill and transfill air cylinders[1] while SCBA is worn, without removing the air cylinder—even in IDLH atmospheres. Use this MSA option to:

- Fill SCBA cylinder from a mobile compressor or cascade system in less than a minute.
- Transfill between two cylinders, providing emergency breathing system.[1]
- Extend air supply over longer durations, using a remote compressed-air source.

Air masks compliant to recent NFPA standards have Quick-Fill System URC fitting located at the Audi-Larm Audible Alarm warning device. Quick-Fill System hose with quick-disconnect connects air source to adapter for air transfer. See Bulletin 0105-92-MC for a Quick-Fill System Q&A.

*[1]SCBA to SCBA Transfilling is not available with the 5500 psig operating system*



| | Part No. | Description |
|---|---|---|
| MSA G1 Quick-Fill System Replacement Parts | 10156465 | Waist-mounted Quick-Fill **for MSA G1 SCBA** |
| | 10156467 | Replacement Quick-Fill pouch **for MSA G1 SCBA** |
| | 10156468 | 3-ft. Quick-Fill hose in pouch **for MSA G1 SCBA** |

| | 25-ft. | 12-ft. | 10-ft. | 8-ft. | 6-ft. | 3-ft. | Fittings |
|---|---|---|---|---|---|---|---|
| Quick-Fill System Hoses | 485332 | 802690 | 802689 | 802688 | 802687 | 485331 | FQD x FQD |
| | 487907 | 802677 | 802675 | 802673 | 802671 | 492796 | FQD x CGA-347 outlet |
| | 487909 | 802685 | 802683 | 802681 | 802679 | 487427 | FQD x CGA-347 CN |
| | 487906 | 802704 | 802703 | 802702 | 802701 | 802705 | FQD x SAE-4 |
| | 487908 | 802678 | 802676 | 802674 | 802672 | 492797 | FQD x CGA-346 outlet |
| | 487910 | 802686 | 802684 | 802682 | 802680 | 487428 | FQD x CGA-346 CN |

*25-ft. lengths are stocked; custom lengths are available on special material basis. All SAE fittings are for high-pressure service. Female quick-disconnect fittings have dust covers.*

## RescueAire™ II Portable Air-Supply System

The MSA G1 RescueAire II System provides Rapid Intervention Teams (RITs) and firefighters with emergency breathing air within almost any situation quickly and easily. Versatile system enables selection of the right option for your application, including capability of supplying emergency breathing air to trapped firefighters wearing SCBA with compatible system(s). Built for extreme fire service conditions, G1 RescueAire II System is available in two operating pressures, 2216 and 4500 psi. Optional-use shoulder strap provides hands-free carrying.

G1 RescueAire II System incorporates a G1 Regulator, allowing a RIT team to provide air to a downed firefighter wearing a G1 Facepiece. Feature-packed system consists of G1 Cylinder, Quick-Fill® emergency breathing system (EBS), ExtendAire™ System EBS, and G1 Regulator (The G1 Regulator connects directly to the MSA G1 Facepiece for maximum rescue capability), supported by a flame- and heat-resistant carrying harness.




*G1 RescueAire II System features include:*

- 36" Quick-Fill System EBSS Connection
- ExtendAire System EBSS Connection
- G1 PR-14 Pressure Reducer
- G1 Regulator
- Carrying harness with adjustable shoulder strap
- Audi-Larm™ Audible Alarm low pressure warning device

| | Part No. | Description |
|---|---|---|
| MSA G1 RescueAire System | 10161130 | RescueAire II System, Snap-Tite, 4500, 60-min cylinder |
| | 10207540 | RescueAire II System, UEBSS, 4500, 60-min cylinder |
| | 10161142 | RescueAire II System, Snap-Tite, 4500, less cylinder |
| | 10207542 | RescueAire II System, UEBSS, 4500, less cylinder |
| | 10161141 | RescueAire II System, Snap-Tite, 2216, 30-min cylinder |
| | 10207541 | RescueAire II System, UEBSS, 2216, 30-min cylinder |
| | 10161143 | RescueAire II System, Snap-Tite, 2216, less cylinder |
| | 10207543 | RescueAire II System, UEBSS, 2216, less cylinder |

## MSA G1™ RIT System

The G1 RIT System provides multiple options for RIT response. Internal pneumatics include G1 RIT System quick-connect pressure reducer that mounts directly onto user-supplied SCBA cylinder. Available in 2216, 4500, and 5500 psi operating pressures, cylinders are sold separately.

*G1 RIT System features include:*

- Six-foot high pressure supply line that terminates with female Quick-Fill System fitting
- Six-foot intermediate pressure supply line that terminates with ExtendAire II System manifold assembly
- Quick-connect second-stage G1 MMR
- Remote external gauge for easy cylinder pressure readings
- Medium size G1 Facepiece with four-point SpeeD-ON® Head Harness
- URC fitting on G1 RIT System pressure reducer that allows for interconnection of G1 RIT Systems

| MSA G1 RIT System | Part No. | Description |
|---|---|---|
| | **5500 PSI Operating Pressure** | |
| | **10206312** | G1 RIT System, 5500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick- Connect |
| | **10197179** | G1 RIT System, 5500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect |
| | **4500 PSI Operating Pressure** | |
| | **10206311** | G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Thread Connect |
| | **10206313** | G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick-Connect |
| | **10169711** | G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect |
| | **10192465** | G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Thread Connect |
| | **2216 PSI Operating Pressure** | |
| | **10206310** | G1 RIT System, 2216, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick-Connect |
| | **10169710** | G1 RIT System, 2216, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect |

This RIT system does NOT include cylinder. Please see cylinder ordering information on p 43–45.

## Technical Rescue Cart

Technical Rescue Cart is of steel construction with color-designated control panel that allows one side of panel to be used for primary respirator breathing-air and one side for tool/secondary air requirements.

Two one-hour cylinders provide air for respirators. High-pressure cascade (fire truck) cylinder air is used to operate pneumatic tools.

**Features**

*Breathing-air segment includes:*

- Two-wheeled, poly-coated steel cart, two sets of double-cylinder straps, air-line hose rack, and adjustable pull handle
- Low-pressure cylinder bell alarm
- Four-outlet manifold—available with four outlet fitting options

*Tooling-air segment includes:*

- CGA-347 fitting to attach to auxiliary remote high-pressure air source
- Low-pressure pneumatic alarm whistle
- Four-outlet manifold with quick-disconnects

*Technical Rescue Cart is sold without air cylinders. These MSA cylinders can be used with cart:*

- 60-minute, H-60SL carbon-wrapped cylinder, PN 10127946-SP
- 45-minute, H-45SL carbon-wrapped cylinder, PN 10127945-SP
- 30-minute, H-30SL carbon-wrapped cylinder, PN 10127944-SP
- 45-minute, H-45S SL SuperLite Carbon Cylinder, short, PN 10149432-SP

See pp. 43–45 for cylinder ordering information. 60-minute cylinders provides maximum air supply.



**Cart Weight and Dimensions**
***Size:*** 35" H x 21" W x 15" D
***Unit weight:*** 54.5 lbs. without cylinders

| Technical Rescue Cart | Part No. | Description |
|---|---|---|
| | **10107535** | Technical Rescue Cart equipped with **union** adapters |
| | **10107818** | Technical Rescue Cart equipped with **Snap-Tite aluminum** quick-disconnects |
| | **10107820** | Technical Rescue Cart equipped with **Foster steel** quick-disconnects |
| | **10107819** | Technical Rescue Cart equipped with **Hansen brass** quick-disconnects |

# Field Maintenance and Repair

MSA offers a complete program for maintenance and repair of MSA air masks. The program is supported with personalized training tailored to customer needs and taught in the field by MSA-authorized personnel.

User maintenance covers procedures necessary to conduct general cleaning, inspection and limited maintenance in accordance with the Occupational Safety and Health Administration (OSHA), National Fire Protection Association (NFPA) and American National Standards Institute (ANSI) standards.

C.A.R.E. Certified Air Mask Repair Education covers all maintenance for both low- and high-pressure SCBA. Air mask inspection and maintenance can be performed by MSA or a factory-authorized service center. Individuals can also obtain training for C.A.R.E. certification from MSA. With a C.A.R.E-certified technician on staff, fire departments and other facilities with a large number of air masks can perform all inspection and maintenance in-house.

- All repairs and maintenance can be done in the field.
- A selection of overhaul kits, spare parts and tool kits is available.
- Users may conduct periodic performance testing using an authorized MSA regulator tester.




## Cleaning Accessories



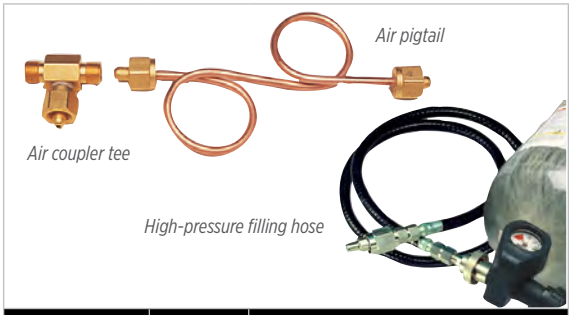

| | Part No. | Description |
|---|---|---|
| Cleaner and Towelettes | 10009971 | MSA Confidence Plus 2 Germicidal Cleaner, 32 oz. bottle |
| | 697383 | Box of 100 individually wrapped towelettes, 7¼" x 5" |
| | 697382 | Canister with 220 towelettes, 4¼" x 6" |
| | 10022871 | The Big Ones box of 50 individually wrapped towelettes, 8" x 11" |

| | Part No. | Description |
|---|---|---|
| G1 Cleaning | 10207584 | G1 Washing and Decon Kit |

- Clean your entire G1 SCBA (including cylinder and facepiece) in a qualified SCBA Washing Machine*
- Solo Rescue and Meiko are qualified manufacturers to clean the G1 SCBA



## Other SCBA Accessories




| | Part No. | Description |
|---|---|---|
| Accessories for filling Low-Pressure cylinders | 68846 | Air outlet connection, complete w/ gauge |
| | 68850 | Air coupler tee |
| | 68851 | Air pigtail |
| | 476156 | Low-pressure air-filling hose, 5-ft. |
| High-Pressure Filling Hose | 476105 | High-pressure filling hose assembly (provides convenient means to connect and charge high-pressure air into high-pressure 4500 psig cylinder) |

** Internal testing determined no degradation of the G1 SCBA after 180 wash cycles.*

# Portable Gas Detection

MSA Connected Work Platform
Multigas Detectors
Two-Tox and Single-Gas Detectors
Calibration



# MSA Connected Work Platform

The MSA Connected Work Platform builds connections between workers and worksites, providing actionable data that helps safety managers create safer and more efficient work environments.




## ALTAIR io™ 4 Gas Detection Wearable

### Tough. Intuitive. Connected.

With fully integrated cellular connectivity right out-of-the-box, the ALTAIR io 4 delivers real-time visibility to help drive safety and productivity across workers, worksites, and workflows.

***ALTAIR io 4 features:***

- Available through MSA+, our comprehensive subscription program including hardware and software, gives you access to powerful cloud-based solutions enabling faster implementation, increased warranty coverage and automatic software and firmware upgrades—with minimal capital expense.
- Designed with fully integrated connectivity for real-time visibility across your worksites from Day One.
- CAT-M LTE cellular connectivity and integration with the MSA Grid.
- Deploys in seconds, right out of the box. No IT required.
- Rugged, durable design and Industry-Leading XCell® Sensors.
- Survives a 25-foot drop test. Breakthrough sensor design enables faster response and shorter span calibrations.
- 1 to 4 gas options available. Sensor Options: Combustible (LEL), Oxygen, Carbon Monoxide, Hydrogen Sulfide, Methane, Sulfur Dioxide, Nitrogen Dioxide, $H_2S$ Low-Concentration, CO, Hydrogen-Resistant $SO_2$.

The ALTAIR io 4 is part of the **MSA Connected Work Platform**, which helps to simplify safety, curb risk, and boost productivity.



## ALTAIR io™ 6 Multigas Detector

The ALTAIR io™ 6 Multigas Detector is purpose-built for industrial worksites and emergency responses, offering outstanding simplicity, powerful sampling capabilities, durability, and ease of use at its core.

Unlike wearable gas detectors with snap-on sampling accessories, the ALTAIR io 6 features a built-in pump, 6-gas capability, out-of-box connectivity, and a large, high-visibility screen for easy reading under a variety of worksite conditions.

Designed to perfom throughout the full shift—day in and day out—the ALTAIR io 6 features easy serviceability to maximize uptime, and offers seamless out-of-box connectivity to the MSA Grid to enhance worker and worksite visibility, data access, compliance, and operational accountability.



*Fully integrated pump, compatible with existing MSA sampling accessories*

*Swappable sensors and batteries for easy change-out during lengthy applications*

*LTE-M cellular connectivity allows for seamless integration with the MSA Grid*

*Highly visible,large display*

*Built tough with IP65 and 10 ft. (3 m) drop test rating*

*User friendly grips designed for single-hand operation*

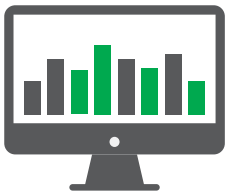
*Real-time visibility plus remote configuration capabilities for over-the-air set up and enhanced maintenance*





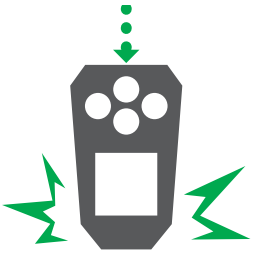
### Zero-Effort, Cloud Compliance

Out of the box and into the cloud. All device data streamed instantly and securely to the cloud and available anytime on the MSA Grid.



### Proactively Manage Your Fleet

Your safety should be about progress, not pain. Take control of your fleet with one-click configuration updates and real-time, actionable data at your fingertips.



### Designed to be Workproof

A device as rugged as your work. Patented, rugged sensor technology that leads the industry in response time and lifetime, military-grade durability, and the ability to survive a 25 ft. (7.6 m) drop test.



### Monitor Your Workforce & Worksite Safety in Real-Time

Know when, where, and who in real-time. With connectivity to the cloud, integrated GPS, and seamless MSA id™ digital device assignment, your safety program has a level of visibility its never had before.

## Build your safety program with the simplicity of an MSA+ subscription.

**MSA+ gives you access to powerful cloud-based solutions enabling faster implementation, increased warranty coverage, and automatic software and firmware upgrades—with minimal capital expense.**



### Zero Up-Front Capex Expense

Skip the capital expenditure process and up-front purchase of devices and get your gas detection program approved and running quickly.



### Always Under Warranty

While you're a subscriber, you're covered under warranty regardless of the age of the device. Peace of mind and less hassle.



### Better with Time

Features and functionality routinely released to improve your safey program. And you're never stuck with old devices—upgrade to latest generation devices with every subscription renewal.

# How it Works

We have a range of packages to suit your safety program's needs.

## What's Included




ALTAIR io 4 | ALTAIR io 6 | Grid | MSA id Tag

| Packages | ALTAIR io 4 | | | ALTAIR io 6 | | |
|---|---|---|---|---|---|---|
| | Starter | Standard | Complete | Starter | Standard | Complete |
| **Grid Compliance Service** | | | | | | |
| Cellular Connectivity | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Emergency Live Monitor | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| OTA Software Updates | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSA id Digital Device Assignment | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Fleet Cloud Configuration | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cloud Logs* | Lifetime | Lifetime | Lifetime | Lifetime | Lifetime | Lifetime |
| **Grid Fleet Manager Service** | | | | | | |
| Fleet Manager Dashboard | — | ✓ | ✓ | — | ✓ | ✓ |
| Streamlined Device Compliance | — | ✓ | ✓ | — | ✓ | ✓ |
| Fleet Manager Reporting | — | ✓ | ✓ | — | ✓ | ✓ |
| ALTAIR io DOCK Monitoring | — | ✓ | ✓ | — | ✓ | ✓ |
| Insights Dashboard | — | — | — | — | ✓ | ✓ |
| **Grid Live Monitor Service** | | | | | | |
| Full Event Live Monitoring | — | — | ✓ | — | — | ✓ |
| Shared Alerts | — | — | ✓ | — | — | ✓ |
| Live & Historical Location Monitoring | — | — | ✓ | — | — | ✓ |
| Event Management | — | — | ✓ | — | — | ✓ |
| Location Awareness | — | — | ✓ | — | — | ✓ |
| Mobile Notifications | — | — | ✓ | — | — | ✓ |

** While under an active Grid subscription*

| Part No. | Description |
|---|---|
| | **ALTAIR io™ 4 Gas Detectors — Purchase** |
| **10245598** | ALTAIR io 4 Gas Detector NA/IEC/ATEX, LTE-M USA (VZW, AT&T, T-Mobile), General Combustible 0-100% LEL, $O_2$ Std., CO Std., $H_2S$ Std., NA/EU/UK Charger, Purchase |
| **10248523** | ALTAIR io 4 Performance Approved, LTE-M/2G Global (Excluding USA), General Combustible 0-100% LEL, $O_2$ Std., CO Std., $H_2S$ Std., NA/EU/UK Charger, Purchase Canada |
| Includes four years of access to MSA's Grid Starter Package and a four-year non-renewable device warranty. The Starter Package allows for effortless access to historic data logs and fleet-wide configurations, helping automate compliance for your program. | |
| | **ALTAIR io™ 6 Gas Detectors — Purchase** |
| **10255038** | ALTAIR io 6 Multigas Detector, Purchase, NA/IEC/ATEX, LEL 0-100%, $O_2$ 0-30% vol, CO std, $H_2S$ std, NA/EU/UK Charger |
| **10255039** | ALTAIR io 6 Multigas Detector, Purchase, NA/IEC/ATEX, LEL 0-100%, $O_2$ 0-30% vol, CO std, $H_2S$ std, $SO_2$ std, Charger NA/EU/UK |
| **10255040** | ALTAIR io 6 Multigas Detector, Purchase, NA/IEC/ATEX, LEL 0-100%, $O_2$ 0-30% vol, CO std, $H_2S$ std, $Cl_2$, Charger NA/EU/UK |
| **10255041** | ALTAIR io 6 Multigas Detector, Purchase, NA/IEC/ATEX, LEL 0-100%, $O_2$ 0-30% vol, CO std, $H_2S$ std, $NH_3$, Charger NA/EU/UK |
| **10255042** | Altair io 6 Multigas Detector, Purchase, NA/IEC/ATEX, LEL 0-100%, $O_2$ 0-30% vol, CO std, $H_2S$ std, $NO_2$ std, Charger NA/EU/UK |
| Includes four years of access to MSA's Grid Starter Package and a four-year non-renewable device warranty. The Starter Package allows for effortless access to historic data logs and fleet-wide configurations, helping automate compliance for your program. | |

# ALTAIR io™ Accessories & Services

## Accessories

### ALTAIR io DOCK TEST STAND



#### Plug & Play With Automated Testing

Plug the system in and get going—no networking required. The ALTAIR io 6 Multigas Detector automatically conducts bumps and calibrations, and the ALTAIR io 4 starts the correct test automatically.

#### Monitor Your Systems Effortlessly in the Cloud

No network setup needed—both the ALTAIR io 6 and ALTAIR io 4 automatically link to the ALTAIR io DOCK test stand, sending data directly to the cloud. Monitor your fleet and calibration gas needs from anywhere.

### ALTAIR io CHARGE CHARGERS



Multi-Device Charger



Cradle Charger

#### Zero-Touch Digital Device Return

Placing an ALTAIR io 4 or ALTAIR io 6 Multigas Detector in the charger automatically marks it as returned in your Fleet Management System.

#### Organize & Charge Your Fleet in a Compact Design

The ALTAIR io CHARGE Multi-Device Charger's wall-mountable five-bay design provides an organized home for devices in your fleet. Other optional accessories include a cradle charger for vehicle and desk top use.

| Part No. | Description |
|---|---|
| **ALTAIR io™ Accessories — Purchase** | |
| **10246442** | Altair io™ 4 io Dock Test Stand, Purchase |
| **10253973** | Altair io™ 6 io Dock Test Stand, Purchase |
| **10242913** | Altair io Dock Cylinder Holder, Purchase |
| **10242927** | Altair io Charge Multi-Device Charger Purchase |

## Additional Accessories

| Part No. | Description |
|---|---|
| **ALTAIR io™ Accessories — Purchase** | |
| **10042621** | Sampling Probe: straight, air line, 1 ft. |
| **10040665** | Sample Line: probe, air line, 10 ft. |
| **10105839** | Probe & Sample Line for Reactive Gases ($NH_3$/$CL_2$), 10 ft. |
| **801582** | Sample Probe Filter, 10 pack |
| **710917** | Inlet Filter |
| **10250799** | ALTAIR io 6 Battery Pack Replacement Kit |

### AutoFill Calibration Gas

Calibration gas shows up when you need it—fully automated. Monthly cost includes order, delivery, and calibration gas.

Learn more at: ***https://us.msasafety.com/connected-work/msa-plus***

## ALTAIR® 5X, ALTAIR® 5X PID, and ALTAIR® 5X IR Multigas Detectors

- Built upon durability
- Powered by performance
- Flexibility & connectivity
- Industry-first man-down alarm
- ALTAIR Connect App available on Google Play
- Industry-leading warranty

XCell® SENSORS



*ALTAIR 5X Multigas Detector*
*monochrome screen shown*



*ALTAIR 5X PID Multigas Detector*
*available with color screen only*



| | UL Part No. | CSA Part No. | |
|---|---|---|---|
| **INSTRUMENT ONLY KITS** | **10116924** | **10115118** | ALTAIR 5X Detector Mono, (LEL, $O_2$, CO, $H_2S$) |
| | **10116925** | **10115119** | ALTAIR 5X Detector Mono, (LEL, $O_2$, CO, $H_2S$, $SO_2$) |
| | **10165445** | | ALTAIR 5X Detector COLOR, (LEL, $O_2$, CO, $H_2S$, PID) |
| **STANDARD KITS** monochrome display, 10-ft sampling line, 1-ft probe | **10116926** | **10115120** | ALTAIR 5X Detector Mono, (LEL, $O_2$, CO, $H_2S$) |
| | **10116927** | **10115141** | ALTAIR 5X Detector Mono, (LEL, $O_2$, CO, $H_2S$, $SO_2$) |
| **DELUXE KITS** color display, 10-ft sampling line, 1-ft probe | **10165446** | | ALTAIR 5X Detector COLOR, (LEL, $O_2$, CO, $H_2S$, PID) |

### ALTAIR 5X Multigas Detector Sensor Options

| Gas Type | Range | Resolution | Gas Type | Range | Resolution |
|---|---|---|---|---|---|
| **Combustible** | 0-100% LEL | 1% LEL | **Nitrogen Dioxide (XCell)** | 0-50 ppm | 0.1 ppm |
| **Combustible** | 0-5% Vol, $CH_4$ | 0.05% Vol $CH_4$ | **Chlorine Dioxide** | 0-1 ppm | 0.01 ppm |
| **Oxygen** | 0-30%Vol | 0.1%Vol | **Phosphine** | 0-5 ppm | 0.05 ppm |
| **Carbon Monoxide** | 0-2000 ppm | 1 ppm | **Hydrogen Cyanide** | 0-30 ppm | 0.5 ppm |
| **Carbon Monoxide** | 0-10,000 ppm | 5 ppm | **Carbon Dioxide, $CO_2$** | 0-10%Vol | 0.01%Vol |
| **Hydrogen sulfide** | 0-200 ppm | 1 ppm | **Butane, $C_4H_{10}$** | 0-25%Vol | 0.1%Vol |
| **Hydrogen Sulfide - LC** | 0-100 ppm | 0.1 ppm | **Methane, $CH_4$** | 0-100%Vol | 1%Vol |
| **Sulfur Dioxide** | 0-20 ppm | 0.1 ppm | **Propane, $C_3H_8$** | 0-100%Vol | 1%Vol |
| **Chlorine** | 0-10 ppm | 0.05 ppm | **Propane, $C_3H_8$** | 0-100% LEL | 1% LEL |
| **Ammonia** | 0-100 ppm | 1 ppm | **PID - 10.6eV** | 0-999 ppm | 0.1 ppm |
| **Nitrogen Dioxide** | 0-20 ppm | 0.1 ppm | **PID - 10.6eV** | 1000-2000 ppm | 1 ppm |

## ALTAIR® 5X, ALTAIR® 5X PID, and ALTAIR® 5X IR Multigas Detectors

# ALTAIR 5X Assemble-To-Order (ATO) Options

Ordering Selection Matrix

### A INSTRUMENT TYPE

*All ALTAIR 5X Multigas Detectors come standard with data logging and MotionAlert and InstantAlert features. Choose your instrument type, equipped with internal pump. The monochrome full-graphic display is standard; a high-resolution crystal-clear color display with logo customization is optional.*

| | |
|---|---|
| A | Pumped with monochrome display |
| D | Pumped with color display for PID (unit must be configured with PID sensor) |

### B COMBUSTIBLE SENSOR

*Choose your combustible sensor calibration. To select 0-100% LEL pentane, please choose L; for 0-5% Vol methane choose M. For no combustible sensor, select 0 for none.*

| | |
|---|---|
| 0 | None |
| L | LEL 1- 100% pentane |
| M | 0-5% Vol methane |

### C SENSOR #1

*To have an oxygen sensor installed in your new ALTAIR 5X Multigas Detector, please select K; if you plan on configuring the ALTAIR 5X Detector with two exotic sensors with CO/H2S, please select 1 for both CO and H2S sensors; for no sensor enter 0. NOTE: Please go to www.msasafety.com and navigate to the ALTAIR 5X product page. There you can click on and use the Configure This Product tool to determine which sensor combinations are allowed in configuring an ALTAIR 5X. For example, you can not combine NH3 and Cl2 sensors in one ALTAIR 5X.*

| | |
|---|---|
| 0 | None |
| K | Oxygen 0-30% |
| 1 | CO/H2S 0-1999 ppm & 0-200 ppm |
| 2 | CO 0-1999 ppm |
| 3 | H2S 0-200 ppm |
| 4 | CO/H2S-LC 0-1999 ppm & 0-99.9 ppm |
| 5 | CO-HC 0-10,000 ppm |
| 6 | CO/NO2 0-1999 ppm & 50 ppm |
| 7 | CO H2-ResH2S 0-1999 ppm & 0-200 ppm |

### D SENSOR #2

*Choose your toxic gas sensor.*

| | |
|---|---|
| 0 | None |
| A | SO2 0-20 ppm |
| B | Cl2 0-10 ppm |
| C | NO2 0-20 ppm |
| D | NH3 0-100 ppm |
| E | PH3 0-5 ppm |
| F | HCN 0-30 ppm |
| G | ClO2 0-1 ppm |
| H | NO 0-200 ppm |

### E SENSOR #3

*Choose your additional toxic gas sensors.*

| | |
|---|---|
| 0 | None |
| 1 | CO/H2S 0-1999 ppm & 0-200 ppm |
| 2 | CO 0-1999 ppm |
| 3 | H2S 0-200 ppm |
| 4 | CO/H2S-LC 0-1999 ppm & 0-99.9 ppm |
| 5 | CO-HC 0-10,000 ppm |
| 6 | CO/NO2 0-1999 ppm & 50 ppm |
| 7 | CO H2-ResH2S 0-1999 ppm & 0-200 ppm |
| A | SO2 0-20 ppm |
| B | Cl2 0-10 ppm |
| D | NH3 0-100 ppm |

### F ADVANCED SENSOR

*Add your advanced IR or PID sensor to complete your sensor suite in the ALTAIR 5X Multigas Detector. Combustible sensors are not available with CSA performance approvals.*

| | |
|---|---|
| 0 | None |
| 1 | 10.6eV 0-2000 ppm |
| B | CO2 0-10% Vol |
| D | Butane 0-25% Vol |
| F | Propane 0-100% Vol |
| L | Methane 0-100% Vol |

### G PACKAGING

*For an economy plastic carrying case, choose E; for red, choose R; for standard carton packaging, choose 0.*

| | |
|---|---|
| 0 | Standard carton |
| E | Economy plastic |
| R | Red economy |

### H APPROVAL LABEL

*Choose the applicable approval label for your area. For North America, choose C, for Europe choose E, for Australia, choose A.*

| | |
|---|---|
| C | NORTH AMERICA |
| T | UL only (no catalytic combustible sensor in unit) |

### I LOGO EXPRESS® SERVICE

*Upon startup, the ALTAIR 5X Multigas Detector can display your company logo or other information. Be sure to select color display for this option. To add your company logo, choose L and upload your logo to the web address which will be sent automatically to you via email. Your order with customized logo cannot be processed without uploading your logo.*

| | |
|---|---|
| 0 | None |
| L | Logo Express Service |

### J SAMPLING LINE AND PROBE KIT

*MSA's quality sampling lines and probes are durable, easy to use and offer high speed and convenience using our quick-connect fittings. If you are sampling Cl2, ClO2 and/or NH3, please select option 2; for all other gases select options S or 1. Options 1 and 2 come with quick disconnect sampling lines and probes. For no sampling line or probe, select 0.*

| | |
|---|---|
| 0 | None |
| S | 1-ft clear probe and 10-ft PU Line |
| 1 | 1-ft probe and 10-ft PU line w/ QD |
| 2 | 1-ft probe and 10-ft teflon line w/ QD (reactive gases) |

**Note:**
An additional surcharge will be added to configurations that are classified as hazardous materials

| A-ALT5X- | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | Qty |

PART NUMBER

## ALTAIR® 4XR Multigas Detector

**Reliability**

- State-of-the-art MSA XCell Sensors—two times faster than industry average

**Rugged Durability**

- Drop-tested
  - 25 drops from 4 ft (1.2 m)
  - 25-ft (7.5 m) drop onto concrete
- MIL-STD-810g
- IP68: waterproof to 6 ft (2 m) for 1 hr
- Temperature: -40° F (-40° C) to +140° F (+60° C)

**Real-Time Connectivity**

- Live gas readings
- Text alerts from the field for gas alarm or man-down alarm
- Non-compliance warnings

**Warranty**

- Four-year warranty for instrument and sensors

XCell® SENSORS




| | Charcoal Version | Glow Version | |
|---|---|---|---|
| ALTAIR 4XR Gas Detectors North American Configuration | 10178557 | 101785578 | LEL, $O_2$, CO, $H_2S$ |
| | 101785560 | 101785571 | LEL, $O_2$, CO, $H_2S$ with Global Charger |
| | 101785572 | — | LEL, $O_2$, CO, $H_2S$-LC |
| | 10179330 | — | LEL, $O_2$, CO-$H_2$, $H_2S$ |
| | 10178566 | 10178567 | LEL, $O_2$, CO |
| | 101785678 | 10178559 | LEL, $O_2$ |

## ALTAIR® 4XR Multigas Detector

Ordering Selection Matrix

**A COMBUSTIBLE SENSOR**

| | |
|---|---|
| 0 | None |
| L | 1-100% LEL Pentane |
| M | 0-5% Vol Methane |

**B OXYGEN SENSOR**

| | |
|---|---|
| 0 | None |
| 1 | 0-30% Vol |

**C TOXIC SENSOR**

| | |
|---|---|
| 0 | None |
| A | 0-1999 ppm CO and 0-200 ppm H2S |
| B | 0-1999 ppm CO |
| C | 0-200 ppm H2S |
| G | 0-1999 ppm CO and 0-99.9 ppm H2S-LC |
| H | 0-99.9 ppm H2S-LC |
| J | 0-1999 ppm CO and 0-50 ppm NO2 |
| K | 0-99.9 ppm H2S-LC and 0-20 ppm SO2 |
| L | 0-1999 ppm CO H2-Res and 0-200 ppm H2S |

**D POWER SUPPLY**

| | |
|---|---|
| 0 | None |
| N | North American |
| M | North American with cradle |
| E | European with cradle |
| A | Australian with cradle |
| G | Global |

**E APPROVAL LABEL**

| | |
|---|---|
| C | North America |

**F WARRANTY**

| | |
|---|---|
| 0 | 4-year standard warranty |
| 1 | WARRANTY 1-year extended warranty (5-years total) |

**G PACKAGING**

| | |
|---|---|
| 0 | Single carton |
| 1[7] | 10-unit bulk package |

**H COLOR CASE**

| | |
|---|---|
| 0 | Standard Charcoal |
| G | Glow-in-the-Dark |

**Note:**
An additional surcharge will be added to configurations that are classified as hazardous materials

**Key**
[7] If bulk packaging is selected, multiply Total Unit Price by 10 times.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A-ALT4XR- | | | | | | | | | 0 | 0 | |
| | A | B | C | D | E | F | G | H | | | Qty |

PART NUMBER

## ALTAIR® 4X Detector (MSHA)

- 3-year instrument warranty
- Lower maintenance cost
- Reduced required calibration gas
- GALAXY GX2 System compatibility for powerful calibration and fleet management
- MotionAlert feature activation when no movement is detected for 30 seconds, indicating “man down”
- InstantAlert feature manually-activated alarm to alert others of hazardous situations
- 30+ hour run time for continuous operation over three shifts

XCell® SENSORS



U.S. Department of Labor MSHA Mine Safety & Health Administration

**30 CFR Part 22, Methane Detector**

**30 CFR Part 75 Determination testing for methane and oxygen deficiency**

| | Description | Part No. |
|---|---|---|
| ALTAIR 4X Multigas Detector with North American approval, quick-start card, data logging, charger, calibration cap, tubing, and CD manual. MotionAlert feature comes standard on all detectors. | | |
| **ALTAIR 4X Mining Multigas Detector** | ALTAIR 4X Multigas Detector ($CH_4$, $O_2$, CO) Charcoal | **10125912** |
| | ALTAIR 4X Multigas Detector ($CH_4$, $O_2$, CO) Phosphorescent | **10125913** |
| | ALTAIR 4X Multigas Detector ($CH_4$, $O_2$, CO, $NO_2$) Charcoal | **10125914** |
| | ALTAIR 4X Multigas Detector ($CH_4$, $O_2$, CO, $NO_2$) Phosphorescent | **10125915** |
| **Replacement sensors** | Kit, XCell Ex-M Combustible Sensor | **10121212** |
| | Kit, XCell $O_2$ Sensor | **10106729** |
| | Kit, XCell CO/$H_2S$ Two-Tox Sensor | **10106725** |
| | Kit, XCell CO/$NO_2$ Two-Tox Sensor | **10121217** |
| **Power supply** | 4-Unit Multi-Unit Charger NA Plug | **10127422** |
| | 12-Unit Multi-Unit Charger NA Plug | **10143372** |

## ALTAIR 4X Multigas Detector (MSHA)

MSA The Safety Company

Ordering Selection Matrix

**A INSTRUMENT TYPE**

*The ALTAIR 4X Multigas Detector now comes standard with MSA’s new XCell Sensors and MotionAlert feature to indicate “man down”. Please select your instrument’s case color; select option C for charcoal and option G for phosphorescent (glow-in-the-dark).*

- C Charcoal
- G Phosphorescent (glow-in-the-dark)

**B COMBUSTIBLE SENSOR**

*To have a combustible sensor installed in your new ALTAIR 4X Multigas Detector, please select C. For no combustible sensor, please select 0.*

- 0 None
- C 0-5% Vol methane

**C OXYGEN SENSOR**

*To have an oxygen sensor installed in your new ALTAIR 4X Multigas Detector, please select 1. For no sensor, enter 0.*

- 0 None
- 1 0-30% Vol

**D TOXIC SENSOR**

*To configure your new ALTAIR 4X Multigas Detector, choose 0 for no toxic sensor. Choose A for both CO and H2S sensors, choose B for CO, C for H2S, D for CO and NO2, and E for NO2.*

- 0 None
- A 0-1999 ppm CO and 0-200 ppm H2S
- B 0-1999 ppm CO
- C 0-200 ppm H2S
- D 0-1999 ppm CO and 0-50 ppm NO2
- E 0-50 ppm NO2

**E POWER SUPPLY**

*Select the correct power supply for your region. Add an instrument cradle to firmly secure your instrument while charging on the shelf or in a vehicle.*

- 0 None
- N North American
- M North American with cradle

**F APPROVAL LABEL**

*The ALTAIR 4X Multigas Detector is fully approved by MSHA.*

- M MSHA

**G EXTENDED WARRANTY**

*MSA includes a full 3-year warranty on the ALTAIR 4X Multigas Detector, including sensors, battery and electronics. Choose 1 for an additional year (4 years total).*

- 0 3 years standard warranty
- 1 Extended warranty (4 years total)

**Note:**
An additional surcharge will be added to configurations that are classified as hazardous materials

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **A-ALT4XM-** | | | | | | M | | |
| | **A** | **B** | **C** | **D** | **E** | **F** | **G** | **Qty** |

PART NUMBER

## ALTAIR® 5X Multigas Detector Accessories

| Part No. | Spare Parts/Replacements |
|---|---|
| 10114835 | Battery Pack Assembly, Rechargeable |
| 10114837 | Battery Pack, Alkaline (Includes Belt Clip) |
| 10114839 | Battery Pack, Rechargeable, PID/IR |
| 10094830 | Belt Clip Replacement Kit |
| 10083591 | Filter Cover Assembly |
| 10165275 | Filter Cover Assembly, PID/IR |
| 10114949 | Maintenance Kit |
| 10165285 | Maintenance Kit, PID/IR |
| 10114950 | Maintenance Kit ($Cl_2$, $ClO_2$, $NH_3$) |
| 10165284 | Maintenance Kit PID/IR ($Cl_2$, $ClO_2$, $NH_3$) |
| 474555 | Shoulder Strap |
| 10050976 | Retractable Line With Belt Clip |
| 10040586 | Carrying Case, Cordura, UL Only |
| 10099648 | ALTAIR 5X Holster, Leather |
| 10099397 | Vehicle Charger |
| 10114853 | Front Housing With Integrated Filters |
| 10165249 | Front Housing With Integrated Filters (PID) |
| 10127427 | Multi-Unit Charger, ALTAIR 5X Detector, 4-unit |

| Part No. | Sensor Spare Parts/Replacements |
|---|---|
| 10106722 | Kit, XCell Ex Sensor, combustible |
| 10106729 | Kit, XCell $O_2$ Sensor |
| 10106725 | Kit, XCell CO/$H_2S$ Two-Tox Sensor |
| 10121213 | Kit, XCell CO/$H_2S$-LC Two-Tox Sensor |
| 10121214 | Kit, XCell CO $H_2$-RES/$H_2S$ Two-Tox Sensor |
| 10121216 | Kit, XCell CO-HC Sensor |
| 10121217 | Kit, XCell $NO_2$/CO Two-Tox Sensor |
| 10106375 | Kit, Replacement, HCN |
| 10106728 | Kit, XCell $Cl_2$ Sensor Replacement |
| 10080222 | Kit, Replacement, $ClO_2$ |
| 10106727 | Kit, XCell $SO_2$ Sensor Replacement |
| 10080224 | Kit, Replacement, $NO_2$ |
| 10106726 | Kit, XCell $NH_3$ Sensor Replacement |
| 10116638 | Kit, Replacement, $PH_3$ |
| 10114750 | Kit, Replacement, NO |
| 10165271 | Kit, Replacement, PID 10.6ev 0-2000 ppm sensor |
| 10165272 | Kit, Replacement, PID 10.6ev 0-2000 ppm lamp |
| 10165287 | Kit, Replacement, PID 10.6ev 0-10k ppm sensor |
| 10176653 | Kit, Replacement PID 10.6ev 0-10k ppm lamp |
| 10165248 | Kit, PID Lamp Cleaning |
| 10165247 | Kit, PID Maintenance |
| 10105650 | XCell Sensor Plug |
| 10088192 | Sensor Plug, Oxygen and toxics (20 mm) |

| Part No. | Sampling Accessories |
|---|---|
| 10153218 | Sampling Line, general purpose, 10-ft. PU |
| 10153219 | Sampling Line, general purpose, 15-ft. PU |
| 10040665 | Sampling Line with quick-disconnect, 10-ft. PU |
| 10040664 | Sampling Line with quick-disconnect, 25-ft. PU |
| 10049058 | Sampling Line with quick-disconnect, 10-ft. Teflon |
| 10049057 | Sampling Line with quick-disconnect, 25-ft. Teflon |
| 10040667 | Sampling Line with quick-disconnect, 3-ft. PU coiled |
| 10105839 | Sampling Line with quick-disconnect for reactive gases, 10-ft. Teflon straight, with Probe, 1-ft. |
| 10153041 | General Purpose Probe, Clear, 1-ft. |
| 10042621 | Probe, 1-ft. |
| 10042622 | Probe, 3-ft. |
| 10161755 | Quick-Disconnect Adapter |
| 801582 | Filter, Water Stop, pack of 10 |
| 10177856 | Filter, General Purpose Probe |
| | **Dilution Tube Set-Up** *All 3 items below required.* |
| 813514 | Dilution Tube |
| 10049059 | Sampling Line Adapter |
| 10049060 | Sampling Line Adapter |

| Part No. | Calibration Accessories |
|---|---|
| 710288 | Demand Regulator Kit |
| 10034391 | $Cl_2$/$NH_3$/$ClO_2$ Demand Regulator Kit |
| 10050985 | Case With Gas Miser® Regulator, Demand Flow RP Kit (includes tubing and fitting, less gas) |
| 10041225 | Calibration Tubing with quick-disconnect fitting |
| 10045035 | 58L RP, 60 ppm CO, 20 ppm $H_2S$, 15% $O_2$, 1.45% $CH_4$ |
| 10103262 | 58L RP, 60 ppm CO, 20 ppm $H_2S$, 15% $O_2$, 1.45% $CH_4$, 2.5% $CO_2$ |
| 10117738 | 58L RP, 60 ppm CO, 20 ppm $H_2S$, 15% $O_2$, 1.45% $CH_4$, 10 ppm $SO_2$ |
| 10048280 | 34L Econo-Cal® Cylinder, 60 ppm CO, 20 ppm $H_2S$, 15% $O_2$, 1.45% $CH_4$ |
| 10048789 | 34L Econo-Cal Cylinder, 60 ppm CO, 15% $O_2$, 1.45% $CH_4$ |
| 10048279 | 34L Econo-Cal 100 ppm Isobutylene |
| 494450 | 100L 100 ppm Isobutylene |

| Part No. | ID Stickers |
|---|---|
| 10177767 | ID Stickers – Light Blue |
| 10177768 | ID Stickers – Red |
| 10177769 | ID Stickers – Green |
| 10177770 | ID Stickers – Orange |
| 10177771 | ID Stickers – Yellow |

## ALTAIR® 4X/4XR Multigas Detector Accessories

| Part No. | Accessories |
|---|---|
| 10152669 | Altair Pump Probe NA w/charger |
| 10088099 | MSA Link™ Software CD-Rom |
| 10082834 | Jeteye IR Adapter with USB Connector |

| Part No. | Sensors / Spare Parts |
|---|---|
| 10106722 | Kit, XCell Ex Sensor, combustible |
| 10106729 | Kit, XCell $O_2$ Sensor |
| 10106725 | Kit, XCell CO/$H_2S$ Two-Tox Sensor |
| 10121213 | Kit, XCell CO/$H_2S$-LC Two-Tox Sensor |
| 10121214 | Kit, XCell CO $H_2$-RES/$H_2S$ Two-Tox Sensor |
| 10121215 | KIT, XCell $SO_2$/$H_2S$-LC Two-Tox Sensor |
| 10121217 | KIT, XCell $NO_2$/CO Two-Tox Sensor |
| 10178360 | Front housing with dust filters (Charcoal) |
| 10178361 | Front housing with dust filters (Phosphorescent) |
| 10179265 | LCD assembly |
| 10110062 | Stainless steel clip, screws, & sensor gasket |
| 10208647 | Stainless Steel Replacement Clip Kit |

| Part No. | Calibration Accessories |
|---|---|
| 467895 | Regulator 0.25 lpm Model RP |
| 10089321 | Calibration Assembly (cap, tube, connector) |
| 10048280 | 34L Quad Gas Mix<br>(1.45% $CH_4$, 15% $O_2$, 60 ppm CO, 20 ppm $H_2S$) |
| 10045035 | 58L Quad Gas Mix<br>(1.45% $CH_4$, 15%$O_2$02, 60 ppm CO, 20 ppm $H_2S$) |

| Part No. | Power Supply |
|---|---|
| 10087368 | Charging cradle with power supply |
| 10092233 | Power Supply with Charge Connector |
| 10095774 | Vehicle Charger |
| 10127422 | 4-Unit Multi-Unit Charger NA Plug |

### ALTAIR Pump Probe

- Rugged unibody housing provides unsurpassed durability, including ability to survive a 10-foot drop
- Large, glove-friendly button for single handed use
- Universal design allows ALTAIR Pump Probe to be utilized with a number of MSA diffusion-type portable gas detectors
- Translucent cap for easy filter inspection
- Tool-free quick change components for simplified maintenance
- Compatibility with MSA ALTAIR chargers

| Part No. | ALTAIR Pump Probe |
|---|---|
| Comes with 3-year warranty, wand, calibration cap and coupling hose | |
| 10152669 | ALTAIR Pump Probe (North America) with charger |
| 10161948 | Pump Probe Adapter for ALTAIR 2X |
| **Part No.** | **Sampling Lines** |
| 10153103 | 10-foot polyurethane Sampling Line |
| 10153104 | 25-foot polyurethane Sampling Line |
| 10153105 | 50-foot polyurethane Sampling Line |



## ALTAIR® 2X Gas Detector

- incorporates proven XCell sensor technology.
- enhances worker safety, compliance and traceability.
- minimizes cost of ownership.
- demonstrates rugged durability.

XCell® SENSORS




*ALTAIR 2XP Gas Detector ($H_2S$ only)*




*ALTAIR 2XT Two-Tox Gas Detector ($CO/H_2S$ version shown)*




*ALTAIR 2X Single-Gas Detector ($NH_3$ version shown)*

### ALTAIR 2XP Gas Detector with XCell Pulse Technology

***Compliance, Traceability and Simplicity without Compromising Safety***



The industry best practice of conducting a bump test prior to each day's use is easily achieved with the ALTAIR 2XP. Bump anywhere, any time, without bottled gas or accessories.

### ALTAIR 2XT – Two-Tox Gas Detector

The ALTAIR 2XT Detector eliminates the need for a second detector by utilizing proven XCell Two-Tox Sensors. XCell Two-Tox Sensors detect two gases on distinct sensor channels with digital output that minimizes cross-channel interference.

### ALTAIR 2X – Single-Gas Detector

ALTAIR 2X Gas Detectors: CO, CO-HC (High Concentration), $CO-H_2$ (Hydrogen Resistant), $H_2S$-LC, $SO_2$, $NO_2$, $NH_3$ and $Cl_2$

| | |
|---|---|
| **Low cost of ownership** | • Fastest sensor response times, lowest calibration gas flow rate on the market<br>• 4-year expected instrument & sensor life<br>• 3-year warranty on instrument & most sensors (2 years on $Cl_2$, $NH_3$) |
| **Increased safety awareness & real-time compliance** | • Bump PASS: Green LED flash every 15 seconds, large on-screen checkmark for real-time compliance<br>• Bump FAIL: Red LED flash every 15 seconds, no checkmark<br>• End-of-sensor-life warning and alarm |
| **Full-time traceability** | • Records 75 alarm events and over 100 hours of periodic data, including bump and calibration records<br>• Records can be easily downloaded during periodic gas calibrations using the GALAXY GX2 Automated Test System |
| **Rugged durability** | • Tough over-molded rubber armor<br>• Survives multiple 25-ft drops onto concrete<br>• Agency-certified dust- and water-tight IP67 and intrinsically-safe construction |
| **Easy to use** | • 1-button, gloved hand operation<br>• Large LCD, characters, and status icons |

| | Detector Type (Low, High Alarm in ppm) | Charcoal | Replacement Sensor |
|---|---|---|---|
| **ALTAIR 2XP – with XCell Pulse Technology** | $H_2S$-Pulse (10, 15) | **10153984** | **10121227** |
| **ALTAIR 2XT Two-Tox Gas Detector** | $CO/H_2S$ (CO: 25, 100; $H_2S$: 10, 15) | **10154040** | **10152603** |
| | $CO-H_2/H_2S$ (CO: 25, 100; $H_2S$: 10, 15) | **10154071** | **10152604** |
| | $CO/H_2S$-LC (CO: 25, 100; $H_2S$: 5, 10) | **10154072** | **10152605** |
| | $CO/NO_2$ (CO: 25, 100; $NO_2$: 2.5, 5) | **10154073** | **10152606** |
| | $SO_2/H_2S$-LC ($SO_2$: 2, 5; $H_2S$: 10, 15) | **10153985** | **10152607** |
| **ALTAIR 2X Single Gas Detector** | CO (25, 100) | **10153986** | **10152603** |
| | $H_2S/CO-H_2$ (25, 100) | **10154074** | **10152604** |
| | CO-HC (25, 100) | **10154075** | **10152602** |
| | $H_2S$-LC (5, 10) | **10154076** | **10152605** |
| | $SO_2$ (2, 5) | **10154077** | **10152607** |
| | $NO_2$ (2.5, 5) | **10154078** | **10152606** |
| | $NH_3$ (25, 50) | **10154079** | **10152601** |
| | $Cl_2$ (0.5, 1) | **10154080** | **10152600** |

| Part No. | Power |
|---|---|
| **10155203-SP** | Battery (pack of 8) |

## ALTAIR® 2X Gas Detector

# ALTAIR® 2X Gas Detector

Ordering Selection Matrix

### A Instrument Type

| | |
|---|---|
| 1 | CO/H2S |
| 2 | CO-H2/H2S |
| 3 | CO/H2S-LC |
| 4 | CO/NO2 |
| 5 | CO |
| 6 | CO-H2 |
| 7 | CO-HC |
| 8 | H2S-PLS |
| 9 | H2S-LC |
| 11 | SO2/H2S-LC |
| 12 | SO2 |
| 13 | NO2 |
| 14 | NH3 |
| 15 | Cl2 |
| 16 | H2S |

### B Alternate Alarm Setpoint (Low, High, STEL, TWA) Gas #1

| | |
|---|---|
| 1 | Default Setpoints |
| 2 | CO (30,60,60,30) |
| 3 | CO (35,100,100,35) |
| 4 | CO (35, 400,400, 35) |
| 5 | CO (50, 200, 200, 50) |
| 6 | CO (100, 300,300, 100) |
| 7 | CO (25, 100, 100, 25) |
| 8 | CO (75, 200,200,75) |
| 9 | CO (199, 200, 35, 200) |
| 10 | CO (30, 200, 200, 30) |
| 11 | CO (25, 50, 50, 25) |
| 12 | CO (200, 300, 300, 30) |
| 13 | H2S-PLS (10, 20, 20, 10) |
| 14 | H2S-PLS (5, 10, 10, 5) |
| 15 | H2S-PLS (8, 12, 12, 8) |
| 16 | H2S-PLS (7, 14, 7, 7) |
| 19 | SO2 (1, 2, 1, 1) |
| 20 | Cl2 (0.3, 0.5, 0.5, 0.3) |
| 21 | Cl2 (0.5, 1, 1, 0.5) |
| 22 | NH3 (10, 20, 20, 10) |
| 23 | NH3 (20, 40, 40, 20) |

**Notes:**
If alternate alarm setpoints are desired, users may select from one of the presets in columns B or C. Alternatively, custom setpoints may be chosen by selecting "1" in columns B and C and option "C" in the Custom Features selection in Column "G". Please provide the Low, High, STEL and TWA for each gas and note any other software settings.

### C Alternate Alarm Setpoint (Low, High, STEL, TWA) Gas #2

| | |
|---|---|
| 1 | Default Setpoints |
| 13 | H2S (10, 20, 20, 10) |
| 14 | H2S (5, 10, 10, 5) |
| 15 | H2S (8, 12, 12, 8) |
| 16 | H2S (7, 14, 7, 7) |
| 17 | H2S-LC (5, 10, 10, 1.6) |
| 18 | H2S-LC (5, 10, 10, 1) |
| 24 | NO2 (2, 5, 5, 2) |
| 25 | NO2 (1, 3, 3, 1) |

**Notes:**
If alternate alarm setpoints are desired, users may select from one of the presets in columns B or C. Alternatively, custom setpoints may be chosen by selecting "1" in columns B and C and option "C" in the Custom Features selection in Column "G". Please provide the Low, High, STEL and TWA for each gas and note any other software settings.

### D Approvals

| | |
|---|---|
| U | UL/CSA/ATEX/AUST |

### E Case Color

| | |
|---|---|
| C | Charcoal |
| G | Glow-inthe- Dark |

### F Packaging

| | |
|---|---|
| 1 | Individual |
| 2 | Bulk Packaging (25/box) |

### G Custom Features

| | |
|---|---|
| 0 | None |
| A | "Always On" Mode ON |
| B | Operating Beep ON |
| C | Custom |
| G | Go/No Go Mode ON |
| H | Hibernate/Sleep Mode ON |
| M | Motion Alert ON |
| P | Persistent Alarm mode ON |

**Notes:**
If "C Custom" was selected, please indicate any specific software settings. If this includes alternate alarm setpoints also indicate the gas and setpoints for High, Low, STEL, and TWA.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-ALT2X | | | | U | | | | |
| | A | B | C | D | E | F | G | Qty |

PART NUMBER

## ALTAIR® Pro Gas Detector

ALTAIR Pro toxic gas and oxygen detectors combine reliable detection and LED/audible/ flashing/vibrating alarms with clear, backlit LCD displays. Electrochemical sensors measure concentrations of toxic gas (chlorine dioxide, hydrogen cyanide, phosphine) or percent oxygen.



| | Instrument Type | Part No. | Low Alarm | High Alarm | STEL | TWA |
|---|---|---|---|---|---|---|
| Altair Pro Single-Gas Detectors | Oxygen ($O_2$) | **10074137** | 19.50% | 23.00% | N/A | N/A |
| | Hydrogen Cyanide (HCN) | **10076729** | 4.5 ppm | 10 ppm | 10 ppm | 4.7 ppm |
| | Chlorine Dioxide ($ClO_2$) | **10076717** | 0.1 ppm | 0.3 ppm | 0.3 ppm | 0.1 ppm |
| | Phosphine ($PH_3$) | **10076735** | 0.3 ppm | 1.0 ppm | 1.0 ppm | 0.3 ppm |
| ***Alternate Set Point Model*** | Oxygen ($O_2$) | **10076732** | 18.00% | 19.50% | N/A | N/A |

## ALTAIR® Maintenance-Free Single-Gas Detector

- Sensor options for CO, $H_2S$, and $O_2$
- Patented electrochemical sensors & MSA-built button sensors operate for over 2 years
- Stainless steel and solid electrolyte construction virtually eliminate sensor leakage
- Automatically records the last 25 alarm/test events and can communicate data by connecting to MSA Link via built-in IR communication port
- No-miss triple alarm system includes bright flashing LEDs, piercing audible alarm, and an internal vibrating alarm
- Rubberized armor housing and one-button operation for maximum durability and simplicity



| | Instrument Type | Part No. | First Alarm | Second Alarm |
|---|---|---|---|---|
| Altair Pro Single-Gas Detectors | Carbon Monoxide (CO) | **10092522** | 25 ppm | 100 ppm |
| | Hydrogen Sulfide ($H_2S$) | **10092521** | 10 ppm | 15 ppm |
| | Oxygen ($O_2$) | **10092523** | 19.5% Vol | 23% Vol |
| ***Alternate Set Point Model*** | Carbon Monoxide (CO) | **10071334** | 30 ppm | 60 ppm |
| | Carbon Monoxide (CO) | **10071335** | 35 ppm | 100 ppm |
| | Hydrogen Sulfide ($H_2S$) | **10071340** | 10 ppm | 20 ppm |
| | Hydrogen Sulfide ( $H_2S$) | **10071361** | 5 ppm | 10 ppm |
| | Hydrogen Sulfide ( $H_2S$) | **10071363** | 7 ppm | 14 ppm |
| | Oxygen ($O_2$) | **10071364** | 19.5% Vol | 18% Vol |

## ALTAIR® and ALTAIR® Pro Accessories and Parts

| Part No. | Accessories |
|---|---|
| **467895** | Regulator, 0.25 lpm |
| **10030325** | Tubing, 16" (do not use with $NH_3$, $Cl_2$, and $ClO_2$) |
| **10080534** | Tubing, 16" Teflon-lined ($NH_3$, $Cl_2$, and $ClO_2$) |
| **10074132** | 3V CR2 battery – ALTAIR Pro only |
| **10082834** | JetEye IR USB adapter |
| **10088099** | MSA Link software CD-ROM |

| Part No. | Clips |
|---|---|
| **10069894** | Clip, stainless steel |
| **10041105** | Cell phone clip |
| **10041107** | Lanyard clip |
| **10073346** | Hard hat clip |
| **10040002** | Clip, suspender (standard) |

## GALAXY® GX2 Automated Test System

### Ease of Use: Calibrate & Test Effortlessly

- Easy setup, simple use with touch-free testing.
- Color touch screen enhances user experience at the test stand.
- Can be used with a PC or as a stand-alone system, the perfect solution for large fleet end users, as well as for smaller applications.
- Automated test system provided in many commonly spoken languages.

### Cost of Ownership: Save Time, Save Gas, & Save Money

- Exceeds 50% reduction in cost of ownership, including calibration gas expenses when combined with high-performance MSA XCell Sensors.
- Faster total testing of ALTAIR Family Gas Detectors.
- Test up to 10 gas detectors simultaneously in the time most competitive systems take to test one device.
- RFID-tagged calibration gas.



| | Part No. | Description |
|---|---|---|
| **Galaxy GX2 System Test Stand/ 1 Valve** **for use with 1 calibration gas cylinder** | **10128644** | ALTAIR / ALTAIR PRO / ALTAIR 2X Detectors, no-charging |
| | **10128630** | ALTAIR 4/4X Multigas Detector, charging |
| | **10128642** | ALTAIR 4/4X Multigas Detector, no-charging |
| | **10128626** | ALTAIR 5/5X Multigas Detector, charging |
| | **10128628** | ALTAIR 5/5X Multigas Detector, no-charging |
| **Galaxy GX2 System Test Stand/ 4 Valve** **for use with 1–4 calibration gas cylinders** | **10128643** | ALTAIR / ALTAIR PRO / ALTAIR 2X Detectors, no-charging |
| | **10128629** | ALTAIR 4/4X Multigas Detector, charging |
| | **10128641** | ALTAIR 4/4X Multigas Detector, no-charging |
| | **10128625** | ALTAIR 5/5X Multigas Detector, charging |
| | **10128627** | ALTAIR 5/5X Multigas Detector, no-charging |
| **Calibration Gas** | **10048280** | Calibration gas cylinder (34L) 1.45% $CH_4$, 15% $O_2$, 60 ppm CO, 20 ppm $H_2S$ |
| | **10045035** | Calibration gas cylinder (58L) 1.45% $CH_4$, 15% $O_2$, 60 ppm CO, 20 ppm $H_2S$ |
| | **10117738** | Calibration gas cylinder (58L) 1.45% $CH_4$, 15% $O_2$, 60 ppm CO, 20 ppm $H_2S$, 10 ppm $SO_2$ |
| | **10098855** | Calibration gas cylinder (34L) 1.45% $CH_4$, 15% $O_2$, 60 ppm CO, 20 ppm $H_2S$, 10 ppm $SO_2$ |
| | **10103262** | Calibration gas cylinder (58L) 1.45% $CH_4$, 15% $O_2$, 60 ppm CO, 20 ppm $H_2S$, 2.5% $CO_2$ |

## GALAXY® GX2 Accessories

| Part No. | Accessories |
|---|---|
| **10105756** | Electronic cylinder holder |
| **10125135** | Non-electronic cylinder holder |
| **10127111** | 4 GB SD card |
| **10123937** | Digital secure USB key |
| **10125907** | End cap |
| **10127422** | ALTAIR 4XR/4XM Detector Multi-unit Charger, NA |
| **10127427** | ALTAIR 5X/5X PID Detector Multi-unit Charger, NA |
| **10127112** | Laminated quick start guide |
| **10127518** | 12" (TBR) Ethernet cable for test stand to test stand connection |

| Part No. | Accessories |
|---|---|
| **10082834** | USB IR dongle |
| **10034391** | Demand flow regulator (universal) |
| **710289** | Large capacity (<3000 psi) demand regulator |
| **10124286** | NA power supply (1 of 2) |
| **10127146** | NA power cord (2 of 2) |
| **10126268** | Vehicle power adapter |

## GALAXY® GX2 Automated Test System

# Galaxy® Automated Test System Assemble-to-Order (ATO) Options

Ordering Selection Matrix

### A TEST STAND INSTRUMENT TYPE

*Each instrument type has a dedicated GALAXY GX2 System test stand. 10 test stands can be banked together in any combination, allowing for ultimate flexibility.*

| | |
|---|---|
| A | ALTAIR/ALTAIR Pro/ALTAIR 2X Detector |
| B | ALTAIR 4/4X Detector |
| C | ALTAIR 5/5X Detector |

### B ACTIVE CYLINDER PORTS

*Single valve test stands allow for only one calibration cylinder to be used. 4 valves allow for 1- 4 calibration cylinders to be accessed.*

| | |
|---|---|
| 1 | 1 Valve / 1 Cylinder |
| 4 | 4 Valves / Up to 4 Cylinders |

### C INSTRUMENT CHARGING

*Instrument charging allows for a single instrument to be charged per test stand. Only available on ALTAIR® 4/4X and ALTAIR 5/5X Multigas Detector test stands. Choose Yes/1 if you wish to use the "always ready" function of ALTAIR 4X or ALTAIR 5X Detectors.*

| | |
|---|---|
| 0 | No |
| 1 | Yes |

### D SMART CYLINDER HOLDER

*Smart cylinder holder provides calibration gas information and gas levels. Information such as part number, gas types, concentrations, expiration date, lot number, and real time pressure levels are automatically set up in the test stand. Smart cylinder holder provides end users with automated, remote warnings as to low or no gas and expired or nearly expired cylinders.*

| | |
|---|---|
| 0 | None |
| 1 | 1 Cylinder Holder |
| 2 | 2 Cylinder Holders |
| 3 | 3 Cylinder Holders |
| 4 | 4 Cylinder Holders |

### E MULTI-UNIT CHARGER

*Selection of ALTAIR 4/4X Detector and multi-unit charger provides charging for 1-4 ALTAIR 4/4X Detectors. Selection of ALTAIR 5/5X Detectors and multi-unit charger provides charging for 1-4 ALTAIR 5/5X Detectors. Additional units may be purchased from accessory list below.*

| | |
|---|---|
| 0 | None |
| B | Multi-unit charger, ALTAIR 4/4X |
| C | Multi-unit charger, ALTAIR 5/5X |
| D | Multi-unit charger, ALTAIR 4/4X & 5/5X (2 positions of each) |

### F POWER CORD

*Each test stand (with the exception of Argentina version) comes with 6V power supply. Power cord option then chooses the appropriate power cord by region. None provides power supply and no power cord. Argentina version provides no power supply and no power cord.*

| | |
|---|---|
| N | North America |

### H SECURE DIGITAL USB

*Allows end user to securely configure instrument set points at GALAXY GX2 System test stand. Must be inserted to process any setting changes to an instrument.*

| | |
|---|---|
| 0 | None |
| A | 1 Secure Digital USB Key |

**Note:**
An additional surcharge will be added to configurations that are classified as hazardous materials

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| A-GX2- | | | | | | | 0 | | 0 | |
| | A | B | C | D | E | F | | H | | Qty |

PART NUMBER

## MSA Calibration Cylinders

| 100L | 34L, 58L and 116L | 875L |
|---|---|---|
|  |  |  Call for availability of other gas mixtures |
| **Model RP and Model R Calibration Cylinders—Non-Reactive Gases** | **Model RP and Econo-Cal Calibration Cylinders—Reactive Gases** | **BD-20 Calibration Cylinder—Reactive or Non-Reactive Gases** |
| **Model RP Cylinder**<br>• Contents: Pressure 1000 psig; approximately 100 liters at atmospheric pressure<br>• Material: Steel | **Model RP & Econo-Cal Cylinders**<br>• Contents: Pressure 500 psig–1000psig<br>• Material: Aluminum | **Cylinder**<br>• Contents: Pressure 2216 psig<br>• Material: Aluminum<br>• Part No. 10152629 (standard quad gas) |

## Model RP Calibration Check Kit

- Includes regulator with cylinder pressure gauge, adapter hose, sensor adapter (where applicable), instructions, and two-cylinder case
- Model RP Kit steel calibration gas cylinders measure approximately 14¼" high, 3½" in diameter
- Aluminum container 13¼" high, 3" in diameter
- Depending upon individual pressure requirements, cylinders contain 58 to 100 liters of specified gas mixture



| Part No. | Description |
|---|---|
| **477149** | **Model RP Calibration Check Kit, with 0.25 lpm regulator, includes:** |
| **467895** | Regulator (0.25 lpm) |
| **24194** | Tubing, 30" (without sampling line connection) |
| **10089321** | Calibration cap: ALTAIR 4/4X |
| **635833** | Quick disconnect fitting |
| **628474** | Zero plug for MSA electrochemical sensors |
| **465898** | Quick disconnect fitting, internal, 3⁄16 barb |

## Calibration Cylinders Are Recyclable

MSA has affiliated with The Arc™ of Butler County—a nonprofit organization that employs people with intellectual and developmental disabilities—and established a Cylinder Recycling Center. The calibration cylinders are not refilled, but salvaged for scrap. All money generated from selling the scrap cylinders is placed in the Arc operating fund for salaries and operating costs.

Calibration cylinders are considered hazardous unless the cylinders are empty. MSA has developed special devalving tools that will ensure the cylinder is empty and render the cylinder non-fillable. For your convenience, MSA also offers a specially pre-addressed shipping box (also recyclable) which helps you pay the lowest shipping costs available.

The MSA Recycling Center limits the return of calibration cylinders to MSA-logoed cylinders only. Non-MSA cylinders will be rejected. Contact the Customer Service Center for additional details at 1-800-MSA-2222.

| Devalving Tools | | |
|---|---|---|
| **Model RP** | **Model R** | **Return Box** |
| **711228** | **711229** | **711227** |

## MSA Calibration Cylinders

| Non-Reactive Gases | | | | | |
|---|---|---|---|---|---|
| **Gas Type** | **Concentration** | **34L** | **58L** | **100L** | **116L** |
| Air (zero gas) | THC < 1 ppm | – | – | 801050 | 10150608 |
| Carbon dioxide ($CO_2$) | 2.5% | – | – | 479265 | – |
| | 1.5% | – | – | 807386 | – |
| | 10.00% | – | 801050 | – | – |
| Carbon monoxide (CO) | 300 ppm | – | – | 473180 | – |
| | 60 ppm | – | – | 710882 | 10150609 |
| | 50 ppm | – | – | 809241 | – |
| Isobutylene | 100 ppm | – | – | 494450 | – |
| Oxygen ($O_2$) | 20.80% | – | – | – | 10150610 |
| Methane | 50% | – | 10075804 | – | – |
| Methane (w/odorant) | 100% | – | 711014 | – | – |

| Reactive Gases | | | | |
|---|---|---|---|---|
| **Gas Type** | **Concentration** | **34L** | **58L** | **116L** |
| Ammonia ($NH_3$) | 25 ppm | 711078 | 814866 | 10150611 |
| Chlorine ($Cl_2$) | 10 ppm | 711066 | 806740 | 10150612 |
| | 2 ppm | 711082 | 710331 | 10150613 |
| Hydrogen chloride (HCl) | 40 ppm | 711080 | 710210 | – |
| Hydrogen cyanide (HCN) | 10 ppm | 711072 | 809351 | 10150614 |
| Hydrogen sulfide ($H_2S$) | 40 ppm | 711062 | 467897 | 10150616 |
| | 20 ppm | 10153844 | 10153845 | 10153846 |
| | 15 ppm | 711064 | 806253 | – |
| | 10 ppm | 711060 | 467898 | – |
| | 5 ppm | 711086 | 710414 | – |
| Nitric oxide (NO) | 50 ppm | 711074 | 812144 | 10150617 |
| Nitrogen dioxide ($NO_2$) | 10 ppm | 711068 | 808977 | 10150599 |
| | 5 ppm | 711084 | 710332 | – |
| Sulfur dioxide ($SO_2$) | 10 ppm | 711070 | 808978 | 10150600 |
| Phosphine ($PH_3$) | 0.5 ppm | 711088 | 710553 | 10151016 |
| Isobutylene | 100 ppm | 10048279 | 10028038 | – |

### AutoFill for Calibration Gas

**Simplify the management of your gas detection program.**

*See page 60 for details.*

## MSA Calibration Cylinders

| Multigas ("Cocktail Mixes") Table | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Reactive Gases** | | | | | | | | | |
| **COMB Gas** | **CO** | **$O_2$** | **$H_2S$** | **$NO_2$** | **$SO_2$** | **$CO_2$** | **34L** | **58L** | **116L** |
| **1.45% Methane as Pentane Simulant** | 60 ppm | 15% | 20 ppm | – | – | – | **10048280** | **10045035** | **10150595** |
| **1.45% Methane as Pentane Simulant** | 60 ppm | 15% | 20 ppm | – | 10 ppm | – | **10098855** | **10117738** | **10150622** |
| **1.45% Methane as Pentane Simulant** | 60 ppm | 15% | – | 10 ppm | – | – | **10058036** | **10058034** | **10150597** |
| **1.45% Methane as Pentane Simulant** | 60 ppm | 15% | 20 ppm | – | – | 2.50% | **10104621** | **10103262** | **10150606** |
| **1.45% Methane as Pentane Simulant** | 300 ppm | 15% | 10 ppm | – | – | – | **711058** | **804770** | **–** |
| **2.5% Methane** | 60 ppm | 15% | 20 ppm | – | – | – | **10048981** | **10048890** | **10150596** |
| **2.5% Methane** | 60 ppm | 15% | – | 10 ppm | – | – | **10058172** | **10058171** | **10150598** |
| **2.5% Methane** | 300 ppm | 15% | 10 ppm | – | – | – | **711076** | **813720** | **–** |

| **Non-Reactive Gases** | | | | | | |
|---|---|---|---|---|---|---|
| **COMB Gas** | **CO** | **$O_2$** | **34L** | **58L** | **116L** | **100L** |
| **1.45% Methane as Pentane Simulant** | 60 ppm | 15% | **10048789** | **478191** | **–** | **–** |
| **2.5% Methane** | 60 ppm | 15% | **10049056** | **813718** | **–** | **–** |
| **1.45% Methane as Pentane Simulant** | 300 ppm | 15% | **–** | **–** | **–** | **10010162** |
| **1.45% Methane as Pentane Simulant** | – | 15% | **–** | **–** | **–** | **478192** |

| **ALTAIR 2X Detector** | | | | | | |
|---|---|---|---|---|---|---|
| **$H_2S$** | **$SO_2$** | **CO** | **$NO_2$** | **34L** | **58L** | **116L** |
| **20 ppm** | – | – | – | **10153844** | **10153845** | **10153846** |
| **20 ppm** | 10 ppm | – | – | **10153808** | **10153807** | **10153808** |
| **20 ppm** | – | 60 ppm | – | **10153800** | **10153801** | **10153802** |
| **–** | – | 60 ppm | 10 ppm | **10153803** | **10153804** | **10153805** |

| **Regulators** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Gas Miser® Demand Regulator** | | | **Fixed Flow Regulators** | | | | **Combination Regulator** |
| **Model RP** | **BD-20** | **BD-20** | **Model RP** | | **Model R** | | **Model RP** |
| | CGA 330 | CGA 590 | 0.25 lpm | 1.5 lpm | 0.25 lpm | 0.5 lpm | 0.25 lpm |
| **10034391** | **10148159** | **710289** | **467895** | **467896** | **459949** | **459948** | **711175** |
| | Up to 3000 psi cylinders | Up to 3000 psi cylinders | – | – | – | – | – |
| Can be used with all reactive gases (replaces 710288) | CGA 330 is standard fitting for $H_2S$ containing mixtures | CGA 590 is standard fitting for non-$H_2S$ mixtures | – | – | – | – | Easily converts 34, 58, 116, or 100L into "squirt" bottle; provides stable gas concentration |

**Model RP** – Regulator threads onto into 34, 58 and 116L aluminum bottles and 100L steel bottles; limited to 1000 psi

**Model BD** – Regulator attaches directly onto cylinder containing up to 3000 psi gas pressure

**Model R** – Regulator fits 19L steel cylinder (red or blue); often contains combustible gas mixture

# Head, Eye, Face, and Hearing Protection

Head Protection
Eye and Face Protection
Hearing Protection



# Considerations & Factors for Choosing Head Protection

MSA Safety head protection options include both Type I and Type II helmets and helmets, accessories for additional protection from specific hazards, various class options, and several different safety certifications varying by head protection style.




## V-Gard H2® Helmet

Offering Type II impact protection, the V-Gard H2 Helmet integrates seamlessly with a comprehensive suite of V-Gard and V-Gard H1 accessories. The helmet is available with the optional Mips® brain protection system for industrial helmets, designed to help reduce the risk of traumatic brain injury.

- General industry
- Construction
- Working at heights
- Confined space
- Search & rescue

- ANSI Z89.1

- Type II
- Mips® Brain Protection System *(optional)*

- Class E *(non-vented)*
- Class C *(vented)*

- Brimless
- Full brim helmet

- V-Gard/V-Gard H1 Accessories

- Logo & striping options



## V-Gard H1® Helmet

The V-Gard H1 Helmet offers versatility with a low-profile design and multiple customization options. The non-contact foam liner helps maximize air flow and breathability for optimal cooling and hygiene. The helmet is available in both vented or non-vented models.

- General industry
- Construction
- Confined space
- Working at heights
- Turnarounds & plant maintenance
- Search & rescue

- ANSI Z89.1
- CSA Z94.1
- EN397 & EN12492

- Type I

- Class E *(non-vented)*
- Class C *(vented)*

- Brimless

- V-Gard/V-Gard H1 Accessories

- Logo options



## V-Gard C1® Helmet

Built with the patent-pending ReflectIR® Thermal Barrier, the V-Gard C1 Helmet can help reduce worker heat stress by helping keep the inside of the helmet up to 20°F cooler.[1] The larger helmet brim offers 12% greater coverage, providing additional shade and sun protection.

- General industry
- Construction
- Working at heights
- Turnarounds & plant maintenance

- ANSI Z89.1
- CSA Z94.1

- Type I

- Class E *(non-vented)*
- Class C *(vented)*

- Full brim helmet

- V-Gard Full Brim Helmet Accessories

- Helps reduce heat stress
- Logo & striping options




## V-Gard® Helmet

The iconic "V" gives the helmet a unique profile which enables it to deflect objects and provide added protection in the event of impact. V-Gard Helmets are available in full brim and front brim styles, vented or non-vented, and can be enhanced with multiple hearing and face protection options.

- General industry
- Construction
- Confined space
- Working at heights
- Welding

- ANSI Z89.1
- CSA Z94.1

- Type I

- Class E

- Front brim helmet
- Full brim helmet

- V-Gard Accessories

- Logo & striping options



## Skullgard® Helmet

The Skullgard Helmet is designed to offer protection in industries where heat protection is necessary. The helmet has been tested to radiant heat loads of up to 350°F. Skullgard Helmets are available in both a full brim or a front brim style helmet.

- General industry
- Construction
- Working at heights
- Welding

- ANSI Z89.1

- Type I

- Class G

- Front brim helmet
- Full brim helmet

- V-Gard Visors

- High-heat protection

**LEGEND**

Hazards & Applications | Standards Compliance | Type | Class | Style | Accessories | Other Considerations

***Sources:***

[1] *Based on MSA sales data showing the V-Gard helmet is the #1 selling helmet.*

[2] *Compared to a helmet without the ReflectIR Thermal Barrier in sunny conditions; testing done with black, non-vented, V-Gard C1 Helmets*

## V-Gard® Helmets (FRONT BRIM)

The MSA V-Gard Helmet, with its distinctive trademark "V" design, is a world recognized brand known for comfort, quality, and durability. MSA has sold well over 750 million V-Gard Helmets since its introduction — so many in fact, that the iconic "V" design has been a mainstay for many years on even the toughest worksites.

### Gloss Finish

**Classification**..... **Type I**
**Application**..... General purpose
**Shell Material**..... Polyethylene
**Styles**..... Slotted front brim-style helmet; slotted full-brim helmet
**Sizes**..... ***Front Brim:*** small (6 – 7⅛); standard (6½ – 8); large (7– 8½)
***Full Brim:*** standard (6½ – 8)
**Standards**..... ANSI/ISEA Z89.1-2014 (Class E);
..... CSA Z94.1-2015 (Class E)
**Certification**..... Third-party by SEI

### Matte Finish

**Classification**..... **Type I**
**Application**..... General purpose
**Shell Material**..... Polyethylene
**Styles**..... Slotted front brim helmet only
**Sizes**..... ***Front Brim:*** standard (6½ – 8)
**Standards**..... ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
**Certification**..... Third-party by SEI

**CUSTOMIZATION:**
Imprinting and striping available—see pages 86–87
**REPLACEMENT SUSPENSIONS:** See page 88

**DID YOU KNOW?**
All V-Gard Helmets have UV inhibitor molded right in.

*MSA offers a complete line of **MSA helmet accessories**.*
*See pages 95–112 for more information.*



*V-Gard Front Brim-Style Helmet with Fas-Trac® III Suspension*



*V-Gard Full-Brim Helmet with Fas-Trac® III Suspension*


*V-Gard Front Brim-Style Helmet (matte finish) with Fas-Trac® III Suspension*





Back to TOC

## V-Gard® Helmets (FRONT BRIM)

| STANDARD V-Gard Slotted Helmets (FRONT BRIM) | | | |
|---|---|---|---|
| Color | | w/ Staz-On® Suspension | w/ Fas-Trac III Suspension[1] |
| **Gloss Finish** | | | |
| White | | 463942 | 475358 |
| Blue | | 463943 | 475359 |
| Yellow | | 463944 | 475360 |
| Orange | | 463945 | 475361 |
| Red | | 463947 | 475363 |
| Green | | 463946 | 475362 |
| Gray | | 463948 | 475364 |
| Hi-Viz® Orange[2] | | 488148 | 488146 |
| Hi-Viz Yellow-Green[2] | | — | 10061512 |
| Bright Lime Green | | 815558 | 815565 |
| Dark (Canadian) Blue | | — | 802972 |
| Gold | | 464852 | 475365 |
| Robin's Egg Blue | | 463111 | 495853 |
| Brown | | 464658 | 495854 |
| Silver | | 484340 | 495855 |
| Tan | | 461180 | — |
| Black | | 475235 | 492559 |
| Light Buff | | 478237 | 495856 |
| Purple | | 488398 | 495858 |
| Pink | | — | 495862 |
| Hot Pink | | 10155231 | 10155230 |

| STANDARD V-Gard Slotted Helmets (FRONT BRIM) | | |
|---|---|---|
| Color | | w/ Fas-Trac III Suspension[1] |
| **Matte Finish** | | |
| White | | 10203081 |
| Blue | | 10203082 |
| Yellow | | 10203083 |
| Orange | | 10203087 |
| Red | | 10203086 |
| Green | | 10203085 |
| Gray | | 10203084 |
| Hi-Viz® Orange[2] | | 10203089 |
| Hi-Viz Yellow[2] | | 10203088 |
| Black | | 10203092 |

### DID YOU KNOW?

MSA helmets marked LT meet voluntary requirements for "Lower Temperature." Helmets marked LT are conditioned to -22°F and then tested for impact and penetration, as outlined in the Standard. Any helmet NOT marked with LT is tested to 0°F.

| SMALL V-Gard Slotted Helmets (FRONT BRIM) | | | |
|---|---|---|---|
| Color | | w/ Staz-On® Suspension | w/ Fas-Trac III Suspension[1] |
| **Gloss Finish** | | | |
| White | | 466354 | 477477 |
| Blue | | 466355 | 477478 |
| Yellow | | 466356 | 477479 |
| Bright Lime Green | | — | 489368 |

| LARGE V-Gard Slotted Helmets (FRONT BRIM) | | | |
|---|---|---|---|
| Color | | w/ Staz-On® Suspension | w/ Fas-Trac III Suspension[1] |
| **Gloss Finish** | | | |
| White | | 473284 | 477482 |
| Blue | | 476928 | 477483 |
| Yellow | | 473285 | 477484 |
| Hi-Viz® Orange[2] | | — | 489364 |

| STANDARD V-Gard Helmet Special Assemblies (FRONT BRIM) | | | |
|---|---|---|---|
| Color | | w/ Staz-On® Suspension | w/ Fas-Trac III Suspension[1] |
| **Gloss Finish** | | | |
| Hi-Viz Orange w/yellow-green stripe[2] | | — | 10102193 |
| Hi-Viz Yellow-Green w/red-orange stripe[2] | | — | 10102233 |
| Hi-Viz Yellow-Green w/silver stripe[2] | | — | 10102194 |
| White w/lamp bracket and cord holder (Class C) | | 460018 | — |
| White w/American Flag | | 474159 | — |
| White w/Swing-Ratchet Suspension | | 10004689 | — |



*V-Gard w/Lamp Bracket and Cord Holder*



*V-Gard w/Swing-Ratchet Suspension*

[1]*Certified to CSA.*

[2]*V-Gard Helmet meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.*

## V-Gard® Helmets (FULL BRIM)

| STANDARD V-Gard Helmets (FULL BRIM) | | | |
|---|---|---|---|
| Color | | w/ Staz-On® Suspension | w/ Fas-Trac III Suspension[1] |
| **Gloss Finish** | | | |
| White | | 454733 | 475369 |
| Blue | | 454732 | 475368 |
| Yellow | | 454730 | 475366 |
| Orange | | 454734 | 496075 |
| Red | | 454736 | 475371 |
| Green | | 454735 | 475370 |
| Gray | | 454731 | 475367 |
| Hi-Viz® Orange[2] | | 489360 | 10021292 |
| Hi-Viz Yellow-Green[2] | | — | 10061515 |
| Bright Lime Green | | 815562 | 815570 |
| Dark (Canadian) Blue | | — | 802975 |
| Hot Pink | | 10156374 | 10156373 |

| STANDARD V-Gard Helmets Special Assemblies (FULL BRIM) | | | |
|---|---|---|---|
| Color | | w/ Staz-On® Suspension | w/ Fas-Trac III Suspension[1] |
| **Gloss Finish** | | | |
| White<br>w/lamp bracket and cord holder (Class C) | | 454733 | 475369 |

## V-Gard® GREEN Helmets: the world's first helmet made from renewable resources

V-Gard GREEN helmets are constructed of renewable green high-density polyethylene (GHDPE); traditional V-Gard Helmets are manufactured through standard HDPE production methods. V-Gard GREEN helmets provide the same appearance and quality as MSA V-Gard helmet. Test results for V-Gard GREEN helmet shells indicated 95% bio-based content.

**Classification**..... **Type I**
**Application**..... General purpose
**Shell Material**..... Green high-density polyethylene (GHDPE)
**Styles**..... Slotted front brim helmet w/4-point Fas-Trac III Suspension; Slotted full brim helmet w/4-point Fas-Trac III Suspension
**Sizes**..... Standard (6½ – 8)
**Standards**..... ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
**Certification**..... Third-party by SEI; USDA Biobased Certified




| V-Gard GREEN Helmets (FRONT BRIM and FULL BRIM) | | | |
|---|---|---|---|
| Color | | Front Brim | Full Brim |
| **Gloss Finish** | | | |
| White | | 10150199 | 10160923 |
| Blue | | 10150221 | 10160925 |
| Yellow | | 10150200 | 10160924 |
| Red | | 10150223 | 10160927 |
| Green | | 10150222 | 10160926 |

**DID YOU KNOW?**
On average, the production of each V-Gard GREEN helmet removes approximately 1.3 to 1.5 lbs. of $CO_2$ from the atmosphere, according to the material supplier.

**CUSTOMIZATION:**
Imprinting and striping available—see pages 86–87
**REPLACEMENT SUSPENSIONS:** See page 88

[1]*Certified to CSA.*
[2]*V-Gard Helmet meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.*

## V-Gard H2® Helmets (BRIMLESS and FULL BRIM)

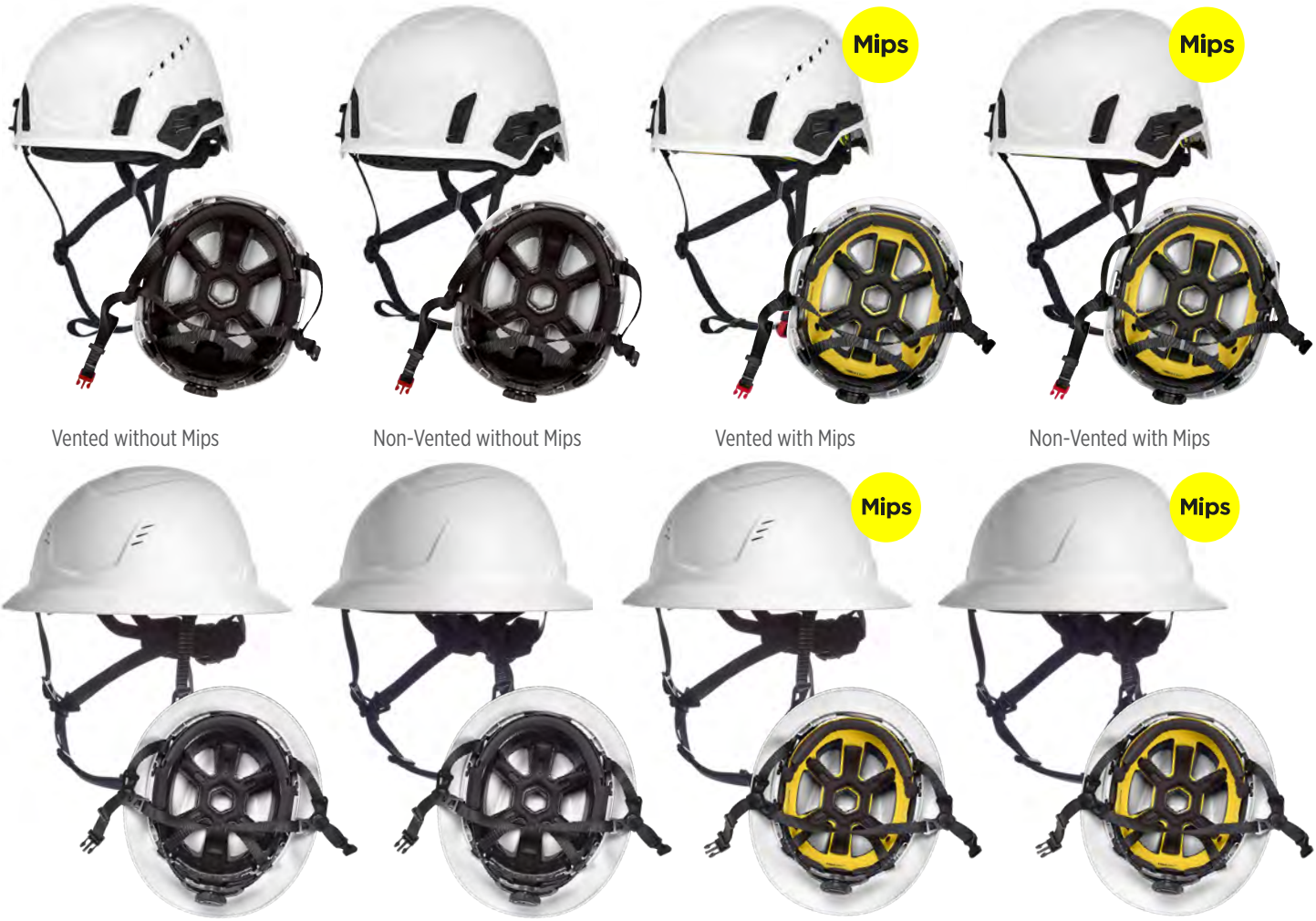
The V-Gard H2 Helmet provides superior comfort and versatility while incorporating the latest technology to help protect against lateral impacts. The optional Mips® brain protection system adds another layer of protection in industrial helmets, designed to help reduce the risk of brain trauma by redirecting rotational energies in the event of certain angled impacts.

- **Quick and easy customization** with thousands of existing logos, easy creation of new logos, and reflective stripes.
- **Integrated headlamp strap clips** for easy and secure donning and doffing of lights on the helmet.
- **ANSI Z89.1 Type II certification** with integrated chinstrap for enhanced protection against lateral impacts.
- **Non-vented options** for use in electrical applications where Class E certification is needed.
- **Optional venting** for improved air flow, cooling and reduced heat stress.
- **Extensive accessory compatibility with nearly all V-Gard H1 and V-Gard accessories** for a wide variety of industrial applications and easy integration with existing inventory.
- **Comfortable ratchet suspension** that's easily adjustable with a gloved hand.
- **Antimicrobial sweatband, crown pad, and ratchet pad** with Ionic+® high-purity silver to eliminate odor-causing bacteria.
- **Optional Mips® system** for additional rotational impact protection designed to help reduce the risk of traumatic brain injury.

**Classification** ..... **Type II**
**Markets** ..... Utilities; oil, gas and petrochemical; general industry; construction
**Application** ..... General Industry; construction; working-at-heights; confined space; rescue
**Shell Material** ..... ABS (Acrylonitrile Butadiene Styrene)
**Styles** ..... Vented and non-vented; brimless and full brim; with or without Mips
**Sizes** ..... Standard 6½ – 8 (53 – 63 cm) head circumference
**Standards** ..... VENTED: ANSI/ISEA Z89.1-2014 (R2019), Type II, Class C, HT, HV (if applicable)
NON-VENTED: ANSI/ISEA Z89.1-2014 (R2019), Type II, Class E, HT, HV (if applicable)

**CUSTOMIZATION:**
With gray striping or yellow striping options. Imprinting available—
see pages 86–87

**ACCESSORIES:**
See page 84




Vented without Mips | Non-Vented without Mips | Vented with Mips | Non-Vented with Mips

## V-Gard H2® Helmets (BRIMLESS and FULL BRIM)

| | VENTED without Mips | NON-VENTED without Mips | VENTED with Mips | NON-VENTED with Mips |
|---|---|---|---|---|
| **V-Gard H2 Helmet Assemblies — BRIMLESS** | | | | |
| White | 10242629 | 10242635 | 10242813 | 10242822 |
| Red | 10242808 | 10242811 | 10242819 | 10242828 |
| Blue | 10242632 | 10242638 | 10242816 | 10242825 |
| Green | 10242809 | 10242812 | 10242820 | 10242829 |
| Yellow | 10242631 | 10242637 | 10242815 | 10242824 |
| Hi-Viz Yellow Green | 10242634 | 10242640 | 10242821 | 10242830 |
| Orange | 10242807 | 10242810 | 10242818 | 10242827 |
| Black | 10242630 | 10242636 | 10242814 | 10242823 |
| Gray | 10242633 | 10242639 | 10242817 | 10242826 |

| | VENTED without Mips | NON-VENTED without Mips | VENTED with Mips | NON-VENTED with Mips |
|---|---|---|---|---|
| **V-Gard H2 Helmet Assemblies — FULL BRIM** | | | | |
| White | 10250581 | 10250593 | 10250605 | 10250617 |
| Red | 10250587 | 10250599 | 10250611 | 10250623 |
| Blue | 10250584 | 10250596 | 10250608 | 10250620 |
| Green | 10250588 | 10250600 | 10250612 | 10250624 |
| Yellow | 10250583 | 10250595 | 10250607 | 10250619 |
| Orange | 10250586 | 10250598 | 10250610 | 10250622 |
| Black | 10250582 | 10250594 | 10250606 | 10250620 |
| Gray | 10250585 | 10250597 | 10250609 | 10250621 |
| Hi-Viz Yellow Green | 10250590 | 10250602 | 10250614 | 10250626 |
| Hi-Viz Yellow Orange | 10250589 | 10250601 | 10250613 | 10250625 |
| Brown Fiber | 10250591 | 10250603 | 10250615 | 10250627 |
| Carbon Fiber | 10250592 | 10250604 | 10250616 | 10250628 |
| Light Buff | 10250872 | 10250882 | — | — |
| Robin's Egg Blue | 10250874 | 10250884 | — | — |
| Custom | YES (480 MOQ) | YES (480 MOQ) | YES (480 MOQ) | YES (480 MOQ) |



## V-Gard H1® and V-Gard H1® Pro Helmets (BRIMLESS)

The V-Gard H1 and H1 Pro Helmets and accessories provide **exceptional comfort** and ease of use in a **stylish low-profile design**. A complete above-the-neck platform **for all applications**, especially work-at-heights, confined spaces, and rescue.

**Classification**..... **Type I**
**Markets**..... Utilities; oil, gas and petrochemical; general industry; construction
**Application**..... General Industry; construction; working-at-heights; confined space; rescue
**Shell Material**..... HDPE (high-density polyethylene)
**Styles**..... Novent; trivent (H1 anad H1 Pro); bivent (H1 only)
**Sizes**..... Standard (6½ – 8) head circumference
**Standards**..... *See chart on p. 83*



*V-Gard H1 Helmet (novent)*



*V-Gard H1 Helmet (trivent)*



*V-Gard H1 Helmet (bivent)*



*V-Gard H1 Pro Helmet (trivent)*



*V-Gard H1 Pro Helmet (novent)*

### V-Gard H1 Helmet (Global & Canada)

#### Features

- Fas-Trac® III Pivot ratchet suspension for superior comfort, adjustability and range of motion; field replaceable
- Non-contact foam liner maximizes air flow & breathability for optimal cooling and hygiene
- 4-point chinstrap with multiple adjustment points for customized fit and comfort; field replaceable
- Convenient rescue whistle integrated into the chin strap buckle
- Premium sweatband with sweat-wicking fabric, breathable foam and Velcro® attachment for easy field replacement
- Patent pending "push-button" accessory attachment rail and universal light strap clips for simplicity and convenience
- Suspension and chinstrap fully assembled
- Reflective gray 360° striping included

### V-Gard H1 Pro Helmet (ANSI Only)

#### Features

- Fas-Trac® III H1 non-pivoting ratchet suspension comes standard for superior comfort, easy cleaning and durability; field replaceable
- Non-contact foam liner maximizes air flow & breathability for optimal cooling and hygiene
- 4-point chinstrap with multiple adjustment points for customized fit and comfort; field replaceable
- Convenient rescue whistle integrated into the chin strap buckle
- Sewn-in vinyl sweatband for added comfort, easy cleaning and duarbility
- Patent pending "push-button" accessory attachment rail and universal light strap clips for simplicity and convenience
- Meets the requirements of European standard EN124922012 for Shock Energy Absorption Capacity [4.2.1.1 (vertical/top), 4.2.1.2 (front), 4.2.1.3 (lateral), 4.2.1.4 (rear)], Penetration [4.2.2] and Retention System [4.2.3 (strength), 4.2.4 (effectiveness)]

### Customization Options for:

#### ▪ V-Gard H1 Helmet (Global & Canada)

- Multiple printing services: one-color logo to digital photos, including individually personalized logos
- Up to three logo locations: Front, Back Left, Back Right
- With or without reflective gray 360° striping

#### ▪ V-Gard H1 Pro Helmet (ANSI Only)

- Multiple printing services: one-color logo to digital photos, including individually personalized logos
- Up to three logo locations: Front, Back Left, Back Right
- With or without reflective gray 360° striping
- Suspension type: Pivoting with Velcro Sweatband or Non-Pivoting with Sewn-In Vinyl Sweatband
- Chinstrap type: EN397 or EN12492 compliant
- Custom helmet colors available

**CUSTOMIZATION:** Stylish dark gray reflective striping standard. Imprinting available—see pages 86–87 **ACCESSORIES:** See page 84

## V-Gard H1® and V-Gard H1® Pro Helmets

| V-Gard H1 and H1 Pro Helmets — Standard Colors | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Color | | V-Gard H1 Helmet (Global) | | | V-Gard H1 Pro Helmet (ANSI Only) | | V-Gard H1 Helmet (Canada & ANSI) | |
| | | Novent | Trivent | Bivent | Novent | Trivent | Novent | Bivent |
| White | | 10194791 | 10194783 | 10212394 | 10236213 | 10236204 | 10219932 | 10219941 |
| Red | | 10194792 | 10194784 | 10212395 | 10236214 | 10236205 | 10219933 | 10219942 |
| Blue | | 10194793 | 10194785 | 10212396 | 10236215 | 10236206 | 10219934 | 10219943 |
| Green | | 10194794 | 10194786 | 10212397 | 10236216 | 10236207 | 10219935 | 10219944 |
| Yellow | | 10194795 | 10194787 | 10212398 | 10236217 | 10236208 | 10219936 | 10219945 |
| Hi-Viz Yellow Green | | 10194796 | 10194788 | 10212399 | 10236218 | 10236209 | 10219937 | 10219946 |
| Orange | | 10194797 | 10194789 | 10212400 | 10236219 | 10236210 | 10219938 | 10219947 |
| Black | | 10194798 | 10194790 | 10212401 | 10236220 | 10236211 | 10219939 | 10219948 |
| Gray | | 10204347 | 10204346 | 10212402 | 10236221 | 10236212 | 10219940 | 10219949 |
| Custom Colors* | | NA | NA | NA | YES | YES | YES | YES |

**Contact Customer Service for Minimum Order Qty.*

## Standards Information

| Specification | V-GARD H1 HELMET (GLOBAL) | | | V-GARD H1 PRO HELMET (ANSI ONLY) | | V-GARD H1 HELMET (CANADA & ANSI) | |
|---|---|---|---|---|---|---|---|
| | Novent | Trivent | Bivent | Novent | Trivent | Novent | Bivent |
| **Standards Compliance** | ANSI/ISEA Z89.1-2014<br>EN 397:2012+A1:2012<br>EN 50365: 2002-05<br>UKCA<br>IRAM UNE-EN 397:1995 | ANSI/ISEA Z89.1-2014<br>EN 12492: 2012-04<br>UKCA | ANSI/ISEA Z89.1-2014<br>EN 397:2012+A1:2012<br>UKCA | ANSI/ISEA Z89.1-2014 | ANSI/ISEA Z89.1-2014 | ANSI/ISEA Z89.1-2014<br>CSA Z94.1-2015 | ANSI/ISEA Z89.1-2014<br>CSA Z94.1-2015 |
| **Optional Requirements (ANSI)** | LT (Low Temp)<br>HT (High Temp)<br>HV (Hi-Viz, as indicated) | LT (Low Temp)<br>HT (High Temp)<br>HV (Hi-Viz, as indicated) | LT (Low Temp)<br>HT (High Temp)<br>HV (Hi-Viz, as indicated) | LT (Low Temp)<br>HT (High Temp)<br>HV (Hi-Viz, as indicated) | LT (Low Temp)<br>HT (High Temp)<br>HV (Hi-Viz, as indicated) | LT (Low Temp)<br>HV (Hi-Viz, as indicated) | LT (Low Temp)<br>HV (Hi-Viz, as indicated) |
| **Optional Requirements (EN)** | -30°C<br>440 V AC<br>ELECTROSTATIC-INERIS<br>ATEX Dust Zones 20, 21, 22" | ELECTROSTATIC-INERIS<br>ATEX Dust Zones 20, 21, 22" | -30°C<br>ELECTROSTATIC-INERIS<br>ATEX Dust Zones 20, 21, 22" | | | | |
| **ANSI Z89.1 & CSA Z94.1 Classification** | Type I, Class E | Type I, Class C | Type I, Class C | Type I, Class E | Type I, Class C | Type I, Class E | Type I, Class C |
| **EN12492:2012-04 Clauses** | | | | | | | |
| ***Shock Energy Absorption Capacity*** | | | | | | | |
| 4.2.1.1 (vertical/top) | Meets | Certified | Meets | Meets | Meets | | |
| 4.2.1.2 (front) | Meets | Certified | Meets | Meets | Meets | | |
| 4.2.1.3 (lateral) | Meets | Certified | Meets | Meets | Meets | | |
| 4.2.1.4 (rear) | Meets | Certified | Meets | Meets | Meets | | |
| ***Penetration***: 4.2.2 | Meets | Certified | Meets | Meets | Meets | | |
| ***Retention system*** | | | | | | | |
| 4.2.3 (strength) | | Certified | | Meets | Meets | | |
| 4.2.4 (effectiveness) | | Certified | | Meets | Meets | | |

## V-Gard H1® and V-Gard H2® Helmet Accessories



*V-Gard H1/H2 Clear Face Shield*



*V-Gard H1/H2 Mesh Face Shield*



*V-Gard H1/H2 Clear Half-Face Spectacles*



*V-Gard H1/H2 Shaded Half-Face Spectacles*



*V-Gard H1 FR (Flame-Retardant) Chinstrap*



*V-Gard H1 Visor Frame, without debris control*



*V-Gard H1 Visor Frame, with debris control*

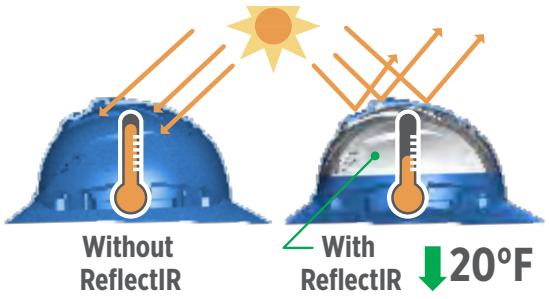
| V-Gard H1 and V-Gard H2 BRIMLESS Helmet Accessories | | |
|---|---|---|
| **Part No.** | **Description** | **Approvals** |
| **10194818** | **Clear Face Shield for V-Gard H1 and V-Gard H2 Brimless Helmets**, clear polycarbonate, frameless design with anti-fog and anti-scratch coatings | ANSI/ISEA Z87.1-2015, CSA Z94.3, EN 166 |
| **10194819** | **Mesh/Forestry Face Shield for V-Gard H1 and V-Gard H2 Brimless Helmets**, steel mesh | ANSI/ISEA Z87.1-2015, EN 1731 |
| **10194820** | **Half-Face Spectacles for V-Gard H1 and V-Gard H2 Brimless Helmets**, clear polycarbonate, frameless design with anti-fog and anti-scratch coatings | ANSI/ISEA Z87.1-2015, CSA Z94.3, EN 166 |
| **10217333** | **Shaded Half-Face Spectacles for V-Gard H1 and V-Gard H2 Brimless Helmets**, smoke-shaded polycarbonate, frameless design with anti-fog and anti-scratch coatings | ANSI/ISEA Z87.1-2020, CSA Z94.3, EN 166 |
| **10236392** | **V-Gard Visor Frame for V-Gard H1 and V-Gard H2 Brimless Helmets**, *without* debris control | ANSI/ISEA Z87.1-2015, CSA Z94.3 |
| **10235987** | **V-Gard Visor Frame for V-Gard H1 and V-Gard H2 Brimless Helmets**, *with* debris control | ANSI/ISEA Z87.1-2015, CSA Z94.3 |
| **10236393** | **Debris Control for V-Gard H1 and V-Gard H2 Brimless Helmet Visor Frame** (replacement) | ANSI/ISEA Z87.1-2015, CSA Z94.3 |

| V-Gard H2 FULL-BRIM Helmet Accessories | |
|---|---|
| **Part No.** | **Description** |
| **10154622** | **V-Gard Accessory System Frame for V-Gard H2 Full-Brim Helmets**, for slotted hats, plastic, general purpose, WITH debris control *(see p. 97 for more information)* |
| **10154604** | **V-Gard Accessory System Frame for V-Gard H2 Full-Brim Helmets**, for slotted hats, plastic, general purpose, NO debris control *(see p. 97 for more information)* |
| **10116627** | **V-Gard Accessory System Frame for V-Gard H2 Full-Brim Helmets**, universal fit, plastic, general purpose, NO debris control *(see p. 96 for more information)* |
| **10116628** | **V-Gard Accessory System Frame for V-Gard H2 Full-Brim Helmets**, universal fit, plastic, elevated temp, NO debris control *(see p. 96 for more information)* |
| **10176739** | **V-Gard Accessory System Frame for V-Gard H2 Full-Brim Helmets**, universal fit, metal, elevated temp, NO debris control *(see p. 97 for more information)* |

| V-Gard H1 Helmet ONLY Replacement Parts | |
|---|---|
| **Part No.** | **Description** |
| **10194760** | V-Gard H1 Replacement Suspension Assembly, Fas-Trac III Pivot |
| **10194761** | V-Gard H1 Replacement Sweatband, Fas-Trac III Pivot, 3-pack |
| **10220915** | V-Gard H1 FR (Flame-Retardant) Chinstrap, Kevlar, 4-point chinstrap with mutliple adjustment points, intergrated rescue whistle |
| **10194765** | V-Gard H1 Replacement Chin Strap, Trivent |
| **10194766** | V-Gard H1 Replacement Chin Strap, Novent/Bivent |

| V-Gard H2 Helmet ONLY Replacement Parts | |
|---|---|
| **Part No.** | **Description** |
| **10242641** | V-Gard H2 Replacement Chinstrap |
| **10250725** | V-Gard H2 FR Chinstrap |
| **10242642** | V-Gard H2 Replacement Crown Pad |
| **10242643** | V-Gard H2 Replacement Sweatband |
| **10246731** | V-Gard H2 Replacement Sweatband, MIPS |
| **10242644** | V-Gard H2 Replacement Padding Set |
| **10246730** | V-Gard H2 Replacement Padding Set, MIPS |

## V-Gard C1® Helmets (FULL BRIM)






- **ReflectIR® Thermal Barrier** works to block the energy of the sun, keeping the inside of the helmet up to 20°F (11°C) cooler[1], reducing the risk of heat stress.
- **Largest vents MSA offers on a full brim helmet** *(vented version)* are strategically placed to optimize airflow, increase comfort and further reduce heat stress.
- **Premium moisture-wicking sweat band** pulls sweat away from the head allowing it to evaporate into the air, while breathable foam padding keeps you dry and comfortable. Can be easily removed for laundering or replacement.
- **Full brim on the V-Gard C1 Helmet** offers 12% more coverage[2], providing additional shade while protecting you from harmful UV rays. Unique textured brim provides added grip when donning and doffing the helmet.






| V-Gard C1 Hats (FULL BRIM) | | | |
|---|---|---|---|
| Color | | Non-Vented | Vented |
| **Textured Brim** | | | |
| White | | 10215837 | 10215828 |
| Blue | | 10215839 | 10215830 |
| Yellow | | 10215841 | 10215832 |
| Orange | | 10215843 | 10215834 |
| Red | | 10215838 | 10215829 |
| Green | | 10215840 | 10215831 |
| Gray | | 10215845 | 10215836 |
| Black | | 10215844 | 10215835 |
| Hi-Viz® Orange[3] | | 10215842 | 10215833 |
| Hi-Viz® YELLOW Green[3] | | 10237724 | 10236066 |
| Custom Color | | *CUSTOM COLOR OPTIONS AVAILABLE.* | |

| SPECIFICATIONS | Non-Vented | Vented |
|---|---|---|
| STANDARDS COMPLIANCE | ANSI/ISEA Z89.1-2014 (R2019) CSA Z94.1-15 | |
| OPTIONAL REQUIREMENTS (ANSI) | LT (Low Temp) Reverse Donning | HT High Temp HV (Hi-Viz, as indicated) |
| ANSI Z89.1 & CSA Z94.1 CLASSIFICATION | **Type 1, Class E** | **Type 1, Class C** |
| 3RD PARTY CERTIFICATIONS | SEI | |
| STYLE | Non-Vented | Vented |
| PRODUCT SIZE | Standard head size 6½-8 (52-64 cm head circumference) | |
| OTHER PPE | Compatible with all current V-Gard Helmet accessories: Fas-Trac III Suspension, frames, visors, hearing protection, chinstraps, sun shades, sun shields, cooling pads, & winter liners | |

### CUSTOMIZATION

- Full-color logos available in up to three locations:
  - Front and back
  - Front, back left, and back right
- Reflective striping available in silver or yellow up to 360° coverage: front, back, and sides
- Custom helmet colors available




[1]*Compared to a helmet without the ReflectIR Thermal Barrier in sunny conditions; testing done with black, non-vented, V-Gard C1 Helmets.*
[2]*Compared to a full-brim V-Gard or V-Gard 500 Helmet.*
[3]*V-Gard Helmet meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.*

## Helmet Customization For 30+ Years

### Practice makes *perfect* logos

- MSA uses inks and processes that create durable logos. **We have never had a complaint about a logo "scratching off" in the 30+ years we have been in the logo business!**
- It can be tricky to avoid logo distortion due to the curvature of the helmet. That's why MSA Logo Express® Service employs graphic designers who process logos onto helmets. These skilled artisans ensure each logo is placed properly so it not only endures, but also accurately represents your brand and logo in color, size and shape–despite the curve of the helmet.
- MSA offers multiple printing services from simple one-color logo to digital photos, in up to four locations
- We don't require "color-separated" artwork for 1+ color logos; nor do we require customers to identify the PMS colors in their logos. Our graphic artists can manage that, if you do not have these details.
- Re-ordering is easy because we keep your logo on file until you change it[1].

### Our Process

Once your order has been received by the MSA Logo Express Service Design center we get to work. Files are imported from your on-line helmet configuration, assessed for usability and colors separated (if the PMS colors have not been identified) and layout finalized

### Delivery

Once the layout process is complete, our factory craftsman get to work on your order. Your order for a new helmet logo should ship within eight (8) days from our Murrysville, PA plant from the date we receive your approval on the artwork[2].

### Minimum Order Quantities (MOQ)

MSA requires MOQs, by helmet type, for logoing and striping. Qualifying MOQs of custom-imprinted or striped helmets must be of the same size, model and options (i.e., color and suspension). MOQs are:

- 20 for V-Gard®, V-Gard® GREEN, V-Gard® 500, SmoothDome®, Topgard®, Comfo Cap® Helmets
- 16 for V-Gard® C1, Skullgard®, Thermalgard®, V-Gard H1™, V-Gard H2™ Helmets
- 40 for Bump Caps

### Pricing

Please refer to your local distributor for pricing details on standard and non-standard charges that may apply to your order.

### Striping

Add any of 27+ different reflective and retro-reflective stripes to your helmet. MSA reflective stripes help enhance the visibility of workers in daytime conditions, while retro-reflective stripes[3] offer additional enhancement in nighttime or low-light conditions. Stripes are available in various sizes and shapes, and can be placed on all types of MSA helmets.

Keep in mind too, that while you can order more stripes for self-application, MSA does not recommend doing this. The reason for this is MSA pre-treats all helmets prior to striping with an electrical discharge treatment to enhance the ability of the stripes adhesive bonds.

### Stock Logos and Slogans

With 23 "pre-built" stock logos and slogans, MSA offers more "off-the-shelf" helmet graphics than anyone in the industry. Standard logos make it easy for you to place emphasis on safety, patriotism or personnel identification without having to develop your own artwork. They can be can be used alone or with your customized logo and striping.

### Helmet Color Choices

MSA offers more stocked color options than competitors—in our popular V-Gard helmet, we offer 21 stocked colors. There are non-stocked color options available for all MSA helmets; a qualifying MOQ of 100 helmets is required.

***You can create a shell color of your choice. You need only order a qualifying MOQ of 500 helmets or more.***

*[1] Files are purged from MSA's system if no logoed helmet order is received within three (3) years of the first order.*
*[2] Orders for repeat logos ship within seven (7) days. This includes 2-3 days for order processing, and 5 days for production.*

## Placing Customized Helmet Orders

**Steps to complete your online logo configuration order:**

| Summary of how to submit artwork to MSA Logo Express Service<br>*Please review the document for process details.* | |
|---|---|
| METHOD FOR SUBMITTING ARTWORK | Electronic file emailed to your MSA distributor |
| PROGRAMS FOR SUBMITTING ARTWORK | Corel Draw *(version x6 or lower)*<br>Adobe Illustrator *(version cs6 or lower)*<br>Adobe Photoshop *(version cs6 or lower)* |
| ARTWORK FILES | Vector files:<br>.cdr *(Corel Draw)*<br>.ai *(Adobe Illustrator)*<br>.eps *(encapsulated postscript)* |
| FONT REQUIREMENTS | ■ Convert all fonts to "outlines" (Adobe Illustrator) or "curves" (Corel Draw).<br>■ Provide a list of actual fonts used with artwork file. Font type must be truetype and/or postscript type 1. |

### Submitting Artwork

1. Send the artwork by email to the MSA distributor taking your order. They will send it to MSA Logo Express Service.
2. Name the Pantone Matching System (PMS) ink colors used in your artwork (if you know them). Type the actualnumbers in the email, as colors sometimes don't transmit properly through email. For example, MSA's logo is green, but specifically, the color of our brand logo is PMS 355.
3. Provide all linked graphics and fonts (see "Font Submission")

***Note:*** *Should you not have access to email please contact MSA Logo Express for alternate methods.*

### Font Submission

Failure to specify or provide files for the typefaces used in your artwork is the most common source of delays and logo errors. If your artwork includes text, please be sure to:

■ Convert type to outlines:

- **Adobe Illustrator** (Type > Create Outlines)
- **Corel Draw** (Convert to Curves using Ctrl+Q or Command+Q)

■ Submit a list of all fonts used, along with the actual font files. All fonts should be TrueType and/or Postscript Type 1 formats.

*NOTE:* Do not use Helvetica Narrow; it is unreliable and could complicate the printing process.

**DID YOU KNOW?**

If you ***only*** have other types of artwork, (e.g. printed copies of letterhead or business cards), please contact MSA Logo Express Service for submission instructions.

## The "Try-It" Sample Program

**The "Try It" sample program offers some of the most popular MSA head, eye, face and hearing protection products, including V-Gard Helmets, V-Gard Accessories, left/RIGHT Hearing Protection, and Sightgard® Eyewear — completely FREE of charge! Look for the TRY IT! that tells you which products are included in the program.**




*See what a logoed V-Gard or V-Gard 500 Helmet looks like. Pre-designed logoed helmet samples are available through the FREE sample Try It program. Contact your MSA sales representative for more details.*

## Questions About Helmet Customization?

Contact your MSA distributor or MSA Logo Express Service.

**EMAIL:** Logo.Express@msasafety.com

**PHONE:** 1-800-MSA-LOGO (1-800-672-5646)

**ADDRESS:** MSA Logo Express
3880 Meadowbrook Rd.
Murrysville, PA 15668-1753

*Visit us on the web:*

**us.msasafety.com/logoexpress**

**KEYWORD: Logo**

## Replacement Suspensions for MSA Helmets

### MSA Fas-Trac® III Ratchet Suspension

The MSA Fas-Trac III Suspension helps to reduce pressure headaches and pulled hair, and stays on your head.

1. Sweatband fully covers headband and worker's forehead
2. Three levels of nape strap adjustment for customized fit
3. Lower nape strap improves retention
4. Smooth ratchet rotation and secure hold

Learn how the Fas-Trac III Suspension can relieve your headaches.
Visit **www.MSAsafety.com/fastrac.**




| HELMET TYPE (SIZE) | Suspension Type (4-point, unless otherwise noted) | | |
|---|---|---|---|
| | Fas-Trac III | Staz-On | Swing Ratchet[1] |
| |  |  |  |
| **V-Gard Full Brim/Front Brim Helmet** (Standard) | 10148708 | TRY IT! 10087218 | 816645 |
| **V-Gard 500 Front Brim Helmet** (Standard) | 10148708 | 10087218 | 816645 |
| **V-Gard 500 Full-Brim Helmet** (Standard) | 10148708 | 10087218 | — |
| **SmoothDome Front Brim Helmet** (Standard) | 10148708 | 10087218 | 816645 |
| **Topgard Full-Brim/Front Brim Helmet** (Standard) | 10153384 | — | 816648 |
| **Thermalgard Front Brim Helmet** (Standard) | 10153384 | — | 816648 |
| **Skullgard Full-Brim/Front Brim Helmet** (Standard) | 10153385 | 454231 | 816654 |
| **Skullgard Front Brim Helmet** (Standard) | 10126693 | 468096 | — |
| **Super-V Front Brim Helmet** (Standard) | 10126683 | — | — |
| **Vanguard Helmet** (Standard) | 10153386 | — | — |
| **Comfo-Cap** (Standard) | 10153385 | 454231 | — |

*[1]Swing ratchet size is 6½ through 7⅝*

The **Fas-Trac III Suspension sweatband** accessory keeps workers cool and dry.

| | Part No. | Product Specifics |
|---|---|---|
|  | 10153518 TRY IT! | • For use with MSA Fas-Trac® III Suspension<br>• Optional, moisture-wicking and washable<br>• Can be attached/replaced while suspension is assembled in helmet<br>• Sold ONLY in packages of 10 |

**⚠ WARNING**

Use only the indicated MSA suspension in your MSA helmet. Do not mix suspension sizes and helmet sizes (i.e., putting a standard sized suspension in a large helmet or any other mismatched combination). Do not use competitor suspensions in MSA helmets. Inspect your suspension frequently. Suspensions should be replaced every 12 months, regardless of inspection results. Replace immediately (along with the helmet), if an impact has occurred. Failure to follow these instructions will reduce the energy absorbing ability of the protective helmet to receive impact, and could result in serious injury or death.

**DID YOU KNOW?**

**NFPA 70E** is a work practice; it is not a standard and does not specify any test methods. No products "meet" NFPA 70E—users simply follow the practice of NFPA 70E. For head protection, NFPA 70E recommends that users wear Class E helmets in following this work practice.

## Freedom Series™ and Specialty V-Gard® Helmets (FRONT BRIM and FULL BRIM)

**Classification**.....**Type I**
**Application**.....General purpose
**Shell Material**.....Polyethylene with thermoformed graphics
**Styles**.....Slotted front brim helmet;
Slotted full brim helmet (Freedom Series only)

**Suspension**.....Fas-Trac III
**Sizes**.....Standard (6½ – 8)
**Standards**.....ANSI/ISEA Z89.1-2014 (Class E);
CSA Z94.1-2015 (Class E)
**Certification**.....Third-party by SEI

### American Freedom Series Assemblies



**American Stars and Stripes**
*V-Gard Slotted Front Brim Helmet*
Part No. **10052945**



**American Stars and Stripes**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10071157**



**American Flag w/2 Eagles**
*V-Gard Slotted Front Brim Helmet*
Part No. **10052947**



**American Flag w/2 Eagles**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10071159**



**Camouflage**
*V-Gard Slotted Front Brim Helmet*
Part No. **10103908**



**Camouflage**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10104254**



**American Eagle**
*V-Gard Slotted Front Brim Helmet*
Part No. **10079479**



**Dual American Flag**
*V-Gard Slotted Front Brim Helmet*
Part No. **10050611**

### Canadian Freedom Series Assemblies



**White w/Red Maple Leaf**
*V-Gard Slotted Front Brim Helmet*
Part No. **10050613**



**White w/Red Maple Leaf**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10082234**



**Black w/Red Maple Leaf**
*V-Gard Slotted Front Brim Helmet*
Part No. **10082233**



**Black w/Red Maple Leaf**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10082235**

**Camouflage w/Canadian Flag on front**[1]
*V-Gard Slotted Front Brim Helmet*
Part No. **10104925**

### Specialty V-Gard Assemblies



**Rally Cap**
*V-Gard Slotted Front Brim Helmet*
Part No. **10101535**



**Metallic Gold**
*V-Gard Slotted Front Brim Helmet*
Part No. **10101854**



**Black Fire**
*V-Gard Slotted Front Brim Helmet*
Part No. **10092015**

**CUSTOMIZATION:** Imprinting and striping available—see pages 86–87 **REPLACEMENT SUSPENSIONS:** See page 88

[1]*Not pictured*
[2]*Extreme Hi-Viz Front Brim-Style Helmet meets high-visibility requirements of ANSI/ISEA 107.*

## Hydro Dip V-Gard® Helmets (FRONT BRIM and FULL BRIM)

**Classification**.....**Type I**
**Application**.....General purpose
**Shell Material**.....Polyethylene
**Styles**.....Slotted front brim helmet; Slotted full brim helmet
**Suspension**.....Fas-Trac III
**Sizes**.....Standard (6½ – 8)
**Standards**.....ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
**Certification**.....Third-party by SEI

The features that have set the MSA V-Gard as a world leader in head protection remain: comfort, durability, customization, and support. The hydro dip finish provides a contemporary twist on style, without sacrificing safety or performance. Choose from eight different standard looks, with the ability to customize to your specific design.* All V-Gard hydro dip helmets come with the first-in-class comfort of the Fas-Trac® III Suspension and are products of the U.S.

### Hydro Dip V-Gard Assemblies

#### STANDARD FRONT BRIM STYLES



**Muddy Girl**
*V-Gard Slotted Front Brim Helmet*
Part No. **10204770**



**One Nation**
*V-Gard Slotted Front Brim Helmet*
Part No. **10204771**



**Italian Leather**
*V-Gard Slotted Front Brim Helmet*
Part No. **10204773**



**Oilfield Camo**
*V-Gard Slotted Front Brim Helmet*
Part No. **10204774**



**Multi Camo**
*V-Gard Slotted Front Brim Helmet*
Part No. **10204775**



**Silver Carbon Fiber**
*V-Gard Slotted Front Brim Helmet*
Part No. **10204776**

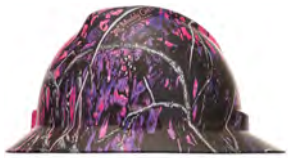


**Sport Carbon Fiber**
*V-Gard Slotted Front Brim Helmet*
Part No. **10204777**



**Devil's Kanyon**
*V-Gard Slotted Front Brim Helmet*
Part No. **10204778**

#### STANDARD FULL-BRIM STYLES



**Muddy Girl**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10204779**



**One Nation**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10204780**



**Italian Leather**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10204782**



**Oilfield Camo**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10204783**



**Multi Camo**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10204784**



**Silver Carbon Fiber**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10204785**



**Sport Carbon Fiber**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10204786**



**Devil's Kanyon**
*V-Gard Slotted Full-Brim Helmet*
Part No. **10204787**

**CUSTOMIZATION:** Imprinting and striping available—pages 86–87 **REPLACEMENT SUSPENSIONS:** See page 88

*Restrictions apply

## V-Gard® 500 Helmets (FRONT BRIM and FULL BRIM)

**Vented** models provide cooling vents for improved air circulation and comfort; **Non-Vented** models provide dielectric head protection.

**Classification**..... **Type I**
**Application**..... General purpose
**Shell Material** ..... Polyethylene
**Styles**..... Vented or non-vented; slotted front brim or non-slotted full brim helmet
**Sizes**..... Standard (6½ – 8)
**Standards**..... ANSI/ISEA Z89.1-2014 (Vented Class C; Non-Vented Class E)
CSA Z94.1-2015 (Vented Class C; Non-Vented Class E)
**Certification**..... Third-party by SEI



| Color | w/4-Point Fas-Trac III Suspension | w/6-Point Fas-Trac III Suspension |
|---|---|---|
| **VENTED Front Brim Helmet** | | |
| White | 10034018 | 10034027 TRY IT! |
| Blue | 10034019 | 10034028 TRY IT! |
| Yellow | 10034020 | 10034029 TRY IT! |
| Red | 10034022 | 10034031 TRY IT! |
| Green | 10034023 | 10034032 TRY IT! |
| Hi-Viz Orange[1] | 10034026 | 10034035 TRY IT! |
| Hi-Viz Yellow-Green[1] | 10074819 | 10074820 TRY IT! |
| **NON-VENTED Front Brim Helmet** | | |
| White | 10034088 | 10034097 |

| Color | w/4-Point Fas-Trac III Suspension | w/6-Point Fas-Trac III Suspension |
|---|---|---|
| **VENTED Full Brim Helmet** | | |
| White | 10167911 | 10167950 TRY IT! |
| Blue | 10167912 | 10167951 TRY IT! |
| Yellow | 10167913 | 10167952 TRY IT! |
| Red | 10167915 | 10168437 TRY IT! |
| Green | 10167916 | 10168438 TRY IT! |
| Hi-Viz Orange[1] | 10167921 | 10168453 TRY IT! |
| Hi-Viz Yellow-Green[1] | 10167931 | 10168461 TRY IT! |
| **NON-VENTED Full Brim Helmet** | | |
| White | 10168521 | 10168589 |

**CUSTOMIZATION:** Imprinting and striping available—pages 86–87 **REPLACEMENT SUSPENSIONS:** See page 88

## Topgard® Helmets (FRONT BRIM and FULL BRIM)

**Classification**..... **Type I**
**Application**..... General purpose; elevated temperature[2]
**Shell Material** ..... Polycarbonate
**Styles**..... Slotted front brim; non-slotted full brim helmet
**Sizes**..... Standard (6½ – 8)
**Standards**..... ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
**Certification**..... Third-party by SEI





*White w/lamp bracket*

| Color | w/ Fas-Trac III Suspension |
|---|---|
| **Topgard Slotted Front Brim Helmet (standard size)** | |
| White | 475385 TRY IT! |
| Yellow | 475378 TRY IT! |
| Gray | 475379 |
| Blue | 475380 TRY IT! |
| Orange | 475382 |
| Green | 475383 |
| Red | 475384 TRY IT! |
| Bright Orange | 804396 |
| White w/lamp bracket & cord holder | — |

| Color | w/ Fas-Trac III Suspension |
|---|---|
| **Topgard Slotted Full Brim Helmet (standard size)** | |
| White | 475393 TRY IT! |
| Yellow | 475387 TRY IT! |
| Gray | — |
| Bright Orange | 804397 |

**CUSTOMIZATION:**
Imprinting and striping available—pages 86–87
**REPLACEMENT SUSPENSIONS:** See page 88

[1]*V-Gard Helmet meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.*
[2]*Helmets marked with the HT designation have been certified to the optional Higher Temperature test of ANSI/ISEA Z89.1. In this test, helmets are pre-conditioned in an oven at 60°C ± 2°C (140°F ± 3.6°F) and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. In addition, Topgard Helmets were exposed to a radiant heat load until the surface temperature on the top of the helmet reaches 257°F and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. The source of the radiant heat load was located above the top of the helmet. This testing is performed by MSA and is not part of the helmet certification process.*

## SmoothDome® Helmets (FRONT BRIM)





**Classification**..... **Type I**
**Application**..... General purpose; welding
**Shell Material** ..... Polyethylene
**Styles**..... Vented or non-vented slotted front brim helmet
**Sizes**..... Standard (6½ – 8)
**Standards**..... ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
**Certification**.....Third-party by SEI

| Color | w/4-Point Fas-Trac III Suspension | w/6-Point Fas-Trac III Suspension |
|---|---|---|
| **SmoothDome Front Brim-Style Helmet (Standard Size)** | | |
| White | 10074067 | 10084078 |
| Blue | 10074068 | 10084079 |
| Yellow | 10074069 | 10084080 |
| Orange | 10074070 | 10084081 |
| Red | 10074071 | 10084082 |
| Green | 10074072 | 10084083 |
| Gray | 10074073 | 10084084 |
| Hi-Viz Orange[1] | 10074077 | 10084088 |
| Hi-Viz Yellow-Green[1] | 10074084 | 10084095 |
| HI-VIZ ORANGE *w/yellow-green stripe*[1] | 10095987 | 10095988 |
| HI-VIZ YELLOW-GREEN *w/orange stripe*[1] | 10095989 | 10095990 |
| HI-VIZ ORANGE *w/silver stripe*[1] | 10096141 | — |
| HI-VIZ YELLOW-GREEN *w/silver stripe*[1] | 10096142 | — |

**CUSTOMIZATION:**
Imprinting and striping available—pages 86–87

**REPLACEMENT SUSPENSIONS:**
See page 88

## Thermalgard® Helmets (FRONT BRIM)





**Classification**..... **Type I**
**Application**..... General purpose; elevated temperature[2]
**Shell Material**..... Glass-reinforced nylon
**Styles**..... Slotted front brim helmet
**Sizes**..... Standard (6½ – 8)
**Standards**..... ANSI/ISEA Z89.1-2014 (Class G); CSA Z94.1-2015 (Class G)
**Certification**.....Third-party by SEI

| Color | w/ Fas-Trac III Suspension |
|---|---|
| **Thermalgard Front Brim-Style Helmet (Standard Size)** | |
| Yellow | 486959 |
| White | 486960 |
| Red | 486961 |
| Orange | 486962 |
| Blue | 486963 |
| Bright Orange | 800360 |
| Green | 814343 |
| Steel Gray | 10095325 |

**CUSTOMIZATION:**
Imprinting and striping available—pages 86–87

**REPLACEMENT SUSPENSIONS:**
See page 88

*[1]V-Gard Helmet meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.*
*[2]Helmets marked with the HT designation have been certified to the optional Higher Temperature test of ANSI/ISEA Z89.1. In this test, helmets are pre-conditioned in an oven at 60°C ± 2°C (140°F ± 3.6°F) and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. In addition, Thermalgard Helmets were exposed to a radiant heat load until the surface temperature on the top of the helmet reaches 350°F and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. The source of the radiant heat load was located above the top of the helmet. This testing is performed by MSA and is not part of the helmet certification process.*

## Skullgard® Helmets (FRONT BRIM and FULL BRIM)

**Classification**.....**Type I**
**Application**.....General purpose; elevated temperature[1]
**Shell Material**.....Phenolic
**Styles**.....Non-slotted front brim and full brim helmet
**Sizes**.....***Front Brim:*** Standard (6½ – 8); Small (6 – 7⅛); Large (7 – 8½)
***Full Brim:*** Standard (6½ – 8)
**Standards**.....ANSI/ISEA Z89.1-2014 (Class G)
**Certification**.....Third-party by SEI



| Color | w/ Staz-On Suspension | w/ Fas-Trac III Suspension | w/ Swing-Ratchet Suspension |
|---|---|---|---|
| **Skullgard Front Brim Helmet (Standard Size)** | | | |
| Natural Tan | 454617 | 475395 | 816651 |
| White | 454618 | 475396 | — |
| Yellow | 454619 | 475397 | — |
| Red | 454620 | — | — |
| Green | 454621 | — | — |
| Gray | 454622 | — | — |
| Blue | 454623 | — | — |
| Orange | 454626 | — | — |
| Hi-Viz Red-Orange[2] | 458702 | — | — |
| **Skullgard Full Brim Helmet (Standard Size)** | | | |
| Natural Tan | 454664 | 475407 | — |
| White | 454665 | 475408 | — |
| Yellow | 454666 | — | — |
| Green | 454668 | — | — |
| Orange | 454673 | — | — |

| | w/ Staz-On Suspension | w/ Fas-Trac III Suspension | |
|---|---|---|---|
| **Alternative Skullgard Assemblies** | | | |
| Skullgard Front Brim-Style Helmet | — | 475405 | Large size, natural tan |
| | — | 10104377 | Small size, natural tan |
| | 460409 | — | Standard size, with lamp bracket and cord holder, natural tan[3] |
| | — | 482002 | With welder's lugs, natural tan[3] |
| Skullgard Full-Brim Helmet | 460389 | — | Standard size, with lamp bracket and cord holder, natural tan[3] |

**CUSTOMIZATION:**
Imprinting and striping available—pages 86–87
**REPLACEMENT SUSPENSIONS:** See page 88

## Super V® Helmets (FRONT BRIM)

**Classification**.....**Type II** (ANSI and CSA)
**Application**.....Lateral protection
**Shell Material**.....Polyethylene
**Styles**.....Slotted front brim helmet w/foam liner
**Sizes**.....Standard (6½ – 7⅜)
**Standards**.....ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
**Certification**.....Third-party by SEI



| Color | w/Fas-Trac III Suspension |
|---|---|
| **Super V Assemblies** | |
| White | C217091 TRY IT! |
| Yellow | C217093 TRY IT! |
| Red | C217095 |
| Orange | C217094 |
| Blue | C217092 |
| Navy Gray | C217097 |
| Hi-Viz Orange[2] | C217100 |

| Color | w/Fas-Trac III Suspension |
|---|---|
| **Super V Assemblies** | |
| Green | C217096 |
| Gold | C217098 |
| Black | C217140 |
| Silver | 10025227 |

**CUSTOMIZATION:**
Imprinting and striping available—pages 86–87
**REPLACEMENT SUSPENSIONS:**
See page 88

**⚠ WARNING**

Use only MSA's Fas-Trac III Suspension designed for Super-V Helmets. Use of any other suspension will reduce the energy-absorbing ability of the protective helmet, which can result in serious personal injury or death.

*[1]Helmets marked with the HT designation have been certified to the optional Higher Temperature test of ANSI/ISEA Z89.1. In this test, helmets are pre-conditioned in an oven at 60°C ± 2°C (140°F ± 3.6°F) and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. In addition, Skullgard Helmets were exposed to a radiant heat load until the surface temperature on the top of the helmet reaches 350°F and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. The source of the radiant heat load was located above the top of the helmet. This testing is performed by MSA and is not part of the helmet certification process.*

*[2]Hi-Viz red-orange Skullgard Front Brim-Style Helmet and Hi-Viz orange Super V Front Brim-Style Helmet meet voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.*

*[3]Alternative Skullgard Assemblies that include welder's lugs or lamp bracket and cord holder are certified to Class C electrical rating.*

## Comfo-Cap® Helmets (FRONT BRIM)

**Classification**.....**Type I**
**Application**.....Mining
**Shell Material**.....Polycarbonate
**Styles**.....Non-slotted front brim helmet w/ lamp bracket & cord holder
**Sizes**.....Standard (6½ – 8)
**Standards**.....ANSI/ISEA Z89.1-2014 (Class G)
**Certification**.....Third-party by SEI



| Color | w/ Staz-On Suspension | w/ Fas-Trac III Suspension |
|---|---|---|
| **Comfo-Cap Assemblies** | | |
| White | 91522 | 475336 |
| Blue | 91586 | — |
| Yellow | 91585 | — |
| Orange | 91589 | — |
| Red | 91590 | — |
| Green | 91584 | — |
| Black | 82769 | — |

**CUSTOMIZATION:**
Imprinting and striping available—pages 86–87
**REPLACEMENT SUSPENSIONS:** See page 88

## Miner's Support System

- Lightweight, sturdy miner's belt
- Offers comfort, lumbar support, versatility and durability
- Enables miner to carry cap lamp battery pack, filter self-rescuer, SCSR, tools, etc., on the job
- 1" reflective strip sewn over 2" nylon strap makes support system highly visible



Other MSA Products for Mining Applications
*For W65 Self-Rescuer, see page 24.*
For ALTAIR 4X MSHA Portable Gas Detector, see page 64.

## Bump Caps (FRONT BRIM)

**Classification**.....**None**
**Application**.....Non-impact
**Shell Material**.....Polyethylene
**Styles**.....Non-slotted front brim helmet w/ plastic suspension
**Sizes**.....Standard (6½ – 8)
**Standards**.....ANSI/ISEA 100-2024
**Certification**.....ANSI/ISEA 100-2024, LEVEL 2



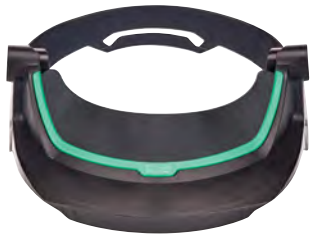
| Color | w/ Plastic Suspension |
|---|---|
| **Bump Cap Assemblies** | |
| White | 10033652 |
| Blue | 10033650 |
| Yellow | 10033651 |
| Orange | 10033654 |
| Red | 10033653 |
| Green | 10033655 |

**⚠ WARNING**
Bump caps are not helmets and do not meet OSHA or ANSI/ISEA Z89.1 requirements. DO NOT use bumps caps for impact protection, for sports or when an ANSI-compliant helmet is required.

**CUSTOMIZATION:**
Imprinting and striping available (locations limited)

## V-Gard® Accessory System: V-Gard® Frames for FRONT BRIM Helmets

### V-Gard Universal Front Brim Helmet Frame

| Part No. | Debris Control | Product Specifics | |
|---|---|---|---|
| **10187161** | With debris control | **Easy to Use**<br>• Add and remove accessories[1]<br>• Quicker visor installation and removal<br>• Green color coded parts<br>**Built to Last**<br>• Infinity joints<br>• Universal strap<br>• Debris control<br>**Reducing Complexity**<br>• Designed to work with all MSA V-Gard front brim-style helmets |  |
| **10187162** | Without debris control | **Easy to Use**<br>• Add and remove accessories[1]<br>• Quicker visor installation and removal<br>• Green color coded parts<br>**Built to Last**<br>• Infinity joints<br>• Universal strap<br>**Reducing Complexity**<br>• Designed to work with all MSA V-Gard front brim-style helmets |  |

| Part No. | Product Specifics |
|---|---|
| **10187163** | Replacement debris wiper |

| Part No. | Product Specifics |
|---|---|
| **10187251** | Replacement rubber strap |

### V-Gard Frames for general purposes

**Markets:** General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

**Applications:** Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

**Standards[2]:** ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 10

| Part No. | Material | Debris Control | Product Specifics | |
|---|---|---|---|---|
| **10115730** | High density polyethylene (HDPE) | Includes replaceable debris control which creates tight seal between frame and cap | • Fits all MSA Slotted Caps<br>• Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs[3]<br>• Sliding adjustment bladesallow visor to work with most half-mask respirators and other PPE worn under a visor |  |
| **10121266** | High density polyethylene (HDPE) | Debris control sold separately | • Fits all MSA Slotted Caps[4]<br>• Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs[3]<br>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor |  |

**⚠ WARNING**

Use V-Gard Frames ONLY with V-Gard Visors, to ensure compliance with safety standards. Misuse can result in death, permanent impairment of sight, or other serious injury.

*[1]MSA does not recommend the use of the V-Gard Universal Frame with the MSA SmoothDome when using cap-mounted muffs and large V-Gard molded Visors. The V-Gard Frame for Slotted Caps should be worn with this particular combination.*

*[2]Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.*

*[3]Patent pending*

*[4]MSA recommends the use of debris control on V-Gard frames when wearing BOTH large V-Gard molded Visors and cap-mounted earmuffs.*

## V-Gard® Accessory System: V-Gard® Frames for FRONT BRIM Helmets

### V-Gard Frames for Elevated Temperature Applications

**Markets:** Food manufacturing/canneries, steel mills, construction, open-pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing, and steam tunnels

**Applications:** Food processing, machine operation, maintenance, millwright, cutting, punching, extrusion, drilling, blasting, casting/conveying, chemical mixing, sanding

**Features:** Tested to withstand temperatures of 350°F (176.7°C), reducing warping, cracking or crazing

**Standards[1]:** ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 10

| Part No. | Material | Debris Control | Product Specifics | |
|---|---|---|---|---|
| 10115821 | Polycarbonate — all non-metal construction | Replaceable debris control tested against EN 166 hot solids requirements | • Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs[2]<br>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor |  |
| 10121267 | Polycarbonate — all non-metal construction | Debris control sold separately[3] | • Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs<br>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor |  |
| 10116552 | Polycarbonate — all non-metal construction | Replaceable debris control tested against EN 166 hot solids requirements | • Heavy duty flat rubber strap allows easy and secure placement on all MSA caps, including non-slotted models[4]<br>• Design allows use with other PPE, including MSA earmuffs and respirators |  |

## V-Gard® Accessory System: V-Gard® Frames for FULL BRIM Helmets

### V-Gard Frames for General Purposes

**Markets:** General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

**Applications:** Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

**Standards[1]:** ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 10

| Part No. | Material | Debris Control | Product Specifics | |
|---|---|---|---|---|
| 10116627 | High density polyethylene (HDPE) | Offered without debris control ONLY | • Heavy duty flat rubber strap allows easy and secure placement on all MSA hats, including non-slotted models<br>• Design allows use with other PPE, including MSA earmuffs and respirators<br>• Fits MSA **full brim helmets** |  |

### V-Gard Frames for Elevated Temperature Applications

**Markets:** Food manufacturing/canneries, steel mills, construction, open-pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing, and steam tunnels

**Applications:** Food processing, machine operation, maintenance, millwright, cutting, punching, extrusion, drilling, blasting, casting/conveying, chemical mixing, sanding

**Features:** Tested to withstand temperatures of 350°F (176.7°C), reducing warping, cracking or crazing

**Standards[1]:** ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; and AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 10

| Part No. | Material | Debris Control | Product Specifics | |
|---|---|---|---|---|
| 10116628 | Polycarbonate — all non-metal construction | Offered without debris control ONLY | • Heavy duty flat rubber strap allows easy and secure placement on all MSA hats, including non-slotted models<br>• Design allows use with other PPE, including MSA earmuffs and respirators<br>• Fits MSA **full brim helmets** |  |

*[1]Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.*

*[2]Patent pending*

*[3]MSA recommends the use of debris control on V-Gard frames when wearing BOTH large V-Gard molded Visors and cap-mounted earmuffs.*

*[4]MSA does not recommend the use of the V-Gard Universal Frame with the MSA SmoothDome when using cap-mounted muffs and large V-Gard molded Visors. The V-Gard Frame for Slotted Caps should be worn with this particular combination.*

## V-Gard® Accessory System: V-Gard® Frames for MSA Slotted FULL BRIM Helmets

### V-Gard Frames for General Purposes

**Markets:** Oil, gas & petrochemical, manufacturing, repair and maintenance, construction, gener al industry, forestry, shipbuilding, metalworking, automotive, mining

**Applications:** Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

**Standards[1]:** ANSI/ISEA Z87.1-2015 and CSA Z94.3

**Certification/Testing:** CSA International and Intertek

**Min Order Qty:** 10

| Part No. | Material | Debris Control | Product Specifics | |
|---|---|---|---|---|
| **10154622** | Polybutylene terephthalate (PBT) | Sold with replaceable debris control which creates tight seal between frame and helmet | • Fits **MSA slotted full brim helmets**<br>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor<br>• Patented Infini-just allows lift/closure adjustment using grippable knobs that can't be lost [2] |  |
| **10154604** | Polybutylene terephthalate (PBT) | Debris control sold separately | • Fits **MSA slotted full brim helmets**<br>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor<br>• Patented Infini-just allows lift/closure adjustment using grippable knobs that can't be lost [2] |  |
| **10116628** | All rubber construction | Exceeds EN requirements for molten metal | Debris Control |  |

## V-Gard® Accessory System: V-Gard® Metal Frames for FRONT BRIM and FULL BRIM Helmets

### V-Gard Frames for General Purposes and Elevated Temperature Applications

**Markets:** Manufacturing; construction; steel/smelting operations

**Applications:** Machine operation, maintenance, millwright, extrusion, drilling, blasting, casting/conveying

**Standards[1]:** ANSI/ISEA Z87.1-2015; CSA Z94.3

**Certification:** Third-party by Intertek, CSA International (as marked)

| Part No. | Material | Product Specifics | |
|---|---|---|---|
| **10158799** | Heavy-duty anodized aluminum | • For use with **MSA front brim helmets**<br>• Spring coil for fast loading of frame to helmet<br>• Three visor resting positions<br>• Locking device holds visor securely in the down position |  |
| **10158800** | Heavy-duty anodized aluminum | • For use with **MSA Skullgard front brim helmets**<br>• Spring coil for fast loading of frame to helmet<br>• Three visor resting positions<br>• Locking device holds visor securely in the down position |  |
| **10176739** | Heavy-duty anodized aluminum | • For use with **MSA full brim helmets**<br>• Spring coil for fast loading of frame to helmet<br>• Three visor resting positions<br>• Locking device holds visor securely in the down position |  |

**⚠ WARNING**

MSA does not recommend V-Gard Metal Frames for use where electrical hazards, including but not limited to arc flash, could occur.

*[1]Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.*

*[2]Patent pending*

## V-Gard® Accessory System: Visors

### V-Gard Visors: General Purpose

**Markets:** General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

**Applications:** Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

**Standards[1]:** ANSI/ISEA Z87.1-2015; CSA Z94.3 and EN 166 (2C-1.2 MSA 1B); AS/NZS 1337 (except as noted)

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 10

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **Impact-rated (Z87+) with Maximum UV Protection** | | |
| **10144486** | **Material**<br>Polycarbonate — clear | • 5" (14.61 cm) x 17" (43.2 cm) x .04" (1.02 mm)<br>• Contoured visor; closer fit and improved resistance to impact and splash hazards<br>• Approved to ANSI and CSA[2] standards; does not meet EN standards<br>■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors** |  |
| **10115836**<br>**10120108**<br>Bulk pack/20 | **Material**<br>Polycarbonate — clear | • 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm)<br>• Contoured visor; closer fit and improved resistance to impact and splash hazards |  |
| **10115837** | **Material**<br>Polycarbonate — clear | • 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm)<br>• Contoured visor; closer fit and improved resistance to impact and splash hazards<br>■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors** |  |
| **10115863** | **Material**<br>Polycarbonate — clear | • 9.5" (24.1 cm) x 17" (43.2 cm) x .04" (1.02 mm)<br>• Contoured visor; closer fit and improved resistance to impact and splash hazards |  |
| **10115839** | **Material**<br>Polycarbonate with antifog/anti-scratch coatings for humid conditions — clear | • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm)<br>• Slightly thicker for industrial impact applications resistance to impact and splash hazards<br>• Contoured visor; closer fit and improved resistance to impact and splash hazards |  |
| **10115841** | **Material**<br>Polycarbonate with antifog/anti-scratch coatings for humid conditions — clear | • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm)<br>• Slightly thicker for industrial impact applications resistance to impact and splash hazards<br>• Contoured visor; closer fit and improved resistance to impact and splash hazards<br>■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors** |  |
| **10115842** | **Material**<br>Polycarbonate with antifog/anti-scratch coatings for humid conditions — green tint to reduce glare | • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm)<br>• Slightly thicker for industrial impact applications resistance to impact and splash hazards<br>• Contoured visor; closer fit and improved resistance to impact and splash hazards<br>◆ **Not for use where a Shade infrared (IR) visor is required** |  |

[1]*Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.*

# V-Gard® Accessory System: Visors

## V-Gard Visors: General Purpose

**Markets:** General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

**Applications:** Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

**Standards[1]:** ANSI/ISEA Z87.1-2015; CSA Z94.3 and EN 166 (2C-1.2 MSA 1B); AS/NZS 1337 (except as noted)

**Certification:** Third-party by Intertek, INSPEC International Ltd.,CSA International and SAI Global Ltd.

**Min Order Qty:** 10

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **Impact-rated (Z87+) with Maximum UV Protection** | | |
| **10115840** | **Material**<br>Polycarbonate — clear | • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm)<br>• Slightly thicker for industrial impact applications resistance to impact and splash hazards<br>• Contoured visor; closer fit and improved resistance to impact and splash hazards |  |
| **10117783** | **Material**<br>Polycarbonate — clear | • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm)<br>• Slightly thicker for industrial impact applications resistance to impact and splash hazards<br>• Wider design; improved resistance to impact and splash hazards<br>• Does not meet CSA Z94.3<br>■ **Flat Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors** |  |

## V-Gard Visors: General Purpose (Non-Impact)

**Markets:** General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

**Applications:** Flying chips and other light debris

**Standards[1]:** ANSI/ISEA Z87.1-2015; EN 1731-F; and AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., and SAI Global Ltd.

**Min Order Qty:** 10

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **General Protector (Z87) — NOT FOR IMPACT HAZARDS** | | |
| **10116557** | **Material**<br>Epoxy-coated steel mesh (20 x 20) — black, plastic edged | • 8" (20.3 cm) x 17" (43.2 cm)<br>• Not for use against splash, impact, elevated temperatures or UV hazards<br>• Can be worn with earmuffs |  |
| **10116558** | **Material**<br>Epoxy-coated steel mesh (20 x 20) — black, plastic edged | • 8" (20.3 cm) x 17" (43.2 cm)<br>• Not for use against splash, impact, elevated temperatures or UV hazards<br>• Can be worn with earmuffs<br>■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors** |  |
| **10158822** | **Material**<br>Epoxy-coated steel mesh (20 x 20) — aluminum-bound mesh | • 8" (20.3 cm) x 16.5" (41.9 cm)<br>• Not for use against splash, impact, electrical or UV hazards |  |

[1]*Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.*

## V-Gard® Accessory System: Visors

### V-Gard Visors: Heavy-Duty Chemical and Splash

**Markets:** General industry, heavy manufacturing, laboratories, chem/petrochemical, oil and gas, mining

**Applications:** Chipping, splash, chemical mixing, grinding, machining, power fastening, sanding, sawing

**Standards[1]:** ANSI/ISEA Z87.1-2015; EN 166 (MSA 1B 3); CSA Z94.3 and AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 5

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **Impact-rated (Z87+)** | | |
| **10115855** | **Material**<br>Propionate — clear | • 8" (20.3 cm) x 17" (43.2 cm) x .098" (2.5mm)<br>• Extra-thick to help prevent warping, cracking or crazing under tough conditions<br>• Please refer to MSA's *Chemical Application Quick Reference Guide* (ID 0670-007-MC) for chemical performance details |  |
| **10115856** | **Material**<br>Propionate — clear | • 8" (20.3 cm) x 17" (43.2 cm) x .098" (2.5mm)<br>• Extra-thick to help prevent warping, cracking or crazing under tough conditions<br>■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors**<br>•Please refer to MSA's *Chemical Application Quick Reference Guide* (ID 0670-007-MC) for chemical performance details |  |
| **10115851** | **Material**<br>Propionate — clear | • 9.25" (23.5 cm) x 18" (45.7 cm) x .098" (2.5mm)<br>• Extra-thick to help prevent warping, cracking or crazing under tough conditions<br>• Extended length and width for greater coverage of neck and face<br>• Please refer to MSA's *Chemical Application Quick Reference Guide* (ID 0670-007-MC) for chemical performance details |  |

NOTE: V-Gard propionate Visors offer both chemical resistance and impact protection, unlike most propionate visors on the market. Not only are they marked with Z87+, but the clear visors are also compliant with EN166, meaning they were tested at a velocity nearly 32% faster than ANSI/ISEA Z87.1-2010.

### V-Gard Visors: Elevated Temperature with High-Performance Anti-Fog/Anti-Scratch coatings

**Markets:** Food manufacturing/canneries, steel mills, construction, open-pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing, steam tunnels

**Applications:** Hot/humid conditions, chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing, outdoor work

**Standards[1]:** ANSI/ISEA Z87.1-2015; EN 166 (2C-1.2 MSA IBT9KN); CSA Z94.3 and AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 5

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **Impact-rated (Z87+) with Maximum UV Protection** | | |
| **10115853** | **Material**<br>Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — clear | • 10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.5 mm)<br>• **Molded** visor for superior optics under heavy-duty use<br>• Extended length for greater coverage of neck/face<br>• Performs well against many chemicals. Refer to MSA's *Chemical Application Quick Reference Guide* (ID 0670-007-MC) for details |  |
| **10115854** | **Material**<br>Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — green tint to reduce glare | • 10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.5 mm)<br>• **Molded** visor for superior optics under heavy-duty use<br>• Extended length for greater coverage of neck/face<br>◆ **Not for use where a Shade infrared (IR) visor is required** |  |

NOTE: V-Gard molded, green and clear visors offer superior optical quality and resistance to many chemicals. For details on optics, please refer to the MSA White Paper, "Optical Quality Requirements and V-Gard® Visors" (ID 0302-32 MC) available for download from MSA's Asset Library.

*[1]Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.*

# V-Gard® Accessory System: Visors

## V-Gard Visors: Elevated Temperature

**Markets:** Food manufacturing/canneries, steel mills, construction, open pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing, steam tunnels

**Applications:** Food processing, machine operation, maintenance, millwright, cutting, punching, extrusion, drilling, blasting, casting/conveying, chemical mixing, sanding

**Standards[1]:** ANSI/ISEA Z87.1-2015; EN 166 (2C-1.2 MSA IBT89KN); CSA Z94.3 and AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 5

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **Impact-rated (Z87+) with Maximum UV Protection** | | |
| **10115844** | **Material**<br>Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — clear | • 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5mm)<br>• **Molded** visor for superior optics under heavy-duty use<br>• Extra-thick visor helps prevent warping, cracking or crazing<br>• Conditioned to a high of 131°F (and a low of -23°F) and then tested to the medium impact rating in the EN166 standard (higher impact speed than ANSI/ISEA Z87.1-2010)<br>⬟ **Visors do not reflect IR; not recommended for use against radiant heat hazards** |  |
| **10115845** | **Material**<br>Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — green tint to reduce glare | • 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5mm)<br>• **Molded** visor for superior optics under heavy-duty use<br>• Extra-thick visor helps prevent warping, cracking or crazing<br>• Conditioned to a high of 131°F (and a low of -23°F) and then tested to the medium impact rating in the EN166 standard (higher impact speed than ANSI/ISEA Z87.1-2010)<br>⬟ **Visors do not reflect IR; not recommended for use against radiant heat hazards**<br>◆ **Not for use where a Shade infrared (IR) visor is required** |  |

NOTE: V-Gard molded, green and clear visors offer superior optical quality and resistance to many chemicals. For details on optics, please refer to the MSA White Paper, "Optical Quality Requirements and V-Gard® Visors" (ID 0302-32 MC) available for download from MSA's Asset Library.

## V-Gard Visors: Radiant Heat/Elevated Temperature

**Markets:** Metal industries, glass manufacturing, iron and steel foundries, chemical manufacturing, construction, general manufacturing, textile manufacturing, mining, oil and gas

**Applications:** Grinding, pouring, casting, blowing/melting, rolling, sawing, cutting, crimping, millwrighting, machining/operating, pipelining, pulping

**Standards[1]:** ANSI/ISEA Z87.1-2015; EN 166 (2C-2.5 MSA 1BT3R [clear] and 2-4 MSA 1BT3R [green tint]); CSA Z94.3 and AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 5

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **Impact-rated (Z87+) with Maximum UV Protection** | | |
| **10115848** | **Material**<br>Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — clear | • 9.5" (24.1 cm) x 17.75" (45.09 cm) x .07" (1.8 mm)<br>• Reflective coating reflects IR and helps dissipate heat: reflects >60% Infrared (IR) radiation (EN166 R mark) in the 780nm to 2000nm wavelength<br>• Thick visor helps prevent warping, cracking or crazing<br>• Extended length for greater coverage of face and neck; **DO NOT use for welding** |  |
| **10115850** | **Material**<br>Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — green tint to reduce glare | • 9.5" (24.1 cm) x 17.75" (45.09 cm) x .07" (1.8 mm)<br>• Reflective coating reflects IR and helps dissipate heat: reflects >60% Infrared (IR) radiation (EN166 R mark) in the 780nm to 2000nm wavelength<br>• Thick visor helps prevent warping, cracking or crazing<br>• Extended length for greater coverage of face and neck; **DO NOT use for welding**<br>◆ **Not for use where a Shade infrared (IR) visor is required** |  |

NOTE: Reflective-coated visors offer protection from irradiance, or the electromagnetic radiation (EMR) energy created in elevated temperature environments. V-Gard Reflective Coated Visors offer an EN166 "R" mark. This means they have been certified to reflect >60% Infrared (IR) radiation in the 780 nm to 2000 nm wavelengths. V-Gard Reflective Visors have been shown to reduce temperatures behind the visor by several hundred degrees, and lower irradiance to below 0.1 kW/m$^2$. For details on V-Gard Reflective-Coated Visor performance, please see the MSA White Paper, "Radiant Heat Resistance" (ID 0670-020 MC) and "MSA V-Gard® Reflective-Coated Visors: Radiant Heat Resistance Simplified" (ID 0670-023 MC), available on MSAsafety.com.

## V-Gard® Accessory System: Visors

### V-Gard Visors: Welding (Shade 3, Shade 5, Shade 8, Shade 10, and Shade 12)

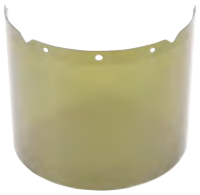
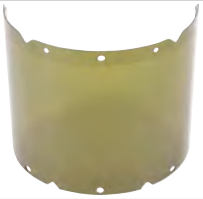
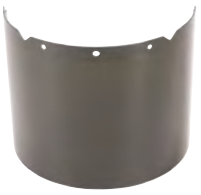
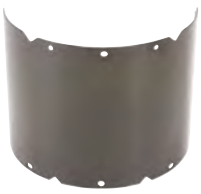
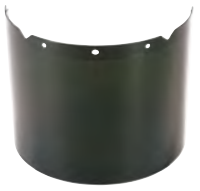
**Markets:** Fabrication, steel mills, shipbuilding, construction, open-pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing

**Applications:** Welding, metal pouring, gas soldering, light cutting/brazing, manufacturing, impact and debris

**Standards[1]:** ANSI/ISEA Z87.1-2015; EN 166 (4-3/3 MSA 1BT39 [shade 3] and 4-5/5 MSA 1BT39 [shade 5]); CSA Z94.3 and AS/NZS 1337, ANSI/ISEA Z87 + W8; CSA Z94.3 Shade 8

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

**Min Order Qty:** 5

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **Impact-rated (Z87+)** | | |
| **10115859** | **Material**<br>Polycarbonate — Shade 3 IR | • 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)<br>• Thickness helps prevent pitting and warping from heat or weld spatter |  |
| **10115860** | **Material**<br>Polycarbonate — Shade 3 IR | • 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)<br>• Thickness helps prevent pitting and warping from heat or weld spatter<br>■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors** |  |
| **10115861** | **Material**<br>Polycarbonate — Shade 5 IR | • 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)<br>• Thickness helps prevent pitting and warping from heat or weld spatter |  |
| **10115862** | **Material**<br>Polycarbonate — Shade 5 IR | • 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)<br>• Thickness helps prevent pitting and warping from heat or weld spatter<br>■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors** |  |
| **10236001** | **Material**<br>Polycarbonate — Shade 8 IR | • 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)<br>• Thickness helps prevent pitting and warping from heat or weld spatter |  |
| **10246714** | **Material**<br>Polycarbonate — Shade 10 IR | • 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)<br>• Thickness helps prevent pitting and warping from heat or weld spatter |  |
| **10246715** | **Material**<br>Polycarbonate — Shade 12 IR | • 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)<br>• Thickness helps prevent pitting and warping from heat or weld spatter |  |

## V-Gard® Accessory System: Visors

### V-Gard Visors: Arc Flash Application[2]

**Markets:** Manufacturing, utilities, construction, oil/gas/ petrochemical
**Applications:** Maintenance, impact and debris, testing/repair
**Standards[1]:** ANSI/ISEA Z87.1-2015; ASTM F2178-2008 (Ref: NFPA 70E, HRC 2)
**Certification:** Third-party by Intertek and ArcWear
**Min Order Qty:** 5

| Part No. | Product Specifics | | |
|---|---|---|---|
| | **Impact-rated (Z87+)** | | |
| **10115847** | **Material**<br>Polycarbonate — special tint, gray-blue visor; **molded** | • 9.25" (23.5 cm) x 18" (45.7 cm) x .065" (1.7 cm)<br>• Extended length and width for greater coverage of face and neck<br>• **Rated to 16.0 cal/cm²** when tested to ASTM F2178-2008 (ref. NFPA 70E-2015 PPE Category 2), and when worn with a V-Gard Helmet (PN 475358) and V-Gard Frame (PN 10115730)<br>*Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor with other V-Gard Frames and MSA Helmet combinations* |  |
| **10118480** | **Material**<br>Polycarbonate — special tint, gray-blue visor; **molded** (for use with designated V-Gard Chin Protector) | **Arc Visor Kit**—consists of Visor (PN 10115858) + Chin Protector (PN 10115827)<br>• 8" (20.3 cm) x 17.25" (43.8 cm) x .065" (1.7 cm)<br>• Extended length and width for greater coverage of face and neck<br>• **Rated to 21.0 cal/cm²** when tested to ASTM F2178-2008 (ref. NFPA 70E-2015 PPE Category 2), and when worn with a V-Gard Helmet (PN 475369) and V-Gard Frame (PN 10116627) and V-Gard Standard Chin Protector (PN/10115827)<br>*Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor with other V-Gard Frames and MSA Helmet combinations* |  |

*[1]Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.*
*[2]Do not use V-Gard Arc Visors with V-Gard Headgear. These visors are designated for use with specified V-Gard Frames and MSA helmets ONLY. See "V-Gard Headgear" for additional details.*



## V-Gard® Accessory System: V-Gard® Chin Protectors[1]

Work with select V-Gard Nitrometer Visors to provide extra protection from impact and splash hazards to face and neck.

**V-Gard Chin Protectors**

| Part No. | Product Name | Material | Product Specifics | |
|---|---|---|---|---|
| 10115828 TRY IT! | **Retractable Chin Protector** | Polycarbonate – opaque (ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard Visors) | • 3.82" (9.7 cm) in height, when unretracted<br>• Unique retractable plates allow greater flexibility of head movement both up and down, as well as side-to-side<br>• Minimum order quantity: 5 |  |
| 10149029 TRY IT! | **Chin Protector** | Polycarbonate – clear (for improved visibility) | • 2.86" (7.26 cm) in height<br>• Compact, lightweight design provides additional protection between chin and neck area<br>• Should not be worn with tinted, arc or shaded nitrometer visors to ensure compliance with stated Standards markings/requirements<br>• Minimum order quantity: 5 |  |
| 10115827 | **Standard Chin Protector** | Polycarbonate – opaque (ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard Visors) | • 2.86" (7.26 cm) in height<br>• Compact, lightweight design provides additional protection between chin and neck area<br>• Minimum order quantity: 5 |  |

## V-Gard® Accessory System: Replacement Parts[2]

**V-Gard Accessory System Replacement Parts**

| Part No. | Product Name | Product Specifics | |
|---|---|---|---|
| 10117496 | **Front Brim-Style Helmet Frame Replacement Slot Adapters** | • For use with V-Gard Frames for Slotted Caps<br>• Sold in boxes of 5 (5 packages of 1 pair) |  |
| 10225804 | **Full-Brim Helmet Frame Replacement Slot Adapters** | • For use with V-Gard Frames for Slotted Hats<br>• Sold in boxes of 5 (5 packages of 1 pair)<br>• Full-Brim Helmet Frame Replacement Slot Adapter is marked with an "H" *(see inset image)* |  |
| 10116539 | **Debris Control for V-Gard Frames** | • Debris control exceeds EN requirements for molten metal<br>• All-rubber construction<br>• Minimum order quantity: 10 |  |
| 10117495 | **Heavy-duty Rubber Strap** | • For V-Gard Universal Front Brim-Style Helmet or Full-Brim Helmet Frames<br>• Minimum order quantity: 10 |  |

[1] *MSA V-Gard Chin Protectors meet the applicable safety requirements as noted on the V-Gard Nitrometer Visor when worn in conjunction with V-Gard Frames and V-Gard Nitrometer Visors.*

[2] *Use only genuine MSA V-Gard Accessory System replacement parts to help ensure compatibility and compliance. MSA does not warrant, guarantee, or promote the use of components manufactured by other companies when used in conjunction with MSA products.*

## V-Gard® Accessory System: V-Gard® Headgear

V-Gard Headgear can be used for face protection when head protection is not required. V-Gard Headgear is available in two versions: General Purpose and Elevated Temperature (Extended). V-Gard Headgear are designed and approved for use with V-Gard Visors.[1]

### V-Gard Headgear

**Markets:** General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining, chemical industries

**Applications:** Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing, laboratory

**Size:** Standard (6½ – 8)

**Standards[2]:** ANSI/ISEA Z87.1-2015; EN 166; CSA Z94.3; and AS/NZS 1337

**Certification:** Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

| Part No. | Product Name | Product Specifics | |
|---|---|---|---|
| 10127061 | **V-Gard Headgear — General Purpose**<br>**Material:** High Density Polyethylene (HDE) – black | • Patent-pending, Infini-just lift/closure with grippable knobs that don't unscrew; no parts to lose<br>• Ratchet closure<br>• Seven-point crown adjustment<br>• Replaceable, sweat-wicking, cushioned headband helps keep workers dry and cool<br>• Sweat-wicking ratchet cover keeps nape comfortable<br>• For use ONLY with V-Gard Visors; **not for use where head protection is required**<br>• All non-metal construction<br>• Minumum order quantity: 10 |  |
| 10127062 | **V-Gard Headgear — Elevated Temperature**<br>**Material:** Heat-resistant nylon — gray | • Extended browguard for additional coverage in high temperatures<br>• Tested to withstand temperatures up to 400 °F[3]<br>• Patent-pending, Infini-just lift/closure with grippable knobs that don't unscrew; no parts to lose<br>• Ratchet closure<br>• Seven-point crown adjustment<br>• Replaceable, sweat-wicking, cushioned headband helps keep workers dry and cool<br>• Sweat-wicking ratchet cover keeps nape comfortable<br>• For use ONLY with V-Gard Visors; **not for use where head protection is required**<br>• All non-metal construction<br>• Minumum order quantity: 5 |  |
| 10127063 | **V-Gard Headgear Kit — General Purpose** | ***Kit Contains:***<br>• V-Gard General Purpose Headgear (PN 10127061)<br>• V-Gard Clear, PC Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836) |  |
| 10127065 | **V-Gard Headgear Replacement Sweatband[4]** | • Sweat-wicking material over breathable foam helps keep workers cool, dry and comfortable<br>• Hook & loop closure makes replacement easy<br>• Tested to the FR requirements in CSA Z94.3-07<br>• Sold in boxes of 25 (5 packages of 5) |  |

[1] **DO NOT** *use V-Gard Headgear with V-Gard Arc Visors tested to ASTM F2178-2008 Test Method (ref. NFPA 70E-2012, Hazard Risk Category). These visors are designated for use with specified V-Gard Frames and MSA helmet ONLY as face protection for workers exposed to high voltage electric arcs. V-Gard Headgear has not been tested or certified to the Test Method, and should not be used for this type of Arc Flash protection.*

[2] *Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.*

[3] *Exposure to extreme heat can cause thermal discomfort. Proper precautions should be taken to prevent heat stress and other injuries.*

[4] *Use only genuine MSA V-Gard Headgear replacement parts to help ensure compatibility and compliance. MSA does not warrant, guarantee or promote the use of components manufactured by other companies when used in conjunction with MSA products.*

## V-Gard® Accessory System: Kits

| V-Gard Accessory System Kits | | | |
|---|---|---|---|
| **Part No.** | **Product Name** | **Product Specifics** | |
| **10118695** | **V-Gard Accessory System Kit — with V-Gard Front Brim Helmet** | ***Kit Contains:***<br>• White V-Gard Front Brim Helmet with ratchet suspension (PN 475358)<br>• V-Gard Frame for Slotted Caps; with debris control (PN 10115730)<br>• V-Gard Clear, Polycarbonate Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836) |  |
| **10118697** | **V-Gard Accessory System Kit — without V-Gard Front Brim Helmet** | ***Kit Contains:***<br>• V-Gard Universal Frame for Front Brim Helmet with debris control (PN 10115822)<br>• V-Gard Clear, Polycarbonate Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836)<br>▸ Does not contain an MSA helmet. |  |
| **10118694** | **V-Gard Forestry Kit** | ***Kit Contains:***<br>• Hi-Viz orange V-Gard Front Brim Helmet with ratchet suspension (PN 488146)<br>• V-Gard Frame for Slotted Caps; with debris control (PN 10115730)<br>• V-Gard Mesh Nitrometer (PN 10116558)<br>• V-Gard Retractable Chin Protector (PN 10115828)<br>• left/RIGHT, HIGH (NRR 28 db) Cap-Mounted Earmuffs (PN 10087422) |  |
| **10118696**[1] | **V-Gard Accessory Arc Kit** | ***Kit Contains:***<br>• White V-Gard Front Brim Helmet with ratchet suspension (PN 475358)<br>• V-Gard Frame for Slotted Caps (PN 10121266)<br>• V-Gard Arc Nitrometer (special tint) with V-Gard Standard Chin Protector (PN 10118480); must be assembled by user prior to wearing to secure stated calorie rating.<br>• Rated to 11.3 cal/cm$^2$ when tested to ASTM F2178-2008 (ref. NFPA 70E-2012, Hazard Risk Category 2), and when worn with a V-Gard Front Brim-Style Helmet (PN 475358), V-Gard Frame (PN 10121266) and V-Gard Standard Chin Protector (PN/10115827) |  |

*[1] Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor with other V-Gard Frames, V-Gard Chin Protectors and MSA Helmet combinations.*

## Helmet Accessories

### V-Gard® Winter Liners

V-Gard Winter Liners deliver extra warmth and protection under helmets.

| V-Gard Winter Liners | | | |
|---|---|---|---|
| **Part No.** | **Product Name** | **Product Specifics** | |
| **10118417** TRY IT! | **V-Gard Winter Liner, Knit Cap** | • Stylish skullie cap<br>• Design prevents liner from obstructing vision<br>• 100% high bulk acrylic<br>• **Sold in sets of 12** |  |
| **10118418** | **V-Gard Winter Liner, Knit Helmet Cover** | • 100% acrylic<br>• Bright yellow-green for greater visibility<br>• Full face tube mounts under or over brim of MSA helmets, covering ears, mouth, cheeks and neck<br>• Extended nape and wraparound collar for tucking into coat/shirt<br>• **Sold in sets of 12** |  |
| **10118427** TRY IT! | **V-Gard Supreme Liner, Flame-Resistant 2-piece** Flame Resistant | • Fabric tested to withstand arc exposure to an ATPV of 8 cal/cm²<br>• Water repellant<br>• Inside neck pocket holds warming packet[2]<br>• Multi-layered flame-resistant top cap<br>• Extended, zipper on/off high-bulk flame-resistant knit bottom<br>• No metal parts<br>• **Sold in sets of 3** |  |

**Note: Flame resistant (FR)** liner is made of special fibers that allow it to self-extinguish when exposed to flame or thermal ignition. Flame resistance cannot be removed by washing. Unlike many other winter liners in the market, ALL layers of fabric in V-Gard Supreme Liner are flame-resistant, affording FR protection throughout the life of the product.[3] For this reason, only V-Gard Supreme Liner offers resistance to arc exposure.

[1] *Follow all instructions and perform daily, pre-, and post-use inspections.*
[2] *Warming packets available at most sporting goods retailers; not sold with liners.*
[3] *Garment care instructions must be followed.*

## Helmet Accessories

### Universal 4-Point Chinstrap

| Part No. | Product Name | |
|---|---|---|
| GA90047 | Universal 4-Point Chinstrap |  |

### Standard Chinstraps

| Part No. | Product Name | Product Specifics | |
|---|---|---|---|
| 10171103[1] | 2-Point Chinstrap | • Non-metal chinstraps keep helmets in place<br>• Flexible construction and adjustable design for long-wearing comfort<br>• ¾" Nomex webbing<br>• Attaches to shell |  |
| 10171104 | 2-Point Chinstrap | • Non-metal chinstraps keep helmets in place<br>• Flexible construction and adjustable design for long-wearing comfort<br>• ¾" polyester webbing<br>• Attaches to shell |  |
| 10171105 | 2-Point Chinstrap | • Non-metal chinstraps keep helmets in place<br>• Flexible construction and adjustable design for long-wearing comfort<br>• ¾" cotton webbing<br>• Attaches to shell |  |
| 10171106 | 2-Point Chinstrap | • Non-metal chinstraps keep helmets in place<br>• Flexible construction and adjustable design for long-wearing comfort<br>• ¾" cotton webbing<br>• Attaches to suspension[2] |  |
| 10171107 | 2-Point Chinstrap | • Non-metal chinstraps keep helmets in place<br>• Flexible construction and adjustable design for long-wearing comfort<br>• ¾" polyester webbing<br>• Attaches to suspension[2] |  |
| 10124238 | 4-Point Chinstrap | • Non-metal chinstraps keep helmets in place<br>• Flexible construction and adjustable design for long-wearing comfort<br>• ¾" polyester webbing<br>• Attaches to suspension[2]<br>• Pkg/10 |  |

[1]*For elevated temperatures; flame-resistant. Not recommended for use where molten metal splash hazards exist.*
[2]*Staz-On suspension only.*

### Head Protection & PPE Storage & Carry Bag

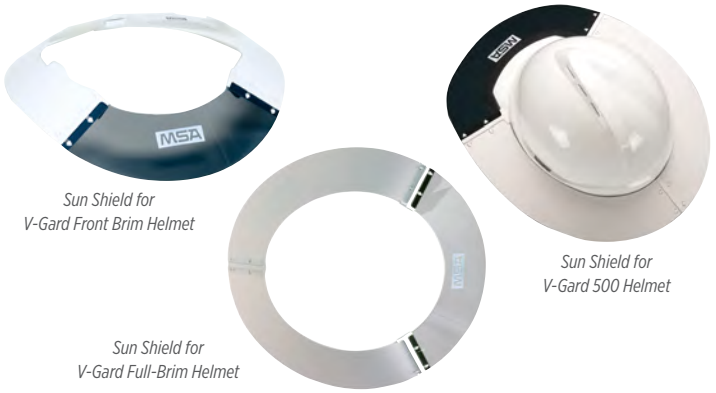
| Part No. | Product Name | Product Specifics | |
|---|---|---|---|
| 10228677 | Drawstring Storage Bag<br>1-pack | • For head protection equipment and PPE storage and transport |  |
| 10228298 | Drawstring Storage Bag<br>4-pack | | |

## Helmet Accessories



### SunShade Helmet Accessories

| Part No. | Product Name | Product Specifics |
|---|---|---|
| 10098032 TRY IT! | **SunShade Helmet Accessory** Yellow-green, with reflective striping | • Fit most helmets<br>• Breathable, bright mesh fabric<br>• Helmet clips help to keep SunShade from falling or rotating<br>• Minumum order quantity: 5 |
| 10098031 TRY IT! | **SunShade Helmet Accessory** Orange, with reflective striping | |




*Sun Shield for V-Gard Front Brim Helmet*

*Sun Shield for V-Gard 500 Helmet*

*Sun Shield for V-Gard Full-Brim Helmet*

### Sun Shields

| Part No. | Product Name | Product Specifics |
|---|---|---|
| 697290 | **Sun Shield for standard V-Gard Front Brim Helmets *only*** | • Easily attaches to helmets and caps<br>• Polyurethane brim extender protects against sun and heat<br>• Smoke-tinted Lexan front for extra protection |
| 697410 TRY IT! | **Sun Shield for standard V-Gard Full Brim Helmets *only*** | |
| 10039114 | **Sun Shield for standard V-Gard 500 Front Brim Helmets *only*** | |

### Helmet Sweatband

| Part No. | Product Name | Product Specifics |
|---|---|---|
| 696688 | **Terri-Band Sweatband** Gray, pkg/10 | • Custom design fits all MSA suspensions<br>• Washable, with plastic snaps |
| 10068911 | **Terri-Band Sweatband** Gray, single | |



### Emergency Medical Info Accessory

| Part No. | Product Name | Product Specifics |
|---|---|---|
| 10013393 | **Emergency Medical Information Accessory** | • Provides crucial, lifesaving information in the event of a medical crisis on the job<br>• Pkg of 10<br>• Trilingual: English/Spanish/French |



*inside view*



*outside view*

### In-Service Label

| Part No. | Product Name | Product Specifics |
|---|---|---|
| 804358 | **In-Service Label** | • To track shell's service life, affix label inside helmet with date of helmet's first use<br>• MSA recommended replacement: shell every 5 years/ suspension every 12 months |



## Industrial Hearing Protection and Communication Systems

MSA has hearing protection products for nearly every industrial application. In fact, MSA offers what customers want most: economical options, cutting-edge technology, quality and outstanding performance.

## V-Gard® Helmet-Mounted Hearing Protection

### Superior Performance

- Offers the highest attenuation for a helmet-mounted earmuff on the market.
- Custom MSA sealing rings allow for optimal NRR performance.
- Works with slotted MSA industrial front brim style helmets.
- Works with existing MSA visors and frames for seamless integration into your safety program.

### Enhanced Comfort and Fit

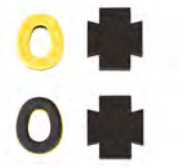
- Improved sealing ring and adapters optimize pressure on the ears for all-day comfort.
- Foam-injected ear pads cushion the outer ears to allow for soft points of contact.
- Vertical adjustment allows for custom fit.
- Recessed interior foam does not touch user's ear while in use.
- When not in use, earmuffs may be stowed in "parking" position, ready for when you need them.

### Modern Style

- Includes the next generation "V" design from the iconic V-Gard.
- Incorporates red, yellow, and green color-coding on the backplate and front logo to easily identify level of attenuation.
- Upgraded fork design provides a sleek look and modernized feel.
- Matte material for both cup and ear pads decreases look of wear and tear.

**V-GARD HELMET-MOUNTED HEARING PROTECTION**

| | | | |
|---|---|---|---|
| |  |  |  |
| PRODUCT NAME | V-Gard | V-Gard | V-Gard |
| ATTENUATION LEVEL | LOW | MEDIUM | HIGH |
| PART NO. | 10190356 | 10190357 | 10190358 |

| | | | |
|---|---|---|---|
| |  |  |  |
| PRODUCT NAME | Hygiene Kit | Hygiene Kit | Hygiene Kit |
| PART NO. | 10193450 | 10193451 | 10193452 |
| PRODUCT SPECIFICS | for V-Gard Helmet-Mounted Hearing Protection, LOW | for V-Gard Helmet-Mounted Hearing Protection, MEDIUM | for V-Gard Helmet-Mounted Hearing Protection, HIGH |

[1] *https://www.osha.gov/dts/osta/otm/noise/hcp/attenuation_estimation.html*

The **Noise Reduction Rating (NRR)** describes the average sound level reduction ("attenuation") provided by hearing protectors in a laboratory setting. Because the NRR reflects lab (and perhaps not real-world) usage, the Occupational Safety and Health Administration (OSHA), recommends "de-rating" the NRR to help account for incorrect fit and inconsistent wear time on worksites. OSHA's methodology for Estimating Hearing Protector Attenuation[1]:

1. 8-hour Time Weighted Exposure (TWA) = 94 dBA
2. NRR of hearing protector = 31 dBA
3. Subtract 7 dB from the NRR = 31 dB – 7 dB is 24 dB
4. Reduce value by 50% = 12 dB
5. Subtract this value from the TWA = 82 dB (Estimated Protection)
6. Decide if the Estimated Protection works for your environment!



| NRR and CSA Class Ratings for V-Gard Hearing Protection | | | | | | |
|---|---|---|---|---|---|---|
| | LOW | | MEDIUM | | HIGH | |
| | *NRR* | *CSA Class* | *NRR* | *CSA Class* | *NRR* | *CSA Class* |
| **V-GARD FRONT BRIM HELMET (*medium*)** | 22 | B | 27 | A | 31 | AL |
| **V-GARD FRONT BRIM HELMET (*small*)** | 23 | B | 28 | AL | 31 | AL |
| **V-GARD FRONT BRIM HELMET (*large*)** | 23 | B | 27 | AL | 30 | AL |
| **THERMALGARD FRONT BRIM HELMET** | 24 | A | 27 | A | 29 | AL |
| **SUPER-V FRONT BRIM HELMET** | 23 | B | 28 | AL | 30 | AL |
| **V-GARD 500 FRONT BRIM HELMET** | 22 | B | 28 | AL | 31 | AL |
| **TOPGARD FRONT BRIM HELMET** | 24 | A | 28 | AL | 30 | AL |
| **SMOOTHDOME FRONT BRIM HELMET** | 24 | A | 27 | AL | 30 | AL |
| **V-GARD H1 ANSI/CSA HELMET** | 22 | A | 24 | A | 26 | A |
| **V-GARD H1 ANSI/EN HELMET** | 23 | B | 25 | A | 28 | AL |
| **V-GARD H2 BRIMLESS WITH MIPS HELMET** | 20 | B | 22 | B | 29 | AL |
| **V-GARD H2 BRIMLESS WITHOUT MIPS HELMET** | 22 | B | 24 | A | 27 | A |

| NRR and CSA Class Ratings for Sound Control SH Hearing Protection | | |
|---|---|---|
| | *NRR* | *CSA Class* |
| **V-GARD H2 FULL BRIM HELMET** | 28 | AL |

**DID YOU HEAR?**

The **EPA requirement (40 CFR 211)** specifies that hearing protectors sold in the U.S. must be tested to ANSI S3.19-1974 and labeled with a Noise Reduction Rating (NRR). MSA Hearing Protectors have been tested and labeled according to the EPA requirements. Standards organizations, such as ANSI and CSA, do not approve or certify hearing protectors.

**DID YOU HEAR?**

The **attenuation of an earmuff depends on the fit** of the muff against the head and around the pinnae (i.e., the "tightness" of the seal). Gaps, including those caused by safety glasses, provide an easy path for sound to travel, reducing protection levels. To reduce this effect, try not to put anything under the cup (such as pencils, hair, etc.). But, if you must wear protective eyewear, select either those with a thin strap or a very thin temple. If the gap is noticeable, the protection level is compromised.

## SoundControl® Classic Helmet-Mounted Hearing Protection

**Markets:** General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, mining

**Applications:** High-noise environments, industrial plants, construction sites

**Standards:** Meets ANSI S3.19-1974 and CSA Class A Standards

**Compatible PPE:**

- V-Gard Slotted and Universal Frames—no additional parts needed
- Most V-Gard Visors
- MSA helmets, as indicated in chart below

### SOUNDCONTROL CLASSIC HELMET-MOUNTED HEARING PROTECTION

| | | |
|---|---|---|
| |  |  |
| **PRODUCT NAME** | **Sound Blocker™ 26** | **Soprano™** |
| **PART NO.** | **10022021** | **10034487** |
| **PRODUCT SPECIFICS** | **For use with MSA non-slotted FRONT BRIM helmets**<br>• Requires drilling into the helmet to mount the muffs<br>• The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C | **For use with MSA non-slotted FULL BRIM helmets**<br>• Requires drilling into the helmet to mount the muffs<br>• The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C |
| |  |  |
| **PRODUCT NAME** | **SoundControl SH** | **Hygiene Kit** |
| **PART NO.** | **10129327** | **10003360** |
| | **For use with MSA slotted FULL BRIM helmets** | • Foam cushions and inserts<br>• Works with Sound Blocker 26 and SoundControl SH hearing protection |



## Headbands: left/RIGHT™ Hearing Protection

**Markets:** General industry, manufacturing, repair and maintenance, construction, OGP, forestry, shipbuilding, mining

**Applications:**

- Heavy mechanical industries, compression rooms, airports (**HIGH**)
- Utilities, construction, general industry (**MEDIUM**)
- Food manufacturing, automotive, light industry (**LOW**)

**Standards:** Meets ANSI S3.19-1974 and CSA Class A Standards

**left/RIGHT HEARING PROTECTION**

| | | | |
|---|---|---|---|
| |  |  |  |
| **PRODUCT NAME** | **left/RIGHT (HIGH)** | **left/RIGHT (MEDIUM)** | **left/RIGHT (LOW)** |
| **PART NO.** | TRY IT! MSA **10251221** = Sordin **63000-04-S** | TRY IT! MSA **10251224** = Sordin **62000-04-S** | MSA **10251226** = Sordin **61000-04-S** |
| **PRODUCT SPECIFICS** | • For use in high-noise environments | • For use in medium-noise environments | • For use in low-noise environments |

| | | | |
|---|---|---|---|
| |  |  |  |
| **PRODUCT NAME** | **left/RIGHT (HIGH) Hygiene Kit** | **left/RIGHT (MEDIUM) Hygiene Kit** | **left/RIGHT (LOW) Hygiene Kit** |
| **PART NO.** | MSA **10092880** = Sordin **60099-S** | MSA **10092879** = Sordin **60098-S** | MSA **10092878** = Sordin **60097-S** |
| **PRODUCT SPECIFICS** | • Cushions and inserts<br>• Work with left/RIGHT helmet-mounted or headband products | | |

## Economuff™ Earmuff Value Hearing Protection

Economuff Earmuff hearing protectors provide cost-effective options that don't sacrifice comfort or protection.

**Markets:** Repair and operation (MRO), mining, food and beverage manufacturing, metal fabrication, oil and gas, general manufacturing
**Applications:** Facility maintenance, grinding, machine operations, sanding, welding, demolition, painting, assembly, cleaning
**Standards:** Meet ANSI S3.19-1974 and CSA Class B Standards
**Compatible PPE:** MSA helmets[1]

**Economuff Hearing Protection**

| | | |
|---|---|---|
| |  | |
| **PRODUCT NAME** | **Economuff Multi-Position** | |
| **PART NO.** | **10061273** | |
| **NRR** | 23 dBA (under chin/behind head) | 24 dBA (over the head) |
| **PRODUCT SPECIFICS** | • Offers 3 positions: under the chin, behind the head or over the head<br>• Durable design for use in tough environments<br>• Padded headband makes longer wear possible | • Under the chin or behind the head positions allow use of head protection<br>• No metal parts<br>• 1 size fits most |

[1]*Economuff Earmuff multi-position worn in behind-the-head or under-the-chin positions only.*

## Sightgard® Safety Glasses

**Material:** Polycarbonate

**Standards**[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

**Certification:** Third-party by ICS and CSA International

**Minimum Order Qty:** 12

### Indoor

**Markets:** Facility maintenance, repair and operations, construction, food and beverage, general manufacturing and industry, mining, oil and gas, pharmaceuticals, transportation, shipbuilding, automotive

**Applications:** Assembly and mechanical, drilling, grinding, machining, painting, sanding, sawing

| INDOOR | |
|---|---|
| MODEL | |
| Arctic |  |
| PART NO. | |
| 697514 TRY IT! | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff™ Anti-Scratch Coating | • Clear lens<br>• Frameless and lightweight<br>• Among our most popular models<br>• Full side coverage |

| INDOOR | |
|---|---|
| MODEL | |
| Discovery II |  |
| PART NO. | |
| 10106382 TRY IT! | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+) | • Clear lens<br>• Flexible, nylon temple arms adjust to head width<br>• Soft nose bridge<br>• Extra-lightweight |

| INDOOR | |
|---|---|
| MODEL | |
| Luxor |  |
| PART NO. | |
| 697516 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating | • Clear lens<br>• Single wrap-style lens<br>• Horizontal temple adjustment |

| INDOOR | |
|---|---|
| MODEL | |
| Sierra |  |
| PART NO. | |
| 697550 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating | • Clear lens<br>• Classic full-coverage look<br>• Adjustable temples<br>• Integral side protection<br>• Full side coverage |

[1] *CSA International certified models are denoted with a symbol.*

| INDOOR | |
|---|---|
| MODEL | |
| Vista |  |
| PART NO. | |
| 10070914 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating | • Clear lens<br>• Frameless and lightweight<br>• Among our most popular models<br>• Full side coverage |

### Indoor/Humid Conditions

**Markets:** Facility maintenance, repair and operations, construction, food and beverage, general manufacturing and industry, mining, oil and gas, pharmaceuticals, transportation, shipbuilding, automotive

**Applications:** Assembly and mechanical, drilling, grinding, machining, painting, sanding, sawing

| INDOOR/HUMID | |
|---|---|
| MODEL | |
| Arctic Elite |  |
| PART NO. | |
| 10038845 TRY IT! | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating<br>• Anti-fog coating | • Clear lens<br>• Rubber tipped temples and nosebridge for comfortable, yet secure fit |

| INDOOR/HUMID | |
|---|---|
| MODEL | |
| Aurora |  |
| PART NO. | |
| 10026005 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating<br>• Anti-fog coating | • Clear lens<br>• Ratchet temple adjustment<br>• Single, 7-base wrap curve lens |

| INDOOR/HUMID | |
|---|---|
| MODEL | |
| Pyrenees |  |
| PART NO. | |
| 10033718 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-fog coating | • Clear lens<br>• Full side protection<br>• Dual injected, soft-tipped temples |

## Sightgard® Safety Glasses

**Material:** Polycarbonate
**Standards**[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)
**Certification:** Third-party by ICS and CSA International
**Minimum Order Qty:** 12

| INDOOR/HUMID | |
|---|---|
| MODEL |  |
| Voyager | |
| PART NO. | |
| 10065849 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-fog coating | • Clear lens<br>• Single wrap-style lens |

### Indoor/Outdoor

**Markets:** General industry, manufacturing, construction, oil and gas, forestry, shipbuilding, automotive, food and beverage, mining, pharmaceuticals, primary metals, transportation

**Applications:** Assembly and mechanical, chipping, chiseling, cleaning, drilling, grinding, machining, masonry, riveting, sanding, sawing, UV protection

| INDOOR/OUTDOOR | |
|---|---|
| MODEL |  |
| Arctic | |
| PART NO. | |
| 10008179 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-scratch coating<br>• Anti-fog coating<br>• Maximum UV protection (U6) | • Blue mirror reduces glare without causing color degradation<br>• Popular, lightweight model<br>• Full side coverage |

| INDOOR/OUTDOOR | |
|---|---|
| MODEL |  |
| Arctic Elite | |
| PART NO. | |
| 10059671 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-fog coating<br>• Maximum UV protection (U6) | • Indoor/outdoor mirror allows workers to go from bright to low light conditions<br>• Rubber tipped temples and nosebridge for comfortable, yet secure fit |

| INDOOR/OUTDOOR | |
|---|---|
| MODEL |  |
| Vista | |
| PART NO. | |
| 10070916 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating<br>• Maximum UV protection (U6) | • Indoor/outdoor mirror allows workers to go from bright to low light conditions<br>• Vertical temple adjustment<br>• Lightweight, single lens |

### Outdoor

**Markets:** Aviation, general manufacturing, mining, oil and gas, pharmaceuticals, primary metals, transportation

**Applications:** Assembly and mechanical, chipping, chiseling, drilling, grinding, machining, sanding, sawing

| OUTDOOR | |
|---|---|
| MODEL |  |
| Arctic | |
| PART NO. | |
| 697515 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-scratch coating | • Gray tint lens<br>• Temples flex for a custom fit<br>• Full side coverage |

| OUTDOOR | |
|---|---|
| MODEL |  |
| Arctic Elite | |
| PART NO. | |
| 10038846 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-fog coating | • Gray tint lens<br>• Rubber tipped temples and nosebridge for comfortable, yet secure fit |

| OUTDOOR | |
|---|---|
| MODEL |  |
| Easy Flex | |
| PART NO. | |
| 10070918 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating | • Gray tint lens<br>• Temples flex for a custom fit |

| OUTDOOR | |
|---|---|
| MODEL |  |
| Luxor | |
| PART NO. | |
| 697517 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating | • Gray tint lens<br>• Horizontal temple adjustment<br>• Wrap-style single lens |

[1] *CSA International certified models are denoted with a symbol .*

## Sightgard® Safety Glasses

**Material:** Polycarbonate
**Standards**[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

**Certification:** Third-party by ICS and CSA International
**Minimum Order Qty:** 12

| OUTDOOR | |
|---|---|
| MODEL |  |
| Pyrenees (TRY IT!) | |
| PART NO. | |
| 10033719 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-fog coating | • Gray tint lens<br>• Full side protection<br>• Dual-injected soft-tipped temples<br>• Single wrap-style lens<br>• Full side coverage |

### Outdoor with UV Exposure

**Markets:** General industry, manufacturing, construction, oil and gas, forestry, shipbuilding
**Applications:** Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

| OUTDOOR/UV | |
|---|---|
| MODEL |  |
| Feather Fit | |
| PART NO. | |
| 10106384 (TRY IT!) | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Maximum UV protection (U6) | • Gray tint lens<br>• Comfortable rubber flange nosepiece<br>• Rubber temple grips help glasses stay put under hot working conditions<br>• Full side coverage |

| OUTDOOR/UV | |
|---|---|
| MODEL |  |
| Voyager | |
| PART NO. | |
| 10065850 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-scratch coating<br>• Maximum UV protection (U6) | • Gray tint lens<br>• Single lens |

**DID YOU KNOW?**
A common misconception is that all polycarbonate blocks UV. This is not the case. Under ANSI/ISEA Z87.1-2015 there is a required marking if the manufacturer claims protection from UV. Look for eyewear that both meets ANSI/ISEA Z87.1-2015 and has a **U mark**.

[1] *CSA International certified models are denoted with a symbol.*

### Over-the-Glasses

**Markets:** Facility safety, maintenance, repair and operations, overhaul, general industry, manufacturing, construction, oil and gas, metalworking, automotive
**Applications:** Assembly and mechanical, drilling, grinding, machining, masonry, power fastening, riveting, sanding, sawing

| OVER-THE-GLASSES | |
|---|---|
| MODEL |  |
| OvrG™ II | |
| PART NO. | |
| 10118475 (TRY IT!) | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Maximum UV protection (U6) | • Clear lens<br>• For use over small-to-medium Rx glasses<br>• Squared-off, stylish look<br>• 30% lighter weight than standard visitor specs |

| OVER-THE-GLASSES | |
|---|---|
| MODEL |  |
| OvrG II | |
| PART NO. | |
| 10118476 (TRY IT!) | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Maximum UV protection (U6) | • Indoor/outdoor mirrored lens<br>• For use over small-to-medium Rx glasses |

| OVER-THE-GLASSES | |
|---|---|
| MODEL |  |
| Rx Overglasses | |
| PART NO. | |
| 10118476 (TRY IT!) | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-fog coating | • Clear lenses<br>• Fits over most Rx glasses<br>• Horizontal and vertical temple adjustment |

| OVER-THE-GLASSES | |
|---|---|
| MODEL |  |
| Plant Visitor | |
| PART NO. | |
| **10027944** (EA)<br>**697500** (10/BOX)<br>**10008174** (144/BOX) | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+) | • Clear lens<br>• Classic look fits over most Rx glasses<br>• Integral, vented side shields |

## Sightgard® Safety Glasses

**Material:** Polycarbonate

**Standards**[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

**Certification:** Third-party by ICS and CSA International

**Minimum Order Qty:** 12

### Low Light

**Markets:** Transportation, inspection and repair, assembly, general industry, indoor construction, shipbuilding, automotive, food and beverage, pharmaceuticals

**Applications:** Assembly, chipping, chiseling, drilling, grinding, machining, pouring/casting, power fastening, riveting, sanding, sawing

| LOW LIGHT | |
|---|---|
| MODEL |  |
| Easy Flex | |
| PART NO. | |
| 10070919 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Tuff Stuff Anti-Scratch Coating | • Amber lens increases contrast in low light<br>• Temples flex for a custom fit<br>• Full side coverage |

| LOW LIGHT | |
|---|---|
| MODEL |  |
| Pyrenees | |
| PART NO. | |
| 10033740 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-fog coating | • Amber lens increases contrast in low light<br>• Full side protection<br>• Dual-injected soft-tipped temples |

### Magnifiers

**Markets:** Facility safety, maintenance, repair and operations, overhaul, general industry, manufacturing, construction, metalworking, automotive

**Applications:** Fine assembly and detail work, drilling, grinding, machining, soldering, riveting, sanding

| MAGNIFIERS | |
|---|---|
| MODEL |  |
| Pyrenees MAG | |
| PART NO. | |
| **10068832**<br>1.5 bifocal magnification<br>**10065847**<br>2.0 bifocal magnification | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+)<br>• Anti-fog coating | • Clear lenses<br>• Full side protection<br>• Dual-injected soft-tipped temples |

### Welding

**Markets:** General industry, manufacturing, construction, oil and gas, forestry, shipbuilding, metalworking; automotive, aviation

**Applications:** Welding, chiseling, drilling, grinding, machining, masonry, pouring/casting, power fastening, riveting, sanding, sawing

| WELDING | |
|---|---|
| MODEL |  |
| Clearvue® IR | |
| PART NO. | |
| 10012847 | |
| **SAFETY FEATURES** | **STYLING** |
| • Impact-rated (Z87+) | • Classic look with Infrared (IR) radiation eye protection, up to Shade 5<br>• Fits over most Rx glasses<br>• Integral, vented side shields |



[1] *CSA International certified models are denoted with a symbol.*

## Sightgard® Safety Goggles

**Standards[1]:** ANSI/ISEA Z87.1-2015 and CSA Z94.3 **Certification:** Third-party by ICS and CSA International

### Sightgard Safety Goggles Selection Guide

| | CONDITIONS | | |
|---|---|---|---|
| STYLE | General purpose: impact/splash | Industrial: impact/splash | Industrial: chemical/splash |
| SIGHTGARD NV | ■ | | |
| SIGHTGARD iV | ■ | | |
| CLEARVUE® 200 | ■ | ■ | |
| FLEXICHEM™ IV | ■ | ■ | ■ |
| VAULT™ | ■ | ■ | |
| VERTOGGLE™ | ■ | ■ | |

| SAFETY GOGGLES | |
|---|---|
| MODEL | |
| Sightgard NV | |
| PART NO. | |
| 10106268 TRY IT! |  |
| **SAFETY FEATURES** | **PRODUCT SPECIFICS** |
| • Impact-rated (Z87+)<br>• Splash-rated (D3)<br>• Anti-fog coating<br>• Tuff Stuff Anti-Scratch Coating | • Non-vented for tighter seal<br>• Minimum order quantity: 12 |

| SAFETY GOGGLES | |
|---|---|
| MODEL | |
| Sightgard iV | |
| PART NO. | |
| 10106270 TRY IT! |  |
| **SAFETY FEATURES** | **PRODUCT SPECIFICS** |
| • Impact-rated (Z87+)<br>• Splash-rated (D3)<br>• Anti-fog coating<br>• Tuff Stuff Anti-Scratch Coating | • Indirect-venting helps keep goggles fog-free<br>• Minimum order quantity: 12 |

*[1] CSA International certified models are denoted with a symbol .*

⚠ WARNING: The products listed below can expose you to chemicals including Di(2-ethylhexyl)phthalate (DEHP) which is known to the State of California to cause cancer or reproductive harm. For more information, visit www.P65Warnings.ca.gov.

| MSA Product Part No. | MSA Product Description | CA Prop 65 Chemical Name | Chemical Hazard Type |
|---|---|---|---|
| **10106281** | Safety Goggles, FlexiChem iV, Clear | DEHP (di-(2-ethylhexyl)phthalate | Carcinogen & Reproductive |

## Sightgard® Safety Goggles

**Standards[1]:** ANSI/ISEA Z87.1-2015 and CSA Z94.3 **Certification:** Third-party by ICS and CSA International

| SAFETY GOGGLES | |
|---|---|
| **MODEL** | |
| Clearvue 200 |  |
| **PART NO.** | |
| 10029693 TRY IT! | |
| **SAFETY FEATURES** | **PRODUCT SPECIFICS** |
| • Impact-rated (Z87+)<br>• Splash-rated (D3)<br>• Anti-fog coating | • Clear acetate lens resists warping, cracking and crazing from chemical splash<br>• Flame-retardant strap<br>• Soft, pliable goggle body ensures all-day comfort<br>• Indirect vent helps eliminate fogging while retaining splash resistance<br>• Minimum order quantity: 6 |

| SAFETY GOGGLES | |
|---|---|
| **MODEL** | |
| FlexiChem iV |  |
| **PART NO.** | |
| 10106281 | |
| **SAFETY FEATURES** | **PRODUCT SPECIFICS** |
| • Impact-rated (Z87+)<br>• Splash-rated (D3)<br>• Anti-fog coating | • Clear acetate lens resists warping, cracking and crazing from chemical splash<br>• Flame-retardant strap<br>• Soft, pliable goggle body ensures all-day comfort<br>• Indirect vent helps eliminate fogging while retaining splash resistance<br>• Minimum order quantity: 6 |

| SAFETY GOGGLES | |
|---|---|
| **MODEL** | |
| Vault |  |
| **PART NO.** | |
| 10106282 | |
| **SAFETY FEATURES** | **PRODUCT SPECIFICS** |
| • Impact-rated (Z87+)<br>• Splash-rated (D3)<br>• Anti-fog coating | • Modern styling<br>• Comfortable, thick strap<br>• Minimum order quantity: 6 |

| SAFETY GOGGLES | |
|---|---|
| **MODEL** | |
| Sightgard Vertoggle™ Safety Goggles/ Faceshield Combination |  |
| **PART NO.** TRY IT! | |
| 10150069 | |
| **SAFETY FEATURES** | **PRODUCT SPECIFICS** |
| • Impact-rated (Z87+)<br>• Splash-rated (D3)<br>• Anti-fog coating anti-scratch coating on goggle lens | • Clear polycarbonate lens<br>• Frosted polycarbonate faceshield<br>• Soft, pliable goggle body helps ensure all-day comfort<br>• Unique, articulated lift-front retains the shield on the goggle in any of five positions<br>• Indirect venting on goggle and faceshield improve airflow while providing splash and high impact protection<br>• Entire assembly tested at ANSI/ISEA Z87.1-2010 faceshield impact speed (300 ft/sec)<br>• Fully adjustable FR-tested (CSA Z94.3 test methodology) elastic strap prevents hair pulling<br>• Disposable respirators can be worn under shield<br>• Designed to work with MSA goggle retainers<br>• Minimum order quantity: 5 |

[1] *CSA International certified models are denoted with a symbol .*

⚠ WARNING: The products listed below can expose you to chemicals including Di(2-ethylhexyl)phthalate (DEHP) which is known to the State of California to cause cancer or reproductive harm. For more information, visit www.P65Warnings.ca.gov.

| MSA Product Part No. | MSA Product Description | CA Prop 65 Chemical Name | Chemical Hazard Type |
|---|---|---|---|
| **10106268** | Safety Goggles, Sightgard NV, Clear | DEHP (di-(2-ethylhexyl)phthalate | Carcinogen & Reproductive |
| **10106270** | Safety Goggles, Sightgard iV, Clear | DEHP (di-(2-ethylhexyl)phthalate | Carcinogen & Reproductive |
| **10029693** | Safety Goggles, Clearvue 200, Clear | DEHP (di-(2-ethylhexyl)phthalate | Carcinogen & Reproductive |
| **10150069** | Safety Goggle and Faceshield Combination, Clear | DEHP (di-(2-ethylhexyl)phthalate | Carcinogen & Reproductive |

## Eyewear and Goggle Accessories

**Standards[1]:** ANSI/ISEA Z87.1-2015 and CSA Z94.3 **Certification:** Third-party by ICS and CSA International

| Accessories | | | |
|---|---|---|---|
| **Part No.** | **Product Name** | **Product Specifics** | |
| **459458** for caps<br>**449895** for hats | **Goggle Retainer** | • Sturdy neoprene-rubber accessory<br>• Can be used with any protective helmet<br>• Retains goggle on headwear when not in use<br>• Holds goggle securely when worn for eye protection.<br>**MSA goggle retainers are manufactured for use ONLY with MSA goggles in order to comply with the applicable standards of the products in the assembly.** |  |
| **10020871** | **Deluxe Eyewear Lanyard** | • Holds eyewear securely<br>• Lanyard strap slides over temple<br>• Pkg of 12 |  |
| **13016** | **Fogpruf™ Cleaner Refill** | • 4 oz. bottle |  |
| **10022087** | **Towelettes** | • Pre-moistened<br>• Box of 100 |  |

# Great Reasons to Choose MSA Cairns® Fire & Rescue Helmets

**We've proudly manufactured fire helmets since 1836. And to this day for head protection, more first responders trust MSA Cairns Fire Helmets than any other. Here are just a few reasons why:**

## 1 Shell Release System (SRS)

The MSA Cairns Shell Release System (SRS), offered in our most popular fire helmets, protects from impact and heat—even when your helmet is dislodged from your head.

With the SRS, if your helmet falls off due to a fall through a floor or roof, the impact cap separates from the helmet shell, but remains on your head, leaving your head better protected from additional impact, projectiles and heat. Without SRS, all you've got is a hood.

## 2 Retractable MSA Cairns Defender® Visor

North America's first (and still best) NFPA 1970 and ANSI/ISEA Z87.1 impact-rated, integral visor. The Defender Visor was designed with firefighters in mind. Entire visor stows when not in use, and can be deployed the instant it's needed—even with a gloved hand. Visor replacement does not require special tools or helmet disassembly. These benefits make the Defender Visor the best-selling firefighting eye protection on the market.

## 3 Best In Class

In a survey of firefighters across the nation[1], the majority listed MSA Cairns Helmets brand as best in class.[1] When you consider the combined effectiveness of our SRS, crumple-zone front holder, impact cap, and suspension—our fire helmets offer the most complete package available.

## 4 With MSA Cairns Helmets, You Get More than You Pay For: 10-Year Warranty

We know, as do firefighters, that MSA Cairns Helmets are the most durable offered. We back up that claim with a 10-year lifetime warranty that the product will be be free from defects in materials and/or faulty workmanship[2]. When you factor in quality, ease of maintenance and unique safety features found in ONLY MSA Cairns Helmets, it's easy to see why firefighters are loyal to the MSA Cairns Helmets brand.

## 5 Same Day Shipping on Our Most Popular Items

When you can't afford to wait another day, MSA offers our most popular Cairns Helmets products in our Stock-Order-Ship (SOS) program. For these products, if your order is entered by 2:30 PM (EST), the product ships the same day from our warehouse in Pittsburgh, PA. Look for the SOS symbol beside products in the program. Remember, too, you can always order customized Cairns Fire Helmets through Assemble-to-Order (ATO). ATO forms are located on every fire helmet page at MSAsafety.com



**For complete information about Cairns Fire and Rescue Helmets, see Bulletin 3600-01-MC.**

*[1]Fire helmet brand assessment study conducted by outside research firm for MSA.*
*[2]10-year warranty applies to MSA Cairns Helmets manufactured on or after January 1, 2015. For MSA Cairns Fire Helmet warranty details, please see www.MSAsafety.com.*

## Traditional Fire Helmets

### Cairns® 1836 Fire Helmet




- ***Designed for easy cleaning***—can be taken apart in minutes for easy inspection and cleaning.
- ***Lightweight & low ride height***—one of the lightest and lowest ride height helmets on the market.
- ***New anchor base***—patent-pending Slide-Lok system means no specific tool is needed to assemble and disassemble the helmet.
- ***Articulating Defender® Visor***—designed to stow neatly in the fire helmet, Defender® Visor snaps into place and can be deployed by simply pulling down on the lens.
- ***Large D-ring & clamp***—design makes storage and hanging of accountability tags easy. The clamp securely fastens the edge trim to the helmet shell.
- ***New leather fronts & holder designs***—5.5" front and holder design option with five new front style choices, customizable with department identification.
- ***Quick-connect soft goods & earlaps***—few hook and loop fasteners offer excellent durability while quick-connect system enhances ease of attaching or detaching for cleaning.
- ***Laser engraved labeling & RFID tag***—improved helmet label durability and built-in rfid tag enable integration with FireGrid™, simplifying asset management.

| P/N | Color | Eye Protection | Cushion Liner | Earlaps | Front Holder | Chinstrap | Trim Type | Trim Color |
|---|---|---|---|---|---|---|---|---|
| 10247314 | Black | Defender Clear | Standard | Yellow Nomex | 6" Silkscreened Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247315 | Black | Defender Clear | Standard | Black Nomex | 6" Carved Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247316 | Black | Defender Clear | Leather | PBI/Kevlar | 6" Carved Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247317 | Black | Defender Amber | Standard | Black Nomex | 6" Silkscreened Maltese Cross | 2-pt Standard | Reflexite | Lime Yellow |
| 10247318 | Black | NFPA Bourkes | Standard | Black Nomex | 6" Silkscreened Maltese Cross | 2-pt Standard | Reflexite | Lime Yellow |
| 10247319 | Black | NFPA Bourkes | Standard | Black Nomex | 6" Carved Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247320 | Black | Defender Clear | Standard | Yellow Nomex | 6" Carved Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247331 | Black | Defender Clear | Standard | Black Nomex | 6" Carved Eagle | 2-pt Standard | Scotchlite | Lime Yellow |
| 10247332 | Yellow | Defender Clear | Standard | Yellow Nomex | 6" Silkscreened Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247333 | Yellow | Defender Clear | Standard | Black Nomex | 6" Carved Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247334 | Red | Defender Clear | Standard | Black Nomex | 6" Carved Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247335 | Red | Defender Clear | Standard | Yellow Nomex | 6" Silkscreened Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247336 | White | Defender Clear | Standard | Yellow Nomex | 6" Silkscreened Eagle | 2-pt Standard | Reflexite | Lime Yellow |
| 10247337 | White | Defender Clear | Leather | PBI/Kevlar | 6" Carved Eagle | 2-pt Standard | Reflexite | Lime Yellow |

### Cairns® 880 Tradition Fire Helmet

- Low-profile shell allows for optimum clearance and maneuverability
- Non-corroding, high-temperature glass-filled faceshield/goggle hardware
- Rugged, high-temperature (TPR) edge trim will not melt or drip
- Soft black Nomex chinstrap features one-hand quick-release buckle and postman slide for quick removal and adjustment
- Nomex or PBI/Kevlar earlap for increased neck/ear coverage and protection
- Three-position rear ratchet height adjust for a secure and comfortable fit
- SCBA interface front headband adjustment matches the fit of any SCBA mask
- Removable flannel or leather cushion liners




| P/N | Color | Eye Protection | Cushion Liner | Earlaps | Front Holder |
|---|---|---|---|---|---|
| 10224023 | Black | Bourkes | Leather | Black Nomex | 6" Carved Eagle |
| 10221007 | Black | Bourkes | Standard | Black Nomex | 6" Carved Eagle |
| 10200984 | Red | Bourkes | Leather | Black Nomex | 6" Carved Eagle |
| 10223635 | White | Bourkes | Standard | Black Nomex | 6" Carved Eagle |

## Jet-Style Fire Helmets

### Cairns® XF1 Fire Helmet



***Reduced snags***—The Cairns XF1's brimless design makes it easier to crawl into tight spaces and retain the helmet.

***Easy to clean***—The Cairns XF1's modular design allows it to be quickly disassembled for thorough inspection, care and maintenance. Plus, the helmet's soft goods are removable, washable and replaceable—all without the use of tools.

***Integrated visor***—The optional integrated visor provides additional eye protection that is easy to deploy, clean, and replace. The internally-mounted communication headset snaps easily inside the helmet, providing incoming communication right to the ear.

***Personalized fit***—Several easy-to-find adjustments can be made enabling the fire helmet fit to be customized to the individual.

***Lighting the way***—A compact light accessory is housed inside the helmet, reducing exposure to heat, flames, and impact.

| P/N | Model | Color | Finish | Size |
|---|---|---|---|---|
| GYM1018500000-NE16 | Cairns XF1 Fire Helmet | Black | Matte | Medium |
| GYL1018500000-NE16 | Cairns XF1 Fire Helmet | Black | Matte | Large |
| GYM1018500000-NA16 | Cairns XF1 Fire Helmet | Black | Glossy | Medium |
| GYL1018500000-NA16 | Cairns XF1 Fire Helmet | Black | Glossy | Large |

### Jet-Style Fire Helmet Accessories

| P/N | Description |
|---|---|
| GA1484 | XF1 Lighting Module |
| GA1087C XF1 | Defender Visor, amber Tuffshield lens |

***Note:*** *The Cairns XF1 Fire Helmet is certified to the NFPA 1970:2025 standard. Adding the helmet-mounted lighting accessory (Part No. GA1484) will result in the helmet no longer being certified to NFPA 1970:2025.*

## Jet-Style Rescue Helmets

### Cairns® XR2 Technical Rescue Helmet



***Full modularity***—Modular platform with a range of easily attachable accessories including responder goggles, face protection, and hearing protection with an integrated communication system.

***User-focused design***—Compact design, lightweight materials, ride height adjustment and integrated modular accessories all contribute to an optimized weight distribution.

***Customizable options***—These include custom logos, decals, and reflective trim.

| P/N | Model | Color | Style | Size |
|---|---|---|---|---|
| GS210003A001-BA001 | Cairns XR2 Technical Rescue Helmet | White | Non-vented | One size fits most |
| GS2100032001-OP001 | Cairns XR2 Technical Rescue Helmet | Hi-Viz Orange | Non-vented | One size fits most |
| GS1100030001-BA001 | Cairns XR2 Technical Rescue Helmet | White | Vented | One size fits most |
| GS1100030001-OP001 | Cairns XR2 Technical Rescue Helmet | Hi-Viz Orange | Vented | One size fits most |

### Jet-Style Fire Helmet Accessories

| P/N | Description |
|---|---|
| GA3701 | Water Rescue kit (x5) |
| GA3702 | Ocular Visor |
| GA3705 | Responder goggle |
| GA3709 | Neck protector |
| GA3723 | Goggles protection cover (x10) |

## Modern & Rescue Fire Helmets

### Cairns® 660C, 664, and 360S Fire Helmets




- 660C Helmet: ***composite*** painted high-luster finish / 664 Helmet: ***composite*** unpainted matte finish / 360S Helmet: ***thermoplastic***
- Impact cap provides superior impact and thermal protection
- Patented shell release allows escape from snag hazards while still offering impact cap coverage for head
- Non-corroding, through-color fiberglass composite (660/664) and Ultem high temperature plastic (360S) shells resist cracking and chipping
- Rugged, high-temperature (TPR) edge trim will not melt or drip
- Soft black Nomex chinstrap features one-hand quick-release buckle and postman slide for quick removal and adjustment
- Nomex or PBI/Kevlar earlap for increased neck/ear coverage and protection
- 3-position rear ratchet height adjust for a secure and comfortable fit
- SCBA interface front headband adjustment matches the fit of any SCBA mask
- Lowest-profile traditional-style fire helmet on the market
- Fewer parts reduce service cost and make maintenance easier

| P/N | Model | Color | Eye Protection | Cushion Liner | Earlaps |
|---|---|---|---|---|---|
| **660CFSB** | Cairns 660C Fire Helmet | Black | 4" standard faceshield | Standard | Nomex |
| **10100833** | Cairns 660C Fire Helmet | Yellow | 4" Tuffshield | Standard | Nomex |
| **660CFSY** | Cairns 660C Fire Helmet | Yellow | 4" standard faceshield | Standard | Nomex |
| **660CFSR** | Cairns 660C Fire Helmet | Red | 4" standard faceshield | Standard | Nomex |
| **664DSB** | Cairns 664 Fire Helmet | Black | Defender Visor, clear | Standard | Nomex |
| **664FSB** | Cairns 664 Fire Helmet | Black | 4" standard faceshield | Standard | Nomex |
| **10224021** | Cairns 664 Fire Helmet | Black | 4" standard faceshield | Standard | Nomex, extended, CA label |
| **664DSY** | Cairns 664 Fire Helmet | Yellow | Defender Visor, clear | Standard | Nomex |
| **10224022** | Cairns 664 Fire Helmet | Yellow | 4" standard faceshield | Standard | Nomex, extended, CA label |
| **664FSY** | Cairns 664 Fire Helmet | Yellow | 4" standard faceshield | Standard | Nomex |
| **664FSR** | Cairns 664 Fire Helmet | Red | 4" standard faceshield | Standard | Nomex |
| **360SFSY** | Cairns 360S Fire Helmet | Yellow | 4" standard faceshield | Economy | Nomex |

### Select Replacement Parts for Cairns 660C and 664 Helmets

| P/N | Description |
|---|---|
| **10077117** | Defender Visor, clear lens |
| **10077118** | Defender Visor, amber Tuffshield lens |
| **10160548** | Soft Goods Kit: Standard liner, yellow Nomex ear lap, Velcro tabs, mesh laundering bag |
| **10160549** | Soft Goods Kit: Standard liner, black Nomex ear lap, Velcro tabs, mesh laundering bag |
| **L655XP** | Yellow Nomex earlap |
| **L655AP** | Yellow Nomex earlap w/under-chin extension |
| **L655GP** | Black Nomex earlap |
| **10124742** | Black Nomex earlap w/under-chin extension |
| **L955P** | PBI/Kevlar earlap |
| **L955AP** | PBI/Kevlar earlap w/under-chin extension |

MSA
The Safety Company

# PERFORMANCE AND PROTECTION IN PERFECT BALANCE.




**Globe® turnout gear is designed to meet the new challenges you face every day to help keep you safe and healthy throughout your career.**

## Featured Styles

Globe ATHLETIX™ Turnout Gear

- Game-Changing Range of Motion – All-over stretch allows closer, less bulky fit with unprecedented range of motion, more flexibility, and minimum restriction.
- Streamlined Athletic Design – Reduces oversize for less bulk under SCBA. Elasticized side panels provide flexible, more athletic fit at the waist. Lower rise, less bulky pant design fits closer to your body.
- Lightweight, Flexible Fit – Thermal liner is thinner, lighter, more flexible, more breathable, and quicker drying. Moisture barrier provides the highest breathability in the widest range of environmental conditions, to reduce heat stress.

Globe G-XTREME® PRO Jacket

- Enhanced Mobility – The popular AXTION® Back and AXTION Sleeve are combined with Kevlar® mesh channels aligned with the AXTION Back. This unique AXTION System provides enhanced mobility while working on scene and reduces bulk.
- Mic Pass-Through Option – Allows a radio to be worn under the jacket without sacrificing comfort or the protection of a zipper closure. The radio lapel mic attaches elegantly to a mic strap without the need to be fed out of the top of the jacket.
- Enhanced T-Collar – Redesigned T-collar fits comfortably with the helmet and SCBA plus easily stows out of the way when not engaged.

**Get the full story on Globe turnout gear at MSAfire.com/Globe.**

GLOBE®

MSA
The Safety Company

# ATHLETIC FOOTWEAR FOR FIREFIGHTERS.

**With a unique cushioned and contoured sole and athletic footwear construction, Globe® boots are flexible like your feet, grip like no other, and feel broken in right out of the box.**

## Globe Boots

- Scientific studies have proven that lighter weight and more flexible footwear isn't just about comfort — it's about safety.
- HEELPORT™ Internal Fit System holds your heel securely so it won't slip while cushioning your ankle.
- Vibram® Contoured Cup Outsole wraps onto the leather upper for athletic shoe performance.
- Slip-Resistant Tread pattern designed for superior performance in all terrains and when working on ladders.
- Composite safety toe cap, puncture protection, and shank are lighter and far more flexible than steel and don't transmit heat or cold.
- Optional Vibram® Arctic Grip Pro outsoles are available for even better slip resistance on wet ice.

**Get the full story on Globe Boots at MSAfire.com/Globe**

GLOBE®

# Fall Protection

Fall Protection Engineered Systems
Fall Protection for Confined Spaces
Personal Protective Equipment
MSA Safety Training Courses



## Fall Protection

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Confined Space. . . . . .pages 142–154
Personal Protective Equipment . . . . . pages 155–203
MSA Safety Training Courses . . . . . .pages 204–208







OUR COMMITMENT TO YOU...

# The MSA Fall Protection Promise

MSA promises to replace any MSA harness and/or textile lanyard FREE of charge if a user falls while properly using our product. If the fall occurs while using an MSA mechanical device, we will replace or re-certify the device FREE of charge. MSA believes that it is important to provide high quality products and recognize safe work practices.

*Products should be returned with a signed copy of the accident report to:*

MSA
Attn: Fall Protection Product Line Manager
1100 Cranberry Woods Drive
Cranberry Township, PA 16066-5204

## Global Leaders in Fall Protection

Because we provide customized fall protection solutions all around the world with our range of Latchways® systems, MSA has a thorough understanding of any given country's safety concerns and needs. We have wide-ranging support, too, as our product leadership is backed by a worldwide network of highly trained registered installers and contractor companies.

And MSA is always thinking ahead—monitoring legislative developments around the world so that we can respond quickly with products and services designed to comply with new regulations without sacrificing productivity.

Simply put: MSA is fluent in the global language of fall protection.

No wonder our trusted systems and award-winning components can be found on structures as far away as Sydney's Harbour Bridge and as close by as Milwaukee's Miller Park Stadium.

**Premium fall protection solutions tailored to your project needs**

MSA is comprehensive in its care and concern for those working at height. Our versatile fall protection systems—from roof to tower—offer solutions for nearly every work environment. Our experience working with so many different industries, from aerospace to tourism, means we have thorough knowledge of the particular fall protection needs specific to a variety of applications.

So tell us what you're looking for. With our Latchways range of smartly engineered systems and best-quality products, you're in the hands of experts.

### Commercial and Public Buildings

Imagine providing safe access without damaging roof integrity. Latchways horizontal and inclined systems, with their Constant Force® Posts, do just that. We created systems like WalkSafe® to help further reduce wear and tear and LadderLatch™ to keep workers safe as they climb new heights.

### Transmission Towers, Distribution and Telecommunications

From towers to masts to monopoles, Latchways vertical systems can be seen protecting workers on transmission towers and distribution and telecommunication structures all over the world—even those in the most icy, rainy conditions.

### Bridges and Infrastructure

Each bridge and infrastructure project has different fall protection requirements. Latchways inclined, horizontal and vertical systems deliver unprecedented versatility, making it safe for workers to maintain cables, traverse bridge undersides, or safely access towers—no matter how harsh the conditions.

### Industrial Manufacturing

From permanently installed overhead lifelines to temporary SRL's for one-off maintenance jobs, Latchways brings safety solutions to virtually any industrial manufacturing project. Our systems can link together horizontally, vertically and up inclines, and can be retrofitted or included as part of a new build.

### Oil and Gas

Our range of user-friendly safety solutions, from Latchways Self-Retracting Lifelines to Latchways Personal Rescue Device®, meet the demands of the oil and gas industry—and then some. With vertical, horizontal and inclined cable systems designed to follow complex contours found on rigs, pipe racks, gantries and more, we bring fall protection to the most severe environments.

### Wind Energy

From wind farm owners to maintenance contractors to global turbine manufacturers, wind energy professionals rely on innovations like our Latchways Sealed Self-Retracting Lifeline for safety and our TowerLatch™ unit for uninterrupted ladder ascension.









## Road and Rail

With time- and cost-saving options like Latchways Personal Rescue Device, Self-Retracting Lifeline and overhead cable systems, MSA keeps road and rail workers safe. Whether refurbishing stations, locomotives and loading trucks, or testing signals, you're on the right track with MSA.

## Stadiums and Tourism

The inherent flexibility of MSA horizontal, vertical and incline systems means fall protection is available to virtually any structure—from sports arenas like the Manchester Stadium to tourist attractions like the Orlando Eye.

## Aerospace

Working with aircraft engineers, MSA developed the easy-to-use Latchways WinGrip® system (for aircraft) to protect aerospace workers at height, without sacrificing productivity or quality. Among its many remarkable features, a WinGrip lifeline can span the length of any aircraft wing, allowing up to four workers access to all areas without ever disconnecting from the WinGrip lifeline. With the WinGrip AIO, flightline and hangar tasks become more efficient. Compact and lightweight, this self-contained vacuum anchor requires little setup or removal time. In addition, it's powered by a shop air supply or refillable gas cylinder that provides a minimum of six hours of stationary use. This is advanced technology at its best, able to perform in extreme hot or cold temperatures.

## Elevating the Science of Fall Protection

### Better science means better protection—it's that simple, really.

No wonder MSA has been putting its resources, energy and smarts into the most cutting-edge technologies and most inspired breakthroughs with the Latchways range of products. We combine innovative technologies, best-in-class materials and advanced design to take fall protection to great new heights. The result is precisely engineered systems and components built for exceptional safety. Latchways systems are smartly designed for simple integration into nearly every work environment, bringing confidence to workers at height.

## Fall Protection Designed by Us. Just for You.

**With our dedicated in-house Design and Specification Team offering a number of free-of-charge services, MSA can assist you with your fall protection requirements.**



### Design services—creating with your needs in mind

**Design and Spec Service**—MSA's team of experts works with your AutoCAD roof plans or Building Information Modeling (BIM) files building elevations and sections to produce a complete fall protection system plan—integrated into your working files.

**Design Advice Service**—Here, our Design and Spec team assesses your own drawings featuring a fall protection layout and then offers advice and recommendations where necessary.

Simply choose whichever service suits you best, and we will provide you with a full Work-at-Height proposal to fulfill all your needs, all your legislative requirements, all within 10 working days.

**In-Person Consultation**—On more unusual projects that present different kinds of design challenges, it is sometimes easier to talk things through face-to-face. If you would prefer an in-person meeting, MSA will have a member of our team, or a representative from our network of Registered Installers, visit your offices to further discuss your specific design needs.

## Latchways® Horizontal Lifelines (HLL)





Latchways horizontal lifelines are known worldwide for their versatility and ease of use, making them the ideal choice for protecting workers as they go about day-to-day activities like maintenance, cleaning, inspection and more.

Easily customized for virtually any structure or unique requirement, MSA precisely engineered horizontal systems are built to work in all areas of industry, construction and maintenance. Installations include retail outlets, stadiums, transmission towers and industrial complexes—not to mention famous sites like New York's Grand Central Station, the Hong Kong Airport, and the Eden Project in Cornwall, home to the world's largest indoor rainforest.

Committed to bringing you the best in quality, versatility and satisfaction, MSA continues to work closely with major roofing manufacturers to produce a full range of fall protection systems for all designs and types of roofs.

### Constant Force® Post Technology

In typical leadership fashion, MSA takes the science of Latchways Constant Force and applies it to the fall protection industry—providing an easy-to-install, reliable and cost-effective solution to rooftop safety.

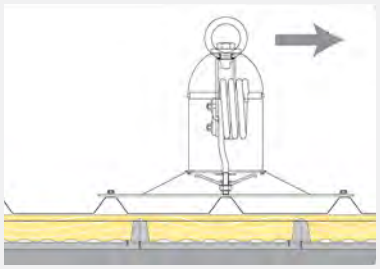
### Constant Force Explained

The principles of fall arrest are based on effective load control, meaning that a system must be able to withstand the force of a person's fall while absorbing the energy it generates. In the past, this was achieved by attaching the system to the structure of the building with the anchor point absorbing the load. This inherently caused difficulties for designers and installers, since the system location was determined by the structural elements of the building. System installation, meanwhile, was time consuming because anchors had to be fixed above and below, often creating issues regarding warranties, leakage and cold bridging.

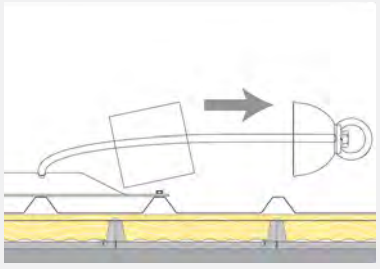


### The MSA Solution

Latchways Constant Force Post (CFP) does not need to be fixed to the building structure but instead top-fixes to the roof, therefore simplifying installation, saving time and protecting structures from compromise. With Constant Force technology as its governing principle, the load generated in the event of a fall is absorbed through the Latchways system, minimizing loads placed on the roof structure.



*The Constant Force Coil controls the load when a fall occurs, limiting the impact to the roof construction.*



## Latchways® Horizontal Lifelines (HLL)

### Constant Force® Post Components

Recognizing the importance of installing a fully compliant solution to all major roof constructions, manufacturers across the globe were consulted to create a brilliantly compatible anchor: the Latchways Constant Force Post. With just a handful of components, the Constant Force technology can be designed to fit nearly any roof configuration.



**Turnbuckle Assembly**

The turnbuckle assembly provides a cable termination and method of tensioning the system. The integral indicator disc spins when the correct system tension is reached.



**Swage & Clevis**

The swage and clevis unit provides the method of terminating the cable at the opposite end of the system to the turnbuckle assembly.



**90° Corner Bracket**

This one-piece corner bracket, attached to an intermediate anchor, provides an angle change of 90° within the system.



**Variable Bracket**

This bracket attaches to an intermediate anchor and provides an angle change of between 0° and 80° on either horizontal or vertical planes.



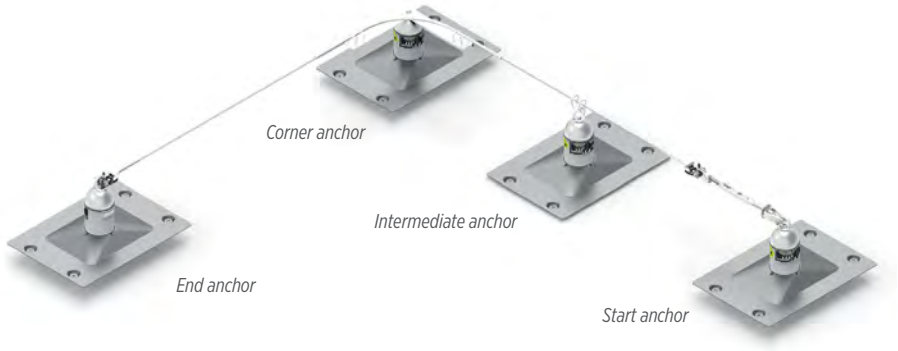
**D-Ring & Hanger**

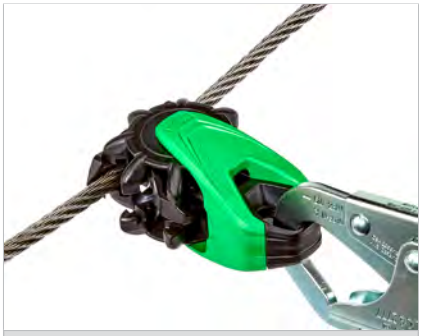
The D-ring and hanger form an intermediate cable support. The cable passes through the hanger, allowing the Transfastener to travel the length of the system without disconnecting.



**Entry Terminal**

Where a Transfastener is used on a system, the entry terminal is used to enable entry and connection.



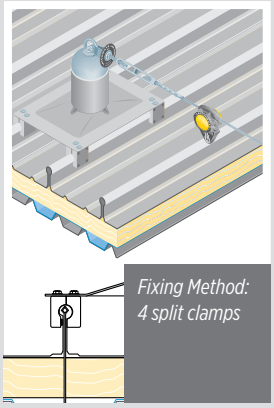
*The user, wearing a full-body harness and energy-absorbing lanyard, is continuously attached to the system with a Latchways Transfastener™, MSA's innovative device that can rotate its way through the intermediate cable supports. For systems with no entry terminal, a Removable Transfastener can be used.*

### Roof-Type Fixing Options

Latchways Constant Force Systems bring complete fall protection solutions to both fall restraint and fall arrest. The simplicity of our fixings allows for quick and easy installation, providing safe solutions to workers at height.

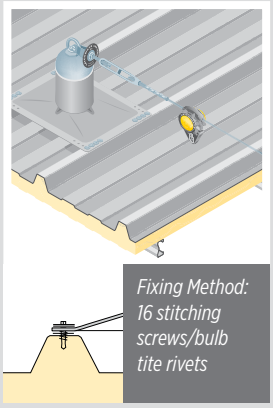
Latchways systems work with all major roof manufacturers.

**Constant Force Post on standing-seam roofing**



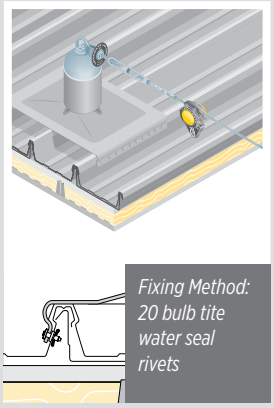
*Fixing Method: 4 split clamps*

**Constant Force Post on corrugated metal decking**



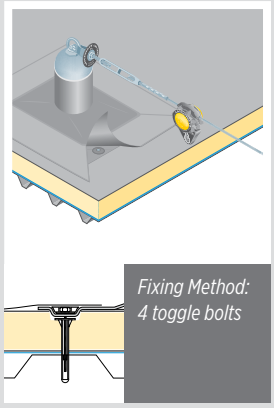
*Fixing Method: 16 stitching screws/bulb tite rivets*

**Constant Force Post on secret-fix roofing**



*Fixing Method: 20 bulb tite water seal rivets*

**Constant Force Post on flat roofing**

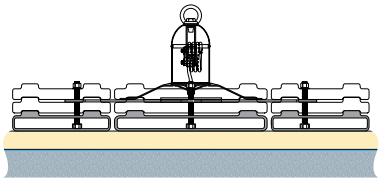


*Fixing Method: 4 toggle bolts*

## Latchways® Horizontal Lifelines (HLL)



### Freestanding Constant Force® Post



Typically, a cable-based system is installed top-fixed to the roof structure. However, this isn't always practical or desired—for example, when a permanent roof edge or gutter maintenance system is in place but a "one-off" repair is required in the center or another location accessible from this system. Another example is when the facility is being leased and alterations to the roof are not allowed.

For these situations and more, you need the Latchways freestanding Constant Force Post (CFP). Designed to be used on a variety of roof types, this expertly engineered self-weighted anchor incorporates CFP technology but does not require fixing through the roof sheet. When required, a number of CFPs can be combined to create a full system.

## Overhead Systems—Single- and Multi-Span Systems Components

**With Latchways overhead systems, all you have to do is look up and you'll find a greater sense of security and confidence.**

Combining MSA's unique knowledge of fall protection with innovative Constant Force technology, our overhead systems deliver maximum accessibility and hands-free mobility—not to mention ease of use and simple installation.

The Latchways range of overhead systems house Constant Force technology in an in-line energy absorber, so if a worker connected to the system should fall, the Constant Force energy absorber controls the load back to the structure. Simply put, it's a smartly designed system precisely engineered to react lightning quick.

Ideal for industrial environments and in applications such as warehouses, loading bays and airplane hangars, Latchways overhead system is heads above when it comes to fall protection safety.

**Did you know that, for systems up to 200 ft (61 m), intermediate brackets are not necessary? Latchways overhead systems remove the need for structural elements and intermediate bracket fittings to be installed. Latchways is the only product to achieve this.**



**Single-Span System Components—distances up to 200 ft (61 m)**




**Multi-Span System Components—all distances and those greater than 200 ft (61 m)**




**A**



**Constant Force Energy Absorber**

Located at one end of the system, the energy absorber ensures that, in the event of a fall, the maximum load transferred to the structure does not exceed 4047 lb. (18 kN).

**B**



**Overhead System Mobile Anchorage**

Allows an SRL to be connected to the overhead system.

**C**



**Line Tensioning Device**

Allows the system to be correctly tensioned for use. The indicator disc will spin freely when the correct tension is reached at 1124 lb. (5 kN).

**D**



**Mobile Anchorage**

Allows an SRL to be connected to the overhead system. Anchorage can travel over intermediate brackets without disconnection.

**E**



**Intermediate Brackets**

Support the cable on multi-span systems and also accommodate change in direction.

## Latchways® Vertical Lifelines (VLL)

Anywhere in the world, wherever there's a call for telecoms, masts, rooftops or any at-height work space—you are likely to find a Latchways vertical cable-based fall protection system. All you have to do is scan the horizon.

Featuring our brilliantly engineered TowerLatch™ and LadderLatch™ systems, the Latchways system options offer outstanding personal safety for those working at height, particularly in the telecom and wind energy industries. Both TowerLatch and LadderLatch emphasize inherent flexibility, meaning they can be configured for a wide variety of applications, including ladders, towers, masts, monopoles and other structures specific to these industries.







### Dedicated to Safety

- **Reliable security:** Our VLLs incorporate a fluorescent red indicator that appears in the event of a fall
- **Flexible freedom:** Each systems' universal attachment device rotates freely through intermediate cable guides for continuous hands-free protection
- **Load control:** In the event of a fall, the load applied to the worker is limited to a maximum of 1349 lbs (6 kN) by either a Constant Force absorber at the top of the system or a webbing energy absorber on the device
- **Inspection:** TowerLatch and LadderLatch systems are regarded as part of the tower structure, and inspected accordingly
- **Trusted quality:** Both systems meet or exceed all relevant international standards
- **Extra security:** A webbing strop can be incorporated into the systems' attachment device to facilitate rescue as needed

### Engineering excellence

All MSA systems are manufactured to the highest international standards, using only the best materials. Critical components are individually numbered and batch-conformance and dye-penetrant tested—a quality standard unsurpassed in the industry. In addition to rigorous in-house testing, all MSA products undergo external verification to ensure they meet or exceed relevant industry standards.

The TowerLatch system has also been subjected to accelerated aging, wind tunnel trials and cyclic testing—all of which have confirmed the inherent quality and durability of the system.

MSA products are specifically developed to take into account the latest structural innovations, while the company's commitment to excellence means that its systems have a proven track record of safety and reliability—even in the most extreme environments.

### Ease of installation and use

- Incorporation at the design stage for new towers or retrofitting to existing structures
- Installation that follows the contours of any structure, including horizontal and inclined sections
- A comprehensive range of components that enables quick and easy installation on any type of overhead line tower, vertical structure or ladder
- Utilization by up to four users
- Units that can be attached or detached at any point in the system
- Installation in virtually any environment

#### Fixed Ladder Systems

With its simple design concept built for optimal flexibility and superior protection, MSA TowerLatch and LadderLatch systems can be installed to follow the contours of any structure, maximizing the system's safety value in a working environment.

#### Networks and Telecoms

MSA's mission is to make sure every customer gets the solution they need. Whether the systems you require are for greenfield sites or rooftops sites, new build or retrofit, network roll-out programs or upgrading of antennas, MSA offers tailor-made service with maximum support.

#### Transmission Towers

Flexible enough to accommodate every safety need for working at height, Latchways vertical systems are ideal for personnel accessing high-voltage transmission towers or transformers in substations.

#### Wind Turbines

When ascending a ladder within a new build or retrofit turbine, rely on Latchways TowerLatch to deliver the ideal hands-free solution, securing the climber to the cable via the chest D-ring on their full-body harness.

## Fixed Ladder Systems

For use on stadiums, oil rigs, land-based wind towers and other elevated work environments, Latchways fixed ladder systems are always ready for climbing. Featuring our innovative LadderLatch™ unit, with its unique starwheel component that provides continuous security with hands-free climbing, our fixed ladder systems are designed to maximize confidence and productivity. And, because they are flexible enough to follow the contours of virtually any structure, these fixed ladder systems maximize the safety value in a working environment, too.



Fixed ladder systems
use the LadderLatch attachment device.

| Vertical Ladder System Kits | |
|---|---|
| The prepackaged ladder system kits listed below are ready to go and can be installed by the end-user. LadderLatch Climbing Device sold separately. | |
| **Kit Numbers** | **Length** |
| **30901-00** | 20 ft (6 m) |
| **30902-00** | 40 ft (12 m) |
| **30903-00** | 55 ft (17 m) |
| **30904-00** | 75 ft (22 m) |
| **30905-00** | 90 ft (27 m) |

| LadderLatch Climbing Device | |
|---|---|
| **Part No.** | **Description** |
| **3104L-00** | US version |
| **3103L-00** | Canadian version |



### Putting a typical system together

A typical vertical system usually consists of a top anchor, a bottom anchor and a Constant Force energy absorber in between.

**Top anchor**

The top anchor is a bracket with a built-in safety factor greater than 2 times the potential load generated when a fall occurs.

**Constant Force energy absorber**

The Constant Force energy absorber ensures that the load applied back to the structure and the climber, in the event of a fall, is limited to a maximum of 1349 lbs (6 kN).



**Intermediate cable guides**

These brackets support the cable, ensuring that a correct stand-off distance from the structure is maintained. The spacing of the intermediates is dependent on the height and location of the structure. An extensive range is available to cater to all types of structures.



**Bottom anchor**

The bottom anchor is a bracket that provides a swage-free system termination and an integral tensioning device. At the correct cable pre-tension, the unit's indicator disc will spin freely. Captive security bolts prevent unauthorized system adjustment.

## TowerLatch™ Engineered Cable Lifelines

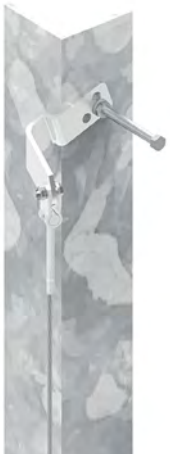
There are two types of systems for overhead line towers: StepBolt and L-Bolt.

### StepBolt

Latchways StepBolt is a vertical fall protection system for retro-fitting to overhead line tower climbing legs. Fixed to the structure by the step bolts, the system has no in-line energy absorber. The TowerLatch SP attachment device incorporates a built-in energy-absorbing pack to reduce the end load in the event of a fall. The system is designed for use by up to four workers at the same time.

### L-Bolt

Like the StepBolt, Latchways L-Bolt system is also for retrofitting to overhead line tower climbing legs—though it is fixed to the tower by L-bolts, which are available in a range of sizes to suit each structure. The TowerLatch attachment device incorporates a webbing strop to facilitate rescue.



**Top anchor**

This bracket has a built-in safety factor of greater than 2 times the potential load generated when a fall occurs. The Constant Force energy absorber can be attached at this point.

**Constant Force energy absorber (L-Bolt system only)**

The Constant Force energy absorber ensures that, in the event of a fall, the load applied back to the structure and the climber is limited to a maximum of 1349 lbs (6 kN). A red fluorescent indicator shows if a fall has occurred.





**Intermediate cable guides**

These brackets support the cable, ensuring that a correct stand-off distance from the structure is maintained and also controls the cable against the effects of wind. The spacing of the intermediates depends on the height and location of the structure. An extensive range is available to cater to all types of structures.



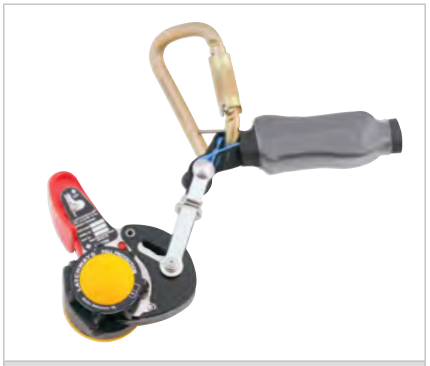


**Bottom anchor**

This bottom bracket provides a swage-free system termination and an integral tensioning device. At the correct cable pre-tension, the unit's indicator disc will spin freely. Captive security bolts prevent unauthorized system adjustment.







TowerLatch systems for overhead towers use the TowerLatch or TowerLatch SP attachment devices.

## Latchways® Inclined Systems

While working at height is tough, working at height on an incline can present uniquely different challenges. MSA has developed a comprehensive range of Latchways system components that can be configured to provide a tailored cable lifeline suited to structures that slope. Our two main components, the BridgeLatch™ and ClimbLatch™ devices, are built to bring optimal security, flexibility and mobility to the at-height, on-incline workplace.

### BridgeLatch

For inclined lifelines running between 0° and 70°, the Latchways BridgeLatch device secures the user to the cable via a fixed-length lanyard connecting to the D-ring attachment point of a full-body harness. Featuring a starwheel mechanism that rotates freely over intermediate cable supports and brackets, this smartly engineered device eliminates the disconnection requirement that can lead to potential accidents or loss in productivity.

The result is confident, hands-free operation with optimal freedom of movement, because workers can now move up or down the cable system's incline—without the need to detach.

Better still, in the event of a fall, the BridgeLatch device is designed to clamp fast onto the cable, preventing the user from falling or sliding down the incline on which they're working.

Depending on the incline of the system, MSA offers two different types of devices: one that covers inclines up to a 40° pitch, another that should be used on a pitch of up to 70°.

**Typical Latchways BridgeLatch System Components**




**A — Entry and exit terminals**

BridgeLatch can be connected and disconnected only at designated entry and exit terminals. This built-in safety feature is designed to prevent the user from improperly using or accidentally disconnecting from the device.

**B — Cable**

Latchways uses a 516" (8 mm) 1 x 19" 316-grade stainless-steel cable that has a unique identification system. The cable is factory tested to check its physical properties and to ensure consistent performance.

**C — Intermediate cable guides**

These brackets support the cable, keeping the correct stand-off distance from the structure. The design of the bracket allows for easy retrofit, while the spacing of the brackets is dependent on the height and location of the structure.

**D — Mid-entry terminal**

With a mid-entry terminal, a user can enter or exit the system at any designated point rather than having to return to the terminals at the ends of the system.

### Bridges

BridgeLatch is an ideal choice when the cable system you're attaching to is located at waist height, such as when walking on bridge suspension cables. The Latchways BridgeLatch device has been utilized across the world, including on the Lyiesford Bridges in Norway.

### Stadiums

BridgeLatch is the chosen attachment device on more unusual constructions, including highly popular visitor attractions such as "Up at the O2"— where a BridgeLatch device and cable system assists thousands of tourists as they climb and descend the steep profile of the O2 Arena in London.



BridgeLatch attachment device.



## Latchways® Inclined Systems

### ClimbLatch

Designed to protect the user from a sliding fall on a sloped surface, the ClimbLatch™ device was created for use on an inclined system between 0–90 degrees—though it can also be used on a system that moves from horizontal to vertical orientation.

Compatibility among components ensures your customized system—whether vertical, horizontal or inclined—delivers smooth, continuous transitions.

Like the BridgeLatch device, ClimbLatch permits hands-free travel up sloped surfaces, freeing the worker to use both hands for work or climbing. Safety features include a required entry point on which to attach to the system. In the event of a fall, the ClimbLatch device locks onto the cable, not only arresting the fall but keeping the worker from sliding down the system.



ClimbLatch attachment device.

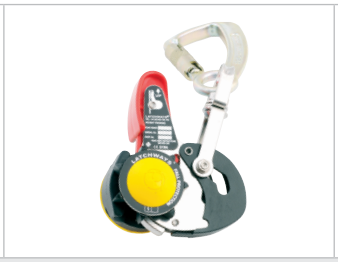


## Attachment Devices

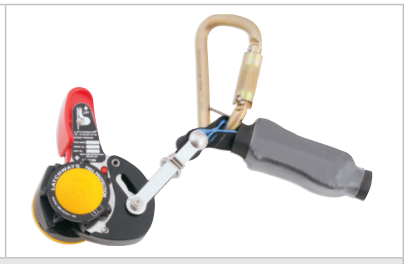
All Latchways attachment devices are designed to connect the user, wearing a full-body harness, to a Latchways cable system.

Common to all devices is the patented starwheel mechanism, which rotates freely over intermediate cable supports and around corner brackets without needing to disconnect the unit. This allows hands-free operation for the system users.









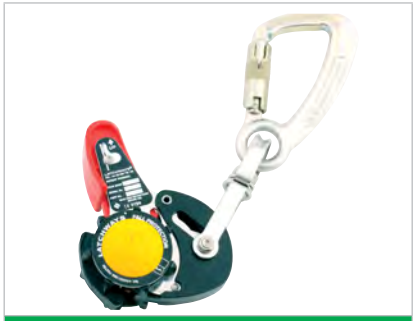
- Universal devices for use on all Latchways horizontal systems, suitable for both fall restraint and arrest systems
- Incorporate unique starwheel, allowing the unit to pass over cable supports and corners without the need to detach

| Transfastener and Removable Transfastener | LadderLatch | TowerLatch | TowerLatch SP |
|---|---|---|---|
| • The Removable Transfastener does not require entry gates as it attaches and detaches directly from the cable. The Starwheel design allows the anchor point to roll right through the intermediates. | • Anti-inversion mechanism prevents device from connecting to the cable upside-down<br>• Connects to user at chest point<br>• Able to attach or detach at any safe point of the system<br>• In the event of a fall, the unit locks onto the cable and arrests the fall | • Includes integral webbing strop to provide fast post-fall rescue | • Includes an integral energy absorber ("shock pack") for use where a Constant Force absorber is not present in the vertical lifeline system |



### BridgeLatch

- Latchways BridgeLatch device secures the user to the lifeline cable on inclines that run between 0° and 70°.
- Featuring our groundbreaking starwheel mechanism that rotates freely over intermediate cable supports and brackets, the BridgeLatch's intelligent engineering means you don't have to disconnect the unit and risk potential accidents or loss in productivity.
- The result is remarkable freedom of movement and hands-free operation so users can do their best, most confident work.



### ClimbLatch

- The ClimbLatch device has many similar features of the LadderLatch and TowerLatch but is designed to be used on an inclined system—suitable for inclines between 0–90 degrees.



## Latchways® WinGrip® Vacuum Anchor



Latchways WinGrip Vacuum Anchor is a fall protection system developed for use in the maintenance and manufacturing of aircraft.

As flexible as it is safe, a WinGrip Anchor can be fixed to wings, fuselage or stabilizers. The system is quick to install, easy to use and suitable for work inside the hangar, or outside, on the apron. Originally developed in collaboration with aircraft engineers seeking revolutionary new ways to protect workers at height, the first WinGrip vacuum anchor systems were delivered to British Airways in 1999. These first single-user systems gave the industry a time saving, cost-cutting lift by delivering fall protection in a radius around the anchor, in virtually any location on the aircraft—and they're still being used today. In fact, these days the WinGrip product is so ubiquitous, you'll find it in the aircraft maintenance manuals of both Boeing and Airbus.



Latchways WinGrip aerospace line consists of four different products—each with its own unique benefits that accommodate ever-evolving customer needs and ever-changing legislative requirements.

**WinGrip at a Glance**

- Lightweight and portable anchors weigh less than 13 lbs (5.9 kg).
- Suitable for wet or dry surfaces, inside hangars, or on the apron
- Intrinsically safe, even with fuel tanks open—runs on compressed air or nitrogen; no electrical requirements
- Approved and used by all major aircraft manufacturers
- Easy to install and simple hands-free operation
- Independently tested to meet all relevant international standards
- Absence of metal-on-metal contact protects surfaces and eliminates risk of sparking
- Single- or multiple-user cable-based systems are available
- Suitable for heavy and light maintenance environments
- Should air supply fail, an alarm will sound and workers have at least 20 minutes to reach safety

### WinGrip Single-User System



The original WinGrip is our single-user system, providing a fall protection anchor point for wings, fuselage or stabilizers. Highly portable, this easily installed system is particularly suited to line maintenance and other temporary work. Here, the anchor is positioned and vacuum-locked in place, then used by a worker wearing a full-body harness with a safety lanyard and work positioning rope, connected to the vacuum anchor. The adjustable work positioning rope provides comfortable operation within a radius of 10 ft (3 m). Two vacuum anchors can be used to triangulate and fix the worker's position.

### WinGrip Barrier System



The WinGrip barrier system offers multi-personnel protection. The system provides a safe, enclosed working environment for several workers at a time. Here, workers do not need to use harnesses or lanyards, and they require only basic training to work within the system. Initially designed for Boeing maintenance programs, our barrier system consists of a series of upright stanchions and telescoping horizontal rails. The stanchion is connected at-the base to a WinGrip vacuum anchor and is fully adjustable, ensuring a perfect installation on flat or curved surfaces. The horizontal rails are adjustable in length and angle, allowing any shape of the system to be installed in large areas.

## Latchways® WinGrip® Vacuum Anchor



### WinGrip Lifeline System

The WinGrip lifeline system was introduced in 2005 as an ideal solution for use in construction, heavy maintenance and return operations, allowing for safe, hands-free access for multiple workers along the entire length of a wing or fuselage.

The system consists of two end-anchor vacuum anchors with cables spanning between them, and intermediate anchors as needed to suit any cable length. Each anchor is positioned and vacuum-locked in place, with stainless-steel safety cables connected and tensioned at one end. Workers connect to the cable using the unique Latchways shuttle. Up to four workers can use the system, wearing full-body harnesses and work positioning ropes. Built for greater flexibility and productivity, this system allows hands-free movement along the whole cable length, with shuttles gliding over intermediate anchors.

**System benefits**

- Can be customized to fit any length of aircraft wing
- Ideal for heavy maintenance and longer access requirements
- Up to 4 users per system
- Fall arrest rated
- Safe method of installation and removal
- Provides full access to any wing without needing to disconnect
- Hands-free operation

## Latchways WinGrip AIO Vacuum Anchor

Looking for ways to make flightline or hangar tasks more efficient, MSA's visionary team created the WinGrip AIO: a self-contained, compact, lightweight vacuum anchor. Powered by shop air supply or a refillable gas cylinder that provides at least six hours of stationary use, this marvel of fall protection technology is able to perform in extreme temperature—from arctic cold to desert heat. With little setup or removal time needed, the WinGrip AIO is ideal for use on "walking" areas of wings or structural sections of the fuselage.



Once the WinGrip AIO anchor has been vacuum-locked in place, the worker can attach to the system wearing a full-body harness and work positioning ropes with access to undertake all necessary maintenance. A single WinGrip AIO anchor provides a working area radius of nearly 10 ft (3 m), while an additional anchor can be attached to allow a larger work area. When using additional anchors, users can "step-stone" their way along the work area.

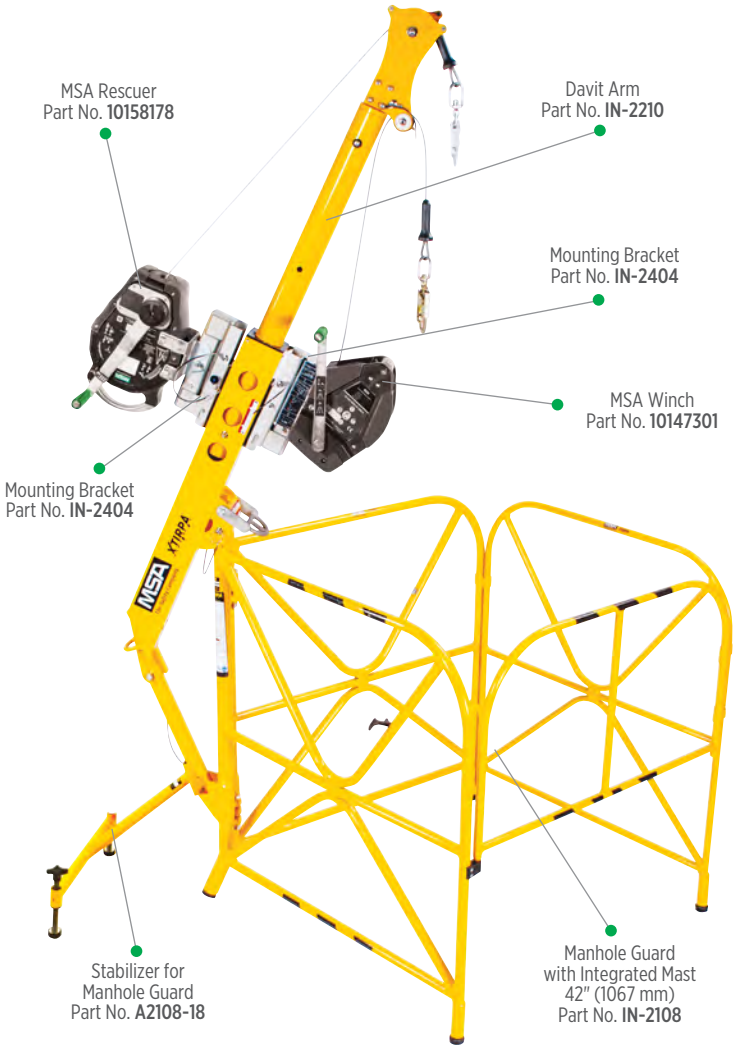
If for some reason the air or nitrogen supply used by the WinGrip AIO should fail, an audible alarm sounds, and the vacuum anchor will maintain a safe working vacuum for at least 20 minutes.






## MSA XTIRPA™ Manhole Guard System

- Used for confined space vertical entry and fall protection when portable base is needed
- Barricades exposed entry points while providing necessary strength needed for fall protection, entry and retrieval applications
- Davit arm and manhole guard with integrated mast interface allows for reduced material surrounding the confined space entry, thus reducing the presence of trip and fall hazards




**Weight Capacity**

400 lbs. (181 kg) as pictured with MSA Rescuer and MSA Winch

**Required System Components**

- Davit Arm **IN-2210**
- Manhole Guard with Integrated Mast **IN-2108**

*OR*

Large Manhole Guard with Integrated Mast **IN-2324**

- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

### System Components



| Davit 24" Reach |
|---|
| **IN-2210** |
| OSHA |



| Manhole Guard Integrated Mast 42" |
|---|
| **IN-2108** |
| OSHA |



| Large Manhole Guard Integrated Mast 42" |
|---|
| **IN-2324** |
| OSHA |



| Multifunctional Barricade 4 Side |
|---|
| **IN-2101** |
| OSHA |



| Multifunctional Barricade 1 Side |
|---|
| **A2101-07** |
| OSHA |



| Kick Plate for Manhole Guard and Barricade |
|---|
| **IN-2176** |
| OSHA |



| Stabilizer for Manhole Guard 42" |
|---|
| **A2108-18** |
| OSHA |



| Stabilizer w/ Wheels for Manhole Guard 42" |
|---|
| **A2108-20** |
| OSHA |

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## MSA XTIRPA™ Adapter Base System—24″ Reach

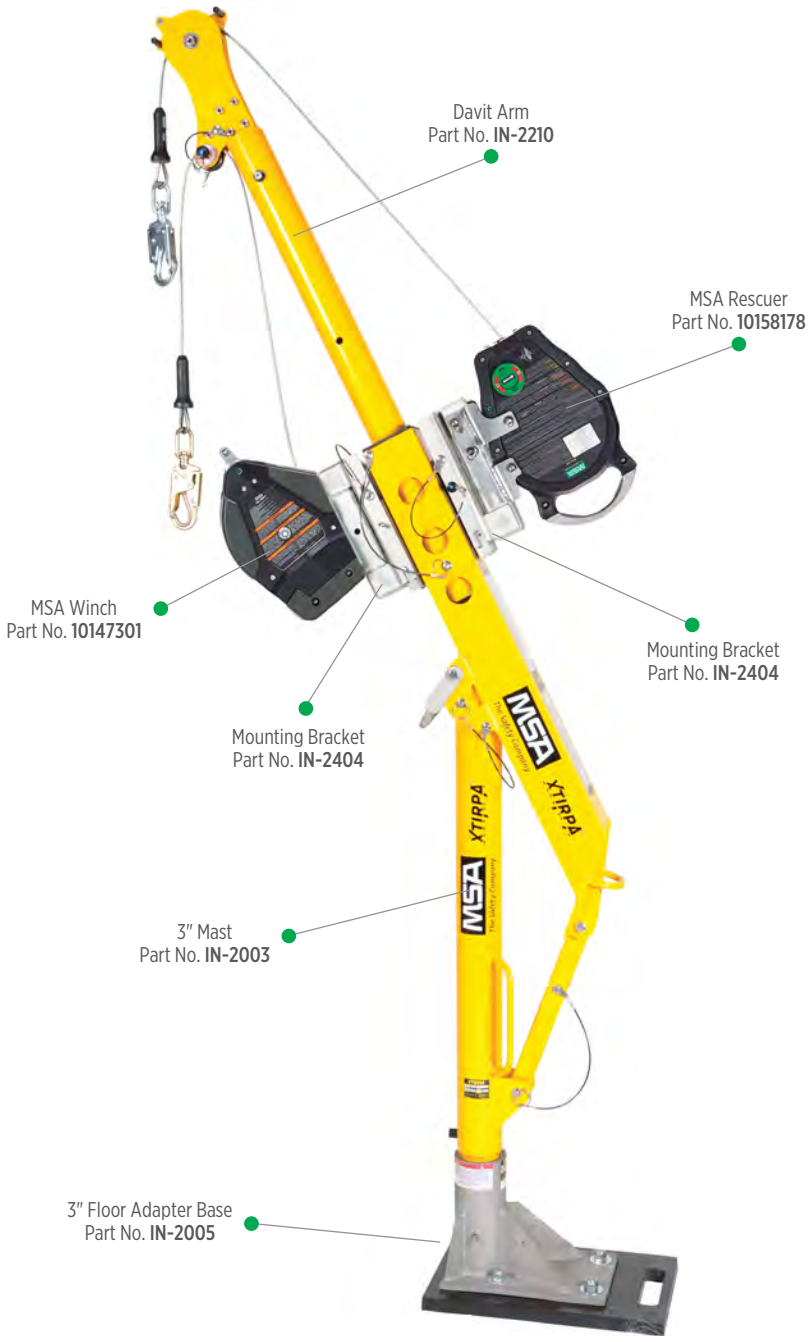
- Used for confined space vertical entry and fall protection when fixed base is needed
- Adapter base permanently affixed to existing structure
- Many different adapter base options can accommodate any work environment
- Designed for work areas that require regular setup and teardown

**Weight Capacity**

**360 lbs. (163 kg)** as pictured with MSA Rescuer

**Required System Components**

- Davit Arm **IN-2210**
- 3″ Mast **IN-2003**
- 3″ Adapter Base
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**




**System Components** *(see following page)*

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## MSA XTIRPA™ Adapter Base System—24" Reach

### System Components



**Davit Arm 24" Reach**

**IN-2210**

OSHA



**3" Diameter Mast**

**IN-2003**

OSHA



**Mast Extension**

**IN-2044** 15"
**IN-2109** 18"
**IN-2045** 24"

OSHA



**3" Floor Adapter Base**

**IN-2005** 304 stainless steel
**IN-2106** Zinc-plated
**IN-2311** 316 stainless steel

OSHA



**3" Flush Floor Adapter Base**

**IN-2006** 304 stainless steel
**IN-2114** Zinc-plated
**IN-2325** 316 stainless steel

OSHA



**3" Fresh Concrete Floor Adapter Base**

**IN-2007** 304 stainless steel
**IN-2326** 316 stainless steel

OSHA



**3" Center Mount Floor Adapter Base**

**IN-2105** 304 stainless steel
**IN-2137** Zinc-plated
**IN-2329** 316 stainless steel

OSHA



**3" Wall Adapter Base**

**IN-2013** 304 stainless steel
**IN-2107** Zinc-plated
**IN-2327** 316 stainless steel

OSHA



**3" Mural Adapter Base w/8" Offset**

**IN-2124** 304 stainless steel

OSHA



**3" Mural Adapter Base w/14" Offset**

**IN-2067** 304 stainless steel
**IN-2312** 316 stainless steel

OSHA



**3" Top Wall Adapter 90°**

**IN-2117** 304 stainless steel

OSHA



**3" Exterior Corner Wall Adapter Base**

**IN-2131** 304 stainless steel

OSHA



**3" Interior Corner Wall Adapter Base**

**IN-2133** 304 stainless steel

OSHA



**Mural Wall Angular Adapter**

**IN-2314**

OSHA



**3" Sleeve Adapter Base**

**IN-2097** 304 stainless steel
**IN-2328** 316 stainless steel

OSHA



**3" Barrel Adapter Base**

**IN-2021** 304 stainless steel
**IN-2129** Zinc-plated

OSHA



**3" Barrel Adapter Base 2" to 5"**

**IN-2315** Zinc-plated

OSHA



**3" H-Beam Adapter Base**

**IN-2085** 304 stainless steel

OSHA



**Fall Arrest and Rescue Link Adapter**

**IN-2271**

OSHA



**Wire Rope Link**

**IN-2400**

OSHA



**Warning Post**

**IN-2161**

OSHA



**3" Adapter Cap**

**IN-2072**

OSHA



**3" Adapter Cap with SST Wire**

**IN-2073**

OSHA



**Reinforcement Plates**

| | | |
|---|---|---|
| **P2006-006** | For adapter IN-2006 | (304 stainless steel) |
| **P2105-001** | For adapter IN-2105 | (304 stainless steel) |
| **P2005-001** | For adapter IN-2005 | (304 stainless steel) |
| **P2087-004** | For adapter IN-2087 | (304 stainless steel) |
| **P2013-008** | For adapter IN-2013 | (304 stainless steel) |

OSHA

**Threaded Rod Kit 3/4-10 x 12"**

**IN-2174**

OSHA

**Threaded Rod Kit 3/4-10 x 16"**

**IN-2212**

OSHA

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## MSA XTIRPA™ Adapter Base System—30″– 48″ Reach

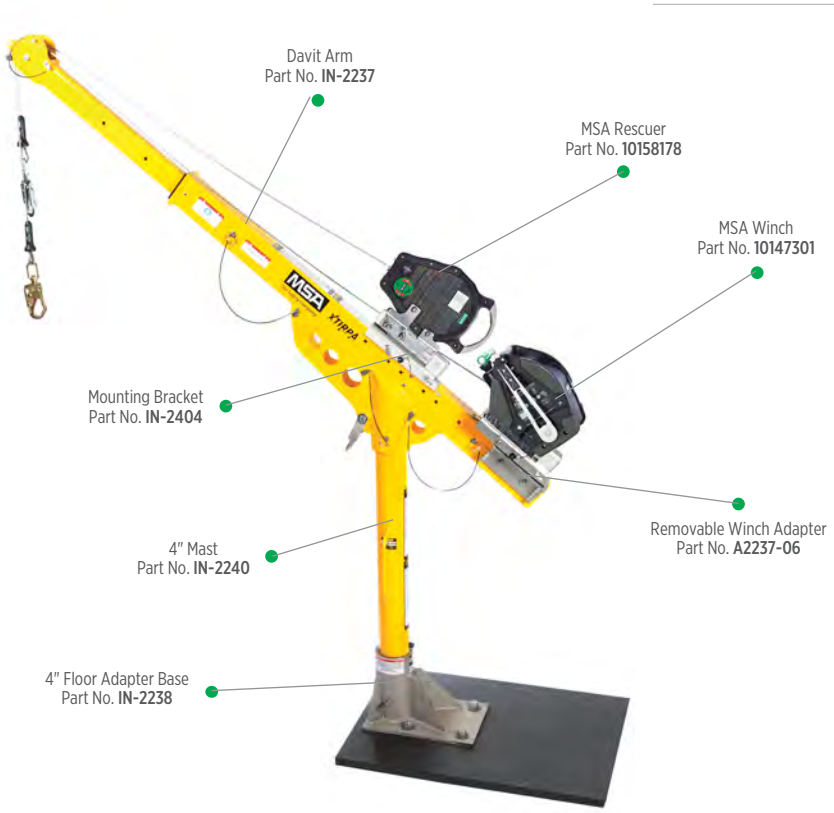
- Used for confined space vertical entry and fall protection when fixed base is needed
- Adapter base permanently affixed to existing structure
- Different adapter base options can accommodate any work environment
- Designed for work areas that require regular setup and teardown

**Weight Capacity**

**360 lbs. (163 kg)** as pictured with MSA Rescuer

**Required System Components**

- Davit Arm **IN-2237**
- 4″ Mast with 42″ Height **IN-2240** or 4″ Mast with 60″Height **IN-2313**
- 4″ Adapter Base
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**




### System Components



**Davit Arm 30″ to 48″ Reach**

**IN-2237**

OSHA



**Davit Arm 60″ to 96″ Reach**

**IN-2197**

OSHA



**5.5″ Mast for Davit Arm**

**IN-2199**

OSHA



**Removable Winch Adapter**

**A2237-06**

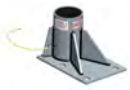
OSHA



**4″ Mast for Davit Arm**

**IN-2240** 42″ Height
**IN-2313** 60″ Height

OSHA



**4″ Floor Adapter Base**

**IN-2238** 304 stainless steel
**IN-2302** Zinc-plated

OSHA



**4″ Center Mount Floor Adapter Base**

**IN-2254** 304 stainless steel
**IN-2304** Zinc-plated

OSHA



**5.5″ Floor Adapter Base**

**IN-2201** 304 stainless steel

OSHA



**4″ Flush Floor Adapter Base**

**IN-2266** 304 stainless steel

OSHA



**4″ Mural Adapter Base**

**IN-2253** 304 stainless steel
**IN-2303** Zinc-plated

OSHA

not shown

**5.5″ Mural Wall Adapter Base**

**IN-2420**

OSHA



**4″ Sleeve Adapter Base**

**IN-2255** 304 stainless steel

OSHA



**4″ Adapter Cap**

**IN-2272**

OSHA



**4″ Adapter Cap with SST Wire**

**IN-2273**

OSHA



**4″ to 3″ Cylinder Reducer with Cable**

**A2238-03**

OSHA

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## MSA XTIRPA™ Hitch Mount System

- Used for confined space vertical entry and fall protection when portable base is needed
- Hitch mount can be customized to accommodate variety of confined space applications
- Commonly used with rescue vehicles for confined space rescue

**Weight Capacity**

**360 lbs. (163 kg)** as pictured with MSA Rescuer

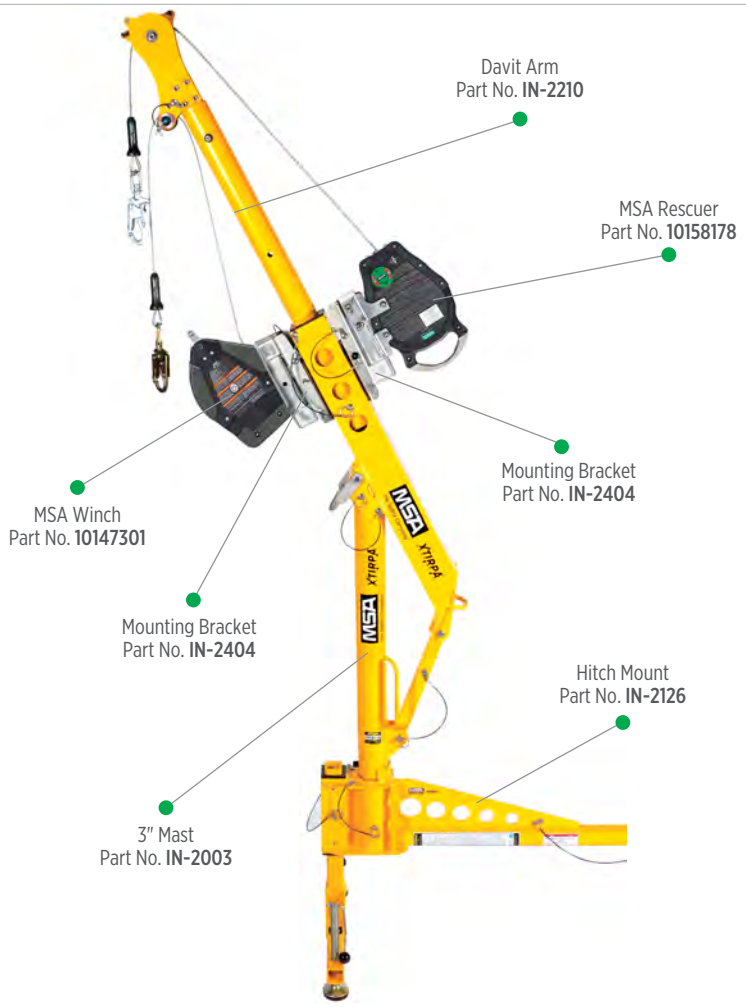
**Required System Components**

- Davit Arm **IN-2210**
- 3″ Mast **IN-2003**
- Hitch Mount with 24″ Stabilizer **IN-2126**

*OR*

Hitch Mount with 60″ Stabilizer **IN-2204**

- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**




### System Components



**Davit Arm 24″ Reach**

**IN-2210**

OSHA



**3″ Diameter Mast**

**IN-2003**

OSHA



**Mast Extension**

**IN-2044** 15″
**IN-2109** 18″
**IN-2045** 24″

OSHA



**3″ Hitch Mount w/24″ Stabilizer**

**IN-2126**

OSHA



**3″ Hitch Mount w/60″ Stabilizer**

**IN-2204**

OSHA



**Universal Joint Assembly for Hitch Mount**

**A2126-07**

OSHA



**90° Extension for Hitch Mount**

**A2126-10**

OSHA



**C-Clamp Adapters for Hitch Mount**

**A2126-14** 16″ C-clamp
**A2126-33** 23.5″ C-clamp

OSHA



**Anchor Bolt Adapter for Hitch Mount**

**A2126-21**

OSHA



**Universal Wall Adapter for Hitch Mount**

**IN-2348**

OSHA



**Beam Adapter for Universal Wall Adapter**

**A2348-08**

OSHA



**90° Extensions for Universal Wall Adapter**

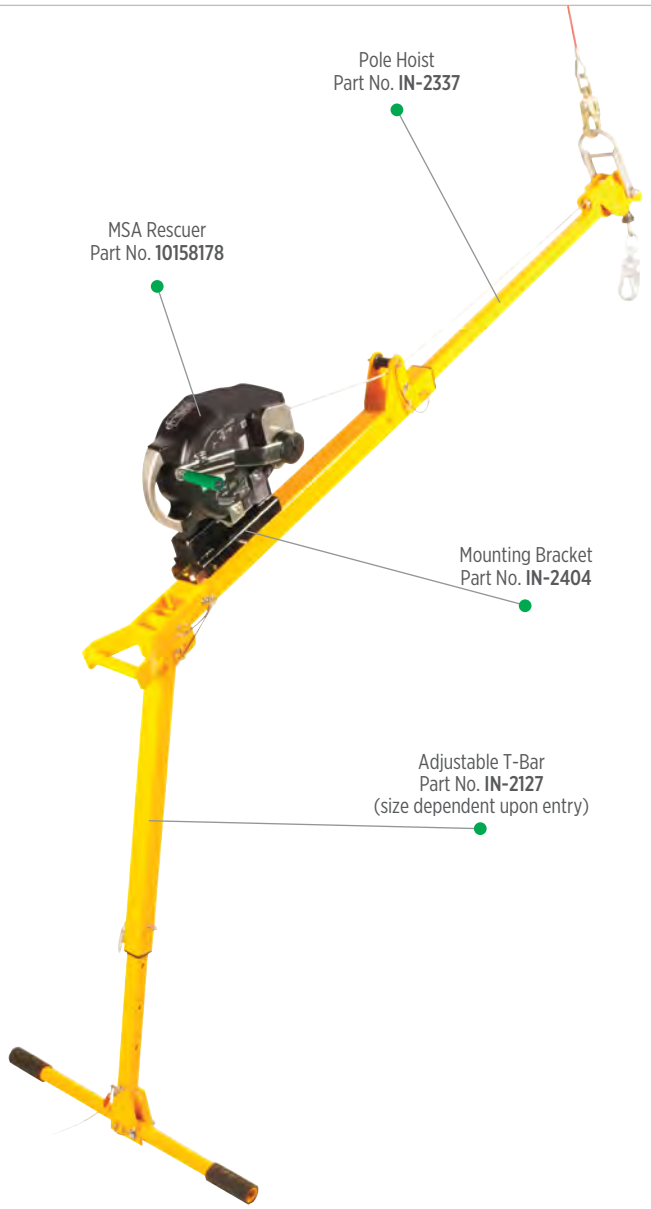
**A2348-03** 8″ extension for IN-2348
**A2348-05** 16″ extension for IN-2348

OSHA

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## MSA XTIRPA™ Pole Hoist System—Horizontal and Vertical Entry

- Used for confined space vertical/horizonal entry and fall protection when portable base is needed
- When attached to anchor point, Pole Hoist provides retrieval and fall protection when limited overhead clearance is present
- Can also be configured for horizontal entry applications such as lifting, lowering and fall protection




### Weight Capacity

**360 lbs. (163 kg)** as pictured with MSA Rescuer

### Required System Components

- 48″-72″ Pole Hoist **IN-2337**

  *OR*

  57″-102″ Pole Hoist **IN-2338**
- Adjustable T-Bar (size dependent upon entry)
- Anchorage Connector
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

### System Components



**Pole Hoist**

**IN-2337** 48–78″
**IN-2338** 57–102″

OSHA



**Adjustable T-Bar**

**IN-2127** 48″
**IN-2256** 47–75″
**IN-2274** 12–14″

OSHA



**Flange Adapter for Lateral Entry**

**IN-2242**

OSHA



**Universal Ring Adapter**

**IN-2087**

OSHA



**Jib Adapter for Lateral Entry**

**IN-2241**

OSHA

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## MSA XTIRPA™ Manhole Collar System

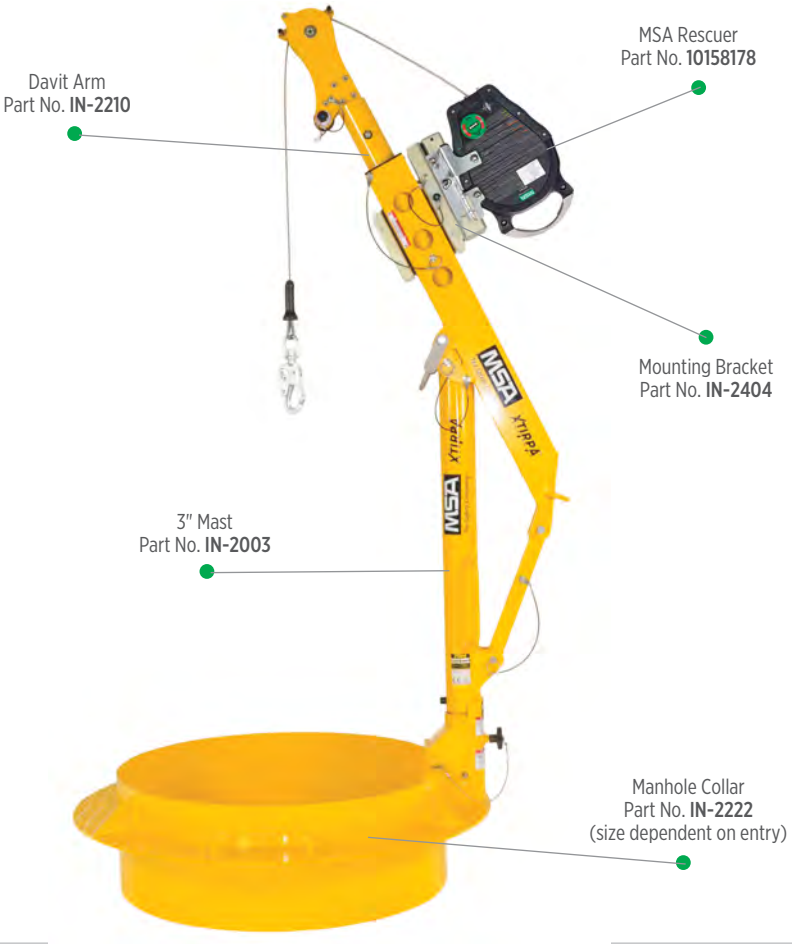
- Used for confined space vertical entry and fall protection when portable base is needed
- Provides adapter base by fitting within manhole opening
- Designed for frequent setup of confined space equipment over similarly-sized openings

**Weight Capacity**

**360 lbs. (163 kg)** as pictured with MSA Rescuer

**Required System Components**

- Davit Arm **IN-2210**
- 3″ Mast **IN-2003**
- Manhole Collar (size dependent upon entry)
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**




### System Components



**Davit Arm 24″ Reach**

**IN-2210**

OSHA



**3″ Diameter Mast**

**IN-2003**

OSHA



**Mast Extension**

**IN-2044** 15″
**IN-2109** 18″
**IN-2045** 24″

OSHA



**Mast/Davit Arm**

**IN-2295** 18″ reach
**IN-2363** 9″ reach

OSHA



**Manhole Retaining Ring**

**IN-2010**

OSHA



**Cone Shaped Safety Ring**

**IN-2009**

OSHA



**Manhole Collar Seat**

**A2217-10**

OSHA



**Hand Rail Attachment for Mast**

**IN-2282**

OSHA



**Ladder Adapter**

**A2217-05**

OSHA



**Positioning Seat**

**IN-2244**

OSHA



**Manhole Collar (sizes are for diameter)**

| | |
|---|---|
| **IN-2287** | Fits 16–18″ |
| **IN-2219** | Fits 18–20″ |
| **IN-2220** | Fits 20–22″ |
| **IN-2221** | Fits 22–24″ |
| **IN-2217** | Fits 24–26″ |
| **IN-2222** | Fits 26–28″ |
| **IN-2218** | Fits 28–30″ |
| **IN-2167** | Fits 30–32″ |
| **IN-2223** | Fits 32–34″ |
| **IN-2224** | Fits 34–36″ |

OSHA



**Variable Collar for Convex Entry**

| P/N | Inclination | Diameter |
|---|---|---|
| **IN-2486** | 0–30° | 16″–18″ |
| **IN-2496** | 0–30° | 18″–20″ |
| **IN-2497** | 0–30° | 20″–22″ |
| **IN-2490** | 0–30° | 22″–24″ |
| **IN-2498** | 0–30° | 24″–26″ |
| **IN-2475** | 0–45° | 24″–26″ |
| **IN-2500** | 0–30° | 28″–30″ |
| **IN-2487** | 0–30° | 30″–32″ |

OSHA

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## MSA XTIRPA™ Adjustable Wall Adapter System

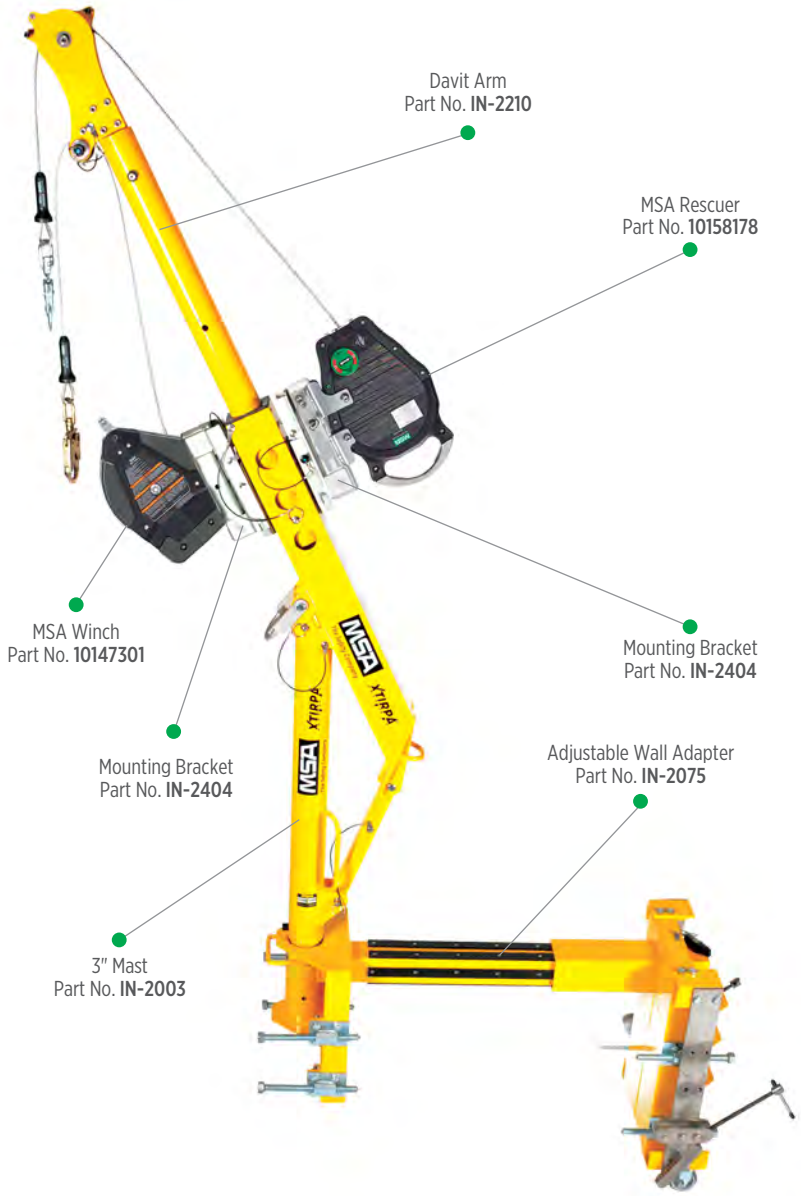
- Used for confined space vertical entry and fall protection when portable base is needed
- Range from 6″ to 45″ to accommodate wide range of confined space applications
- Designed for frequent setup of confined space equipment

**Weight Capacity**

**360 lbs. (163 kg)** as pictured with MSA Rescuer

**Required System Components**

- Davit Arm **IN-2210**
- 3″ Mast **IN-2003**
- Adjustable Wall Adapter
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**




### System Components

| Davit Arm 24″ Reach | 3″ Diameter Mast | Mast Extension | Mast/Davit Arm | Adjustable Wall Adapter |
|---|---|---|---|---|
| **IN-2210** | **IN-2003** | **IN-2044** 15″<br>**IN-2109** 18″<br>**IN-2045** 24″ | **IN-2295** 18″ reach<br>**IN-2363** 9″ reach | **IN-2008** 6″–15.75″<br>**IN-2168** 12″–24″<br>**IN-2075** 12″–31.5″<br>**IN-2125** 24″–45″<br>**IN-2251** 12″–30″ |
| OSHA | OSHA | OSHA | OSHA | OSHA |

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## MSA XTIRPA™ Counter Weight System

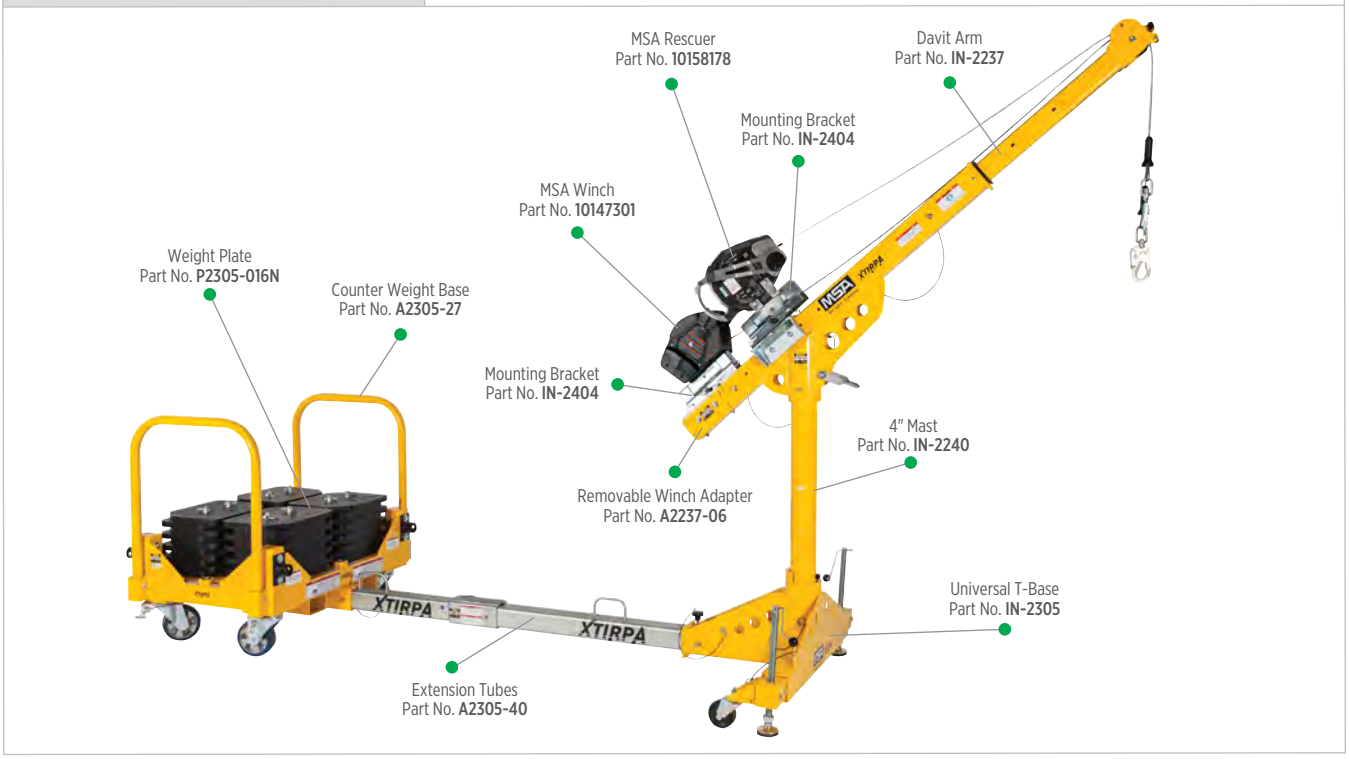
- Used for confined space vertical entry and fall protection when portable base is needed
- System used with Counter Weight Base for counterbalance
- Ideal for movement and access between various confined space entry points in the same area

**Weight Capacity**

**360 lbs. (163 kg)** as pictured with MSA Rescuer

**Required System Components**

- Davit Arm IN-2237
- 4″ Mast with 42″ Height IN-2240 or 4″ Mast with 60″ Height IN-2313
- T-Base Extension 72″ A2305-16
- Universal T-Base for 4″ Mast IN-2305
- 50 lb. Weight Plates P2305-016N (Qty: 40)
- Rescuer SRL such as 10158178 and corresponding attachment bracket such as IN-2404




### System Components



**Davit Arm 30″ to 48″ Reach**
**IN-2237**
OSHA



**Removable Winch Adapter**
**A2237-06**
OSHA



**4″ Mast for Davit Arm**
**IN-2240** 42″ Height
**IN-2313** 60″ Height
OSHA



**Universal T-Base for 4″ Mast**
**IN-2305**
OSHA



**Counter Weight Base**
**A2305-27**
OSHA



**Weight Plate, 50 lbs.**
**P2525-017**
OSHA



**T-Base Extension, 72″ with 2.5″ Receiver**
**A2305-16**
OSHA



**Reducer 2.5 to 2″ for T-Base Extension**
**A2217-10**
OSHA



**Extension Tubes 96″ for Counter Weight Base**
**A2305-40**
OSHA



**T-Base Reducer for 72″ Extension**
**A2305-25**
OSHA



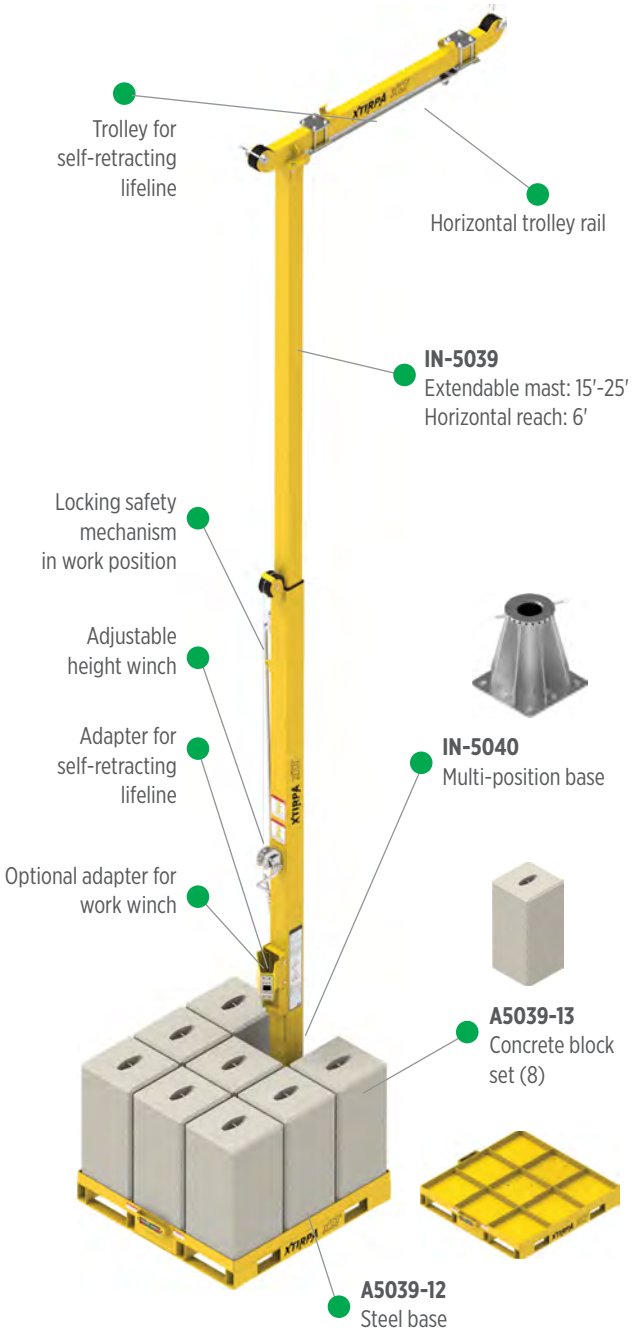
**90 Degree Extension for Universal T-Base for 4″ Mast**
**A2305-29**
OSHA

*For rescuer, winch, and mounting bracket ordering information, see page 152.*

## XTIRPA™ XLT

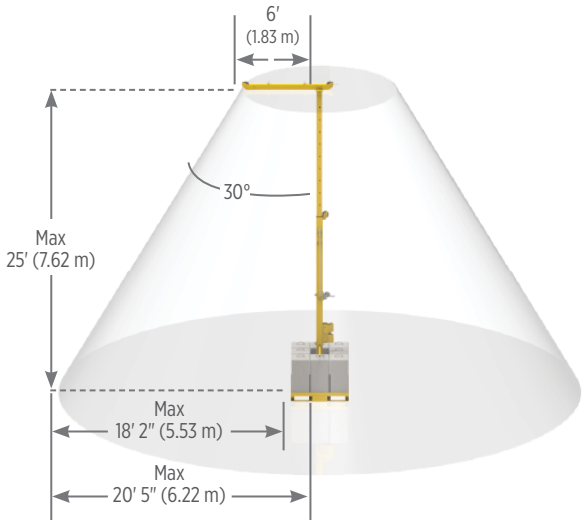
The XTIRPA XLT provides workers with great versatility when looking for elevated tie-off platform solutions. The XLT meets both ANSI and CSA standards for anchorage connectors, and is designed with solid steel for utmost durability in tough environments.

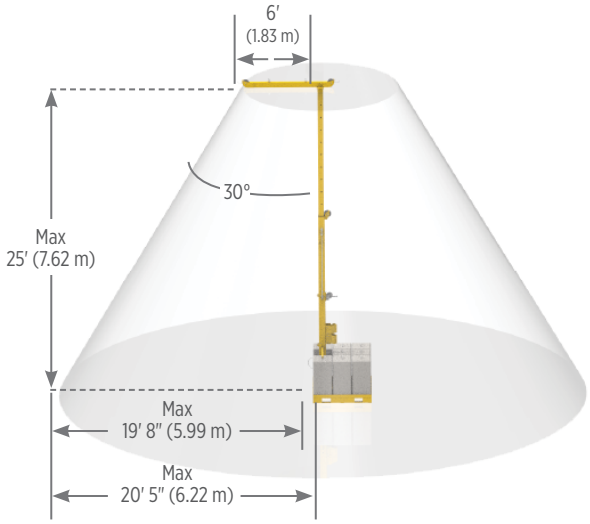
### System Components

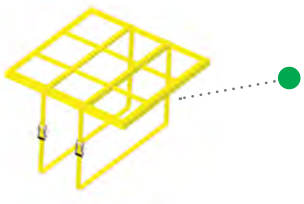



Meets ANSI Z359.18 and CSA Z259.15-17: Anchorage Connectors

*Self-Retracting Lifelines sold separately*



**A5039-46**
Recommended transport structure

## Accessories for XTIRPA™ Confined Space Products



**MSA Rescuer**

**10158178 (ANSI)**
**10158180 (CSA)**

ANSI Z359.14, OSHA, CSA Z259.2.2



**MSA Winch**

**10147301**

OSHA



**Mounting Bracket (MSA)**

**IN-2404**

Mounting bracket needed for Rescuer (10158178) and Winch (10147301) if using on both XTIRPA confined space products and MSA Tripod



**MSA Rescuer — XTIRPA use only**

**10217196 (ANSI)**
**10217197 (CSA)**

This MSA rescuer can be mounted directly to XTIRPA Confined Space products without the use of mounting bracket IN-2404.



**MSA Winch — XTIRPA use only**

**10217097**

OSHA





*Square J Hook*



*Medium Square Hook*



*Large J Hook*

**Manhole Cover Lifter**

| | |
|---|---|
| **IN-2071** | Ratchet Manhole Cover Lifter |
| **P2071-021P** | Square J Hook |
| **P2071-022P** | Medium Square Hook |
| **P2071-023P** | Large J Hook |



**Manhole Guard Carrying Bag**

**P2108-025**



**24" Davit Carrying Bag**

**P2002-046**

## MSA Confined Space Entry Equipiment: Retrieval

### Tripod System



| MSA Confined Space Entry Kit |
|---|
| 10163033 |
| *Includes:*<br>• MSA Tripod<br>• MSA Rescuer & carry bag<br>• MSA Winch & carry bag<br>• Carabiner<br>• Pulley |



| MSA Tripod |
|---|
| 10102002 |
| • Can be set up/dismantled without the use of tools<br>• Automatic hinge lock legs with incremental adjustment<br>• Skid-resistant feet |

### MSA Confined Space Entry Kits

| | Stainless Steel Kit Components | | | | | Standards | | |
|---|---|---|---|---|---|---|---|---|
| Part No. | 8' Tripod | 50' MSA Rescuer | 65' MSA Winch | Pulleys | Carabiners | ANSI Z359.14 | CSA Z259.2.2 | OSHA |
| 10163033 | ■ | ■ | ■ | 2 | 2 | ■ | | ■ |
| 10163034 | ■ | ■ | | 1 | 1 | ■ | | ■ |
| 10174588 | ■ | ■ | ■ | 2 | 2 | | ■ | |
| 10174589 | ■ | ■ | | 1 | 1 | | ■ | |

### Replacement Parts and Accessories

| Part No. | Description |
|---|---|
| 10105612 | Leg base support strap |
| 10089207 | Carabiner |
| 506222 | Pulley |
| 506232 | Mounting bracket for Dynevac II, 50' |
| 10169369 | Tripod duffel bag |

## MSA Confined Space Entry Equipment: Retrieval/Lifting/Lowering Devices



### MSA Rescuer

- Fast, easy and intuitive fall protection with integral bi-directional retrieval capability
- Arrests fall and allows fallen worker to ascend or descend to safe location
- Durable, economical
- Fast installation and setup
- Patent-pending integral bracket
- Intuitive mode switch
- ANSI Z359.14 and CSA Z259.2.2

| Part No. | Description |
|---|---|
| **10158178** | MSA Rescuer, stainless steel cable, 50 ft. (16m) – **ANSI Z359.14** |
| **10158180** | MSA Rescuer, stainless steel cable, 50 ft. (16m) – **CSA Z259.2.2** |
| **10159755** | MSA Rescuer, rope, 50 ft. (16m) – ANSI Z359.14 |



### MSA Winch

- Rugged, versatile and economical mechanism for lifting, lowering and positioning of personnel and materials within confined space applications
- Maximum work load of 400 lb. for personnel, 620 lbs for materials (20:1 design factor)
- Patent-pending bracket attachment for easy installation
- Ergonomic carry grip and foldable crank handle
- Includes self-locking swivel 36C snaphook
- ANSI Z359.1-compliant

| Part No. | Description |
|---|---|
| **10153757** | MSA Winch, galvanized cable, **65-ft (20m)** |
| **10147301** | MSA Winch, stainless steel cable, **65-ft (20m)** |
| **10154684** | MSA Winch, stainless steel cable, **95-ft (29m)** |
| **10148277** | **Synthetic rope** for MSA Winch, 65-ft (20m) |



### Bosun Chair

- Attaches to chest D-ring of MSA full-body harnesses
- Keeps user in upright position while suspended for long durations
- Padded seat for comfort
- Adjustable web assembly ensures security

| Part No. | Description |
|---|---|
| **SSH3505017** | Bosun Chair, 5" x 16½" padded seat, black nylon straps, 2 carabiners |



### Spreader Bars

| Part No. | Description |
|---|---|
| **507131** | Spreader bar, 22" |

# V-SERIES® FULL-BODY HARNESSES

Because the safest fall protection is the one you'll actually want to wear, each V-SERIES harness includes unique features to deliver **exceptional comfort**—so you can focus on your work, not your harness:

### Superior comfort

The exclusive racing style buckle allows for a close, comfortable fitting harness—eliminating the need for bulky chest straps or cumbersome buckles.

### Flexibility

The racing style buckle creates an athletic cut, contouring the harness to the body for improved upper torso movement on the job.

### Adjustability

Pull-down adjustment on each harness allows you to quickly get the right fit, that last throughout the work day.



**V-FORM® Harness**

**Setting the Standard**

*Features:*

- Racing-style or Qwik-fit buckle
- Athletic cut
- Pull-down adjustment
- Easy-to-inspect stitch patterns



**V-FORM®+ Harness**

**Advancing the Standard**

*Features:*

*All the benefits of the V-FORM, plus...*

- Body-conforming shoulder pad
- Dedicated attachment point for personal fall limiters



**V-FIT® Harness**

**Raising Expectations**

*Features:*

*All the benefits of the V-FORM+, and...*

- Removable, body-conforming shoulder pad
- Horizontal leg straps
- Aluminum hardware



**V-FLEX® Harness**

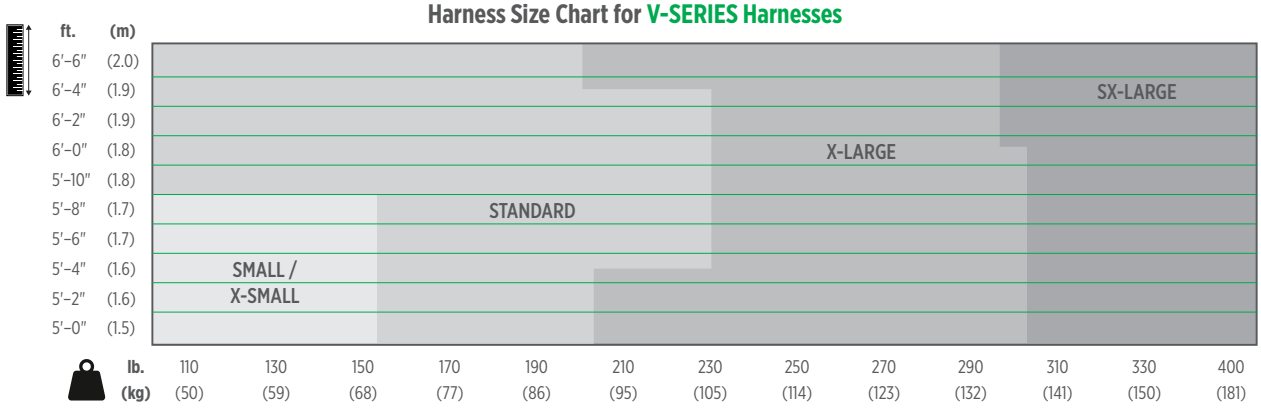
**Changing the Game**

*Features:*

*All the benefits of the V-FIT, plus...*

- Thermoform shoulder pad designed for cooling
- Leg padding
- Swiveling hip juncture for mobility
- Integrated suspension trauma straps
- Re-settable lanyard keepers

## Harness Size Chart for V-SERIES Harnesses



## V-FLEX® Full-Body Harness

### Superior Comfort

**1** Using a patented RaceFLEX connection, webbing is routed across the chest for a secure and comfortable fit—eliminating the need for bulky chest straps or cumbersome buckles.

**2** Reduce fatigue with flexible foam shoulder pad that responds to your movement to conform to your body, eliminating pressure points and chafing.

**3** Keep cool and reduce heat stress with interior padding designed with channels for continuous air flow and ventilation.

### Flexibility

**4** Using an exclusive racing style design, webbing contours to the torso, reducing the need for adjustments throughout the day and allowing for better mobility on the job.

**5** Featuring a patented hip connection, the harness "flexes" with the worker, reducing fatigue throughout the day.

### Adjustability

**6** Pull down adjustment allows you to quickly and easily get the right fit that last throughout the work day.






### V-FLEX Harness Padding

Contoured padding fits the body's normal curves to reduce pinch points and chaffing.

Closed cell foam reduces moisture build-up—keeping your pad from getting soggy and extending the life of your harness.

Keep cool and reduce heat stress with interior padding designed with channels for continuous air flow. Vented "V" feature allows for fresh air to flow from outside the pad, to inside.

*Check out our Harness Heat Study here!*

## V-FLEX® Full-Body Harness

| V-FLEX Standard Full-Body Harnesses | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Part Number | Size (See chart on page 155.) | | | | D-Ring Configuration | | | Leg Straps | | Standards | | |
| | XSM | STD | XLG | SXL | Back | Chest | Hip | Tongue Buckle | Quick-Connect | ANSI Z359.11 | CSA Z259.5 | OSHA |
| 10239822 | ■ | | | | ■ | | | | ■ | ■ | ■ | ■ |
| 10239740 | | ■ | | | ■ | | | | ■ | ■ | ■ | ■ |
| 10239981 | | | ■ | | ■ | | | | ■ | ■ | ■ | ■ |
| 10239982 | | | | ■ | ■ | | | | ■ | ■ | ■ | ■ |
| 10239983 | ■ | | | | ■ | | | ■ | | ■ | ■ | ■ |
| 10239984 | | ■ | | | ■ | | | ■ | | ■ | ■ | ■ |
| 10239985 | | | ■ | | ■ | | | ■ | | ■ | ■ | ■ |
| 10239986 | | | | ■ | ■ | | | ■ | | ■ | ■ | ■ |

| V-FLEX Standard Full-Body Harnesses with Front D-Ring | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Part Number | Size (See chart on page 155.) | | | | D-Ring Configuration | | | Leg Straps | | Standards | | |
| | XSM | STD | XLG | SXL | Back | Chest | Hip | Tongue Buckle | Quick-Connect | ANSI Z359.11 | CSA Z259.5 | OSHA |
| 10211316 | ■ | | | | ■ | ■ | | | ■ | ■ | ■ | ■ |
| 10211317 | | ■ | | | ■ | ■ | | | ■ | ■ | ■ | ■ |
| 10211318 | | | ■ | | ■ | ■ | | | ■ | ■ | ■ | ■ |
| 10211319 | | | | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ |
| 10211320 | ■ | | | | ■ | ■ | | ■ | | ■ | ■ | ■ |
| 10211321 | | ■ | | | ■ | ■ | | ■ | | ■ | ■ | ■ |
| 10211322 | | | ■ | | ■ | ■ | | ■ | | ■ | ■ | ■ |
| 10211323 | | | | ■ | ■ | ■ | | ■ | | ■ | ■ | ■ |

| V-FLEX Construction Full-Body Harnesses | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Part Number | Size (See chart on page 155.) | | | | D-Ring Configuration | | | Leg Straps | | Standards | | |
| | XSM | STD | XLG | SXL | Back | Chest | Hip | Tongue Buckle | Quick-Connect | ANSI Z359.11 | CSA Z259.5 | OSHA |
| 10211324 | ■ | | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10211325 | | ■ | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10211326 | | | ■ | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10211327 | | | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10211328 | ■ | | | | ■ | | ■ | ■ | | ■ | ■ | ■ |
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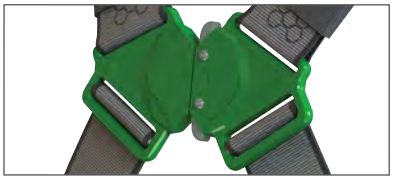
| 10211330 | | | ■ | | ■ | | ■ | ■ | | ■ | ■ | ■ |
| 10211331 | | | | ■ | ■ | | ■ | ■ | | ■ | ■ | ■ |
| 10211342 | ■ | | | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10211343 | | ■ | | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10211344 | | | ■ | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10211345 | | | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10211346 | ■ | | | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ |
| 10211347 | | ■ | | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ |
| 10211348 | | | ■ | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ |
| 10211349 | | | | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ |

## V-FIT® Full-Body Harness

### Superior Comfort

**1** Using a patented RaceFLEX™ connection, webbing is routed across the chest for a secure and comfortable fit—eliminating the need for bulky chest straps or cumbersome buckles.



*RaceFLEX Chest Buckle*

**2** Shoulder padding responds to your movement to conform to your body, eliminating pressure points and chafing. Shoulder padding can be removed for cleaning, extending the life of the harness.

**3** Patented leg strap design keeps leg straps in place as webbing lies horizontally across the thighs, creating a more natural fit.

### Flexibility

**4** The RaceFLEX Buckle creates an athletic cut contouring the harness to the body and improving upper torso movement on the job.

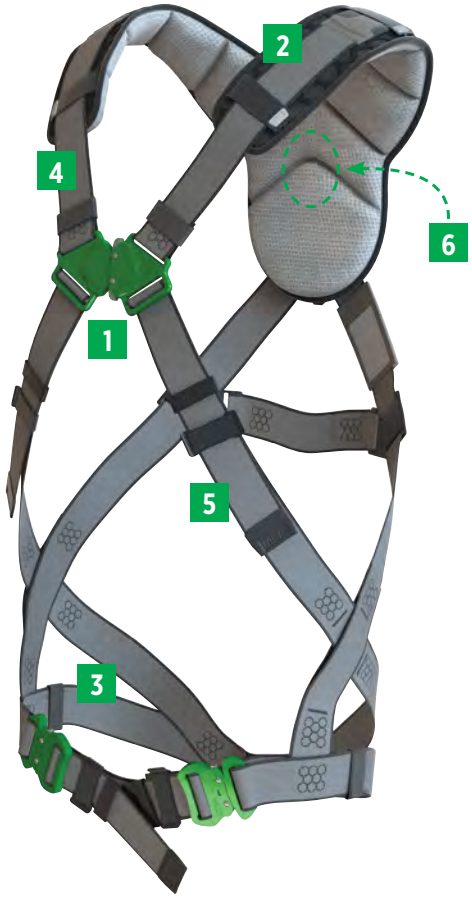
### Adjustability

**5** Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day.

**6** Dedicated attachment point for Personal Fall Limiters allows for quick and easy attachment, and keeps your back D-ring free for other use.



*Dedicated PFL attachment*




### V-FIT Construction Harness Adjustable Waist Pad

The V-FIT Harness' adjustable waist pad allows you to position the waist pad specifically for you and your work day. With its patented design, the V-FIT waist pad can be adjusted higher on your torso for lumbar support or lower for work positioning applications. Designed around pressure points and by choosing breathable materials, the V-FIT waist pad delivers ultimate on-the-job comfort.





*V-FIT Standard Harness with quick-connect buckles*



*V-FIT Construction Harness with tongue buckles*




*V-FIT Construction Harness with integral suspension trauma safety steps and tongue buckles*

## V-FIT® Full-Body Harness

| V-FIT Standard Full-Body Harnesses | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Size (See chart on page 155.) | | | | D-Ring Configuration | | | | Leg Straps | | Padding | | | Accessory | Standards | | |
| Part Number | XSM | STD | XLG | SXL | Back | Back & Hips | Back, Shoulder | Back, Hip, & Shoulder | Tongue Buckle | Quick-Connect | None | Shoulder | Shoulder & Leg | Suspension Trauma Safety Steps | ANSI Z359.11 | CSA Z259.10 | OSHA |
| 10194536 | ■ | | | | ■ | | | | | ■ | | ■ | | | ■ | ■ | ■ |
| 10194630 | | ■ | | | ■ | | | | | ■ | | ■ | | | ■ | ■ | ■ |
| 10194671 | | | ■ | | ■ | | | | | ■ | | ■ | | | ■ | ■ | ■ |
| 10194672 | | | | ■ | ■ | | | | | ■ | | ■ | | | ■ | ■ | ■ |
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| 10194873 | | ■ | | | | ■ | | | | ■ | | ■ | | | ■ | ■ | ■ |
| 10194874 | | | ■ | | | ■ | | | | ■ | | ■ | | | ■ | ■ | ■ |
| 10194875 | | | | ■ | | ■ | | | | ■ | | ■ | | | ■ | ■ | ■ |
| 10194888 | ■ | | | | ■ | | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194889 | | ■ | | | ■ | | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194890 | | | ■ | | ■ | | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194891 | | | | ■ | ■ | | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194908 | ■ | | | | | ■ | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194909 | | ■ | | | | ■ | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194910 | | | ■ | | | ■ | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194931 | | | | ■ | | ■ | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194936 | ■ | | | | | | ■ | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194937 | | ■ | | | | | ■ | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194938 | | | ■ | | | | ■ | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194939 | | | | ■ | | | ■ | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194940 | ■ | | | | | | | ■ | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194941 | | ■ | | | | | | ■ | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194942 | | | ■ | | | | | ■ | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194943 | | | | ■ | | | | ■ | ■ | | | ■ | | | ■ | ■ | ■ |
| 10194961 | | ■ | | | | ■ | | | | ■ | | | ■ | | ■ | ■ | ■ |
| 10194962 | | | ■ | | | ■ | | | | ■ | | | ■ | | ■ | ■ | ■ |
| 10195038 | | ■ | | | ■ | | | | | ■ | ■ | | | | ■ | ■ | ■ |
| 10195039 | | | ■ | | ■ | | | | | ■ | ■ | | | | ■ | ■ | ■ |
| 10195092 | | ■ | | | ■ | | | | ■ | | ■ | | | | ■ | ■ | ■ |
| 10195093 | | | ■ | | ■ | | | | ■ | | ■ | | | | ■ | ■ | ■ |
| 10195110 | | ■ | | | | ■ | | | ■ | | ■ | | | | ■ | ■ | ■ |
| 10195111 | | | ■ | | | ■ | | | ■ | | ■ | | | | ■ | ■ | ■ |
| 10262591 | ■ | | | | ■ | | | | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| 10262486 | | ■ | | | ■ | | | | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| 10262487 | | | ■ | | ■ | | | | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| 10262592 | | | | ■ | ■ | | | | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| 10262593 | ■ | | | | ■ | | | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10262484 | | ■ | | | ■ | | | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10262485 | | | ■ | | ■ | | | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10262594 | | | | ■ | ■ | | | | | ■ | | ■ | | ■ | ■ | ■ | ■ |

## V-FIT® Full-Body Harness

| V-FIT Construction Full-Body Harnesses | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Size (See chart on page 155.) | | | | D-Ring Configuration | | Leg Straps | | Padding | | Accessory | Standards | | |
| Part Number | XSM | STD | XLG | SXL | Back, Chest, & Hip | Back & Hips | Tongue Buckle | Quick-Connect | Shoulder & Lumbar | Shoulder, Leg, & Lumbar | Suspension Trauma Safety Steps | ANSI Z359.11 | CSA Z259.10 | OSHA |
| 10195133 | ■ | | | | | ■ | | ■ | ■ | | | ■ | ■ | ■ |
| 10195134 | | ■ | | | | ■ | | ■ | ■ | | | ■ | ■ | ■ |
| 10195135 | | | ■ | | | ■ | | ■ | ■ | | | ■ | ■ | ■ |
| 10195136 | | | | ■ | | ■ | | ■ | ■ | | | ■ | ■ | ■ |
| 10195140 | ■ | | | | ■ | | ■ | | ■ | | | ■ | ■ | ■ |
| 10195141 | | ■ | | | ■ | | ■ | | ■ | | | ■ | ■ | ■ |
| 10195142 | | | ■ | | ■ | | ■ | | ■ | | | ■ | ■ | ■ |
| 10195143 | | | | ■ | ■ | | ■ | | ■ | | | ■ | ■ | ■ |
| 10195149 | | ■ | | | | ■ | ■ | | ■ | | | ■ | ■ | ■ |
| 10195150 | | | ■ | | | ■ | ■ | | ■ | | | ■ | ■ | ■ |
| 10195151 | | | | ■ | | ■ | ■ | | ■ | | | ■ | ■ | ■ |
| 10195181 | | ■ | | | | ■ | ■ | | | ■ | | ■ | ■ | ■ |
| 10195182 | | | ■ | | | ■ | ■ | | | ■ | | ■ | ■ | ■ |
| 10262595 | ■ | | | | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10262488 | | ■ | | | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10262489 | | | ■ | | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10262596 | | | | ■ | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |

| V-FIT Standard Full-Body Harnesses with Front D-Ring | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Size (See chart on page 155.) | | | | D-Ring Configuration | | | Leg Straps | | Padding | Standards | | |
| Part Number | XSM | STD | XLG | SXL | Back & Chest | Back, Chest, & Hip | Shoulder | Tongue Buckle | Quick-Connect | Shoulder | ANSI Z359.11 | CSA Z259.10 | OSHA |
| 10194673 | ■ | | | | ■ | | | | ■ | ■ | ■ | ■ | ■ |
| 10194656 | | ■ | | | ■ | | | | ■ | ■ | ■ | ■ | ■ |
| 10194657 | | | ■ | | ■ | | | | ■ | ■ | ■ | ■ | ■ |
| 10194862 | | | | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ |
| 10194863 | ■ | | | | | ■ | | | ■ | ■ | ■ | ■ | ■ |
| 10194864 | | ■ | | | | ■ | | | ■ | ■ | ■ | ■ | ■ |
| 10194865 | | | ■ | | | ■ | | | ■ | ■ | ■ | ■ | ■ |
| 10194866 | | | | ■ | | ■ | | | ■ | ■ | ■ | ■ | ■ |
| 10194892 | ■ | | | | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| 10194893 | | ■ | | | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| 10194894 | | | ■ | | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| 10194895 | | | | ■ | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| 10194896 | ■ | | | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10194897 | | ■ | | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10194898 | | | ■ | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10194899 | | | | ■ | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10194900 | ■ | | | | | | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10194905 | | ■ | | | | | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10194906 | | | ■ | | | | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10194907 | | | | ■ | | | ■ | ■ | | ■ | ■ | ■ | ■ |

## V-FIT® Full-Body Harness





*V-FIT Derrick Harness*





*V-FIT Tower Harness*

**V-FIT Derrick Full-Body Harnesses**

| Part Number | Size (See chart on page 155.) | | | | D-Ring Configuration | Leg Straps | Padding | Standards | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | XSM | STD | XLG | SXL | Back, Chest, & Hip | Tongue Buckle | Shoulder & Lumbar | ANSI Z359.11 | CSA Z259.10 | OSHA |
| 10195204 | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| 10195205 | | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ |
| 10195206 | | | ■ | | ■ | ■ | ■ | ■ | ■ | ■ |
| 10195207 | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

**V-FIT Tower Full-Body Harnesses with Front D-Ring**

| Part Number | Size (See chart on page 155.) | | | | D-Ring Configuration | Leg Straps | | Tool Belt | | Padding | Standards | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | XSM | STD | XLG | SXL | Back, Hip, & Shoulder | Tongue Buckle | Quick-Connect | Tongue Buckle | Quick-Connect | Shoulder, Leg, & Lumbar | ANSI Z359.11 | CSA Z259.10 | OSHA |
| 10218041 | ■ | | | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10218042 | | ■ | | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10218043 | | | ■ | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10218045 | | | | ■ | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10218046 | ■ | | | | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ |
| 10218048 | | ■ | | | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ |
| 10218049 | | | ■ | | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ |
| 10218050 | | | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ |

## V-FORM®+ Full-Body Harness

### Superior Comfort

**1** The patented racing-style allows for a close, comfortable harness fit — eliminating the need for bulky chest straps or cumbersome buckles.



**2** Shoulder padding responds to your movement to conform to your body, eliminating pressure points and chafing.

### Increased Flexibility

**3** The racing-style buckle creates an athletic cut, contouring the harness to the body and improving upper torso movement on the job.

### Adjustability

**4** Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day.

**5** Dedicated attachment point for Personal Fall Limiters allows for quick and easy attachment, and keeps your back D-ring free for other use.








*V-FORM+ Harness with tongue-buckle leg straps*



*V-FORM+ Harness with quick-connect leg straps*

## V-FORM®+ Full-Body Harness

| V-FORM+ Harnesses | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D-Ring Configuration | | | | Size (See chart on page 155.) | | | | Leg Buckle Type | | Padding | Standards |
| Part Number | Back | Back, Hips | Back, Chest | Back, Chest, Hips | XSM | STD | XLG | SXL | Tongue Buckle | Quick-Connect | Shoulder | ANSI Z359.11/ CSA Z259.10/ OSHA |
| 10206085 | ■ | | | | ■ | | | | ■ | | ■ | ■ |
| 10205845 | ■ | | | | | ■ | | | ■ | | ■ | ■ |
| 10206086 | ■ | | | | | | ■ | | ■ | | ■ | ■ |
| 10206087 | ■ | | | | | | | ■ | ■ | | ■ | ■ |
| 10206088 | | ■ | | | ■ | | | | ■ | | ■ | ■ |
| 10206089 | | ■ | | | | ■ | | | ■ | | ■ | ■ |
| 10206090 | | ■ | | | | | ■ | | ■ | | ■ | ■ |
| 10206091 | | ■ | | | | | | ■ | ■ | | ■ | ■ |
| 10206092 | | | ■ | | ■ | | | | ■ | | ■ | ■ |
| 10206093 | | | ■ | | | ■ | | | ■ | | ■ | ■ |
| 10206094 | | | ■ | | | | ■ | | ■ | | ■ | ■ |
| 10206095 | | | ■ | | | | | ■ | ■ | | ■ | ■ |
| 10206136 | | | | ■ | ■ | | | | ■ | | ■ | ■ |
| 10206137 | | | | ■ | | ■ | | | ■ | | ■ | ■ |
| 10206138 | | | | ■ | | | ■ | | ■ | | ■ | ■ |
| 10206139 | | | | ■ | | | | ■ | ■ | | ■ | ■ |
| 10206100 | ■ | | | | ■ | | | | | ■ | ■ | ■ |
| 10206101 | ■ | | | | | ■ | | | | ■ | ■ | ■ |
| 10206102 | ■ | | | | | | ■ | | | ■ | ■ | ■ |
| 10206103 | ■ | | | | | | | ■ | | ■ | ■ | ■ |
| 10206104 | | ■ | | | ■ | | | | | ■ | ■ | ■ |
| 10206105 | | ■ | | | | ■ | | | | ■ | ■ | ■ |
| 10206106 | | ■ | | | | | ■ | | | ■ | ■ | ■ |
| 10206107 | | ■ | | | | | | ■ | | ■ | ■ | ■ |
| 10206108 | | | ■ | | ■ | | | | | ■ | ■ | ■ |
| 10206109 | | | ■ | | | ■ | | | | ■ | ■ | ■ |
| 10206110 | | | ■ | | | | ■ | | | ■ | ■ | ■ |
| 10206111 | | | ■ | | | | | ■ | | ■ | ■ | ■ |
| 10206144 | | | | ■ | ■ | | | | | ■ | ■ | ■ |
| 10206145 | | | | ■ | | ■ | | | | ■ | ■ | ■ |
| 10206146 | | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10206147 | | | | ■ | | | | ■ | | ■ | ■ | ■ |

## V-FORM®+ Full-Body Harness

| V-FORM+ Construction Harnesses | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | D-Ring Configuration | | Size (See chart on page 155.) | | | | Leg Buckle Type | | Standards |
| Part Number | Back, Hips | Back, Chest, Hips | XSM | STD | XLG | SXL | Tongue Buckle | Quick-Connect | ANSI Z359.11/ CSA Z259.10/ OSHA |
| 10206160 | ■ | | ■ | | | | ■ | | ■ |
| 10206161 | ■ | | | ■ | | | ■ | | ■ |
| 10206162 | ■ | | | | ■ | | ■ | | ■ |
| 10206163 | ■ | | | | | ■ | ■ | | ■ |
| 10206164 | | ■ | ■ | | | | ■ | | ■ |
| 10206165 | | ■ | | ■ | | | ■ | | ■ |
| 10206166 | | ■ | | | ■ | | ■ | | ■ |
| 10206167 | | ■ | | | | ■ | ■ | | ■ |
| 10206172 | ■ | | ■ | | | | | ■ | ■ |
| 10206173 | ■ | | | ■ | | | | ■ | ■ |
| 10206174 | ■ | | | | ■ | | | ■ | ■ |
| 10206175 | ■ | | | | | ■ | | ■ | ■ |
| 10206176 | | ■ | ■ | | | | | ■ | ■ |
| 10206177 | | ■ | | ■ | | | | ■ | ■ |
| 10206178 | | ■ | | | ■ | | | ■ | ■ |
| 10206179 | | ■ | | | | ■ | | ■ | ■ |



*V-FORM+ Construction Harness with tongue-buckle leg straps*

## V-FORM® Full-Body Harness

### Superior Comfort

**1** The Racing Style buckle allows for a close, comfortable harness fit—eliminating the need for bulky chest straps or cumbersome buckles.



*Quick-Connect Racing-Style Chest Buckle*



*V-FORM Construction Harness Waist Pad*

### Increased Flexibility

**2** The Racing Style buckle creates an athletic cut, contouring the harness to the body and improving upper torso movement on the job.

### Adjustability

**3** Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day.



*V-FORM Construction Harness Shoulder Padding*






*V-FORM Harness with front D-ring*



*V-FORM Harness with Quick-Connect Racing-Style Buckle*

## V-FORM® Full-Body Harness

| V-FORM Harnesses with Quick-Connect Racing-Style Buckle | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D-Ring Configuration | | | | | | Size (See chart on page 155.) | | | | Leg Buckle Type | | Padding | Standards |
| Part Number | Back | Back with D-Ring Extender | Back, Chest | Back, Chest, Hips | Back, Shoulders | Back, Hips | XSM | STD | XLG | SXL | Tongue Buckle | Qwik-Fit | None | ANSI Z359.11/ CSA Z259.10/ OSHA |
| 10206057 | ■ | | | | | | ■ | | | | ■ | | ■ | ■ |
| 10206058 | ■ | | | | | | | ■ | | | ■ | | ■ | ■ |
| 10206059 | ■ | | | | | | | | ■ | | ■ | | ■ | ■ |
| 10206060 | ■ | | | | | | | | | ■ | ■ | | ■ | ■ |
| 10206065 | | | ■ | | | | ■ | | | | ■ | | ■ | ■ |
| 10206066 | | | ■ | | | | | ■ | | | ■ | | ■ | ■ |
| 10206067 | | | ■ | | | | | | ■ | | ■ | | ■ | ■ |
| 10206068 | | | ■ | | | | | | | ■ | ■ | | ■ | ■ |
| 10206069 | | | | ■ | | | ■ | | | | ■ | | ■ | ■ |
| 10206070 | | | | ■ | | | | ■ | | | ■ | | ■ | ■ |
| 10206071 | | | | ■ | | | | | ■ | | ■ | | ■ | ■ |
| 10206072 | | | | ■ | | | | | | ■ | ■ | | ■ | ■ |
| 10206073 | | | | | ■ | | ■ | | | | ■ | | ■ | ■ |
| 10206074 | | | | | ■ | | | ■ | | | ■ | | ■ | ■ |
| 10206075 | | | | | ■ | | | | ■ | | ■ | | ■ | ■ |
| 10206076 | | | | | ■ | | | | | ■ | ■ | | ■ | ■ |
| 10206061 | | | | | | ■ | ■ | | | | ■ | | ■ | ■ |
| 10206062 | | | | | | ■ | | ■ | | | ■ | | ■ | ■ |
| 10206063 | | | | | | ■ | | | ■ | | ■ | | ■ | ■ |
| 10206064 | | | | | | ■ | | | | ■ | ■ | | ■ | ■ |
| 10207679 | ■ | | | | | | ■ | | | | | ■ | ■ | ■ |
| 10207680 | ■ | | | | | | | ■ | | | | ■ | ■ | ■ |
| 10207731 | ■ | | | | | | | | ■ | | | ■ | ■ | ■ |
| 10207732 | ■ | | | | | | | | | ■ | | ■ | ■ | ■ |
| 10208260 | | | | | | ■ | ■ | | | | | ■ | ■ | ■ |
| 10208271 | | | | | | ■ | | ■ | | | | ■ | ■ | ■ |
| 10208272 | | | | | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10208273 | | | | | | ■ | | | | ■ | | ■ | ■ | ■ |
| 10208274 | | ■ | | | | | ■ | | | | ■ | | ■ | ■ |
| 10208275 | | ■ | | | | | | ■ | | | ■ | | ■ | ■ |
| 10208276 | | ■ | | | | | | | ■ | | ■ | | ■ | ■ |
| 10208277 | | ■ | | | | | | | | ■ | ■ | | ■ | ■ |

| V-FORM Construction Harnesses with Quick-Connect Racing-Style Buckle | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | D-Ring Configuration | Size (See chart on page 155.) | | | | Leg Buckle Type | Padding | Standards |
| Part Number | Back, Hips | XSM | STD | XLG | SXL | Tongue Buckle | Shoulder | ANSI Z359.11/ CSA Z259.10/OSHA |
| 10207733 | ■ | ■ | | | | ■ | ■ | ■ |
| 10207734 | ■ | | ■ | | | ■ | ■ | ■ |
| 10207735 | ■ | | | ■ | | ■ | ■ | ■ |
| 10207736 | ■ | | | | ■ | ■ | ■ | ■ |

## V-FORM® Full-Body Harness

| V-FORM Harnesses with Stainless Steel Hardware | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | D-Ring Configuration | Size (See chart on page 155.) | | | | Leg Buckle Type | | Padding | Standards |
| Part Number | Back | XSM | STD | XLG | SXL | Tongue Buckle | Qwik-Fit | None | ANSI Z359.11/ CSA Z259.10/ OSHA |
| 10197233 | ■ | ■ | | | | | ■ | ■ | ■ |
| 10197234 | ■ | | ■ | | | | ■ | ■ | ■ |
| 10197235 | ■ | | | ■ | | | ■ | ■ | ■ |
| 10197236 | ■ | | | | ■ | | ■ | ■ | ■ |
| 10197237 | ■ | ■ | | | | ■ | | ■ | ■ |
| 10197238 | ■ | | ■ | | | ■ | | ■ | ■ |
| 10197239 | ■ | | | ■ | | ■ | | ■ | ■ |
| 10197240 | ■ | | | | ■ | ■ | | ■ | ■ |




*V-FORM Standard Harness with stainless steel hardware*

## V-SERIES® Hot Work Harnesses

Solutions designed specifically for welding and arc flash applications, with the comfort and flexibility expected from MSA fall protection PPE.







| V-FIT® Arc Flash Harness | V-FORM® Arc Flash Harness | V-FORM® Welding Harness |
|---|---|---|
| **Applications** | | |
| Welding • Working at Heights • Turnarounds & Plant Maintenance | | |
| **Features** | | |
| • MSA's innovative webbing blend allows for a softer and more flexible webbing that is ASTM-F887 rated<br>• With no exposed metal*, the harness can withstand some of the most harsh and corrosive environments<br>• Using a patented Racing Style connection allows for a close, comfortable harness fit—eliminating the need for bulky chest straps or cumbersome buckles<br>• Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day<br>• Dedicated PFL attachment point<br>• Horizontal leg straps<br>** Tongue-buckle leg strap configurations will have no exposed metal from the waist up* | • One of the lightest harnesses MSA has ever created<br>• The patented racing style allows for a close, comfortable harness fit—eliminating the need for bulky chest straps or cumbersome buckles<br>• Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day<br>• Variety of configurations available, including web loop D-Rings<br>• Dedicated PFL attachment point | • Using a patented Racing Style connection allows for a close, comfortable harness fit—eliminating the need for bulky chest straps or cumbersome buckles<br>• An athletic cut contours the harness to the body and improving upper torso movement on the job<br>• Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day.<br>• MSA's Innovative webbing blend allows it to be one of the lightest welding harnesses MSA has ever created<br>• Dedicated PFL attachment point<br>• Horizontal leg straps |
| **Approvals** | | |
| • ANSI Z359.11<br>• CSA Z259.10<br>• ASTM F887 | • ANSI Z359.11<br>• CSA Z259.10<br>• ASTM F887 | • ANSI Z359.11<br>• CSA Z259.10 |

## V-FIT® Arc Flash Harness

| V-FIT Arc Flash Harnesses | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Part Number | Size | | | | D-Ring Configuration | | Leg Straps | | Padding | Standards | | |
| | XSM | STD | XLG | SXL | Back | Back & Hips | Tongue-Buckle | Quick-Connect | Shoulder | ANSI | CSA | ASTM |
| 10252164 | ■ | | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10252101 | | ■ | | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10252165 | | | ■ | | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10252166 | | | | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ |
| 10252167 | ■ | | | | ■ | | | ■ | ■ | ■ | ■ | ■ |
| 10252168 | | ■ | | | ■ | | | ■ | ■ | ■ | ■ | ■ |
| 10252169 | | | ■ | | ■ | | | ■ | ■ | ■ | ■ | ■ |
| 10252170 | | | | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ |
| 10252201 | ■ | | | | | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10252202 | | ■ | | | | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10252203 | | | ■ | | | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10252204 | | | | ■ | | ■ | ■ | | ■ | ■ | ■ | ■ |
| 10252205 | ■ | | | | | ■ | | ■ | ■ | ■ | ■ | ■ |
| 10252206 | | ■ | | | | ■ | | ■ | ■ | ■ | ■ | ■ |
| 10252207 | | | ■ | | | ■ | | ■ | ■ | ■ | ■ | ■ |
| 10252208 | | | | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ |





*V-FIT Arc Flash Harness with back D-ring*





*V-FIT Arc Flash Harness with back & hips D-rings*

## V-FORM® Arc Flash Harness

| V-FORM Arc Flash Harnesses | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Size | | | | D-Ring Configuration | | | Leg Straps | | Standards |
| Part Number | XSM | STD | XLG | SXL | Back Steel | Back Loop | Back & Hip Loops | Tongue-Buckle | Quick-Connect | ANSI Z359.11, CSA Z259.10, ASTM F887 |
| 10252231 | ■ | | | | ■ | | | ■ | | ■ |
| 10252034 | | ■ | | | ■ | | | ■ | | ■ |
| 10252209 | | | ■ | | ■ | | | ■ | | ■ |
| 10252210 | | | | ■ | ■ | | | ■ | | ■ |
| 10252211 | ■ | | | | ■ | | | | ■ | ■ |
| 10252212 | | ■ | | | ■ | | | | ■ | ■ |
| 10252213 | | | ■ | | ■ | | | | ■ | ■ |
| 10252214 | | | | ■ | ■ | | | | ■ | ■ |
| 10252215 | ■ | | | | | ■ | | ■ | | ■ |
| 10252216 | | ■ | | | | ■ | | ■ | | ■ |
| 10252217 | | | ■ | | | ■ | | ■ | | ■ |
| 10252218 | | | | ■ | | ■ | | ■ | | ■ |
| 10252219 | ■ | | | | | ■ | | | ■ | ■ |
| 10252220 | | ■ | | | | ■ | | | ■ | ■ |
| 10252221 | | | ■ | | | ■ | | | ■ | ■ |
| 10252222 | | | | ■ | | ■ | | | ■ | ■ |
| 10252223 | ■ | | | | | | ■ | ■ | | ■ |
| 10252224 | | ■ | | | | | ■ | ■ | | ■ |
| 10252225 | | | ■ | | | | ■ | ■ | | ■ |
| 10252226 | | | | ■ | | | ■ | ■ | | ■ |
| 10252227 | ■ | | | | | | ■ | | ■ | ■ |
| 10252228 | | ■ | | | | | ■ | | ■ | ■ |
| 10252229 | | | ■ | | | | ■ | | ■ | ■ |
| 10252230 | | | | ■ | | | ■ | | ■ | ■ |



*V-FORM Arc Flash Harness with back steel D-ring*



*V-FORM Arc Flash Harness with back loop D-rings*



*V-FORM Arc Flash Harness with back & hip loop D-rings*

## V-FORM® Welding Harness

| V-FORM Welding Harnesses | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Part Number | Size | | | | D-Ring Configuration | | Leg Straps | | Padding | Standards |
| | XSM | STD | XLG | SXL | Back | Back & Hips | Tongue-Buckle | Quick-Connect | None | ANSI /CSA |
| 10252232 | ■ | | | | ■ | | ■ | | ■ | ■ |
| 10252106 | | ■ | | | ■ | | ■ | | ■ | ■ |
| 10252234 | | | ■ | | ■ | | ■ | | ■ | ■ |
| 10252235 | | | | ■ | ■ | | ■ | | ■ | ■ |
| 10252236 | ■ | | | | ■ | | | ■ | ■ | ■ |
| 10252237 | | ■ | | | ■ | | | ■ | ■ | ■ |
| 10252238 | | | ■ | | ■ | | | ■ | ■ | ■ |
| 10252239 | | | | ■ | ■ | | | ■ | ■ | ■ |
| 10252240 | ■ | | | | | ■ | ■ | | ■ | ■ |
| 10252241 | | ■ | | | | ■ | ■ | | ■ | ■ |
| 10252242 | | | ■ | | | ■ | ■ | | ■ | ■ |
| 10252243 | | | | ■ | | ■ | ■ | | ■ | ■ |
| 10252244 | ■ | | | | | ■ | | ■ | ■ | ■ |
| 10252245 | | ■ | | | | ■ | | ■ | ■ | ■ |
| 10252246 | | | ■ | | | ■ | | ■ | ■ | ■ |
| 10252247 | | | | ■ | | ■ | | ■ | ■ | ■ |





*V-FORM Welding Harness with back D-ring*





*V-FORM Welding Harness with back & hips D-rings*

## Harness Accessories

| | | | |
|---|---|---|---|
| |  |  |  |
| **Product** | **Double D-Ring Extension** | **Single D-Ring Extension** | **D-Ring Extender** |
| **Part No.** | **10203182** | **10203183** | **505318** |
| **Features** | • 1″ nylon web<br>• Sewn loop | • 1″ nylon web<br>• Sewn loop | • Nylon<br>• 1 D-ring<br>• 8″ (back D-ring extension) |

| | |
|---|---|
| |  |
| **Product** | **Suspension Trauma Safety Step** |
| **Part No.** | **10063431** with carabiner<br>**10063441** without carabiner |
| **Features** | • Suspension Trauma Safety Steps allows fallen worker to relieve pressure by inserting a foot into the step loops and then standing up in the harness to increase blood flow to the legs |

| | | |
|---|---|---|
| |  |  |
| **Product** | **Lanyard Keepers** | **Tool Lanyard** *(includes small carabiner)* |
| **Part No.** | **10113240** | **10110670** |
| **Features** | • Velcro | • Tool drop prevention |

| | | |
|---|---|---|
| **Lanyard Clip** | **SHW26** | Lanyard Clip (Velcro key ring) |
| **2-PIECE KEEPER** | **10031676** | Plastic keeper prevents harness web slippage for better fit |

| | | |
|---|---|---|
| |  |  |
| **Product** | **Universal Shoulder Pad** | **Universal Shoulder Pads** |
| **Part No.** | **10028444** | **10077489** 1 set |

## MSA Tool Tethers

Designed to prevent falling objects, MSA's line of tool tethers makes product selection simpler by using color differentiation to identify the weight capacity of each tether. Additionally, the durable stainless steel hardware supports increased product life to maximize your investment. All MSA Tool Tethers meet ANSI/ISEA 121-2018.

| | | | |
|---|---|---|---|
| |  |  |  |
| **Product** | **Tool Tether** with ***Carabiner and Adjustable Loop*** | **Tool Tether** with ***Carabiner and Detach Loop*** | **Tool Tether** with ***Detachable Loops*** |
| **Capacity** | **5 lb.** | **5 lb.** | **5 lb.** |
| **Part No.** | **10207284** | **10207289** | **10207314** |
| **Features** | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 35.4″ (90 cm)<br>**Extended length:** 47.2″ (120 cm) | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 35.4″ (90 cm)<br>**Extended length:** 47.2″ (120 cm) | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 9.8″ (25 cm) |

| | | | |
|---|---|---|---|
| |  |  |  |
| **Product** | **Tool Tether** with ***Carabiner and Adjustable Loop*** | **Tool Tether** with ***Carabiner and Loop*** | **Tool Tether** with ***Double Carabiner*** |
| **Capacity** | **10 lb.** | **10 lb.** | **10 lb.** |
| **Part No.** | **10207285** | **10207287** | **10207290** |
| **Features** | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 35.4″ (90 cm)<br>**Extended length:** 47.2″ (120 cm) | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 35.4″ (90 cm)<br>**Extended length:** 47.2″ (120 cm) | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 35.4″ (90 cm)<br>**Extended length:** 47.2″ (120 cm) |

| | | | |
|---|---|---|---|
| |  |  |  |
| **Product** | **Tool Tether** with ***Carabiner and Adjustable Loop*** | **Tool Tether** with ***Carabiner and Detach Loop*** | **Tool Tether** with ***Detachable Loops*** |
| **Capacity** | **15 lb.** | **15 lb.** | **15 lb.** |
| **Part No.** | **10207286** | **10207288** | **10207313** |
| **Features** | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 35.4″ (90 cm)<br>**Extended length:** 47.2″ (120 cm) | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 35.4″ (90 cm)<br>**Extended length:** 47.2″ (120 cm) | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 9.8″ (25 cm) |

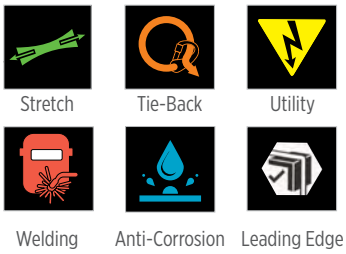
| | | |
|---|---|---|
| |  |  |
| **Product** | **Tool Tether** with ***Wrist Band*** | **Tool Tether** with ***Double Carabiner*** |
| **Capacity** | **2 lb.** | **25 lb.** |
| **Part No.** | **10089207** | **10207311** |
| **Features** | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 9.8″ (25 cm) | **Polyester webbing width:** .8″ (20 mm)<br>**Retracted length:** 35.4″ (90 cm)<br>**Extended length:** 47.2″ (120 cm) |

## Connecting Devices: Energy-Absorbing Lanyards

***Choosing the right lanyard can be confusing with so many options!***

The **V-SERIES line of lanyards** will help simplify product selection by using large identifiable icons on the side of the energy absorber, making it easy to find the right lanyard for the right application. On top of that, a simple naming convention based on the application will keep things simple. The lanyards are also lightweight and improve comfort through a small, compact energy absorber. The additional energy absorber cover* prolongs product life, by protecting the energy absorber and labeling inside.

**Standard lanyard does not have additional energy absorber cover.*




## V-SERIES® Standard Lanyards

The V-Series shock-absorbing lanyard line simplifies product selection by offering a concise line of standard lanyards that meet a wide range of customer needs. These lightweight safety lanyards not only limit force on the body in a fall, but also on the anchor location. The shock absorbing pouch includes a clear, durable protective cover on the labels to increase service life, and allow for easy inspection.

| | |
|---|---|
| **Capacity** | *ANSI Z 359.13:* 130 lb.–310 lb. (59–140 kg) |
| | *CSA Z259.11:* 150 lb.–310 lb. (68–140 kg) |
| | *CSA Z259.11 Light Weight:* 110 lb.–230 lb. (50–105 kg) |
| **Web Material** | Polyester |
| **SnapHook Material** | Steel |
| **Product Weight** | 2.35–5.73 lb. |
| **Standards** | ANSI Z359.13, CSA Z259.11–17, OSHA |



*Adjustable single-leg with small snaphook*



*Adjustable twin-leg with large snaphooks*



*Tie-back single-leg with small snaphook*



*Tie-back twin-leg with small snaphooks*

**V-SERIES® Standard Lanyards**

| Part No. | Snaphooks | Type | | | | | Length | Standards | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Single-Leg | Twin-Leg | Tie-back | Adjustable | Fixed | | ANSI Z359.13 | CSA Z259.11-17 | CSA Z259.11-17 Lightweight Worker |
| 10191755 | SM | ■ | | | ■ | | 6′ | ■ | | |
| 10191756 | SM | | ■ | | ■ | | 6′ | ■ | | |
| 10191757 | LG | ■ | | | ■ | | 6′ | ■ | | |
| 10191758 | LG | | ■ | | ■ | | 6′ | ■ | | |
| 10193124 | SM | ■ | | | | ■ | 3′ | ■ | | |
| 10193125 | SM | ■ | | | | ■ | 4′ | ■ | | |
| 10193128 | SM | ■ | | ■ | | | 6′ | ■ | | |
| 10193129 | SM | | ■ | ■ | | | 6′ | ■ | | |
| 10188100 | SM | ■ | | | ■ | | 6′ | | ■ | |
| 10188102 | SM | | ■ | | ■ | | 6′ | | ■ | |
| 10188103 | LG | ■ | | | ■ | | 6′ | | ■ | |
| 10188101 | LG | | ■ | | ■ | | 6′ | | ■ | |
| 10190397 | SM | ■ | | | ■ | | 6′ | | | ■ |
| 10190399 | SM | | ■ | | ■ | | 6′ | | | ■ |
| 10190398 | LG | ■ | | | ■ | | 6′ | | | ■ |
| 10190400 | LG | | ■ | | ■ | | 6′ | | | ■ |
| 10193126 | SM | ■ | | | | ■ | 3′ | | ■ | |
| 10193127 | SM | ■ | | | | ■ | 4′ | | ■ | |
| 10193130 | SM | ■ | | ■ | | | 6′ | | ■ | |
| 10193151 | SM | | ■ | ■ | | | 6′ | | ■ | |

| Part No. | Snaphook | Type | Standards | |
|---|---|---|---|---|
| | | Energy-Absorber with D-ring | ANSI Z359.13 | CSA Z259.11-17 |
| 10193154 | SM | ■ | ■ | |
| 10193155 | SM | ■ | | ■ |

## Connecting Devices: Energy-Absorbing Lanyards

### 12FT Freefall and Heavy Worker Energy-Absorbing Lanyards

- For use in applications where tying-off at foot level is necessary
- Capacity: 130 lb.–310 lb. (12 ft FF)—ANSI / 310 lb.–400 lb. (6 ft FF)—OSHA



*12FT freefall single-leg with small snaphook*



*12FT freefall single-leg with large snaphook*



*12FT freefall twin-leg with small snaphook*



*12FT freefall twin-leg with large snaphook*

| 12FT Freefall and Heavy Worker Energy-Absorbing Lanyards | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Type | | Snaphooks | | | Standards | |
| Part No. | Single-Leg Web | Twin-Leg Web | 36C (small) | 36CL (large) | Length | ANSI Z359.13 | OSHA |
| 10211485 | ■ | | ■ | | 6′ | ■ | ■ |
| 10211486 | | ■ | ■ | | 6′ | ■ | ■ |
| 10211487 | ■ | | | ■ | 6′ | ■ | ■ |
| 10211488 | | ■ | | ■ | 6′ | ■ | ■ |

### V-SERIES® Stretch Lanyards

The V-Series stretch shock absorbing lanyard line simplifies product selection by offering a concise line of lanyards that meet a wide range of customer needs. Reduce snag and trip hazards, and increase worker flexibility with the stretch style of webbing. Abrasion resistant cover for the energy absorber provides additional protection for increased service life. All stretch lanyards can be easily identified by the icon on the energy absorber's cover.



*Stretch single-leg with small snaphook*



*Stretch twin-leg with small snaphook*



*Stretch single-leg with large snaphook*



*Stretch twin-leg with large snaphook*

| V-SERIES® Stretch Lanyards | | | | | | |
|---|---|---|---|---|---|---|
| | Type | | Snaphooks | | | Standards |
| Part No. | Single-Leg Web | Twin-Leg Web | 36C (small) | 36CL (large) | Length | ANSI Z359.13 |
| 10193748 | ■ | | ■ | | 6′ | ■ |
| 10193553 | | ■ | ■ | | 6′ | ■ |
| 10193554 | ■ | | | ■ | 6′ | ■ |
| 10193555 | | ■ | | ■ | 6′ | ■ |

## Connecting Devices: Energy-Absorbing Lanyards

### V-SERIES® Tie-Back Lanyards

Our new line of V-Series Tie-Back Lanyards simplifies product selection by offering a concise line of standard lanyards that will meet a wide range of customer needs. All new lanyards shown below also meet the latest ANSI standard for tie-back lanyards: ANSI Z359.13. The tie-back shock-absorbing lanyard uses an FP5K carabiner which can be tied directly back to the lanyard. All tie-back lanyards can be easily identified by the icon on the energy absorber's cover.



*Tie-back single-leg*



*Tie-back twin-leg*



*36C Snaphook*



*36CL Snaphook*



*FP5K Snaphook*

| V-SERIES® Tie-Back Lanyards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Type | | | Standards | | |
| Part No. | Harness Connection | Anchorage Connection | Single-Leg | Twin-Leg | Length | ANSI Z359.13 | CSA Z259.11 | OSHA |
| **10193560** | 36C | FP5K | ■ | | 6′ | ■ | | ■ |
| **10193941** | 36C | FP5K | | ■ | 6′ | ■ | | ■ |
| **10193943** | 36C | FP5K | ■ | | 6′ | | ■ | |
| **10193944** | 36C | FP5K | | ■ | 6′ | | ■ | |

### V-SERIES® Utility Energy-Absorbing Lanyards

The V-SERIES Utility Lanyards have a shock absorbing cover to support increased product life by protecting labels and shock absorber. Additionally, the easy to identify arc flash symbol on the cover helps to make product selection simple.



*Web single-leg with small snaphook*



*Web single-leg with large snaphook*

| V-SERIES® Utility Energy-Absorbing Lanyards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Type | | Snaphooks | | | Standards | | |
| Part No. | Single-Leg | Twin-Leg | Harness Connection | Anchorage Connection | Length | ANSI Z359.13 | OSHA | CSA Z259.11-17 |
| **10199061** | ■ | | Hitch loop | 36C | 6′ | ■ | ■ | |
| **10199062** | | ■ | Hitch loop | (2) 36C | 6′ | ■ | ■ | |
| **10199064** | | ■ | Hitch loop | (2) 36CL | 6′ | ■ | ■ | |
| **10199057** | ■ | | Hitch loop | 36C | 6′ | | | ■ |
| **10199058** | | ■ | Hitch loop | (2) 36C | 6′ | | | ■ |
| **10199060** | | ■ | Hitch loop | (2) 36CL | 6′ | | | ■ |
| **10199058** | | ■ | Hitch loop | (2) 36C | 6′ | | | ■ |

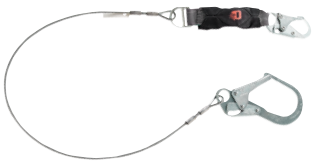
## Connecting Devices: Energy-Absorbing Lanyards

### V-SERIES® Welding Energy-Absorbing Lanyards

Specially designed for high-heat applications, V-SERIES Welding Energy-Absorbing Lanyards feature a kevlar/nomex cover to support increased product life by protecting labels and energy absorber. Additionally, the easy to identify high-heat symbol on the cover helps make product selection simple.



*Cable single-leg with small snaphook*



*Cable single-leg with large snaphook*



*Cable twin-leg with small snaphooks*



*Web single-leg with small snaphook*



*Web single-leg with large snaphook*



*Web twin-leg with small snaphooks*

| V-SERIES® Welding Energy-Absorbing Lanyards | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Type | | | | Snaphooks | | | Standards | | |
| Part No. | Single-Leg Cable | Twin-Leg Cable | Single-Leg Web | Twin-Leg Web | Harness Connection | Anchorage Connection | Length | ANSI Z359.13 | OSHA | CSA Z 259.11-17 |
| 10199011 | ■ | | | | 36C | 36C | 6′ | ■ | ■ | |
| 10199016 | ■ | | | | 36C | 36CL | 6′ | ■ | ■ | |
| 10199013 | | ■ | | | 36C | (2) 36C | 6′ | ■ | ■ | |
| 10199053 | | | ■ | | 36C | 36C | 6′ | ■ | ■ | |
| 10199055 | | | ■ | | 36C | 36CL | 6′ | ■ | ■ | |
| 10199056 | | | | ■ | 36C | (2) 36CL | 6′ | ■ | ■ | |
| 10199012 | | | ■ | | 36C | 36C | 6′ | | | ■ |
| 10199052 | | | | ■ | 36C | (2) 36CL | 6′ | | | ■ |

## Connecting Devices: Energy-Absorbing Lanyards

### V-SERIES® Anti-Corrosion Lanyards

The V-SERIES line of anti-corrosion safety lanyards uses a special urethane coating to resist stains, and wear and tear that are common when working in tough and dirty environtments. The easy to identify anti-corrosion symbol on the shock absorbing lanyard cover helps to make product selection simple.



*Anti-corrosion single-leg w/small snaphook*



*Anti-corrosion single-leg w/large snaphook*



*Anti-corrosion twin-leg w/small snaphook*



*Anti-corrosion twin-leg w/large snaphook*

| V-SERIES® Anti-Corrosion Lanyards | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Type | | | Standards | |
| Part No. | Snaphooks | Snaphook Material | Single-Leg | Twin-Leg | Length | ANSI Z359.3-2017 | CSA Z259.11-17 |
| **10206832** | SM | Steel | ■ | | 6′ | ■ | |
| **10206833** | LG | Steel | ■ | | 6′ | ■ | |
| **10206834** | SM | Stainless Steel | ■ | | 6′ | ■ | |
| **10206835** | SM | Steel | ■ | | 6′ | | ■ |
| **10206836** | LG | Steel | ■ | | 6′ | | ■ |
| **10206837** | SM | Stainless Steel | ■ | | 6′ | | ■ |
| **10207240** | SM | Steel | | ■ | 6′ | ■ | |
| **10207251** | LG | Steel | | ■ | 6′ | ■ | |
| **10207252** | SM | Stainless Steel | | ■ | 6′ | ■ | |
| **10207253** | SM | Steel | | ■ | 6′ | | ■ |
| **10207254** | LG | Steel | | ■ | 6′ | | ■ |
| **10207255** | SM | Stainless Steel | | ■ | 6′ | | ■ |

### V-SERIES® Leading Edge Safety Lanyards

The V-SERIES line of leading edge safety lanyards has been tested over a .005" radius steel edge—providing a shock-absorbing lanyard option for leading edge work. The easy to identify Leading Edge symbol on the shock absorbing cover helps to make identifying lanyard type and application easier. Additionally, the swiveling snaphooks keep your lanyard lifeline from twisting as you work, so you can spend less time adjusting your PPE and more time focused on the job.



*Anti-corrosion single-leg w/small snaphook*



*Anti-corrosion single-leg w/large snaphook*



*Anti-corrosion twin-leg w/small snaphook*

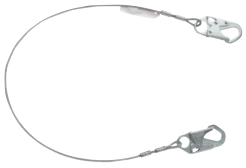


*Anti-corrosion twin-leg w/large snaphook*

| V-SERIES® Anti-Corrosion Lanyards | | | | | | |
|---|---|---|---|---|---|---|
| | | | Type | | Standards | |
| Part No. | Snaphooks | Snaphook Material | Single-Leg | Twin-Leg | ANSI Z359.3-2017 | OSHA |
| **10213785** | LG Swivel | Aluminum | ■ | | ■ | ■ |
| **10213786** | LG Swivel | Aluminum | | ■ | ■ | ■ |
| **10213787** | SM | Aluminum | ■ | | ■ | ■ |
| **10213788** | SM | Aluminum | | ■ | ■ | ■ |
| **10220700** | SM Swivel | Steel | ■ | | ■ | ■ |
| **10220701** | SM Swivel | Steel | | ■ | ■ | ■ |

## V-SERIES® Restraint Lanyards

Restraint lanyards are primarily used for travel restriction (to restrain a worker from reaching a fall hazard) and work positioning (stabilizing a worker at an elevated location) applications. The V-SERIES line of restraint lanyards offers lengths ranging from 3–10 feet for a variety of applications. Restraint lanyards come in both fixed length and adjustable options.



*Cable fixed length with 36C snaphooks*



*Standard tieback with FP5K snaphook*



*Standard adjustable length with 36C snaphooks*



*Standard adjustable length with 36L snaphook*

| V-SERIES® Restraint Lanyards | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Type | | | | | | | Length | Standards | |
| Part No. | Standard | Cable | Welding | Tieback | Fixed | Adjustable | Hardware | | ANSI Z359.13 | OSHA |
| 10199017 | | ■ | | | ■ | | 36C/36C | 3′ | ■ | ■ |
| 10199018 | | ■ | | | ■ | | 36C/36C | 5′ | ■ | ■ |
| 10199019 | | ■ | | | ■ | | 36C/36C | 6′ | ■ | ■ |
| 10201353 | | ■ | ■ | | ■ | | 36C/36C | 6′ | ■ | ■ |
| 10201452 | | | | ■ | | ■ | 36C/FP5K | 6′ | ■ | ■ |
| 10201453 | ■ | | | | | ■ | 36C/36C | 10′ | ■ | ■ |
| 10201454 | ■ | | | | | ■ | 36C/36C | 3′ | ■ | ■ |
| 10201455 | ■ | | | | | ■ | 36C/36CL | 6′ | ■ | ■ |
| 10201456 | ■ | | | | | ■ | 36C/36C | 6′ | ■ | ■ |
| 10201457 | ■ | | | | | ■ | 36C/36CL | 8′ | ■ | ■ |

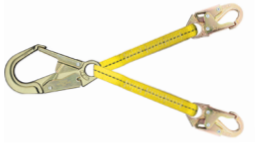
## Work Positioning Assemblies



*Rebar chain assembly*



*Rebar web assembly*



*Rebar web assembly*



*Sure-Grab Positioning Lanyard (right-hand version)*

| Rebar Assemblies | | | | |
|---|---|---|---|---|
| | | Standards | | |
| Part No. | Description | ANSI Z359.13 | CSA Z259.11 | OSHA |
| 10108720 | Rebar chain assembly, straight link, 36CS swivel snaphooks | ■ | | ■ |
| 10107326 | Rebar chain assembly, 36CL snaphook with 2.5″ (57mm) gate | | | ■ |
| 10129553 | Rebar web assembly, 18″ legs, with sliding large snaphook | | | ■ |
| 10203184 | Rebar web assembly, 13″ legs, with sliding large snaphook | | ■ | ■ |

### Sure-Grab™ Positioning Lanyard

Connects to the user's harness or belt for travel restriction or work positioning applications. Features fast and easy length adjustment.

| Sure-Grab™ Positioning Lanyard | | |
|---|---|---|
| | | Standards |
| Part No. | Description | OSHA |
| SNYR537DH306 | Sure-Grab positioning lanyard, manual, closed body, c/w 5/8″ x 6′ blue, chrome locking swivel snaphook, right-handed version | ■ |
| SNYL537DH306 | Sure-Grab positioning lanyard, manual, closed body, c/w 5/8″ x 6′ blue, chrome locking swivel snaphook, left-handed version | ■ |

## Connecting Devices: Self-Retracting Devices

### V-TEC® Personal Fall Limiters (PFLs)

- Compact and lightweight
- Fall arrest and restraint for users up to 400 lb. (181 kg) including tools. Note that both ANSI and CSA allow 130–310 lb. (60–140 kg). For OSHA, we have tested and allow 100–400 lb. (45–180 kg).
- Highly durable polycarbonate clear casing allows for easy visual inspection of critical internal components
- Withstands temperatures ranging from -40° to +130°F (-40° to +54°C)
- Tested to these relevant standards: ANSI Z359.14-2021 Class 1; OSHA 1910.140; OSHA 1926.502
- ***Assured safety:*** optimized design utilizing durable lightweight materials to improve weight and comfort
- ***Full range of motion:*** fully rotating attachment point for complete flexibility—both 360° and 180°
- ***Superior materials:*** components manufactured from high-grade stainless steel and engineered plastics
- ***Clear housing:*** polycarbonate case houses SRL; transparency allows for easy visual inspection of critical internal components





*Single-leg, Web*



*Twin-leg, Web*



*Single-leg tie-back, Web*



*Twin-leg tie-back, Web*



*Single-leg, Cable*

## AVAILABLE CONNECTORS

V-TEC PFL offers an aluminum top carabiner and a variety of available connectors.

| Connectors | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |
| **AL36CL** | **AL36CLS** | **36C** | **ALTAKS** Aluminum Triple Action Carabiner, Non-Indicator Swivel | **ALTAK** Aluminum Triple Action Carabiner | **36CS** Non-Indicator Swivel | **36CL** | **FP5K** Tie-back only | **TLALTAK** Twin-Link Aluminum Triple Action Carabiner |

## Connecting Devices: Self-Retracting Devices



| V-TEC® Personal Fall Limiters (PFLs) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type | | | Line Length | Line Type | | Anchorage Connection | Harness Connection | Standards | | |
| Part No. | Single-leg | Twin-leg | Tie-back | | Web | Cable | | | OSHA | ANSI | CSA |
| VTOHW-011-DA-A | ■ | | | 6 ft. (1.8 m) | ■ | | AL36CL | ALTAK | ■ | ■ | |
| VTOHW-011-DB-A | ■ | | | 6 ft. (1.8 m) | ■ | | 36C | ALTAK | ■ | ■ | |
| VTOHW-011-DC-A | ■ | | | 6 ft. (1.8 m) | ■ | | ALTAKS | ALTAK | ■ | ■ | |
| VTOHW-011-DD-A | ■ | | | 6 ft. (1.8 m) | ■ | | ALTAK | ALTAK | ■ | ■ | |
| VTOHW-011-DE-A | ■ | | | 6 ft. (1.8 m) | ■ | | 36CS | ALTAK | ■ | ■ | |
| VTOHW-011-DF-A | ■ | | | 6 ft. (1.8 m) | ■ | | 36CL | ALTAK | ■ | ■ | |
| VTOHW-011-ZA-A | ■ | | | 6 ft. (1.8 m) | ■ | | AL36CL | None | ■ | ■ | |
| VTOHW-011-ZB-A | ■ | | | 6 ft. (1.8 m) | ■ | | 36C | None | ■ | ■ | |
| VTOHW-011-ZC-A | ■ | | | 6 ft. (1.8 m) | ■ | | ALTAKS | None | ■ | ■ | |
| VTOHW-011-ZD-A | ■ | | | 6 ft. (1.8 m) | ■ | | ALTAK | None | ■ | ■ | |
| VTOHW-011-ZE-A | ■ | | | 6 ft. (1.8 m) | ■ | | 36CS | None | ■ | ■ | |
| VTOHW-011-ZF-A | ■ | | | 6 ft. (1.8 m) | ■ | | 36CL | None | ■ | ■ | |
| VTOHW-012-RA-A | | ■ | | 6 ft. (1.8 m) | ■ | | AL36CL | TLALTAK | ■ | ■ | |
| VTOHW-012-RB-A | | ■ | | 6 ft. (1.8 m) | ■ | | 36C | TLALTAK | ■ | ■ | |
| VTOHW-012-RC-A | | ■ | | 6 ft. (1.8 m) | ■ | | ALTAKS | TLALTAK | ■ | ■ | |
| VTOHW-012-RD-A | | ■ | | 6 ft. (1.8 m) | ■ | | ALTAK | TLALTAK | ■ | ■ | |
| VTOHW-012-RE-A | | ■ | | 6 ft. (1.8 m) | ■ | | 36CS | TLALTAK | ■ | ■ | |
| VTOHW-012-RF-A | | ■ | | 6 ft. (1.8 m) | ■ | | 36CL | TLALTAK | ■ | ■ | |
| VTOHW-011-DJ-O-TB | ■ | | ■ | 6 ft. (1.8 m) | ■ | | FP5K | ALTAK | ■ | ■ | |
| VTOHW-012-RJ-O-TB | | ■ | ■ | 6 ft. (1.8 m) | ■ | | FP5K | TLALTAK | ■ | ■ | |
| VTOHG-031-DE-A | ■ | | | 10 ft. (3 m) | | ■ | 36CS | ALTAK | ■ | ■ | |
| VTOHG-031-DM-A | ■ | | | 10 ft. (3 m) | | ■ | 36CLS | ALTAK | ■ | ■ | |
| VTOHG-031-DC-A | ■ | | | 10 ft. (3 m) | | ■ | ALTAKS | ALTAK | ■ | ■ | |
| VTOHG-031-ZC-A | ■ | | | 10 ft. (3 m) | | ■ | ALTAKS | None | ■ | ■ | |
| VTOHG-031-ZE-A | ■ | | | 10 ft. (3 m) | | ■ | 36CS | None | ■ | ■ | |
| VTOHG-031-ZM-A | ■ | | | 10 ft. (3 m) | | ■ | 36CLS | None | ■ | ■ | |
| VTOHG-031-DE-C | ■ | | | 10 ft. (3 m) | | ■ | 36CS | ALTAK | | | ■ |
| VTOHG-031-DM-C | ■ | | | 10 ft. (3 m) | | ■ | 36CLS | ALTAK | | | ■ |
| VTOHG-031-DC-C | ■ | | | 10 ft. (3 m) | | ■ | ALTAKS | ALTAK | | | ■ |
| VTOHG-031-ZC-C | ■ | | | 10 ft. (3 m) | | ■ | ALTAKS | None | | | ■ |
| VTOHG-031-ZE-C | ■ | | | 10 ft. (3 m) | | ■ | 36CS | None | | | ■ |
| VTOHG-031-ZM-C | ■ | | | 10 ft. (3 m) | | ■ | 36CLS | None | | | ■ |

| V-TEC Twin-Link Connector | |
|---|---|
| Part No. | Description |
| 63900-04 | Twin-Link Connector for V-TEC PFL |

## Connecting Devices: Self-Retracting Devices

### V-TEC EDGE® Personal Fall Limiters (PFLs)

**Simplify product selection** and **reduce worker fatigue** with this lightweight personal fall limiter for leading edge. The V-TEC EDGE Personal Fall Limiter is engineered for use in overhead and foot-level tie off points, and where leading edge hazards are a concern.




### Features

- **Locking pin attachment** saves time and frustration when connecting to body harness
- **Comfort pad with integrated energy absorber**, reduces pain points in a streamlined solution
- Selection is made easier with defined **color coded housings and energy absorbers** — **Green for Leading Edge**
- Use in a **variety of applications** from overhead to foot-level tie-off points, and where sharp edge hazards are a concern
- **Stainless steel housing** and **galvanized lifeline** are built to last in some of the toughest environments
- Uses **web technology** to provide a lightweight option for leading edge applications — reducing fatigue and increasing comfort!




**V-TEC EDGE Cable PFLs**

| Part No. | Type | | Line Length | Line Type | Anchorage Connection | Harness Connection | Standards | | |
|---|---|---|---|---|---|---|---|---|---|
| | Single-leg | Twin-leg | | | | | ANSI | OSHA | CSA |
| VTLEG-021-PB-A | ■ | | 8 ft. (2.4 m) | Cable | 36C snaphook | Locking Pin | ■ | ■ | |
| VTLEG-022-PB-A | | ■ | 8 ft. (2.4 m) | Cable | 36C snaphooks | Locking Pin | ■ | ■ | |
| VTLEG-021-PF-A | ■ | | 8 ft. (2.4 m) | Cable | 36CL snaphook | Locking Pin | ■ | ■ | |
| VTLEG-022-PF-A | | ■ | 8 ft. (2.4 m) | Cable | 36CL snaphooks | Locking Pin | ■ | ■ | |
| VTLEG-021-PE-A | ■ | | 8 ft. (2.4 m) | Cable | 36CS snaphook | Locking Pin | ■ | ■ | |
| VTLEG-022-PE-A | | ■ | 8 ft. (2.4 m) | Cable | 36CS snaphooks | Locking Pin | ■ | ■ | |
| VTLEG-021-PA-A | ■ | | 8 ft. (2.4 m) | Cable | AL36CL snaphook | Locking Pin | ■ | ■ | |
| VTLEG-022-PA-A | | ■ | 8 ft. (2.4 m) | Cable | AL36CL snaphooks | Locking Pin | ■ | ■ | |
| VTLEG-021-PC-A | ■ | | 8 ft. (2.4 m) | Cable | aluminum triple action carabiner | Locking Pin | ■ | ■ | |
| VTLEG-022-PC-A | | ■ | 8 ft. (2.4 m) | Cable | aluminum triple action carabiner | Locking Pin | ■ | ■ | |
| VTLEG-021-PM-A | ■ | | 8 ft. (2.4 m) | Cable | 36CLS snaphook | Locking Pin | ■ | ■ | |
| VTLEG-022-PM-A | | ■ | 8 ft. (2.4 m) | Cable | 36CLS snaphooks | Locking Pin | ■ | ■ | |
| VTLEG-021-PB-C | ■ | | 8 ft. (2.4 m) | Cable | 36C snaphook | Locking Pin | | | ■ |
| VTLEG-022-PB-C | | ■ | 8 ft. (2.4 m) | Cable | 36C snaphooks | Locking Pin | | | ■ |
| VTLEG-021-PM-C | ■ | | 8 ft. (2.4 m) | Cable | 36CLS snaphook | Locking Pin | | | ■ |
| VTLEG-022-PM-C | | ■ | 8 ft. (2.4 m) | Cable | 36CLS snaphooks | Locking Pin | | | ■ |
| VTLEG-021-PE-C | ■ | | 8 ft. (2.4 m) | Cable | 36CS snaphook | Locking Pin | | | ■ |
| VTLEG-022-PE-C | | ■ | 8 ft. (2.4 m) | Cable | 36CS snaphooks | Locking Pin | | | ■ |
| VTLEG-021-PA-C | ■ | | 8 ft. (2.4 m) | Cable | AL36CL snaphook | Locking Pin | | | ■ |
| VTLEG-022-PA-C | | ■ | 8 ft. (2.4 m) | Cable | AL36CL snaphooks | Locking Pin | | | ■ |
| VTLEG-021-PC-C | ■ | | 8 ft. (2.4 m) | Cable | aluminum triple action carabiner | Locking Pin | | | ■ |
| VTLEG-022-PC-C | | ■ | 8 ft. (2.4 m) | Cable | aluminum triple action carabiner | Locking Pin | | | ■ |

## Connecting Devices: Self-Retracting Devices

| V-TEC EDGE Web PFLs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Part No. | Type | | Line Length | Line Type | Anchorage Connection | Harness Connection | Standards | | |
| | Single-leg | Twin-leg | | | | | ANSI | OSHA | CSA |
| VTLEW-021-PB-A | ■ | | 8 ft. (2.4 m) | Web | 36C snaphook | Locking Pin | ■ | ■ | |
| VTLEW-022-PB-A | | ■ | 8 ft. (2.4 m) | Web | 36C snaphooks | Locking Pin | ■ | ■ | |
| VTLEW-021-PF-A | ■ | | 8 ft. (2.4 m) | Web | 36CL snaphook | Locking Pin | ■ | ■ | |
| VTLEW-022-PF-A | | ■ | 8 ft. (2.4 m) | Web | 36CL snaphooks | Locking Pin | ■ | ■ | |
| VTLEW-021-PE-A | ■ | | 8 ft. (2.4 m) | Web | 36CS snaphook | Locking Pin | ■ | ■ | |
| VTLEW-022-PE-A | | ■ | 8 ft. (2.4 m) | Web | 36CS snaphooks | Locking Pin | ■ | ■ | |
| VTLEW-021-PA-A | ■ | | 8 ft. (2.4 m) | Web | AL36CL snaphook | Locking Pin | ■ | ■ | |
| VTLEW-022-PA-A | | ■ | 8 ft. (2.4 m) | Web | AL36CL snaphooks | Locking Pin | ■ | ■ | |
| VTLEW-021-PC-A | ■ | | 8 ft. (2.4 m) | Web | aluminum triple action carabiner | Locking Pin | ■ | ■ | |
| VTLEW-022-PC-A | | ■ | 8 ft. (2.4 m) | Web | aluminum triple action carabiner | Locking Pin | ■ | ■ | |
| VTLEW-021-PJ-A | ■ | | 8 ft. (2.4 m) | Web | FP5K | Locking Pin | ■ | ■ | |
| VTLEW-022-PJ-A | | ■ | 8 ft. (2.4 m) | Web | FP5K | Locking Pin | ■ | ■ | |
| VTLEW-021-PM-A | ■ | | 8 ft. (2.4 m) | Web | 36CLS snaphook | Locking Pin | ■ | ■ | |
| VTLEW-022-PM-A | | ■ | 8 ft. (2.4 m) | Web | 36CLS snaphooks | Locking Pin | ■ | ■ | |
| VTLEW-021-PS-A | ■ | | 8 ft. (2.4 m) | Web | coated snaphook | Locking Pin | ■ | ■ | |
| VTLEW-022-PS-A | | ■ | 8 ft. (2.4 m) | Web | coated snaphook | Locking Pin | ■ | ■ | |
| VTLEW-021-PB-C | ■ | | 8 ft. (2.4 m) | Web | 36C snaphook | Locking Pin | | | ■ |
| VTLEW-022-PB-C | | ■ | 8 ft. (2.4 m) | Web | 36C snaphooks | Locking Pin | | | ■ |
| VTLEW-021-PF-C | ■ | | 8 ft. (2.4 m) | Web | 36CL snaphook | Locking Pin | | | ■ |
| VTLEW-022-PF-C | | ■ | 8 ft. (2.4 m) | Web | 36CL snaphooks | Locking Pin | | | ■ |
| VTLEW-021-PE-C | ■ | | 8 ft. (2.4 m) | Web | 36CS snaphook | Locking Pin | | | ■ |
| VTLEW-022-PE-C | | ■ | 8 ft. (2.4 m) | Web | 36CS snaphooks | Locking Pin | | | ■ |
| VTLEW-021-PA-C | ■ | | 8 ft. (2.4 m) | Web | AL36CL snaphook | Locking Pin | | | ■ |
| VTLEW-022-PA-C | | ■ | 8 ft. (2.4 m) | Web | AL36CL snaphooks | Locking Pin | | | ■ |
| VTLEW-021-PC-C | ■ | | 8 ft. (2.4 m) | Web | aluminum triple action carabiner | Locking Pin | | | ■ |
| VTLEW-022-PC-C | | ■ | 8 ft. (2.4 m) | Web | aluminum triple action carabiner | Locking Pin | | | ■ |
| VTLEW-021-PM-C | ■ | | 8 ft. (2.4 m) | Web | 36CLS snaphook | Locking Pin | | | ■ |
| VTLEW-022-PM-C | | ■ | 8 ft. (2.4 m) | Web | 36CLS snaphooks | Locking Pin | | | ■ |

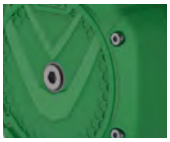
## Connecting Devices: Self-Retracting Devices

### V-SHOCK Leading Edge PFL

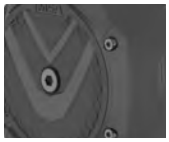


### Color Coding & Iconography

Make product selection quick and easy



Green Housing
*(Leading Edge)*



Gray Housing
*(Non-Leading Edge)*



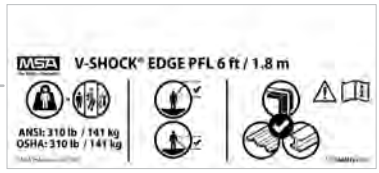
Leading Edge Icon



Non-Leading Edge Icon

### Dashboard Labels

Deliver critical information at a glance




Leading Edge Label




Non-Leading Edge Label

### V-SHOCK Non-Leading Edge PFL



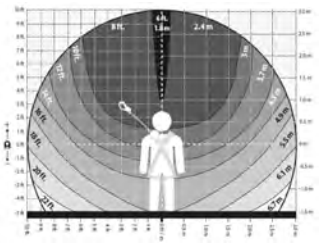
### Clearance Charts

Designed for ease of understanding

Leading Edge Clearance Chart



Non-Leading Edge Clearance Chart



## Connecting Devices: Self-Retracting Devices

### V-SHOCK® Non-Leading Edge PFLs





*Single-leg*



*Twin-leg*



*Single-leg Tie-back*



*Twin-leg Tie-back*

**V-SHOCK 6 ft. (1.8 m) Non-Leading Edge Web PFL — ANSI**

| Part Number | Type | Single/Twin | Snaphook |
|---|---|---|---|
| **VSOHW-011-NB-A** | V-SHOCK | Single | 36C |
| **VSOHW-011-NE-A** | V-SHOCK | Single | 36CS |
| **VSOHW-011-NF-A** | V-SHOCK | Single | 36CL |
| **VSOHW-011-NG-A** | V-SHOCK | Single | AL36C |
| **VSOHW-011-NA-A** | V-SHOCK | Single | AL36CL |
| **VSOHW-011-NH-A** | V-SHOCK | Single | AL36CLS |
| **VSOHW-011-NC-A** | V-SHOCK | Single | ALTAKS |
| **VSOHW-011-NJ-O-TB** | V-SHOCK Tie-Back | Single | FP5K |
| **VSOHW-012-QB-A** | V-SHOCK | Twin | 36C |
| **VSOHW-012-QE-A** | V-SHOCK | Twin | 36CS |
| **VSOHW-012-QF-A** | V-SHOCK | Twin | 36CL |
| **VSOHW-012-QA-A** | V-SHOCK | Twin | AL36CL |
| **VSOHW-012-QH-A** | V-SHOCK | Twin | AL36CLS |
| **VSOHW-012-QC-A** | V-SHOCK | Twin | ALTAKS |
| **VSOHW-012-QJ-O-TB** | V-SHOCK Tie-Back | Twin | FP5K |

**V-SHOCK 10 ft. (3 m) Non-Leading Edge Web PFL — ANSI**

| Part Number | Type | Single/Twin | Snaphook |
|---|---|---|---|
| **VSOHW-031-NB-A** | V-SHOCK | Single | 36C |
| **VSOHW-031-NE-A** | V-SHOCK | Single | 36CS |
| **VSOHW-031-NF-A** | V-SHOCK | Single | 36CL |
| **VSOHW-031-NG-A** | V-SHOCK | Single | AL36C |
| **VSOHW-031-NA-A** | V-SHOCK | Single | AL36CL |
| **VSOHW-031-NC-A** | V-SHOCK | Single | ALTAKS |
| **VSOHW-031-NJ-O-TB** | V-SHOCK Tie-Back | Single | FP5K |
| **VSOHW-032-QE-A** | V-SHOCK | Twin | 36CS |
| **VSOHW-032-QF-A** | V-SHOCK | Twin | 36CL |
| **VSOHW-032-QA-A** | V-SHOCK | Twin | AL36CL |
| **VSOHW-032-QH-A** | V-SHOCK | Twin | AL36CLS |
| **VSOHW-032-QJ-O-TB** | V-SHOCK Tie-Back | Twin | FP5K |

**V-SHOCK 6 ft. (1.8 m) Non-Leading Edge Web PFL — CSA**

| Part Number | Type | Single/Twin | Snaphook |
|---|---|---|---|
| **VSOHW-011-NA-C** | V-SHOCK | Single | AL36CL-C |
| **VSOHW-011-NB-C** | V-SHOCK | Single | 36C-C |
| **VSOHW-011-NC-C** | V-SHOCK | Single | ALTAKS-C |
| **VSOHW-011-NE-C** | V-SHOCK | Single | 36CS-C |
| **VSOHW-011-NH-C** | V-SHOCK | Single | AL36CLS-C |
| **VSOHW-011-NM-C** | V-SHOCK | Single | 36CLS-C |
| **VSOHW-012-QA-C** | V-SHOCK | Twin | AL36CL-C |
| **VSOHW-012-QB-C** | V-SHOCK | Twin | 36C-C |
| **VSOHW-012-QC-C** | V-SHOCK | Twin | ALTAKS-C |
| **VSOHW-012-QE-C** | V-SHOCK | Twin | 36CS-C |
| **VSOHW-012-QH-C** | V-SHOCK | Twin | AL36CLS-C |
| **VSOHW-012-QM-C** | V-SHOCK | Twin | 36CLS-C |

**V-SHOCK 8 ft. (2.5 m) Non-Leading Edge Web PFL — CSA**

| Part Number | Type | Single/Twin | Snaphook |
|---|---|---|---|
| **VSOHW-021-NA-C** | V-SHOCK | Single | AL36CL-C |
| **VSOHW-021-NB-C** | V-SHOCK | Single | 36C-C |
| **VSOHW-021-NC-C** | V-SHOCK | Single | ALTAKS-C |
| **VSOHW-021-NE-C** | V-SHOCK | Single | 36CS-C |
| **VSOHW-021-NG-C** | V-SHOCK | Single | AL36C-C |
| **VSOHW-021-NM-C** | V-SHOCK | Single | 36CLS-C |
| **VSOHW-022-QA-C** | V-SHOCK | Twin | AL36CL-C |
| **VSOHW-022-QE-C** | V-SHOCK | Twin | 36CS-C |
| **VSOHW-022-QH-C** | V-SHOCK | Twin | AL36CLS-C |
| **VSOHW-022-QM-C** | V-SHOCK | Twin | 36CLS-C |

## Connecting Devices: Self-Retracting Devices

### V-SHOCK® Edge Leading Edge PFLs


*Single-leg*


*Twin-leg*


*Single-leg Tie-back*


*Twin-leg Tie-back*

**V-SHOCK Edge 6 ft. (1.8 m) Leading Edge Web PFL — ANSI**

| Part Number | Type | Single/Twin | Snaphook |
|---|---|---|---|
| VSLEW-011-PB-A | V-SHOCK Edge | Single | 36C |
| VSLEW-011-PE-A | V-SHOCK Edge | Single | 36CS |
| VSLEW-011-PF-A | V-SHOCK Edge | Single | 36CL |
| VSLEW-011-PA-A | V-SHOCK Edge | Single | AL36CL |
| VSLEW-011-PJ-A-TB | V-SHOCK Edge Tie-Back Edge | Single | FP5K |
| VSLEW-012-PB-A | V-SHOCK Edge | Twin | 36C |
| VSLEW-012-PE-A | V-SHOCK Edge | Twin | 36CS |
| VSLEW-012-PF-A | V-SHOCK Edge | Twin | 36CL |
| VSLEW-012-PA-A | V-SHOCK Edge | Twin | AL36CL |
| VSLEW-012-PH-A | V-SHOCK Edge | Twin | AL36CLS |
| VSLEW-012-PC-A | V-SHOCK Edge | Twin | ALTAKS |
| VSLEW-012-PJ-A-TB | V-SHOCK Edge Tie-Back Edge | Twin | FP5K |

**V-SHOCK Edge 10 ft. (3 m) Leading Edge Web PFL — ANSI**

| Part Number | Type | Single/Twin | Snaphook |
|---|---|---|---|
| VSLEW-031-PB-A | V-SHOCK Edge | Single | 36C |
| VSLEW-031-PE-A | V-SHOCK Edge | Single | 36CS |
| VSLEW-031-PF-A | V-SHOCK Edge | Single | 36CL |
| VSLEW-031-PA-A | V-SHOCK Edge | Single | AL36CL |
| VSLEW-031-PJ-A-TB | V-SHOCK Edge Tie-Back Edge | Single | FP5K |
| VSLEW-032-PB-A | V-SHOCK Edge | Twin | 36C |
| VSLEW-032-PE-A | V-SHOCK Edge | Twin | 36CS |
| VSLEW-032-PF-A | V-SHOCK Edge | Twin | 36CL |
| VSLEW-032-PA-A | V-SHOCK Edge | Twin | AL36CL |
| VSLEW-032-PH-A | V-SHOCK Edge | Twin | AL36CLS |
| VSLEW-032-PJ-A-TB | V-SHOCK Edge Tie-Back Edge | Twin | FP5K |

**V-SHOCK Edge 6 ft. (1.8 m) Leading Edge Web PFL — CSA**

| Part Number | Type | Single/Twin | Snaphook |
|---|---|---|---|
| VSLEW-011-PM-C | V-SHOCK Edge | Single | 36CLS-C |
| VSLEW-011-PE-C | V-SHOCK Edge | Single | 36CS-C |
| VSLEW-011-PA-C | V-SHOCK Edge | Single | AL36CL-C |
| VSLEW-012-PM-C | V-SHOCK Edge | Twin | 36CLS-C |
| VSLEW-012-PE-C | V-SHOCK Edge | Twin | 36CS-C |
| VSLEW-012-PA-C | V-SHOCK Edge | Twin | AL36CL-C |
| VSLEW-012-PH-C | V-SHOCK Edge | Twin | AL36CLS-C |
| VSLEW-012-PC-C | V-SHOCK Edge | Twin | ALTAKS-C |

**V-SHOCK Edge 8 ft. (2.5 m) Leading Edge Web PFL — CSA**

| Part Number | Type | Single/Twin | Snaphook |
|---|---|---|---|
| VSLEW-021-PA-C | V-SHOCK Edge | Single | AL36CL-C |
| VSLEW-021-PE-C | V-SHOCK Edge | Single | 36CS-C |
| VSLEW-021-PM-C | V-SHOCK Edge | Single | 36CLS-C |
| VSLEW-022-PE-C | V-SHOCK Edge | Twin | 36CS-C |
| VSLEW-022-PA-C | V-SHOCK Edge | Twin | AL36CL-C |
| VSLEW-022-PH-C | V-SHOCK Edge | Twin | AL36CLS-C |
| VSLEW-022-PM-C | V-SHOCK Edge | Twin | 36CLS-C |

## Connecting Devices: Self-Retracting Devices

### V-SHOCK® EDGE Leading Edge SRLs



| V-SHOCK Edge Leading Edge Galvanized Steel Cable SRL — ANSI | | | |
|---|---|---|---|
| **Part Number** | **Type** | **Length** | **Snaphook** |
| **VSLEG-061-NE-A** | V-SHOCK Edge | 20 ft. (6 m) | 36CS |
| **VSLEG-101-NE-A** | V-SHOCK Edge | 30 ft. (10 m) | 36CS |
| **VSLEG-151-NE-A** | V-SHOCK Edge | 50 ft. (15 m) | 36CS |

| V-SHOCK Edge Leading Edge Galvanized Steel Cable SRL — CSA | | | |
|---|---|---|---|
| **Part Number** | **Type** | **Length** | **Snaphook** |
| **VSLEG-061-NE-C** | V-SHOCK Edge | 20 ft. (6 m) | 36CS-C |
| **VSLEG-101-NE-C** | V-SHOCK Edge | 30 ft. (10 m) | 36CS-C |
| **VSLEG-151-NE-C** | V-SHOCK Edge | 50 ft. (15 m) | 36CS-C |

### Snap Hooks & Top Connectors

| Snaphooks | |
|---|---|
|  |  |
| 36C | 36CS |
|  |  |
| 36CL | AL36C |
|  |  |
| AL36CL | AL36CLS |
|  |  |
| ALTAKS | FP5K |
| **Top Connectors** | |
|  |  |
| Carabiner | Twin Link Clip |
|  | |
| Locking Pin Connector | |

| Performance Specifications | |
|---|---|
| **Standards & Capacity*** | |
| ANSI Z359.14-2021 | 130-310 lb. (60-141 kg) |
| OSHA 1926.502 | 100-400 lb. (45-181 kg) |
| CSA Z259.2.2-17 | 130-310 lb. (60-141 kg) |
| **MAXIMUM Arrest Forces**** | |
| Peak | 1,029 lb. (470 kg) |
| Average | 800 lb. (366 kg) |

* *Both Non-Leading Edge and Lead Edge PFLs should only be utilized for overhead applications for weights between 310 lb. (141 kg) and 400 lb. (181 kg).*

** *For more information please refer to the Fall Clearance Charts included with your product.*

## Connecting Devices: Self-Retracting Devices

### V-TEC® Self-Retracting Lanyards (SRLs)



With premium components and innovative engineering, the V-TEC SRL offers controlled cable retraction—preventing excessive lifeline retraction speed and protecting internal parts from damage.

- Clear outer casing for easy inspection
- Carry handle included
- Spring radial energy-absorbing technology requires zero calibration or adjustment
- Stainless steel/engineered plastics
- Retraction dampening features controls the cable speed to <3m/s
- Completely field serviceable

| Part No. | Type | | Length | Standards | |
|---|---|---|---|---|---|
| | Galvanized Cable | Stainless Steel Cable | | ANSI | CSA |
| 63206-00A | ■ | | 20 ft. (6 m) | ■ | |
| 63306-00A | | ■ | 20 ft. (6 m) | ■ | |
| 63206-00ACA | ■ | | 20 ft. (6 m) | | ■ |
| 63306-00ACA | | ■ | 20 ft. (6 m) | | ■ |
| 63210-00A | ■ | | 30 ft. (10 m) | ■ | |
| 63310-00A | | ■ | 30 ft. (10 m) | ■ | |
| 63310-00ACA | | ■ | 30 ft. (10 m) | | ■ |
| 63215-00A | ■ | | 50 ft. (15 m) | ■ | |
| 63315-00A | | ■ | 50 ft. (15 m) | ■ | |
| 63315-00ACA | | ■ | 50 ft. (15 m) | | ■ |
| 63330-00A | ■ | | 100 ft. (30 m) | ■ | |
| 63230-00A | | ■ | 100 ft. (30 m) | ■ | |
| 63330-00ACA | ■ | | 100 ft. (30 m) | | ■ |
| 63230-00ACA | | ■ | 100 ft. (30 m) | | ■ |

### V-EDGE® Leading Edge Self-Retracting Lanyards (SRLs)



Specifically engineered and tested for use at foot-level tie-off, the V-EDGE SRL meets ANSI Z359.14-2014 Leading Edge requirements.

- *Simplified selection*—the V-EDGE PFL can be used in a variety of applications where sharp edge hazards are a concern.
- *Get to work faster*—Clear outer casing allows for quick visual inspection of internal components
- *Lower cost of ownership*—Integrated roll cage protects housing when used in foot-level tie off. Retraction dampening feature controls the life line speed, preventing unwanted damage and maximizing product life.
- *Reduce downtime*—Internal components like the cable and energy absorber can be replaced on site, reducing repair times.

| Part No. | Line Length | Line Type | Anchorage Connection | Harness Connection | Standards | | |
|---|---|---|---|---|---|---|---|
| | | | | | OSHA | ANSI | CSA |
| 63406-00A | 20 ft. (6 m) | Galvanized Cable | 36CS Snaphook | Locking Pin | ■ | ■ | |
| 63410-00A | 30 ft. (10 m) | Galvanized Cable | 36CS Snaphook | Locking Pin | ■ | ■ | |
| 63415-00A | 50 ft. (15 m) | Galvanized Cable | 36CS Snaphook | Locking Pin | ■ | ■ | |
| 63406-00ACA | 20 ft. (6 m) | Galvanized Cable | 36CS Snaphook | Locking Pin | | | ■ |
| 63410-00ACA | 30 ft. (10 m) | Galvanized Cable | 36CS Snaphook | Locking Pin | | | ■ |
| 63415-00ACA | 50 ft. (15 m) | Galvanized Cable | 36CS Snaphook | Locking Pin | | | ■ |

## Connecting Devices: Self-Retracting Devices

### V-TEC® Arc Flash Personal Fall Limiters (PFLs)

- Optimized design utilizing lightweight materials to improve weight and comfort
- Selection is made easier with defined color coded housings and icons—Gray for overhead use only
- Additionally, labels use clear iconography to help deliver critical SRL information in a clear and easy to understand format
- Clearance charts have been designed to ommunicate fall clearance requirements in an intuitive format
- High-impact polycarbonate housing
- Clear housing for ease of inspection
- User capacity up to 310 lb. (ANSI), 400 lb. (OSHA)[1]

**Standards**

- ANSI Z359.14-21,
- OSHA 29 CFR Part 1910.140 & 1926.502
- CSA Z259.2.2-17
- Tested in accordance with ASTM F887 arc exposure requirements[2]

*[1] Please refer to clearance charts to determine proper connection point height.*
*[2] The V-TEC Arc Flash PFL has undergone arc exposure as stated within ASTM F887, where the PFL was exposed to an electrical arc of 40 cal/cm^2 and it did not exhibit any signs of melting, dripping, or ignition of any system component during or after testing. Following exposure, the V-TEC Arc Flash PFL was successfully tested to the appropriate industry standard ensuring reliability in the event of a fall.*



*Single-leg, web with AL36CL snaphook*



*Twin-leg, web with aluminum triple action carabiner*

| Part No. | Description |
|---|---|
| **VTOHW-021-DA-AF** | V-TEC Overhead Web Arc Flash PFL, 6.5 ft. (2 m), **single leg**, aluminum triple action swivel carabiner, AL36CL large aluminum snaphook, ANSI Z359.14-21, OSHA |
| **VTOHW-021-DD-AF** | V-TEC Overhead Web Arc Flash PFL, 6.5 ft. (2 m), **single leg**, aluminum triple action swivel carabiner, aluminum triple action carabiner (top), ANSI Z359.14-21, OSHA |
| **VTOHW-022-RA-AF** | V-TEC Overhead Web Arc Flash PFL, 6.5 ft. (2 m), **twin leg**, aluminum triple action swivel carabiner, AL36CL large aluminum snaphook, ANSI Z359.14-21, OSHA |
| **VTOHW-022-RD-AF** | V-TEC Overhead Web Arc Flash PFL, 6.5 ft. (2 m), **twin leg**, aluminum triple action swivel carabiner, aluminum triple action carabiner (top), ANSI Z359.14-21, OSHA |
| **VTOHW-021-DA-CF** | V-TEC Overhead Web Arc Flash PFL, 6.5 ft. (2 m), **single leg**, aluminum triple action swivel carabiner, AL36CL large aluminum snaphook, CSA Z259.2.2-17 |
| **VTOHW-021-DD-CF** | V-TEC Overhead Web Arc Flash PFL, 6.5 ft. (2 m), **single leg**, aluminum triple action swivel carabiner, aluminum triple action carabiner (top), CSA Z259.2.2-17 |
| **VTOHW-022-RD-CF** | V-TEC Overhead Web Arc Flash PFL, 6.5 ft. (2 m), **twin leg**, aluminum triple action swivel carabiner, aluminum triple action carabiner (top), CSA Z259.2.2-17 |

### V-TEC® io1

The MSA V-TEC io1 is a Fall Protection product specifically designed for lift work in warehouses and fulfillment centers. Its smart features help to improve worker safety and compliance when working at heights.

#### 1. Real Time Compliance

The V-TEC io1's seat-belt alarm style system helps to improve safety compliance rates by continuing to sound, until workers are connected in the lift. It beeps upon waking up every time-reminding workers to connect their PPE right away. Additionally, the flashing red lights engage multiple senses so that that the user is made aware of their connection status.

#### 2. Improved Efficiency

By reminding workers to connect to their lift, the V-TEC io1 helps to reduce turnover rates and training costs that may result from a lack of compliance and also allowing Safety Managers to focus on other tasks.





*with 36CSN snaphook*

| Part No. | Description |
|---|---|
| **10213902** | V-TEC io1 PFL, 6 ft., 36CSN snaphook |
| **10216248** | V-TEC io1 PFL, 10 ft., 36CSN snaphook |

***Each V-TEC io1 comes with charging kit, and 1 RFID holder assembly for harness.***

***V-FORM/V-FORM+ Harnesses, and additional RFID holder assemblies must be ordered separately.***

| Part No. | Description |
|---|---|
| **Replacement Parts** | |
| **10216578** | RFID Holder Assembly, Spare Parts, 5 |
| **10216579** | RFID Holder Assembly, Spare Parts, 50 |
| **10216580** | Charging Kit, Replacement, V-TEC io1 |
| **10216611** | Battery Pack, Portable, Replacement, io1 |

| Part No. | Description |
|---|---|
| **Replacement Parts** | |
| **10216612** | Cable, USB, Right Angle Replacement, io1 |
| **10216613** | Converter, Power, Replacement, io1 |
| **10216614** | Cable, USB C to USB A, Replacement, io1 |

## Connecting Devices: Self-Retracting Devices

### Latchways® Sealed Self-Retracting Lanyards (SRL)

Latchways Sealed SRLs are specifically designed for use within harsh environments such as oil rigs, offshore wind farms and other offshore applications, enabling unhindered hands-free fall protection solutions. They are the world's first completely field-serviceable sealed SRLs.

- Ingress protection (IP69K)
- Meets and exceeds global industry standards
- 100% Full Contact locking mechanism
- ATEX-assessed
- Accelerated corrosion testing
- 310lbs. (140kg) user capacity
- Completely field-serviceable
- Constant Force technology frictionless energy-absorbing mechanism
- Suitable for use within high vibration environments
- Full training and recertification program



| Part No. | Line Type | Length | Size L x W x D | Weight | Anchorage | Standards |
|---|---|---|---|---|---|---|
| **62810-00US** | Ø 0.188" (5 mm) stainless steel cable (7 x 19) | 30 ft (9 m) | 10.62 x 9.5 x 7" (270 x 241 x 178 mm) | 20.9 lbs (9.5 kg) | Forged/stainless steel snaphook | ANSI Z359.14 |
| **62816-00US** | Ø 0.188" (5 mm) stainless steel cable (7 x 19) | 50 ft (15 m) | 13 x 11 x 7.5" (330 x 279 x 191 mm) | 26.5 lbs (12 kg) | Forged/stainless steel snaphook | ANSI Z359.14 |
| **62826-00US** | Ø 0.188" (5 mm) stainless steel cable (7 x 19) | 85 ft (26 m) | 13 x 13 x 7.88" (330 x 330 x 200 mm) | 44.1 lbs (20 kg) | Forged/stainless steel snaphook | ANSI Z359.14 |
| **62841-00US** | Ø 0.188" (5 mm) stainless steel cable (7 x 19) | 130 ft (40 m) | 15 x 15 x 8.5" (381 x 381 x 216 mm) | 57.3 lbs (26 kg) | Forged/stainless steel snaphook | ANSI Z359.14 |
| **62810-00CA** | Ø 0.188" (5 mm) stainless steel cable (7 x 19) | 30 ft (9 m) | 10.62 x 9.5 x 7" (270 x 241 x 178 mm) | 20.9 lbs (9.5 kg) | Forged/stainless steel snaphook | CSA Z259.2.2 |
| **62816-00CA** | Ø 0.188" (5 mm) stainless steel cable (7 x 19) | 50 ft (15 m) | 13 x 11 x 7.5" (330 x 279 x 191 mm) | 26.5 lbs (12 kg) | Forged/stainless steel snaphook | CSA Z259.2.2 |
| **62826-00CA** | Ø 0.188" (5 mm) stainless steel cable (7 x 19) | 85 ft (26 m) | 13 x 13 x 7.88" (330 x 330 x 200 mm) | 44.1 lbs (20 kg) | Forged/stainless steel snaphook | CSA Z259.2.2 |
| **62841-00CA** | Ø 0.188" (5 mm) stainless steel cable (7 x 19) | 130 ft (40 m) | 15 x 15 x 8.5" (381 x 381 x 216 mm) | 57.3 lbs (26 kg) | Forged/stainless steel snaphook | CSA Z259.2.2 |

## Carabiners

MSA offers many carabiners for most applications. All carabiners have minimum breaking strength of 5,000 lb.

| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| • 9/16" (14 mm) gate opening<br>• Auto-locking<br>• Steel<br>• ANSI Z, CSA | • 1" (25 mm) gate opening<br>• Auto-locking with pin<br>• Steel<br>• ANSI Z, CSA | • 1" (25 mm) gate opening<br>• Auto-locking<br>• Aluminum | • 1.2" (32 mm) gate opening<br>• Screw-lock<br>• Steel<br>• NFPA | • 1.2" (32 mm) gate opening<br>• Screw-lock<br>• Steel<br>• NFPA | • 2.1" (53 mm) gate opening<br>• Auto-locking with pin<br>• Steel<br>• ANSI Z, CSA |
| **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** |
| **10089205** | **10089207** | **SRCA883** | **SRCC642** | **SRCC641** | **10089209** |

## Anchorage Connectors: Straps

- Minimum breaking strength of 5,000 lb.
- Compatible for use with MSA fall arrest and confined space entry/retrieval components.



### Anchorage Connector Strap

- Standard 5-ft. length; custom lengths available
- D-ring on one end, sewn hoop on other end

| Part No. |
|---|
| 505282 |



### Double D-ring Anchorage Connector Strap

- Standard 5-ft. length; custom lengths available
- Standard D-ring on one end, large D-ring on other end

| Part No. |
|---|
| 10023490 |



### Double D-ring Anchorage Connector Strap

- Standard lengths of 3-ft., 4-ft. and 6-ft.
- Standard D-ring on one end, large D-ring on other end
- Integral wear pad

| Part No. | |
|---|---|
| SFP2267503 | 3-ft. strap |
| SFP2267504 | 4-ft. strap |
| SFP2267506 | 6-ft. strap |



### Thermatek Anchorage Connector Strap

- Kevlar webbing and stitching
- Contrasting colors of webbing and stitching offer easier inspection
- Includes replaceable wear pad to protect webbing from abrasion
- Heat- and burn-resistant

| Part No. |
|---|
| 505282 |



### PointGuard™ Anchorage Connector Straps

***Concrete Construction Model***

- Economical
- 400 lbs. (182 kg) capacity
- Standard length of 4-ft.
- Includes protective sheath
- With steel D-ring (also available without D-ring)
- Meets all applicable OSHA regulations

| Part No. |
|---|
| 10023490 |



***Residential Construction Model***

- Economical
- 400 lbs. (182 kg) capacity
- Standard length of 3-ft.
- With steel D-ring (also available without D-ring)
- Meets all applicable OSHA regulations and ANSI Z359

| Part No. | |
|---|---|
| SFP2267503 | 3-ft. strap |
| SFP2267504 | 4-ft. strap |
| SFP2267506 | 6-ft. strap |

## Anchorage Connectors: Slings



### Anchorage Cable Sling

- Standard lengths of 4-ft. and 6-ft.; custom lengths available
- Vinyl-coated
- 1/4" galvanized cable

| Part No. | |
|---|---|
| SFP3267504 | 4-ft. sling |
| SFP2267506 | 6-ft. sling |



### Suretyman™ Anchorage Sling

- 1" nylon tube webbing sewn into continuous loop
- Available in 2-ft., 4-ft. and 6-ft. lengths
- Can be hitched to anchorage point using various configurations

| Part No. | |
|---|---|
| SFP2267402 | 2-ft. sling |
| SFP2267404 | 4-ft. sling |
| SFP2267406 | 6-ft. sling |

## Anchorage Connectors: Extensions



**Anchorage Connector Extensions**

- Vinyl-coated
- 1/4" galvanized cable

| Part No. | Tie-Off Connection | Anchorage Connection | Length | Standards | |
|---|---|---|---|---|---|
| | | | | ANSI Z359 | OSHA |
| 10082683 | O-ring | 36C | 12′ | ■ | ■ |
| 10002182 | O-ring | 36C | 10′ | ■ | ■ |
| 10008492 | O-ring | 36C | 8′ | ■ | ■ |
| 10095264 | O-ring | 36C | 6′ | ■ | ■ |
| 505233 | O-ring | 36C | 5′ | ■ | ■ |
| 10001609 | O-ring | 36C | 3′ | ■ | ■ |
| 10087003 | O-ring | FP5K | 6′ | ■ | ■ |
| 10073847 | O-ring | FP5K | 5′ | ■ | ■ |

## Anchorage Connectors: Extensions



*10218481*



*10218482*



*10218483*

**MSA Cable Anchorage Connectors**

- Galvanized steel cable, black PVC-coated
- ¼ in. (6.35 mm) diameter
- Steel O-rings

| Part No. | |
|---|---|
| 10218481 | 4 ft. (1.2 m) length, 0.9 lb. (0.4 kg) |
| 10218482 | 6 ft. (1.8 m) length, 1.0 lb. (0.5 kg) |
| 10218483 | 8 ft. (2.4 m) length, 1.3 lb. (0.6 kg) |

## Anchorage Connectors: Concrete Applications



**PointGuard™ Anchorage Connector Straps**

***Concrete Construction Model***

- Economical
- 400 lbs. (182 kg) capacity
- Standard length of 4-ft.
- Includes protective sheath
- With steel D-ring (also available without D-ring)
- Meets all applicable OSHA regulations

| Part No. |
|---|
| 10042794 |



**Removable Concrete Anchor**

- Lightweight & removable
- Must be drilled in a ¾ inch diameter hole at least 3½ inches deep
- Stainless steel
- Max. capacity: 5,000 lbs./22kN

| Part No. |
|---|
| 10242704 |

## Anchorage Connectors: Steel Beam and Rail Applications





### Workman® FP Stryder™ Anchorage Connector

- Easy, single-hand installation
- Lightweight—only 4.5 lbs.!
- Versatile design: mount overhead or at worker's feet
- 400-lb. working capacity
- Low friction wear pads with Teflon enable effortless gliding along beam flange
- Integral load indicator alerts user if unit has been exposed to a fall
- Easy to use, push-button adjustment—no pins to lose!

| Part No. | Description |
|---|---|
| **10144431** | Standard version |
| **10144432** | XL version |



### D-Plate Anchorage Connector

- Provides permanent anchorage point
- Bolts to beams or columns
- Also available with 8" x 8" backplate of black anodized aluminum, galvanized steel or stainless steel for attachment to concrete walls

| Part No. |
|---|
| **506632** |



### Bolt D-ring with Hole

- Permanent anchorage connector
- Attaches to bottom of I-beam flange; user supplies bolt
- Designed for horizontal installation

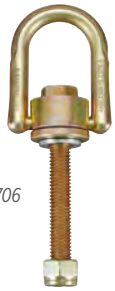
| Part No. |
|---|
| **10003213** |



*10242705*



*10242707*



*10242706*

### Steel Swive Anchor

- Flips 180 degrees and rotates 360 degrees for a versatile anchorage point
- Available in several configurations
- Alloy steel
- Max. capacity: 5,000 lbs./22kN

| Part No. | Description |
|---|---|
| **10242705** | Steel Swivel Anchor Base 5K |
| **10242707** | Steel Swivel Anchor & Puck Assembly 5K |
| **10242706** | Steel Swivel Anchor w/ Bolt 5K |



### Rail Slider™

- Provides fall protection during horizontal movement on railway bridges
- Quick and easy installation
- For 80–136-lb. rail
- Other sizes available

| Part No. |
|---|
| **SFPRS6000** |

## Anchorage Connectors: Roofing Applications




### Roof Anchors

- All-steel construction
- Fits all pitches of roof trusses or rafters
- Easy to install without special tools

| Part No. | Description |
|---|---|
| 416068 | Disposable |
| 10016468 | Permanent |



### Workman Reusable Roof Anchor

- Fits up to 12 x 12 roof pitch
- Fastens with screws or nails

| Part No. |
|---|
| 10102686 |



### PointGuard Anchorage Connector Strap

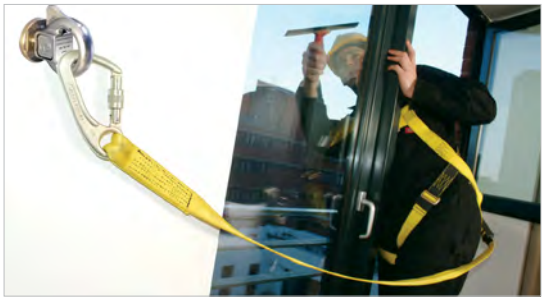
***Residential Construction Model***

- Economical
- 400 lbs. (182 kg) capacity
- Standard length of 3 ft.
- Available with or without steel D-ring
- Meets all applicable OSHA regulations and ANSI Z359.1

| Part No. | Description |
|---|---|
| 10042792 | Residential (with D-ring) |

## Anchorage Connectors: Window Washing Applications

### Pushlock™ Fall Protection



When access from inside a building is needed to carry out external work such as window washing, Latchways PushLock delivers a stable, secure solution. With a range of sockets for fixing to brickwork, concrete and steelwork, it can be secured in walls, floors or ceilings. PushLock provides an internal fixed anchor to which workers can attach a lanyard and safety harness—allowing them to confidently take on the job.

- Eyebolt requires two-handed operation, making accidental removal impossible
- A variety of colors and finishes available including stainless steel, brass and a range of RAL colors
- Socket and eyebolt both statically tested to 2248 lbs (10 kN)
- Meets all relevant national and international standards



## Rope Grabs and Vertical Lifelines

Rope Grabs are designed as a means of fall arrest between a worker wearing a compatible full-body harness and a suitable lifeline system. They are used to arrest the user in a fall from a working height and suspend the user until rescue can be affected.



*Rope Grab with 30″ Sure-Stop Lanyard P/N 415940*



*SureGrab Trailing Rope Grab P/N 10077718*



*Lifeline (white) P/N R512539*



*Lifeline (blue with orange) P/N SRP9200*



*Lifeline (white with red and green) P/N R512544*

### Rope Grabs, Trailing, 5/8″

| Part No. | Length | Panic Grab | ANSI Z359.15 | CSA Z259.2.5 |
|---|---|---|---|---|
| 415940 | 30″ | ■ | ■ | |
| 10077718 | 30″ | ■ | | ■ |

### Lifelines, 3-Strand, 5/8″

| ANSI Z359.1 | CSA Z259.2.5 | Length | | | | Base Rope Part No. |
|---|---|---|---|---|---|---|
| | | 25′ | 50′ | 75′ | 100′ | |
| | ■ | R512539LLC025 | R512539LLC050 | R512539LLC075 | R512539LLC100 | R512539 |
| ■ | | 415865 | 415869 | 415870 | 415871 | R512539 |

### Base Ropes

| Base Ropes | Material | Elongation at 1800 lbs. | Minimum Breaking Strength | Color | Features |
|---|---|---|---|---|---|
| R512539 | 100% polyester | 6.66% | 7825 lbs. | white | Best UV resistance |
| R512544 | co-polymer core / polyester outer | 4.70% | 9,450 lbs. | white w/red and green | Low elongation. No loss of strength when wet. Stores wet. |
| SRP9200 | co-polymer core / polyester outer | 5.25% | 7530 lbs. | blue w/orange | Low elongation. No loss of strength when wet. Stores wet. |

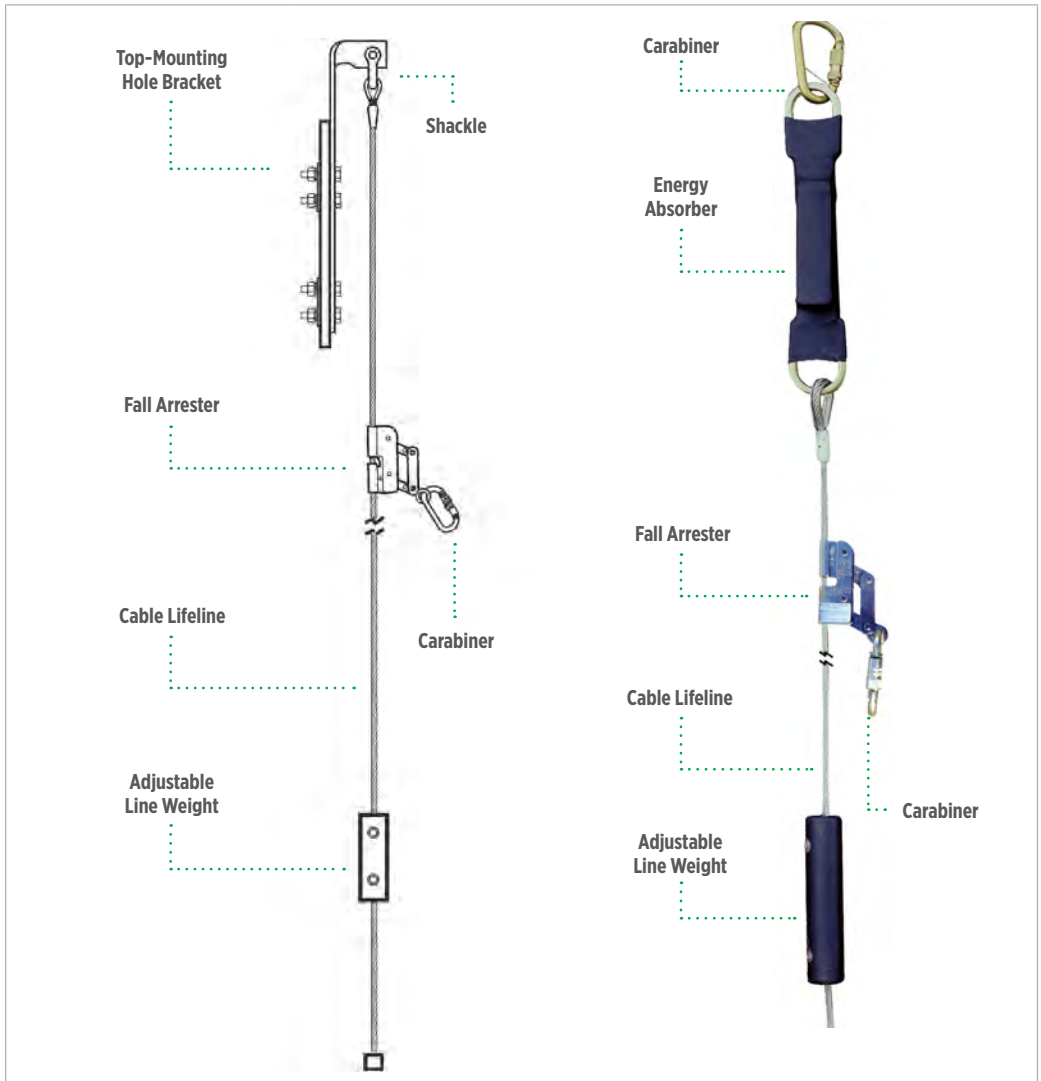
### Custom Rope Lengths

| Overall Length | Up to 25′ | 25′ – 50′ | 50′ – 100′ | over 100′ |
|---|---|---|---|---|
| Increment | 1′ | 5′ | 10′ | 25′ |

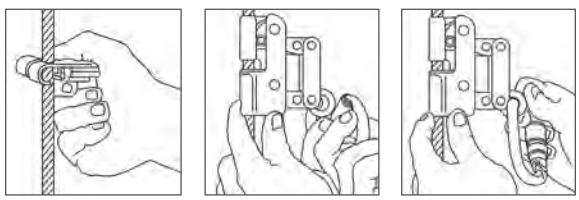
## Ladder Climbing Equipment: Permanent

### SureClimb™ Cable Systems

- Provide fall protection when climbing or descending ladders or vertical structures up to 300 feet
- Uses a stainless steel fall arrester
- Uses a 5⁄16″ galvanized steel cable




| Product | SureClimb Temporary Systems | |
|---|---|---|
| Part No. | SFPLS353050 | 50′ (15 m), with integral shock absorber |
| | SFPLS353100 | 100′ (30 m), with integral shock absorber |
| | SFPLS353200 | 200′ (61 m), with integral shock absorber |



*SureClimb Slider can be attached and removed anywhere along the length of cable*



**SureClimb Extension Davit and Base Assembly**

| Part No. | |
|---|---|
| 10036032 | Extension davit and base assembly |



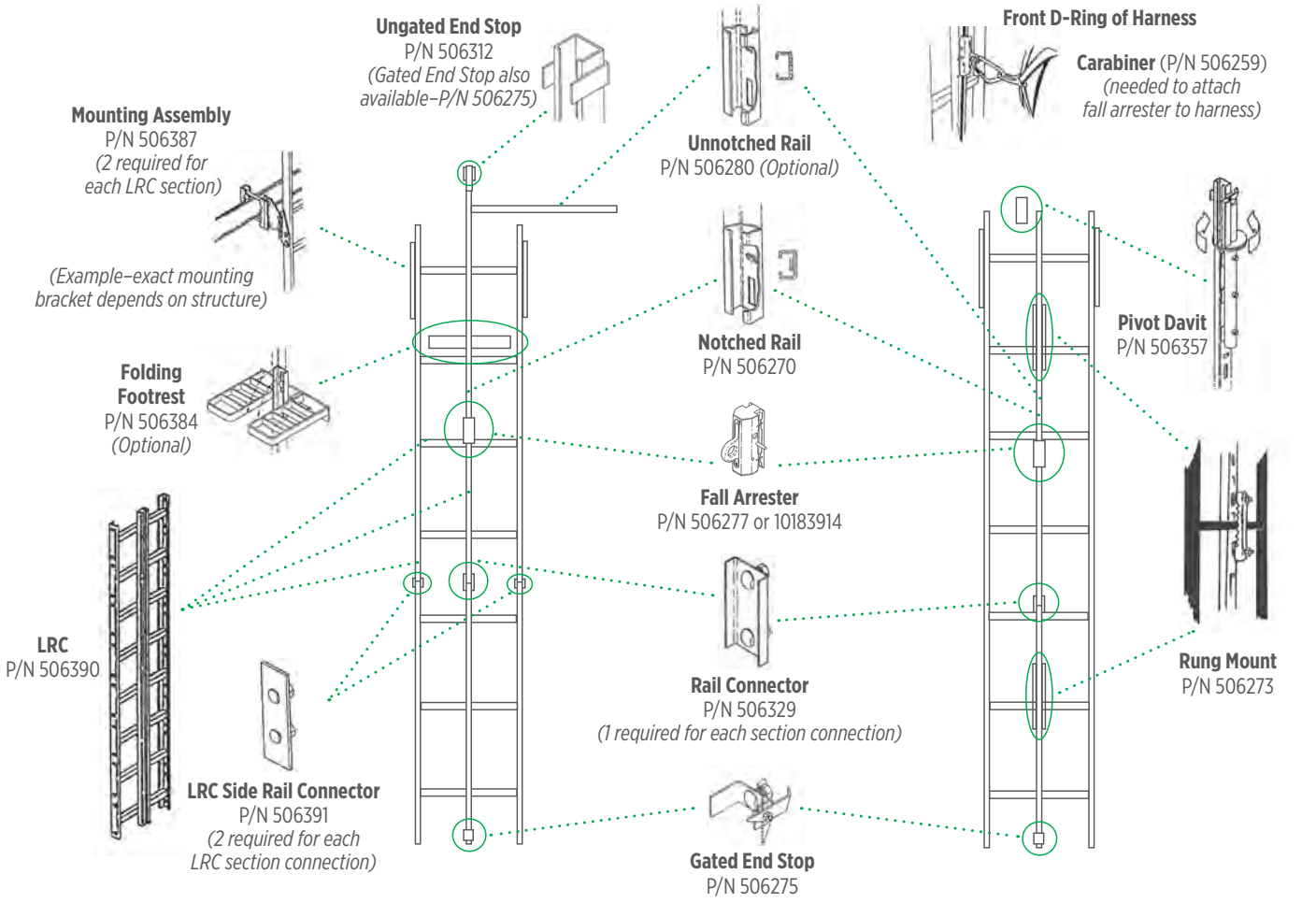
**SureClimb Slider Fall Arrester**

| Part No. | |
|---|---|
| 10040010 | SureClimb Slider w/ carabiner |

## Ladder Climbing Equipment: Permanent

### Dyna-Glide® Climbing System

- Can be attached to almost any structure that is permissible to climb
- Limits total fall distance to inches
- Components for complete rescue systems
- Allows for vertical and horizontal mobility
- Galvanized or stainless steel for corrosion resistance
- Your choice of ladder/rail combination (LRC) or rail only
- Provides smooth travel—there's no binding of the fall arresters inside the rail
- Detachable, lightweight, stainless steel, and aluminum mechanism for hands-free ascent and descent
- Variety of accessories to enhance mobility and provide continuous protection, convenience, and comfort (if needed)




| Product | SureClimb Permanent System | |
|---|---|---|
| Part No. | **506270** | Straight Notched Rail, galvanized, standard length 7' 4 3⁄16" |
| | **506273** | Rung Mount Assembly, galvanized |
| | **506277** | Fall arrester |
| | **10183914** | Fall arrester |
| | **506312** | Ungated top end stop, stainless steel |
| | **506329** | Rail connector, galvanized |
| | **506388** | Ladder/Rail Combination (LRC) standoff bracket, galvanized, standard length 7' 4 3⁄16" |
| | **506389** | LRC standoff bracket, bottom, galvanized |
| | **506390** | LRC, galvanized (CSA Part No. **10006461**) |
| | **506391** | LRC side rail connector, galvanized |

# MSA Stanchion

## Steel and Concrete

### Features

MSA's steel stanchion allows you to construct your own temporary horizontal lifeline on steel or concrete substrate.

The system is lightweight and portable, and installation is made easier with the unique clamp design. When installing on a beam, only one location is needed for tightening and this can be done by hand—no need for additional wrenches.

Interchangeable stanchion posts enable systems for steel applications to be converted to concrete applications and vice versa to maximize your investment.




### Specifications

***Standard Base*** .....Fits 6 in.- to 18 in.-wide flange up to 2¼ thick

***Large Base*** .....Fits 12 in.- to 36 in.-wide flange from 2¼ to 3⅜ in.

***Compatible with*** .....MSA Dyna-Line and Gravity HLLs

***Material*** .....Zinc-plated steel

***Weight*** .....45–67 lb.

***Install Type*** .....Temporary

***Lifeline Material*** .....Ordered separately

***Applications*** .....Construction, OGP, General Industry, Transportation

***Span Type*** .....Single span

***Weight Capacity*** .....Refer to Temporary Horizontal Lifeline

***Standards*** .....OSHA

### Compatible MSA HLL Lengths and Configurations

**Sure-Line Cable**

- 40 ft. / 2-man
- 60 ft. / 1-man

**Dyna-Line Rope (Red)**

- 60 ft. / 2-man

**Concrete Stanchion**

- 60 ft. / 2-man—both Sure-Line and Dyna-Line

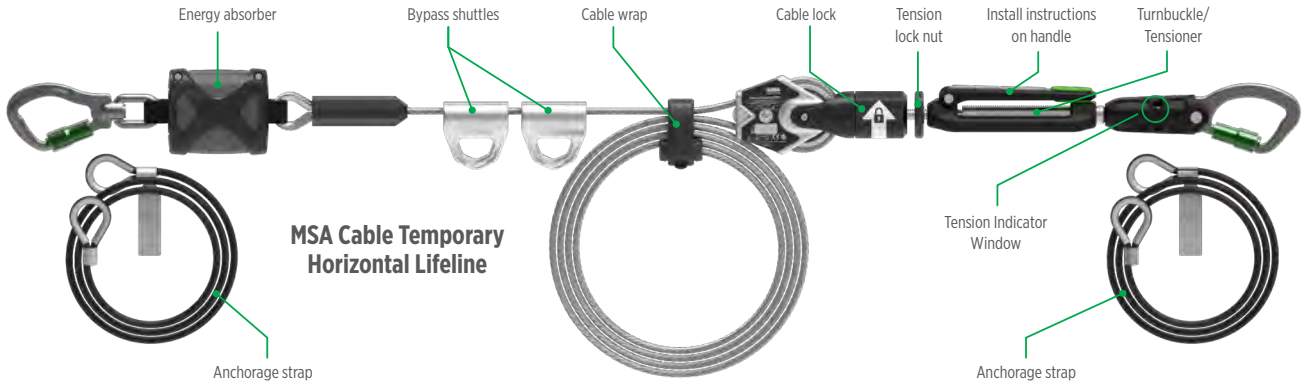
| Part No. | Description | Beam Flange Width | Beam Flange Thickness | Weight | Product Dimensions (L x W x H) |
|---|---|---|---|---|---|
| **10192211** | Stanchion w/ standard base | 6-18" | Up to 2¼" | 45 lb. | 670 mm x 300 mm x 1,072 mm |
| **10192213** | Replacement standard base, include hardware | 6-18" | Up to 2¼" | 15 lb. | 254 mm x 300 mm x 240 mm |
| **10192215** | Replacement threaded rod, standard with wing nut, w/Belleville washer | 6-18" | Up to 2¼" | 10 lb. | 670 mm x 32 mm x 138mm |
| **10192216** | Replacement threaded rod, large with wing nut | 12-36" | 2¼" to 3⅜" | 20 lb. | 1,140 mm x 32 mm x 195 mm |
| **10192217** | Stanchion post | N/A | N/A | 18 lb. | 50 mm x 100 mm x 877 mm |
| **10192223** | Wing Nut | N/A | N/A | 2 lb. | 220 mm x 60 mm x 75 mm |
| **10192224** | Belleville Washer | N/A | N/A | 0.15 lb. | 70 mm x 70 mm x 5 mm |

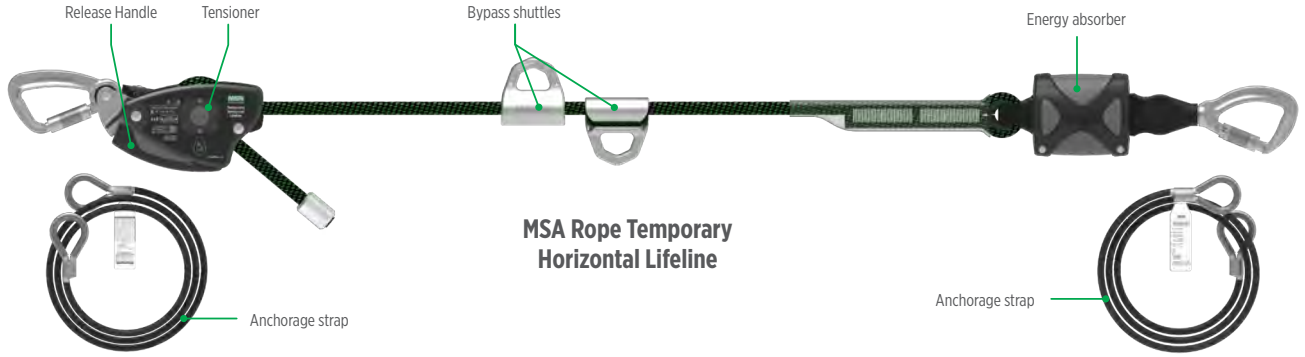
## Horizontal Lifelines: Temporary

### MSA Cable and Rope Temporary Horizontal Lifelines

The completely toolless installation of MSA's THLLs helps to save time and increase efficiency when setting up lifelines on the jobsite.

- Integrated locking and tensioning mechanism on the handle—eliminating the need for nuts, bolts and wrenches.
- Lightweight, flexible cable helps make installation easy to complete by a single worker.
- Locking and tensioning mechanisms are on the same side—no need to travel back and forth for set-up.
- Easy-to-read red and green visual indicators let the user know the system is locked, tensioned and ready for use.
- Patented bypass shuttles help 2 users maintain 100% tie-off—increasing mobility without sacrificing safety.




| Part No. | Description |
|---|---|
| **10219288** | MSA Temporary **Cable** Horizontal Lifeline for 2 Workers, 60 ft. with bypass shuttles and anchorage straps |
| **10219289** | MSA Temporary **Cable** Horizontal Lifeline for 2 Workers, 60 ft. with bypass shuttles |
| **10219290** | MSA Temporary **Cable** Horizontal Lifeline for 2 Workers, 100 ft. with bypass shuttles |
| **10219292** | MSA **Rope** Temporary Horizontal Lifeline for 2 Workers, 60 ft. (18 m) with bypass shuttles and anchorage straps |
| **10219293** | MSA **Rope** Temporary Horizontal Lifeline for 2 Workers, 60 ft. (18 m) with bypass shuttles *(Anchorage straps not included)* |
| **10219294** | MSA **Rope** Temporary Horizontal Lifeline for 2 Workers, 100 ft. (30 m) with bypass shuttles *(Anchorage straps not included)* |



*Easy adjustment (shown on cable version)*



*Bypass (shown on rope version)*

Watch our installation video here:

## Rescue Equipment

### MSA Latchways® Personal Rescue Device (PRD®)

#### PRD

- Consists of full-body harness and integral descender device that conforms to all required standards
- Patented components fit neatly into "backpack," which zips onto harness
- Lightweight and unobtrusive
- Withstands harsh working enviroments
- Significantly reduces rescue time
- Lone worker use
- Self-activated
- Intuitive use
- Clear rescue plan
- Improves user safety



*PRD with EVOTECH® Harnesses*



*PRD Rescue Pole*

#### PRD Rescue Pole

Designed to be used by a third party. Should the user be unable to conduct a self-rescue, the third party can activate the Latchways PRD's built-in secondary descent release mechanism. The overall length of the pole is 2.7 ft (0.8 m) when retracted and 11.1 ft (3.4 m) when extended.

| PRD | Harness Type | Size | | Line Length | Standards | | |
|---|---|---|---|---|---|---|---|
| Part No. | EVOTECH | STD | XLG | | ANSI Z359 | CSA Z259 | OSHA |
| 10176307 | ■ | ■ | | 65 ft. | ■ | ■ | ■ |
| 10176308 | ■ | | ■ | 65 ft. | ■ | ■ | ■ |

| Part No. | Description |
|---|---|
| 68099-00 | PRD Rescue Pole |

### Rescue Equipment: Anthron Descent Device System

- Manually operated, controlled descent device used for suspended work positioning, self-evacuation, or rescue operations
- Cam assembly provides friction on rope to hold load or allow load to descend at controlled rate
- System consists of 7⁄16" (11 mm) rope, Anthron Descender and two carabiners
- Device can be installed/removed at any point on the rope
- Proper roping/rigging diagrams on side of Anthron Descender
- Working load of 440 lbs. (200 kg)
- System consists of a 7⁄16" (11 mm) rope, Anthron Descender, and 2 carabiners

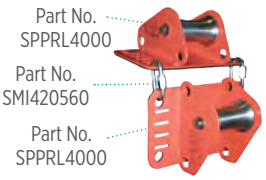


| Anthron Descent Device System | |
|---|---|
| SDC726050 | System includes: Anthron Descender, 2 carabiners, 50' 7⁄16" (11 mm) rope |
| SDC726100 | System includes: Anthron Descender, 2 carabiners, 100' 7⁄16" (1 1mm) rope |
| SDC726150 | System includes: Anthron Descender, 2 carabiners, 150' 7⁄16" (11 mm) rope |
| SDSD25 | Anthron Descender |

*Anthron systems and replacement ropes available in lengths of 25' increments from 50' up to 600'*

## Rescue Equipment

### Rescue Equipment: Components and Rescue Ropes

| RCD System Component Parts | | | |
|---|---|---|---|
|  |  |   |  |
| **SuretyMan™ Edge Roller** | **SuretyMan Rescue Eight** | **SuretyMan Rigging Plates** | **SuretyMan Carabiner** |
| Protects rope from sharp edges and reduces rope friction | For rope diameters from 7⁄16″ (11 mm) to 5⁄8″ (16 mm) | **Stealth Rigging Plate:** (left) anchor on point and wings will rotate toward load for straighter line of pull<br>**Stretcher Rigging Plate:** (right) designed to unclutter and organize litter rigging points, reducing chance of error. | Developed for fire and rescue communities |

| Part No. | Description | Strength | Weight | Material |
|---|---|---|---|---|
| **SPPRL4000** | SuretyMan Edge Roller w/ rubber-covered 6″ x 10″ (15.3 cm x 24.4 cm) base, bottom/side plate attachment hole, slots in base plate for tube webbing | — | 2.8 lbs. (1.3 kg) | Aluminum |
| **SMI420560** | Quick Link 5⁄16″ (8 mm) for use with SuretyMan Edge Roller [two required] | — | — | Aluminum |
| **SRSF5077** | SuretyMan Rescue Eight | 6,720 lb. (30 kN) | 1.5 lbs. (675 g) | Aluminum |
| **SRSPR5990** | SuretyMan Stealth Rigging Plate, teal | 11,000 lb. (48 kN) | .46 lbs. (250 g) | Aluminum |
| **SRSPR5980** | SuretyMan Stretcher Rigging Plate, teal | 12,200 lb. (54 kN) | .74 lbs. (330 g) | Aluminum |
| **SRCC641** | Carabiner, 1.2″ (32 mm) gate, manual locking, NFPA 1993-1994, Class G | 12,364 lb. (55 kN) | 11 oz. (311 g) | Zinc-plated carbon steel |



*Rescue Rope*

*Rope Bag #1*





*Rope Bag #2*



*Termination Plate*

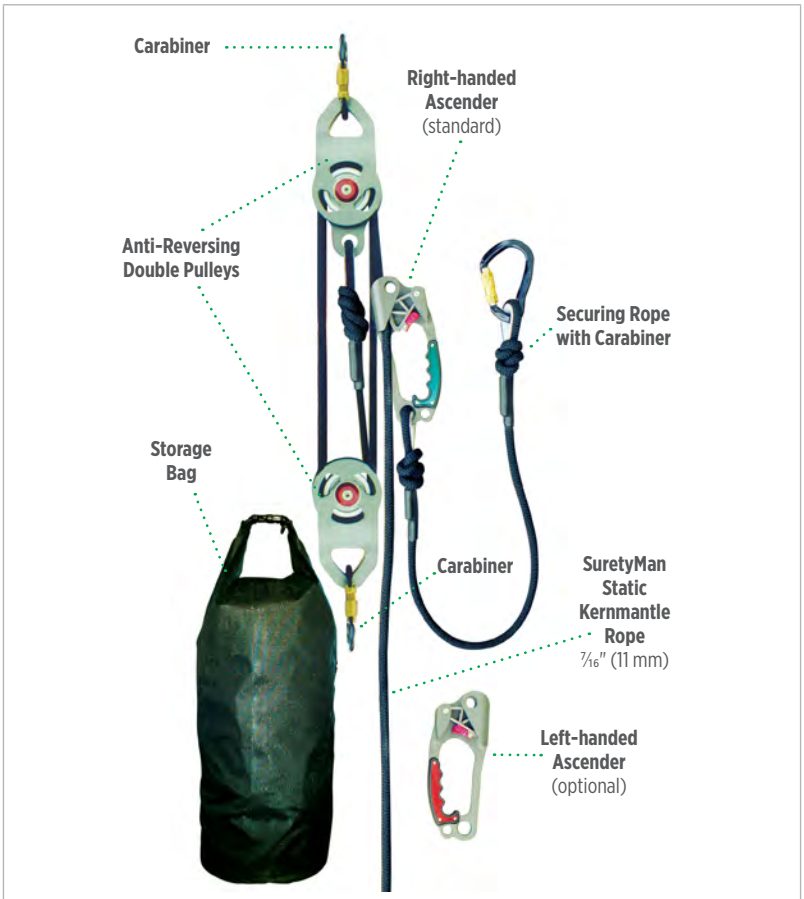
| Part No. | FP Rescue Ropes |
|---|---|
| **SRP508960050** | 5⁄8″ (16 mm), nylon, 11,400 lb. (5,171 kg), black, 50′ |
| **SRP530961050** | 1⁄2″ (12 mm) polyester, 9,100 lb. (4,128 kg), red, 50′ (Meets NFPA requirements) |
| **SRP504860SL050** | 1⁄2″ (12 mm), nylon, 9,100 lb. (4,128 kg), white/orange tracer, 50′ |
| **SRP504866SL050** | 1⁄2″ (12 mm), nylon, 9,000 lb. (4,083 kg), white/blue tracer, 50′ |
| **SRP504863SL050** | 1⁄2″ (12 mm), nylon, 9,000 lb. (4,083 kg), red/white tracer, 50′ |
| **SRP508760050** | 7⁄16″ (11 mm), nylon, 6,500 lb. (2,948 kg), black, 50′ |
| **SRP544000050** | 7⁄16″ (11 mm), nylon, 6,500 lb. (2,948 kg), olive, 50′ |
| **SRP510660SL050** | 3⁄8″ (10 mm), nylon, 5,000 lb. (2,269 kg), white/blue tracer, 50′ |
| **SRP500900** | 9 mm Accessory Cord, nylon. Use with 1⁄2″-5⁄8″ (1.3 cm-1.6 cm) main line, 3,600 lb. (1,632 kg) |
| **SRP500860** | 8 mm Accessory Cord, nylon. Use with 1⁄2″-5⁄8″ (1.3 cm-1.6 cm) main line, black, 3,100 lb. (1,406 kg) |
| **SRP500700050** | 7 mm Accessory Cord, nylon. Use with 3⁄8″-1⁄2″ (1 cm-1.3 cm) main line, red, 2,600 lb. (1,179 kg), 50′ |
| **SRP5020550050** | 5.5 mm Titan Cord, Spectra Core, nylon, 4,500 lb. (2,042 kg), 50′ |
| **SRP500500050** | 5 mm Accessory Cord, nylon, 1,275 lb. (578 kg), 50′ |

| Part No. | Rope Bags |
|---|---|
| **SRB430101** | Rope Bag #1, orange, holds 120-ft. 1⁄2″ (36.6 m 12 mm) rope |
| **SRB430105** | Rope Bag #1, black, holds 120-ft. 1⁄2″ (36.6 m 12 mm) rope |
| **SRB430201** | Rope Bag #2, orange, holds 200-ft. 1⁄2″ (60.1 m 12 mm) rope |
| **SRB430205** | Rope Bag #2, black, holds 200-ft. 1⁄2″ (60.1 m 12 mm) rope |
| **SRB430301** | Rope Bag #3, orange, holds 300-ft. 1⁄2″ (91.4 m 12 mm) rope |
| **SRB430305** | Rope Bag #3, black, holds 300-ft. 1⁄2″ (91.4 m 12 mm) rope |
| **SRB430601** | Rope Bag #6, orange, holds 600-ft. 1⁄2″ (182.8 m 12 mm) rope |
| **SRB430605** | Rope Bag #6, black, holds 600-ft. 1⁄2″ (182.8 m 12 mm) rope |

| Part No. | Accessory |
|---|---|
| **SRIW1000** | Termination plate 5⁄8″ |

## Rescue Equipment

### SuretyMan™ Rescue Utility System



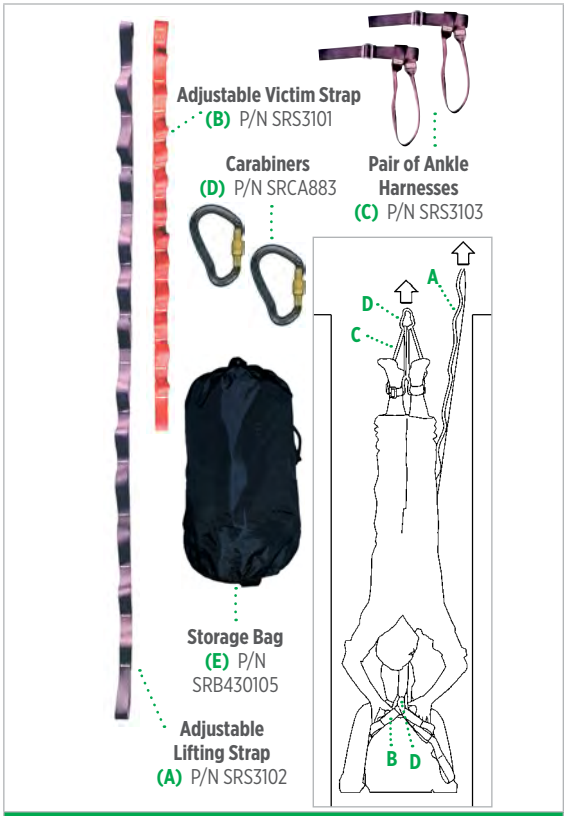

**SuretyMan Rescue Utility System**

- Primarily used for raising and lowering people or equipment in rescue/industrial work access/ confined space applications
- Pulleys equipped with a built-in anti-reversing lock
- Offers rapid deployment, is virtually maintenance free, and is rated for two-person load
- Compact and lightweight: standard system weight 17 pounds (7.7 kg)
- Rated capacity of 600 lbs. (272 kg) for personnel
- Standard rope length 200 ft. (66m) with maximum rope length 800 ft. (267m)

***NOTE:*** *Due to 4:1 mechanical advantage, user should order system with 4 times the rope necessary for the application. For example, a 50' application requires 200' of rope.*

| Part No. | Description | Length |
|---|---|---|
| **SRS15200** | SuretyMan Rescue Utility System | 200' (61 m) |
| **SRS15300** | SuretyMan Rescue Utility System | 300' (91.4 m) |
| **SRS15400** | SuretyMan Rescue Utility System | 400' (122 m) |
| **10093608** | SuretyMan Rescue Utility System | 500' (152.4 m) |
| **10033360** | SuretyMan Rescue Utility System | 600' (183 m) |
| **10101135** | SuretyMan Rescue Utility System | 800' (244 m) |
| **10037101** | Left-hand ascender with securing rope | |
| **10035698** | Right-hand ascender with securing rope | |

### Confined Space/Head First Extraction System




**Confined Space/Head First Extraction System**

- Specialized rescue product designed for extreme cases in which rescuer needs to be lowered head-first into confined space to perform rescue
- Allows rescuer to harness victim, and raise both victim and rescuer out of confined space
- Leaves both hands free for rescuer to assist in retrieval of victim
- Consists of adjustable lifting strap (A), adjustable victim strap (B), one pair of ankle harnesses (C), two carabiners (D), and storage bag (E)
- Can be used with any confined space retrieval equipment such as tripods and davits
- Strength: 5,000 lb. (22 kN)
- Weight approx: 2 lb. (0.9 kg)

| Part No. | Description |
|---|---|
| **SRS3100** | Confined Space/ Head First Extraction System |
| **SRS3103** | Rescue anklets |
| **507002** | Rescue wristlets |

## Rescue Equipment

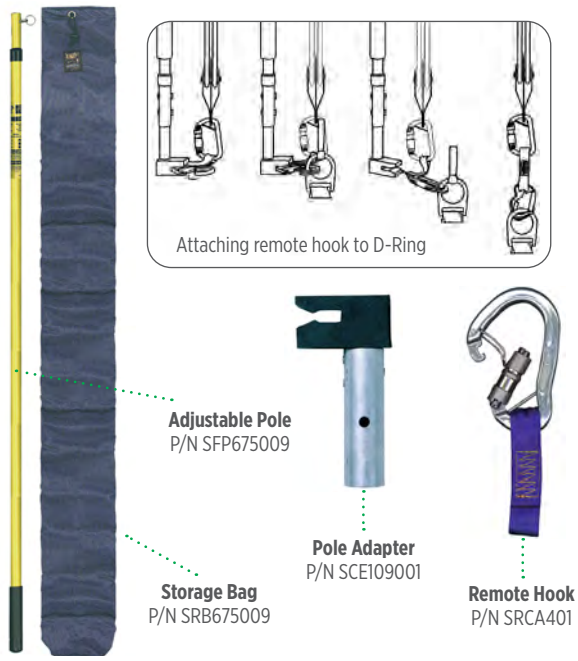
### Fall Protection Rescue Kit




| Product | FP Protection Rescue Kit |
|---|---|
| Features | • Out-of-the-bag rescue system<br>• Remote hook and extension pole allow for remote attachment of rescue line to victim, while rescue utility system allows rescuer to raise or lower victim to safety<br>• Kit should be used with back-up system (not included) |

| Part No. | Description |
|---|---|
| 10030025 | Fall Protection Rescue Kit |

### Rescue Pole/Remote Hook




| Product | Rescue Pole/Remote Hook |
|---|---|
| Features | • Rescue tool for retrieval of worker suspended in fall arrest system or for remote rescue access<br>• System includes adjustable fiberglass pole, pole adapter, and remote hook<br>• Optional nylon storage bag |

| Part No. | Description |
|---|---|
| SFP675009 | Adjustable pole, fiberglass, 6′ (1.8 m) to 12′ (3.6 m) |
| SFP675012 | Adjustable pole, fiberglass, 8′ (2.4 m) to 24′ (7.3 m) |
| SRCA401 | Remote hook, aluminum, with web sling |
| SCE109001 | Pole adapter, aluminum/rubber |
| SCE109003 | Pole adapter, 6′ (1.8m), aluminum/rubber |
| SRB675009 | Storage bag for SFP675009 |

## General Accessories

### Hands-Off™ Chisel Grip

- Keeps hands away from point of contact
- Ergonomically designed to match specific shape of human hand for comfortable and firm grip
- Permits faster, safer, more accurate work
- Easy adjustment to hold variety of chisels and stakes up to 1" diameter
- Vibration-absorbing handle
- Eases awkward hand positioning
- Economical
- Spark resistant

| Part No. | |
|---|---|
| 10040018 | Hands-Off Chisel Grip |



### Ergonomic Tool Holders

- Holds wrenches, chisels, etc.
- Vibration-absorbing design
- Attach to broom handles and mops for better grip
- Eases awkward hand positioning

| Part No. | |
|---|---|
| 507005 | Tool Holder, 18" |
| 507006 | Tool Holder, spark resistant, 18" |



# MSA Safety Training

## MSA Virtual Led Training

As your trusted partner in safety training and awareness, MSA is offering Virtual Led Training (VLT) courses. Our VLT courses are conducted via Microsoft Teams with an MSA Training Instructor in the same manner as our current in-person training, and follow the same class format and content that would happen on-site. VLT gives you a real-time learning experience as if you were participating in an in-person session. Courses can be:

- Customized to the certifications you and your team members need
- Completed via video conference from any location
- Scheduled for the date and time that works best for you

*The following is the current list of courses being offered in the VLT format:*



### COMPETENT USER LEVEL

- Comp User for Portable Instruments (4 hours)
- Comp User for Permanent Instruments *(TBD depending on number of instruments)*
- Comp User for SCBA

### FIRST (FIXED INSTRUMENT REPAIR & SERVICE TRAINING)

- FIRST-FGFD (Fixed Gas & Flame Detection) *(TBD depending on number of instruments)*
- FIRST-HVAC-R (Refrigerant) *(TBD depending on number of instruments)*

### RITE CERTIFICATION (REPAIRING INSTRUMENTS TRAINING & EDUCATION)

- RITE (16 hours)

### CARE CERTIFICATION (CERTIFIED AIRMASK REPAIR EDUCATION)

- CARE1.5 MSA Initial Certification (G1 not included) (12 hours)
- G1CARE-FIRE (NFPA G1 Only) (16 hours)
- G1CARE-IND (Industrial G1 Only) (12 hours)
- CARE2 Custom MSA SCBA Training (TBD depending on equipment needs)

### CONFINED SPACE

- CSAWARE (Confined Space Awareness) (4 hours)

### SAFETY AT HEIGHTS

- FPAWARE (Fall Protection Awareness) (4 hours)
- CPINSPECT (Competent Person for Equipment Inspection) (4 hours)
- CPHEIGHTS (Competent Person for Safety at Heights) (16 hours)
- APHEIGHTS (Authorized Person for Safety at Heights) (8 hours)
- TTTCHPEIGHTS (Train-the-Trainer for CP Safety at Heights) (8 hours)
- CPSHRECERT (Recertification for CP Safety at Heights) (8 hours)

### RECERTIFICATION

- RITE (8 hours)
- FIRST *(TBD depending on number of instruments)*
- CARE (8 hours)

**For more information regarding these classes or scheduling please contact the Training Department at:**

**Phone: 1-866-347-6093**

**Email: training@MSAsafety.com**

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## MSA In-Person Training Courses

# Safety at Heights Training Courses

### FALL PROTECTION AWARENESS (4 HRS)

- ABCs of fall protection
- Proper selection, pre-use inspection and care of fall protection equipment
- Proper donning and doffing of a harness
- Hazard recognition, evaluation and control
- Fall clearance calculations

### COMPETENT PERSON FOR EQUIPMENT INSPECTION (4 HRS)

- Consensus standards
- Formal documentation requirements
- Formal inspection process
- Equipment cleaning and storage

### AUTHORIZED PERSON FOR SAFETY AT HEIGHTS (8 HRS)

- Consensus standards
- Dynamics of a fall
- Fall hazard recognition and assessment
- Understanding impact forces
- Procedures for continuous Safety at Heights
- Selection, application and use of fall protection systems
- Calculating fall clearances

### RESCUE PLANNING FOR SAFETY AT HEIGHTS (8 HRS)

- Risk assessment of fall hazards
- Planning and proper rescue procedures
- Hierarchy of rescue
- Selection of rescue equipment
- Rescue training and simulations

### COMPETENT PERSON FOR SAFETY AT HEIGHTS (16 HRS)

- Authorized Person for Safety at Heights course
- Competent Person for Equipment Inspection course
- Rescue Planning for Safety at Heights course

### SAFETY AT HEIGHTS TRAIN-THE-TRAINER (8 HRS)

MSA's Safety at Heights Train-the-Trainer course is designed to prepare employees that must train on safety at heights at your facility. The class provides the student the necessary skills to develop, deliver and evaluate students on basic safety at height knowledge and technical understanding.

This course permits training of authorized persons within your facility as part of a 4 to 8-hour class that is based on materials provided by the MSA instructor.

### COMPETENT PERSON FOR SAFETY AT HEIGHTS REFRESHER (8 HRS)

See Competent Person for Safety at Heights course

### COMPETENT PERSON FOR TEMPORARY HORIZONTAL LIFELINE INSTALLATION & INSPECTION (4 HRS)

- Design statement, use and limitations
- Installation procedures
- Inspection criteria, including pass/fail & disposal
- Cleaning and storage

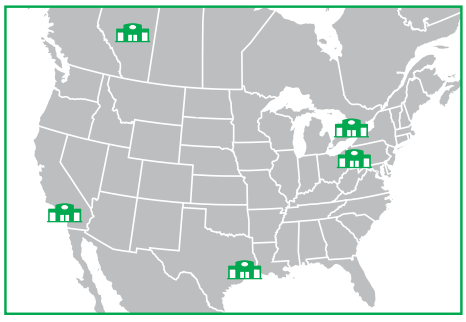
### ON-SITE DOCUMENTED COMPETENT PERSON EQUIPMENT INSPECTION

Our experienced and trained team will come to your facility to perform a documented and thorough competent inspection of all your safety equipment and provide your organization with a detailed written report documenting the product, serial number, description, pass/fail and overall disposition.






*MSA Fall Protection Demo Truck*



**MSA regularly provides open enrollment and private training courses at our Pittsburgh, Houston & Corona facilities, with schedules established annually based on demand and availability.**

**In Canada we offer Edmonton, and Toronto as potential training site locations based on the type of course requested.**

We will also come to your facility, training your employees in their work environment; addressing the specific hazards they face on a regular basis.

## MSA In-Person Training Courses

# Confined Space Training Courses

### CONFINED SPACE AWARENESS (8 HRS)

1-day Confined Space Awareness training course is designed for those individuals who are responsible for managing and overseeing employees working in confined space entry activities.

*This course is recommended for facility managers, team leaders, supervisors and those individuals who will manage third-party contracted confined space entry operations at their facilities.*

- Defining Confined Spaces
- Identify typical hazards and associated risks
- Explain roles, responsibilities and procedures for confined spaces operations

### CONFINED SPACE ENTRY AND OPERATIONS: ENTRANT & ATTENDANT (8 HRS)

1-day training course designed to teach workers about the preparation, skills, equipment and procedures needed to protect themselves in confined spaces.

- Definitions and Examples: CS & PRCS
- Review of various confined space hazards
- Hazard mitigation and control procedures.

### CONFINED SPACE ENTRY AND OPERATIONS: SUPERVISOR & PROGRAM MANAGER (16 HRS)

2-day comprehensive, in-depth training course designed for individuals who are responsible and/or identified to perform work in or around confined spaces. Our technical training incorporates information and skills required by all applicable regulatory bodies.

- Definitions and Examples: CS & PRCS
- Discussion on types of hazards that can turn a regular space into a "Permit-Space"
- Use of job safety controls for entry into potentially unsafe spaces
- Respiratory protection introduction
- Non-entry rescue
- Extensive hands-on practice with setting up entry / rescue gear, performing atmospheric testing, filling out permits, performing the roles of entrant, attendant and supervisor

### CONFINED SPACE ENTRY RESCUE: LEVEL I—TRIPOD, DAVIT, & HORIZONTAL SYSTEMS (8 HRS)

**Prerequisite is MSA's 2-day Confined Space Entry and Operations Course*

1-day training course designed for previously trained entrants, attendants, and supervisors who additionally serve as confined space entrants rescuers. It is a good fit for employees who work in scenarios where non-entry rescue does not cover all potential rescue situations and those who will serve on an "in-house" rescue team at their organization

- Focus on "kit systems" that do not require tying of knots to construct
- Basics of mechanical advantage — 2:1 systems
- Horizontal Rescue and Vertical Rescue

### CONFINED SPACE ENTRY RESCUE: LEVEL II—BASIC ROPE & RIGGING (8 HRS)

**Prerequisite is MSA's 2-day Confined Space Entry and Operations Course*

1-day training course designed for previously trained entrants, attendants, and supervisors who additionally serve as confined space entrants rescuers. It is a good fit for employees who work in scenarios where non-entry rescue does not cover all potential rescue situations and a traditional "kit" system (tripods & davits) will not work.

- Rope theory basics and knots
- Rescue anchorages
- Hardware - Pulleys & Carabiners
- Rescue Knots / Hitches per application
- Patient packaging
- Rescue scenario

### CONFINED SPACE TRAIN-THE-TRAINER (8 HRS)

**Prerequisite is MSA's 2-day Confined Space Entry and Operations Course*

MSA's Confined Space Train-the-Trainer course is designed to prepare employees who must lead select confined space courses and material at your facility. The class provides the necessary skills to develop, deliver and evaluate students on basic confined space knowledge and technical understanding.

This course permits training of entrants and attendants within your facility as part of a 4 to 8-hour class that is based on materials provided by the instructor.

# Mechanical Equipment Repair Instruction & Testing (M.E.R.I.T.)

### M.E.R.I.T. COMPREHENSIVE

Provides attendees inspection and repair capability for the full line of MSA Fall Protection products.

*Products Included: Confined Space Kit (Winch, Rescuer & Tripod) | V-Tec | V-Edge | V-Shock | Sealed SRL*

- Theory of operation for MSA Fall Arrest equipment
- Disassembly and inspection process of each device
- Reassembly and functional test of each device
- Testing procedure
- Quality assurance inspection

### M.E.R.I.T. CUSTOM

Provides attendees inspection and repair training on specific models by request.

- Theory of operation for MSA Fall Arrest equipment
- Disasembly and inspection process of each selected device
- Reassembly and functional test of each selected device
- Testing Procedure
- Quality assurance inspection

### M.E.R.I.T. RECERTIFICATION

For technicians who are currently trained and require a recertification on M.E.R.I.T. Comprehensive or Custom training.

## MSA In-Person Training Courses

# C.A.R.E. Training Courses

### C.A.R.E. TRAINING

C.A.R.E is an acronym for Certified Airmask Repair Education. MSA Self-Contained-Breathing-Apparatus (SCBA) maintenance course is specifically designed and developed to address MSA SCBA repair and maintenance.

- Explain theory of operation for MSA SCBA
- Identify key sub-assemblies of the MSA SCBA
- Demonstrate disassembly and inspection process
- Demonstrate reassembly and functional tests
- Perform overhaul of complete SCBA system
- Demonstrate first and second stage regulator and primary alarm adjustments
- Make adjustments, flow test and troubleshooting using Posi3 USB Test Bench.

C.A.R.E training courses are model specific and are designed for individuals who are identified as qualified by their employer and are employed by an MSA Authorized Repair Center.

*C.A.R.E. Course Offerings:*

- MSA G1 Industrial SCBA
- MSA G1 NFPA SCBA
- MSA Industrial SCBA (Non-G1)
- MSA FireHawk SCBA (Non-G1)
- MSA Custom SCBA Training
- MSA Comprehensive SCBA Training (Includes G1)
- C.A.R.E. Recertification

# R.I.T.E. Training Courses

### R.I.T.E. CERTIFICATION

R.I.T.E. is an acronym for Repairing Instruments Training & Education. This program is MSA's certified maintenance and repair training program for Portable Instruments. It is designed for MSA Channel Partners or large end user owners who need to be able to repair and maintain MSA portable instruments and related equipment.

- Theory of operation for MSA Portable instruments
- Disassembly, re-assembly and configuration process
- Calibration and functional test procedures
- Upgrade procedures
- Performing troubleshooting and diagnostic procedures

### R.I.T.E. RECERTIFICATION

This Recertification training course is designed for technicians who require R.I.T.E. recertification for repairing, inspecting and testing MSA portable instruments.

# Hazardous Material Training Courses

### HAZARDOUS MATERIAL TRAINING (24 HRS)

3-day in-depth training course designed for individuals that will respond to an ammonia release and engages an incident action plan that involves moving into IDLH over 300PPM. This course meets OSHA 192.120(q)(6)(iii) and establishes that a Hazardous Materials Technician is an individual who responds to releases or potential releases for the purpose of stopping the release.

- Participants will focus on identifying hazards, risks, and threats
- Evaluate incidents
- Determine the appropriate level of personal protective equipment (PPE)
- Understand their operational limitations
- Follow the established Emergency Response Plan
- Trainees will conduct pre-use equipment inspections
- Practice proper donning and doffing of PPE
- Take part in active role-playing exercises.

### HAZARDOUS WASTE OPERATIONS & EMERGENCY RESPONSE (HAZWOPER) TRAINING (40 HRS)

40-Hour EPA Tier 2 Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) in-depth training course that features hands-on, scenario-based simulations that reinforce practical skills and real-world emergency response application. The course culminates with a dynamic, time-sensitive emergency scenario that will allow participants to apply containment, control and decision-making skills while recognizing readiness requirements and operational limits.

- Participants will learn to identify hazards, risks, and threats
- Evaluate incidents
- Determine the appropriate level of personal protective equipment (PPE)
- Understand their operational limitations
- Follow the established Emergency Response Plan
- Trainees will conduct pre-use equipment inspections
- Practice proper donning and doffing of PPE
- Take part in active role-playing exercises.

**Contact us at 866.347.6093, training@msasafety.com, or visit our website www.msasafety.com**

# MSA Written Hazard Assessment Evaluation and Report

The OSH Act of 1970 created the Occupational Safety and Health Administration (OSHA) within the U.S. Department of Labor in response to soaring trends of workplace injuries, illnesses, and deaths. Since that time, its mission has been to "ensure a safe and healthy workplace for every working man and woman in the Nation," dictating what is permissible and what is not when it comes to workplace safety.

MSA's skilled safety professionals can assist you or your customer by providing insight in to specific hazards or overall site hazard assessments. These individuals will work with you and your employees to review fall protection or confined space hazards—helping employers comply with OSHA requirements.



## Fall Protection Audit

### Site Survey

Site walkthrough and audit will consist of:

- As many days onsite as necessary to thoroughly evaluate, photograph, and understand your site's hazards.
- MSA Safety Professional will work with employees to understand the work taking place in each hazardous area in order to make recommendations for safe work/access.

### Fall Hazard Survey (FHS) Findings

■ **Fall Protection Theory**

The survey will open with a small review of **fall protection theory**, including:

- OSHA law/ANSI best practices
- Fall protection roles
- Hierarchy of controls
- Anchors
- Bodywear
- Connecting devices

■ **A Fall Protection Report**

- Description of the **hazard** with pictures
- Description of the **work to be performed** at or near the hazard
- Explanation of the **fall** or **threat**
- **Recommendations**
- **Hierarchy of controls** explanation

■ **Appendices**

Various appendices are provided to discuss **controls to common work at height hazards**, including work on roofs, in aerial lifts, and climbing fixed ladders.

- Topics related to the specific worksite



## Confined Space Audit

*A Confined Space report will include:*

### Site Survey

*Site walkthrough and audit will consist of:*

- As many days onsite as necessary to thoroughly evaluate, photograph, and understand your site's hazards.
- MSA Safety Professional will work with employees to understand the work taking place in each hazardous area in order to make recommendations for safe work/access.

### Survey Report

■ **Identification** of each space visited

■ **Photographs of spaces** visited

■ **Designation of spaces as:**

- Non-confined space
- Non-permit confined space
- Permit-required confined space (PRCs)

■ **Justification** for designation where ambiguity exists

■ **Suggestions** on entry/retrieval equipment where vertical entry exists

### Program Writing

Based on the facility survey, MSA will assist the customer in writing a customized confined space program for its site.

MSA
The Safety Company

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# MSA—The Safety Company

*Established in 1914, MSA Safety Incorporated is the global leader in the development, manufacture, and supply of safety products that protect people and facility infrastructures. Many MSA products integrate a combination of electronics, mechanical systems, and advanced materials to protect users against hazardous or life-threatening situations. The company's comprehensive product line is used by workers around the world in a broad range of markets, including the oil, gas, and petrochemical industry, the fire service, the construction industry, mining, and the military. MSA's core products include self-contained breathing apparatus, fixed gas and flame detection systems, portable gas detection instruments, industrial head protection products, firefighter helmets and protective apparel, and fall protection devices. With 2025 revenues of $1.875 billion, MSA employs approximately 5,000 people worldwide. The company is headquartered north of Pittsburgh in Cranberry Township, PA, and has manufacturing operations in the United States, Europe, Asia, and Latin America. With more than 40 international locations, MSA realizes approximately half of its revenue from outside North America. For more information visit MSA's web site at www.MSAsafety.com.*

## Our Mission

MSA's mission is to see to it that men and women may work in safety and that they, their families, and their communities may live in health throughout the world.

**MSA: WE KNOW WHAT'S AT STAKE.**

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit *https://us.msasafety.com/Trademarks.*

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