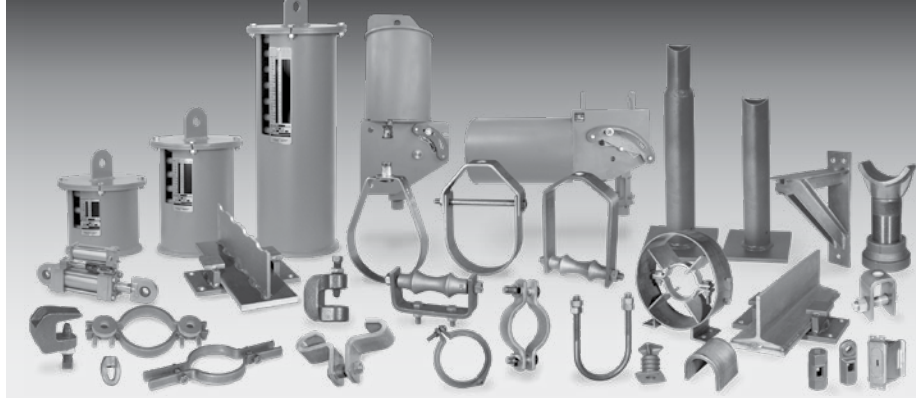


Pipe Hangers and Supports



Manufacturing Excellence

Anvil Pipe Hangers and Supports are manufactured in three primary U.S. locations: North Kingstown, Rhode Island; Henderson, Tennessee and Columbia, Pennsylvania, each with its own unique capabilities.

At 150,000 square feet, our Pipe Support design and fabrication facility in North Kingstown, Rhode Island is the industry leader in the Engineered Hanger Market for experience and in house manufacturing capability. Our equipment can accommodate any project since we have the capability to machine, saw and flame cut up to 3" thick carbon and alloy steel and plasma cut stainless steel.

We thread rod through 4" in diameter and we hot form small to large diameter clamps. Our facility also has complete in house blasting and painting capability and we perform complete in house Non-Destructive Examination including Liquid Penetrant, Ultrasonic and Magnetic Particle examination. This expertise is supported by our total quality programs including our ASME "NPT" Nuclear Certificate of Authorization, "NS" Certificate of Authorization and, ISO 9001.

Our manufacturing facility in Henderson, Tennessee has over 175,000 square feet of manufacturing capability dedicated to producing a complete line of commercial, light industrial and industrial Pipe Hangers and Supports. These include clamps, braces, inserts, rods and attachments, slides and guides to exacting industry standards and certified to ISO 9001 quality. The products manufactured in Henderson are designed for use in a wide variety of rigid Pipe Hanger or Support applications, in markets including fire protection, electrical, water and waste water treatment, petrochemical, seismic, industrial and commercial. Special fabrication is available from our Henderson facility as well.

At our Columbia, Pennsylvania Foundry, where we manufacture malleable fittings, cast iron fittings and our Gruvlok® products, we also manufacture our malleable and ductile iron Hanger Products such as beam clamps, numerous types of pipe clamps, concrete inserts, ceiling flanges and different types of rod attachments. With over 600,000 square feet of manufacturing floor space under roof, our foundry has an annual pouring capacity of 100,000 tons. Columbia is ISO 9001 certified and is a quality manufacturer of malleable, ductile and cast iron products. In addition to these three facilities Anvil also has Hanger fabrication facilities in Houston, Texas to service the Gulf Coast Engineered Hanger requirements.

Customer Service

With four key stocking locations throughout North America, you can count on getting all of the product you need - when you need it. When you have installation questions our solid customer service personnel are there to answer all of your questions, backed by our designers or engineers we are there for you - on site if needed.

Custom Engineering Options

In addition to its full range of high-quality hangers, Anvil offers a number of custom options to meet any special project requirements you may have.

Engineered Hangers Product Line

- Variable Springs
- Constant Supports
- Hydraulic Snubbers
- Vibration Sway Braces
- Sway Struts

We also provide:

- Special Fabrication/
Miscellaneous Structural/
Steel Fabrication
- Special Design Products Per
Customer Specifications
- Domestic Manufactured
Product Line

Design Services

Either on or off-site, Anvil Design Services helps you maximize the efficiency of your pipe support systems.

These services include:

- Pipe Hanger Design &
Engineering
- Computer-Aided Drafting
- System Analysis
- Pipe Stress Analysis
- Product Qualification Testing
(environmental static and
cycling loads, flow and leak)
- Field Services
- Supervision of Client Design
Personnel
- Non-destructive Examination

GENERAL NOTES

Standard Materials

Anvil catalog items are made from the following materials.

Hanger Classification	Material	Material Specifications (ASTM)
Beam Clamps	Malleable Iron	A197
	Ductile Iron	A536-77 Grade 65-45-12
	Carbon Steel - Stamped	A36 or A1011, CS, Type A, B, or C
	Carbon Steel- Formed	A575 Grade M1020
	Forged Steel	A668 or A1030
Bolts, Nuts, Pins and U-Bolts	Carbon Steel - Rod	A36 or AISI 1006-1015
	Carbon Steel - Bolts	A307
	Carbon Steel- Nuts	A563
Brackets	Malleable Iron	A197
	Carbon Steel - Pre Galv.	A653
	Carbon Steel - Structural Shapes and Plate	A36
Ceiling Plates and Flanges	Plastic	N/A
	Malleable Iron	A197
Clevis Hangers	Cast Iron	A48 Grade 20 or A126
Clevis Hangers - Pipe or Conduit	Carbon Steel - Stamped	A1011, CS, Type A, B or C
Clevis Hangers - Ductile Iron Pipe	Carbon Steel	A569 Grade 1008-1010 or A525 or A526
Concrete Inserts and Attachments	Carbon Steel	A36, A569
	Malleable Iron	A197
	Carbon Steel - Stamped	A1011
Copper Tubing Hangers	Carbon Steel - Formed and Fabricated	A36 or A515 Grade 65-70
	Malleable Iron	A197
Copper Tubing Hangers - Pipe Ring	Carbon Steel	A1011, CS, Type A, B or C
CPVC Hangers	Carbon Steel	A653
Hanger Rods	Carbon Steel	A1011, CS, Type B
Pipe Alingment Guides	Carbon Steel	A36 or A1006-1015
Pipe Slides	Carbon Steel	A36 or A1011, CS, Type A, B, or C
Pipe Rings	Carbon Steel - Structural Shapes or Plates	A36
	Malleable Iron	A197
Pipe Roll - (2) Rod, Yoke & Chair	Carbon Steel	A653
Pipe Roll - Stands	Cast Iron	A1010 or A1015
Pipe Protection Saddles	Cast Iron	A48 Gr 20 or A126
Pipe Shields	Carbon Steel	A36 or A1011, CS, Type A, B, or C
	Alloy Steel	A387 Grade 22 Class 1 Annealed
Pipe Supports - Stanchions	Carbon Steel	A653
Pipe Supports - Saddles	Carbon Steel	Tube: A513 Grade 1020 or 1026, Plate:A36
	Cast Iron	A36
Rod Attachments	Cast Iron	A48 Grade 20 or A126
	Malleable Iron	A197
	Carbon Steel	A36
Rod Attachments - Rod Couplings	Forged Steel	A668 or A1030
Socket Clamps	Carbon Steel	A307 or A563
Socket Clamps- Washers	Carbon Steel	A36
	Cast Iron	A126
Stainless Steel Hangers and Supports	Carbon Steel	A36
Plate	Refer to table note 1.	
Pipe	Stainless Steel	A240 Type 304
Rod and Pins	Stainless Steel	A312 Type 304
Bolts	Stainless Steel	A276 Type 304
Nuts	Stainless Steel	18-8 Stainless
Steel Pipe Clamps- Offset and Extended	Stainless Steel	18-8 Stainless
	Carbon Steel	A36 or A570 Grade C/D or AISI 1020
Steel Pipe Clamps	Carbon Steel - Stamped	A36 or A1011, CS, Type A, B, or C
	Carbon Steel - Formed	A36 or A515 Grade 65-70
	Chrome Molybdenum Steel	A387 Grade 22
Straps	Malleable Iron	A197
	Carbon Steel - Formed	A36
	Carbon Steel - Stamped	A1011, CS, Type A, B, or C
Structural Attachments - Washer Plates	Carbon Steel	A36 or AISI 1020 or A515 Grade 65-70
Structural Attachments	Carbon Steel	A36 or A515 Grade 65-70
	Malleable / Ductile	A197, A536-77 Grade 65-45-12
Trapeze	Carbon Steel - Structural Shapes	A36
	Carbon Steel - HSS	A500 Grade B or C

- Notes: 1. Most Anvil hanger figure numbers are available in stainless steel on special order, primarily in type 304 and type 316. Items are limited.
 2. Custom fabricated products can be furnished - to specifications provided by customer.
 3. Standard material specifications are subject to change without notice.

Standard Galvanizing Practice

Anvil offers 3 basic forms for zinc coating on its hanger components

- 1) **Electro-Plated Zinc (Electro-galvanized)**
- 2) **Pre-Galvanized Zinc**
- 3) **Hot Dipped Galvanized (ASTM A123 or ASTM A153)**

Note: The corrosion resistance of zinc is based on its thickness, the environment and the coating process used.

Electro-Plated Zinc (ASTM B633)

This type of coating is recommended for use indoors in relatively dry areas. The steel is submerged in a bath of zinc salts, through the process of electrolysis, a coating of pure zinc adheres to the steel with a molecular bond. A maximum of .5 mills of zinc can be applied using this method. The threaded components and fasteners for Anvil hangers are furnished electro-plated.

Pre-Galvanized Zinc (ASTM A653)

This type of coating is suitable for extended exposure in dry or mildly corrosive atmospheres, but not generally recommended for use outdoors in industrial environments. Also known as "mill galvanized" or "hot-dipped mill galvanized", pre-galvanized zinc coatings are produced by rolling the steel coils or sheets through molten zinc at the steel mill. The material is then cut or slit to size. Coating thickness is .90 ounces per square foot of steel surface. Zinc near the uncoated edges or weld areas becomes a sacrificial anode which protects the bare areas. Anvil uses this type of material on our Fig. 167 shields and Fig. 69 swivel ring hangers.

Hot-Dip Galvanized (ASTM A123 or ASTM A153)

Recommended for prolonged outdoor exposure and will usually protect steel in most atmospheric environments. After fabrication, the part is immersed in a bath of molten zinc. A metallurgical bond is formed, resulting in a zinc coating that coats all surfaces including edges. Anvil's standard galvanizing practice for our Fig. 261 riser clamps and Fig. 212 medium pipe clamps is hot-dip galvanized.

Figure Number	Description	Standard Galvanize Finish
14	Adj. Side Beam Clamp	EG
40	Riser Clamp – Standard	Hot Dip with EG Fasteners
45	Channel Assembly	Hot Dip
46	Universal Trapeze Assembly	Hot Dip
47	Concrete Single Lug Plate	Hot Dip
49	Concrete Clevis Plate	Hot Dip with EG Fasteners
50	Equal Leg Angle for Trapeze Assembly	Hot Dip
52	Concrete Rod Attachment Plate	Hot Dip
54	Two Hole Welding Beam Lug	Hot Dip
55	Structural Welding Lug	Hot Dip
60	Steel Washer Plate	Hot Dip
62	Pipe Stanchion	Hot Dip
63	Pipe Stanchion	Hot Dip
65	Light Duty Adj. Clevis	EG
66	Welded Beam Attachment	Hot Dip
66 with BN	Welded Beam Attachment	Hot Dip with EG Fasteners
67	Pipe or Conduit Hanger	EG
69	Adj. Swivel Ring, Tapped per NFPA Standards	Strap is Pre-Galv. Material, Nut is EG (See Note 1)
76	Fabricated Roller for Large Dia. Pipe	Galvanizing not possible, Paint Only

Figure Number	Description	Standard Galvanize Finish
86	C-Clamp with Set Screw & Lock Nut	EG
88	C-Clamp with Set Screw	EG
89, 89X	Retaining Clip	EG
92	Universal C-Type Clamp (Std. Throat)	EG
93	Universal C-Type Clamp (Wide Throat)	EG
94	Wide Throat Beam C-Clamp	EG
95	C-Clamp with Lock Nut	EG
100	Extended Pipe Clamp	Hot Dip with EG Fasteners
103	Offset Pipe Clamp	Hot Dip with EG Fasteners
104	Adj. Swivel Ring, Split Ring Type	EG
120	Light Weight U-Bolt	EG
126	One-Hole Clamp	EG
128R	Rod Threaded Ceiling Flange	EG
133	Standard Duty Beam Clamp	Hot Dip with EG Fasteners
134	Heavy Duty Beam Clamp	Hot Dip with EG Fasteners
135E	Rod Coupling Straight less Sight Hole	EG
135R	Rod Coupling Reducing	EG
136	Rod Coupling Straight	EG
136R	Rod Coupling Reducing	EG
137	Standard U-Bolt	EG
137S	Special U-Bolt (non-standard)	Hot Dip

EG = Zinc Electro Plate ASTM B633 Hot Dip = ASTM A123 or A153 Pre-Galv. = ASTM A653
 Most EG items and fasteners can be hot dip galvanized except as indicated. Hot Dipped galvanized all thread rod is available.
 Note 1 indicates that hot dip fasteners are not available.

GENERAL NOTES

Standard Galvanizing Practice (cont.)

Figure Number	Description	Standard Galvanize Finish
138R	Ext. Split Pipe Clamp (Rod Threaded)	EG
140	Machine Threaded Rod (RH Threads)	EG
142	Coach Screw Rod	EG
146	Continuous Threaded Rod	EG
148	Rod with Eye End	EG
157	Extension Piece	EG
167	Insulated Protection Shield	Pre-Galv. Material
168	Rib-Lok Shield	Pre-Galv. Material
171	Single Pipe Roll	EG
175	Roller Chair	Chair-Hot Dip, All Other EG
177	Adj. Pipe Roll Support	EG
178	Spring Cushion Hanger	Can Galv. Retainer, Springs Paint Only
181	Adj. Steel Yoke Pipe Roll	Hot Dip Yoke, All Other EG
185	One Hole Pipe Strap	EG
186	Two Hole Pipe Strap	EG
187	Two Hole 90° Side Mount Strap	EG
188	Two Hole Stand Off Strap	EG
189	Straight Eye Socket	Pre-Galv.
190	Off-Set Eye Socket	Pre-Galv.
191	Adj. Pipe Saddle with U-Bolt	EG
192	Adj. Pipe Saddle	EG
194	Light Welded Steel Bracket	Hot Dip
195	Medium Welded Steel Bracket	Hot Dip
199	Heavy Welded Steel Bracket	Hot Dip
206	Steel Side Beam Bracket	EG
207	Threaded Steel Side Beam Bracket	EG
212	Medium Pipe Clamp	Hot Dip with EG Bolts & Nuts
212FP	Earthquake Bracing Clamp	Hot Dip with EG Bolts & Nuts
216	Heavy Pipe Clamp	Hot Dip with EG Bolts & Nuts
218	Malleable Beam Clamp without Ext. Piece	EG
228	Universal Forged Steel Beam Clamp	EG
230	Turnbuckle	EG
233	Turnbuckle	EG
248, 248L, 248X	Eye Rod Not Welded	EG
253	Machine Threaded Rod (Threaded Both Ends)	EG
255	Pipe Alignment Guide	Hot Dip with EG Bolts & Nuts
CT-255	Copper Tubing Alignment Guide	Housing: Hot Dip with EG Bolts & Nuts Spider Clamp: Copper Plated
256	Pipe Alignment Guide	Hot Dip with EG Bolts & Nuts
257	Structural Tee Slide	Hot Dip, Weld after Galv. & Cold Spray Touch-up
258	Pipe Saddle Support	EG
259	Pipe Saddle Support with U-Bolt	EG
260	Adj. Clevis Hanger	8" & Smaller: EG 10" & Larger: Hot Dip with EG Bolts & Nuts
260 ISS	Clevis Hanger with Insulation Saddle System	Reference Fig. 260

Figure Number	Description	Standard Galvanize Finish
261	Ext. Pipe or Riser Clamp	Hot Dip with EG Bolts & Nuts
262	Strap Short	EG
264	Adj. Pipe Saddle Support	EG (See Note 1) Nippel red. assembly cannot be hot dipped.
265	Adj. Pipe Saddle Support with U-Bolt	EG (See Note 1) Nippel red. assembly cannot be hot dipped.
271	Pipe Roll Stand	EG
274	Adj. Pipe Roll Stand with Base Plate	EG
274P	Pipe Roll Stand - Base Plate Only	EG
275	Adj. Pipe Roll Stand without Base Plate	EG
277	Pipe Roll and Base Plate	EG
278, 278L, 278X	Eye Rod Welded	EG
281	Wedge Type Concrete Insert	EG (See Note 1)
282	Universal Concrete Insert	EG (See Note 1)
285	Light Weight Concrete Insert	EG (See Note 1)
290, 290L	Weldless Eye Nut	EG
291	Clevis Pin with Cotters	EG
292, 292L	Universal Forged Steel Beam Clamp	EG
295	Double Bolt Pipe Clamp	Hot Dip with EG Bolts & Nuts
295A	Alloy Double Bolt Pipe Clamp	Alloy Material, Galv. is not Recommended
295H	Heavy Duty Double Bolt Pipe Clamp	Hot Dip with EG Bolts & Nuts
299	Forged Steel Clevis	EG
300	Adj. Clevis for Insulated Lines	8" & Smaller: EG 10" & Larger: Hot Dip with EG Bolts & Nuts
395	Cast Iron Ceiling Plate	EG
432	Special Clamp	Hot Dip with EG Bolts & Nuts
436	Fabricated Tee Slide Assembly	Hot Dip, Weld after Galv. & Cold Spray Touch-up
439	Structural "H" Slide Assembly	Hot Dip, Weld after Galv. & Cold Spray Touch-up
590	Adj. Clevis for Ductile or Cast Iron Pipe	Hot Dip with EG Bolts & Nuts
594	Socket Clamp Washer	EG
595	Socket Clamp for Ductile Iron or Cast Iron Pipe	Hot Dip with EG Bolts & Nuts
599	Socket Clamp Washer	EG
600	Socket Clamp for Ductile Iron or Cast Iron Pipe	Hot Dip with EG Bolts & Nuts
770	Q-Brace Clamp	EG (See Note 2)
771	Sway Brace Swivel Attachment	EG
772	Adj. Steel Beam Attachment	EG
773	Surge Restrainer	EG
775	Lateral/Longitudinal Brace Clamp	EG
776	Brace Clamp	EG
777	Swivel Joint Connector	EG
778	Bar Joist and Beam Attachment	EG
779	Multi-Connector Adapter	EG

EG = Zinc Electro Plate ASTM B633 Hot Dip = ASTM A123 or A153 Pre-Galv. = ASTM A653
 Most EG items and fasteners can be hot dip galvanized except as indicated. Hot Dipped galvanized all thread rod is available.
 Note 1 indicates that hot dip fasteners are not available.

Fig. 92 (Formerly Afcon Fig. 100) Universal C-type Clamp (Standard Throat)

Size Range: $\frac{3}{8}$ " and $\frac{1}{2}$ "

Material: Ductile iron, hardened steel cup point set screw and locknut.

Finish: Plain or Zinc Plated (Hot-Dip Galvanized optional)

Service: Recommended for use under roof installations with bar joist type construction, or for attachment to the top or bottom flange of structural shapes where the vertical hanger rod is required to be offset from the edge of the flange and where the thickness of joist or flange does not exceed $\frac{3}{4}$ ".

Approvals: Complies with Federal Specification A-A-1192A (Type 19 & 23)

WW-H-171-E (Type 23), ANSI/MSS SP-69 and MSS SP-58 (Type 19 & 23).

UL, ULC Listed and FM Approved.

How to size: Size of clamp is determined by size of rod to be used.

Installation: Follow recommended set screw torque values per MSS-SP-69 (See table on page 288).

Features:

- They may be attached to horizontal flanges of structural members in either the top beam or bottom beam positions.
- Secured in place by a cup-pointed Set Screw tightened against the flange. A Jam Nut is provided for tightening the Set Screw against the Body Casting.
- Thru tapping of the body casting permits extended adjustment of the threaded rod.
- Can be used with Fig 89X retaining clip for seismic applications.

Ordering: Specify rod size, figure number, name of clamp and finish.

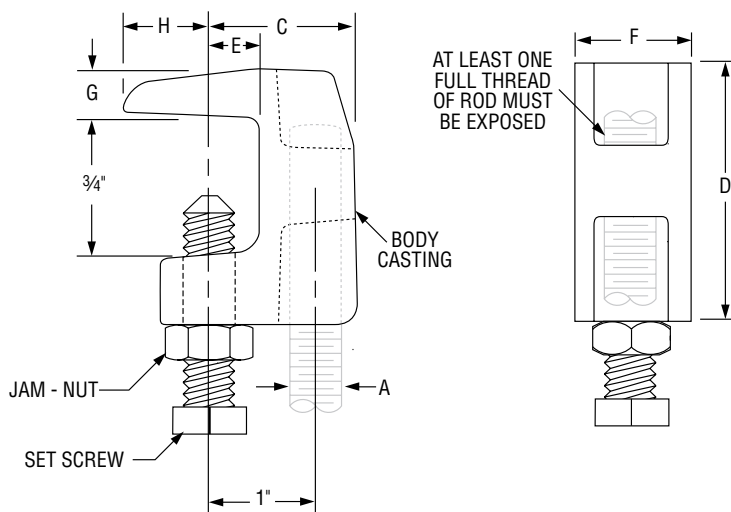
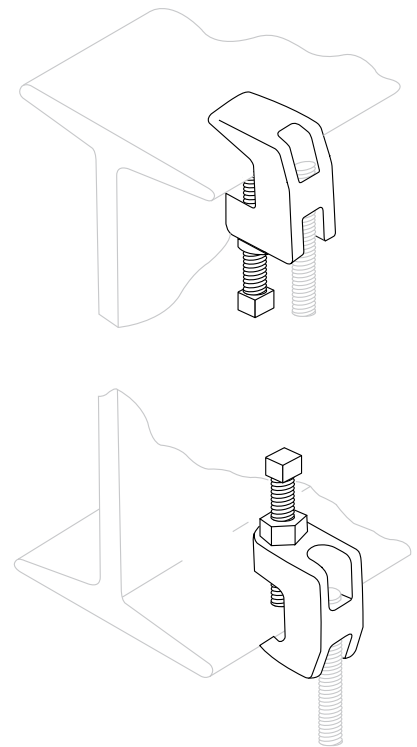


FIG. 92: DIMENSIONS (IN) • LOAD (LBS) • TORQUE (IN-LBS) • WEIGHT (LBS)											
Rod Size A	Set Screw Size	Torque Value	Max Loads ■		Weight	C	D	E	F	G	H
			Top	Bottom							
$\frac{3}{8}$	$\frac{3}{8}$	60	500	250	0.34	$1\frac{5}{16}$	$1\frac{1}{16}$	$\frac{9}{16}$	$1\frac{3}{16}$	$\frac{3}{8}$	$\frac{1}{2}$
$\frac{1}{2}$	$\frac{1}{2}$	125	950	760	0.63	$1\frac{3}{8}$	$1\frac{13}{16}$	$\frac{1}{2}$	$1\frac{1}{16}$	$\frac{7}{16}$	$\frac{23}{32}$

■ Maximum temperature of 450° F