Catalog No. 7

CHWITCH®
PIPE SUPPORT SYSTEMS

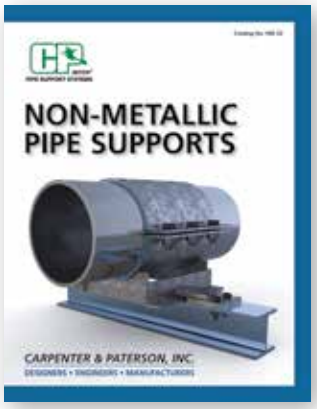
PIPE SUPPORT HARDWARE

CARPENTER & PATERSON, INC.
WITCH®
PIPE SUPPORT SYSTEMS

HANG WITH THE BEST!

Multi-Strut
Catalog MS-09

Novia
Catalog NC-02



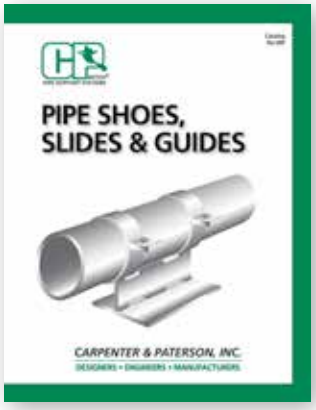
Non-Metallic Pipe Supports
Catalog NM 20

Construction Fasteners
Catalog CF V3

Variable Supports
Catalog 09V

Constant Supports
Catalog 08C

Static & Dynamic Restraints
Catalog 09S



Pipe Shoes, Slides & Guides
Catalog 08P

Fabrication Capabilities
Brochure

Rapid Fabrication
Brochure

Waste Water Treatment
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Seismic Bracing
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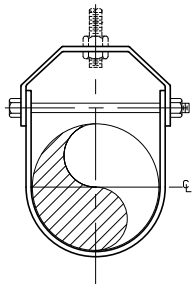
To view or download our most current version of this Catalog, please visit our website at www.pipehangers.com. You will, also, find at the same website, our latest “Terms of Sale”, applicable to the products in this Catalog under the “Catalogs” tab.

We reserve the right to make any changes to this Catalog without notice. We cannot be held responsible for any errors, omissions, or inaccuracies in this Catalog.

COPPER TUBING HANGERS



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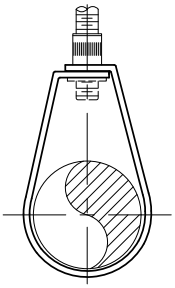

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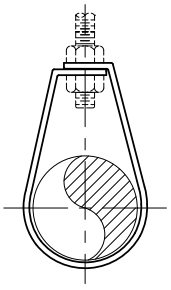

Figure 1A CE
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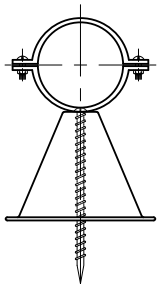

Figure 66 CT
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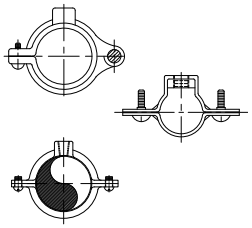

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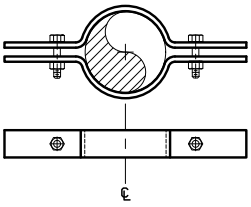

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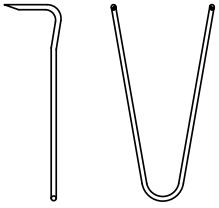

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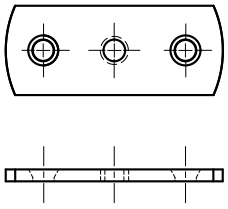

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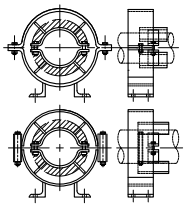

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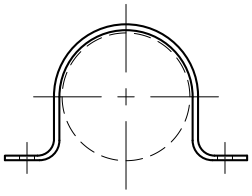

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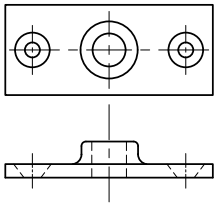

Figure 85RT CE
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CLEVIS HANGERS

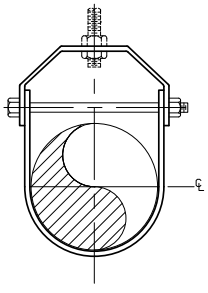

Figure 100 & 100F &
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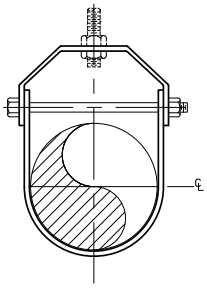

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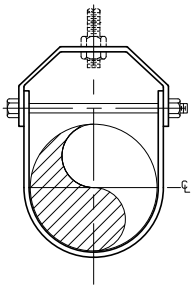

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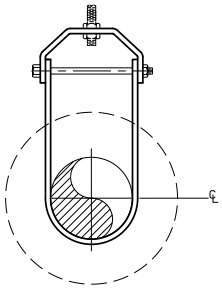

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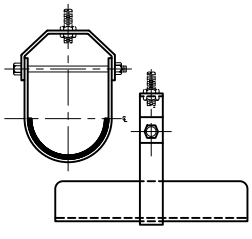

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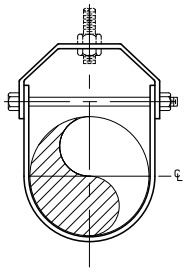

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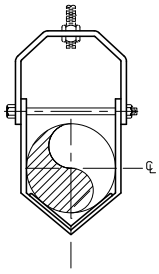

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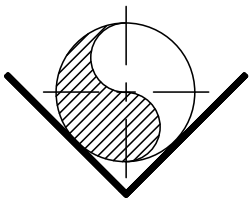

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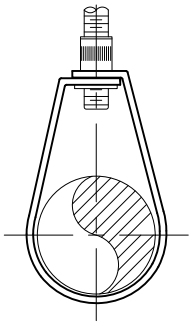

Figure 800 & 800F &
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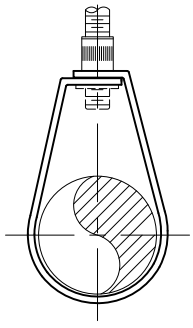

Figure 800FP &
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800F FP NFPA
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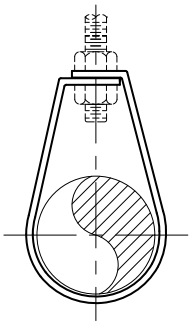

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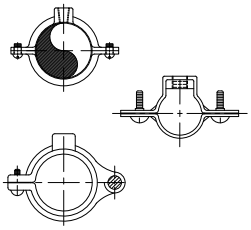

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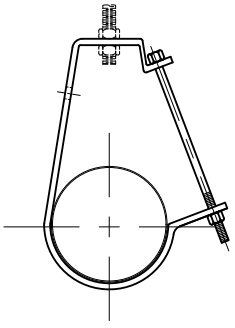

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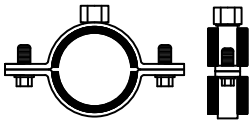

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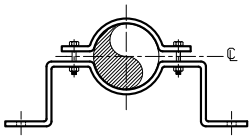
PIPE CLAMPS



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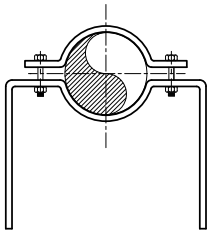

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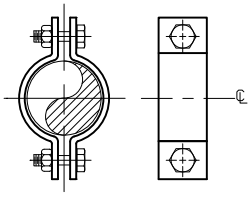

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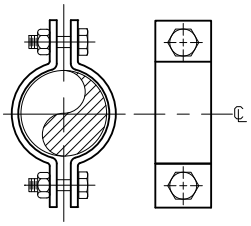

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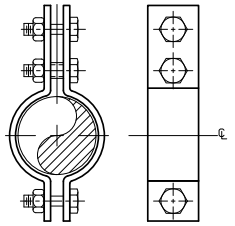

Figure 304
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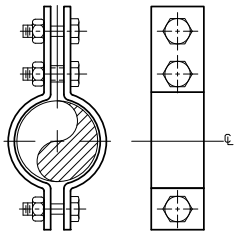

Figure 304Z
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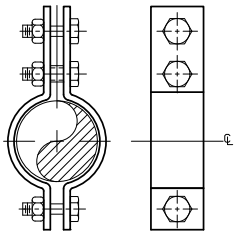

Figure 91
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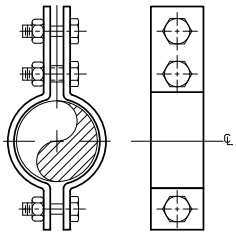

Figure 91Z
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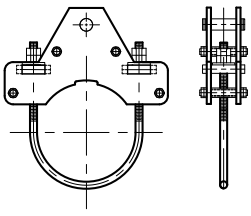

Figure 134
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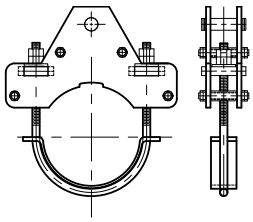

Figure 246
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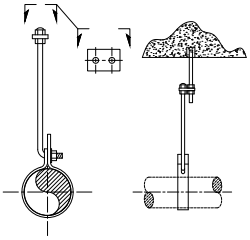

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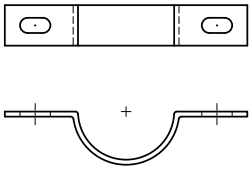

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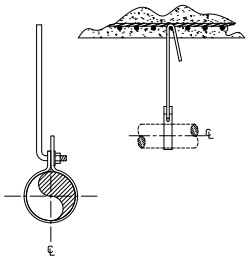

Figure SSUGN
Underground Pipe Clamp
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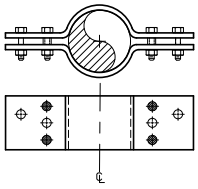
RISER CLAMPS



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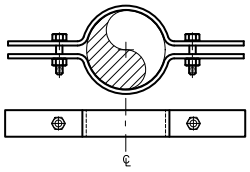

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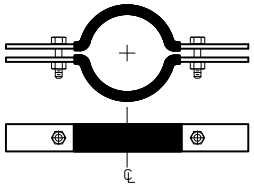

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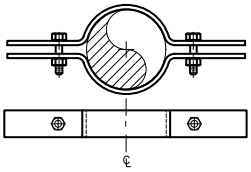

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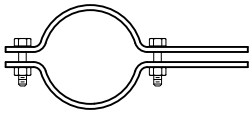

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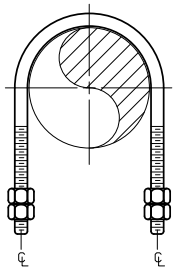
U-BOLTS AND PIPE STRAPS



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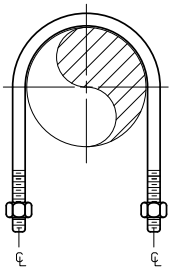

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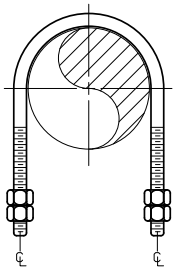

Figure 283DI &283DI SS
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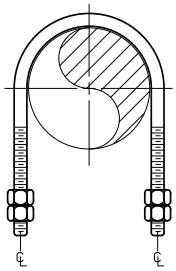

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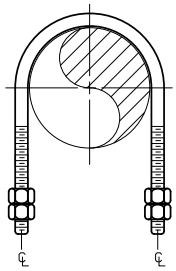

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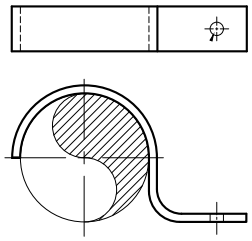

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One Hole Pipe Clamp
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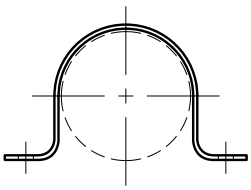

Figure 72
Pipe Clip
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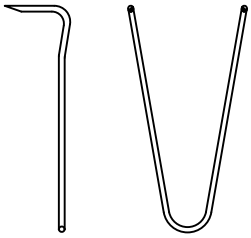

Figure 111
Wire Pipe Hook
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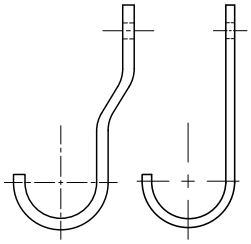

Figure 227 & 227S
Return Line Offset Hook
Page 60

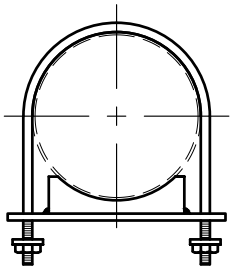

Figure 127
Anchor Chair
Page 61

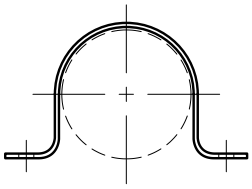

Figure C-1108 & C-1108 SS
C-1108 SS316
Pipe Strap
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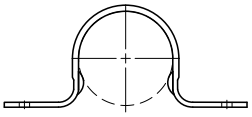

Figure 770
CPVC Two Hole
Pipe Strap
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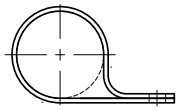

Figure 775
CPVC Two Hole
Wrap Around
Pipe Strap
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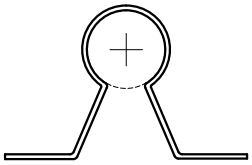

Figure 776
CPVC Two Hole Stand Off
Pipe Strap
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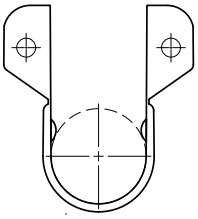

Figure 777
CPVC Two Hole
Side Mount
Pipe Strap
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AWWA PIPE CLAMPS

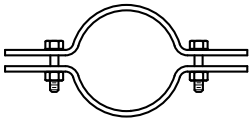

Figure 158
Ductile Iron Pipe Clamp
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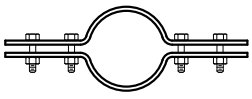

Figure 158DB
Double Bolt
Ductile Iron Pipe Clamp
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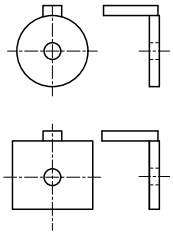

Figure 258
Socket Clamp Washer
Page 65

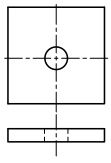

Figure 269
Socket Clamp Washer
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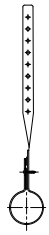

Figure DWV
Drain, Waste, Vent Clamp
Page 66

BEAM CLAMPS

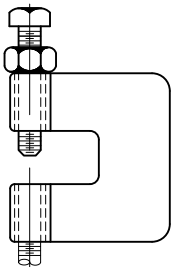

Figure 47 & 47 SS316
& 238
C-Clamp with Locking Nut
(Carbon/Stainless Steel)
Page 67

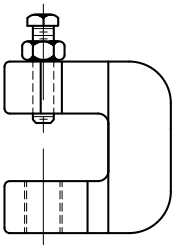

Figure 196
C-Clamp with
Locking Nut
(Malleable Iron)
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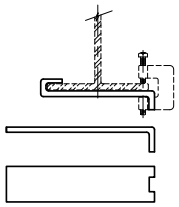

Figure 22
C-Clamp Retaining Clip
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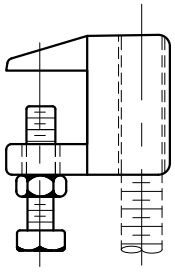

Figure 192 & 192 SS316
Top Beam Clamp with
Locking Nut
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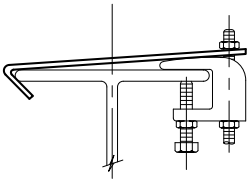

Figure 192RS
C-Clamp Retaining Clip
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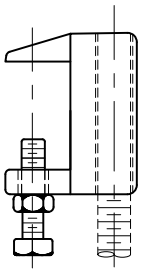

Figure 192W
Wide Mouth Top Beam Clamp with Locking Nut
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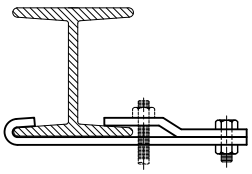

Figure 18
Top / Side Beam Clamp
Page 70

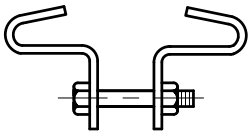

Figure 15
Beam Clamp
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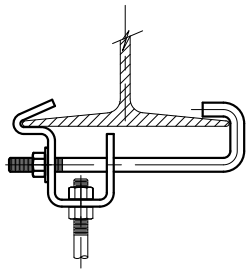

Figure 14 & 14A
Adjustable Beam Clamp
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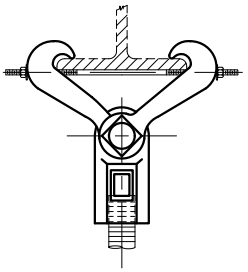

Figure 82
Adjustable Beam Clamp (Body Only)
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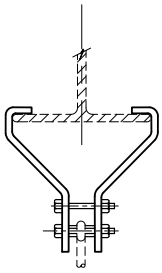

Figure 314
Extended Beam Clamp
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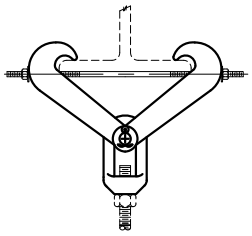

Figure 297
Steel Beam Clamp with Weldless Eye Nut
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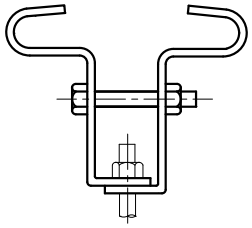

Figure 268
Beam Clamp
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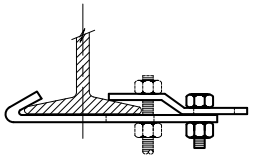

Figure 217
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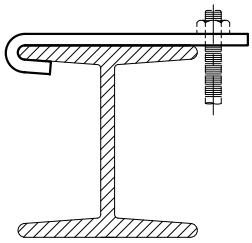

Figure 6
Top Beam Clamp
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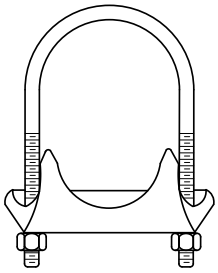

Figure 282
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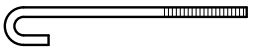

Figure 31
J Beam Hook
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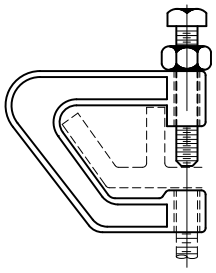

Figure 290
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CEILING PLATES

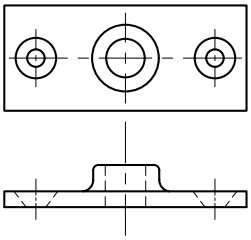

Figure 2D85RTSTP E & D85RTSTP SS
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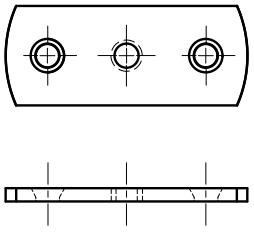

Figure D85RTSTP & D85RTSTP E
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WALL BRACKETS

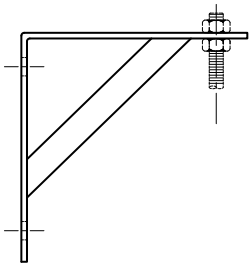

Figure 49
Wall Bracket
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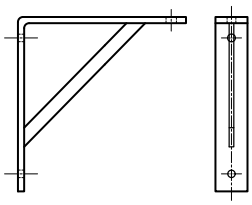

Figure 69
Light
Welded Steel Bracket
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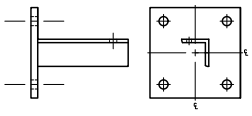

Figure 7022
Cantilever Angle
Wall Bracket
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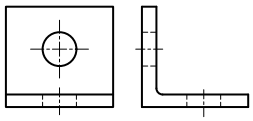

Figure 9
Angle Knee
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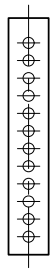

Figure 10
Extension Bar
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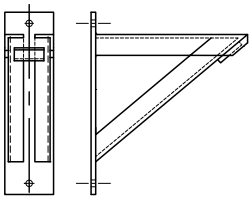

Figure 84
Medium
Welded Steel Bracket
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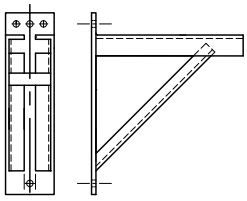

Figure 139
Heavy
Welded Steel Bracket
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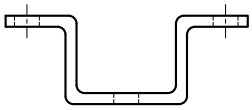

Figure 151
Ceiling Stirrup
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WELDED ATTACHMENTS

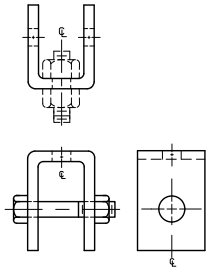

Figure 113A & 113B
Welded Beam
Attachment
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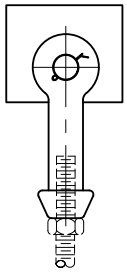

Figure 216
Welding Clevis
Attachment
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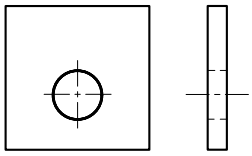

Figure 220
Welding Lug
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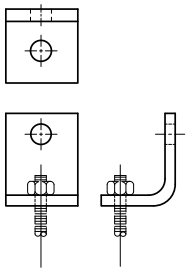

Figure 303
Side Beam Angle
Bracket
Page 89

CONCRETE INSERTS AND ATTACHMENTS

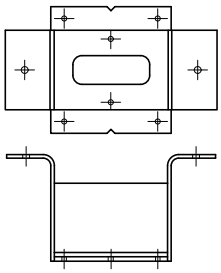

Figure 75I & 75N
Steel Concrete Insert Box
Concrete Insert Nut
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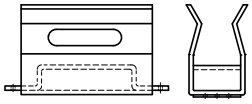

Figure 650I & 650N
Steel Concrete Insert Box
Concrete Insert Nut
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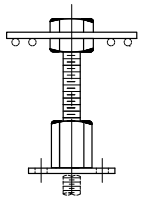

Figure 104F &
104F SS316
Female Ceiling Mount Bolt
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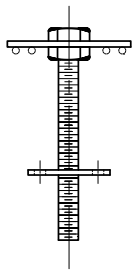

Figure 104M &
104M SS316
Male Ceiling Mount Bolt
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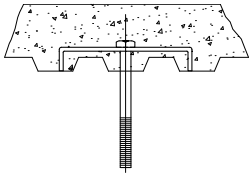

Figure 143
Metal Deck Ceiling Bolt
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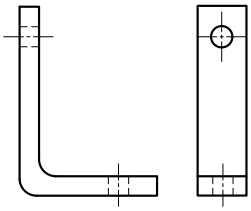

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Return Line Angle
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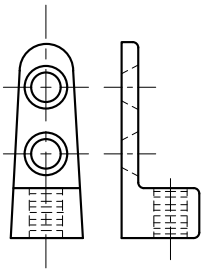

Figure 153 & D153S
Side Beam Connector
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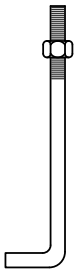

Figure 177
Anchor Bolt
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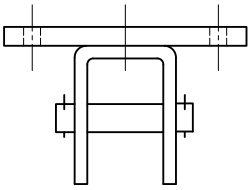

Figure 1020
Concrete Attachment
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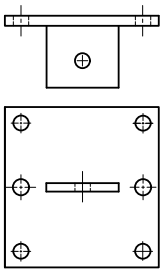

Figure 1022
Concrete Single Lug Plate
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HANGER RODS AND ACCESSORIES

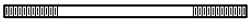


Figure 133 & 133L
Machine Thread Rods
Page 97

Figure 94 & 94SS
All Thread Hanger Rod
Page 97

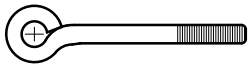


Figure 33 & 33L
Machine Thread Eye
Rod Not Welded
Page 98

Figure 306 & 341
Linked Eye Rods
(Welded & Not Welded)
Page 98

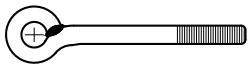


Figure 93 & 93L
Welded Eye Rods
Page 99

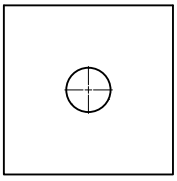


Figure 260
Washer Plate
Page 99

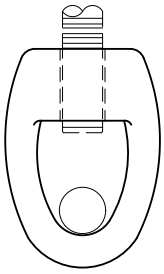


Figure 12
Eye Socket
Page 100

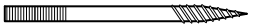


Figure 28
Lag Rod
Page 100

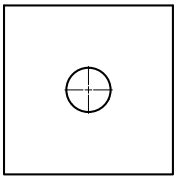


Figure 102
Light Duty Washer Plate
Page 101

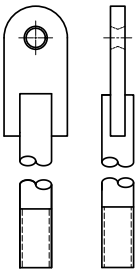


Figure 5308
Rod with Eye
Page 102

ROD COUPLINGS AND TURNBUCKLES

Figure 123 & 123 SS
123 SS316
Rod Coupling
Page 103

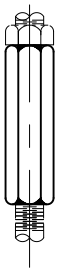


Figure 123R & 123R SS
Reducing Rod Coupling
Page 103

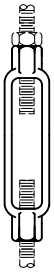


Figure 132
Turnbuckle
Page 104

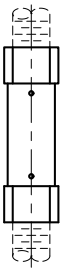


Figure 5105
Load Coupling
Page 105

SWIVEL ATTACHMENTS

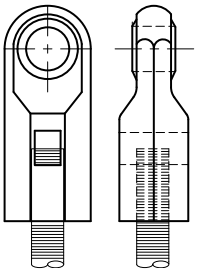


Figure 157
Extension Piece
Page 106

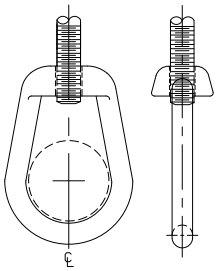


Figure 279 & 279L &
279 SS316
Forged Weldless Eye Nut
Page 106

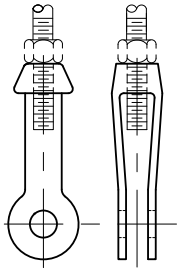


Figure 276 & 276P &
276P SS316
Socket Clamp Washer
Page 107

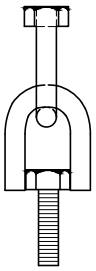


Figure 701
Male / Female Swing
Rod Fitting
Page 107

PIPE STANCHIONS AND FLOOR SUPPORTS

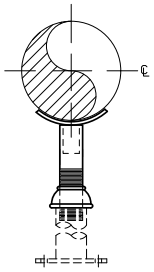


Figure 101
Adjustable Pipe Support
Page 108

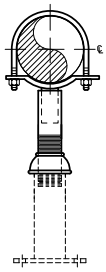


Figure 101U
Adjustable Pipe Support
(with U-Bolt)
Page 109

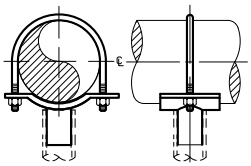


Figure 125
Pipe Saddle with U-Bolt
Page 110

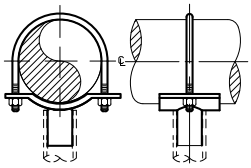


Figure 125DI
Pipe Saddle with U-Bolt for
Ductile and Cast Iron Pipe
Page 111

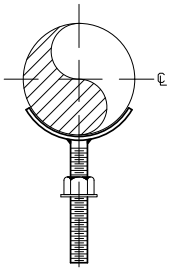


Figure 137
Adjustable Pipe Support
Page 112

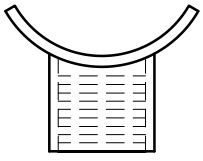


Figure 247
Pipe Support
Page 112

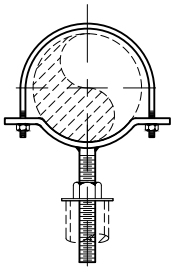


Figure 191
Adjustable Pipe
Stanchion with U-Bolt
Page 113

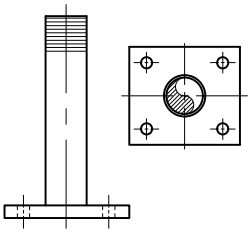


Figure 138 & 138S
Base Stand
Page 114

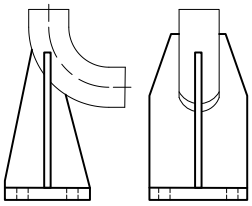


Figure 375
Welded Base Anchor
Support
Page 114

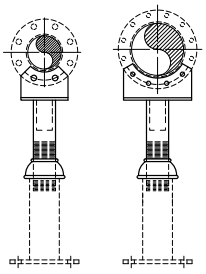


Figure 101F
Adjustable Pipe Support
for Flanged Pipe
Page 115

PIPE ROLLS

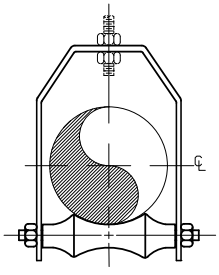


Figure 140
Harvard Roll Hanger
Page 124

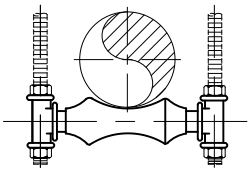


Figure 142 & 142 SS316
Adjustable Two Rod
Roller Hanger
Page 126

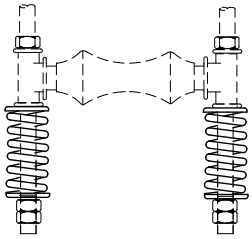


Figure 478
Cushion Spring Assembly
Page 159

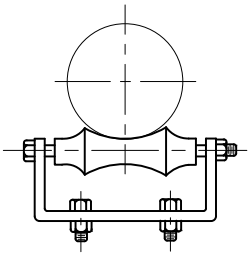


Figure 54
Roller Chair
Page 128

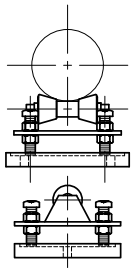


Figure 40
Adjustable Chair
and Roll
Page 129

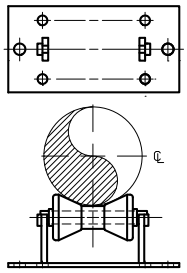


Figure 39
Chair and Roll
Page 131

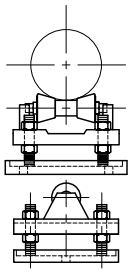


Figure 53
Adjustable Chair and Roll
Page 133

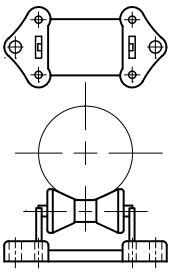


Figure 17
Chair and Roll
Page 135

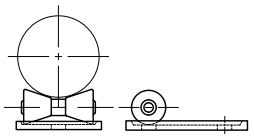


Figure 63 & 63 SS316
Roll and Plate
Page 137

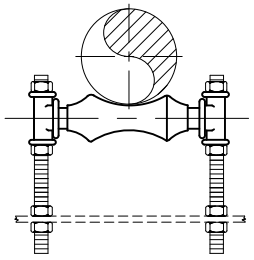


Figure 109 & 109 SS316
Adjustable Roll Support
Page 138

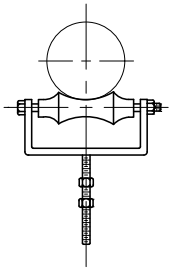


Figure 333
Roller Support
Page 139

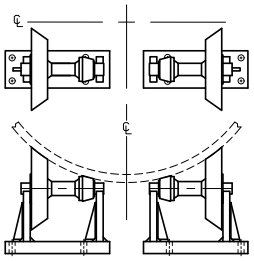


Figure 6718
Large Diameter Fabricated Pipe Roll
Page 140

PIPE SADDLES AND PIPE SHIELDS

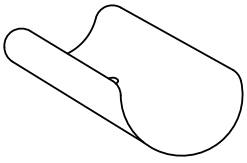


Figure 265P & 265P SS
265P SS316
Insulation Shield
Page 122

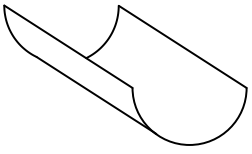


Figure 265GS
Insulation Shield
Page 123

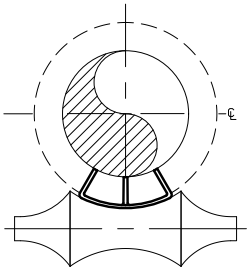


Figure 351 thru 357Z
Pipe Covering Protection Saddle
Page 116

PIPE GUIDES AND PIPE SLIDES

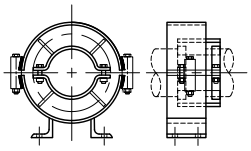


Figure 1006
Light Duty Pipe Alignment Guide
Page 141

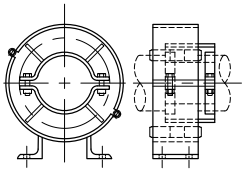


Figure 1007
Pipe Alignment Guide
Page 144

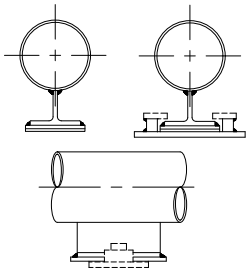


Figure 1010
Pipe Slide Assembly
Page 146

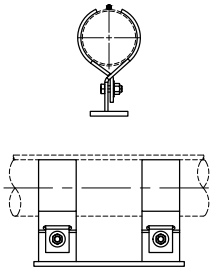


Figure 1015
Heat Trace Pipe Shoe
Page 147

TRAPEZE ASSEMBLIES

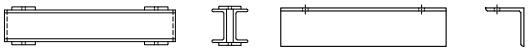


Figure 371
Channel Assembly
Page 148

Figure 7150
Trapeze Support Angle
Page 149

PRE-INSULATED SUPPORTS

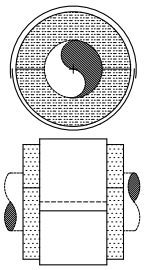


Figure 265CVB-CS
Cold Cover Insulation Protection Shield
Page 150

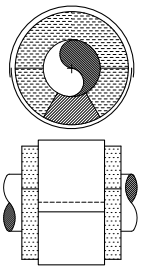


Figure 465CVB-MS
Long Span Calcium Silicate Insulation Shield
Page 151

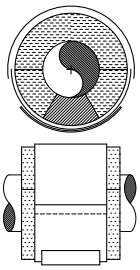


Figure 465CVB-MSRH
High Point Load Calcium Silicate Insulation Shield
Page 152

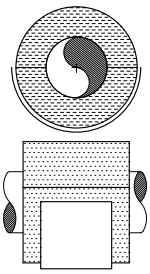


Figure 465 CVB-PSNT
Hanger Cover Insulation Protection Shield
Page 153

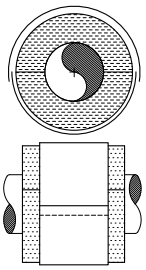


Figure 465CVB-PS360
Full Cover Insulation Protection Shield
Page 154

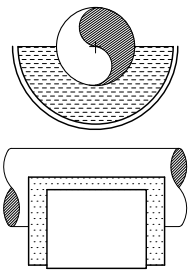


Figure 465CVB-QS
Speed Shield Calcium Silicate Insulation Shield
Page 155

PIPE SLEEVES

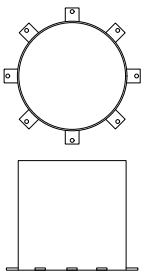


Figure 450
Pipe Sleeve
Page 157

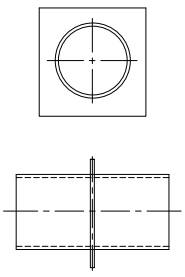


Figure 453
Waterproof Pipe Sleeve
Page 157

SPRING SUPPORTS

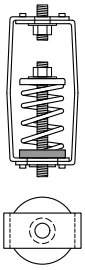


Figure SH
Spring Hanger
Page 158

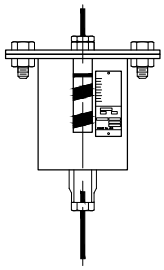


Figure 910
Variable Spring
(See latest C&P
Variable Catalog)

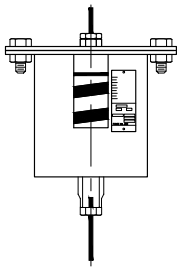


Figure 920
Variable Spring
(See latest C&P
Variable Catalog)

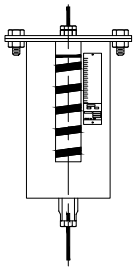


Figure 940
Variable Spring
(See latest C&P
Variable Catalog)

Figure 960 & 980
(See latest C&P
Variable Spring Catalog)

CONSTANT SPRINGS

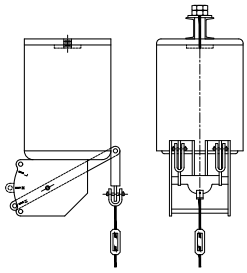


Figure 880V
Vertical Constant Spring
(See latest C&P
Constant Catalog)

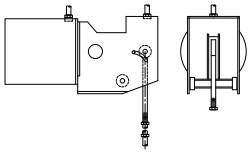


Figure 881H
Horizontal Constant
Spring
(See latest C&P
Constant Catalog)

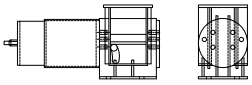


Figure 881H TYPE U
Upthrust Constant
Spring
(See latest C&P
Constant Catalog)

RIGID STRUTS

Figure 2015
Light Duty
Rigid Rod Strut
(See latest C&P Static
& Dynamic Catalog)

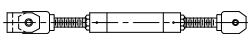


Figure 2250 & 2252
Adjustable Rigid Strut
(See latest C&P Static
& Dynamic Catalog)

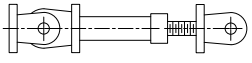


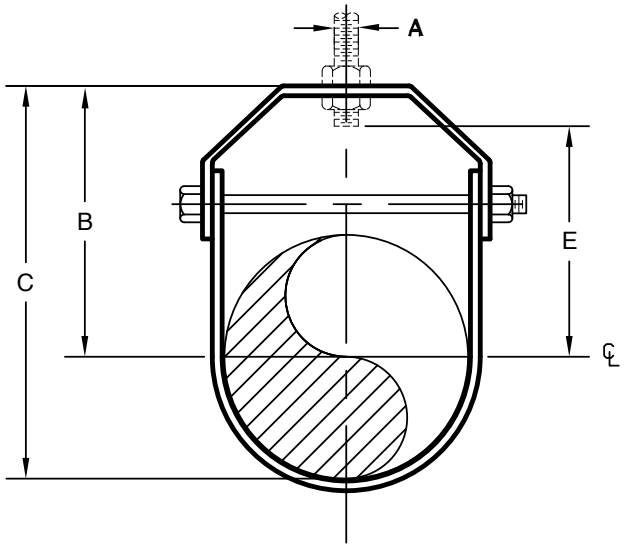
Figure 522
Mini-Sway Strut
Assembly
(See latest C&P Static &
Dynamic Catalog)

CLEVIS HANGER

Figure 100

Figure 100F (Felt Lined)

Figure 100PVC (PVC Coating)



Designed to support stationary lines from above, allowing for approximately 1" to 1-1/2" of vertical adjustment after the pipe is in place. The lower load nut (not furnished), adjusts the pipe line to the proper elevation while the top load nut (not furnished), prevents loosening due to vibration, must be installed, and tightened securely, to assure proper hanger performance. The Figure 100 F has a felt lining to reduce noise and vibration while the Figure 100PVC is coated to separate the pipe from the steel hanger.

When an oversized Clevis Hanger is used to accommodate insulation, a pipe spacer (when required) is placed over the Clevis Bolt; (so as not to interfere with the pipe or its covering), to ensure the lower U-strap will not move in on the bolt, and pinch the insulation. Also, oversized Clevis Hangers may require an insulation insert to prevent concentrated loading and deformation of the U-Strap. Pipe Spacers and Insulation Inserts are available from C&P. The Figure 100PVC is only PVC coated on the contact surface of the pipe; completely coated PVC hangers are available, as a special order.

The Figure 100F is normally furnished electro-galvanized.

Clevis Hangers for Copper Tubing, A.W.W.A. pipe, stainless steel pipe, with Pre-insulation, with Insulation Shields, Ductile Iron pipe, Cast Iron pipe, and felt lined are, also, available from C&P.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C), PVC 140º F (60º C).

Compliance: Federal Specification A-A-1192A (Type 1), ANSI/MSS SP-58 (Type 1). UL and FM approved for Sizes 3/4" through 8" only.

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized, PVC Plastic Coated

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M100, or M100PVC
If ordering Figure 100F Sizes 3-1/2" or smaller, order the next largest Size to allow for the thickness of the felt lining.

FIGURE 100 - CLEVIS HANGER

PIPE SIZE	MAX LOAD	A	B	C	ROD TAKE OUT E	WEIGHT EACH
1/2	730	3/8	2 3/4	3 1/8	1 7/8	0.27
15	3247	M10	70	79	48	0.12
3/4	730	3/8	2 1/8	2 3/4	1 1/2	0.29
20	3247	M10	54	70	38	0.13
1	730	3/8	3	3 3/4	2 1/4	0.33
25	3247	M10	76	95	57	0.15
1 1/4	730	3/8	3 1/8	4	2 1/4	0.36
32	3247	M10	79	102	57	0.16
1 1/2	730	3/8	3 1/4	4 1/4	2 3/8	0.42
40	3247	M10	83	108	60	0.19
2	730	3/8	3 3/8	4 5/8	3 1/8	0.52
50	3247	M10	86	117	79	0.24
2 1/2	1350	1/2	4 1/8	5 5/8	3 1/8	0.61
65	6005	M12	105	143	79	0.28
3	1350	1/2	5	6 7/8	4 1/8	0.90
80	6005	M12	127	175	105	0.41
3 1/2	1350	1/2	4 1/2	6 5/8	3 5/8	0.99
90	6005	M12	114	168	92	0.45
4	1430	5/8	5 3/8	7 3/4	4 3/8	1.40
100	6361	M16	137	197	111	0.64
5	1430	5/8	6	8 7/8	5	2.10
125	6361	M16	152	225	127	0.95

FIGURE 100 - CLEVIS HANGER

PIPE SIZE	MAX LOAD	A	B	C	ROD TAKE OUT E	WEIGHT EACH
6	1940	3/4	7	10 1/2	5 7/8	3.00
150	8630	M20	178	267	149	1.36
7	2000	3/4	7 5/8	11 3/4	6 1/2	5.42
	8897	M20	194	298	165	2.46
8	2000	3/4	8 1/2	12 3/4	6 3/4	4.50
200	8897	M20	216	324	171	2.04
10	3600	7/8	10	15 3/8	8 1/4	9.10
250	16014	M20	254	391	210	4.13
12	3800	7/8	11 1/8	17 1/2	9 1/4	11.75
300	16904	M20	283	445	235	5.33
14	4200	1	12 1/2	19 1/2	10 5/8	14.25
350	18683	M24	318	495	270	6.46
16	4800	1	15	23	13 1/8	20.75
400	21352	M24	381	584	333	9.41
18	4800	1 1/4	15 3/4	24 3/4	13 3/4	23.00
450	21352	M30	400	629	349	10.43
20	4800	1 1/4	17 3/8	27 3/8	15 1/4	41.50
500	21352	M30	441	695	387	18.82
24	4800	1 1/4	19 5/8	31 5/8	17 1/2	50.00
600	21352	M30	498	803	445	22.68
30	6000	1 1/4	24 3/4	40 3/4	21 3/4	68.08
750	26690	M30	629	1035	552	30.88
36	9500	1 1/2	32 7/8	50 7/8	30	68.68
900	42260	M36	835	1292	762	31.15

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CLEVIS HANGER (STAINLESS STEEL)

Figure 100 SS

Figure 100 SS316

Designed to support non-insulated, stainless steel, stationary lines from above, allowing for approximately 1" to 1-1/2" of vertical adjustment after the pipe is in place. The lower nut (not furnished) adjusts the pipe line to the proper elevation while the top nut (not furnished) prevents loosening due to vibration, and must be tightened securely to assure proper hanger performance. PVC coating is available upon request.

Material: Figure 100 SS is a Type 304 stainless
Figure 100 SS316 is a Type 316 stainless

Maximum Temperature: 650º F (343º C)

Compliance: Federal Specification A-A-1192A (Type 1), ANSI/ MSS SP-58 (Type 1)

Finish: Plain

Ordering: Specify pipe size, and figure number.
For Metric applications specify Figure M100 SS or M100 SS316.

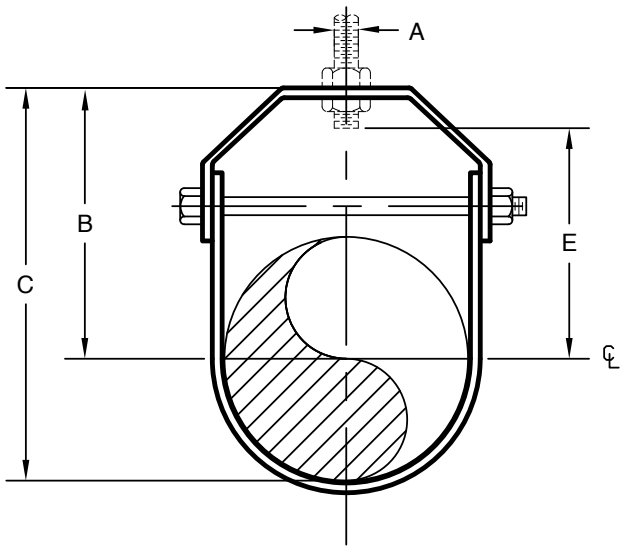


FIGURE 100 SS and FIGURE 100 SS316 CLEVIS HANGER

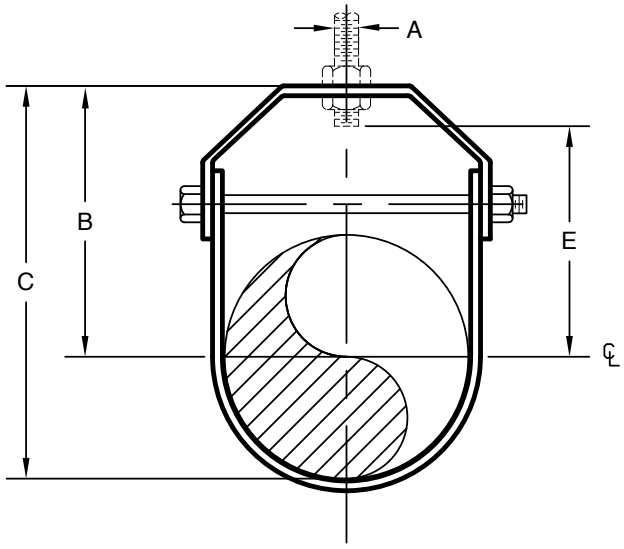
PIPE SIZE	MAX LOAD 450ºF / 232ºC	MAX LOAD 650ºF / 343ºC	A	B	C	ROD TAKE OUT E	WEIGHT EACH
1/2	520	470	3/8	2 3/4	3 1/8	1 7/8	0.27
15	2313	2091	M10	70	79	48	0.12
3/4	520	470	3/8	2 1/8	2 3/4	1 1/2	0.29
20	2313	2091	M10	54	70	38	0.13
1	520	470	3/8	3	3 3/4	2 1/4	0.33
25	2313	2091	M10	76	95	57	0.15
1 1/4	520	470	3/8	3 1/8	4	2 1/4	0.36
32	2313	2091	M10	79	102	57	0.16
1 1/2	520	470	3/8	3 1/4	4 1/4	2 3/8	0.42
40	2313	2091	M10	83	108	60	0.19
2	520	470	3/8	3 3/8	4 5/8	3 1/8	0.52
50	2313	2091	M10	86	117	79	0.24
2 1/2	960	865	1/2	4 1/8	5 5/8	3 1/8	0.61
65	4270	3848	M12	105	143	79	0.28
3	960	865	1/2	5	6 7/8	4 1/8	0.90
80	4270	3848	M12	127	175	105	0.41
4	1215	1095	5/8	5 3/8	7 3/4	4 3/8	1.40
100	5405	4871	M16	137	197	111	0.64
5	1215	1095	5/8	6	8 7/8	5	2.10
125	5405	4871	M16	152	225	127	0.95
6	1650	1485	3/4	7	10 1/2	5 7/8	3.00
150	7340	6606	M20	178	267	149	1.36
8	1700	1530	3/4	8 1/2	12 3/4	6 3/4	4.50
200	7562	6806	M20	216	324	171	2.04
10	1750	1575	7/8	10	15 3/8	8 1/4	9.10
250	7785	7006	M20	254	391	210	4.13
12	1850	1665	7/8	11 1/8	17 1/2	9 1/4	11.8
300	8230	7407	M20	283	445	235	5.35

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

COPPER CLEVIS HANGER

Figure 100 CE

Figure 100F CE (Felt Lined)



Designed to support non-insulated, stationary copper tubing lines from above, allowing for approximately 1" to 1-1/2" of vertical adjustment after the tubing is in place. The lower nut (not furnished) adjusts the pipe line to the proper elevation, the top nut (not furnished) prevents loosening due to vibration, and must be tightened securely to assure proper hanger performance.

The Figure 100F CE comes felt lined to prevent electrolytic action between the copper tubing and the steel hanger. The felt also reduces vibration and noise.

Material: Carbon Steel

Maximum Temperature: Figure 100 CE is for rated Loads up to 650º F (343º C.) while the Figure 100F CE is rated up to 160ºF (71ºC).

Compliance: Federal Specification A-A-1192A (Type 1), ANSI/ MSS SP-58 (Type 1).

Finish: Copper Colored Epoxy

Ordering: Specify tubing size, and figure number.
For Metric applications specify Figure M100 CE, or M100F CE
For tubing size 3-1/2" and smaller, order the next largest tubing size, to allow for the thickness of the felt.

FIGURE 100 CE and FIGURE 100F CE COPPER TUBING CLEVIS HANGER

TUBE SIZE	MAX LOAD	A	B	C	ROD TAKE OUT E	WEIGHT EACH
1/2	150	3/8	2 7/8	3 1/8	2 1/8	0.16
15	667	M10	73	79	54	0.07
3/4	250	3/8	2 5/8	3	1 7/8	0.16
20	1112	M10	67	76	48	0.07
1	250	3/8	2 5/8	3 1/8	1 7/8	0.19
25	1112	M10	67	79	48	0.09
1 1/4	250	3/8	3 1/8	3 3/4	2 3/8	0.22
32	1112	M10	79	95	60	0.10
1 1/2	250	3/8	3 3/8	4 1/8	2 5/8	0.29
40	1112	M10	86	105	67	0.13
2	250	3/8	3 3/8	4 3/8	2 5/8	0.32
50	1112	M10	86	111	67	0.15
2 1/2	350	1/2	3 5/8	4 7/8	2 5/8	0.72
65	1557	M12	92	124	67	0.33
3	350	1/2	3 7/8	5 3/8	2 7/8	0.82
80	1557	M12	98	137	73	0.37
3 1/2	350	1/2	4 1/8	5 7/8	3 1/8	0.91
90	1557	M12	105	149	79	0.41
4	350	1/2	4 1/2	6 1/4	3 1/2	1.07
100	1557	M12	114	159	89	0.49
5	550	5/8	5	7 3/4	3 7/8	1.76
125	2447	M16	127	197	98	0.80
6	550	5/8	5 3/4	8 7/8	4 5/8	1.92
150	2447	M16	4	225	117	0.87

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CLEVIS HANGER FOR DUCTILE IRON AND AWWA. CAST IRON PIPE

Figure 100DI

Designed to support non-insulated, stationary ductile iron and AWWA cast iron lines from above allowing for approximately 1" to 1-1/2" of vertical adjustment after the pipe is in place. The lower nut (not furnished) adjusts the pipe line to the proper elevation, the top nut (not furnished) prevents loosening due to vibration, and must be tightened securely to assure proper hanger performance.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 1), ANSI/ MSS SP-58 (Type 1)

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M100DI.

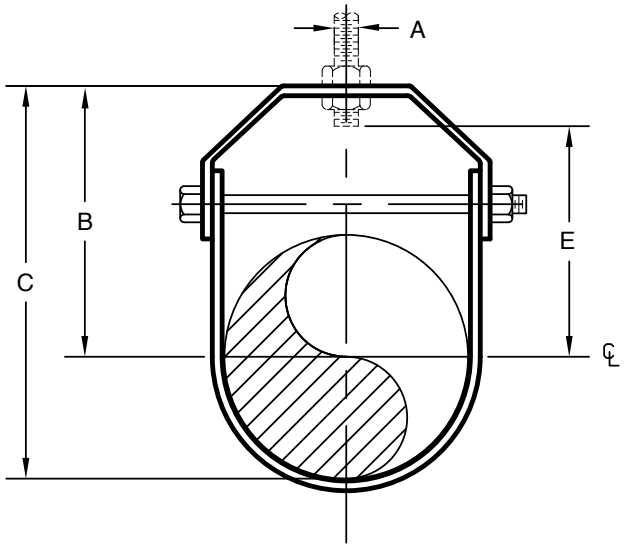


FIGURE 100DI - CLEVIS HANGER FOR DUCTILE IRON AND CAST IRON PIPE

D.I. / C.I. PIPE SIZE	D.I. / C.I. PIPE O.D.	MAX LOAD	A	B	C	ROD TAKE OUT E	WEIGHT EACH
3	3.96	1350	1/2	4 3/16	6 3/16	3 1/16	2.37
80	101	6005	M10	106	157	78	1.08
4	4.80	1430	3/4	5 3/4	8 1/8	4 3/8	2.50
100	122	6361	M20	146	206	111	1.13
6	6.90	1940	7/8	7	10 3/8	5 1/2	2.78
150	175	8630	M20	178	264	140	1.26
8	9.05	2000	7/8	9 1/4	13 3/4	7 3/4	4.47
200	230	8897	M20	235	349	197	2.03
10	11.1	3600	7/8	10 1/4	15 3/4	8 5/8	8.87
250	282	16014	M20	260	400	219	4.02
12	13.2	3800	7/8	12 5/8	19 1/4	11	12.0
300	335	16904	M20	321	489	279	5.46
14	15.3	4200	1	14 1/8	21 3/4	12 1/4	15.2
350	389	18683	M24	359	552	311	6.87
16	14.7	4600	1	14 7/8	23 5/8	13	23.6
400	373	20463	M24	378	600	330	10.7
18	19.5	4800	1 1/4	16 1/2	26 1/4	14 1/2	25.9
450	495	21352	M30	419	667	368	11.7
20	21.6	4800	1 1/4	18 3/4	29 1/2	16 1/2	44.3
500	549	21352	M30	476	749	419	20.1
24	25.8	4800	1 1/4	21 7/8	34 3/4	19 1/2	52.5
600	655	21352	M30	556	883	495	23.8
30	32.0	4800	1 1/4	29	45	27 1/2	80.0
750	813	21352	M30	737	1143	699	36.3
36	38.3	7000	1 1/2	38 1/8	53 1/4	31 1/4	202
900	973	31139	M36	968	1353	794	91.6

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

ELONGATED CLEVIS HANGER

Figure 100EL

The 100EL is designed for the suspension of insulated, stationary, pipe lines. It will accommodate 2 inches (51mm) of insulation for up to 1-1/2" (40mm) pipe, and 4 inches (102mm) of insulation for pipe 2" (50mm) and larger.

The lower load nut (not furnished) adjusts the pipe line to the proper elevation while the top load nut (not furnished), prevents loosening due to vibration, must be installed, and tightened securely, to assure proper hanger performance.

Material: Carbon Steel

Maximum Temperature: Plain 650° F (343° C), Hot-Dip Galvanized 450° F (232° C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192-A (Type 1), ANSI/MSS SP-58 (Type 1).

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M100EL.

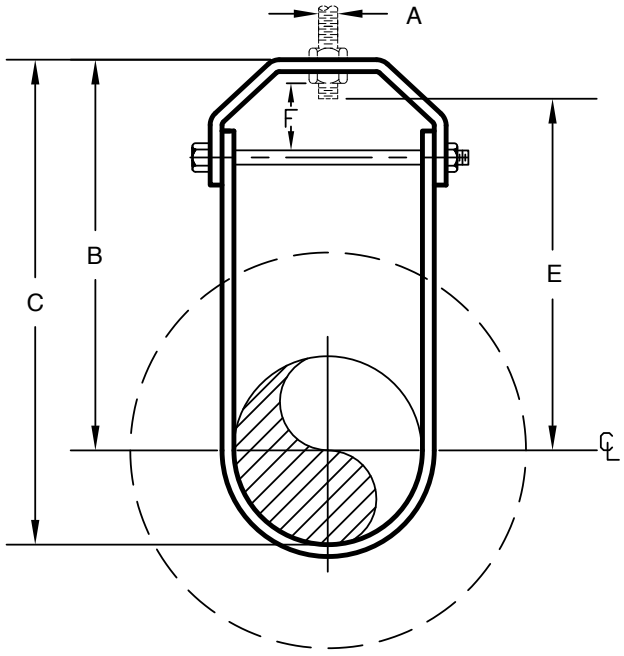


FIGURE 100EL - ELONGATED CLEVIS HANGER

PIPE SIZE	MAX LOAD	A	B	C	E	F	WEIGHT EA
1/2	730	3/8	3 3/4	4 1/4	3 1/2	5/8	0.66
15	3247	M10	95	108	89	16	0.30
3/4	730	3/8	4 1/4	4 7/8	3 7/8	5/8	0.70
20	3247	M10	108	124	98	16	0.32
1	730	3/8	5 1/8	5 3/4	4 3/4	1 5/8	0.74
25	3247	M10	130	146	121	41	0.34
1 1/4	730	3/8	5 3/8	6 1/8	4 7/8	1 5/8	0.78
32	3247	M10	137	156	124	41	0.35
1 1/2	730	3/8	5 1/2	6 3/8	5	1 1/2	0.81
40	3247	M10	140	162	127	38	0.37
2	730	3/8	7 5/8	8 3/4	7 1/8	1 5/8	0.88
50	3247	M10	194	222	181	41	0.40
2 1/2	1350	1/2	7 7/8	9 1/4	7 1/4	1 1/8	1.83
65	6005	M12	200	235	184	29	0.83
3	1350	1/2	8 1/8	9 7/8	7 1/2	1 1/8	1.97
80	6005	M12	206	251	191	29	0.89
3 1/2	1350	1/2	8 3/8	10 3/8	7 3/4	1 1/4	2.06
90	6005	M12	213	264	197	32	0.93
4	1430	5/8	9 5/8	11 7/8	8 7/8	1 3/4	2.57
100	6361	M16	244	302	225	44	1.17
5	1430	5/8	10 3/8	13 1/8	9 5/8	1 7/8	3.00
125	6361	M16	264	333	244	48	1.36
6	1940	3/4	10 7/8	14 1/8	10	1 5/8	4.05
150	8630	M20	276	359	254	41	1.84
8	2000	7/8	12 5/8	16 7/8	11 5/8	2 1/8	6.00
200	8897	M20	321	429	295	54	2.72
10	3600	7/8	14 1/8	19 1/2	12 1/8	2 3/8	10.1
250	16014	M20	359	495	308	60	4.58
12	3800	7/8	15 3/4	22 1/8	14 5/8	2 5/8	12.9
300	16904	M20	400	562	371	67	5.85

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CLEVIS HANGER WITH SHIELD

Figure 100SH

This hanger is a combination of the Figure 100 and Figure 265P where the Protection Shield is welded to the Clevis Hanger. It is designed to support insulated, stationary lines from above and prevent crushing the insulation or breaking the vapor barrier. It allows for approximately 1" to 1-1/2" of vertical adjustment after the pipe is in place. The lower nut (not furnished) adjusts the pipe line to the proper elevation, the top nut (not furnished) prevents loosening due to vibration, and must be tightened securely to assure proper hanger performance.

When required, spreaders will be supplied on the cross bolts.

Dimensional Data: See Figure 100 and Figure 265P

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized

Compliance: Federal Specification A-A-1192-A (Type 1), ANSI/MSS SP-58 (Type 1)

Ordering: Specify pipe size, insulation thickness, figure number, and finish. For Metric applications specify Figure M100SH.

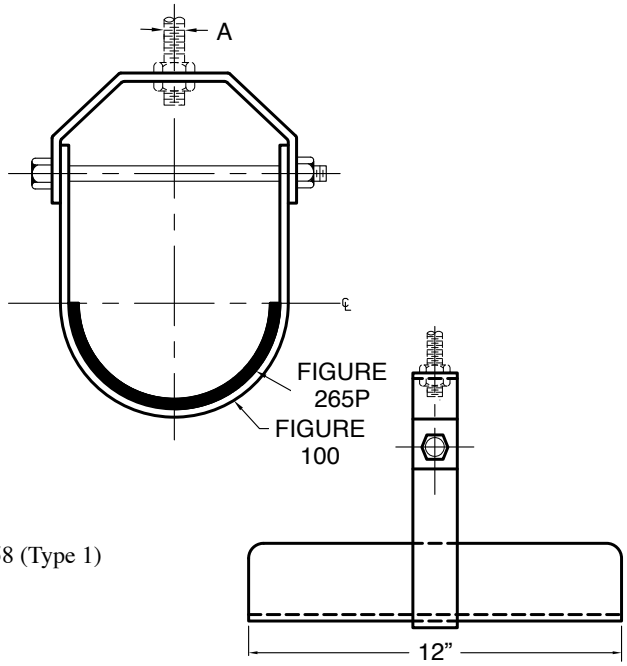


FIGURE 100SH - CLEVIS HANGER WITH SHIELD

HANGER SIZE	ROD SIZE A	INSULATION THICKNESS					
		1/2" COVER 13 COVER	1" COVER 25 COVER	1 1/2" COVER 38 COVER	2" COVER 51 COVER	2 1/2" COVER 64 COVER	3" COVER 76 COVER
		BARE PIPE SIZE					
1 1/2	3/8	1/2					
40	M10	15					
2	3/8	3/4 - 1					
50	M10	20 - 25					
2 1/2	1/2	1 1/4-1 1/2	1/2				
65	M12	32 - 40	15				
3	1/2	2	3/4 - 1				
80	M12	50	20 - 25				
3 1/2	1/2	2 1/2	1 1/4-1 1/2	1/2 - 3/4			
90	M12	65	32 - 40	15 - 20			
4	5/8	3	2	1 - 1 1/4			
100	M16	80	50	25 - 32			
5	5/8	3 1/2 - 4	2 1/2 - 3	1 1/2 - 2	1/2 - 1 1/4		
125	M16	90 - 100	65 - 80	40 - 50	15 - 32		
6	3/4	5	3 1/2 - 4	2 1/2 - 3	1 1/2 - 2	1/2 - 1/1/4	
150	M20	125	90 - 100	65 - 80	40 - 50	15 - 32	
7	3/4	6	5	3 1/2 - 4	2 1/2 - 3	1 1/2 - 2	1/2 - 1/1/4
175	M20	150	125	90 - 100	65 - 80	40 - 50	15 - 32
8	3/4		6	5	3 1/2 - 4	2 1/2 - 3	1 1/2 - 2
200	M20		150	125	90 - 100	65 - 80	40 - 50
10	7/8	8	8	6	5 - 6	3 1/2 - 4	2 1/2 - 4
250	M20	200	200	150	125 - 150	90 - 100	65 - 100
12	7/8	10	10	8	8	5 - 6	5 - 6
300	M20	250	250	200	200	125 - 150	125 - 150
14	1	12		10		8	
350	M24	300		250		200	
16	1	14	12 - 14	12	10	10	8
400	M24	350	300 - 350	300	250	250	200
18	1 1/4	16	16	14	12 - 14	12	10
450	M30	400	400	350	300 - 350	300	250
20	1 1/4			16	16	14	12 - 14
500	M30			400	400	350	300 - 350
24	1 1/4					16	16
600	M30					400	400

LIGHT DUTY CLEVIS HANGER

Figure 200

Designed to support non-insulated, stationary lines from above allowing for approximately 1" to 1-1/2" of vertical adjustment after the pipe is in place. The lower nut (not furnished) adjusts the pipe line to the proper elevation, the top nut (not furnished) prevents loosening due to vibration, and must be tightened securely to assure proper hanger performance.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 1), ANSI/ MSS SP-58 (Type 1)

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M200.

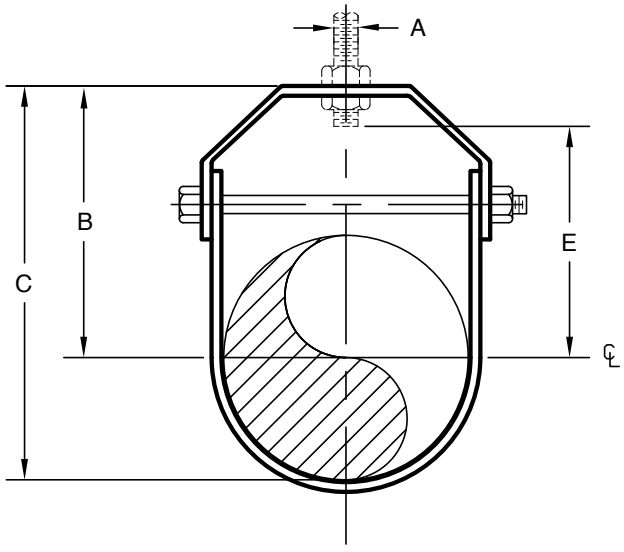


FIGURE 200 - LIGHT DUTY CLEVIS HANGER

PIPE SIZE	MAX LOAD	A	B	C	E	WEIGHT EACH
1/2	150	3/8	1 7/8	2 3/8	3/4	0.27
15	667	M10	48	60	19	0.12
3/4	250	3/8	2 3/8	2 7/8	1 1/2	0.29
20	1112	M10	60	73	38	0.13
1	250	3/8	2 3/8	3 1/8	1 5/8	0.33
25	1112	M10	60	79	41	0.15
1 1/4	250	3/8	2 7/8	3 3/4	2 1/8	0.36
32	1112	M10	73	95	54	0.16
1 1/2	250	3/8	3	4	2 1/4	0.42
40	1112	M10	76	102	57	0.19
2	250	3/8	3 1/2	4 3/4	2 3/4	0.52
50	1112	M10	89	121	70	0.24
2 1/2	350	1/2	4	5 1/2	2 7/8	0.81
65	1557	M12	102	140	73	0.37
3	350	1/2	4 1/4	6 1/8	3 1/4	0.90
80	1557	M12	108	156	83	0.41
3 1/2	350	1/2	4 3/8	6 1/2	3 3/8	0.99
90	1557	M12	111	165	86	0.45
4	400	5/8	5 1/2	7 7/8	4 3/8	1.40
100	1779	M16	140	200	111	0.64

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

VEE CLEVIS HANGER

Figure 200V

Designed to support non-insulated, stationary, plastic lines from above. Used with Figure 200VT Vee Trough (not furnished). The lower nut (not furnished) adjusts the pipe line to the proper elevation, the top nut (not furnished) prevents loosening due to vibration, and must be tightened securely to assure proper hanger performance.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized

Compliance: Federal Specification A-A-1192A (Type 1), ANSI/MSS SP-58 (Type 1)

Ordering: Specify size, figure number, and finish. For Metric applications specify Figure M200V.

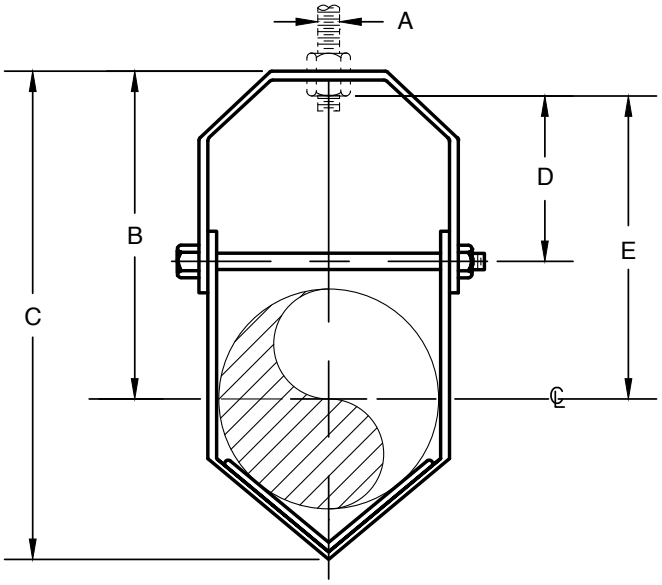


FIGURE 200V - VEE CLEVIS HANGER

SIZE	PIPE SIZE	MAX LOAD	A	B	C	D	E	WEIGHT EA
1	1/2	150	3/8	4 3/4	5 1/2	1 5/8	4 5/16	0.38
1	15	667	M10	121	140	41	110	0.17
1	3/4	150	3/8	4 9/16	5 1/2	1 5/8	4 1/8	0.38
1	20	667	M10	116	140	41	105	0.17
1	1	150	3/8	4 3/8	5 1/2	1 5/8	3 15/16	0.38
1	25	667	M10	111	140	41	100	0.17
1	1 1/4	150	3/8	4 1/8	5 1/2	1 5/8	3 11/16	0.38
1	32	667	M10	105	140	41	94	0.17
1	1 1/2	150	3/8	4	5 1/2	1 5/8	3 9/16	0.38
1	40	667	M10	102	140	41	90	0.17
1	2	150	3/8	3 11/16	5 1/2	1 5/8	3 1/4	0.38
1	50	667	M10	94	140	41	83	0.17
2	2 1/2	150	5/8	6 5/8	8 3/4	1 3/4	5 13/16	1.15
2	65	667	M16	168	222	44	148	0.52
2	3	150	5/8	6 3/16	8 3/4	1 3/4	5 3/8	1.15
2	80	667	M16	157	222	44	137	0.52
2	3 1/2	150	5/8	5 13/16	8 3/4	1 3/4	5	1.15
2	90	667	M16	148	222	44	127	0.52
2	4	150	5/8	5 7/16	8 3/4	1 3/4	4 5/8	1.15
2	100	667	M16	138	222	44	117	0.52

VEE TROUGH

Figure 200VT

Designed to be used primarily with the Figure 200V as a support for plastic or other piping where continuous support is required. Hangers should be placed to adequately support the ends of the Trough.

Material: Carbon Steel

Finish: Pre-galvanized

Ordering: Specify size, and figure number. For Metric applications specify Figure M200VT.

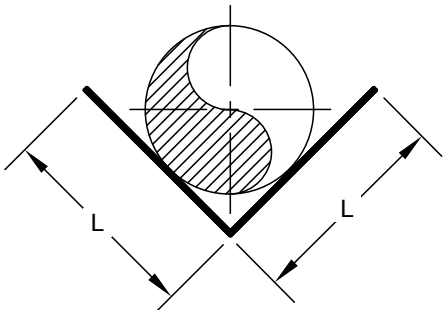


FIGURE 200VT - VEE TROUGH

SIZE	PIPE SIZE	L	TROUGH LENGTH	WEIGHT EACH
1	1/2"- 2"	1 1/2	120	5.39
1	15 - 50	38	3048	2.44
2	2-1/2" - 4"	3	120	10.8
2	65 - 100	76	3048	4.89

ADJUSTABLE SWIVEL RING

Figure 800

Figure 800F (Felt Lined)

Figure 800 PVC (PVC Coated)

Designed for the support of non-insulated, static, pipe lines. The swivel nut is knurled to provide a gripping surface when adjusting the pipe elevation. The Figure 800F has a liner of felt that reduces noise and vibration while the Figure 800 PVC insulates the pipe from the hanger.

We also offer Swivel Ring hangers that are for Copper Tubing (Figure 800CT), and for NFPA requirements (Figure 800FP).

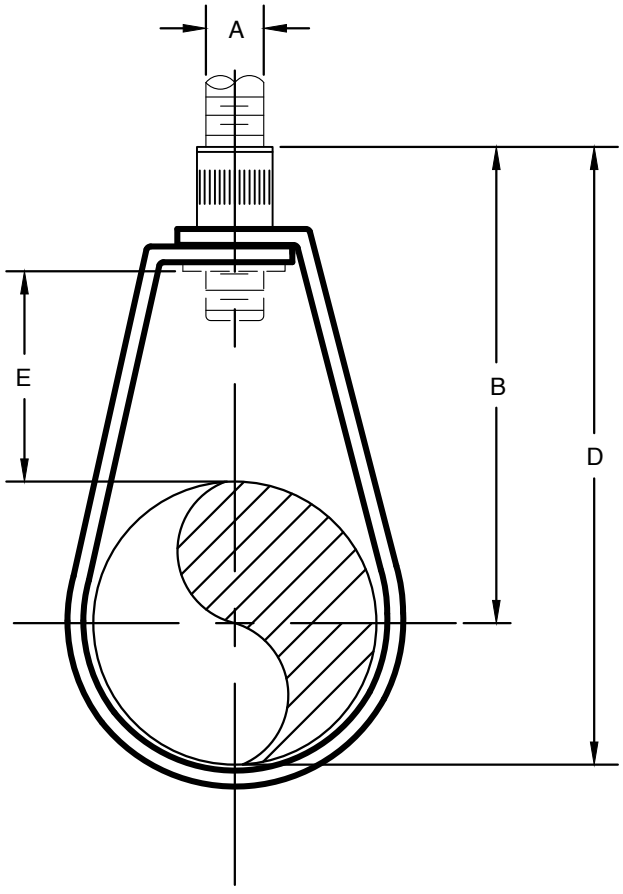
Material: Carbon Steel

Maximum Temperature: Figure 800 is 650º F (343º C), Figure 800F is 160º F (71ºC)
Figure 800 PVC is 140º F (60º C)

Finish: Electro-Galvanized
The PVC Coating is limited to the contact area of the pipe surface.

Compliance: Federal Specification A-A-1192A (Type 10) ANSI/MSS SP-58 (Type 10), Underwriters Laboratory listed, and Factory Mutual approved

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M800 or M800F When ordering the Figure 800F for pipe sizes 3-1/2" and smaller, order the next largest pipe size to allow for the thickness of the felt liner.



FIGURES 800 - 800F - 800 PVC ADJUSTABLE SWIVEL RING

PIPE SIZE	MAX LOAD	A	B	D	E	WEIGHT EACH
2 1/2	600	1/2	3 11/16	5 1/8	1 1/4	0.33
65	2669	M12	94	130	32	0.15
3	600	1/2	4	5 7/8	1 1/8	0.35
80	2669	M12	102	149	29	0.16
3 1/2	600	1/2	4 5/16	6 5/8	1 1/2	0.37
90	2669	M12	110	168	38	0.17
4	1000	5/8	4 15/16	7 1/8	1 1/4	0.48
100	4448	M16	125	181	32	0.22
5	1000	5/8	5 5/8	8 1/2	1 3/8	0.57
125	4448	M16	143	216	35	0.26
6	1250	3/4	6 11/16	10 1/8	2	1.06
150	5560	M20	170	257	51	0.48
8	1250	3/4	8 5/16	12 7/8	2 5/8	1.32
200	5560	M20	211	327	67	0.60

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

COPPER TUBING SWIVEL RING

Figure 800 CE

Figure 800F CE (Felt Lined)

Designed for the support of non-insulated, static, copper tubing lines. The swivel nut is knurled to provide a gripping surface when adjusting the tubing elevation. The Figure 800F CE comes felt lined to prevent electrolytic action between the copper tubing and the steel hanger. The felt also reduces vibration and noise.

We also offer Swivel Ring hangers that are for carbon steel pipe (Figure 800), PVC coated (Figure 800PVC), and for NFPA requirements (Figure 800FP).

Material: Carbon Steel

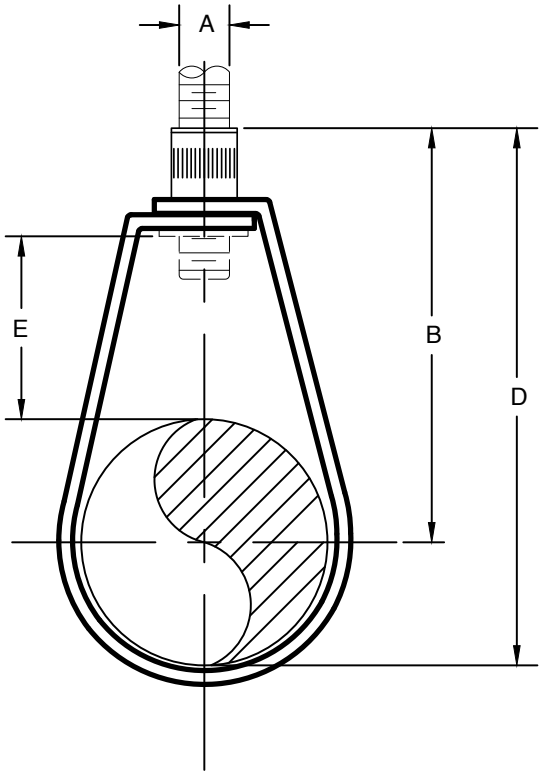
Operating temperature of the Figure 800F CE should not exceed 160º F (71ºC).

Finish: Copper Colored Epoxy

Compliance: Federal Specification A-A-1192A (Type 10), ANSI/MSS SP-58 (Type 10)

Ordering: Specify copper tubing size and figure number.

When Ordering Figure 800F CE hangers for copper tubing 1" and under, order the next largest size to allow for the thickness of the felt liner.



FIGURES 800 CE and 800F CE - COPPER TUBING SWIVEL RING

TUBING SIZE	MAX LOAD	A	B	D	E	WEIGHT EACH
1/2	300	3/8	2 11/16	3	1 1/2	0.08
15	1335	M10	68	76	38	0.04
3/4	300	3/8	2 1/2	2 15/16	1 3/16	0.08
20	1335	M10	64	75	30	0.04
1	300	3/8	2 9/16	3	1	0.08
25	1335	M10	65	76	25	0.04
1 1/4	300	3/8	2 1/2	3 3/16	15/16	0.09
32	1335	M10	64	81	24	0.04
1 1/2	300	3/8	2 9/16	3 3/8	7/8	0.09
40	1335	M10	65	86	22	0.04
2	300	3/8	3 5/16	4 3/8	1 3/8	0.11
50	1335	M10	84	111	35	0.05
2 1/2	525	3/8	3 7/8	5 9/16	1 1/2	0.26
65	2335	M10	98	141	38	0.12
3	525	3/8	4 3/16	5 3/4	1 9/16	0.28
80	2335	M10	106	146	40	0.13
3 1/2	525	1/2	4 9/16	6 3/8	1 1/16	0.33
90	2335	M12	116	162	27	0.15
4	650	1/2	4 13/16	6 15/16	1 11/16	0.33
100	2891	M12	122	176	43	0.15
5	1000	1/2	5 3/16	7 13/16	1 9/16	0.56
125	4448	M12	132	198	40	0.25
6	1000	1/2	5 11/16	8 15/16	1 9/16	0.65
150	4448	M12	144	227	40	0.29

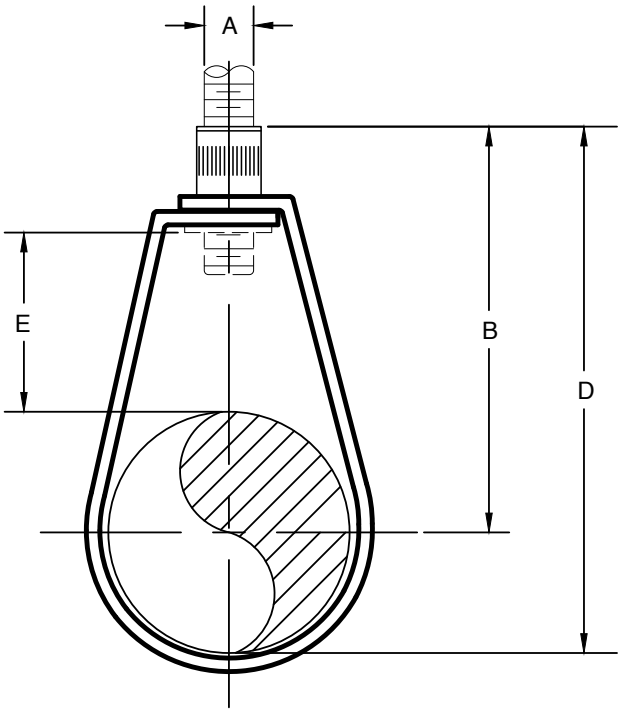
DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

NFPA ADJUSTABLE SWIVEL RING

Figure 800FP

Figure 800FP PVC (PVC Coating)

Figure 800F FP (Felt Lining)



Designed for the support of non-insulated static pipe lines. The swivel nut is knurled to provide a gripping surface when adjusting the tubing elevation and is tapped to the reduced rod standards of NFPA.

The Figure 800FP PVC comes coated with poly-vinyl chloride (PVC) to insulate the pipe from the hanger, while the Figure 800F FP comes felt lined to reduces vibration and noise.

We also offer Swivel Ring hangers that are for standard commercial pipe (Figure 800), copper tubing (Figure 800CT), and PVC coated (Figure 800PVC).

Material: Carbon Steel

Operating temperature of the Figure 800FP PVC should not exceed 140º F (60º C), while the 800F FP should not exceed 160º F (71º C)

Finish: Pre-Galvanized
The PVC coating is limited to the contact area of the pipe surface.

Compliance: Federal Specification A-A-1192A (Type 10), ANSI/ MSS SP-58 (Type 10), Underwriters Laboratory listed, and Factory Mutual approved (3/4" through 8"), and NFPA standards.

Ordering: Specify pipe size, figure number and finish.
For Metric applications prefix the Figure Number with an "M".

FIGURE 800FP - FIGURE 800FP PVC - FIGURE 800F FP - NFPA ADJUSTABLE SWIVEL RING

TUBING SIZE	MAX LOAD	A	B	D	E	WEIGHT EACH
1/2	300	3/8	2 3/4	3 1/16	1 7/16	0.10
10	1335	M10	70	78	37	0.05
3/4	300	3/8	2 1/2	3 1/16	1 1/8	0.10
20	1335	M10	64	78	29	0.05
1	300	3/8	2 1/2	3 3/16	1	0.10
25	1335	M10	64	81	25	0.05
1 1/4	300	3/8	2 13/16	3 9/16	1 1/16	0.11
32	1335	M10	71	90	27	0.05
1 1/2	300	3/8	3 1/8	3 7/8	1 1/16	0.11
40	1335	M10	79	98	27	0.05
2	300	3/8	3 5/16	4 3/8	1 1/8	0.14
50	1335	M10	84	111	29	0.06
2 1/2	525	3/8	3 15/16	5 3/8	1 5/8	0.19
65	2335	M10	100	137	41	0.09
3	525	3/8	4 9/16	6 5/16	1 7/8	0.23
80	2335	M10	116	160	48	0.10
3 1/2	525	3/8	4 5/8	6 5/8	1 7/8	0.25
90	2335	M10	117	168	48	0.11
4	650	3/8	5 1/16	7 5/16	1 7/8	0.30
100	2891	M10	129	186	48	0.14
5	1000	1/2	5 5/8	8 3/8	1 5/8	0.50
125	4448	M12	143	213	41	0.23
6	1000	1/2	6 1/2	9 13/16	2 1/4	0.58
150	4448	M12	165	249	57	0.26
8	1000	1/2	7 15/16	12 1/4	2 7/16	0.90
200	4448	M12	202	311	62	0.41

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

BAND HANGER

Figure 1A

Designed to support non-insulated, stationary lines from above. The lower nut (not furnished) adjusts the pipe line to the proper elevation, while the top nut (not furnished) prevents loosening due to vibration, and must be tightened securely to assure proper hanger performance

For copper tubing please see our Figure 1A CT. For plastic coated please see our Figure 1A PVC.

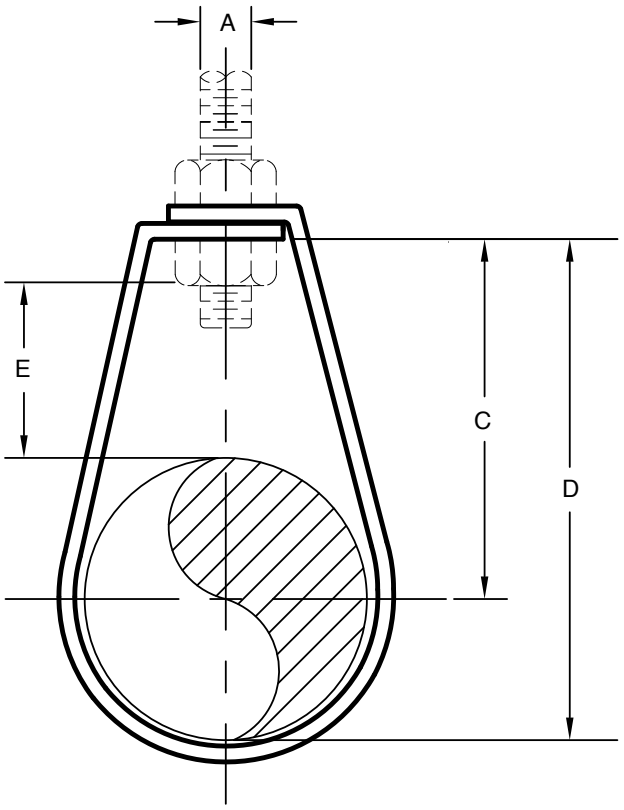
Material: Carbon Steel, Stainless Steel (Type 304 or 316) Upon Request

Finish: Plain, Painted, Electro-Galvanized

Compliance: Federal Specification A-A-1192A (Type 7), ANSI/MSS SP-58 (Type 7)

Finish: Plain, Painted, Electro-Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M1A



PVC BAND HANGER

Figure 1A PVC

This product is designed to protect the pipe from coming into direct contact with the hanger by having the contact surface PVC coated. Install the same as a Figure 1A.

Material: Carbon Steel

Maximum Temperature: 140F (60C)

Compliance: Federal Specification A-A-1192 (Type 7), ANSI/MSS SP-58 (Type 7)

Finish: Plain, Electro-Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M1A PVC. For Copper Tubing see Figure 1A CT.

FIGURE 1A and FIGURE 1A PVC - BAND HANGER

PIPE SIZE	MAX LOAD	ROD SIZE A	C	D	E	WEIGHT EA
1/2	610	3/8	2 1/4	2 11/16	1 3/8	0.13
15	2714	M10	57	68	35	0.06
3/4	610	3/8	2 1/8	2 11/16	1 1/8	0.13
20	2714	M10	54	68	29	0.06
1	610	3/8	2 1/8	2 13/16	1 1/16	0.14
25	2714	M10	54	71	27	0.06
1 1/4	610	3/8	2 5/16	3 3/16	1	0.16
32	2714	M10	59	81	25	0.07
1 1/2	610	3/8	2 7/16	3 7/16	1 1/16	0.18
40	2714	M10	62	87	27	0.08
2	610	3/8	2 7/8	4 1/16	1 3/16	0.20
50	2714	M10	73	103	30	0.09
2 1/2	970	1/2	3 1/8	4 7/16	7/8	0.37
65	4315	M12	79	113	22	0.17
3	970	1/2	3 3/4	5 1/2	1 3/8	0.43
80	4315	M12	95	140	35	0.20
3 1/2	970	1/2	3 7/8	5 7/8	1 1/4	0.47
90	4315	M12	98	149	32	0.21
4	1250	1/2	4 1/4	6 1/2	1 3/8	0.69
100	5560	M12	108	165	35	0.31
5	1250	1/2	4 15/16	7 5/8	1 1/2	0.82
125	5560	M12	125	194	38	0.37
6	1600	3/4	5 15/16	9 1/4	1 11/16	1.5
150	7117	M20	151	235	43	0.68
8	1800	7/8	7 15/16	12 1/4	2 1/2	1.89
200	8007	M20	202	311	64	0.86

COPPER TUBING BAND HANGER

Figure 1A CE

Designed to support non-insulated, copper tubing lines from above. Install the same as a Figure 1A.

Material: Carbon Steel

Finish: Copper Colored Epoxy

Compliance: Federal Specification A-A-1192A (Type 7), ANSI/ MSS-SP-58 (Type 7)

Ordering: Specify tubing size, and figure number. For Metric applications specify Figure M1A CE.

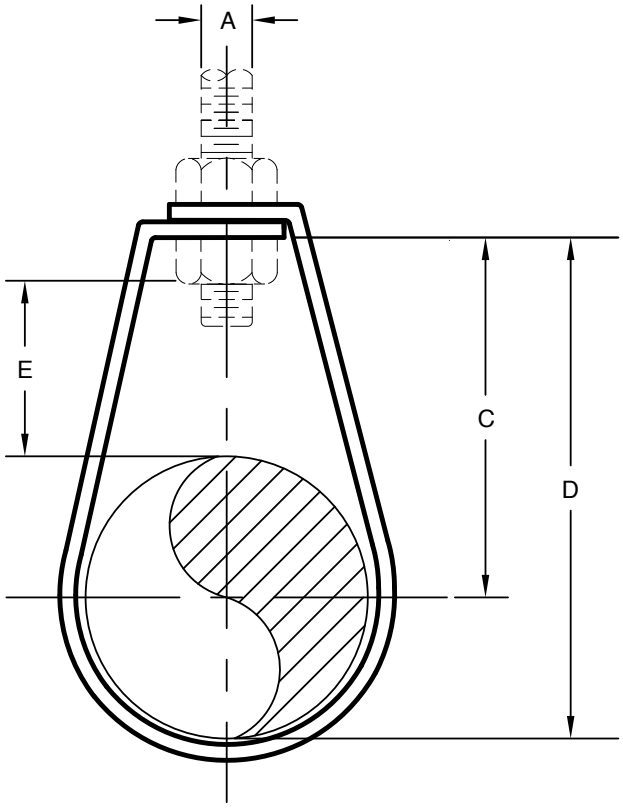


FIGURE 1A CE - COPPER TUBING BAND HANGER

TUBE SIZE	MAX LOAD	ROD SIZE A	C	D	E	WEIGHT EACH
1/2	610	3/8	2 7/16	2 3/4	1 5/8	0.11
15	2714	M10	62	70	41	0.05
3/4	610	3/8	2 3/4	2 11/16	1 5/16	0.11
20	2714	M10	70	68	33	0.05
1	610	3/8	2 1/8	2 11/16	1 1/16	0.11
25	2714	M10	54	68	27	0.05
1 1/4	610	3/8	2 1/8	2 13/16	15/16	0.12
32	2714	M10	54	71	24	0.05
1 1/2	610	3/8	2 3/8	3 7/16	1 1/16	0.14
40	2714	M10	60	87	27	0.06
2	610	3/8	2 9/16	3 5/8	1	0.16
50	2714	M10	65	92	25	0.07
2 1/2	610	3/8	2 15/16	4 1/4	1 1/16	0.16
65	2714	M10	75	108	27	0.07
3	970	1/2	3 1/4	4 13/16	1	0.38
80	4315	M12	83	122	25	0.17
3 1/2	970	1/2	3 7/16	5 1/4	1	0.42
90	4315	M12	87	133	25	0.19
4	1250	1/2	3 3/4	5 15/16	1	0.45
100	5560	M12	95	151	25	0.20

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

BELL HANGER

Figure 66 CT

Our Figure 66 CT Bell Hanger, for copper tubing, is strong, and light, concealed screw, hanger. It supports the tubing one inch from the back of the tube to the wall. It takes the place of unsightly looking hangers in a finished room and eliminates the use of ordinary pipe clips.

Material: Carbon Steel

Finish: Copper Plated

Ordering: Specify tube size and figure number.
For Metric applications specify Figure M66 CT.

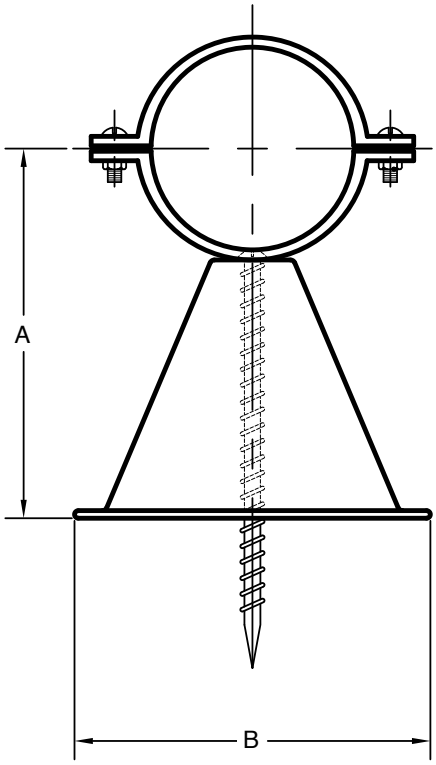


FIGURE 66 CT BELL HANGER

TUBE SIZE	A	B	WEIGHT EA
3/8	1 1/8	1 5/8	0.08
10	29	41	0.03
1/2	1 3/16	1 5/8	0.08
15	30	41	0.03
3/4	1 5/16	1 5/8	0.08
20	33	41	0.04
1	1 7/16	1 5/8	0.09
25	37	41	0.04
1 1/4	1 9/16	1 5/8	0.09
32	40	41	0.04
1 1/2	1 1/4	1 5/8	0.06
40	32	41	0.03
2	1 3/4	1 5/8	0.07
50	44	41	0.03

EXTENSION RING HANGER

Figure 81RT E
(Rod Tapped – Electro-galvanized)

Figure 81RT2 E
(Rod Tapped – Electro-galvanized)

Figure D81RTSTP E
(Rod Tapped, Domestic – Electro-galvanized)

These Split Ring hangers are designed for the support of non-insulated stationary pipe lines. The Figure 81RT2 E is a two screw design. The Figures 85RT E or 85RT CT Ceiling Plates (ordered separately) are normally used with these products.

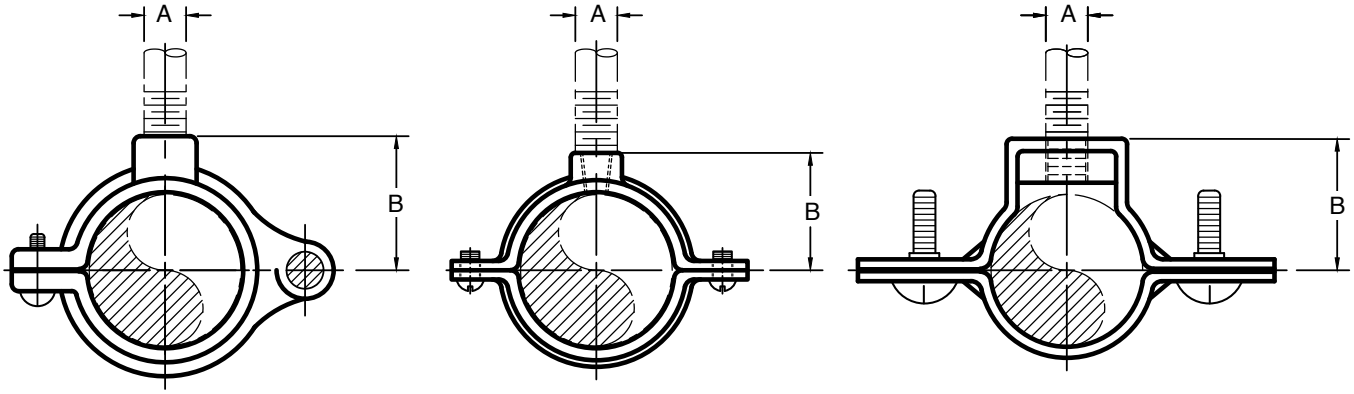
The D81RTSTP E is manufactured in the United States.

Material: Malleable Iron, except Figure D81RTSTP E which is carbon steel.

Finish: Electro-Galvanized

Compliance: Federal Specification A-A-1192A (Type 12) ANSI/MSS SP-58 (Type 12)

Ordering: Specify pipe size and figure number.
For Metric applications prefix the Figure Number with an "M".



81RT E | 81RT2 E | D81RTSTP E

FIGURES 81RT E, 81RT2 E and D81RTSTP E - EXTENSION RING HANGERS

PIPE SIZE	MAX LOAD	ROD SIZE A	FIGURES 81RT E 81RT2 E B	FIGURE D81RTSTP E B	WEIGHT EACH	
					FIGURE 81RT E 81RT2	FIGURE D81RTSTP E
3/8	180	3/8	13/16		0.16	
10	801	M10	21		0.07	
1/2	180	3/8	7/8	23/32	0.17	0.10
15	801	M10	22	18	0.08	0.05
3/4	180	3/8	1	13/16	0.20	0.11
20	801	M10	25	21	0.09	0.05
1	180	3/8	1 1/8	31/32	0.21	0.12
25	801	M10	29	25	0.10	0.05
1 1/4	180	3/8	1 5/16	1 1/8	0.29	0.13
32	801	M10	33	29	0.13	0.06
1 1/2	180	3/8	1 7/16	1 1/4	0.31	0.14
40	801	M10	37	32	0.14	0.06
2	180	3/8	1 11/16	1 1/2	0.35	0.16
50	801	M10	43	38	0.16	0.07
2 1/2	480	1/2	2 1/8		0.57	
65	2135	M12	54		0.26	
3	480	1/2	2 7/16		0.72	
80	2135	M12	62		0.33	
4	480	1/2	3 1/5		1.16	
100	2135	M12	81		0.53	

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

COPPER TUBING EXTENSION RING HANGER

Figure 81RT CE

Figure 81RT2 CE

Figure D81RTSTP CT (Domestic)

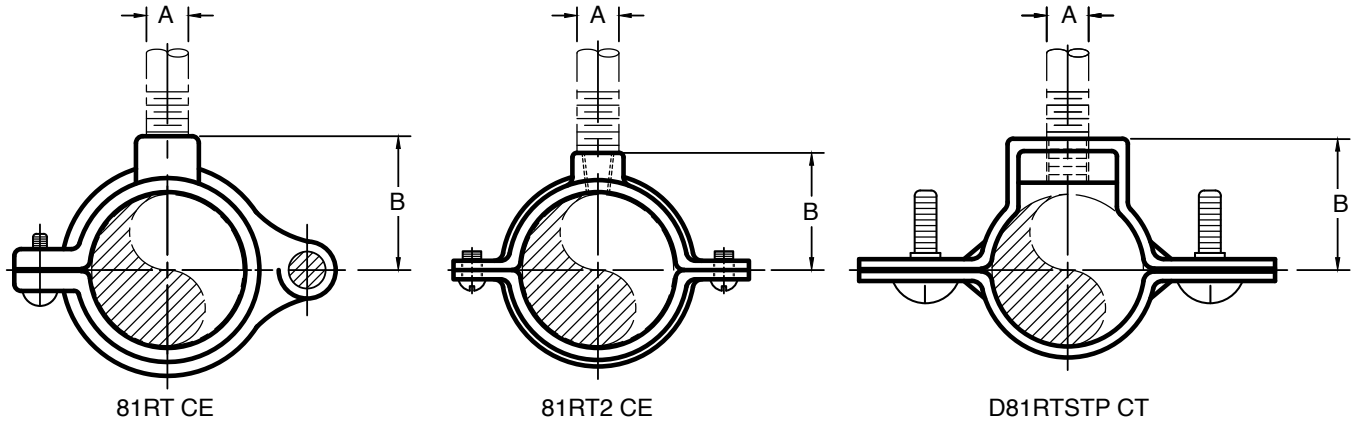
These Split Ring Hanger are designed for the support of non-insulated copper tubing lines. The Figure 81RT CE and D81RTSTP CT are used with the Figure 85RT CE and D85RTSTP CE Ceiling Plates.

Material: Malleable Iron, except the Figure D81RTSTP CT is carbon steel. The Figure D81RTSTP CT is manufactured in the United States.

Finish: Copper Colored Epoxy (CE), Copper plated (CT)

Compliance: Federal Specification A-A-1192A (Type 12) ANSI/MSS SP-58 (Type 12)

Ordering: Specify tubing size, and figure number. For Metric applications prefix the Figure Number with an "M".



81RT CE 81RT2 CE D81RTSTP CT

FIGURES 81RT CE, 81RT2 CE, D81RTSTP CT- COPPER TUBING EXTENSION RING HANGER

PIPE SIZE	MAX LOAD	ROD SIZE A	FIGURES 81RT CE 81RT2 CE B	FIGURE D81RTSTP CT B	WEIGHT EACH	
					FIGURE 81RT CE 81RT2 CE	FIGURE D81RTSTP CT
1/4	180	3/8	5/8		0.06	
8	801	M10	16		0.03	
3/8	180	3/8	5/8		0.08	
10	801	M10	16		0.04	
1/2	180	3/8	3/4	19/32	0.08	0.09
15	801	M10	19	15	0.04	0.04
3/4	180	3/8	7/8	23/32	0.10	0.10
20	801	M10	22	18	0.05	0.05
1	180	3/8	1	27/32	0.12	0.11
25	801	M10	25	21	0.05	0.05
1 1/4	180	3/8	1 1/4	1	0.14	0.12
32	801	M10	32	25	0.06	0.05
1 1/2	180	3/8	1 1/4	1 3/32	0.18	0.13
40	801	M10	32	28	0.08	0.06
2	180	3/8	1 1/2	1 11/32	0.24	0.15
50	801	M10	38	34	0.11	0.07
2 1/2	480	1/2	2		0.38	
65	2135	15	51		0.17	
3	480	1/2	2 1/4		0.48	
80	2135	15	57		0.22	
4	480	1/2	2 3/4		0.68	
100	2135	15	70		0.31	

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

J-HANGER

Figure 967J

Figure 967JF (With Felt Lining)

Figure 967J PVC (With PVC Coating)

Designed to support pipe and rigid conduit by a hanger rod or attaching to the wall. The side bolt with slot allows for easy installation to the pipe after the pipe is installed at its correct elevation. The side hole allows for optional mounting to wall. The Figure 967JF has a felt lining to reduce noise and vibration. The Figure 967J PVC is coated at the contact surface of the pipe to eliminate galvanic action with the pipe.

Material: Carbon Steel

Maximum Temperature: Figure 967F is 160º F (71º C), and Figure 967J PVC is 140º F (60º C).

Compliance: Federal Specification A-A-1192A (Type 5) and ANSI/MSS SP-58 (Type 5)

Finish: Electro-Galvanized

Ordering: Specify pipe or rigid conduit size, and figure number
If ordering Figure 967JF Sizes 3-1/2" and smaller, order the next largest Size to allow for the thickness of the felt lining.
For Metric applications prefix the Figure Number with an "M".

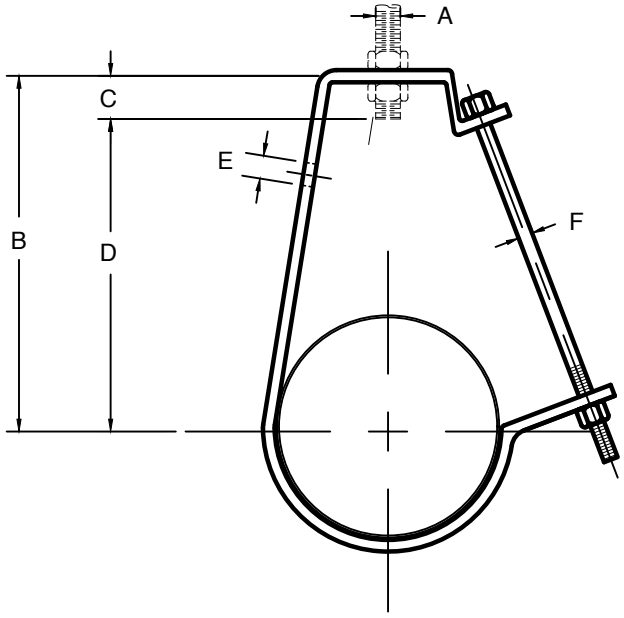


FIGURE 967J J-HANGER

PIPE / CONDUIT NOMINAL SIZE	MAX LOAD	ROD SIZE A	B	C	D	E	F	WEIGHT EA
1/2	400	3/8	2 5/8	1	1 15/16	13/32	1/4	0.20
15	1779	10	67	25	49	10	6	0.09
3/4	400	3/8	2 7/8	1	2 1/4	13/32	1/4	0.23
20	1779	10	73	25	57	10	6	0.10
1	400	3/8	3 1/16	1	2 3/8	13/32	1/4	0.24
25	1779	10	78	25	60	10	6	0.11
1 1/4	400	3/8	3 5/16	1 1/16	2 9/16	13/32	1/4	0.27
32	1779	10	84	27	65	10	6	0.12
1 1/2	400	3/8	3 9/16	1 1/16	2 11/16	13/32	1/4	0.29
40	1779	10	90	27	68	10	6	0.13
2	400	3/8	3 3/4	1 1/8	2 15/16	13/32	1/4	0.32
50	1779	10	95	29	75	10	6	0.15
2 1/2	800	1/2	4 7/16	1 1/8	3 9/16	9/16	3/8	0.71
65	3559	13	113	29	90	14	10	0.32
3	800	1/2	4 7/8	1 1/8	4	9/16	3/8	0.77
80	3559	13	124	29	102	14	10	0.35
3 1/2	800	1/2	5 3/16	1 1/8	4 1/4	9/16	3/8	0.84
90	3559	13	132	29	108	14	10	0.38
4	800	5/8	6 1/8	1 1/8	5 1/8	9/16	3/8	1.39
100	3559	16	156	29	130	14	10	0.63
5	800	5/8	6 3/4	1 1/8	5 3/4	9/16	3/8	1.66
125	3559	16	171	29	146	14	10	0.75
6	1000	3/4	7 3/4	1 1/4	6 9/16	9/16	3/8	2.26
150	4448	19	197	32	167	14	10	1.03
8	1200	7/8	9 1/4	1 1/4	7 15/16	9/16	3/8	3.32
200	5338	22	235	32	202	14	10	1.51

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CUSHION SPLIT RING

Figure 81C

Material: Carbon Steel, EPDM Rubber

Maximum Temperature: 230º F (110º C)

Finish: Electro-Galvanized

Compliance: ANSI/MSS SP-58 (Type 12)

Ordering: Specify Figure Number and Pipe or Tubing Size

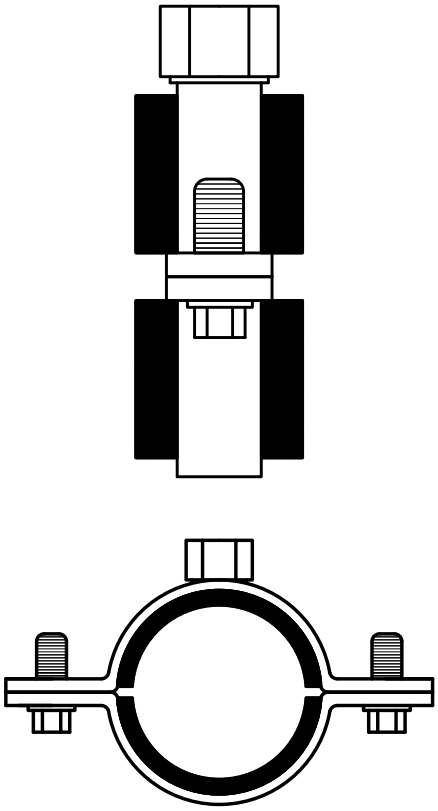


FIGURE 81C - CUSHION SPLIT RING

SIZE	MAX LOAD	IPS SIZE	CTS SIZE	WEIGHT EA
01	180	1/4"	3/8"	0.13
02	180	3/8"	1/2"	0.13
03	180	-----	5/8"	0.14
04	180	1/2"	3/4"	0.14
05	180	3/4"	1"	0.15
06	180	1"	1-1/4"	0.17
07	180	1-1/4"	1-1/2"	0.21
08	180	1-1/2"	-----	0.23
09	180	-----	2"	0.24
10	180	2"	-----	0.25
11	300	-----	2-1/2"	0.27
12	300	2-1/2"	-----	0.28
13	300	-----	3"	0.42
14	300	3"	-----	0.45
15	300	-----	3-1/2"	0.47
16	300	3-1/2"	4"	0.51
17	300	4"	-----	0.54

All Sizes are 3/8”-16 diameter, Right Hand Rod Tap

OFFSET PIPE CLAMP

Figure 179

Figure 179SS (Type 316 Stainless Steel)

The Offset Pipe Clamp is used on piping lines running at a fixed distance from a wall or floor. The standard clearance is two inches (51mm) from the O.D. of pipe to the face of the surface. Non-standard clearances can be fabricated upon request.

Material: Carbon Steel or 316 Stainless Steel

Max. Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M179 or M179SS

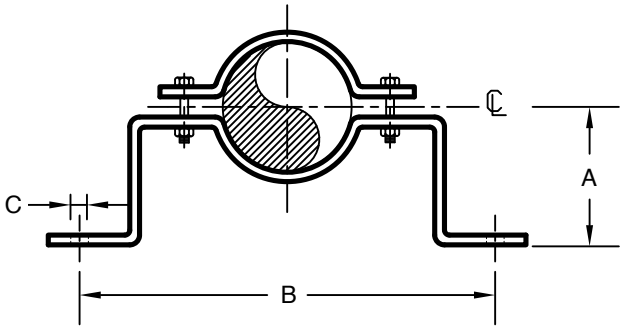


FIGURE 179 - OFFSET PIPE CLAMP

PIPE SIZE	MAX LOAD *	A	B	C	WEIGHT EA
1/2	190	2 7/16	8 1/2	7/16	1.1
15	845	62	216	11	0.50
3/4	190	2 3/4	8 3/4	7/16	1.3
20	845	70	222	11	0.59
1	190	2 7/8	9 1/4	7/16	1.4
25	845	73	235	11	0.64
1 1/4	190	3 1/16	9 3/4	7/16	1.5
32	845	78	248	11	0.68
1 1/2	190	3 3/16	10	7/16	1.6
40	845	81	254	11	0.73
2	420	3 1/2	11 1/4	9/16	2.8
50	1868	89	286	14	1.27
2 1/2	420	3 3/4	11 3/4	9/16	2.9
65	1868	95	298	14	1.32
3	420	4 1/16	12 7/8	9/16	3.2
80	1868	103	327	14	1.45
4	610	4 9/16	13 7/8	9/16	4.2
100	2714	116	352	14	1.91
5	610	5 1/16	15 5/8	11/16	6.5
125	2714	129	397	17	2.95
6	870	5 5/8	16 3/4	11/16	7.2
150	3870	143	425	17	3.27
8	870	6 5/8	18 3/4	11/16	8.3
200	3870	168	476	17	3.76
10	1050	7 1/2	21 1/2	13/16	12.4
250	4671	191	546	21	5.62
12	1200	8 3/8	24 7/8	13/16	21.0
300	5338	213	632	21	9.53

* For Carbon Steel only. Maximum Load for Stainless Steel is 20% less.

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

EXTENDED OFFSET PIPE CLAMP

Figure 267

Designed to attach directly to piping where the exact distance between the structure and the pipe cannot be determined until the piping is in place. The extended legs can be modified in the field to suit the location.

Legs of longer lengths can be furnished on special order.

Material: Carbon Steel

Max. Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M267.

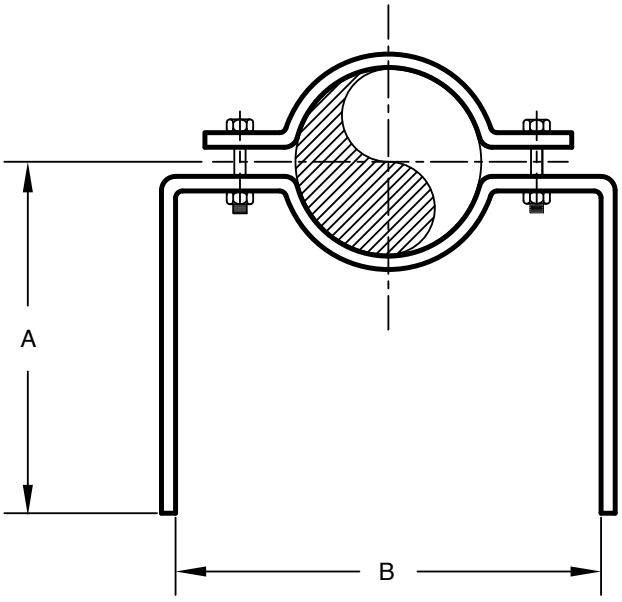


FIGURE 267 - EXTENDED OFFSET PIPE CLAMP

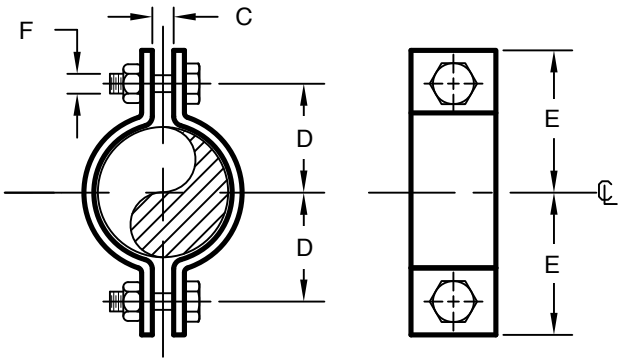
PIPE SIZE	A	B	WEIGHT EA
3/8	12	3 3/4	1.85
10	305	95	0.84
1/2	12	3 3/4	1.85
15	305	95	0.84
3/4	12	4 3/4	1.85
20	305	121	0.84
1	255	5 1/2	2.34
25	12	140	1.06
1 1/4	305	5 7/8	2.40
32	1356	149	1.09
1 1/2	12	6 1/8	2.45
40	305	156	1.11
2	12	7	3.13
50	305	178	1.42
2 1/2	12	7 1/2	4.21
65	305	191	1.91
3	12	7 7/8	4.47
80	305	200	2.03
4	12	10 1/2	4.90
100	305	267	2.22
5	12	12 1/4	4.90
125	305	311	2.22
6	12	13	5.32
150	305	330	2.41
8	12	15 1/4	11.2
200	305	387	5.06
10	12	18 1/4	13.5
250	305	464	6.12
12	12	20 3/4	22.0
300	305	527	10.0
14	12	22 1/2	35.0
350	305	572	15.9
16	12	24 1/2	38.8
400	305	622	17.6

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

TWO BOLT PIPE CLAMP

Figure 175

Figure 175SP (Special)



Design to suspend cold or hot pipe lines where little or no insulation is required. The Figure 175 is usually used with a Figure 279 Weldless Eyenut, or Figure 93 Welded Eye Rod. See Figure 298 Heavy Duty Two Bolt Clamp where higher loads are required. We will also design to meet special requirements such as special pipe sizes, order Figure 175SP.

Material: Carbon Steel

Maximum Temperature: Plain 750º F (399º C) Hot-Dip Galvanized 450º F (232º C)

Compliance: Federal Specification A-A-1192A (Type 4), ANSI/MSS SP-58 (Type 4)

Finish: Plain, Painted, Electro-Galvanized and Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish.
Also, include any special requirements for Figure 175SP.
For Metric applications specify Figure M175 or M175SP.

FIGURE 175 - TWO BOLT PIPE CLAMP

PIPE SIZE	MAXIMUM LOAD 650 F 343 C	MAXIMUM LOAD 750 F 399 C	C	D	E	F	WEIGHT EA
1/2	500	445	3/8	1 1/8	1 5/8	3/8	0.31
15	2224	1980	10	29	41	M10	0.14
3/4	500	445	3/8	1 1/4	1 3/4	3/8	0.35
20	2224	1980	10	32	44	M10	0.16
1	500	445	3/8	1 3/8	1 7/8	3/8	0.39
25	2224	1980	10	35	48	M10	0.18
1 1/4	500	445	3/8	1 5/8	2 1/8	3/8	0.40
32	2224	1980	10	41	54	M10	0.18
1 1/2	800	715	3/8	1 3/4	2 1/4	3/8	0.45
40	3559	3181	10	44	57	M10	0.20
2	1040	930	1/2	2 1/8	2 3/4	1/2	1.23
50	4626	4137	13	54	70	M12	0.56
2 1/2	1040	930	5/8	2 5/8	3 1/8	1/2	1.33
65	4626	4137	16	67	79	M12	0.60
3	1040	930	5/8	3	3 5/8	1/2	1.53
80	4626	4137	16	76	92	M12	0.69
4	1040	930	3/4	3 5/8	4 3/8	1/2	2.20
100	4626	4137	19	92	111	M12	1.00
5	1040	930	3/4	4 1/4	5	1/2	2.39
125	4626	4137	19	108	127	M12	1.08
6	1615	1440	7/8	5 1/4	6 1/4	3/4	5.87
150	7184	6406	22	133	159	M20	2.66
8	1615	1440	1	6 3/8	7 3/8	3/4	6.95
200	7184	6406	25	162	187	M20	3.15
10	2490	2220	1	7 5/8	8 3/4	7/8	14.39
250	11077	9875	25	194	222	M20	6.53
12	2490	2220	1	8 3/4	10 1/4	7/8	16.73
300	11077	9875	25	222	260	M20	7.59
14	2490	2220	1 1/8	9 1/4	10 5/8	7/8	21.26
350	11077	9875	29	235	270	M20	9.64
16	2490	2220	1 1/8	10 1/4	11 5/8	7/8	23.39
400	11077	9875	29	260	295	M20	10.61
18	3060	2730	1 1/4	11 5/8	13	1	32.96
450	13612	12144	32	295	330	M24	14.95
20	3060	2730	1 3/8	12 3/4	14 1/8	1 1/8	36.74
500	13612	12144	35	324	359	M30	16.67
24	3060	2730	1 1/2	15 1/4	16 7/8	1 1/4	52.96
600	13612	12144	38	387	429	M30	24.02
30	3500	3360	2	18 1/2	20 3/4	1 1/2	103.50
750	15569	14947	51	470	527	M36	46.95

HEAVY DUTY TWO BOLT PIPE CLAMP

Figure 298

Design to suspend heavy loads on cold or hot pipe lines where little or no insulation is required. The Figure 298 is usually used with a Figure 279 Weldless Eyenut or Figure 93 Welded Eye Rod. Pipe Sizes 10" and up include a bottom spacer piece.

Material: Carbon Steel

Maximum Temperature: Plain 750° F (399° C) Hot-Dip Galvanized 450° F (232° C)

Compliance: Federal Specification A-A-1192A (Type 4), ANSI/MSS SP-58 (Type 4)

Finish: Plain, Painted, Hot-Dip Galvanized.

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M298.

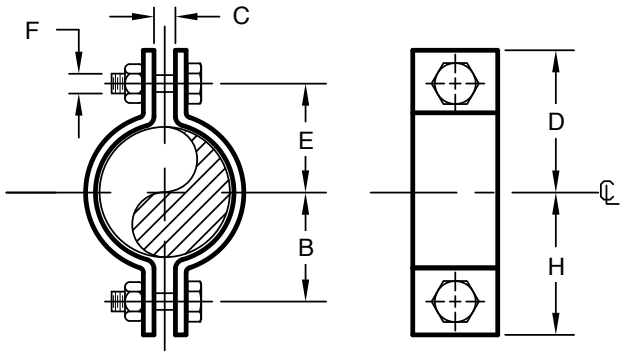


FIGURE 298 - HEAVY DUTY TWO BOLT CLAMP

PIPE SIZE	MAXIMUM LOAD 650° F 343° C	MAXIMUM LOAD 750° F 399° C	B	C	D	E	F	H	WEIGHT EA
2	3400	3000	2 1/4	3/4	3	2 1/4	5/8	3	2.1
50	15125	13345	57	19	76	57	M16	76	1.0
3	3550	3150	3 1/8	1	4	3 1/8	3/4	4	3.8
80	15792	14012	79	25	102	79	M20	102	1.7
4	3550	3150	3 3/4	1	4 7/8	3 3/4	7/8	4 7/8	6.5
100	15792	14012	95	25	124	95	M20	124	2.9
5	3550	3150	4 3/8	1	5 1/2	4 3/8	7/8	5 1/2	7.4
125	15792	14012	111	25	140	111	M20	140	3.4
6	4900	4350	5 3/8	1 1/8	6 3/4	5 3/8	1	6 3/4	14.0
150	21797	19351	137	29	171	137	M24	171	6.4
8	4900	4350	6 3/4	1 1/8	8 1/8	6 3/4	1	8 1/8	16.4
200	21797	19351	171	29	206	171	M24	206	7.4
10	6000	5400	7 5/8	1 1/4	9 1/8	7 3/4	1 1/4	9	25.3
250	26690	24021	194	32	232	197	M30	229	11.5
12	8700	7750	9 1/4	1 5/8	11 3/8	9 1/2	1 1/2	11 1/8	44.1
300	38701	34475	235	41	289	241	M36	283	20.0
14	9150	8150	9 3/4	1 5/8	11 7/8	10	1 1/2	11 5/8	58.8
350	40703	36254	248	41	302	254	M36	295	26.7
16	9150	8150	11	1 5/8	12 7/8	11	1 1/2	12 7/8	64.1
400	40703	----------	279	41	327	279	M36	327	29.1
18	13800	----------	14 1/2	3	17 1/4	14 1/2	2	17 1/4	126
450	61388	----------	368	76	438	368	M48	438	57.3
20	15300	----------	16	3	18 3/4	16	2	18 3/4	150
500	68060	----------	406	76	476	406	M48	476	68.0
24	16300	----------	18 1/2	3 1/4	21 1/2	18 1/2	2 1/4	21 1/2	211
600	72509	----------	470	83	546	470	M56	546	95.5
28	18000	----------	21 1/2	3 1/4	21 1/2	18 1/2	2 1/4	21 1/2	303
700	80071	----------	546	83	546	470	M56	546	137
30	20500	----------	22 1/2	3 1/2	26	22 1/2	2 1/2	26	369
750	91192	----------	572	89	660	572	M64	660	167
32	23750	----------	23 1/4	3 1/2	26 3/4	23 1/4	2 1/2	26 3/4	416
800	105649	----------	591	89	679	591	M64	679	189
34	25000	----------	24 3/4	3 1/2	28 1/4	24 3/4	2 1/2	28 1/4	518
860	111210	----------	629	89	718	629	M64	718	235
36	28000	----------	26 1/2	3 1/2	30 1/4	26 1/2	2 3/4	30 1/4	575
900	124555	----------	673	89	768	673	M72	768	261
42	35000	----------	29 1/2	3 1/2	33 1/4	29 1/2	2 3/4	33 1/4	944
1000	155694	----------	749	89	845	749	M72	845	428

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

THREE BOLT PIPE CLAMP

Figure 304

The Figure 304 is designed for hot, insulated, pipe lines.

Typically, the clamp is attached by a Welded Eye Rod, (Figure 93) or a Weldless Eyenut, (Figure 279). Please see our Figure 91 for higher load ratings, and our Figure 304Z for higher operating temperatures. We can, also, provide any special pipe clamp requirements, you may have.

Material: Carbon Steel.

Maximum Temperature: Plain 750º F (399º C) Hot-Dip Galvanized 450º F (232º C)

Compliance: Federal Specification A-A-1191A (Type 3), ANSI/MSS SP-58 (Type 3)

Finish: Plain, Painted, Hot-Dip Galvanized with Electro-Galvanized Bolts and Nuts

Ordering: Specify pipe size, figure number and finish.
For Metric applications specify Figure M304

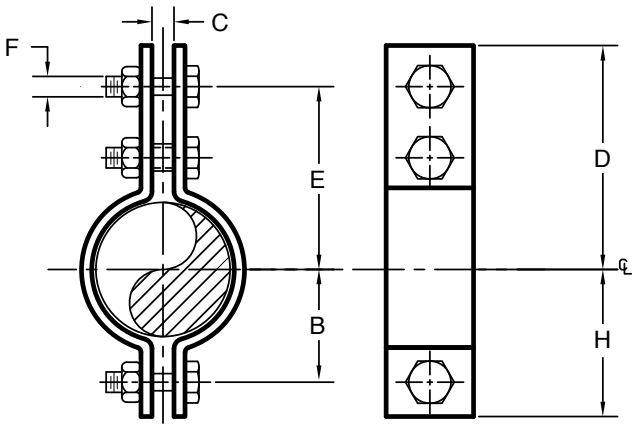


FIGURE 304 - THREE BOLT PIPE CLAMP

PIPE SIZE	MAXIMUM LOAD 650º F 343º C	MAXIMUM LOAD 750º F 399º C	B	C	D	TAKE OUT E	F	H	WEIGHT EA
1/2	950	845	1	5/8	2 7/8	2 1/4	3/8	1 5/8	0.61
15	4226	3759	25	16	73	57	M10	41	0.28
3/4	950	845	1 1/8	5/8	3 1/4	2 1/2	3/8	1 3/4	0.66
20	4226	3759	29	16	83	64	M10	44	0.30
1	950	845	1 1/2	5/8	3 1/4	2 1/2	3/8	2 1/8	0.69
25	4226	3759	38	16	83	64	M10	54	0.31
1 1/4	950	845	1 1/2	3/4	3 5/8	2 7/8	3/8	2 1/4	0.75
32	4226	3759	38	19	92	73	M10	57	0.34
1 1/2	1545	1380	1 3/4	1	4 7/8	4 1/8	5/8	2 3/8	2.14
40	6873	6139	44	25	124	105	M16	60	0.97
2	1545	1380	2 1/8	1	5 7/8	5 1/8	5/8	2 3/4	2.43
50	6873	6139	54	25	149	130	M16	70	1.10
2 1/2	1545	1380	2 1/4	1 1/8	6 1/8	5 3/8	5/8	3	2.92
65	6873	6139	57	29	156	137	M16	76	1.32
3	1545	1380	2 3/4	1 1/8	6 5/8	6	5/8	3 3/8	3.19
80	6873	6139	70	29	168	152	M16	86	1.45
4	2500	2230	3 1/2	1	7 5/8	6 1/2	3/4	4 5/8	7.12
100	11121	9920	89	25	194	165	M20	117	3.23
5	2500	2230	4	1	8 1/8	7	3/4	5 1/8	7.96
125	11121	9920	102	29	206	178	M20	130	3.61
6	2865	2555	4 3/4	1 1/4	9 5/8	8 1/4	7/8	6 1/8	11.9
150	12745	11366	121	32	244	210	M20	156	5.38
8	2865	2555	5 3/4	1 1/4	10 5/8	9 1/4	7/8	7 1/8	13.6
200	12745	11366	146	32	270	235	M20	181	6.16
10	3240	2890	6 7/8	1 1/4	12	10 1/2	1	8 1/4	21.3
250	14413	12856	175	32	305	267	M24	210	9.68
12	3240	2890	8 3/8	1 1/2	13	11 1/2	1	9 7/8	23.7
300	14413	12856	213	38	330	292	M24	251	10.7
14	4300	3835	9 1/8	2	14 3/8	12 3/4	1 1/4	10 3/4	38.8
350	19128	17060	232	51	365	324	M30	273	17.6
16	4300	3835	10 1/8	2	15 5/8	14	1 1/4	11 3/4	42.9
400	19128	17060	257	51	397	356	M30	298	19.5
18	4300	3835	11 5/8	2	16 3/4	15 1/8	1 1/4	13 1/4	46.4
450	19128	17060	295	51	425	384	M30	337	21.0
20	4500	4015	12 3/8	2	18	16 1/8	1 3/8	14 1/4	58.7
500	20018	17860	314	51	457	410	M36	362	26.6
24	5490	4900	14 3/4	2	19 7/8	17 7/8	1 1/2	16 3/8	89.3
600	24422	21797	375	51	505	454	M36	416	40.5
30	7500	6690	18 1/2	1 1/2	26 3/8	23 3/8	1 1/2	21	141
750	33363	29760	470	38	670	594	M36	533	63.9
36	10500	9360	22 1/2	3	32 1/4	28 3/4	1 3/4	26	246
900	46708	41637	572	76	819	730	M42	660	112

ALLOY THREE BOLT PIPE CLAMP

Figure 304Z

The Figure 304Z is designed for hot insulated pipelines. The spacer on the top inner bolt provides uniform gap for the connecting eyerod or weldless eyenut. See Figure 91Z for higher load ratings.

Temperature Range: 750º F (399º C) to 1050º F (566º C)

Material: Chrome Molybdenum Steel, ASTM A-387 Grade 22

Compliance: Federal Specification A-A-1192A (Type 3), ANSI/ MSS SP-58 (Type 3)

Finish: Plain

Ordering: Specify pipe size and figure number.
For Metric applications, specify Figure M304Z.

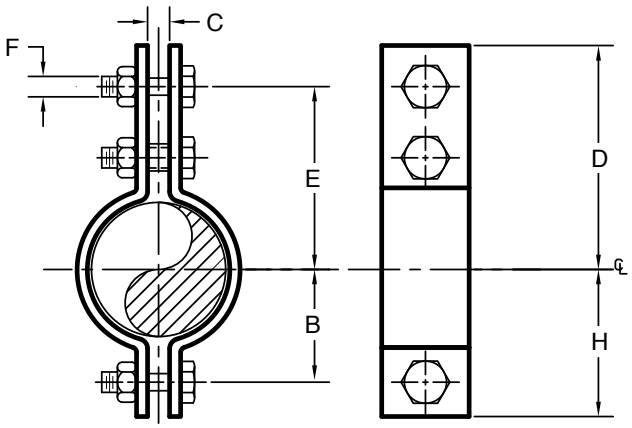


FIGURE 304Z - ALLOY THREE BOLT PIPE CLAMP

PIPE SIZE	MAXIMUM LOAD 950 F 510 C	MAXIMUM LOAD 1000 F 538 C	MAXIMUM LOAD 1050 F 566 C	B	C	D	TAKE OUT E	F	H	WEIGHT EA
1 1/2	1400	1000	700	1 3/4	1	4 7/8	4 1/8	5/8	2 3/8	2.48
40	6228	4448	3114	44	25	124	105	M16	60	1.12
2	1400	1000	700	2 1/8	1	5 7/8	5 1/8	5/8	2 3/4	2.70
50	6228	4448	3114	54	25	149	130	M16	70	1.22
2 1/2	1400	1000	700	2 1/4	1	6 1/8	5 3/8	5/8	3	2.76
65	6228	4448	3114	57	25	156	137	M16	76	1.25
3	1400	1000	700	2 7/8	1	6 3/4	6	5/8	3 1/2	3.19
80	6228	4448	3114	73	25	171	152	M16	89	1.45
4	2300	1600	1100	3 1/2	1	7 5/8	6 1/2	3/4	4 5/8	7.30
100	10231	7117	4893	89	25	194	165	M20	117	3.31
5	2300	1600	1100	4	1	8 1/8	7	3/4	5 1/8	7.96
125	10231	7117	4893	102	25	206	178	M20	130	3.61
6	2600	1800	1300	4 3/4	1 1/4	9 5/8	8 1/4	7/8	6 1/8	12.26
150	11566	8007	5783	121	32	244	210	M20	156	5.56
8	2600	1800	1300	5 3/4	1 1/4	11	9 5/8	7/8	7 1/8	14.04
200	11566	8007	5783	146	32	279	244	M20	181	6.37
10	3000	2100	1500	6 7/8	1 1/4	12	10 1/2	1	8 1/4	21.33
250	13345	9342	6673	175	32	305	267	M24	210	9.68
12	3000	2100	1500	8 3/8	1 1/2	13 1/8	11 5/8	1	9 7/8	24.0
300	13345	9342	6673	213	38	333	295	M24	251	10.89
14	3900	2800	2000	9 1/8	1 1/4	14 3/8	12 3/4	1 1/4	10 3/4	38.8
350	17349	12456	8897	232	32	365	324	M30	273	17.59
16	3900	2800	2000	10 3/8	2	15 5/8	14	1 1/4	11 7/8	43.1
400	17349	12456	8897	264	51	397	356	M30	302	19.56
18	39	2800	2000	11 5/8	2	16 3/4	15 1/8	1 1/4	13 1/4	47.8
450	173	12456	8897	295	51	425	384	M30	337	21.67
20	5000	3200	2000	12 3/8	2	17 3/4	15 7/8	1 3/8	14	58.7
500	22242	14235	8897	314	51	451	403	M35	356	26.61
24	5500	3500	2700	14 5/8	1 1/2	19 5/8	17 7/8	1 3/8	16 1/4	90.8
600	24466	15569	12011	371	38	498	454	M35	413	41.20

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

HEAVY DUTY THREE BOLT PIPE CLAMP

Figure 91

The Figure 91 is designed for insulated piping with heavy loads. Typically, the clamp is attached by a Weldless Eyenut, (Figure 279) or a Welded Eyerod, (Figure 93). The spacer on the top inner bolt provides a uniform gap for the connecting attachment hardware.

Material: Carbon Steel.

Maximum Temperature: Plain 750º F (399º C) Hot-Dip Galvanized 450º F (232º C)
Please see our Figure 91Z for high loads, and temperatures over 750ºF (399ºC).

Compliance: Federal Specification A-A-1192A (Type 3), ANSI/ MSS SP-58 (Type 3)

Finish: Plain, Painted, Hot-Dip Galvanized.

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M91.

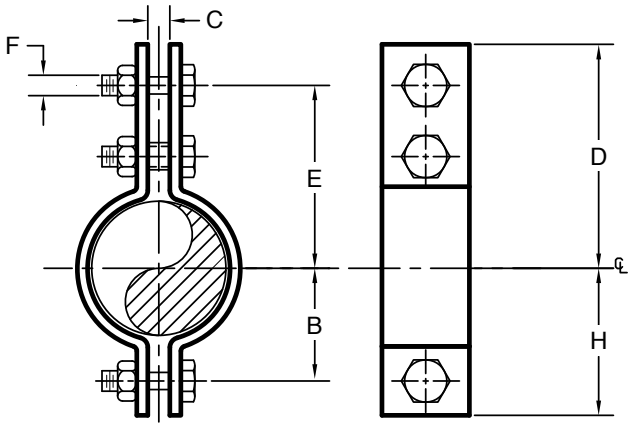


FIGURE 91 - HEAVY DUTY THREE BOLT PIPE CLAMP

PIPE SIZE	MAXIMUM LOAD 650 F 343 C	MAXIMUM LOAD 750 F 399 C	B	C	D	TAKE OUT E	F	H	WEIGHT EA
6	3500	3125	4 3/4	1 3/4	10 1/4	9	1	6	14.3
150	15569	13901	121	44	260	229	M24	152	6.47
8	4800	4285	6 1/8	2	11 3/8	10 1/8	1 1/8	7 3/8	22.2
200	21352	19061	156	51	289	257	M30	187	10.07
10	5500	4910	7 3/8	2 1/4	13 1/8	11 3/8	1 1/4	9 1/8	35.1
250	24466	21842	187	57	333	289	M30	232	15.92
12	7000	6250	8 7/8	2 1/2	14 7/8	12 7/8	1 1/2	10 7/8	58.1
300	31139	27802	225	64	378	327	M36	276	26.35
14	9500	8485	10	2 1/2	15 5/8	13 5/8	1 1/2	12	71.3
350	42260	37745	254	64	397	346	M36	305	32.35
16	10000	8930	10 7/8	3	17 1/8	14 7/8	1 3/4	13 1/8	106
400	44484	39724	276	76	435	378	M42	333	47.98
18	13800	12325	12 1/2	3 1/2	19 3/4	17 1/4	2	15	154
450	61388	54827	318	89	502	438	M48	381	69.73
20	15300	13665	13 1/2	3 1/2	20 3/4	18 1/4	2	16	176
500	68060	60787	343	89	527	464	M48	406	80.02
24	16300	14555	16	3 1/2	23 1/4	20 1/4	2	19	237
600	72509	64746	406	89	591	514	M48	483	107.51
30	20500	18300	19 7/8	4 1/4	32 3/4	28 1/4	2 1/4	24 3/8	388
750	91192	81406	505	108	832	718	M56	619	176.16
36	28000	…….	24 3/4	4 1/2	40 3/8	34 7/8	2 3/4	30 1/4	678
900	124555	…….	629	114	1026	886	M72	768	307.54

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

HEAVY ALLOY THREE BOLT PIPE CLAMP

Figure 91Z

The Figure 91Z is designed to accommodate higher loads than the Figure 304Z for use on insulated alloy piping. The spacer on the top inner bolt provides uniform space for the connecting eyerod or weldless eyenut.

Material: Chrome Molybdenum Steel ASTM A-387 Grade 22

Operating Temperature Range: 750 F (399 C) to 1050 F (566 C)

Finish: Plain

Compliance: Federal Specification A-A-1192A (Type 3), ANSI/ MSS SP-58 (Type 3)

Ordering: Specify pipe size and figure number.
For Metric applications specify Figure M91Z.

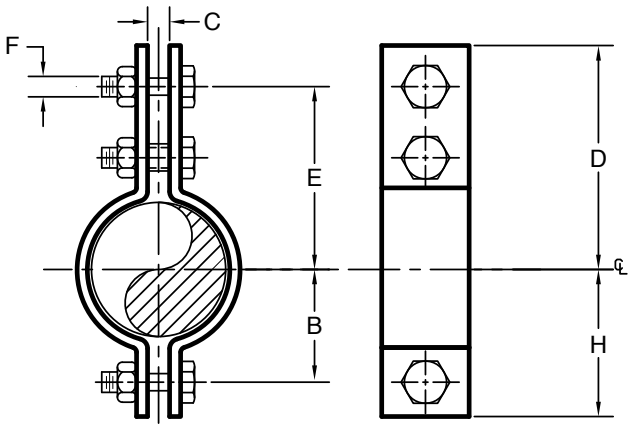


FIGURE 91Z - HEAVY ALLOY THREE BOLT PIPE CLAMP

PIPE SIZE	MAXIMUM LOAD 950º F 510º C	1000º F 538º C	1050º F 566º C	B	C	E	E	F	H	WEIGHT EA
6	7300	5200	3700	5 3/4	1 3/4	11 1/4	9	1 1/2	7 3/4	35
150	32473	23132	16459	146	44	286	229	M36	197	16
8	7300	5200	3700	6 5/8	1 3/4	12	10	1 1/2	8 3/8	38
200	32473	23132	16459	168	44	305	254	M36	213	17
10	10000	7200	5000	8 1/4	2	14 1/2	12	1 3/4	10 1/2	75
250	44484	32028	22242	210	51	368	305	M42	267	34
12	10000	7200	5000	9 3/8	2	15 1/2	13	1 3/4	11 5/8	77
300	44484	32028	22242	238	51	394	330	M42	295	35
14	11600	8300	6000	10 1/4	2 1/4	16 3/4	14	1 7/8	12 1/2	105
350	51601	36922	26690	260	57	425	356	M48	318	48
16	11600	8300	6000	11 1/4	2 1/4	17 3/4	15	1 7/8	13 1/2	108
400	51601	36922	26690	286	57	451	381	M48	343	49
18	11600	8300	6000	12 1/2	2 1/4	19 3/4	17 1/4	2	15	145
450	51601	36922	26690	318	57	502	438	M50	381	66
20	15000	10600	7500	13 3/4	2 1/4	21	18	2	16 1/4	155
500	66726	47153	33363	349	57	533	457	M50	413	70
24	15000	13000	9000	16	2 1/4	23	20	2	18 1/2	222
600	66726	57829	40036	406	57	584	508	M50	470	101
30	15000	13000	9000	19	2 1/4	28	25	2	21 1/2	293
750	66726	57829	40036	483	57	711	635	M50	546	133
36	15000	13000	9000	22	2 1/4	31 1/2	28	2	24 1/2	331
900	66726	57829	40036	559	57	800	711	M50	622	150

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

STANDARD ALLOY YOKE CLAMP

Figure 134

The Figure 134 is recommended for the suspension of high temperature piping that requires up to 4 inches on insulation. Normally used with our Figure 279 Weldless Eyenut or Figure 93 Welded Eye Rod.

Material: Chrome molybdenum steel, except the U-Bolt which is stainless steel.

Maximum Temperature: 1050º F (566º C)

Finish: Plain

Compliance: Federal Specification A-A-1191A (Type 2), ANSI/MSS SP-58 (Type 2)

Ordering: Specify pipe size, and figure number. For Metric applications specify Figure M134.

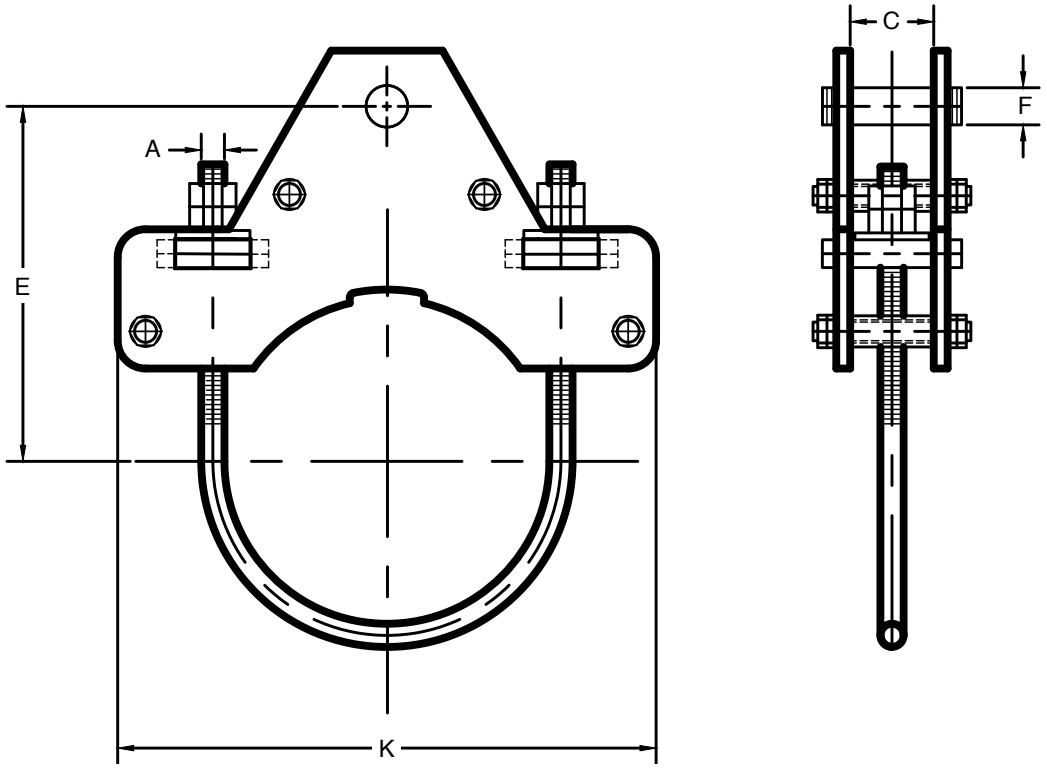


FIGURE 134 - STANDARD ALLOY YOKE CLAMP

PIPE SIZE	MAXIMUM LOAD 750º F 510º C	950º F 538º C	1000º F 566º C	1050º F 579º C	A	C	D	E	F	K	WEIGHT EA
4	3780	3300	2770	1890	5/8	1 3/4	3 3/4	6 3/4	7/8	8 1/2	8.5
100	16815	14680	12322	8407	M16	44	95	171	22	216	3.9
6	6060	5290	4440	3030	3/4	1 3/4	5	8 5/16	1	11 1/2	13.5
150	26957	23532	19751	13479	M20	44	127	211	25	292	6.1
8	6060	5290	4440	3030	3/4	1 3/4	6 1/4	9 5/8	1	13 1/2	18.4
200	26957	23532	19751	13479	M20	44	159	244	25	343	8.3
10	9060	7910	6640	4420	7/8	2 1/4	6 3/4	10 7/8	1 1/8	16	38.8
250	40302	35187	29537	19662	M20	57	171	276	29	406	17.6
12	12570	10980	9015	6010	1	2 1/4	8	12 7/8	1 1/2	19	54.4
300	55916	48843	40102	26735	M25	57	203	327	38	483	24.7
14	12570	10980	9015	6010	1	2 1/4	9	13 7/8	1 1/2	20	61.0
350	55916	48843	40102	26735	M25	57	229	352	38	508	27.7
16	12570	10980	9015	6010	1	2 1/4	9 1/2	15	1 1/2	22	70.4
400	55916	48843	40102	26735	M25	57	241	381	38	559	31.9

Note: Over tightening the U-Bolt to the pipe may reduce the maximum Load value.

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

HEAVY DUTY ALLOY YOKE CLAMP

Figure 246

The Figure 246 is recommended for the suspension of heavy loads on high temperature piping that requires up to 6 inches on insulation. An alloy steel load distribution strap is provided. Normally used with our Figure 279 Weldless Eyenut or Figure 5308 Rod with Eye.

Material: Chrome molybdenum steel, except the U-Bolt which is stainless steel.

Maximum Temperature: Plain 1075º F (579º C)

Finish: Plain

Compliance: Federal Specification A-A-1191A (Type 2), ANSI/MSS SP-58 (Type 2)

Ordering: Specify pipe size, and figure number. For Metric applications specify Figure M246

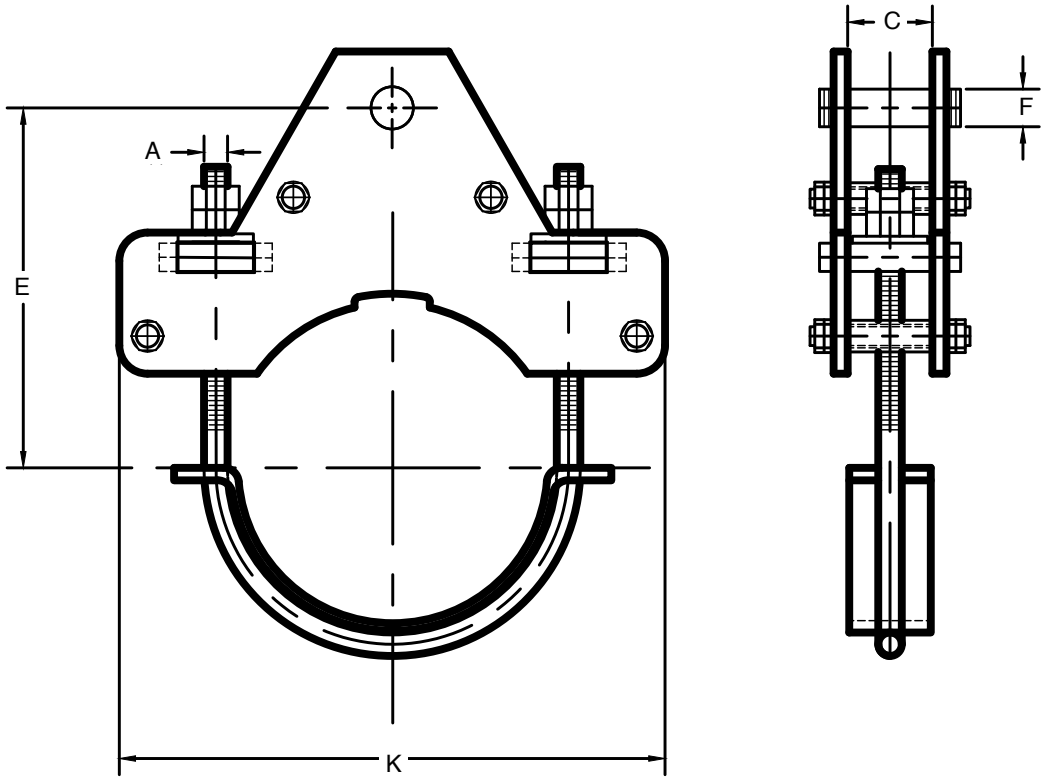


FIGURE 246 - HEAVY DUTY ALLOY YOKE CLAMP

PIPE SIZE	USED ON O.D. PIPE SIZES	MAXIMUM LOAD 950º F 510º C	1000º F 538º C	1050º F 566º C	1075º F 579º C	A	C	D	E	F	K	WEIGHT EA
10	8 3/4- 10 13/16	10000	7200	5000	6120	1 1/8	2	9 1/8	12	1 1/2	15 3/8	66
250	222 - 275	44484	32028	22242	27224	M29	51	232	305	M36	391	30
12	10 7/8 - 12 13/16	10000	7200	5000	7750	1 1/4	2 1/4	10 3/4	13 3/4	1 5/8	17 7/8	101
300	276 - 325	44484	32028	22242	34475	M32	57	273	349	M42	454	46
14	12 7/8 - 14 1/16	11600	8300	6000	7750	1 1/4	2 1/4	11 1/2	14 1/2	1 5/8	19 1/8	117
350	327 - 357	51601	36922	26690	34475	M32	57	292	368	M42	486	53
16	14 1/8 -16 1/16	11600	8300	6000	7750	1 1/4	2 1/4	13 1/8	16 3/8	1 5/8	21 1/8	136
400	359 - 408	51601	36922	26690	34475	M32	57	333	416	M42	537	62
18	16 1/8 - 18 1/16	11600	8300	6000	9570	1 1/4	2 1/2	14 1/2	18 1/4	2	24 1/8	172
450	410 - 459	51601	36922	26690	42571	M32	64	368	464	M50	613	78
20	18 1/8 - 20 1/16	15000	10600	7500	9570	1 1/4	2 1/2	15 3/4	19 1/2	2	26 1/8	203
500	460 - 510	66726	47153	33363	42571	M32	64	400	495	M50	664	92
24	20 1/8 - 24 1/16	15000	13000	9000	11580	1 1/2	3	18 1/4	22	2 1/4	30 3/4	261
600	511 - 611	66726	57829	40036	51512	M38	76	464	559	M56	781	118

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

UNDERGROUND PIPE CLAMP

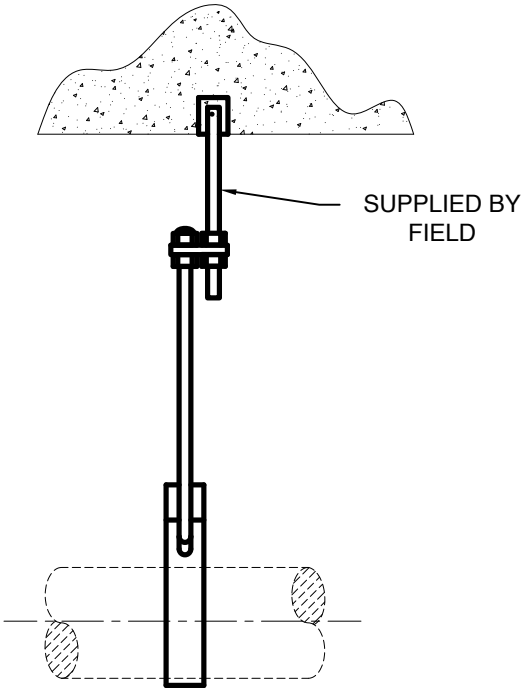
Figure SSUGS (Short Length)

Figure SSUGL (Long Length)

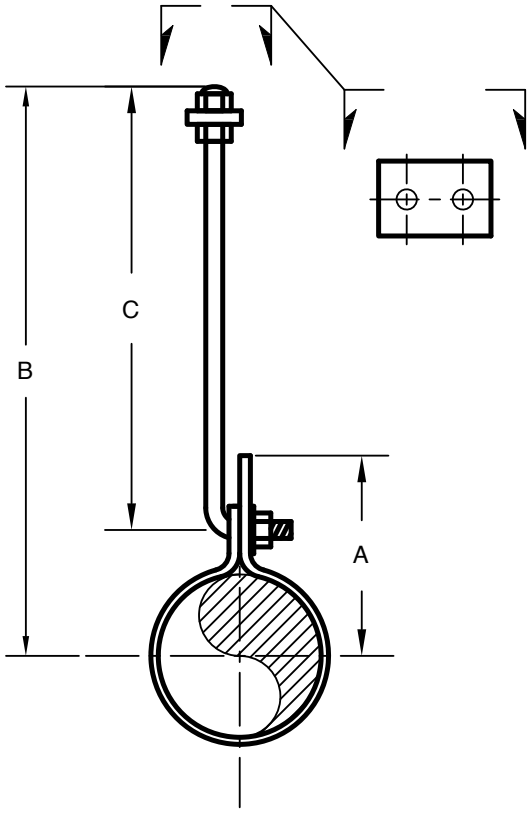
Designed to provide support to piping under concrete slabs and timber frame construction. Also used when repairing underground piping due to soil subsidence.

Material: Type 304 or Type 316 Stainless Steel

Ordering: Specify pipe size, Figure Number and type of stainless steel



TYPICAL
INSTALLATION



UNDERGROUND PIPE CLAMP

	FIGURE SSUGS				FIGURE SSUGL			
PIPE SIZE	A	B	C	WEIGHT	A	B	C	WEIGHT
2	6 5/8	10 3/16	4 3/8	1.55	6 5/8	13 13/16	8	1.63
50	168	259	111	0.70	168	351	203	0.74
3	7 3/4	10 3/4	4 3/8	1.68	7 3/4	14 3/8	8	1.76
80	197	273	111	0.76	197	365	203	0.80
4	8 3/4	11 1/4	4 3/8	1.78	8 3/4	14 7/8	8	1.86
100	222	286	111	0.81	222	378	203	0.84
6	10 7/8	12 5/16	4 3/8	2.03	10 7/8	15 15/16	8	2.11
150	276	313	111	0.92	276	405	203	0.96
8	-----	-----	-----	-----	12 7/8	16 15/16	8	2.33
200	-----	-----	-----	-----	327	430	203	1.06

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

UNDERGROUND PIPE CLAMP

Figure SSUGN (for New Construction)

Designed to be installed prior to floor slab concrete pour for support of piping under grade. Rod length allows for height adjustment. Longer lengths are available on request. Connecting rod is not threaded.

Material: Type 304 or Type 316 Stainless Steel

Ordering: Specify pipe size, Figure Number and type of Stainless Steel

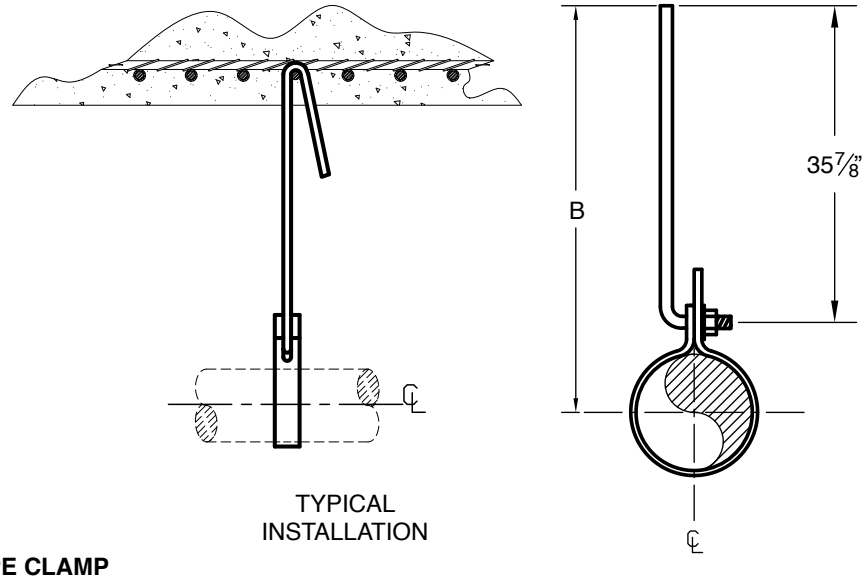


FIGURE SSUGN - UNDERGROUND PIPE CLAMP

PIPE SIZE	FOR NEW CONSTRUCTION		
	A	B	WEIGH
2	6 5/8	38 3/16	1.43
50	168	970	0.65
3	7 3/4	38 3/4	1.56
80	197	984	0.71
4	8 3/4	39 1/4	1.66
100	222	997	0.75
6	10 7/8	40 5/16	1.91
150	276	1024	0.87
8	12 7/8	41 5/16	2.13
200	327	1049	0.97
10	15	42 3/8	2.36
250	381	1076	1.07

UNDERGROUND PIPE STRAP

Figure SSUGC

Designed to be installed prior to floor slab concrete pour for support of piping under grade with close fit to slab. Also used for close fit when repairing underground piping due to soil subsidence.

Material: Type 304 Stainless Steel

Ordering: Specify pipe size, and Figure Number

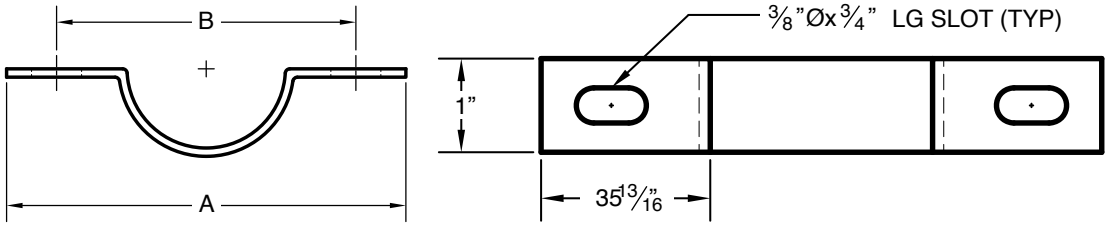


FIGURE SSUGC - UNDERGROUND PIPE STRAP

PIPE SIZE	A	B	WEIGHT
2	6	4 1/2	0.24
50	152	114	0.11
3	7 1/8	5 5/8	0.31
80	181	143	0.14
4	7 3/4	6 1/2	0.35
100	197	165	0.16
6	10 1/4	8 3/4	0.49
150	260	222	0.22

FOUR BOLT RISER CLAMP

Figure 124

This product is designed to support vertical piping by resting on shear lugs welded to the pipe. Shear lugs are not included, and must be ordered separately, if needed.

The stated Maximum Loads are based upon the use of the clamp as a rigid support. Use of the clamp with Spring units will double the given Maximum Loads.

For your Riser Clamp requirements that are not covered by this product, please contact us to discuss your application needs.

Material: Carbon Steel

Maximum Temperature: Plain 650° F (343° C) Hot-Dip Galvanized 450° F (232° C)

Finish: Palin, Painted, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1191A (Type 42), ANSI/MSS SP-58 (Type 42)

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M124.

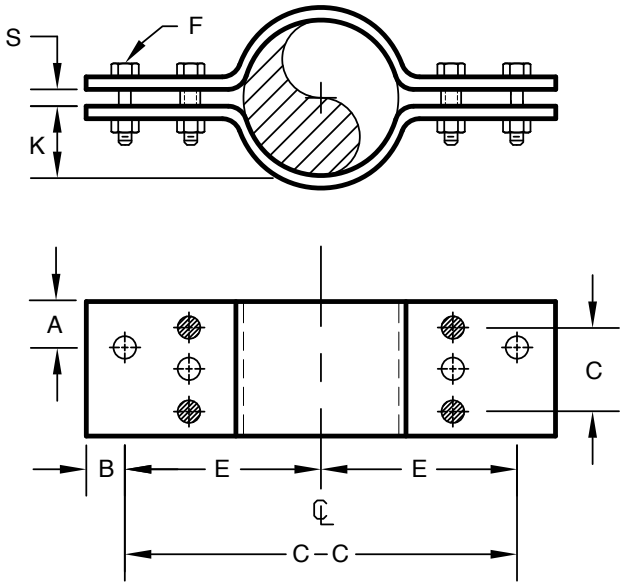


FIGURE 124 FOUR BOLT RISER CLAMP

PIPE SIZE	MAX LOAD	A	B	C	C - C	E	F	K	S	WEIGHT EA
2	900	1 1/4	2	-	18	9	1/2	3/16	3/4	17.5
50	4004	32	51	-	457	229	M12	5	19	7.9
2 1/2	900	1 1/4	2	-	20	10	1/2	1 1/16	3/4	19.1
65	4004	32	51	-	508	254	M12	27	19	8.7
3	1500	1 1/2	2	-	20	10	5/8	1 3/8	3/4	29.4
80	6673	38	51	-	508	254	M16	35	19	13.3
4	2200	1 1/2	2	-	22	11	3/4	1 7/8	3/4	38.5
100	9786	38	51	-	559	279	M20	48	19	17.5
5	2200	3/4	2	-	22	11	3/4	2 3/8	3/4	43.2
125	9786	19	51	-	559	279	M20	60	19	19.6
6	3000	7/8	2	-	24	12	7/8	2 13/16	1	56.8
150	13345	22	51	-	610	305	M20	71	25	25.8
8	3000	7/8	2	-	27	13 1/2	7/8	3 13/16	1	79.2
200	13345	22	51	-	686	343	M20	97	25	35.9
10	5500	1 1/4	2	-	30	15	1 1/4	4 5/8	1 1/2	143
250	24466	32	51	-	762	381	M32	117	38	65.0
12	7800	1 3/8	2 1/2	-	32	16	1 1/2	5 1/2	1 3/4	184
300	34698	35	64	-	813	406	M38	140	44	83.3
14	7800	1 3/8	2 1/2	-	34	17	1 1/2	6 1/8	1 3/4	195
350	34698	35	64	-	864	432	M38	156	44	88.2
16	9000	1 1/2	2 1/2	-	36	18	1 1/2	7	2	225
400	40036	38	64	-	914	457	M38	178	51	102
18	9000	1 1/2	2 1/2	-	39	19 1/2	1 1/2	8	2	281
450	40036	38	64	-	991	495	M38	203	51	127
20	13500	1 7/8	3	4	42	21	2	8 3/4	2 1/2	429
500	60053	48	76	102	1067	533	M50	222	64	195
24	13500	1 7/8	3	4	45	22 1/2	2	10 3/4	2 1/2	465
600	60053	48	76	102	1143	572	M50	273	64	211

* For Carbon Steel only. Maximum Load for Stainless Steel is 20% less.

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

EXTENSION RISER CLAMP

Figure 126

The Figure 126 is for the support or steadying of vertical pipe risers. It is designed to hold tight to the pipe, transmitting the load to the structure through the ears on each end. When possible the clamp should be placed under a coupling, hub, or lugs, welded to the pipe.

Note: This product is not designed to be supported with hanger rods. Install using the maximum recommended torque value per industry standards shown in the Catalog Technical Section. Do not over-tighten the bolts.

Material: Carbon Steel

Maximum Temperatures: Plain 650° F (343° C) Hot-Dip Galvanized 450° F (232° C) and PVC is 140° F (60° C).

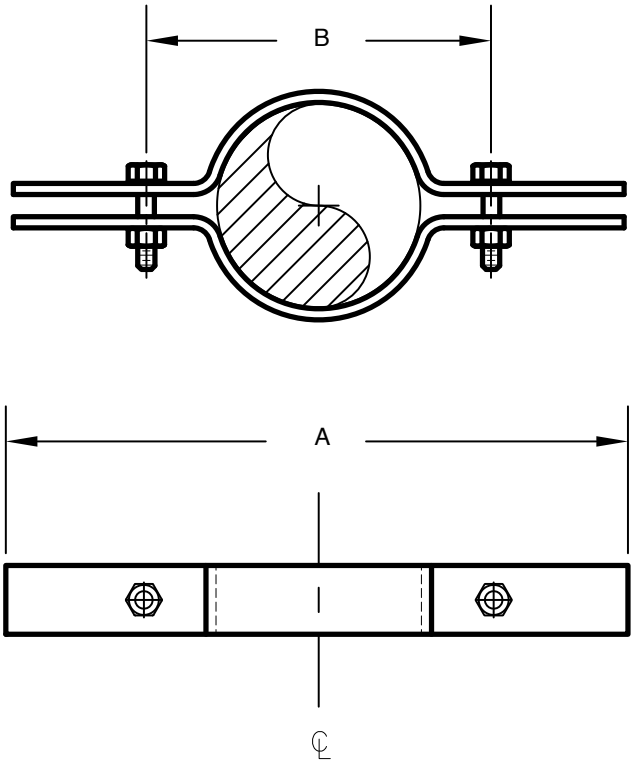
Compliance: Federal Specification A-A-1192A (Type 8), ANSI/MSS SP-58 (Type 8)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized. The PVC Coating is limited to the formed area of the clamp.

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M126 or M126 PVC.

FIGURE 126 - EXTENSION RISER CLAMP

PIPE SIZE	MAX LOAD	A	B	WEIGHT EA
1/2	220	9	2 1/2	1.00
15	979	229	64	0.45
3/4	220	9 3/8	2 7/8	1.08
20	979	238	73	0.49
1	220	9 5/8	3 1/8	1.08
25	979	244	79	0.49
1 1/4	250	10	3 1/2	1.86
32	1112	254	89	0.84
1 1/2	250	10 1/4	3 3/4	1.22
40	1112	260	95	0.55
2	300	10 3/4	4 1/4	1.30
50	1335	6613	2419	0.59
2 1/2	400	11 1/4	4 3/4	1.74
65	1779	286	121	0.79
3	500	11 1/2	5 1/2	1.98
80	2224	292	140	0.90
3 1/2	600	12 1/2	6 1/2	2.14
90	2669	318	165	0.97
4	750	12 7/8	7 1/8	2.28
100	3336	327	181	1.03
5	1500	13 3/4	8	3.60
125	6673	349	203	1.63
6	1600	14 3/4	8 3/4	3.68
150	7117	375	222	1.67
8	2500	18 1/2	12 1/2	7.26
200	11121	470	318	3.29
10	2500	20 3/4	14 3/4	11.00
250	11121	527	375	4.99
12	2700	22 3/4	16 3/4	15.94
300	12011	578	425	7.23
14	2700	24	18	17.36
350	12011	610	457	7.87
16	2900	26 1/2	20 1/2	29.68
400	12900	673	521	13.46
18	2900	28	23 1/2	31.64
450	12900	711	597	14.35
20	2900	30	25	34.84
500	12900	762	635	15.80
24	2900	34	29	50.00
600	12900	864	737	22.68
30	2900	40	35	63.00
750	12900	1016	889	28.58



COPPER TUBING RISER CLAMP

Figure 126 CE

The Figure 126 CE is normally used for the support of uninsulated vertical copper tubing where no movement will occur. Please use our Figure 126 for carbon steel piping or Figure 126 PVC for plastic coated requirements.

Note: This product is not designed to be supported with hanger rods. Install using the maximum recommended torque per industry standards as shown in the Catalog Technical Section. Do not over-tighten the bolts.

Material: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 8), ANSI/ MSS SP-58 (Type 8)

Finish: Copper Colored Epoxy

Ordering: Specify copper tubing size, and figure number. For Metric applications specify Figure Number M126 CE.

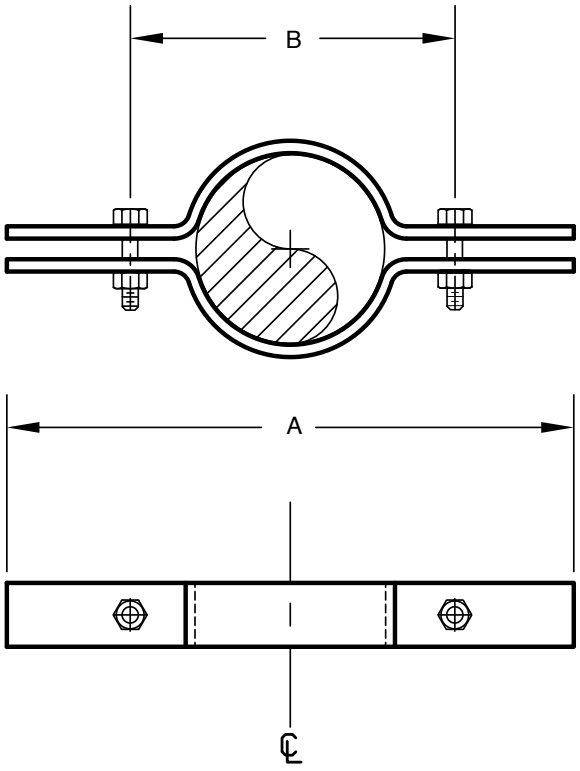


FIGURE 126 CE - COPPER TUBING RISER CLAMP

TUBE SIZE	MAX LOAD	BOLT SIZE	A	B	WEIGHT EA
1/2	75	1/4	6 11/16	1 5/8	0.50
15	334	M6	170	41	0.23
3/4	75	1/4	7	2	0.52
20	334	M6	178	51	0.24
1	120	1/4	8 3/4	2 1/4	0.64
25	534	M6	222	57	0.29
1 1/4	150	1/4	9	2 1/2	0.65
32	667	M6	229	64	0.29
1 1/2	150	1/4	9 3/8	2 7/8	0.70
40	667	M6	238	73	0.32
2	150	3/8	9 15/16	3 3/8	0.98
50	667	M10	252	86	0.44
2 1/2	300	3/8	10 1/2	4	1.09
65	1335	M10	267	102	0.49
3	300	3/8	11	4 1/2	1.17
80	1335	M10	279	114	0.53
4	300	3/8	12 7/8	5 5/8	1.67
100	1335	M10	327	143	0.76
5	500	1/2	14 1/8	7 1/4	2.42
125	2224	M12	359	184	1.10
6	500	1/2	15	8 1/8	2.68
150	2224	M12	381	206	1.22

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

PVC COATED RISER CLAMP

Figure 126 PVC

The Figure 126 PVC is normally used for the support of uninsulated vertical piping or steadying of vertical pipe risers, where no movement will occur. The PVC coating is limited to the formed area of the contact surface to the pipe and prevents galvanic corrosion with the pipe. When possible the clamp should be placed under a coupling, hub, or lugs, welded to the pipe.

The PVC coating is limited to the contact area of the pipe surface. A completely PVC coated Figure 126 is available, as a special order (the bolts and nuts will not be PVC coated).

Note: This product is not designed to be supported with hanger rods. Install using the maximum recommended torque values shown in the Technical Section of the Catalog. Do not over-tighten the bolts.

Material: Carbon Steel, Polyvinyl Chloride

Maximum Temperatures: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C) and PVC is 140º F (60º C).

Compliance: Federal Specification A-A-1192A (Type 8) ANSI/MSS SP-58 (Type 8)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized.

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M126 or M126 PVC.

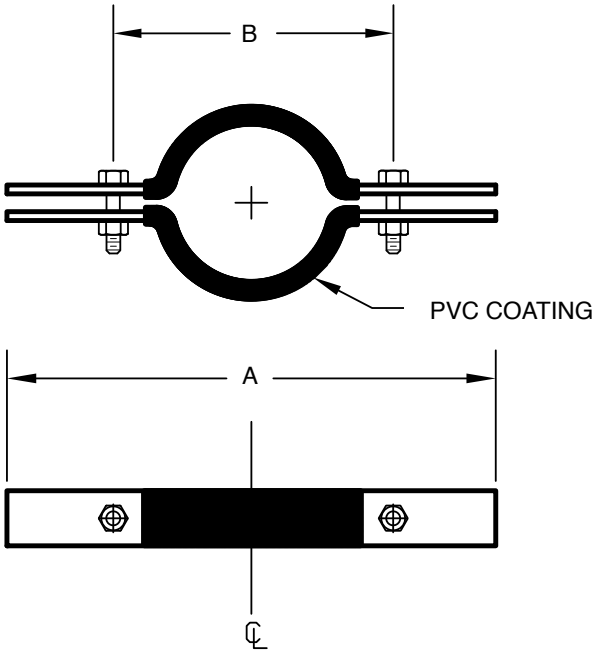


FIGURE 126 PVC - PVC COATED RISER CLAMP

PIPE SIZE	MAX LOAD	A	B	WEIGHT EA	
1/2	220	3/8	9 3/8	2 1/2	1.30
15	979	M10	238	64	0.59
3/4	220	3/8	9 3/8	2 7/8	1.36
20	979	M10	238	73	0.62
1	220	3/8	9 5/8	3 1/8	1.38
25	979	M10	244	79	0.63
1 1/4	250	3/8	10	3 1/2	1.95
32	1112	M10	254	89	0.88
1 1/2	250	3/8	10 3/8	3 3/4	2.01
40	1112	M10	264	95	0.91
2	300	3/8	10 3/4	4 1/4	2.17
50	1335	M10	6694	2419	0.98
2 1/2	400	3/8	11 1/4	4 3/4	2.29
65	1779	M10	286	121	1.04
3	500	3/8	11 1/2	5 1/2	2.50
80	2224	M10	292	140	1.13
4	750	1/2	12 7/8	7 1/8	3.42
100	3336	M12	327	181	1.55

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

LIGHT DUTY RISER CLAMP

Figure 126LD

Figure 126LD PVC (PVC Coated)

The Figure 126LD is designed for the support or steadying of vertical PVC pipe risers for DWV applications.. It is designed to hold tight to the pipe, transmitting the load to the structure through the ears on each end. When possible, the clamp should be placed under a pipe coupling, or hub.

Note: This product is not designed to be supported with hanger rods. Install using the maximum recommended torque value per industry standards shown in the Technical Section of the Catalog. Do not over-tighten the bolts.

The Figure 126LD PVC is completely PVC coated, except for the bolts and nuts which are Electro-Galvanized.

For heavier loads please see our Figure 126 or Figure 126 PVC.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C), PVC 140º F (60º C)

Finishes: Plain, Painted, Electro-Galvanized. Hot-Dip Galvanized

Approvals: Federal Specification A-A-1192A (Type 8), ANSI/ MSS SP-58 (Type 8)

Ordering: Specify pipe size, figure number, and finish.
For Metric applications prefix the Figure Number with an "M".

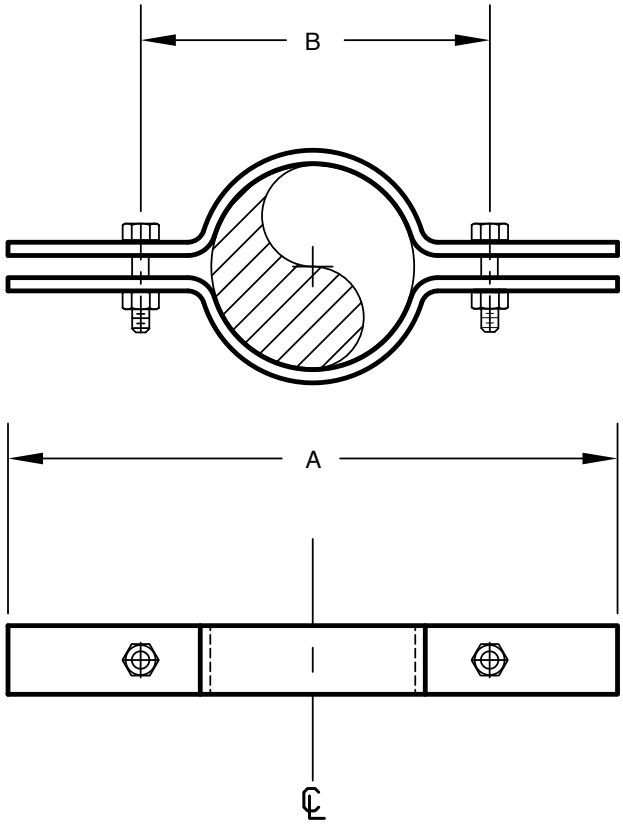


FIGURE 126LD - LIGHT DUTY RISER CLAMP
FIGURE 126LD PVC-PVC COATED LIGHT DUTY RISER CLAMP

PIPE SIZE	MAX LOAD	A	WEIGHT EA
1 1/2	225	5 3/4	0.62
40	1001	146	0.28
2	225	6 1/2	0.67
50	1001	3710	0.30
3	225	7 1/4	0.88
80	1001	184	0.40
4	225	8 1/2	1.01
100	1001	216	0.46

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

RISER CLAMP

Figure 89

The Figure 89 is normally used for the support of uninsulated vertical piping where no movement will occur. This product is not intended for use with hanger rods.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 8), ANSI/ MSS SP-58 (Type 8)

Ordering: Specify pipe size, figure number, and finish
For Metric applications specify Figure M89.

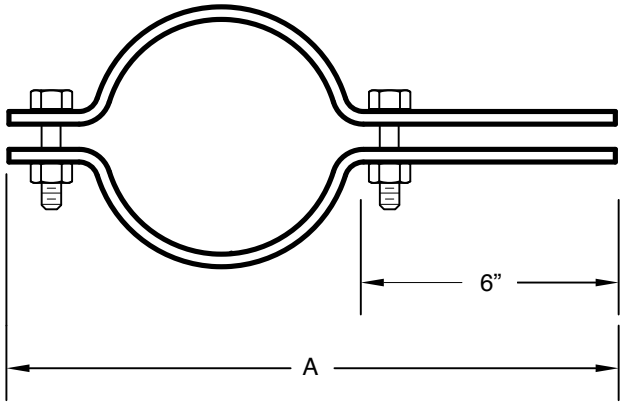


FIGURE 89 - RISER CLAMP

PIPE SIZE	MAX LOAD	A	WEIGHT EA
1/2	255	9 3/8	1.30
15	1134	238	0.59
3/4	255	9 3/8	1.36
20	1134	238	0.62
1	255	9 5/8	1.38
25	1134	244	0.63
1 1/4	255	10	1.95
32	1134	254	0.88
1 1/2	255	10 3/8	2.01
40	1134	264	0.91
2	255	10 3/4	2.17
50	1134	273	0.98
2 1/2	390	11 1/4	2.29
65	1735	286	1.04
3	530	12	2.50
80	2358	305	1.13
4	810	13 1/2	3.42
100	3603	343	1.55
5	1160	14 1/2	5.10
125	5160	368	2.31
6	1570	15 1/2	5.50
150	6984	394	2.49
8	2500	18 1/2	10.0
200	11121	470	4.54
10	2500	20 3/4	11.4
250	11121	527	5.17
12	2700	22 3/4	17.6
300	12011	578	7.98
14	2700	24	19.25
350	12011	610	8.73
16	2900	26	32.5
400	12900	660	14.7
18	2900	28	33.8
450	12900	711	15.3
20	2900	30	35.0
500	12900	762	15.88

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

STANDARD U-BOLT

Figure 283

Figure 283 PVC

Our standard U-Bolts are recommended for use as supports or guides for piping. They are supplied with four hex nuts.

The Figure 283 PVC is for support of piping where steel contact with the pipe is not desired. The pipe contact area of the U-bolt is PVC coated.

Side Loaded U-Bolts must be firmly installed with one hex nut above and one below the attachment point of each leg of the U-bolt, with snug fit.

The Maximum Side Load of the Figure 283 at 650ºF for Pipe Sizes ½" through 10" is 25% of the Maximum Rated Load and 22% of the Maximum Rated Load for Pipe Sizes 12" through 16".

Maximum Temperature: Plain 750º F (399º C), Hot-Dip Galvanized 450º F (232º C), PVC 140º F (60º C)

Materials: Carbon Steel, (PVC) Polyvinyl Chloride

Compliance: Federal Specification A-A-1192A (Type 24), ANSI/ MSS SP 58 (Type 24)

Finishes: Plain, Electro-Galvanized, Hot-Dip Galvanized
(Rod Size 1/4" cannot be Hot-Dip Galvanized)
Hot-Dip Galvanized U-Bolts will come with oversized hex nuts.

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M283 of M283 PVC

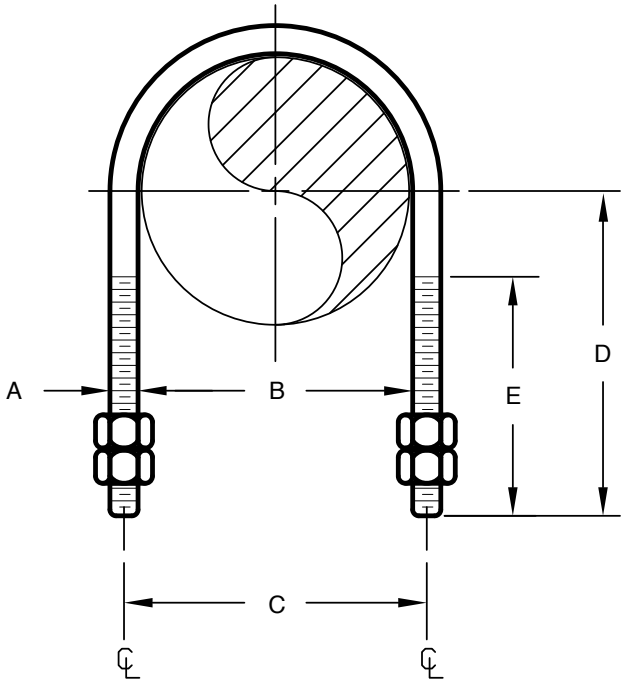


FIGURE 283 - FIGURE 283 PVC U-BOLT

PIPE SIZE	MAXIMUM LOAD		STOCK SIZE A	B	C	D	E	WEIGHT EA
	650 F / 343 C	750 F / 399 C						
1/2	580	454	1/4	15/16	1 1/8	2 3/4	2 1/8	0.11
15	2580	2020	M6	24	29	70	54	0.05
3/4	580	454	1/4	1 1/8	1 3/8	2 3/4	2 1/8	0.12
20	2580	2020	M6	29	35	70	54	0.05
1	580	454	1/4	1 3/8	1 5/8	2 3/4	2 1/8	0.12
25	2580	2020	M6	35	41	70	54	0.05
1 1/4	1460	1144	3/8	1 11/16	2 1/8	2 7/8	2 1/8	0.28
32	6495	5089	M10	43	54	73	54	0.13
1 1/2	1460	1144	3/8	2	2 3/8	3	2 1/2	0.30
40	6495	5089	M10	51	60	76	64	0.14
2	1460	1144	3/8	2 1/2	2 7/8	3 1/4	2 1/2	0.33
50	1460	1144	M10	64	73	83	64	0.15
2 1/2	2700	2114	1/2	3	3 1/2	3 3/4	3	0.70
65	12011	9404	M12	76	89	95	76	0.32
3	2700	2114	1/2	3 5/8	4 1/8	4	3	0.78
80	12011	9404	M12	92	105	102	76	0.35
3 1/2	2700	2114	1/2	4 1/8	4 5/8	4 1/4	3	0.84
90	12011	9404	M12	105	117	108	76	0.38
4	2700	2114	1/2	4 5/8	5 1/8	4 1/2	3	0.90
100	12011	9404	M12	117	130	114	76	0.41
5	2700	2114	1/2	5 5/8	6 1/8	5	3	1.04
125	12011	9404	M12	143	156	127	76	0.47
6	4320	3882	5/8	6 3/4	7 3/8	6 1/8	3 1/2	2.0
150	19217	17269	M16	171	187	156	89	0.91
8	4320	3882	5/8	8 3/4	9 3/8	7 1/8	3 1/2	2.3
200	19217	17269	M16	222	238	181	89	1.0

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

FIGURE 283 - FIGURE 283 PVC U-BOLT

PIPE SIZE	MAXIMUM LOAD		STOCK SIZE A	B	C	D	E	WEIGHT EA
	650 F / 343 C	750 F / 399 C						
10	6460	5060	3/4	10 7/8	11 5/8	8 3/8	4	4.9
250	28737	22509	M20	276	295	213	102	2.2
12	9960	7016	7/8	12 7/8	13 3/4	9 5/8	4	7.7
300	44306	31210	M20	327	349	244	102	3.5
14	9960	7016	7/8	14 1/8	15	10 1/4	4 1/4	8.3
350	44306	31210	M20	359	381	260	108	3.8
16	9960	7016	7/8	16 1/8	17	11 1/4	4 1/4	9.2
400	44306	31210	M20	410	432	286	108	4.2
18	11800	9240	1	18 1/8	19 1/8	12 5/8	4 3/4	13.5
450	52491	41103	M24	460	486	321	121	6.1
20	11800	9240	1	20 1/8	21 1/8	13 5/8	4 3/4	14.6
500	52491	41103	M24	511	537	346	121	6.6
24	11800	9240	1	24 1/8	25 1/8	15 5/8	4 3/4	16.9
600	52491	41103	M24	613	638	397	121	7.7
28	11800	9240	1	28 1/8	29 1/8	17 5/8	4 3/4	18.0
700	52491	41103	M24	714	740	448	121	8.2
30	11800	9240	1	30 1/8	31 1/8	18 5/8	4 3/4	19.1
750	52491	41103	M24	765	791	473	121	8.7
36	11800	9240	1	36 1/8	37 1/8	21 5/8	4 3/4	23.2
900	52491	41103	M24	918	943	549	121	10.5

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

LIGHT DUTY U-BOLT

Figure 283LD

The Figure 283LD is recommended for the guiding, and supporting of light loads for piping or rigid metal conduit. Furnished with two (2) hex nuts.

Materials: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 24), ANSI/MSS-SP 69 (Type 24)

Finish: Plain, Electro-Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M283LD.

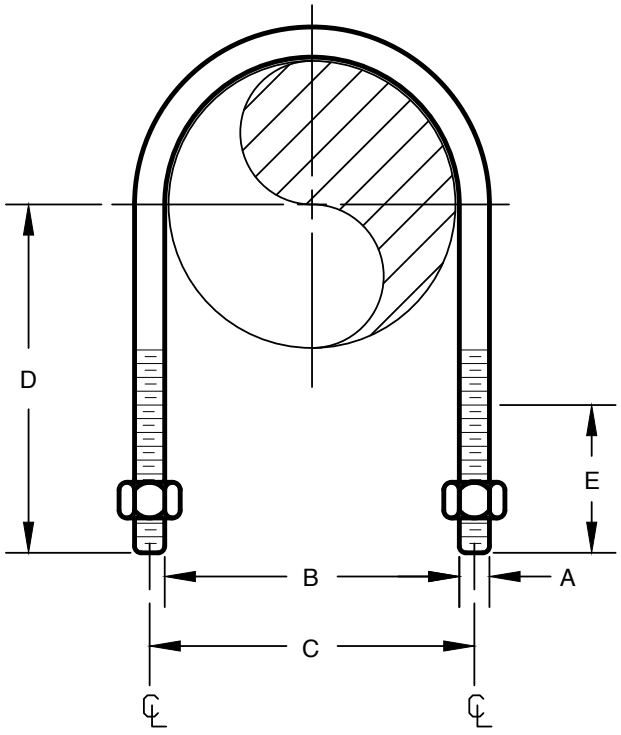


FIGURE 283LD - LIGHT DUTY U-BOLT

PIPE SIZE	MAX LOAD	A	B	C	D	E	WEIGHT EA
1/2	580	1/4	1	1 1/4	2	1 3/4	0.06
15	2580	M6	25	32	51	44	0.03
3/4	580	1/4	1 1/8	1 3/8	2 1/8	1 3/4	0.07
20	2580	M6	29	35	54	44	0.03
1	580	1/4	1 3/8	1 5/8	2 1/4	1 3/4	0.07
25	2580	M6	35	41	57	44	0.03
1 1/4	580	1/4	1 3/4	2	2 3/8	1 3/4	0.08
32	2580	M6	44	51	60	44	0.04
1 1/2	580	1/4	2	2 1/4	2 1/2	1 3/4	0.09
40	2580	M6	51	57	64	44	0.04
2	580	1/4	2 1/2	2 3/4	2 3/4	1 3/4	0.10
50	2580	M6	64	70	70	44	0.05
2 1/2	1460	3/8	3	3 3/8	3 1/8	2	0.28
65	6495	M10	76	86	79	51	0.13
3	1460	3/8	3 5/8	4	3 3/8	2	0.31
80	6495	M10	92	102	86	51	0.14
3 1/2	1460	3/8	4 1/8	4 1/2	3 5/8	2	0.35
90	6495	M10	105	114	92	51	0.16
4	1460	3/8	4 5/8	5	3 7/8	2	0.38
100	6495	M10	117	127	98	51	0.17
5	1460	3/8	5 5/8	6	4 5/8	2 1/4	0.45
125	6495	M10	143	152	117	57	0.20
6	2700	1/2	6 3/4	7 1/4	5 1/8	2 1/4	0.95
150	12011	M12	171	184	130	57	0.43
8	2700	1/2	8 3/4	9 1/4	6 1/8	2 1/4	1.2
200	12011	M12	222	235	156	57	0.54
10	4320	5/8	10 7/8	11 1/2	7 1/4	2 1/2	2.3
250	19217	M16	276	292	184	64	1.04

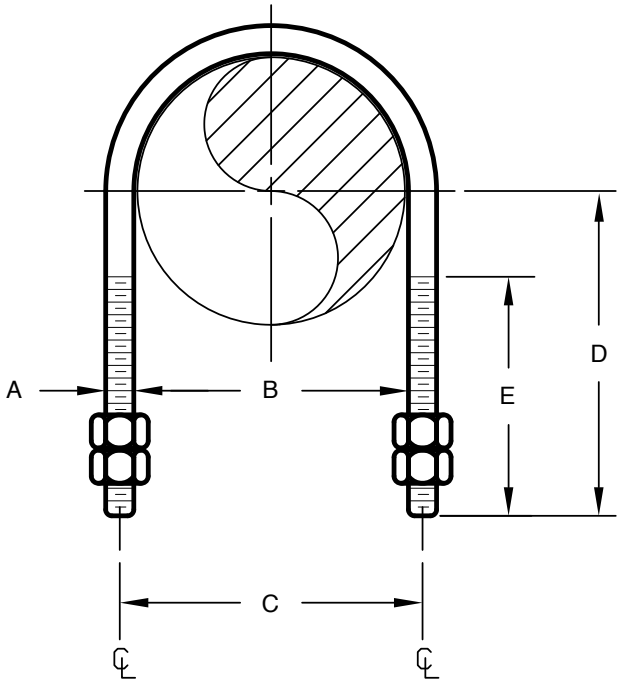
DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

U-BOLT FOR DUCTILE IRON AND AWWA CAST IRON PIPE

Figure 283DI

Figure 283DI SS
(Type 304 Stainless Steel)

Figure 283DI SS316
(Type 316 Stainless Steel)



Our Figure 283DI U-Bolt is recommended for use as supports or guides for Ductile Iron or Cast Iron piping. It is supplied with four heavy hex nuts; finished hex nuts for stainless steel U-Bolts.

Maximum Temperature: Plain 650º F (343º C), Hot-Dip Galvanized 450º F (232º C)

Materials: Carbon Steel. Stainless Steel (Type 304 or 316) is available as a Special Order.

Compliance: Federal Specification A-A-1192A (Type 24), ANSI/MSS SP 58 (Type 24)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized (Hot-Dip Galvanized U-Bolts will come with oversized hex nuts.)

Ordering: Specify pipe size, figure number, and finish. For Metric applications prefix the Figure Number with "M".

FIGURE 283DI - U-BOLT FOR DUCTILE AND CAST IRON PIPE

NOMINAL PIPE SIZE	ACTUAL PIPE DIAMETER	MAX LOAD	A	B	C	D	E	WEIGHT EA
3	3.96	2700	1/2	4 1/8	4 5/8	4 1/2	3	1.10
80	100.6	12010	M12	105	118	114	76	2.42
4	4.80	2700	1/2	5	5 1/2	4 3/4	3	1.20
100	121.9	12010	M12	127	140	121	76	2.64
6	6.90	4320	5/8	7 1/8	7 5/8	6 3/8	4	2.50
150	175.3	19216	M16	181	194	162	102	5.50
8	9.05	4320	5/8	9 1/4	9 7/8	7 3/8	4	3.00
200	229.9	19216	M16	235	251	187	102	6.60
10	11.1	6460	3/4	11 1/4	12	9	4	5.40
250	281.9	28736	M20	286	305	219	102	11.9
12	13.2	9960	7/8	13 3/8	14 1/4	9 7/8	5	8.40
300	335.3	39856	M20	340	362	251	114	18.5
14	15.3	9960	7/8	15 1/2	16.375	11	4 1/2	9.40
350	388.6	39856	M20	394	416	279	114	20.7
16	17.4	9960	7/8	17 5/8	18.5	12	4 1/2	10.3
400	442	39856	M20	448	470	305	114	22.7
18	19.5	11800	1	19 5/8	20 5/8	13 3/8	5	13.5
450	495.3	52489	M24	499	524	340	127	29.7
20	21.6	11800	1	21 3/4	22 3/4	14 1/2	5	14.6
500	548.6	52489	M24	553	578	362	127	32.1
24	25.8	11800	1	26	27	17	5	16.8
600	655.3	52489	M24	660	686	422	127	37.0
30	32	11800	1	32 1/8	33 1/8	18 3/8	5	18.8
750	812.3	52489	M24	816	841	466	127	41.4

Note: Maximum Loads for Stainless Steel are 20 percent less.

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

HIGH STRENGTH U-BOLT

Figure 283HS

Our Figure 283HS U-Bolt is recommended for use as supports that require higher loads than our Figure 283 can accommodate. It is supplied with four hex nuts. (Do not substitute hex nuts on this product, they are special High Strength)

Maximum Temperature: Plain 650º F (343º C)

Material: Alloy Steel, High Strength Hex Nuts

Compliance: Federal Specification A-A-1192A (Type 24), ANSI/MSS SP 58 (Type 24)

Finish: Plain

Ordering: Special Order
Specify pipe size and figure number
For Metric applications specify Figure M283HS

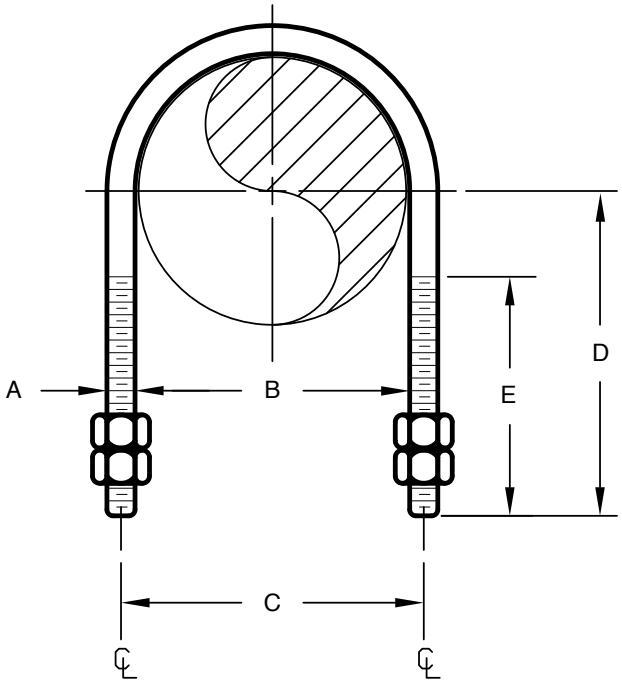


FIGURE 283HS - HIGH STRENGTH U-BOLT

PIPE SIZE	MAX LOAD 650 F / 343 C	A	B	C	D	E	WEIGHT EA
1/2	1340	1/4	15/16	1 3/16	2 1/2	2 1/4	0.11
15	5961	M6	24	30	64	57	0.05
3/4	1530	1/4	1 1/8	1 3/8	2 5/8	2 3/8	0.12
20	6806	M6	29	35	67	60	0.05
1	1360	1/4	1 3/8	1 5/8	2 3/4	2 3/8	0.12
25	6050	M6	35	41	70	60	0.05
1 1/4	2850	3/8	1 3/4	2 1/8	2 7/8	2 1/2	0.28
32	12678	M10	44	54	73	64	0.13
1 1/2	2540	3/8	2	2 3/8	3	2 1/2	0.30
40	11299	M10	51	60	76	64	0.14
2	2600	3/8	2 1/2	2 7/8	3 1/4	2 1/2	0.33
50	1460	M10	64	73	83	64	0.15
2 1/2	4430	1/2	3	3 1/2	3 3/4	3	0.70
65	19706	M12	76	89	95	76	0.32
3	6460	1/2	3 5/8	4 1/8	4	3	0.78
80	28737	M12	92	105	102	76	0.35
3 1/2	4070	1/2	4 1/8	4 5/8	4 1/4	3	0.84
90	18105	M12	105	117	108	76	0.38
4	6710	1/2	4 5/8	5 1/8	4 1/2	3	0.90
100	29849	M12	117	130	114	76	0.41
5	6260	1/2	5 5/8	6 1/8	5	3	1.04
125	27847	M12	143	156	127	76	0.47
6	9130	5/8	6 3/4	7 3/8	6 1/8	3 3/4	2.00
150	40614	M16	171	187	156	95	0.91
8	14520	5/8	8 3/4	9 3/8	7 1/8	3 3/4	2.3
200	64591	M16	222	238	181	95	1.0
10	20610	3/4	10 7/8	11 5/8	8 3/8	4	4.9
250	91681	M20	276	295	213	102	2.2
12	27160	7/8	12 7/8	13 3/4	9 5/8	4	7.7
300	120819	M20	327	349	244	102	3.5

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

FIGURE 283HS - HIGH STRENGTH U-BOLT

PIPE SIZE	MAX LOAD 650 F / 343 C	A	B	C	D	E	WEIGHT EA
14	28860	7/8	14 1/8	15	10 1/4	4 1/4	8.3
350	128381	M20	359	381	260	108	3.8
16	29620	7/8	16 1/8	17	11 1/4	4 1/4	9.2
400	131762	M20	410	432	286	108	4.2
18	26820	1	18 1/8	19 1/8	12 5/8	4 3/4	13.5
450	119306	M24	460	486	321	121	6.1
20	32380	1	20 1/8	21 1/8	13 5/8	4 3/4	14.6
500	144039	M24	511	537	346	121	6.6
24	28400	1	24 1/8	25 1/8	15 5/8	4 3/4	16.9
600	126335	M24	613	638	397	121	7.7
28	34950	1	28 1/8	29 1/8	17 5/8	4 3/4	18.0
700	155472	M24	714	740	448	121	8.2
30	34690	1	30 1/8	31 1/8	18 5/8	4 3/4	19.1
750	154315	M24	765	791	473	121	8.7
36	26670	1	36 1/8	37 1/8	21 5/8	4 3/4	23.2
900	118639	M24	918	943	549	121	10.5

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

STAINLESS STEEL U-BOLT

Figure 283 SS (304 Stainless Steel)

Figure 283 SS316 (316 Stainless Steel)

Our Stainless Steel U-Bolts are recommended for use as supports or guides for piping in marine and corrosive environments. They are supplied with four (4) finished hex nuts.

Side Loaded U-Bolts must be installed with one hex nut above and one below the attachment point of each leg of the U-bolt; with a snug fit.

Maximum Temperature: 650º F (343º C)

Materials: Stainless Steel (Type 304 or 316)

Compliance: Federal Specification A-A-1192A (Type 24), ANSI/MSS SP-58 (Type 24)

Finish: Plain

Ordering: Specify pipe size, and figure number.
For Metric applications specify Figure M283 SS or M283 SS316.

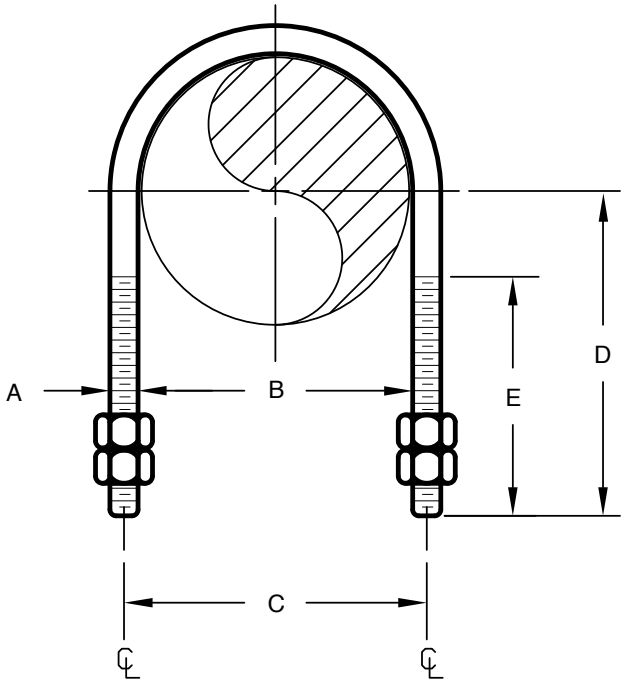


FIGURE 283 SS - FIGURE 283 SS316 STAINLESS STEEL U-BOLT

	MAX LOAD		MAX SIDE LOAD						WEIGHT
PIPE SIZE	450 F / 232 C	650 F / 343 C	450 F / 232 C	A	B	C	D	E	EA
1/2	500	454	120	1/4	15/16	1 1/8	2 3/4	2 1/8	0.11
15	2224	2020	534	M6	24	29	70	54	0.05
3/4	500	454	120	1/4	1 1/8	1 3/8	2 3/4	2 1/8	0.12
20	2224	2020	534	M6	29	35	70	54	0.05
1	500	454	120	1/4	1 3/8	1 5/8	2 3/4	2 1/8	0.12
25	2224	2020	534	M6	35	41	70	54	0.05
1 1/4	1240	1144	310	3/8	1 11/16	2 1/8	2 7/8	2 1/8	0.28
32	5516	5089	1379	M10	43	54	73	54	0.13
1 1/2	1240	1144	310	3/8	2	2 3/8	3	2 1/2	0.30
40	5516	5089	1379	M10	51	60	76	64	0.14
2	1240	1144	310	3/8	2 1/2	2 7/8	3 1/4	2 1/2	0.33
50	1460	1144	1460	M10	64	73	83	64	0.15
2 1/2	2300	2300	570	1/2	3	3 1/2	3 3/4	3	0.70
65	10231	10231	2536	M12	76	89	95	76	0.32
3	2300	2300	570	1/2	3 5/8	4 1/8	4	3	0.78
80	10231	10231	2536	M12	92	105	102	76	0.35
4	2300	2300	570	1/2	4 5/8	5 1/8	4 1/2	3	0.90
100	10231	10231	2536	M12	117	130	114	76	0.41
5	2300	2300	570	1/2	5 5/8	6 1/8	5	3	1.04
125	10231	10231	2536	M12	143	156	127	76	0.47
6	3675	3310	915	5/8	6 3/4	7 3/8	6 1/8	3 1/2	2.0
150	16348	14724	4070	M16	171	187	156	89	0.91
8	3675	3310	915	5/8	8 3/4	9 3/8	7 1/8	3 1/2	2.3
200	16348	14724	4070	M16	222	238	181	89	1.0
10	5490	4940	1370	3/4	10 7/8	11 5/8	8 3/8	4	4.9
250	24422	21975	6094	M20	276	295	213	102	2.2
12	8400	7560	2115	7/8	12 7/8	13 3/4	9 5/8	4	7.7
300	37367	33630	9408	M20	327	349	244	102	3.5

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

ONE HOLE PIPE CLAMP

Figure 237

Designed to support light duty pipe lines that run next to walls or beams.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number and finish. For Metric applications specify Figure M237.

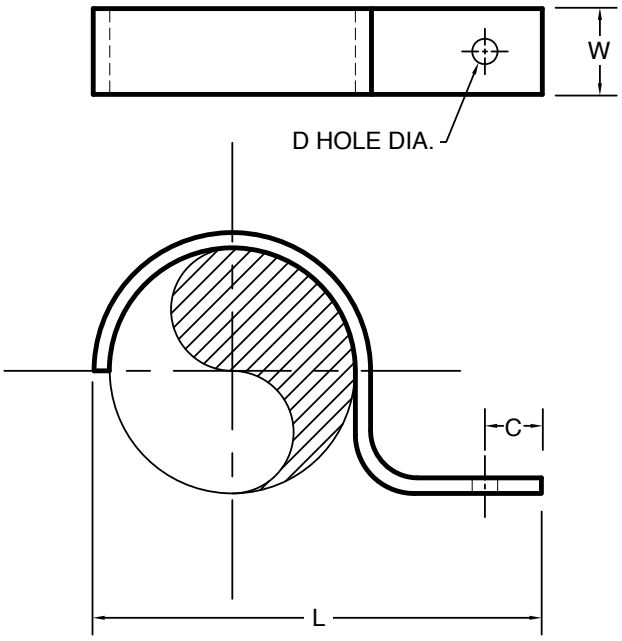


FIGURE 237 - ONE HOLE PIPE CLAMP

PIPE SIZE	C	D	L	W	WEIGHT EA
1/2	7/8	9/32	2 5/8	3/4	0.05
15	22	7	67	19	0.02
3/4	1	9/32	3	1	0.06
20	25	7	76	25	0.02
1	1 1/8	9/32	3 1/4	1	0.09
25	29	7	83	25	0.04
1 1/4	7/8	11/32	3 1/2	1	0.12
32	22	9	89	25	0.05
1 1/2	1 1/4	13/32	4 1/2	1	0.16
40	32	10	114	25	0.07
2	1 1/4	13/32	6 5/8	1	0.24
50	32	10	168	25	0.11
2 1/2	1 1/2	9/16	6 5/8	1 1/4	0.50
65	38	14	168	32	0.23
3	1 1/2	9/16	6 1/2	1 1/4	0.69
80	38	14	165	32	0.31
4	1 1/2	9/16	8	1 1/4	1.40
100	38	14	203	32	0.64

PIPE CLIP

Figure 72

The Figure 72 is designed to hold the pipe flush to the mounting surface. A reinforcing bead through the center adds strength to the product. Our Figure 72CT is available for copper tubing lines.

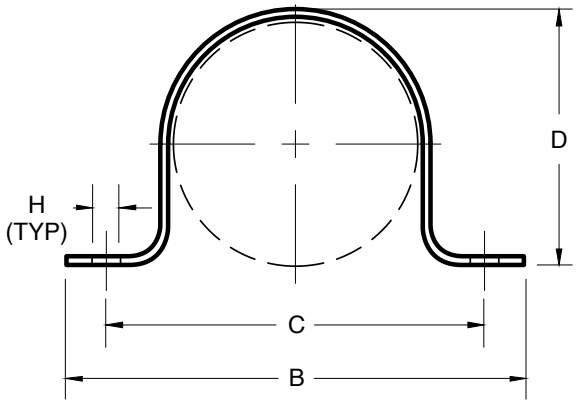
Material: Carbon Steel

Finish: Pre-Galvanized

Ordering: Specify pipe size, and figure number. For Metric applications specify Figure M72.

FIGURE 72 - PIPE CLIP

PIPE SIZE	B	C	D	H	WEIGHT EA
3/8	2 3/8	1 5/8	5/8	3/16	0.03
10	60	41	16	5	0.01
1/2	2 5/8	1 7/8	7/8	3/16	0.04
15	67	48	22	5	0.02
3/4	2 3/4	2	1	3/16	0.07
20	70	51	25	5	0.03
1	3 3/8	2 5/8	1 3/8	9/32	0.09
25	86	67	35	7	0.04
1 1/4	4 1/4	3 1/4	1 5/8	9/32	0.10
32	108	83	41	7	0.05
1 1/2	4 1/4	3 1/2	2	9/32	0.14
40	108	89	51	7	0.06
2	5	4 1/4	2 3/8	9/32	0.22
50	127	108	60	7	0.10
2 1/2	6 3/8	4 7/8	2 7/8	11/32	0.25
65	162	124	73	9	0.11
3	7 3/8	5 7/8	3 1/2	11/32	0.30
80	187	149	89	9	0.14
4	8 3/8	7 1/8	4 1/2	11/32	0.40
100	213	181	114	9	0.18
6	11 1/8	9 1/2	6 5/8	11/32	0.80
150	283	241	168	9	0.36



COPPER TUBING PIPE CLIP

Figure 72 CT

The Figure 72 CT is designed to hold copper tubing flush to the mounting surface. Our Figure 72 is available for carbon steel pipe lines.

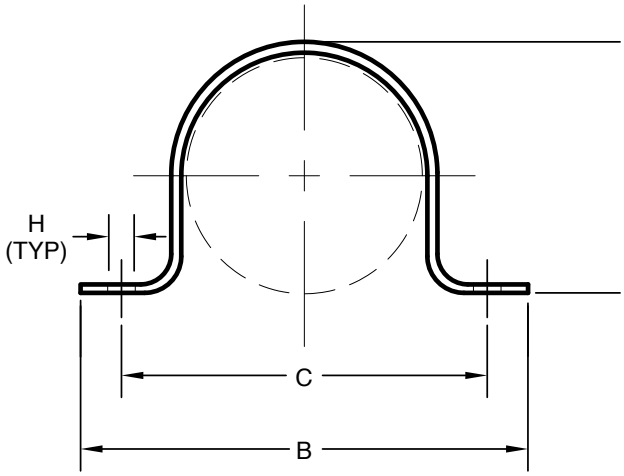
Material: Carbon Steel

Finish: Copper Plated

Ordering: Specify tubing size, and figure number. For Metric applications specify Figure M72 CT.

FIGURE 72CT PIPE CLIP

TUBING SIZE	B	C	D	H	WEIGHT EA
3/8	2	1 3/8	1/2	3/16	0.02
10	51	35	13	5	0.01
1/2	2	1 3/8	5/8	3/16	0.02
15	51	35	16	5	0.01
3/4	2 3/8	1 3/4	7/8	3/16	0.02
20	60	44	22	5	0.01
1	3 1/2	2 3/4	1 1/8	3/16	0.03
25	89	70	29	5	0.01
1 1/4	3 3/4	3	1 3/8	3/16	0.03
32	95	76	35	5	0.01
1 1/2	3 7/8	3	1 5/8	7/16	0.06
40	98	76	41	11	0.03
2	4 1/2	3 5/8	2 1/8	7/16	0.08
50	114	92	54	11	0.03



DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

WIRE PIPE HOOK

Figure 111

Figure 111 CE (Copper Colored Epoxy)

The Wire Pipe Hook is made of special, hard, extra heavy gauge, drawn wire. The driving head is bent, so as to make it easy to install. The point is cut to a sharp nail point which will penetrate either hard or soft wood without bending. It can be used on pipes and copper tubing in various orientations.

Material: Carbon Steel

Finish: Electro-Galvanized, Copper Colored Epoxy

Ordering: Specify pipe or tubing size, figure number, and finish. For Metric applications specify Figure M111 or M111 CE.

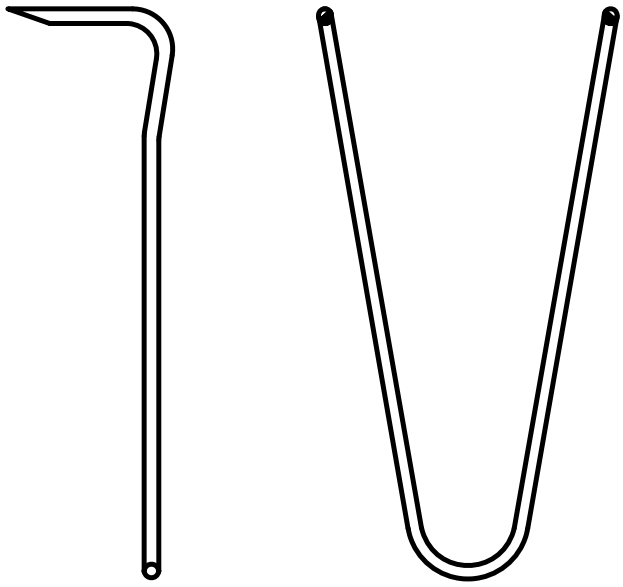


FIGURE 111 AND FIGURE 111 CE - WIRE PIPE HOOK

		WEIGHT EACH				
		LENGTH OF HANGER				
PIPE SIZE	CTS SIZE	4	6	8	10	12
		102	152	203	254	305
1/2"	1/2"	0.06	0.08	0.10	0.12	0.14
15	15	0.03	0.04	0.05	0.05	0.06
3/4"	3/4"	0.06	0.08	0.10	0.12	0.14
20	20	0.03	0.04	0.05	0.05	0.06
1"	1"	0.06	0.08	0.10	0.12	0.14
25	25	0.03	0.04	0.05	0.05	0.06
1-1/4"	1-1/4"	0.08	0.10	0.12	0.14	0.16
32	32	0.04	0.05	0.05	0.06	0.07
1-1/2"	1-1/2"	0.08	0.10	0.12	0.14	0.16
40	40	0.04	0.05	0.05	0.06	0.07
2"	2"	0.08	0.10	0.12	0.14	0.16
50	50	0.04	0.05	0.05	0.06	0.07

RETURN LINE OFFSET HOOK

Figure 227

Designed to support light duty pipe lines with clearance requirements that run along walls or beams.

Material: Carbon Steel

Maximum Temperature: Plain 650° F (343° C), Hot-Dip Galvanized 450° F (232° C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M227.

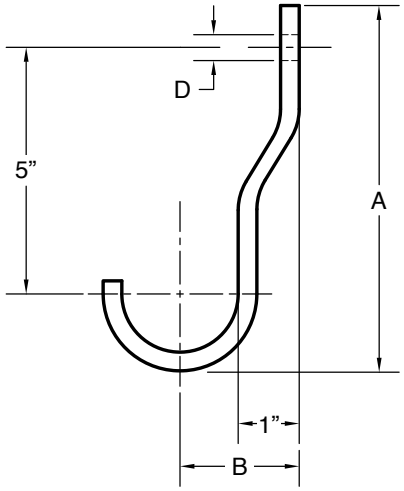


FIGURE 227 - RETURN LINE OFFSET HOOK

PIPE SIZE	MAX LOAD	A	B	D	WEIGHT EA
1/2	200	6 9/32	1 5/8	9/16	0.53
15	890	160	41	14	0.24
3/4	200	6 1/8	1 11/16	9/16	0.55
20	890	156	43	14	0.25
1	200	6 9/16	1 7/8	9/16	0.81
25	890	167	48	14	0.37
1 1/4	200	6 5/8	2 1/16	9/16	0.84
32	890	168	52	14	0.38
1 1/2	200	6 11/16	2 3/16	9/16	0.89
40	890	170	56	14	0.40
2	200	7 3/32	2 5/8	9/16	0.96
50	890	4315	67	14	0.44
2 1/2	350	7 15/32	2 11/16	9/16	1.26
65	1557	190	68	14	0.57
3	350	7 5/8	3	9/16	1.38
80	1557	194	76	14	0.63
3 1/2	350	8 1/32	3 1/4	9/16	1.47
90	1557	204	83	14	0.67
4	450	8 9/16	3 5/8	9/16	2.39
100	2002	217	92	14	1.08
5	450	9	4 3/16	9/16	3.90
125	2002	229	106	14	1.77
6	450	9 3/8	4 11/16	9/16	4.25
150	2002	238	119	14	1.93

RETURN LINE HOOK

Figure 227S

Designed to support light duty pipe lines that run next to walls or beams.

Material: Carbon Steel

Maximum Temperature: Plain 650° F (343° C) Hot-Dip Galvanized 450° F (232° C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number and finish. For Metric applications specify Figure M227S

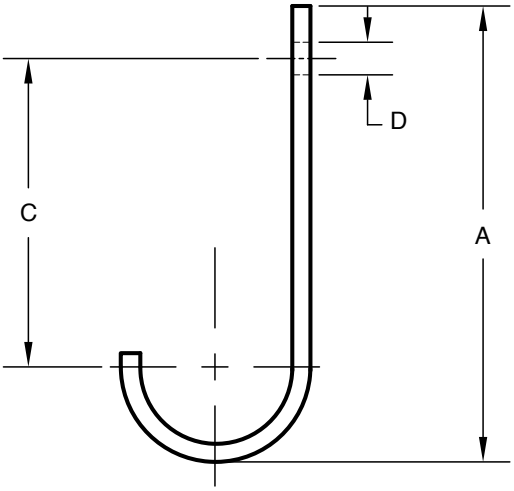


FIGURE 227S - RETURN LINE HOOK

PIPE SIZE	MAX LOAD	A	C	D	WEIGHT EA
1/2	200	6 9/32	5	9/16	0.51
15	890	160	127	14	0.23
3/4	200	6 1/8	5	9/16	0.53
20	890	156	127	14	0.24
1	200	6 9/16	5	9/16	0.80
25	890	167	127	14	0.36
1 1/4	200	6 5/8	5	9/16	0.83
32	890	168	127	14	0.38
1 1/2	200	6 11/16	5	9/16	0.87
40	890	170	127	14	0.39
2	200	7 3/32	5	9/16	0.93
50	890	4315	127	14	0.42
2 1/2	350	7 15/32	5	9/16	1.16
65	1557	190	127	14	0.53
3	350	7 5/8	5	9/16	1.27
80	1557	194	127	14	0.58
3 1/2	350	8 1/32	5	9/16	1.37
90	1557	204	127	14	0.62
4	450	8 9/16	5	9/16	2.19
100	2002	217	127	14	0.99
5	450	9	5	9/16	3.50
125	2002	229	127	14	1.59
6	450	9 3/8	5	9/16	4.15
150	2002	238	127	14	1.88

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

ANCHOR CHAIR

Figure 127

The Figure 127 is used to secure a pipe to a support bracket, like our Figures 84 and Figure 129, or a structure, to prevent side motion.

Square steel washers (provided) are set under the lips of the angle iron sections of the bracket or structure, and the nuts tightened on the U-bolt (provided). Made special to customer order.

Material: Carbon Steel or Stainless Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-dip Galvanized

Ordering: Specify pipe size, figure number, material, and finish For Metric applications specify Figure M127.

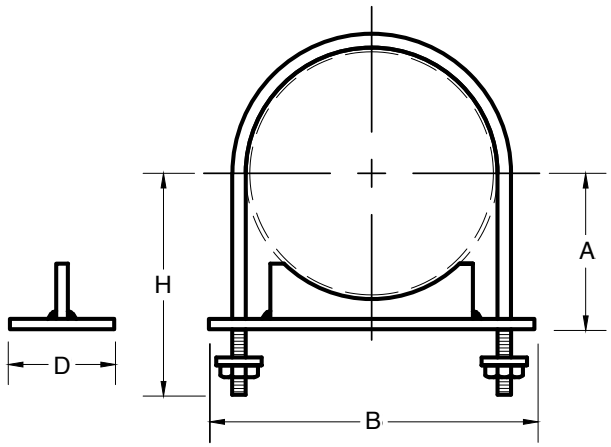


FIGURE 127 - ANCHOR CHAIR

SIZE	A	B	D	H	WEIGHT EA
4	3	8	4	5	6.28
100	76	203	102	127	2.85
5	3 5/8	9 1/8	4	5 5/8	7.32
125	92	232	102	143	3.32
6	4 1/16	10 1/4	5	6 1/2	10.55
150	103	260	127	165	4.79
8	5 5/16	12 1/4	5	7 3/4	15.25
200	135	311	127	197	6.92
10	6 1/2	14 1/2	5	9 1/4	21.3
250	165	368	127	235	9.66
12	7 5/8	16 1/2	5	10 3/8	25.5
300	194	419	127	264	11.57
14	8 1/2	18	5	11 1/4	31.5
350	216	457	127	286	14.29
16	9 5/8	20	5	12 3/8	40.0
400	244	508	127	314	18.14
18	10 7/8	22	6	13 5/8	49.5
450	276	559	152	346	22.45
20	12	24 1/2	6	15	65.9
500	305	622	152	381	29.89
24	14	28 1/2	6	17	81.0
600	356	724	152	432	36.74

PIPE STRAP

Figure C-1108

Figure C-1108 SS (Type 304 Stainless Steel)

Figure C-1108 SS316 (Type 316 Stainless Steel)

The Figure C-1108 is designed to hold piping flush to its mounting surface. This product may be bolted to the structure or channel strut, or welded into place.

Material: Carbon Steel or Stainless Steel

Finish: Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number and finish. For Metric applications specify with the prefix letter “M”

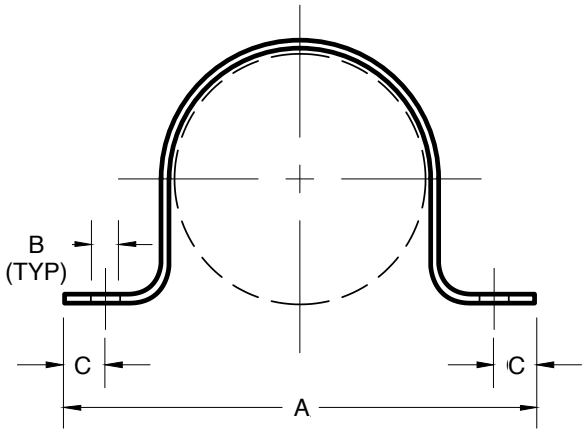


FIGURE C-1108 - PIPE STRAP

SIZE	MAX VERT. LOAD	A	B	C	WEIGHT EA
1/2	500	2 7/8	9/32	7/16	0.23
15	2224	73	7	11	0.10
3/4	500	3 1/16	9/32	7/16	0.26
20	2224	78	7	11	0.12
1	500	3 1/2	9/32	7/16	0.31
25	2224	89	7	11	0.14
1 1/4	500	3 13/16	9/32	7/16	0.35
32	2224	97	7	11	0.16
1 1/2	500	3 15/16	9/32	7/16	0.39
40	2224	100	7	11	0.18
2	1000	5 11/16	7/16	11/16	0.94
50	4448	144	11	17	0.43
2 1/2	1000	6 3/16	7/16	11/16	1.14
65	4448	157	11	17	0.52
3	1000	6 11/16	7/16	11/16	1.33
80	4448	170	11	17	0.60
3 1/2	1000	7 13/16	7/16	11/16	1.52
90	4448	198	11	17	0.69
4	1000	8	7/16	11/16	1.76
100	4448	203	11	17	0.80
5	1000	9	7/16	11/16	1.98
125	4448	229	11	17	0.90
6	1000	10 1/8	7/16	11/16	2.25
150	4448	257	11	17	1.02

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CPVC TWO HOLE PIPE STRAP

Figure 770

The Figure 770 is designed to support CPVC pipe horizontally, only from the side or bottom of a beam. It can only be used as a Guide on top of a beam or on vertical piping. It can be used to restrain sprinkler head thrust when mounted on top of the structure.

The Figure 770 may be installed on wood; using the supplied fasteners, or steel (minimum 20 gauge) with two ¼" x 1" Tek type screws (not included).

Install in accordance with NFPA and local building Codes Do NOT use impact tools when installing.

Material: Carbon Steel.

Compliance: Underwriters Laboratories (U.L.) listed in U.S. and Canada

Finish: Pre-Galvanized G-90

Ordering: Specify pipe size, and figure number.
For Metric applications specify Figure M770.

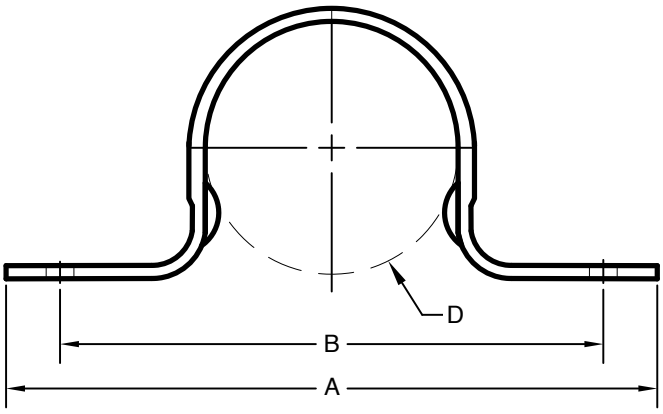


FIGURE 770 - CPVC TWO HOLE PIPE STRAP

PIPE SIZE D	A	B	WEIGHT EA
3/4	3 1/16	2 3/16	0.08
20	78	56	0.04
1	3 3/8	2 1/2	0.08
25	86	64	0.04
1 1/4	3 3/4	2 7/8	0.09
32	95	73	0.04
1 1/2	4 1/8	3 1/4	0.11
40	105	83	0.05
2	4 3/8	3 1/2	0.12
50	111	89	0.05

CPVC ONE HOLE WRAP AROUND PIPE STRAP

Figure 775

The Figure 775 is designed to support CPVC pipe horizontally, from the side of a wooden beam; the mounting tab must be oriented over the top of the piping. It can only be used as a Guide on top of a beam or on vertical piping.

The Figure 775 may be installed on wood using the supplied fasteners, or steel (minimum 20 gauge) with two ¼" x 1" Tek type screws (not included).

Install in accordance with NFPA and local building Codes. Do NOT use impact tools when installing

Material: Carbon Steel.

Compliance: Underwriters Laboratories (U.L.) listed in U.S. and Canada

Finish: Pre-Galvanized G-90

Ordering: Specify pipe size, and figure number.
For Metric applications specify Figure M775.

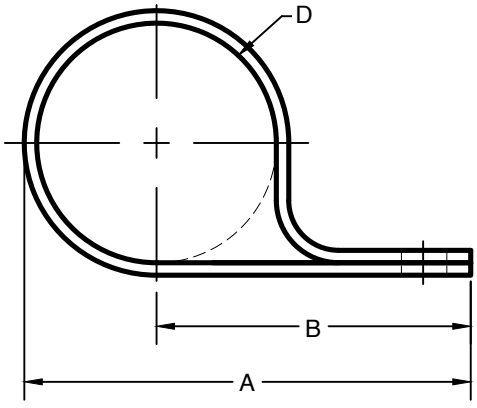


FIGURE 775 - CPVC ONE HOLE WRAP AROUND PIPE STRAP

PIPE SIZE D	A	B	WEIGHT EA
3/4	2 3/8	1 3/8	0.09
20	60	35	0.04
1	2 5/8	1 7/16	0.09
25	67	37	0.04
1 1/4	2 7/8	1 9/16	0.11
32	73	40	0.05
1 1/2	3 1/16	1 5/8	0.12
40	78	41	0.05
2	3 7/16	1 13/16	0.14
50	87	46	0.06

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CPVC TWO HOLE STAND OFF PIPE STRAP

Figure 776

The Figure 776 is designed to support CPVC pipe horizontally, from the side or bottom of a wooden beam or composite wood joist with a minimum of 3/8" web thickness It can only be used as a Guide on top of the beam or on vertical piping.

The Figure 775 may be installed on wood using the supplied fasteners. It may, also be installed on concrete, steel members, and sheet metal with fasteners (not provided).

Install and fasten in accordance with NFPA and local building Codes. Do NOT use impact tools when installing

Material: Carbon Steel.

Compliance: Underwriters Laboratories (U.L.) listed in U.S. and Canada

Finish: Pre-Galvanized G-90

Ordering: Specify pipe size, and figure number.
For Metric applications specify Figure M776.

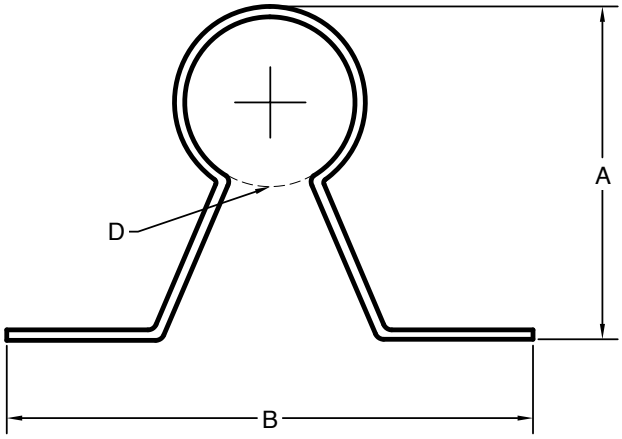


FIGURE 776 - CPVC TWO HOLE STAND OFF PIPE STRAP

PIPE SIZE D	A	B	WEIGHT EA
3/4	2 9/16	4 1/4	0.12
20	65	108	0.05
1	2 13/16	4 1/2	0.13
25	71	114	0.06
1 1/4	3 3/16	4 5/8	0.14
32	81	117	0.06
1 1/2	3 7/16	5	0.15
40	87	127	0.07
2	3 7/8	5	0.16
50	98	127	0.07

CPVC TWO HOLE SIDE MOUNT PIPE STRAP

Figure 777

The Figure 776 is designed to support CPVC pipe horizontally, from the side or bottom of a wooden beam. It can only be used as a Guide on top of the beam or on vertical piping. It can be used to restrain sprinkler head thrust when mounted on top of the structure.

The Figure 777 may be installed on wood; using the supplied fasteners, or steel (minimum 20 gauge) with two ¼" x 1" Tek type screws (not included).

Install in accordance with NFPA and local building Codes.

Do NOT use impact tools when installing

Material: Carbon Steel.

Compliance: Underwriters Laboratories (U.L.) listed in U.S. and Canada

Finish: Pre-Galvanized G-90

Ordering: Specify pipe size, and figure number.
For Metric applications specify Figure M777.

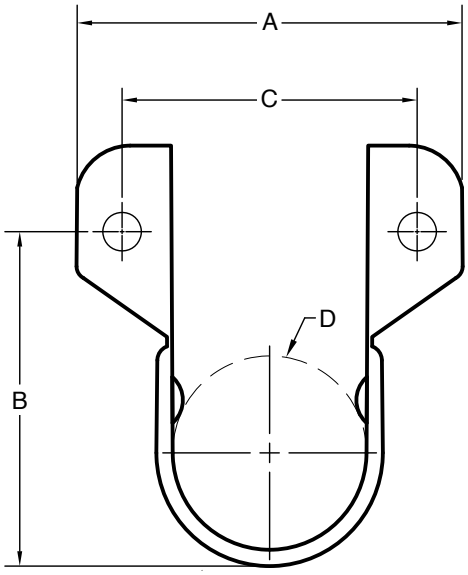


FIGURE 777 - CPVC TWO HOLE SIDE MOUNT PIPE STRAP

PIPE SIZE	A	B	C	WEIGHT EA
3/4	2 5/16	1 7/8	1 11/16	0.09
20	59	48	43	0.04
1	2 9/16	2 3/16	1 15/16	0.09
25	65	56	49	0.04
1 1/4	2 15/16	2 1/2	2 5/16	0.10
32	75	64	59	0.05
1 1/2	3 1/4	2 13/16	2 5/8	0.11
40	83	71	67	0.05
2	3 5/8	3 1/4	3	0.13
50	92	83	76	0.06

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

DUCTILE IRON PIPE CLAMP

Figure 158

The Figure 158 can be used to secure or guide, mechanical joint piping or socket fittings together to prevent separation under pressure; either under or above ground, vertically or horizontally. If used in this fashion, two (2) Figure 258 Socket Clamp Washers, Figure 133 Rods and hex nuts, are also required; but, must be ordered separately.

Materials: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 8)ANSI/MSS SP-58 (Type 8), National Fire Protection Association Standard NFPA-24 for Outside Protection.

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify DI pipe size, figure number, and finish. For Metric applications specify Figure M158.

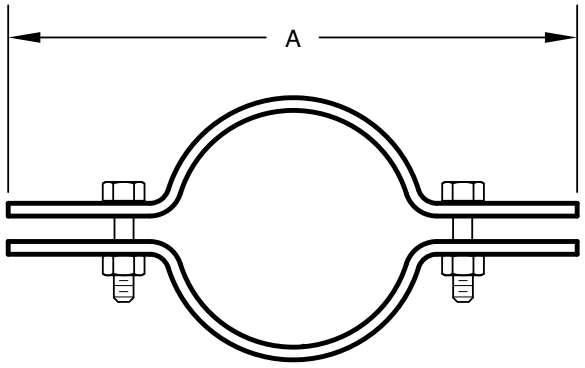


FIGURE 158 - DUCTILE IRON PIPE CLAMP

NOMINAL D.I. PIPE SIZE	ACTUAL PIPE O.D.	A	PART 258 WASHER SIZE	WEIGHT EA
3	3.96	12 1/4	3/4	9.0
80	101	311	M20	4.1
4	4.80	13 3/4	3/4	9.0
100	122	349	M20	4.1
6	6.90	15 3/4	3/4	11
150	175	400	M20	9.4
8	9.05	18	3/4	12
200	230	457	M20	5.5
10	11.1	20 1/8	3/4	15
250	282	511	M20	6.6
12	13.2	22 7/8	3/4	17
300	335	581	M20	7.5
14	15.3	25 1/2	1 1/4	42
350	389	648	M30	19
16	17.4	28	1 1/4	62
400	442	711	M30	28
18	19.5	33	1 1/4	65
450	495	838	M30	30
20	21.6	35 1/2	1 1/2	92
500	549	902	M36	42
24	25.8	40 1/2	1 1/2	123
600	655	1029	M36	56
30	32	48	1 1/2	184
750	813	1219	M36	83
36	38.3	50 3/4	1 3/4	196
900	973	1289	M45	89

DOUBLE BOLT DUCTILE IRON PIPE CLAMP

Figure 158DB

The Figure 158DB is used to secure or guide, mechanical joint piping or socket fittings together to prevent separation under pressure either underground or above ground, vertically or horizontally. Related Figure 269 Socket Clamp Washers, Figure 133 Machine Thread Rods and hex nuts, must be ordered separately.

Materials: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 8) ANSI/MSS SP-58 (Type 8), National Fire Protection Association Standard NFPA-24 for Outside Protection

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M158DB.

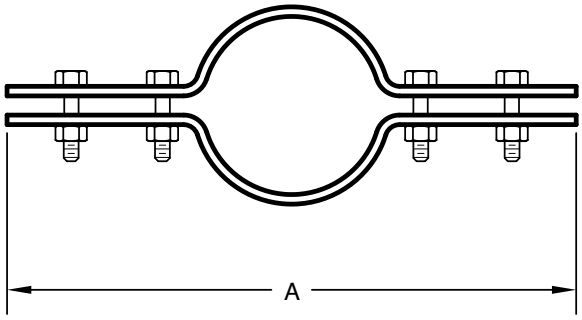


FIGURE 158DB - DOUBLE BOLT DUCTILE IRON PIPE CLAMP

PIPE SIZE	ACTUAL PIPE O.D.	MAX. TEST PRESSURE	FORCE ON CLAMP	A	FIG. 269 WASHER SIZE	WEIGHT EA
3	3.96	250	3080	13 3/8	3/4	9.5
80	101	1112	13701	340	M20	4.3
4	4.8	250	4550	14 3/4	3/4	10.0
100	122	1112	20239	375	M20	4.5
6	6.9	250	9340	17	3/4	12.0
150	175	1112	41546	432	M20	9.4
8	9.05	250	16080	19 1/2	3/4	21.0
200	230	1112	71527	495	M20	9.5
10	11.1	250	24180	23 1/4	1	24.0
250	282	1112	107558	591	M25	10.9
12	13.2	250	34230	25 1/2	1	36.0
300	335	1112	152262	648	M25	16.3
14	15.3	120	22200	28 1/4	1 1/4	48.6
350	389	534	98751	718	M30	22.0
16	17.4	115	27760	31 1/2	1 1/4	71.8
400	442	512	123482	800	M30	32.5
18	19.5	100	23900	35 1/4	1 1/4	85.3
450	495	445	106312	895	M30	38.7
20	21.6	75	27500	37 3/4	1 1/2	102
500	549	337	122326	959	M36	46.3
24	25.8	50	26200	44 1/2	1 1/2	137
600	655	222	116543	1130	M36	62.0
30	32.0	25	20110	53	1 1/2	204
750	813	111	89454	1346	M36	92.5

SOCKET CLAMP WASHER

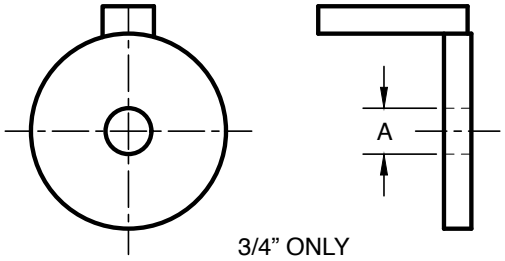
Figure 258

The Figure 258 is for use with our Figure 158 Ductile Iron Pipe Clamp. Two (2) Washers are required per clamp. When installed, the lug bears against the clamp bolt which prevents the Washer from sliding off the clamp.

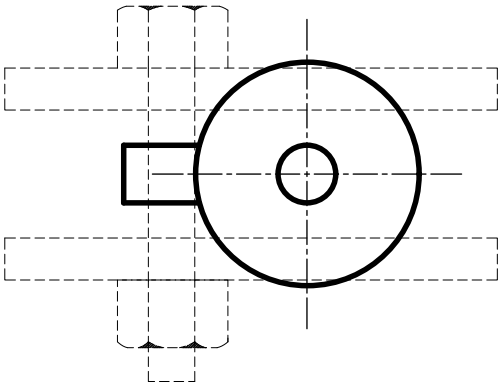
Material: Cast Iron for 3/4" Rod Size (Only), Carbon Steel

Finish: Plain, Hot-Dip Galvanized

Ordering: Specify rod size, figure number, and finish.
For Metric applications, specify Figure M258.



3/4" ONLY



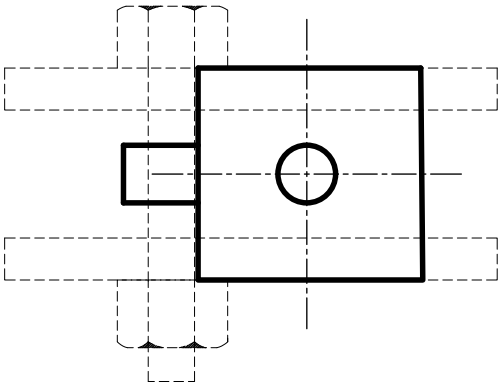
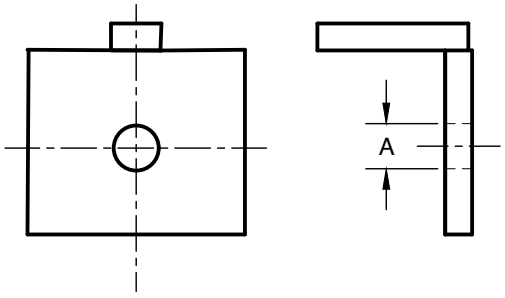


FIGURE 258 - SOCKET CLAMP WASHER

ROD SIZE A	FOR FIGURE 158 CLAMP SIZE	WEIGHT EA
3/4	3" to 12"	1.25
M20	80 to 300	0.57
1 1/4	14" to 18"	2.85
M30	350 to 450	1.29
1 1/2	20" to 30"	7.06
M36	500 to 750	3.20
1 3/4	36"	7.29
M42	900	3.31



1-1/4" THROUGH 1-3/4"

SOCKET CLAMP WASHER

Figure 269

The Figure 269 is for use with our Figure 158DB Underground Clamp. Two (2) Washers are required per clamp.

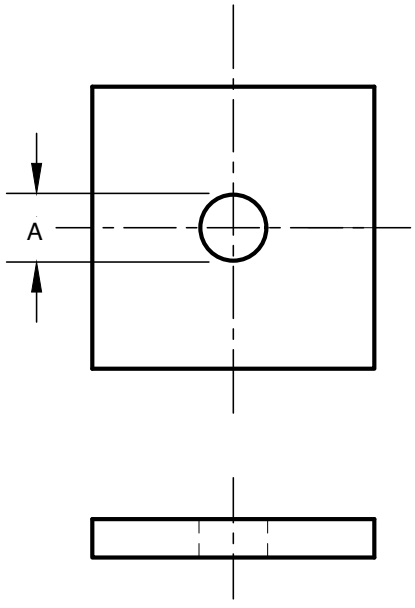
Material: Carbon Steel

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify rod size, figure number, and finish.
For Metric applications specify Figure M269.

FIGURE 269 - WASHER PLATE

ROD SIZE A	FOR FIGURE 158DB CLAMP SIZE	WEIGHT EA
3/4	3" to 8"	1.19
M20	80 to 200	0.54
1	10" and 12"	1.49
M25	250 and 300	0.68
1 1/4	14" to 20"	2.15
M30	350 to 500	0.98
1 1/2	24" and 30"	1.85
M36	600 and 750	0.84



3/4" THROUGH 1-1/2"

DRAIN, WASTE, VENT CLAMP

Figure DWV

Designed to provide economical and quick way to support of non-insulated PVC drain, waste, and vent pipe lines with sufficient adjustment for most all application. Can be field adjusted to suit unique configurations.

Material: Carbon Steel

Finish: Pre-Galvanized

Ordering: Specify pipe size and figure number
For Metric applications specify Figure MDWV.

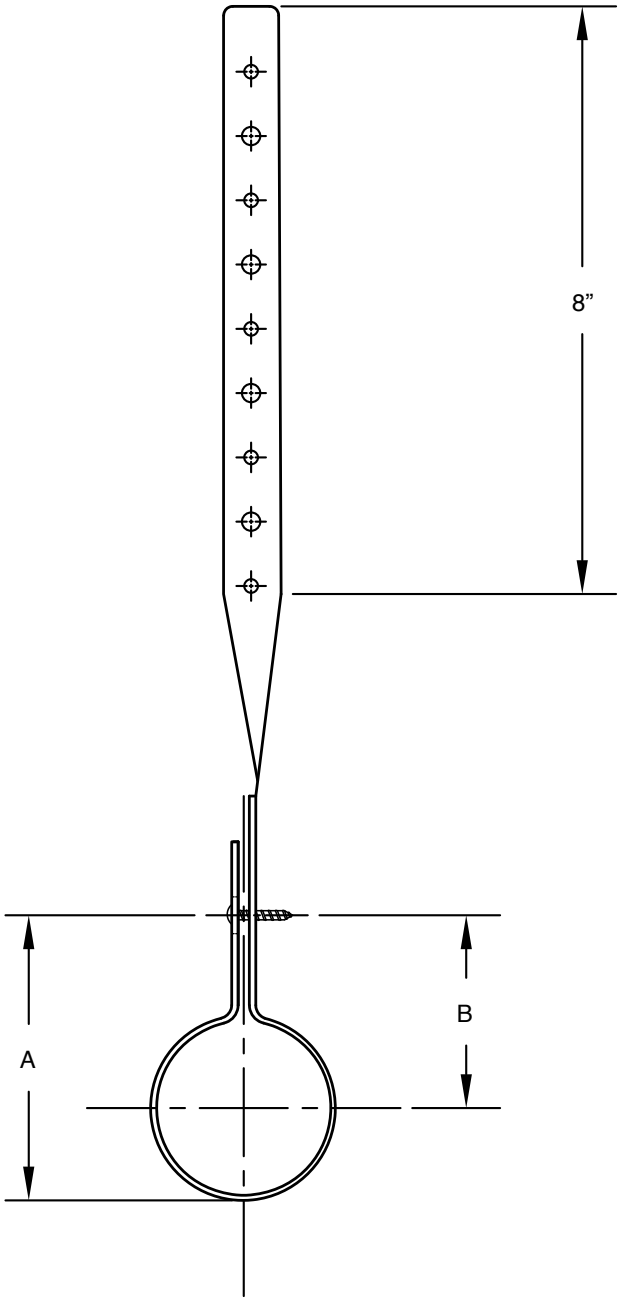


FIGURE DWV - DRAIN, WASTE, VENT CLAMP

PIPE SIZE	A	B
1 1/2	3 1/2	2 1/2
40	89	64
2	4	2 7/8
50	102	73
3	5 1/2	3 3/4
80	140	95
4	6	3 3/4
100	152	95

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

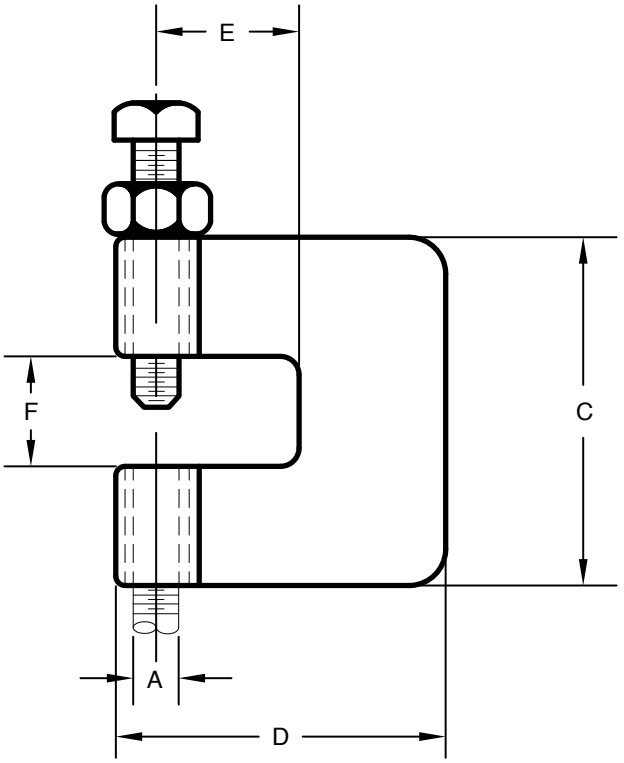
C-CLAMP WITH LOCKING NUT

Figure 47

Figure 47 SS316 (Stainless Steel)

C-CLAMP WITHOUT LOCKING NUT

Figure 238



The Figure 47 is designed to attach to the bottom flange of a steel beam. A locking nut is provided, and when tightened, prevents loosening due to vibration.

The Figure 238 is identical to the Figure 47 and may require a Figure 22. Retaining Clip (sold separately), to prevent loosening due to vibration.

Install both Figure 47 and 238 in accordance with ANSI/MSS SP58. Set Screw Torque values, shown in the Technical Section of our Catalog. Do not over-tighten.

Maximum loads are based upon full thread engagement by the rod. Some Codes require the use of a Figure 22 Retaining Clip on all C-Clamps. When using a Retaining Clip the maximum allowable flange thickness is reduced by 1/8".

Material: Carbon Steel with Hardened Steel Cup Point Set Screw. Stainless Steel is a Type 316.

Compliance: Federal Specification A-A-1192A (Type 23) ANSI/MSS SP-58 (Type 23)

Finish: Plain, Painted, Electro-Galvanized, Stainless Steel (Sizes 3/8", 1/2", 5/8" Only)

Ordering: Specify rod size, figure number, and finish.
For Metric applications prefix the Figure Number with an "M".

FIGURE 47 C CLAMP WITH LOCKING NUT

ROD SIZE A	MAX LOAD	C	D	E	F	SET SCREW SIZE	WEIGHT EA
3/8	400	2 3/8	2 1/4	7/8	3/4	3/8 x 1 1/2	0.38
M10	1779	60	57	22	19	10 x 38	0.17
1/2	500	2 3/8	2 3/8	7/8	3/4	3/8 x 1 1/2	0.38
M12	2224	60	60	22	19	13 x 38	0.17
5/8	600	2 3/8	2 3/8	3/4	3/4	5/8 x 1 1/2	0.68
M16	2669	60	60	19	19	16 x 38	0.31
3/4	800	2 3/8	2 1/4	3/4	3/4	3/4 x 1 1/2	0.79
M20	3559	60	57	19	19	19 x 38	0.36
7/8	1200	3	2 3/4	1 1/4	1	3/4 x 1 1/2	1.83
M20	5338	76	70	32	25	19 x 38	0.83

FIGURE 238 C CLAMP WITHOUT LOCKING NUT

ROD SIZE A	MAX LOAD	C	D	E	F	SET SCREW SIZE	WEIGHT EA
3/8	400	2 1/4	2 3/8	7/8	3/4	3/8 x 1 1/2	0.36
M10	1779	57	60	22	19	10 x 38	0.16
1/2	400	2 1/4	2 3/8	7/8	3/4	3/8 x 1 1/2	0.36
M12	1779	57	60	22	19	13 x 38	0.16
5/8	440	2 1/4	2 3/8	3/4	3/4	5/8 x 1 1/2	0.63
M16	1957	57	60	19	19	16 x 38	0.29
3/4	800	2 1/4	2 1/4	3/4	3/4	3/4 x 1 1/2	0.72
M20	3559	57	57	19	19	19 x 38	0.33
7/8	1200	3	2 3/4	1 1/4	1	3/4 x 1 1/2	1.65
M20	5338	76	70	32	25	19 x 38	0.75

C-CLAMP WITH LOCKING NUT

Figure 196

The Figure 196 is designed to attach mechanically to the bottom flange of a steel beam and may require a Figure 22 Retaining Clip to prevent loosening due to vibration after installation

Install the Figure 196 in accordance with ANSI / MSS SP-58 set screw torque values.

Maximum loads are based upon full thread engagement by the rod. Some Codes require the use of a Figure 22 Retaining Clip on all C-Clamps. When using a Retaining Clip the maximum allowable flange thickness is reduced by 1/8".

Material: Malleable Iron with Hardened Steel Cup Point Set Screw

Compliance: Federal Specification A-A-1192A (Type 23)
ANSI/MSS SP-58 (Type 23)

Finish: Plain, Electro-Galvanized

Ordering: Specify rod size, figure number, and finish.
For Metric applications specify Figure M196.

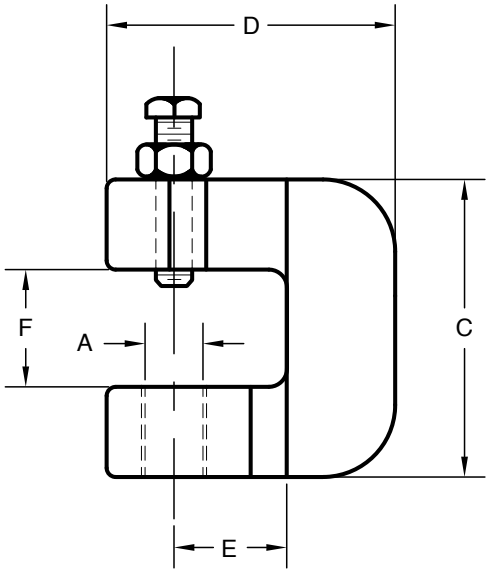


FIGURE 196 C-CLAMP WITH LOCKING NUT

ROD SIZE A	MAX LOAD	PIPE SIZES	C	D	E	F	WEIGHT EA
3/8	400	1/2 to 2	1 3/4	1 3/4	5/8	3/4	0.33
M10	1779	15 to 50	44	44	16	19	0.15
1/2	400	2 1/2 to 3 1/2	1 3/4	1 3/4	5/8	3/4	0.39
M12	1779	65 to 90	44	44	16	19	0.18
5/8	440	4 to 5	2	2	3/4	3/4	0.46
M16	1957	100 to 125	51	51	19	19	0.21
3/4	500	6	2	2	3/4	3/4	0.52
M20	2224	150	51	51	19	19	0.24

"C" CLAMP RETAINING CLIP

Figure 22

The Figure 22 is designed for use with Figures 47 and 196 "C" Clamps to prevent movement of the "C" Clamp due to vibration after installation. Available in up to 4 1/2", 6", 8", 10" and 14" lengths. (One inch should be added to beam flange width to determine length; select next largest strap length if between standard lengths.)

Type 1 is for Figure 196, 3/8"(M10) rod only.
Type 1 is for Figure 47, 3/8"(M10), 1/2"(M12), 5/8"(M16), 3/4(M20)" and 7/8"(M20) rod sizes.
Type 2 is for Figure 196, 1/2"(M12), 5/8"(M16) and 3/4"(M20) rod sizes only.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized

Ordering: Specify rod size, length, type, figure number, and finish. For Metric applications specify Figure M22.

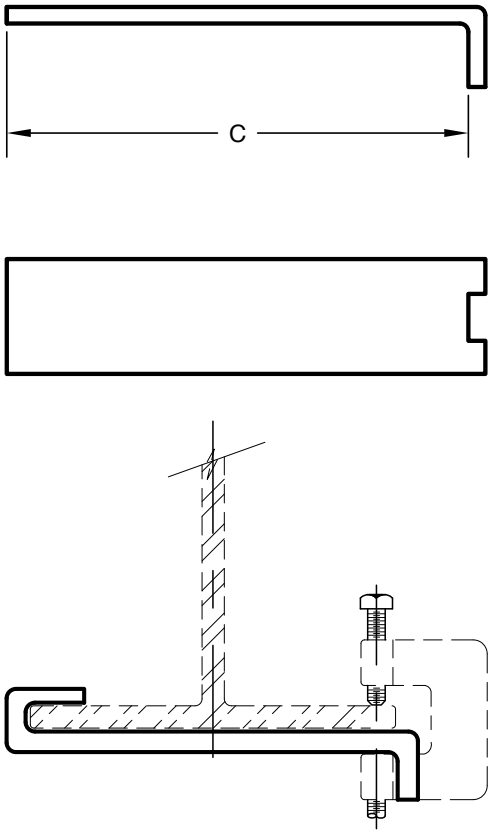


FIGURE 22 - C-CLAMP RETAINING CLIP

CLIP SIZE	WEIGHT EA				
	LENGTH - DIMENSION "C"				
	4 1/2	6	8	10	14
	114	152	203	254	356
1	0.15	0.22	0.33	0.36	0.50
1	0.07	0.10	0.15	0.16	0.23
2	0.21	0.28	0.36	0.45	0.59
2	0.10	0.13	0.16	0.20	0.27

TOP BEAM CLAMP WITH LOCKING NUT

Figure 192
Figure 192 SS316 (Type 316 Stainless Steel)

The Figure 192 is designed for roof installations with bar joist type construction as well as to be attached mechanically to the top or bottom flange of steel beams. A locking nut is provided and when properly tightened prevents loosening due to vibration. The full body tapping feature for the rod allows for extra adjustment after installation. A Figure 192RS Retaining Strap may also be required by various Codes.

Install in accordance with ANSI/MSS SP-58 Set Screw Torque values. Shown in the Technical Section of the Catalog. Do not over-tighten.

Maximum loads are based upon full thread engagement by the rod. When using a Retaining Strap the maximum allowable flange thickness is reduced by 1/8".

Material: Malleable Iron with Hardened Steel Cup Point Set Screw Compliance: Federal Specification A-A-1192A (Type 19 and 23), ANSI/MSS SP-58 (Type 19 and 23)

Finish: Plain, Electro-Galvanized

Ordering: Specify rod size, figure number, and finish.
For Metric applications specify Figure M192.

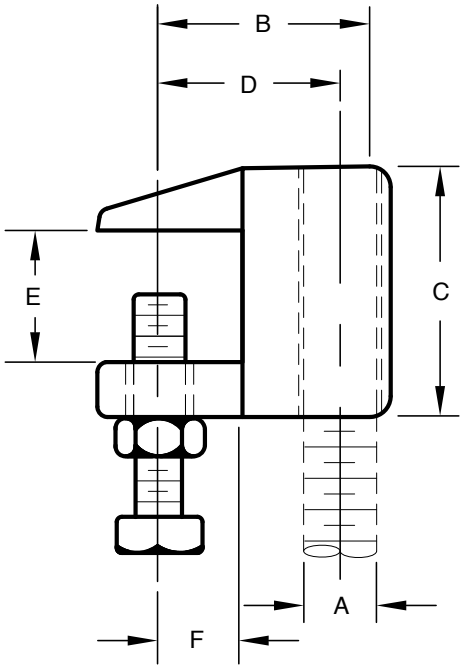


FIGURE 192 - TOP BEAM CLAMP WITH LOCKING NUT

ROD SIZE A	MAX LOAD	MAX PIPE SIZE	B	C	D	E	F	WEIGHT EA
3/8	400	4	1 3/16	1 1/2	1	3/4	1/2	0.28
M10	1779	100	30	38	25	19	13	0.13
1/2	500	8	1 5/16	1 1/2	1	3/4	1/2	0.32
M12	2224	200	33	38	25	19	13	0.15
5/8	600	8	1 7/16	1 5/8	1 1/8	3/4	1/2	0.44
M16	2669	200	37	41	29	19	13	0.20
3/4	800	8	1 7/8	1 3/4	1 1/4	3/4	5/8	0.58
M20	3559	200	48	44	32	19	16	0.26
7/8	1200	8	1 7/8	1 3/4	1 3/8	3/4	5/8	0.67
M20	5338	200	48	44	35	19	16	0.30

TOP BEAM CLAMP RETAINING CLIP

Figure 192RS

The Figure 192RS is designed for use with Figure 192 and 192W. Top Beam Clamps to prevent movement of the clamp due to vibration after installation. Available in 4-1/2", 6", 8", 10" and 14" lengths. (Two inches should be added to beam flange width to determine length and select next largest strap length; if between sizes.)

Material: Carbon Steel

Finish: Plain, Electro-Galvanized

Ordering: Specify rod size, length, figure number, and finish.
For Metric applications specify Figure M192RS.

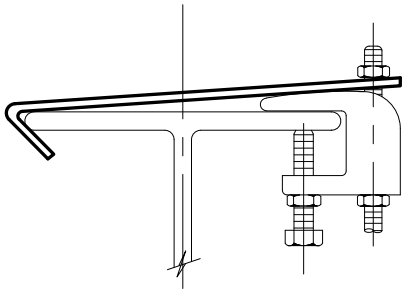
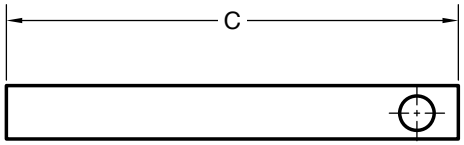


FIGURE 192RS - TOP BEAM CLAMP RETAINING CLIP

ROD SIZE	WEIGHT EA LENGTH - DIMENSION "C"				
	4.5	6	8	10	14.00
	114.00	152.00	203.00	254.00	356.00
3/8	0.15	0.21	0.28	0.35	0.49
M10	0.07	0.10	0.13	0.16	0.22
1/2	0.15	0.21	0.28	0.35	0.49
M12	0.07	0.10	0.13	0.16	0.22
5/8	0.20	0.26	0.35	0.44	0.62
M16	0.09	0.12	0.16	0.20	0.28
3/4	0.20	0.26	0.35	0.44	0.62
M20	0.09	0.12	0.16	0.20	0.28
7/8	0.31	0.42	0.56	0.70	0.98
M20	0.14	0.19	0.25	0.32	0.44



WIDE MOUTH TOP BEAM CLAMP WITH LOCKING NUT

Figure 192W

The Figure 192W is designed for roof installations with bar joist type construction as well as to be attached mechanically to the top or bottom flange of steel beams. A locking nut is provided and when properly tightened prevents loosening due to vibration. The full body tapping feature for the rod allows for extra adjustment after installation. A Figure 192RS Retaining Strap may also be required by various Codes.

Install in accordance with ANSI/MSS-SP58 Set Screw Torque values shown in the Technical Section of the Catalog. Do not over-tighten.

Maximum loads are based upon full thread engagement by the rod. When using a Retaining Strap the maximum allowable flange thickness is reduced by 1/8".

Material: Malleable Iron with Hardened Steel Cup Point Set Screw

Compliance: Federal Specification A-A-1192A (Type 19 and 23), ANSI/MSS SP-58 (Type 19 and 23)

Finish: Plain, Electro-Galvanized

Ordering: Specify rod size, figure number, and finish. For Metric applications specify Figure M192W.

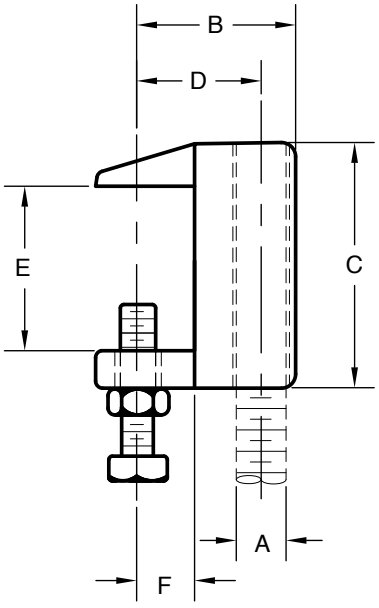


FIGURE 192W - WIDE MOUTH TOP BEAM CLAMP WITH LOCKING NUT

ROD SIZE A	MAX LOAD	MAX PIPE SIZE	B	C	D	E	F	WEIGHT EA
3/8	400	4	1 5/8	1 7/8	1 1/16	1 1/4	1/2	0.37
M10	1779	100	41	48	27	32	13	0.17
1/2	500	4	1 5/8	1 7/8	1 1/16	1 1/4	1/2	0.35
M12	2224	200	41	48	27	32	13	0.16
5/8	850	5	2 1/4	2 5/16	1 3/8	1 1/4	3/4	0.49
M16	3781	125	57	59	35	32	19	0.22
3/4	900	6	2 3/8	2 3/8	1 3/8	1 1/4	3/4	0.87
M20	4004	150	60	60	35	32	19	0.39

TOP / SIDE BEAM CLAMP

Figure 18

The Figure 18 clamp is made in two parts. When bolted together they prevent the movement of the clamp from its position. The supporting rod is installed close to the flange of the beam.

Material: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 25), ANSI/MSS SP-58 (Type 25)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify clamp number, width of flange, thickness of flange, figure number, and finish. For Metric applications specify Figure M18.

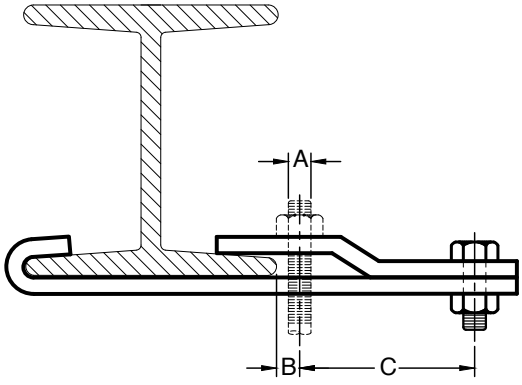


FIGURE 18 - TOP / SIDE BEAM CLAMP

					WEIGHT EACH WIDTH OF I BEAM FLANGE			
CLIP NO.	MAX LOAD	ROD SIZE A	B	C	4 102	6 152	8 203	12 305
1	300	3/8	5/16	1 3/4	0.92	1.04	1.12	1.45
1	1335	M10	7.9	44	0.42	0.47	0.51	0.66
2	500	1/2	3/8	2 1/4	1.39	1.56	1.66	2.11
2	2224	M12	9.5	57	0.63	0.71	0.75	0.96
3	700	5/8	7/16	2 1/2	2.53	2.81	2.98	3.72
3	3114	M16	11.1	64	1.15	1.27	1.35	1.69
4	1000	3/4	1/2	2 3/4	3.90	4.32	4.57	5.62
4	4448	M20	12.7	70	1.77	1.96	2.07	2.55
5	2000	7/8	9/16	3 1/2	7.35	8.08	8.48	10.13
5	8897	M20	14.3	89	3.33	3.67	3.85	4.59

BEAM CLAMP

Figure 15

The Figure 15 is designed to attached to the bottom of flanged beams. Normally used with the Figure 93 Eye Rod or Figure 279 Weldless Eye Nut.

Material: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 21), ANSI / MSS SP-58 (Type 21)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify clamp size, flange width. flange thickness, figure number, and finish.
For Metric applications specify Figure M15.

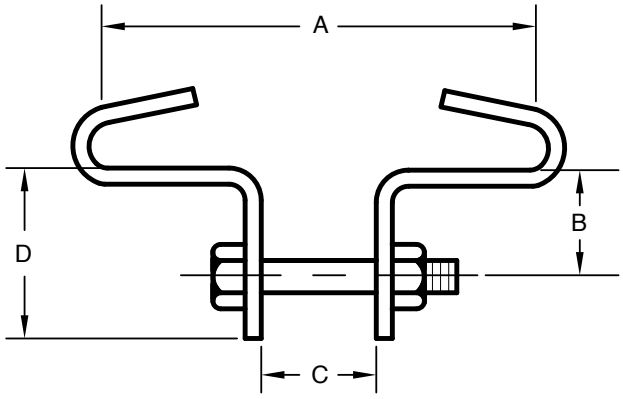


FIGURE 15 - BEAM CLAMP

CLAMP SIZE	MAX LOAD	B	C	D	BOLT SIZE
3	1000	1 1/4	5/8	2	1/2
3	4448	32	16	51	M12
5	3000	1 5/8	7/8	2 5/8	5/8
5	13345	41	22	67	M16
7	5000	2 1/8	1 1/8	4 1/8	1
7	22242	54	29	105	M24

CLAMP SIZE	WEIGHT EACH BEAM WIDTH - DIMENSION "A"						
	4	5	6	7	8	10	12
	102	127	152	178	203	254	305
3	1.89	2.12	2.29	2.45	2.69		
3	0.86	0.96	1.04	1.11	1.22		
5	4.08	4.52	4.80	5.10	5.51	5.88	
5	1.85	2.05	2.18	2.31	2.50	2.67	
7		11.95	12.75	13.55	14.35	15.95	17.47
7		5.42	5.78	6.15	6.51	7.23	7.92

ADJUSTABLE BEAM CLAMP

Figure 14
Figure 14A (for wider flange widths)

The Figures 14 and 14A are designed to attached to the bottom of flanged beams. After installation, the unit is locked into position with a hex nut and a lock washer.

Material: Carbon Steel

Compliance: Federal Specification A-A-1192 (Type 27), ANSI / MSS SP-58 (Type 27)

Finish: Plain, Painted, Hot-dip Galvanized

Ordering: Specify rod size, figure number, and finish. For Metric applications specify Figure M14.

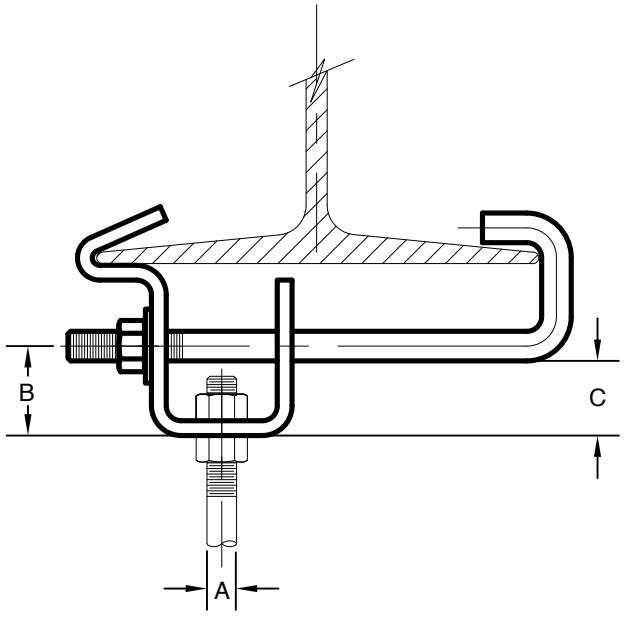


FIGURE 14 and 14A - ADJUSTABLE BEAM CLAMP

ROD SIZE A	MAX LOAD	FLANGE WIDTH						WEIGHT EA	
		FIGURE 14		FIGURE 14A					
		MIN	MAX	MIN	MAX	B	C	FIG 14	FIG 14A
3/8	300	3 1/2	8	8	16	2 3/4	1 1/4	0.96	2.56
M10	1335	89	203	203	406	70	32	0.44	1.16
1/2	700	3 1/2	8	8	16	2 3/4	1 1/4	1.42	3.48
M12	3114	89	203	203	406	70	32	0.64	1.58
5/8	1000	3 1/2	8	8	16	2 3/4	1 1/4	1.86	5.24
M16	4448	89	203	203	406	70	32	0.84	2.38
3/4	1300	6	8	8	16	3 3/4	1 1/2	4.22	7.18
M20	5783	152	203	203	406	95	38	1.91	3.26
7/8	1400	6	10	8	16	3 3/4	1 1/2	5.56	8.92
M20	6228	152	254	203	406	95	38	3.20	4.05
1	1500	7	14	8	16	3 3/4	1 1/2	7.74	11.32
M24	6673	178	356	203	406	95	38	3.51	5.13

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

ADJUSTABLE BEAM CLAMP

Figure 82 (Body Only)

The Figure 82 is designed to attached to the bottom of flanged beams without requiring welding. Normally used with the Figure 157 Extension Piece (Not Furnished) up to a maximum 7/8" (M20) rod diameter. Loading is achieved through the clamp jaws while locking is accomplished by tightening the through-bolt located directly below the flange. Maximum flange thickness is 0.60 inches. Load capacity is based upon the load capacity of the threaded rod.

Material: Malleable Iron

Compliance: Federal Specification A-A-1192A (Type 30) ANSI / MSS SP-58 (Type 30), both when used with a Figure 157.

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify figure number, rod size, and finish. (Order Figure 157 separately, if required.)
For Metric applications specify Figure M82.

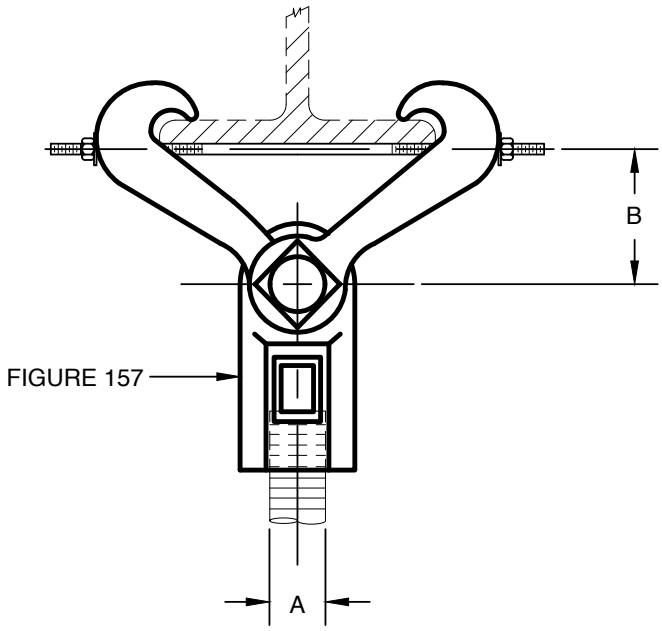


FIGURE 82 - ADJUSTABLE BEAM CLAMP

MAX ROD SIZE A	MAX LOAD	CLAMP ONLY - TAKE OUT - "B"						
		BEAM FLANGE WIDTH						
		2 3/8	3	4	5	6	7	WEIGHT EA
		60	76	101	127	152	177	
7/8	1365	3 1/2	3 7/16	3 5/16	2 15/16	2 9/16	1 7/8	2.49
M20	6072	89	87	84	75	65	48	1.13

EXTENDED BEAM CLAMP

Figure 314

The Figure 314 is used where the supporting I beam is to be covered e.g. with fire proofing material. The bottom bolt has a spacer to allow for free movement of the connecting eyerod or weldless eyenut.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify clamp size, figure number, and finish. For Metric applications specify Figure M314.

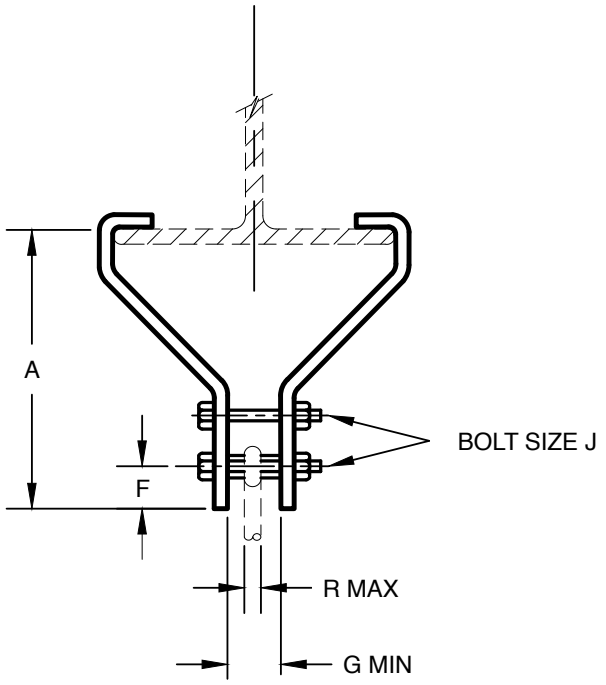


FIGURE 314 - EXTENDED BEAM CLAMP

NUMBER	MAX LOAD	FLANGE WIDTH	A	F	MINIMUM G	J	MAXIMUM R
1	1500	4	6 5/8	13/16	5/8	5/8	1/2
1	6673	102	168	21	16	M16	13
2	1500	5 - 6	7 1/8	13/16	5/8	5/8	1/2
2	6673	127 - 152	181	21	16	M16	13
3	1500	6 1/2 - 7 1/2	7 3/4	13/16	5/8	5/8	1/2
3	6673	165 - 191	197	21	16	M16	13
4	1500	8 - 9	8 3/8	13/16	5/8	5/8	1/2
4	6673	203 - 229	213	21	16	M16	13
5	1500	10 - 10 1/2	9 3/16	13/16	5/8	5/8	1/2
5	6673	254 - 267	233	21	16	M16	13
6	3000	4	7 5/16	15/16	3/4	3/4	5/8
6	13345	102	186	24	19	M20	16
7	3000	5 - 6	7 3/4	15/16	3/4	3/4	5/8
7	13345	127 - 152	197	24	19	M20	16
8	3000	6 1/2 - 7 1/2	8 3/8	15/16	3/4	3/4	5/8
8	13345	165 - 191	213	24	19	M20	16
9	3000	8 - 9	9	15/16	3/4	3/4	5/8
9	13345	203 - 229	229	24	19	M20	16
10	3000	10 - 10 1/2	9 13/16	15/16	3/4	3/4	5/8
10	13345	254 - 267	249	24	19	M20	16
11	6000	4	9 3/8	1 1/4	1	1 1/8	7/8
11	26690	102	238	32	25	M30	22
12	6000	5 - 6	9 13/16	1 1/4	1	1 1/8	7/8
12	26690	127 - 152	249	32	25	M30	22
13	6000	6 1/2 - 7 1/2	10 7/16	1 1/4	1	1 1/8	7/8
13	26690	165 - 191	265	32	25	M30	22
14	6000	8 - 9	11 1/16	1 1/4	1	1 1/8	7/8
14	26690	203 - 229	281	32	25	M30	22
15	6000	10 - 10 1/2	11 15/16	1 1/4	1	1 1/8	7/8
15	26690	254 - 267	303	32	25	M30	22

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

STEEL BEAM CLAMP WITH WELDLESS EYENUT

Figure 297

The Figure 297 beam clamp with eyenut is used when welding to the structure is prohibited for supports and where some movement is expected. The clamping effect is produced by the "ice tong" action of the arms and is locked in place by the through bolt located just under the beam flange.

Material: Carbon Steel with Forged Steel Eyenut.

Compliance: Federal Specification A-A-1192A (Type 4), ANSI/ MSS SP-58 (Type 4)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify rod size, clamp number, figure number, and finish. For Metric applications specify Figure M297.

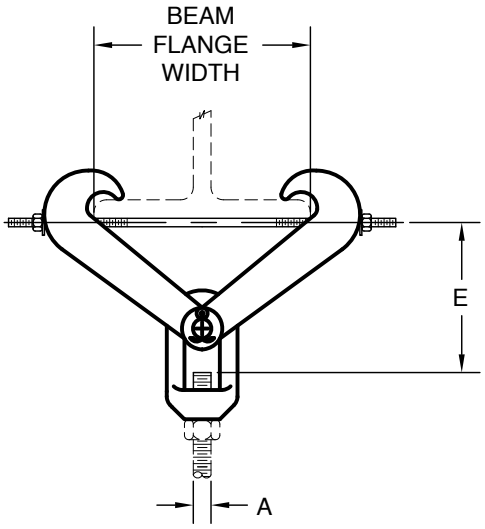


FIGURE 297 - STEEL BEAM CLAMP WITH WELDLESS EYENUT

CLAMP SIZE	MAX LOAD	MAX ROD SIZE A	BEAM WIDTH	BODY SIZE	MAX FLANGE THICKNESS	WEIGHT EA
1	2710 1229	3/4 M20	3 - 8 76 - 203	A	0.6 15	5.5 2.5
2	4960 2250	1 M24	3 - 8 76 - 203	A	0.6 15	5.5 2.5
3	4960 2250	1 M24	4 - 11 102 - 279	B	0.6 15	9.0 4.1
4	4960 2250	1 M24	4 - 12 102 - 305	C	1.03 26	29.0 13.2
5	4960 2250	1 M24	11 - 15 279 - 381	D	1.03 26	33.3 15.1
6	11500 5216	1 1/2 M36	4 - 12 102 - 305	C	1.03 26	29.0 13.2
7	11500 5216	1 1/2 M36	11 - 15 279 - 381	D	1.03 26	33.3 15.1
8	11500 5216	2 M48	4 - 12 102 - 305	C	1.03 26	29.0 13.2

** Based on the allowable stresses shown in ANSI Code for Pressure Piping

CLAMP SIZE	BODY SIZE	ROD TAKEOUT "E" FOR WIDTH OF BEAM											
		3"	4"	5"	6"	7"	8"	9"	10"	11"	12"	13"	14"	15"
1	A	5 3/16 132	5 1/8 130	5 127	4 13/16 122	4.375 111	3 15/16 100							
2	A	5 3/16 132	5 1/8 130	5 127	4 13/16 122	4.375 111	3 15/16 100							
3	B		8 1/4 210	8 1/8 206	8 1/8 206	7 7/8 200	7 3/4 197	7 3/8 187	7 5/8 194	6 1/2 165				
4	C		8 5/8 219	8 5/8 219	8 1/2 216	8 3/8 213	8 1/8 206	7 3/8 187	7 5/8 194	7 178	6 3/4 171			
5	D									9 1/2 241	9 1/4 235	8 7/8 225	8 3/8 213	7 7/8 200
6	C		8 5/8 219	8 5/8 219	8 1/2 216	8 3/8 213	8 1/8 206	7 7/8 200	7 5/8 194	7 178	6 3/4 171			
7	D									9 3/4 248	9 1/2 241	9 1/8 232	8 3/4 222	8 1/8 206
8	C		11 5/8 295	11 1/2 292	11 1/2 292	11 3/8 289	11 1/8 283	10 7/8 276	10 3/4 273	10 1/2 267	10 254			

BEAM CLAMP

Figure 268

Designed to allow the connection of hanger rods to steel beams without welding. Vertical rod adjustment is approximately 2 inches after installation.

Material: Carbon Steel. Stainless Steel available upon Request.

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify rod size, figure number, width of beam flange and finish.
For Metric applications specify Figure M268.

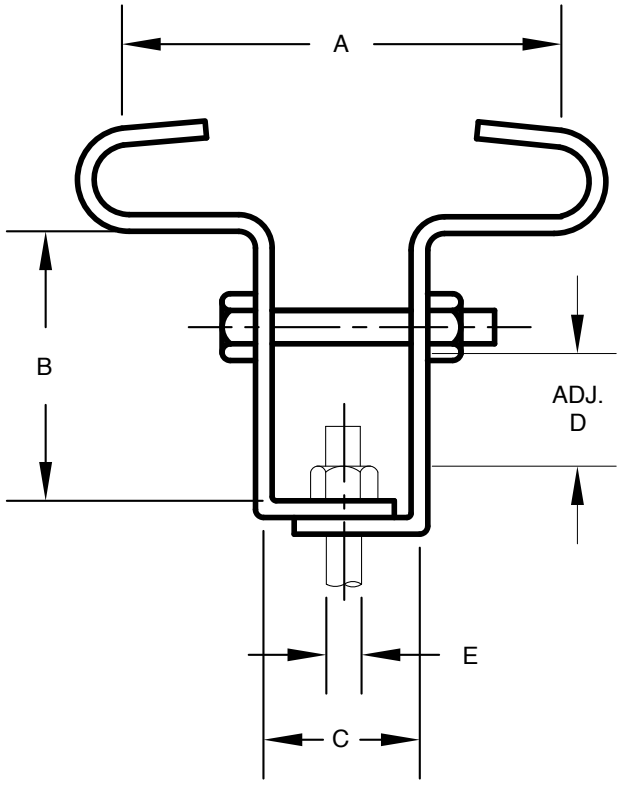


FIGURE 268 BEAM CLAMP

SIZE	MAX LOAD	A (MINIMUM)	MAX ROD SIZE E	B	C	ADJUSTMENT D
1	700	3	1/2	4	2	2 13/16
1	3114	76	M15	102	51	71
2	1500	3	3/4	4	2	2 3/4
2	6673	76	M20	102	51	70
3	2600	3	7/8	4	2	2 3/4
3	11566	76	M20	102	51	70
4	4300	4	1	5	2	3 1/4
4	19128	102	M24	127	51	83
5	8000	4	1 1/4	5 1/2	2 1/2	3 1/4
5	35587	102	M30	140	64	83

ADJUSTABLE SIDE BEAM CLAMP

Figure 217

The Figure 217 is designed to attach mechanically to a steel beam and allow a drop rod to placed at or near the edge of the beam. Various beam flange widths and thicknesses can be accommodated.

Material: Carbon Steel

Compliance: ANSI/MSS SP-58 (Type 25)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify size, figure number, and type.
For Metric applications specify Figure M217.

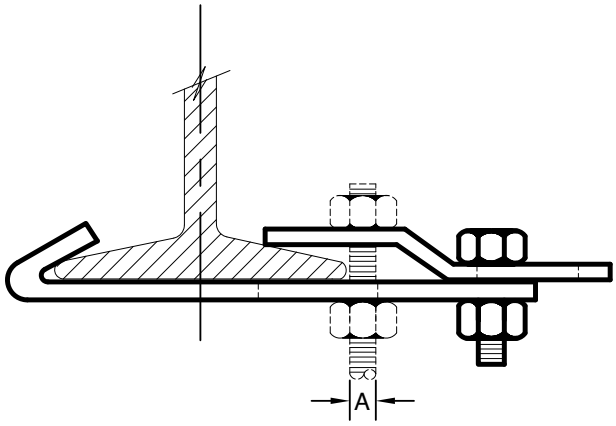


FIGURE 217 - ADJUSTABLE SIDE BEAM CLAMP

TYPE 1	A	MAX LOAD	MAX FLANGE THICKNESS	FLANGE WIDTH	WEIGHT EA
Size 3	3/8	300	1/2	3 - 4 1/2	0.80
	M10	1335	13	76 - 114	0.36
Size 4 5/8	3/8	300	2/3	4 5/8 - 6	1.06
	M10	1335	17	117 - 152	0.48
Size 6 1/8	3/8	300	3/4	6 1/8 - 7 1/2	1.17
	M10	1335	19	156 - 191	0.53
Size 7 5/8	3/8	300	1	7 5/8 - 9	1.28
	M10	1335	24	194 - 229	0.58
TYPE 2					
Size 3	1/2	500	1/2	3 - 4 1/2	1.57
	M12	2224	13	76 - 114	0.71
Size 4 5/8	1/2	500	2/3	4 5/8 - 6	1.84
	M12	2224	17	117 - 152	0.83
Size 6 1/8	1/2	500	3/4	6 1/8 - 7 1/2	2.05
	M12	2224	19	156 - 191	0.93
Size 7 5/8	1/2	500	1	7 5/8 - 9	2.23
	M12	2224	24	194 - 229	1.01
TYPE 2					
Size 3	5/8	700	1/2	3 - 4 1/2	3.75
	M16	3114	13	76 - 114	1.70
Size 4 5/8	5/8	700	2/3	4 5/8 - 6	4.19
	M16	3114	17	117 - 152	1.90
Size 6 1/8	5/8	700	3/4	6 1/8 - 7 1/2	4.53
	M16	3114	19	156 - 191	2.05
Size 7 5/8	5/8	700	1	7 5/8 - 9	5.11
	M16	3114	24	194 - 229	2.32

TOP BEAM CLAMP

Figure 6

The Figure 6 is designed to support piping from top members of angle iron trusses or the top flange of I-beams.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify Clamp number, figure number, flange width, flange thickness, and finish.
For Metric applications specify Figure M6
Made Special to Customer Order

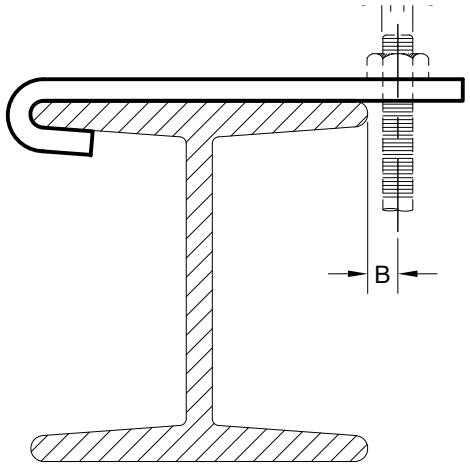


FIGURE 6 TOP BEAM CLAMP

CLIP NO.	MAX LOAD	ROD SIZE A	B	WEIGHT EA WIDTH OF I BEAM FLANGE 4 102	6 152	8 203	12 305
1	300	3/8	5/16	0.46	0.59	0.73	0.99
1	1335	M10	7.9	0.21	0.27	0.33	0.45
2	500	1/2	3/8	0.62	0.8	0.97	1.33
2	2224	M12	9.5	0.28	0.36	0.44	0.60
3	700	5/8	7/16	1.05	1.34	1.62	2.21
3	3114	M16	11.1	0.48	0.61	0.73	1.00
4	1000	3/4	1/2	1.59	2.01	2.42	3.29
4	4448	M20	12.7	0.72	0.91	1.10	1.49
5	2000	7/8	9/16	2.77	3.51	4.22	5.64
5	8897	M20	14.3	1.26	1.59	1.91	2.56

RIGHT ANGLE BEAM CLAMP

Figure 282

The Figure 282 is used in attaching rigid conduit or pipe at a right angle to a structural member.

Materials: Malleable Iron body with Carbon Steel U-bolt with hex nuts

Finish: Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M282.

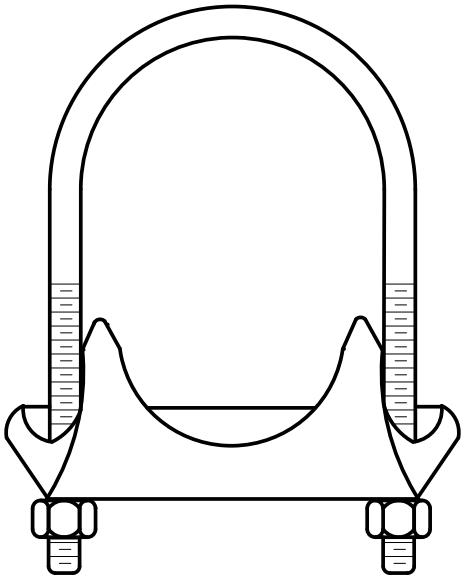
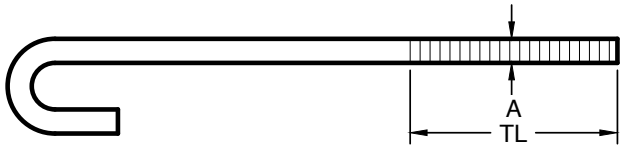


FIGURE 282 - RIGHT ANGLE BEAM CLAMP

CLIP NO.	MAX LOAD
3/8	0.33
10	0.15
1/2	0.41
15	0.19
3/4	0.42
20	0.19
1	0.47
25	0.21
1 1/4	0.54
32	0.24
1 1/2	0.57
40	0.26
2	0.85
50	0.39
2 1/2	1.06
65	0.48
3	1.10
80	0.50
3 1/2	1.28
90	0.58
4	1.40
100	0.64

J BEAM HOOK

Figure 31



The Figure 31 is used in conjunction with our Figure 33 Machine Thread Eye Rod when it is necessary to support piping from the top flange of beam which allows the pipe to run close to the bottom of the beam where headroom is limited.

Made special to customer order.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized
Length equals the distance from the end of the threaded end to the inside of the hook.

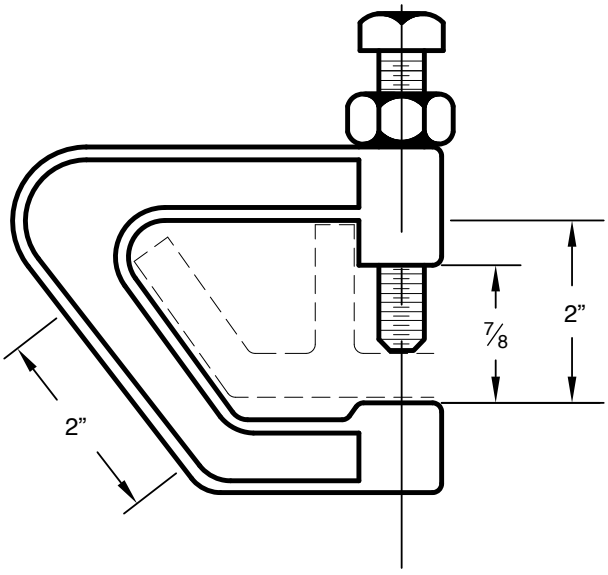
Ordering: Specify rod size, length, thickness of flange, figure number, and finish.
For Metric applications specify Figure M31.

Figure 31 - J BEAM HOOK

ROD SIZE A	THREAD LENGTH TL	WEIGHT EA WIDTH OF I BEAM FLANGE						
		4	5	6	7	8	10	12
		102	127	152	178	203	254	305
3/8	2 1/2	0.19	0.22	0.25	0.28	0.32	0.38	0.44
M10	64	0.09	0.10	0.11	0.13	0.15	0.17	0.20
1/2	2 1/2	0.33	0.39	0.45	0.5	0.56	0.67	0.78
M12	64	0.15	0.18	0.20	0.23	0.25	0.30	0.35
5/8	2 1/2	0.52	0.61	0.7	0.78	0.87	1.02	1.22
M16	64	0.24	0.28	0.32	0.35	0.39	0.46	0.55
3/4	3	0.75	0.89	1.01	1.13	1.26	1.5	1.75
M20	76	0.34	0.40	0.46	0.51	0.57	0.68	0.79
7/8	3 1/2	1.02	1.2	1.36	1.53	1.71	2.04	2.39
M20	89	0.46	0.54	0.62	0.69	0.78	0.93	1.08

PURLIN CLAMP

Figure 290



Designed to attach directly to steel purlins. Maximum Pipe Size is 4”.

Material: Malleable Iron with hardened steel cup point set screw.

Finish: Plain, Electro-Galvanized

Ordering: Specify figure number.
For Metric applications specify Figure M290.

FIGURE 290 - PURLIN CLAMP

ROD SIZE	MAX LOAD	WEIGHT EA
3/8	400	0.82
M10	1779	0.37

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

SINGLE PLATE

Figure 85RT (Rod Tapped – Plain)
Figure 85RT CE (Rod Tapped – Copper Colored Epoxy
Figure 85RT E (Rod Tapped – Electro-Galvanized)

The Figure 85RT's are designed for attaching a hanger rod to a wooden member. This part is normally used in conjunction with our Figure 81 series of Hinged Split Ring pipe and tubing attachments.

Material: Malleable Iron

Ordering: Specify rod size and figure number.
For Metric applications prefix the Figure Number with an "M".

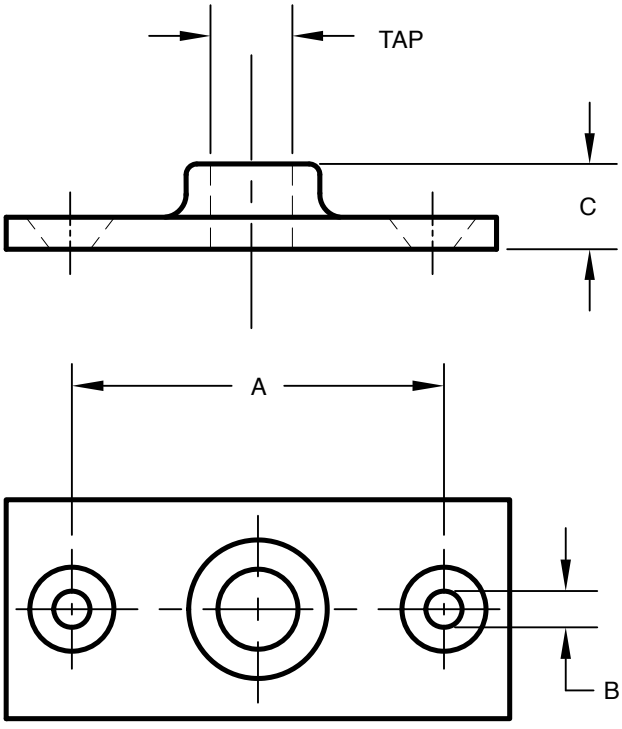


FIGURE 85RT - FIGURE 85RT CE - FIGURE 85RT E - SINGLE PLATE

ROD TAP	MAX LOAD	A	B	C	WEIGHT EA
3/8	180	2	1/4	1/2	0.19
M10	801	51	6	13	0.09
1/2	180	2	1/4	1/2	0.18
M12	801	51	6	13	0.08

SINGLE PLATE

Figure D85RTSTP (Plain- Carbon Steel-Domestic)
Figure D85RTSTP CE (Copper Colored Epoxy-Carbon Steel-Domestic)
Figure D85RTSTP E (Electro-Galvanized-Carbon Steel-Domestic)
Figure D85RTSTP SS (Stainless Steel-Domestic)

These series of Single Plates are designed for attaching a rod to a wooden member. These part is normally used in conjunction with our Figure D81 series of Split Ring Hangers.

All these products are manufactured in the United States.

Material: Carbon Steel, or Stainless Steel (Type 304)

Finishes: Plain, Copper Colored Epoxy, Electro-Galvanized

Ordering: Specify Rod Size and Figure Number
For Metric application prefix the Figure Number with an "M".

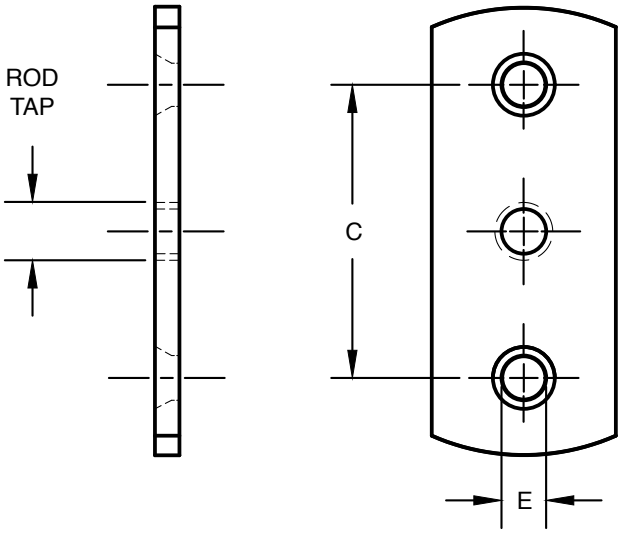


FIGURE D85RTSTP, D85RTSTP CE, D85RTSTP E, D85R STP SS

ROD TAP	MAX LOAD	C	E	WEIGHT EA
3/8	180	1 3/4	1/4	0.17
M10	801	44	6	0.08
1/2	180	1 3/4	1/4	0.16
M12	801	44	6	0.07

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

WALL BRACKET

Figure 49

The Figure 49 is designed for light duty hanger applications.

Compliance: ANSI/MSS SP-58 (Type 31)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify size, figure number, and finish.
For Metric applications specify Figure M49.

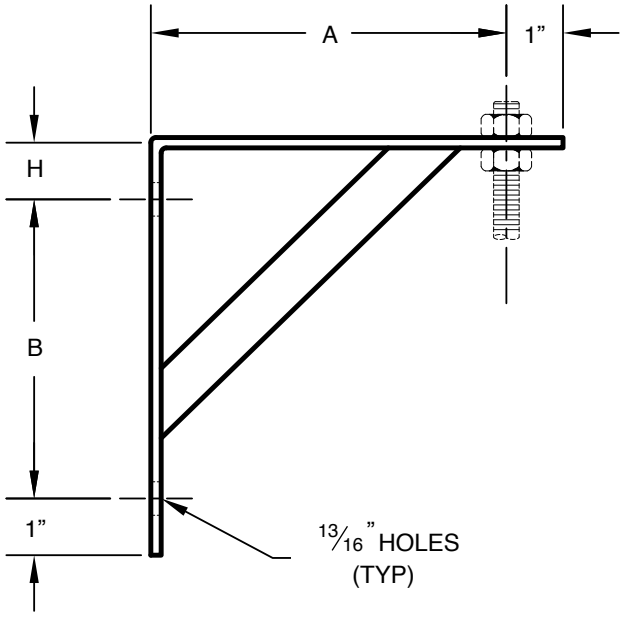


FIGURE 49 WALL BRACKET

SIZE	MAX LOAD	ROD SIZE	A	B	H	WEIGHT EA
1	500	3/8	9	8 1/4	1 1/4	3.12
1	2224	M10	229	210	32	1.42
2	500	3/8	13	12 1/4	1 1/4	4.60
2	2224	M10	330	311	32	2.09
3	620	3/8	19	18 1/8	1 3/8	13.47
3	2758	M10	483	460	35	6.11

LIGHT WELDED STEEL BRACKET

Figure 69

The Figure 69 is designed to support up to 6” pipe. This bracket is for installation to walls as shown or inverted, and may require a backing plate. Holes for up to 3/4” rods are located at each end of the bracket to allow for use in either orientation.

Material: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 31), ANSI/MSS SP-58 (Type 31)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify size number, figure number, and finish.
For Metric applications specify Figure M69.

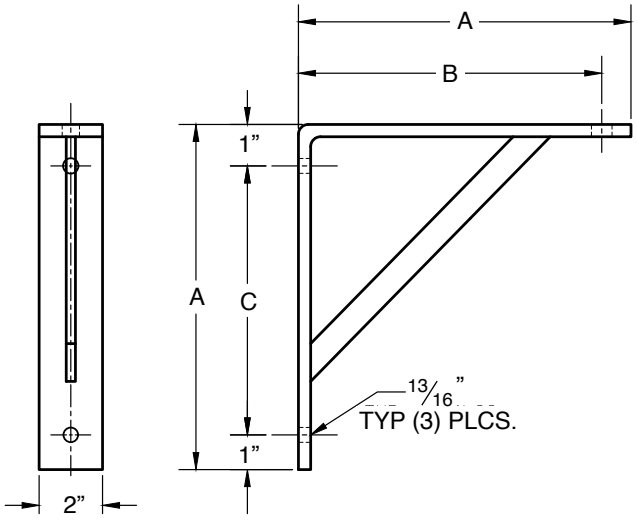


FIGURE 69 - LIGHT WELDED STEEL BRACKET

SIZE	MAX LOAD	A	B	C	WEIGHT EA
1	750	9	8	6 1/2	6.99
1	3336	229	203	165	3.17
2	750	13	12	10 1/2	10.1
2	3336	330	305	267	4.60
3	750	19	18	16 1/2	10.5
3	3336	483	457	419	4.74

CANTILEVER ANGLE WALL BRACKET

Figure 7022

Designed for support of piping off concrete walls. Can be furnished with a hanger rod connection hole, or without.

Material: Carbon Steel

Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify bracket size, figure number, rod diameter, dimension "A", and finish.
For Metric applications specify Figure M7022.

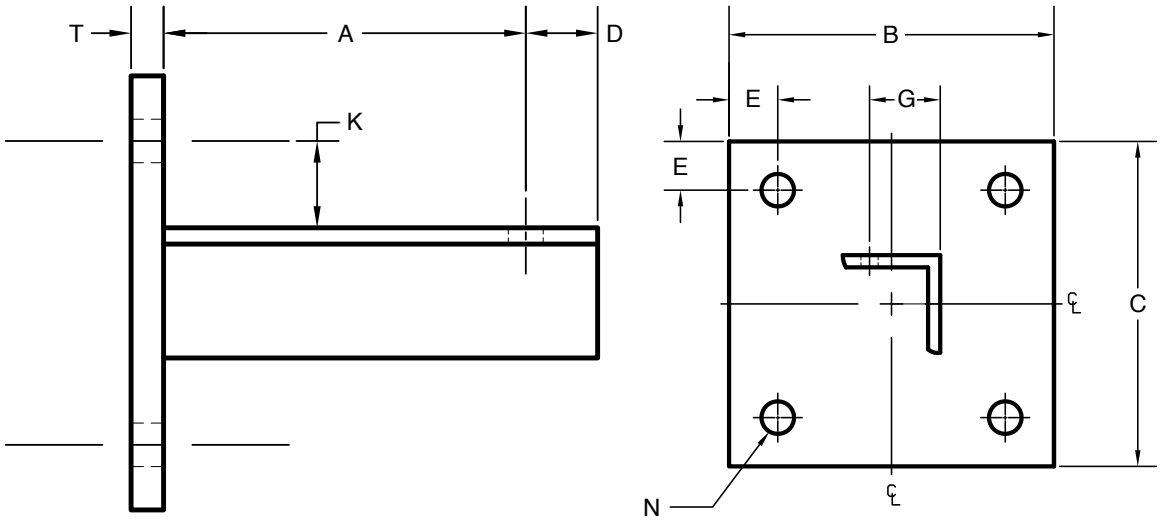


FIGURE 7022 - CANTILEVER ANGLE WALL BRACKET

SIZE	ANGLE SIZE	MAX ROD SIZE R	B	C	MINIMUM D	E	G	BOLT DIAMETER	T	K
1	1 1/2 X 1 1/2 X 1/4	1/2	5	5	1	1	7/8	1/2	1/4	3/4
2	2 X 2 X 3/8	5/8	5	5	1	1	1 1/8	5/8	3/8	1/2
3	3 X 3 X 3/8	7/8	7	7	1	1	1 3/4	5/8	1/2	1
4	4 X 3 X 3/8	1	8	8	1 1/2	1	1 3/4	3/4	1/2	1
5	5 X 3 X 3/8	1	10	10	1 1/2	1 1/4	1 3/4	7/8	1/2	1 1/4
6	6 X 4 X 1/2	1 1/4	10	12	1 1/2	1 1/4	2 1/2	1	3/4	1 3/4

Note: Size 6 is an Unequal Leg Angle with the log leg vertical.

FIGURE 7022 - CANTILEVER ANGLE WALL BRACKET

	MAXIMUM LOAD AT LENGTH "A" (INCHES)												
SIZE	6	8	10	12	14	16	18	20	22	24	26	28	30
1	300	230	190	160	-----	-----	-----	-----	-----	-----	-----	-----	-----
2	790	610	490	410	350	310	280	-----	-----	-----	-----	-----	-----
3	1540	1210	990	840	730	640	570	520	470	430	-----	-----	-----
4	2100	1920	1670	1440	1250	1100	990	890	810	750	-----	-----	-----
5	2310	2240	2170	2020	1830	1670	1540	1420	1310	1220	1140	1070	1010
6	3670	3590	3500	3420	3260	3010	2790	2590	2380	2200	2040	1910	1790

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

ANGLE KNEE

Figure 9

The Figure 9 is used in supporting pipe hangers to the side of joist, steel, or wood beams. It can be either bolted or welded to the structure.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 34) ANSI/MSS SP-58 (Type 34)

Ordering: Specify Size, figure number, and finish. For Metric applications specify Figure M9.

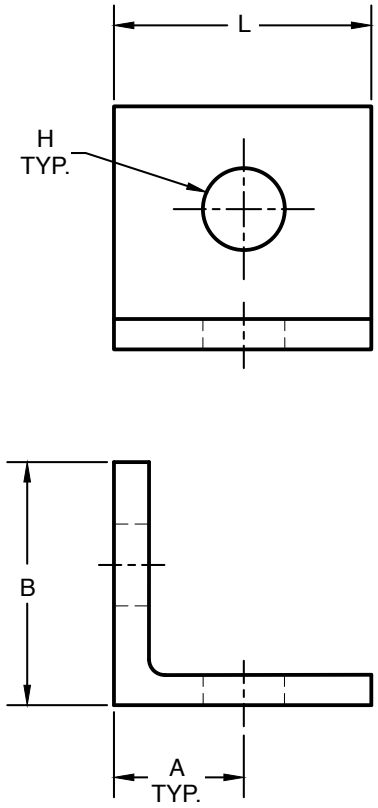


FIGURE 9 ANGLE KNEE

SIZE	ROD SIZE	MAX LOAD	A	B	H	L	WEIGHT EA
A	3/8	150	1 1/8	2	7/16	2	0.53
A	M10	667	29	51	11	51	0.24
B	1/2	300	1 3/4	3	9/16	3	1.23
B	M12	1335	44	76	14	76	0.56
C	5/8	760	2 1/2	4	11/16	4	2.20
C	M16	3381	64	102	17	102	1.00

EXTENSION BAR

Figure 10

The Figure 10 is made of soft steel and can be easily cut with a cold chisel to any desired length, twisted, bent, or otherwise manipulated without breaking, yet retaining its strength.

Furnished in ten, fifty, or one hundred foot rolls.

Finish: Plain

Ordering: Specify size, length and figure number. For Metric applications specify Figure M10.

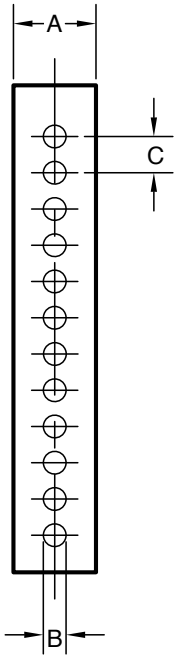


FIGURE 10 EXTENSION BAR

SIZE	A	B	C	WEIGHT PER FT.
0	3/4	1/4	1/2	0.12
0	19	6	13	0.05
1	7/8	1/4	1/2	0.18
1	22	6	13	0.08
2	1	1/4	1/2	0.25
2	25	6	13	0.11

MEDIUM WELDED STEEL BRACKET

Figure 84

The Figure 84 is designed to support pipe from either above or below. Slotted construction allows for drop rod use along the length of the bracket. This bracket is for bolted installation to walls and may require a backing plate. Special steel brackets can be fabricated to customer loads and/or dimensions.

Compliance: Federal Specification A-A-1192A (Type 32), ANSI/MSS SP-58 (Type 32)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify size number, figure number, and finish. For Metric applications specify Figure M84.

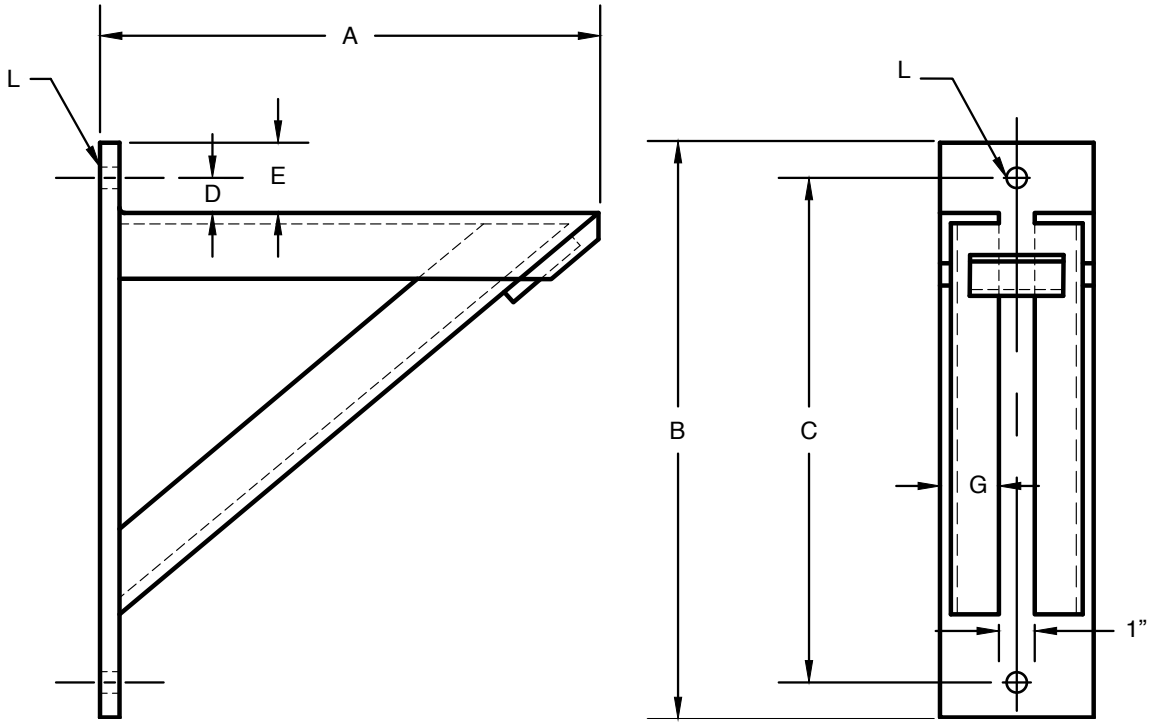


FIGURE 84 - MEDIUM WELDED STEEL BRACKET

SIZE	MAX LOAD	A	B	D	D	E	G	L	WEIGHT EA
0	1500	12	18	15 1/2	1 1/4	2 1/2	1 1/4	13/16	15.5
0	6673	305	457	394	32	64	32	21	7.03
1	1500	18	24	21 1/2	1 1/4	2 1/2	1 1/2	13/16	24.7
1	6673	457	610	546	32	64	38	21	11.2
2	1500	24	30	27 1/2	1 1/4	2 1/2	1 1/2	13/16	37.7
2	6673	610	762	699	32	64	38	21	17.1

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

HEAVY WELDED STEEL BRACKET

Figure 139

The Figure 139 is designed to support pipe from either above or below. Slotted construction allows for drop rod use along the length of the bracket. This bracket is for bolted installation to walls and may require a backing plate. All concrete anchor bolts must be ¾"diameter with a minimum embedment of 3-1/2 inches. Available in Type 304 or 316 stainless steel on special order.

Special steel brackets can be fabricated to customer's loads and/or dimensions.

Material: Carbon Steel, 304 or 316 Stainless Steel

Compliance: Federal Specification A-A-1192A (Type 33), ANSI/ MSS SP-58 (Type 33)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify size number, figure number, finish, and material
For Metric applications specify Figure M139.

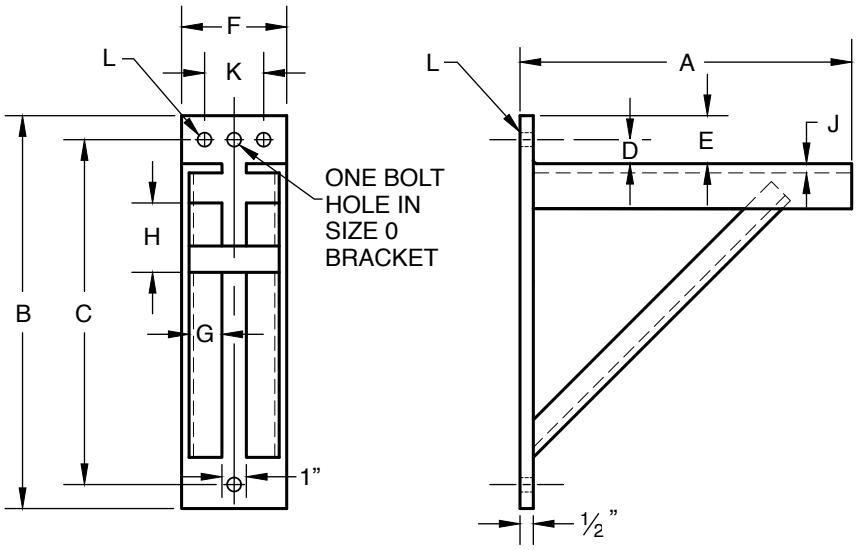


FIGURE 139 - HEAVY WELDED STEEL BRACKET

SIZE	MAX LOAD	A	B	C	D	E	F	G	H	J	K	L	WEIGHT EA
0	3000	12	18	15 1/4	1 1/2	2 3/4	5	1 1/2	2	3/8	NA	13/16	29.0
0	13345	305	457	387	38	70	127	38	51	10	NA	21	13.2
1	3000	18	24	21 3/8	1 1/2	2 3/4	5	1 1/2	2	3/8	2 3/4	13/16	41.3
1	13345	457	610	543	38	70	127	38	51	10	70	21	18.7
2	3000	24	30	27 1/2	1 1/2	2 3/4	5	1 1/2	2 1/2	3/8	2 1/2	1 1/16	53.5
2	13345	610	762	699	38	70	127	38	64	10	64	27	24.3
3	3000	30	36	33 1/4	1 5/8	3	6	2	2 1/2	3/8	2 1/2	1 1/16	93.4
3	13345	762	914	845	41	76	152	51	64	10	64	27	42.4
4	3000	36	42	39	1 1/2	3	6	2	3 1/2	3/8	3 1/2	1 1/16	111
4	13345	914	1067	991	38	76	152	51	89	10	89	27	50.3
5	3000	42	50	46	1 1/2	3 1/2	6	2 1/2	3 1/2	3/8	3 1/2	1 1/16	131
5	13345	1067	1270	1168	38	89	152	64	89	10	89	27	59.2

CEILING STIRRUP

Figure 151

The Figure 151 is designed for attaching a rod to a level ceiling or beam.

Material: Carbon Steel

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify size, figure number, and finish.
For Metric applications specify Figure M151.

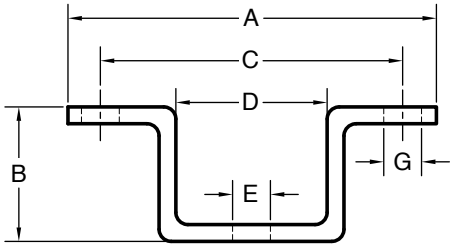


FIGURE 151 - CEILING STIRRUP

SIZE	MAX LOAD	A	B	C	D	E	G	WEIGHT EA
1	600	6	2	4 1/2	2 1/4	9/16	9/16	0.76
1	2669	152	51	114	57	14	14	0.34
2	880	6	2 1/8	4 1/2	2 1/8	11/16	9/16	1.36
2	3915	152	54	114	54	17	14	0.62

WELDED BEAM ATTACHMENT

Figure 113A

Figure 113B

Fig. 113A is recommended for attachment to the bottom of beams when little or no pipe movement is expected.

Fig. 113B is recommended for attachment to the bottom of beams, when pipe movement is expected. Sizes 1" and smaller are typically supplied with a bolt and nut; while Sizes 1-1/4" and larger are typically supplied with a pin with cotters.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 22), ANSI/MSS SP-58 (Type 22)

Ordering: Specify rod size, figure number, and finish.
For Metric applications specify Figure Number M113A or M113B.

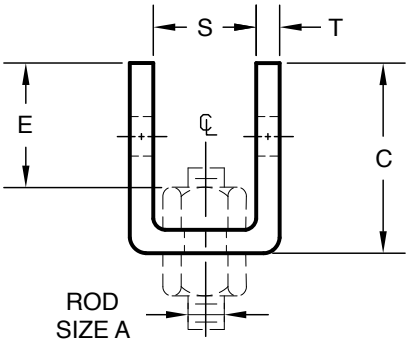


FIGURE 113A
FOR ROD SIZES 3/8"
THRU 1 3/4"

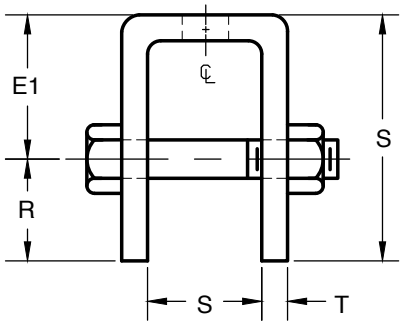


FIGURE 113B
FOR ROD SIZES 3/8"
THRU 1 3/4"

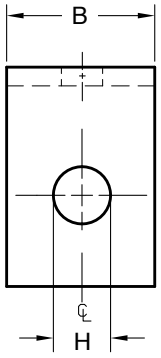


FIGURE 113B
FOR ROD SIZES 3/8"
THRU 1 3/4"

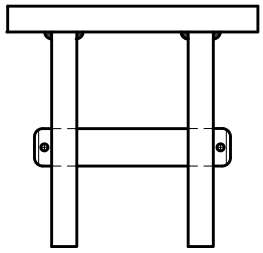


FIGURE 113B
FOR ROD SIZES 2"
THRU 3 1/2"

FIGURE 113A AND FIGURE 113B - WELDED BEAM ATTACHMENT

											WEIGHT EA	
					ROD TAKEOUT							
					FIG 113A	FIG 113B						
ROD SIZE	MAX LOAD 650F / 343C	BOLT OR PIN SIZE	B	C	E	E1	H	R	S	T	FIG 113A W/O B&N	FIG113B WITH B&N
3/8	730	1/2	2	2 7/8	1 7/8	2	9/16	7/8	1 1/4	1/4	0.96	1.20
M10	3247	M12	51	73	48	51	14	22	32	6	0.44	0.54
1/2	1350	5/8	2	2 7/8	1 3/4	2	11/16	7/8	1 1/4	1/4	0.96	1.20
M12	6005	M16	51	73	44	51	17	22	32	6	0.44	0.54
5/8	2160	3/4	2	2 7/8	1 3/4	2	13/16	7/8	1 1/4	1/4	0.96	1.60
M16	9609	M20	51	73	44	51	21	22	32	6	0.44	0.73
3/4	3230	7/8	2 1/2	3 1/8	1 7/8	2	15/16	1 1/8	1 1/2	3/8	1.90	2.80
M20	14368	M22	64	79	48	51	24	29	38	10	0.86	1.27
7/8	4480	1	2 1/2	4 1/4	2 5/8	3	1 1/8	1 1/4	2	3/8	2.50	3.90
M20	19929	M24	64	108	67	76	29	32	51	10	1.13	1.77
1	5900	1 1/8	3	4 1/2	3	3 1/2	1 1/4	1 1/2	3	1/2	4.30	6.30
M24	26246	M27	76	114	76	89	32	38	76	13	1.95	2.86
1 1/4	9500	1 3/8	4	5	3 1/8	3	1 1/2	2	3	5/8	8.10	10.2
M30	42260	M36	102	127	79	76	38	51	76	16	3.67	4.63
1 1/2	13800	1 5/8	5	6 1/2	4 1/4	4	1 3/4	2 1/2	3 1/2	3/4	15.6	19.0
M36	61388	M42	127	165	108	102	44	64	89	19	7.08	8.6
1 3/4	18600	1 7/8	5	7 3/4	5 1/4	5	2	2 3/4	3 3/4	3/4	18.7	24.2
M42	82740	M48	127	197	133	127	51	70	95	19	8.48	11.0
2	24600	2 1/4	6	8 1/4	N/A	5	2 3/8	3 1/4	3 1/2	1/2	N/A	30.6
M48	109431	M56	152	210	N/A	127	60	83	89	13	N/A	13.9
2 1/4	32300	2 1/2	6	9 1/2	N/A	6 1/4	2 5/8	3 1/2	3 1/2	5/8	N/A	36.8
M56	143683	M64	152	241	N/A	159	67	89	89	16	m	16.7
2 1/2	39800	2 3/4	6	9 3/4	N/A	6 1/4	2 7/8	3 3/4	3 3/4	5/8	N/A	39.7
M64	177046	M72	152	248	N/A	159	73	95	95	16	N/A	18.0
2 3/4	49400	3	6	9 1/2	N/A	5 3/4	3 1/8	3 3/4	3 3/4	5/8	N/A	39.7
M72	219751	M80	152	241	N/A	146	79	95	95	16	N/A	18.0
3	60100	3 1/4	7	10 1/4	N/A	6 1/4	3 3/8	4	3 3/4	5/8	N/A	49.0
M80	267349	M80	178	260	N/A	159	86	102	95	16	N/A	22.2
3 1/4	71900	3 1/2	7	11 1/2	N/A	7	3 5/8	4 1/2	4 1/4	3/4	N/A	67.6
M80	319840	M90	178	292	N/A	178	92	114	108	19	N/A	30.7
3 1/2	84700	3 3/4	8	12	N/A	7 1/2	3 7/8	4 1/2	4 1/4	3/4	N/A	79.3
M90	376779	M90	203	305	N/A	191	98	114	108	19	N/A	36.0

WELDING CLEVIS ATTACHMENT

Figure 216

The Figure 216 is an assembly of the Figure 220 and Figure 276P for ordering convenience.

Material: Carbon and Forged Carbon Steel

Compliance: ANSI/MSS SP-58

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify rod size, figure number, and finish. For Metric applications specify Figure M216.

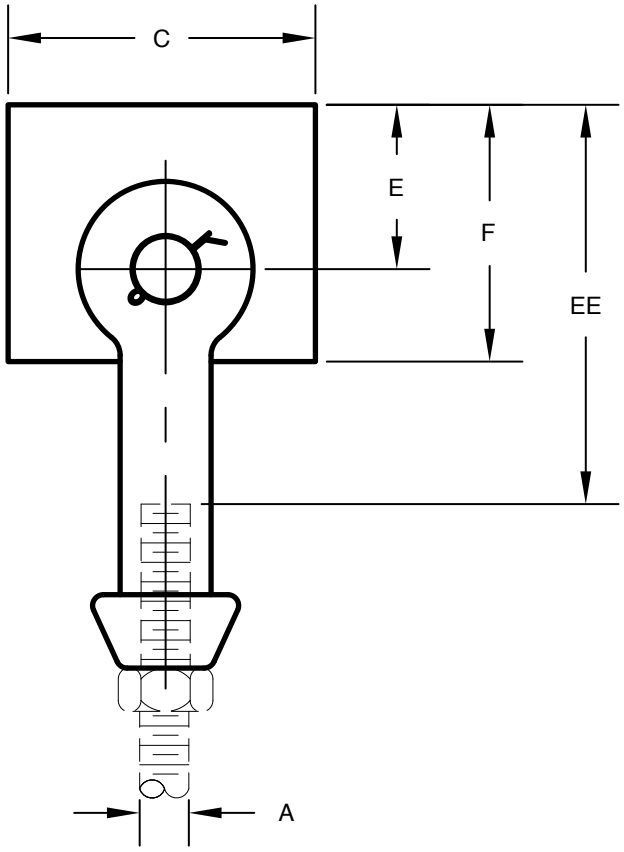


FIGURE 216 - WELDING CLEVIS ATTACHMENT

ROD SIZE A	C	E	EE	F	WEIGHT EA
1/2	2 1/2	3	6 1/2	4 1/4	1.7
M12	64	76	165	108	0.7
5/8	2 1/2	3	6 1/2	4 1/4	1.6
M16	64	76	165	108	0.7
3/4	2 1/2	3	7	4 1/4	4.0
M20	64	76	178	108	1.8
7/8	2 1/2	3	7	4 1/4	4.4
M20	64	76	178	108	2.0
1	3	3	8	4 1/2	6.7
M24	76	76	203	114	3.0
1 1/4	4	4	9	6	9.2
M30	102	102	229	152	4.2
1 1/2	5	4 1/2	10 1/2	7	14.9
M36	127	114	267	178	6.8
1 3/4	5	4 1/2	10 1/2	7	19.2
M42	127	114	267	178	8.7
2	6	4 1/2	11 1/2	7 1/2	30.5
M48	152	114	292	191	13.8
2 1/4	6	4 1/2	12 1/2	7 1/2	42.7
M56	152	114	318	191	19.4
2 1/2	8	4 1/2	12 1/2	8 1/2	51.5
M64	203	114	318	216	23.4

WELDING LUG

Figure 220

The Figure 220 is to be welded to the underside of structural members for the support of Type C Variable Springs, and with the Figure 276P Forged Steel Clevis with Pin.

Maximum Temperature: Plain 650º F (343º C), Hot-Dip Galvanized 450º F (232º C)

Material: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 57), ANSI/MSS SP-58 (Type 57)

Finish: Plain, Painted, and Hot-Dip Galvanized

Ordering: Specify size, figure number, and finish.
For Metric applications specify Figure M220.

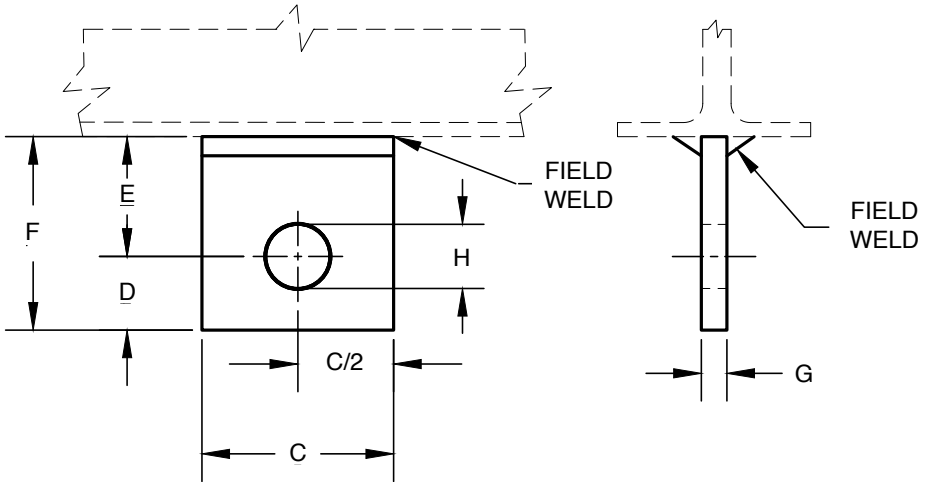


FIGURE - 220 WELDING LUG

SIZE	BOLT OR PIN SIZE	MAX LOAD	C	D	E	F	G	H	WEIGHT EA
3/8	1/2	610	2 1/2	1 1/4	3	4 1/4	1/4	5/8	0.48
M10	M12	2714	64	32	76	108	6	16	0.22
1/2	5/8	1130	2 1/2	1 1/4	3	4 1/4	1/4	11/16	0.45
M12	M16	5027	64	32	76	108	6	17	0.20
5/8	3/4	1810	2 1/2	1 1/4	3	4 1/4	1/4	13/16	0.41
M16	M20	8052	64	32	76	108	6	21	0.19
3/4	7/8	2710	2 1/2	1 1/4	3	4 1/4	3/8	15/16	0.79
M20	M20	12055	64	32	76	108	10	24	0.36
7/8	1	3770	2 1/2	1 1/4	3	4 1/4	3/8	1 1/8	0.98
M20	M24	16770	64	32	76	108	10	29	0.44
1	1 1/8	4960	3	1 1/2	3	4 1/2	1/2	1 1/4	1.60
M24	M30	22064	76	38	76	114	13	32	0.73
1 1/4	1 3/8	8000	4	2	4	6	5/8	1 1/2	3.70
M30	M36	35587	102	51	102	152	16	38	1.68
1 1/2	1 5/8	11630	5	2 1/2	4 1/2	7	3/4	1 3/4	6.40
M36	M42	51735	127	64	114	178	19	44	2.90
1 3/4	1 7/8	15700	5	2 1/2	4 1/2	7	3/4	2	6.30
M42	M48	69840	127	64	114	178	19	51	2.86
2	2 1/4	20630	6	3	4 1/2	7 1/2	3/4	2 3/8	7.20
M48	M56	91770	152	76	114	191	19	60	3.27
2 1/4	2 1/2	23000	6	3	4 1/2	7 1/2	3/4	2 5/8	7.60
M56	M64	102313	152	76	114	191	19	67	3.45
2 1/2	2 3/4	30500	8	4	4 1/2	8 1/2	1	2 7/8	15.50
M64	M72	135676	203	102	114	216	25	73	7.03
2 3/4	3	41600	8	4	4 1/2	8 1/2	1	3 1/8	15.10
M72	M80	185053	203	102	114	216	25	79	6.85
3	3 1/4	50500	8	4	5	9	1	3 3/8	16.00
M80	M80	224644	203	102	127	229	25	86	7.26
3 1/4	3 1/2	60500	9	4 1/2	5	9 1/2	1	3 5/8	18.90
M80	M90	269128	229	114	127	241	25	92	8.57
3 1/2	3 3/4	71300	9	4 1/2	6	10 1/2	1 1/2	3 7/8	31.30
M90	M100	317171	229	114	152	267	38	98	14.20
3 3/4	4	82900	9	5	6	11	1 3/4	4 1/8	35.90
M95	M125	368772	229	127	152	279	44	105	16.28

SIDE BEAM ANGLE BRACKET

Figure 303

The Figure 303 is designed for use in supporting pipe hangers to the side of joists, steel members, or wooden beams. It can be either bolted or welded to the structure.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 34), ANSI / MSS SP-58 (Type 34)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify rod size, figure number, and finish
For Metric applications specify Figure M303.

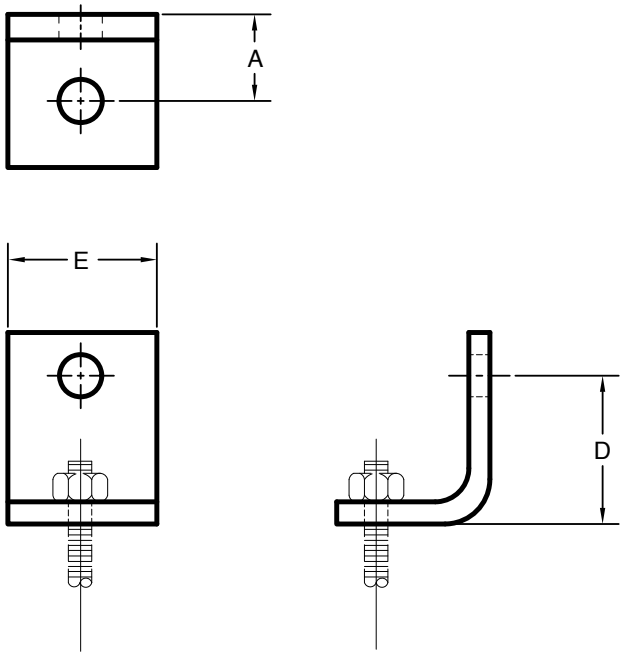


FIGURE 303 - SIDE BEAM BRACKET

ROD SIZE	MAX LOAD		A	D	E	WEIGHT EA
	LAG SCREW	BOLT TO STEEL				
3/8	390	580	7/8	1 1/4	1 1/4	0.25
M10	1735	2580	22	32	32	0.11
1/2	640	960	1 3/16	1 5/8	1 1/2	0.40
M12	2847	4270	30	41	38	0.18
5/8	760	1500	1 7/16	1 7/8	1 1/2	0.70
M16	3381	6673	37	48	38	0.32
3/4	830	2500	1 11/16	2 1/8	2	1.07
M20	3692	11121	43	54	51	0.49
7/8	830	3600	2	2 1/2	2	1.64
M20	3692	16014	51	64	51	0.74

STEEL CONCRETE INSERT

Figure 75I

The Figure 75I is designed to provide an economical method of overhead rod support by being embedded in concrete. The insert is nailed in place prior to the concrete being poured. After the pour has cured the insert knock-out is removed, a Figure 75N, Insert Nut, is installed, and the rod attached.

Material: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 18) ANSI/MSS SP-58 (Type 18)

Finish: Plain, Painted, Electro-Galvanized

Ordering: Specify figure number, and finish. If an Insert Nut Figure 75N is required, it must be ordered separately. For Metric applications specify Figure M75I.

CONCRETE INSERT NUT

Figure 75N

Designed for use with Figure 75I Steel Concrete Insert.

Finish: Plain, Electro-Galvanized

Ordering: Specify rod size, figure number, and finish. For Metric applications specify Figure M75N.

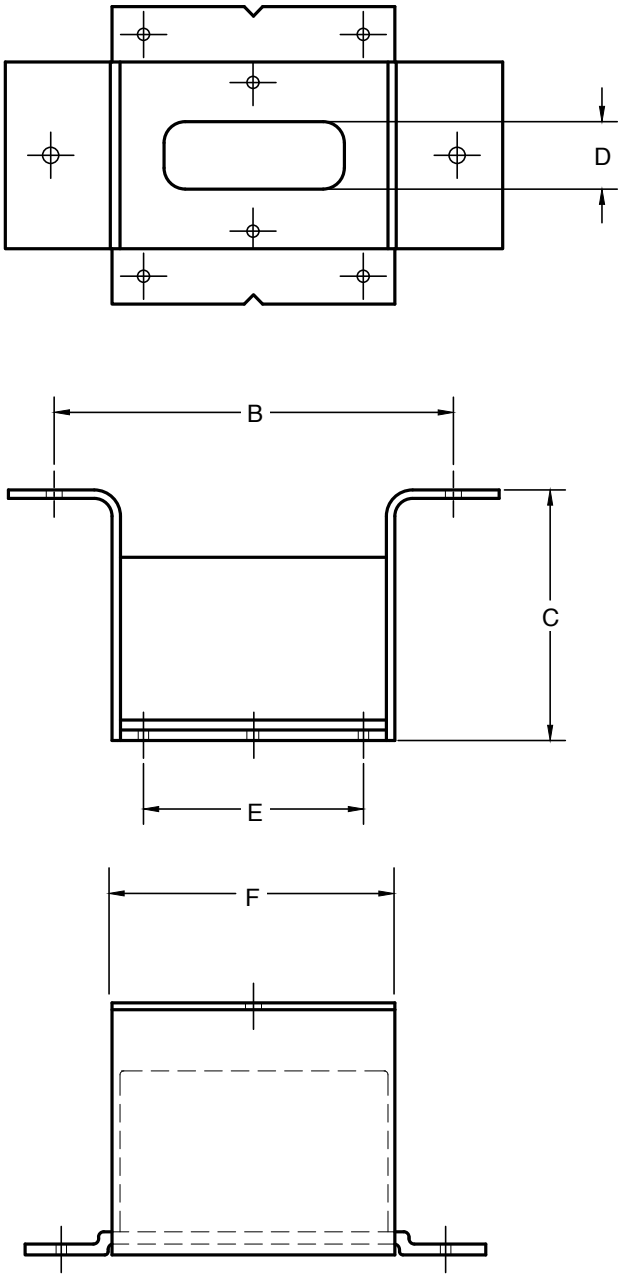


FIGURE 75I STEEL CONCRETE INSERT
FIGURE 75N CONCRETE INSERT NUT

ROD SIZE	MAX LOAD	B	C	D	E	F	WEIGHT EA	
							INSERT	NUT
3/8	600	3 1/8	1 5/8	7/8	1 1/2	2	0.44	0.10
M10	2669	79	41	22	38	51	0.20	0.05
1/2	600	3 1/8	1 5/8	7/8	1 1/2	2	0.44	0.14
M12	2669	79	41	22	38	51	0.20	0.06
5/8	600	3 1/8	1 5/8	7/8	1 1/2	2	0.44	0.16
M16	2669	79	41	22	38	51	0.20	0.07
3/4	600	3 1/8	1 5/8	7/8	1 1/2	2	0.44	0.17
M20	2669	79	41	22	38	51	0.20	0.08

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

STEEL CONCRETE INSERT BOX

Figure 650I

Designed to provide a connection point for hanger rods in concrete the Figure 650I must be installed in-place prior to the building concrete being poured. It can accommodate a variety of rod sizes by selecting and ordering the Figure 650N, separately.

Approved and UL listed for 3/8" rod for up to 4" pipe, and 5/8" rod for up to 8" pipe, upon request.

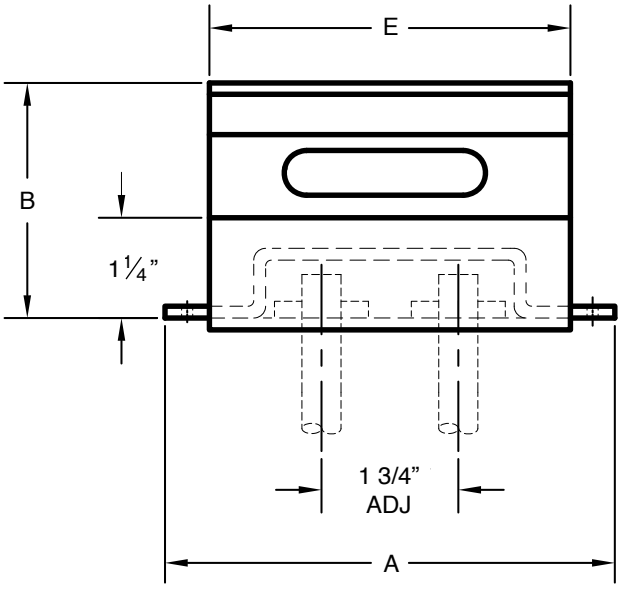
For lighter loads our Figure 75I is available.

Material: Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 18), ANSI/MSS SP-58 (Type 18)

Finish: Plain, Painted, Electro-Galvanized

Ordering: Specify figure number, and finish.
For Metric applications specify Figure M650I.



CONCRETE INSERT NUT

Figure 650N

Designed for use with Figure 650I Steel Concrete Insert Box

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized

Ordering: Specify rod size, figure number, and finish.
For Metric applications specify Figure M650N.

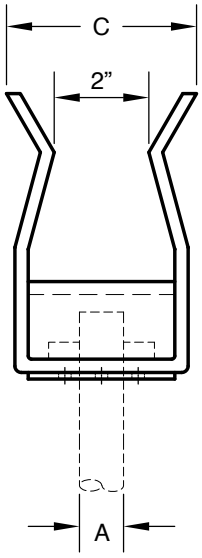


FIGURE 650I STEEL CONCRETE INSERT BOX
FIGURE 650N CONCRETE INSERT NUT

ROD SIZE	MAX LOAD	A	B	C	WEIGHT EA	
					INSERT	NUT
3/8	730	3 7/8	2 5/8	1 3/4	0.96	0.13
M10	3247	98	67	44	0.44	0.06
1/2	1200	3 7/8	2 5/8	1 3/4	0.96	0.12
M12	5338	98	67	44	0.44	0.05
5/8	1200	3 7/8	2 5/8	1 3/4	0.96	0.11
M16	5338	98	67	44	0.44	0.05
3/4	1200	3 7/8	2 5/8	1 3/4	0.96	0.10
M20	5338	98	67	44	0.44	0.05

Maximum Load Rating is dependent upon the selected nut size used.

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

FEMALE CEILING MOUNT BOLT

Figure 104F
Figure 104F SS316 (Type 316 Stainless Steel)

The Figure 104F is designed for rod attachment directly into the ceiling from overhead poured concrete. Loads are based upon 3500 psi concrete and 80 psi bond stress.

Material: Carbon Steel, Stainless Steel

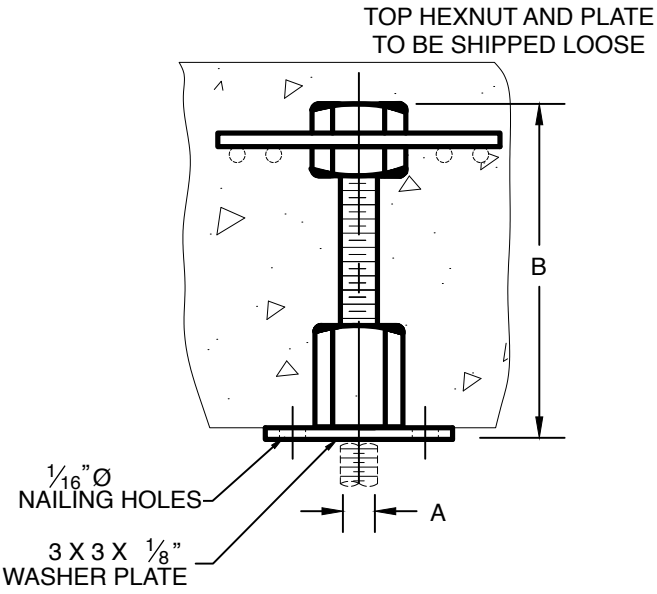
Finish: Plain, Painted, Electro-Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify rod size, figure number, and finish. For Metric applications specify Figure M104F.

FIGURE 104F - FEMALE CEILING MOUNT BOLT

ROD SIZE A	MAX LOAD	B	WEIGHT EA
3/8	730	4 1/2	0.80
M10	3247	114	0.36
1/2	1350	4 5/8	0.93
M12	6005	117	0.42
5/8	2160	5 5/8	1.56
M16	9609	143	0.71
3/4	3230	5 3/4	2.37
M20	14368	146	1.08
7/8	4480	6 3/4	3.55
M20	19929	171	1.61
1	5900	7	4.08
M24	26246	178	1.85
1 1/4	9500	8 1/4	7.30
M30	42260	210	3.31
1 1/2	13800	9 1/4	10.18
M36	61388	235	4.62



Note: Spacing of these attachments should not be less than twice Dimension B from its centerline.
Minimum distance from centerline to the edge of the concrete is Dimension B
Maximum Load for Figure 104F SS316 is 80% of the Figure 104F

MALE CEILING MOUNT BOLT

Figure 104M
Figure 104M SS316 (Type 316 Stainless Steel)

The Figure 104M is designed for rod attachment using a rod coupling like our Figure 123 from overhead poured concrete ceilings. Loads are based upon 3500 psi concrete and 80 psi bond stress.

Material: Carbon Steel, Stainless Steel

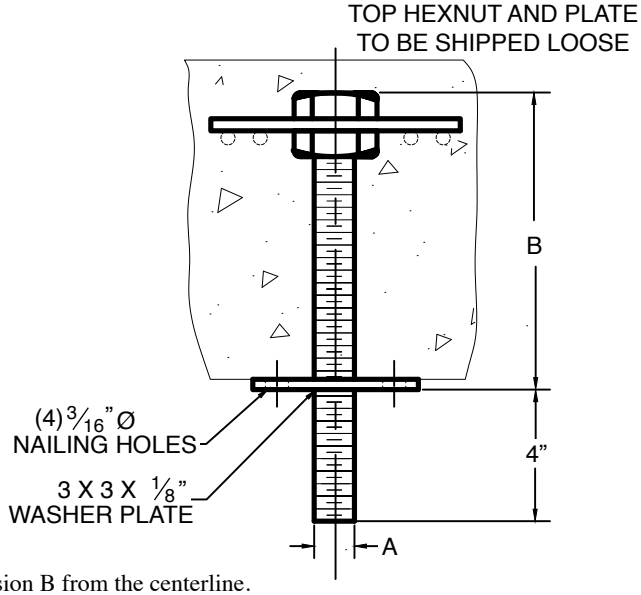
Finish: Plain, Electro-Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify rod size, figure number, and finish. For Metric applications Specify Figure M104M.

FIGURE 104M MALE CEILING MOUNT BOLT

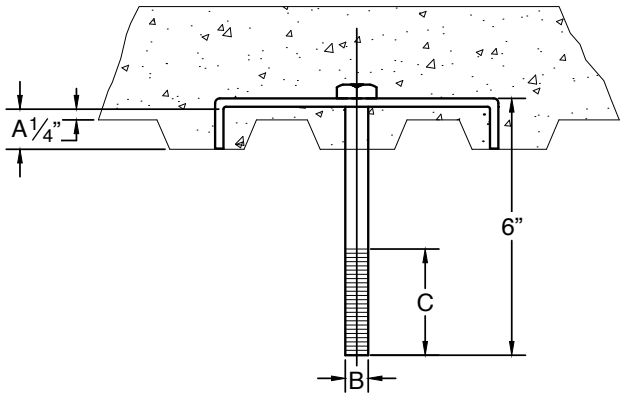
ROD SIZE A	MAX LOAD	B	WEIGHT EA
3/8	730	4 1/2	0.90
M10	3247	114	0.41
1/2	1350	4 5/8	1.15
M12	6005	117	0.52
5/8	2160	5 5/8	1.91
M16	9609	143	0.87
3/4	3230	5 3/4	2.88
M20	14368	146	1.31
7/8	4480	6 3/4	4.15
M20	19929	171	1.88
1	5900	7	4.98
M24	26246	178	2.26
1 1/4	9500	8 1/4	8.04
M30	42260	210	3.65
1 1/2	13800	9 1/4	12.16
M36	61388	235	5.52



Note: Spacing of these items should not be less than twice Dimension B from the centerline.
Minimum distance from centerline to the edge of the concrete is Dimension B.
Maximum Load for Figure 104M SS316 is 80% of the Figure 104M.

METAL DECK CEILING BOLT

Figure 143



Designed to support pipe or rigid conduit from concrete metal decking forms. Available in a variety of rod sizes. Rod length can be extended by using our Figure 123 (ordered separately) and additional steel rod to suit.

Made special to customer order.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-dip Galvanized

Ordering: Specify Size Number, dimension "A", figure number, and finish.
For Metric applications specify Figure M143

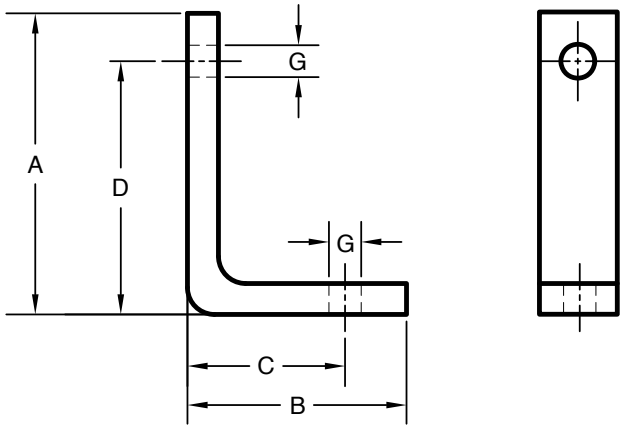
FIGURE 143 - METAL DECK CEILING BOLT

SIZE NO.	A	B	C	MAX LOAD*
1		3/8	1	730
1		10	25	3247
2	S	1/2	1 1/4	1350
2	P	13	32	6005
3	E	5/8	1 1/2	2160
3	C	16	38	9609
4	I	3/4	1 3/4	3230
4	F	19	44	14368
5	Y	7/8	2	4480
5		22	51	19929
6		1	2 1/4	5900
6		25	57	26246

(*) Based upon the Rod Size. Customer must verify strength of the deck.

RETURN LINE ANGLE

Figure 152



The Figure 152 is designed for dropping a rod down from a wall connection. Two different distances from the wall to centerline of pipe are available depending upon the orientation of the angle.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify size, figure number, and finish.
For Metric applications specify Figure M152.

FIGURE 152 - RETURN LINE ANGLE

SIZE NO.	MAX LOAD	A	B	C	D	G	WEIGHT EA
1	180	3 5/8	2 5/8	2	3	9/16	0.53
1	801	92	67	51	76	14	0.24
2	180	4 5/8	3 5/8	3	4	9/16	0.71
2	801	117	92	76	102	14	0.32
3	390	3 5/8	2 5/8	2	3	9/16	0.92
3	1735	92	67	51	76	14	0.42
4	390	4 5/8	3 5/8	3	4	9/16	1.23
4	1735	117	92	76	102	14	0.56
5	390	6	4	3 3/8	5 3/8	9/16	1.58
5	1735	152	102	86	137	14	0.72

SIDE BEAM CONNECTOR

Figure 153

Figure D153S (3/8" Size Only, Made in U.S.A.)

The Figure 153 and D153S are designed for use on buildings of wood construction. They can be secured to the side of beams or joists by means of our Figure 166 Drive Screws (ordered separately).

Material: Malleable Iron, except Figure D153S which is Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 34), ANSI/MSS SP-58 (Type 34)

Finish: Figure 153 – Plain, Electro-Galvanized
Figure D153S – Electro-Galvanized

Ordering: Specify size, figure number, and finish
For Metric applications specify with the prefix "M".

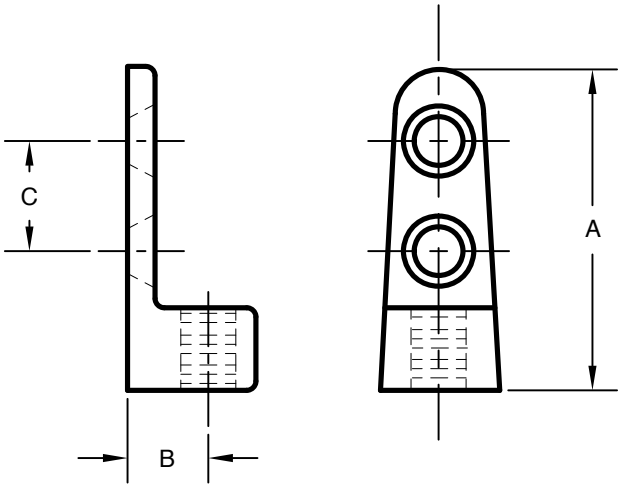


FIGURE 153 - SIDE BEAM CONNECTOR

ROD SIZE	MAX LOAD	A	B	C	WEIGHT EA
1	1000	7/8	1/2	1 1/2	3/8
1	4448	22	13	38	M10
2	1000	1 1/8	5/8	1 3/4	1/2
2	4448	29	16	44	M12

FIGURE D153S - SIDE BEAM CONNECTOR

ROD SIZE	MAX LOAD	A	B	C	WEIGHT EA
3/8	250	2 1/2	9/16	1	0.15
M10	1112	64	14	25	0.07

ANCHOR BOLT

Figure 177

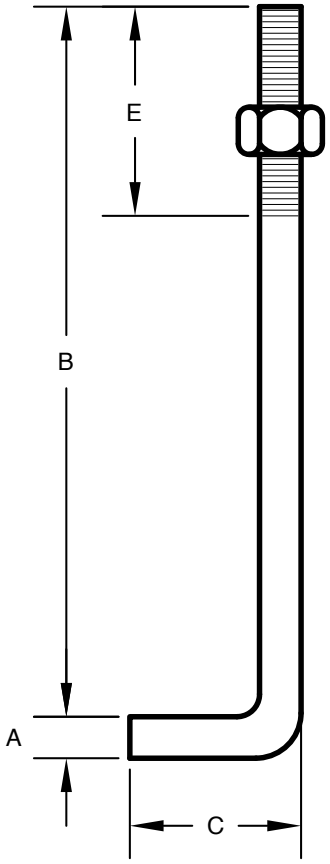
The Figure 177 is designed to be embedded into concrete Threads are Right-Hand unless otherwise specified. One Hex Nut is provided.

Made special to customer order. They can be made in other rod diameters, lengths and materials.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify all dimension, figure number, and finish.
For Metric applications specify Figure M177.



DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CONCRETE ATTACHMENT

Figure 1020

The Figure 1020 Type 1 is for attaching support assemblies to concrete structures where little or no movement is anticipated. Used with a Figure 133, Machine Thread Rod, or Figure 94, All Thread Rod.

The Figure 1020 Type 2 is for attaching support assemblies to concrete structures where movement is anticipated. Used with a Figure 279, Weldless Eyenut or Figure 93, Welded Eyerod. A two-anchor bolt pattern is used on sizes 3/8" thru 5/8"; all others use four anchor bolts.

Material: Carbon Steel.

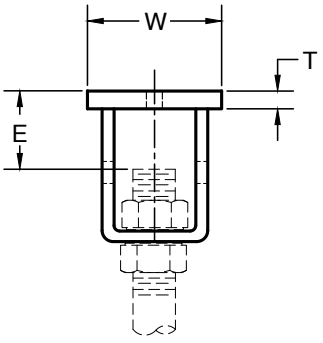
Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

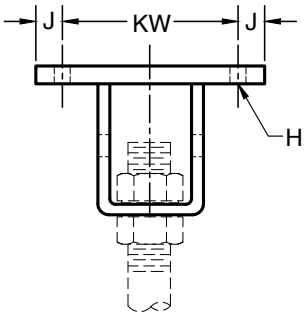
Ordering: Specify rod size, figure number, type, and finish.

For Metric applications specify Figure M1020 Type 1 or Type 2.

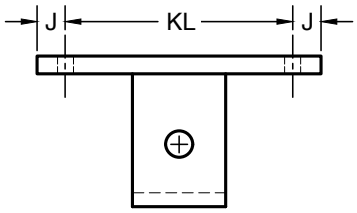
CONFIGURATION TYPE 1



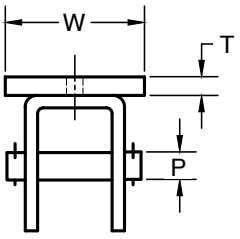
2 ANCHOR DESIGN



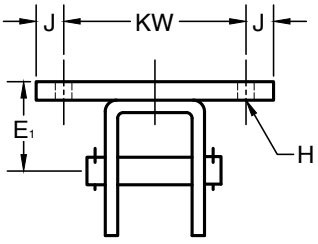
4 ANCHOR DESIGN



CONFIGURATION TYPE 2



2 ANCHOR DESIGN



4 ANCHOR DESIGN

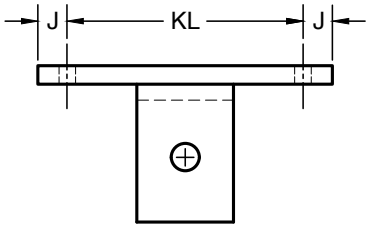


FIGURE 1020 CONCRETE ATTACHMENT

ROD SIZE	MAX LOAD	E	E_1	H*	P	J	K_L	K_W	D	T	W	WEIGHT EA WITH PIN	WEIGHT EA W/OUT PIN
3/8	730	2 1/8	2 1/4	1/2	1/2	1	4	N/A	5	1/4	4	2.8	2.7
M10	3247	54	57	13	13	25	102	N/A	127	6	102	1.3	1.2
1/2	1350	2 1/8	2 3/8	5/8	5/8	1	5	N/A	5	3/8	4	4.1	3.9
M12	6005	54	60	16	16	25	127	N/A	127	10	102	1.9	1.8
5/8	2160	2 1/4	2 1/2	3/4	3/4	1	6	N/A	5	1/2	4	5.8	5.5
M16	9609	57	64	19	19	25	152	N/A	127	13	102	2.6	2.5
3/4	3230	2 1/8	2 3/8	5/8	7/8	1	5	5	5	3/8	5	7.7	7.1
M20	14368	54	60	16	22	25	127	127	127	10	127	3.5	3.2
7/8	4480	3 3/8	3 5/8	7/8	1	1 1/4	6 1/2	7	5	5/8	5	19.8	18.6
M20	19929	86	92	22	25	32	165	165	127	16	127	9.0	8.4
1	5900	3 3/8	3 5/8	7/8	1 1/8	1 1/4	6 1/2	7	6	5/8	6	19.8	18.6
M24	26246	86	92	22	29	32	165	165	152	16	152	9.0	8.4
1 1/4	9500	3 5/8	3 3/4	1	1 3/8	2	8	8	6	3/4	6	41.0	38.7
M30	42260	92	95	25	35	51	203	203	152	19	152	18.6	17.6
1 1/2	13800	5	5	1 1/8	1 5/8	2	8	8	6	1	6	60.0	56.4
M36	61388	127	127	29	41	51	203	203	152	25	152	27.2	25.6
1 3/4	18600	6 1/4	6 1/4	1 3/8	2	2	10	10	7	1 1/4	7	93.6	88.0
M42	82740	159	159	35	51	51	254	254	178	32	178	42.5	39.9
2	24600	6 1/2	6 1/4	1 3/8	2 1/4	2	10	10	7	1 1/4	7	100.0	92.0
M48	109431	165	159	35	57	51	254	254	178	32	178	45.4	41.7

* Holes are 1/8" larger than recommended anchor bolt diameter to allow for installation tolerance.
Note: Load values are based upon the rod diameter only. Load values assume that the concrete and anchors are of sufficient strength to hold the Load.

CONCRETE SINGLE LUG PLATE

Figure 1022

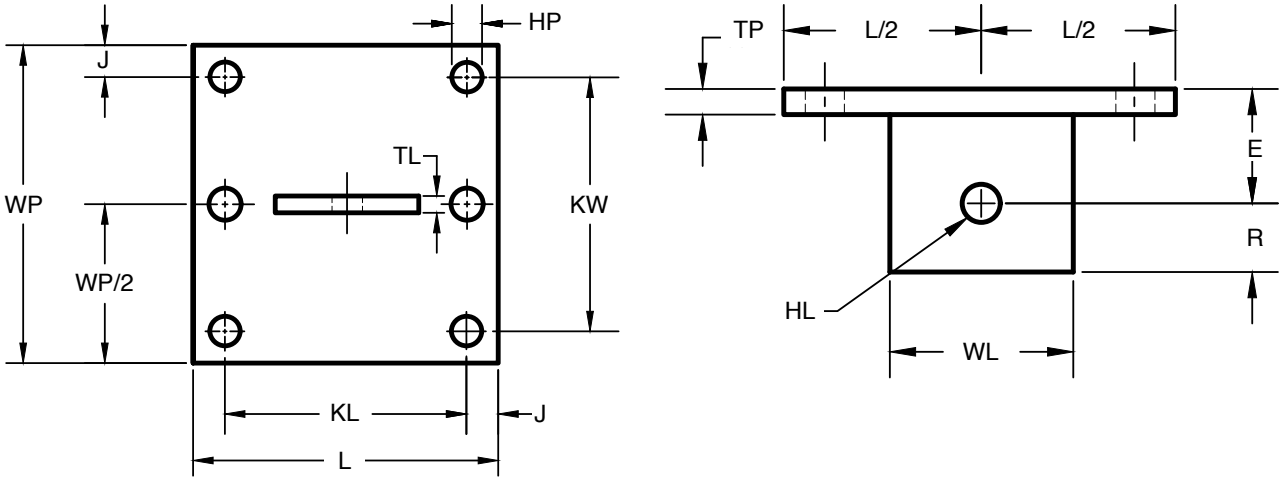
The Figure 1022 is for attachment to a concrete structure where movement is anticipated. A two anchor bolt pattern is used on sizes 3/8" thru 5/8" and all others use four anchor bolts. Used with the Figure 276 Forged Steel Clevis and Type "C" Variable Springs.

Material: Carbon Steel.

Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify rod size, figure number and finish.
For Metric applications specify Figure M1022.



TWO ANCHORS ONLY FOR
SIZES 3/8" THRU 5/8"

FIGURE 1022 CONCRETE SINGLE LUG PLATE

ROD SIZE	MAX LOAD	E	H_L	H_P	J	K_L	Kw	L	R	T_P	T_L	W_P	W_L	WGT. EA
3/8	730	1 3/4	1/2	1/2	1	4	N/A	6	1 1/4	1/4	1/4	4	2 1/2	11.6
M10	6005	44	13	13	25	102	N/A	152	32	6	6	102	64	5.3
1/2	1350	1 7/8	5/8	5/8	1	5	N/A	7	1 1/4	3/8	1/4	4	2 1/2	11.6
M12	6005	48	16	16	25	127	N/A	178	32	10	6	102	64	5.3
5/8	2160	2	3/4	3/4	1	6	N/A	8	1 1/4	1/2	1/4	4	2 1/2	11.6
M16	9609	51	19	19	25	152	N/A	203	32	13	6	102	64	5.3
3/4	3230	2 1/4	7/8	5/8	1	5	5	7	1 1/4	1/2	3/8	7	2 1/2	12.0
M20	14368	57	22	16	25	127	127	178	32	13	10	178	64	5.4
7/8	4480	3	1	7/8	1	6 1/2	6 1/2	8 1/2	1 1/2	3/4	3/8	9	3	22.0
M20	19929	76	25	22	25	165	165	216	38	19	10	229	76	10.0
1	5900	3	1 1/8	7/8	1 1/4	8	8	10 1/2	1 1/2	3/4	1/2	9	3	31.9
M24	26246	76	29	22	32	203	203	267	38	19	13	229	76	14.5
1 1/4	9500	4	1 3/8	1	2	8	8	12	2	1	5/8	12	4	43.8
M30	42260	102	35	25	51	203	203	305	51	25	16	305	102	19.9
1 1/2	13800	4 1/4	1 5/8	1 1/8	2	8	8	12	2 1/2	1	3/4	12	5	45.6
M36	61388	108	41	29	51	203	203	305	64	25	19	305	127	20.7
1 3/4	18600	4 1/2	1 7/8	1 3/8	2	8	8	12	2 1/2	1 1/4	3/4	12	5	55.7
M42	82740	114	48	35	51	203	203	305	64	32	19	305	127	25.3
2	24600	5 1/4	2 1/4	1 3/8	2	8	8	12	3	1 1/4	3/4	12	6	58.2
M48	109431	133	57	35	51	203	203	305	76	32	19	305	152	26.4

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

MACHINE THREAD RODS

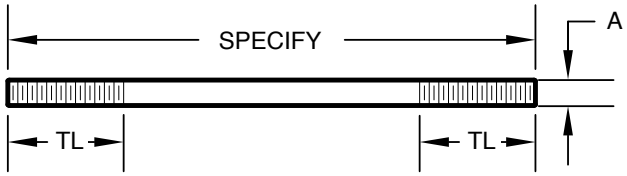


Figure 133 Right Hand Threads Both Ends

Figure 133L Right Hand and Left Hand Thread

Furnished with UNC threads. Non-standard thread lengths can be provided as a special order.

Material: Carbon Steel (Stainless Steel is available)

Maximum Temperature: Plain 750º F (399º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify figure number, rod diameter, length, and thread length (if other than standard) and finish. For Metric applications prefix the Figure Number with an "M".

FIGURE 133 and FIGURE 133L - MACHINE THREAD ROD

A	3/8 M10	1/2 M12	5/8 M16	3/4 M20	7/8 M20	1 M24	1 1/4 M30	1 1/2 M36	1 3/4 M42
THREAD. LENGTH (TL)	3 76	3 76	3 76	3 76	4 102	4 102	4 102	6 152	6 152
LOAD AT 650ºF / 343ºC	730 3247	1350 6005	2160 9608	3230 14368	4480 19928	5900 26244	9500 42258	13800 61385	18600 82737
LOAD AT 750ºF / 399ºC	572 2544	1057 4702	1692 7526	2530 11254	3508 15604	4620 20551	7440 33095	10807 48072	14566 64792

A	2 M48	2 1/4 M56	2 1/2 M64	2 3/4 M72	3 M80	3 1/4 M80	3 1/2 M90	3 3/4 M95	4 M100
THREAD. LENGTH (TL)	6 152	6 152	6 152	6 152	6 152	6 152	6 152	6 152	6 152
LOAD AT 650ºF / 343ºC	24600 92078	32300 143677	39800 177038	49400 219741	60100 267337	71900 319826	84700 376763	98500 438148	113400 504426
LOAD AT 750ºF / 399ºC	19265 85695	25295 112517	31169 138646	38687 172088	47066 209359	56307 250465	66331 295054	77139 343130	88807 395031

ALL-THREAD HANGER ROD

Figure 94

Figure 94 SS (Type 304 Stainless Steel)

Figure 94 SS316 (Type 316 Stainless Steel)

This product has a standard, right-hand, UNC, machine thread, running the entire length. It is particularly useful when exact rod lengths are questionable or unknown.

Available in precut six, ten, and twelve foot lengths. Can be cut to suit customer need upon request. Rod sizes above 1-1/2" and left hand threads are available upon special request.

Material: Carbon Steel or Stainless Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify rod size, rod length, figure number, and finish. For Metric applications prefix Figure Number with "M".

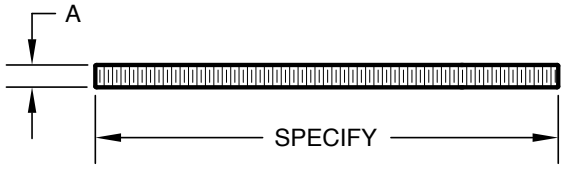


FIGURE 94 ALL-THREAD HANGER ROD

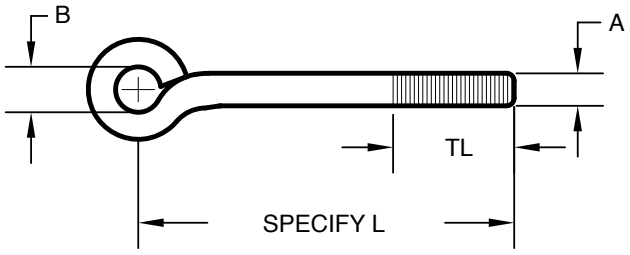
DIAMETER A	MAX LOAD *	WEIGHT PER FOOT
1/4	240	0.12
M6	1068	0.05
3/8	730	0.30
M10	3247	0.14
1/2	1350	0.53
M12	6005	0.24
5/8	2160	0.84
M16	9609	0.38
3/4	3230	1.20
M20	14368	0.54
7/8	4480	1.70
M20	19929	0.77
1	5900	2.30
M24	26246	1.04
1 1/4	9500	3.60
M30	42260	1.63
1 1/2	13800	5.10
M36	61388	2.31

* For carbon Steel only. Maximum Load for stainless steel is 20% less.

MACHINE THREAD EYE ROD NOT WELDED

Figure 33 (Right Hand Threads)

Figure 33L (Left Hand Threads)



The Figure 33 and 33L are designed to permit swing in the attachment component due to pipe movement. The inside diameter of the eye is 3/8" larger than the rod diameter for rod sizes up to 1 1/2" while the inside diameter for larger size rods will be 3/4" greater.

The eye is not welded. Please see our Figure 93 Welded Eye Rod for higher load requirements. Thread are UNC. Non-standard thread length are special order.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify rod size, rod length, thread length, (if other than standard), figure number, and finish.
For Metric applications specify Figure M33 or M33L

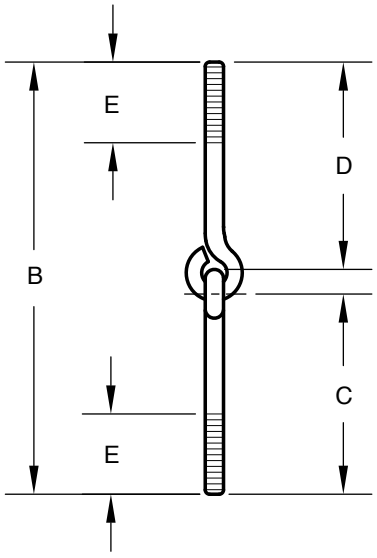
FIGURE 33 and FIGURE 33L - MACHINE THREAD EYE ROD NOT WELDED

A	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2
	M10	M12	M16	M20	M20	M24	M30	M36	M42	M48	M56	M64
B	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 5/8	1 7/8	2 1/2	2 3/4	3	3 1/4
	19	22	25	29	32	35	41	48	64	70	76	83
TL	2 1/2	2 1/2	2 1/2	3	3 1/2	4	5	6	6	6	6	6
	64	64	64	76	89	102	127	152	152	152	152	152
MINIMUM LENGTH	4 1/4	4 1/4	4 1/2	5 1/2	6 1/2	7 1/4	8 1/4	10	12	14	15 1/2	17
	108	108	114	140	165	184	210	254	305	356	394	432
LOAD AT 650 F / 343 C	240	440	705	1050	1470	1940	3170	4650	6380	8280	10900	13400
	1068	1957	3136	4671	6539	8630	14101	20684	28380	36831	48485	59606

LINKED EYE RODS

Figure 306 (Not Welded)

Figure 341 (Welded)



Linked Eye Rods allows for the movement of the lower rod where bending would be unacceptable. Unwelded eyes have a lower load rating.

The inside diameter of the eye is 3/8" larger than the rod diameter for rod sizes up to 1 1/2" while the inside diameter for larger size rods will be 3/4" greater. Both rods will normally be furnish right hand tapped, with UNC threads, to rod and thread lengths shown for our Figure 93; unless ordered special.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP 58

Ordering: Specify rod diameter (A), overall length (B), length of each eyerod, (D and C), and thread length (E); if other than standard, Figure Number and finish. For Metric applications prefix the Figure Number with an "M".

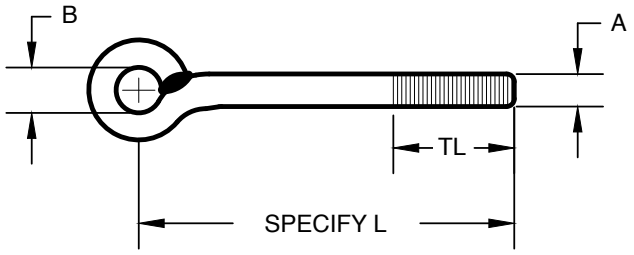
FIGURE 306 and 341 LINKED EYE RODS

ROD SIZE A	MAX LOAD FIGURE 306	MAX LOAD FIGURE 341
3/8	240	730
M10	1068	3247
1/2	440	1350
M12	1957	6005
5/8	705	2160
M16	3136	9609
3/4	1050	3230
M20	4671	14368
7/8	1470	4480
M20	6539	19929
1	1940	5900
M24	8630	26246
1 1/4	3120	9500
M30	13879	42260
1 1/2	4650	13800
M36	20685	61388
1 3/4	6380	18600
M42	28381	82740
2	8280	24600
M48	36833	109431
2 1/4	10900	32300
M56	48488	143683
2 1/2	13400	39800
M64	59609	177046

WELDED EYE ROD

Figure 93 (Right Hand Threads)

Figure 93L (Left Hand Threads)



Welded Eye Rods are designed to permit swing in the attachment component due to pipe movement. Threads are UNC.

Rod diameters over 2 ½", non-standard rod materials, eye dimensions, thread pitch series and thread lengths can be furnished upon request.

Material: Carbon Steel

Maximum Temperature: Plain 750º F (399º C), Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

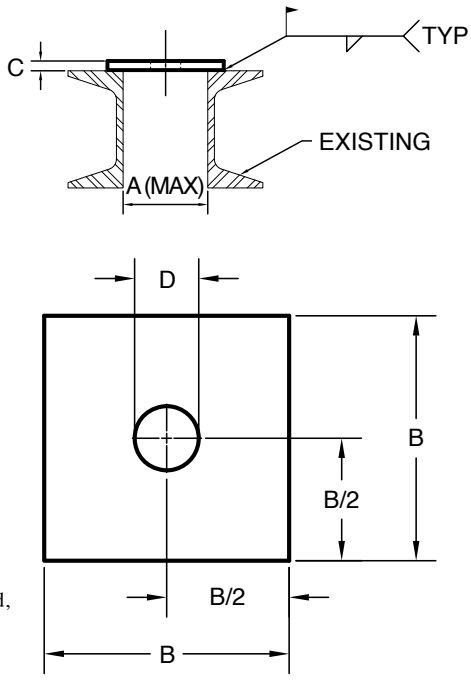
Ordering: Specify rod size, rod length, thread length (if other than standard), figure number, and finish. For Metric applications prefix the Figure Number with "M".

FIGURE 93 and FIGURE 93L WELDED EYE ROD

A	3/8 M10	1/2 M12	5/8 M16	3/4 M20	7/8 M20	1 M24	1 1/4 M30	1 1/2 M36	1 3/4 M42	2 M48	2 1/4 M56	2 1/2 M64
B	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 5/8	1 7/8	2 1/2	2 3/4	3	3 1/4
	19	22	25	29	32	35	41	48	64	70	76	83
THREAD LENGTH (TL)	3	3	3	3	4	4	4	6	6	6	6	6
	76	76	76	76	102	102	102	152	152	152	152	152
L (MIN.)	4 1/4	4 1/2	4 1/2	5 1/2	6 1/2	7 1/4	8 1/4	10	12	14	15 1/2	17
	108	114	114	140	165	184	210	254	305	356	394	432
LOAD AT 650ºF / 343ºC	730	1350	2160	3230	4480	5900	9500	13800	18600	24600	32300	39800
	3247	6005	9608	14368	19928	26244	42258	61385	82737	109426	143677	177038
LOAD AT 750ºF / 399ºC	572	1057	1692	2430	3508	4620	7440	10807	14566	19265	25295	31169
	2544	4702	7526	10809	15604	20551	33095	48072	64792	85695	112517	138646

WASHER PLATE

Figure 260



This product to be welded to back to back channels or angles for supporting pipe with rods or U-Bolts.

Sufficient contact surface to the supporting structure must be made to develop maximum load capacity. Dimension "A" should not be exceeded.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify rod size, figure number, and finish. For Metric applications specify Figure M260.

FIGURE 260 - WASHER PLATE

ROD SIZE	MAX LOAD	A	B	C	HOLE DIA. D	WEIGHT EA
3/8	730	1 1/2	3	1/4	7/16	0.63
M10	3247	38	76	6	11	0.29
1/2	1350	1 1/2	3	1/4	9/16	0.61
M12	6005	38	76	6	14	0.28
5/8	2160	1 1/2	3	3/8	11/16	0.95
M16	9608	38	76	10	17	0.43
3/4	3230	2	4	3/8	13/16	1.60
M20	14368	51	102	10	21	0.73
7/8	4480	2	4	1/2	15/16	2.17
M20	19928	51	102	13	24	0.98
1	5900	2 1/2	4	1/2	1 1/16	2.15
M24	26244	64	102	13	27	0.98
1 1/4	9500	3	5	1/2	1 3/8	3.37
M30	42258	76	127	13	35	1.53
1 1/2	13800	3 1/2	5	5/8	1 3/4	4.93
M36	61385	89	127	16	44	2.24
1 3/4	18600	3 1/2	5	5/8	2	4.64
M42	82737	89	127	16	51	2.10
2	24600	4	5	3/4	2 1/4	4.47
M48	109426	102	127	19	57	2.03
2 1/4	32300	4	6	3/4	2 1/2	6.62
M56	143677	102	152	19	64	3.00
2 1/2	39800	4 1/2	6	3/4	2 3/4	6.40
M64	177038	114	152	19	70	2.90
2 3/4	49400	4 1/2	6	3/4	3	6.16
M72	219741	114	152	19	76	2.79
3	60100	4 1/2	6	3/4	3 1/4	5.89
M80	267337	114	152	19	83	2.67
3 1/4	71900	4 1/2	6	3/4	3 1/2	5.56
M80	319826	114	152	19	89	2.52
3 1/2	84700	5	7	3/4	3 3/4	8.07
M90	376763	127	178	19	95	3.66
3 3/4	98500	5	7	3/4	4	7.75
M95	438148	127	178	19	102	3.52

EYE SOCKET

Figure 12

The Figure 12 is designed for attaching a hanger rod to Split Ring type clamps.

Material: Malleable Iron

Finish: Plain, Electro-Galvanized

Compliance: Federal Specification A-A-1192A (Type 16), ANSI/MSS SP-58 (Type 16)

Ordering: Specify rod size and figure number.
For Metric applications specify Figure M12.

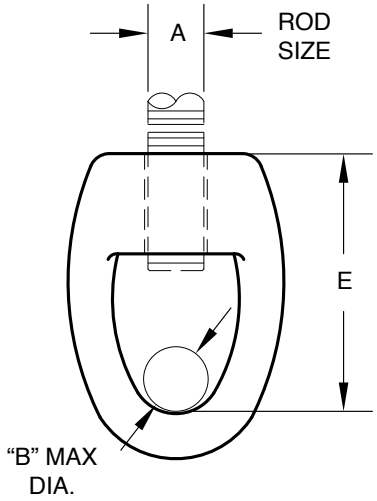


FIGURE 12 - EYE SOCKET

ROD SIZE A	MAX LOAD	MAX B	E	WEIGHT EA
1/4	240	1/4	1 3/8	0.08
M6	1068	M6	35	0.04
3/8	610	1/4	1 3/8	0.08
M10	2714	M6	35	0.04
1/2	1000	1/4	1 9/16	0.11
M12	4448	M6	40	0.05
5/8	1400	3/8	1 3/4	0.22
M16	6228	M10	44	0.10
3/4	2200	1/2	2 1/4	0.30
M20	9786	M12	57	0.14
7/8	2300	1/2	2 7/16	0.32
M22	10231	M12	62	0.15

LAG ROD

Figure 28

The Figure 28 is designed for a vertical rod connection to wood. One end is a Coach Screw Thread and the other is a Machine Rod UNC Thread.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized

Ordering: Specify rod diameter, rod length, figure number, and finish.
For Metric applications specify Figure M28.

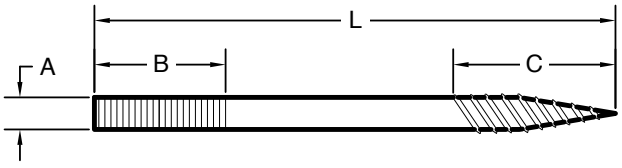


FIGURE 28 - LAG ROD

ROD SIZE A	MAX LOAD	LENGTH		WEIGHT EA LENGTH - DIMENSION "L"				
		MACHINE	COACH	4	6	8	10	12
		B	C	114	152	203	254	356
3/8	390	2 1/2	2	0.12	0.19	0.25	0.31	0.37
M10	1735	64	51	0.05	0.09	0.11	0.14	0.17
1/2	640	2 1/2	2	0.22	0.34	0.44	0.56	0.67
M12	2847	64	51	0.10	0.15	0.20	0.25	0.30

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

LIGHT DUTY WASHER PLATE

Figure 102

The Figure 102 is a light duty alternative to our Figure 260.

Primarily used at the ends of rods instead of rod washers to gain more bearing surface area when tightened. It is not load rated.

Material: Carbon Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized.

Ordering: Specify rod size, figure number, plate size, and finish For Metric applications specify Figure M102.

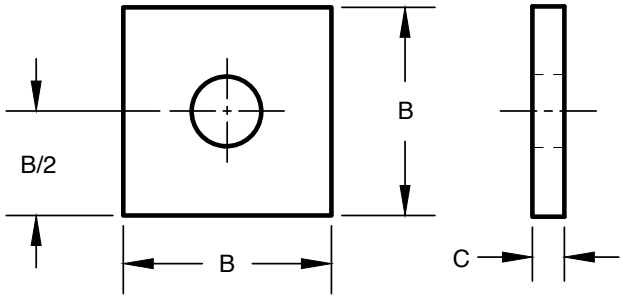


FIGURE 102 - LIGHT DUTY WASHER PLATE

ROD SIZE	WASHER PLATE SIZE (B X C) - WEIGHT per SIZE							
	2x2x1/8	2x2x1/4	3x3x1/8	3x3x1/4	3x3x3/8	4x4x1/8	4x4x1/4	4x4x3/8
3/8	0.14	0.28	0.32	0.64	0.96	0.57	1.13	----------
M10	0.06	0.13	0.15	0.29	0.44	0.26	0.51	----------
1/2	0.14	0.28	0.32	0.64	0.96	0.57	1.13	----------
M12	0.06	0.13	0.15	0.29	0.44	0.26	0.51	----------
5/8	0.14	0.28	0.32	0.64	0.96	0.57	1.13	----------
M16	0.06	0.13	0.15	0.29	0.44	0.26	0.51	----------
3/4	0.57	1.13	1.70	0.64	0.96	0.57	1.13	----------
M20	0.26	0.51	0.77	0.29	0.44	0.26	0.51	----------
7/8	----------	----------	1.70	0.64	0.96	0.57	1.13	1.70
M22	----------	----------	0.77	0.29	0.44	0.26	0.51	0.77
1	----------	----------	1.70	0.64	0.96	0.57	1.13	1.70
M24	----------	----------	0.77	0.29	0.44	0.26	0.51	0.77

ROD WITH EYE

Figure 5308

Designed for high loading applications beyond the use of welded eyerods. Comes with right-hand UNC Thread Series.

Rod diameters of over 4" are available, and normally come with 4UN Series, Right Hand threads.

Material: Carbon Steel

Maximum Temperature: Plain 650° F (343° C), Hot-Dip Galvanized 450° F (232° C)

Compliance: ANSI/MSS SP-58

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify rod size, Figure Number, rod length (L), thread length (if other than standard), and finish.
For Metric applications specify Figure Number M5308.

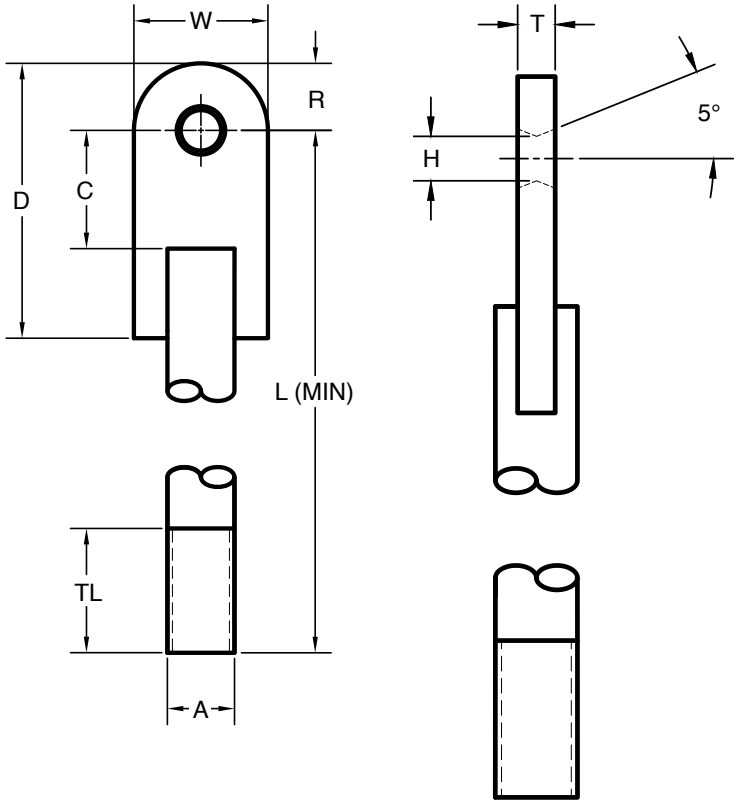


FIGURE 5308 - ROD WITH EYE

ROD SIZE A	MAX LOAD	D	H	L(MIN.)	R	T	TL	W	WEIGHT EA AT MIN. L	WGT./ FT. OF ADD'L ROD
1 3/4	18600	7 3/4	2 1/8	15 1/2	2 1/4	1 1/4	9	4 3/8	23	8.2
M42	82740	197	54	394	57	32	229	111	10	3.7
2	24600	8	2 3/8	15 1/2	2 1/2	1 1/4	9	5	29	10.7
M48	109431	203	60	394	64	32	229	127	13	4.9
2 1/4	32300	8 1/4	2 5/8	16 1/2	2 7/8	1 1/4	10	5 5/8	35	13.6
M56	143683	210	67	419	73	32	254	143	16	6.2
2 1/2	39800	9	2 7/8	17	3 1/8	1 1/2	10	6 1/4	48	16.7
M64	177046	229	73	432	79	38	254	159	22	7.6
2 3/4	49400	9	3 1/8	19	3	1 1/2	12	6	36	20.2
M72	219751	229	79	483	76	38	305	152	16	9.2
3	60100	10	3 3/8	20	3	1 1/2	12	6	43	24.0
M80	267349	254	86	508	76	38	305	152	20	10.9
3 1/4	71900	11 1/2	4	21	3 1/2	1 1/2	12	7	55	28.2
M80	319840	292	92	533	89	38	305	178	25	12.8
3 1/2	84700	11 1/2	3 7/8	24	3 1/2	2	15	7	67	32.7
M90	376779	292	98	610	89	51	381	178	30	14.8
3 3/4	98500	12 3/4	4 1/8	25	3 3/4	2	15	7 1/2	80	37.6
M95	438167	324	105	635	95	51	381	191	36	17.1
4	114000	14 1/4	4 3/8	26	4 1/4	2	15	8 1/2	97	42.7
M100	507117	362	111	660	108	51	381	216	44	19.4

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

ROD COUPLING

Figure 123

Figure 123 SS (304 Stainless Steel)

Figure 123 SS316 (316 Stainless Steel)

Figure 123 is used to connect threaded rods up to 1-1/2 inch diameter. Threads are UNC, Right Hand/Right Hand.

Material: Carbon Steel, Stainless Steel

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify rod size, and Figure Number.
For Metric applications prefix the Figure Number with an "M".

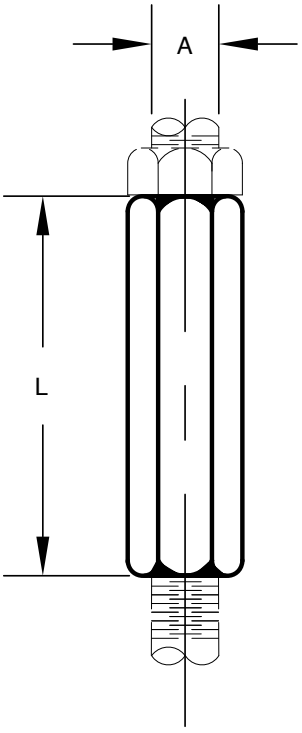


FIGURE 123 - ROD COUPLING

ROD SIZE A	MAX LOAD *	L	WEIGHT EA
1/4	240	13/16	0.02
M6	1068	21	0.01
3/8	730	1 11/16	0.09
M10	3247	43	0.04
1/2	1350	1 5/8	0.11
M12	6005	41	0.05
5/8	2160	2 1/16	0.18
M16	9609	52	0.08
3/4	3230	2 3/16	0.29
M20	14368	56	0.13
7/8	4480	2 7/16	0.55
M20	19929	62	0.25
1	5900	2 7/16	0.55
M24	26246	62	0.25
1 1/4	9500	3	1.00
M30	42260	76	0.45
1 1/2	13800	3 1/2	1.90
M36	61388	89	0.86

* For carbon steel only. Maximum Load for stainless steel is 20% less.

REDUCING ROD COUPLING

Figure 123R

Figure 123R SS (Type 304 Stainless Steel)

Figure 123R is used to reduce rod sizes. Coupling are made to step up or down one rod size. UNC Threads, Right Hand/Right Hand.

Material: Carbon Steel, Stainless Steel

Finish: Plain, Electro-Galvanized

Ordering: Specify rod size and figure number.
For Metric applications prefix the Figure Number with "M".

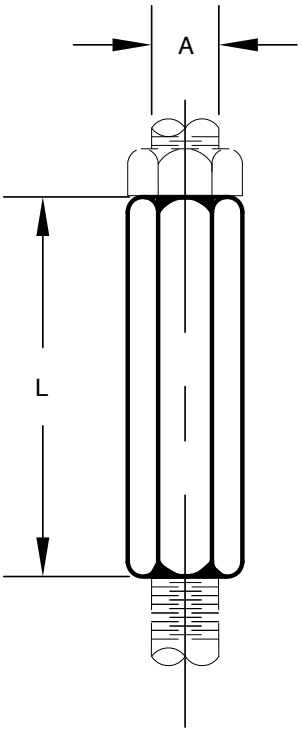


FIGURE 123R REDUCING ROD COUPLING

ROD SIZE A	MAX LOAD *	L	WEIGHT EA
1/4 x 3/8	240	1	0.04
M6 x M10	1068	25	0.02
3/8 x 1/2	730	1 3/16	0.07
M10 x M12	3247	30	0.03
1/2 x 5/8	1350	1 3/16	0.12
M12 x M16	6005	30	0.05
5/8 x 3/4	1810	1 7/16	0.22
M16 x M20	8052	36	0.10
3/4 x 7/8	3230	1 11/16	0.42
M20x M20	14368	43	0.19

* For carbon steel only. Maximum Load for stainless steel is 20% less.

TURNBUCKLE

Figure 132

The Figure 132 is used to connect right and left hand UNC threaded rods together and provide for adjustment. Larger rod sizes and/or wider gap openings are available upon request.

Material: Forged Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Compliance: Federal Specification: A-A-1192A (Type 15), ANSI/MSS SP-58 (Type 13)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify rod size, figure number, and finish.
For Metric applications specify Figure M132.

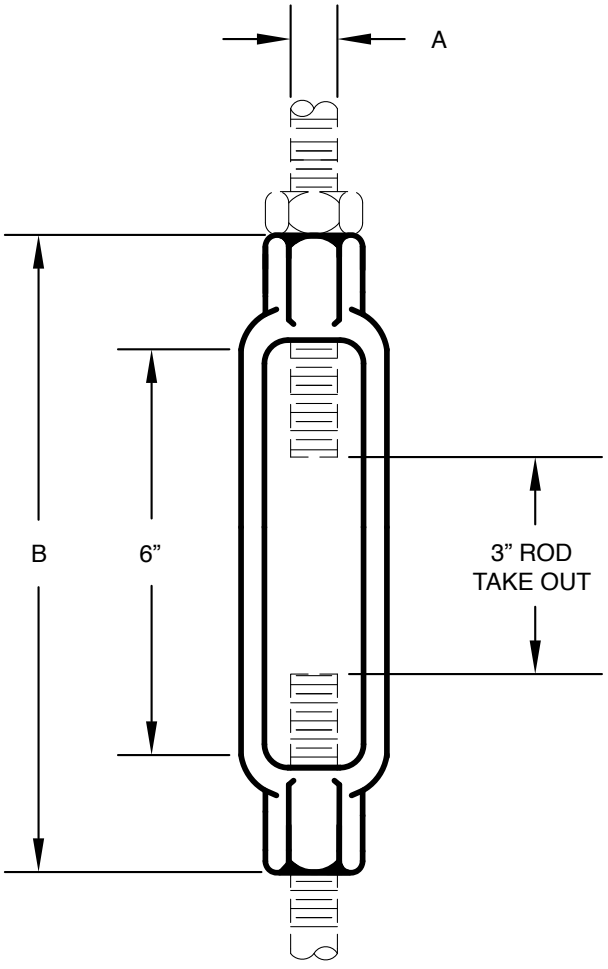


FIGURE 132 - TURNBUCKLE

ROD SIZE A	MAX LOAD 650º F 343º C	B	WEIGHT EA
3/8	730	7 1/8	0.30
M10	3247	181	0.14
1/2	1350	7 1/2	0.60
M12	6005	191	0.27
5/8	2160	7 7/8	1.00
M16	9609	200	0.45
3/4	3230	8 1/4	1.20
M20	14368	210	0.54
7/8	4480	8 5/8	1.90
M20	19929	219	0.86
1	5900	9	2.50
M24	26246	229	1.13
1 1/4	9500	9 1/8	3.80
M30	42260	232	1.72
1 1/2	13800	9 3/4	5.70
M36	61388	248	2.59
1 3/4	18600	10 3/8	8.20
M42	82740	264	3.72
2	24600	11	14.20
M48	109431	279	6.44
2 1/4	32300	12 7/8	27.00
M56	143683	327	12.25
2 1/2	39800	13 1/2	33.00
M64	177046	343	14.97

LOAD COUPLING

Figure 5105

Designed for high loading and large adjustment applications.

Comes with right-hand and left-hand tapped UNC Thread Series through 3" diameter, and 4 UN Series Threads 3-1/4" through 4" rod diameter. Larger rod diameters and wider Gap dimensions are available on request.

Made special to customer Order.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C), Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1191A (Type 13), ANSI/MSS SP-58 (Type 13)

Ordering: Specify rod size, figure number, opening length (G), and finish.
For Metric applications specify Figure Number M5105.

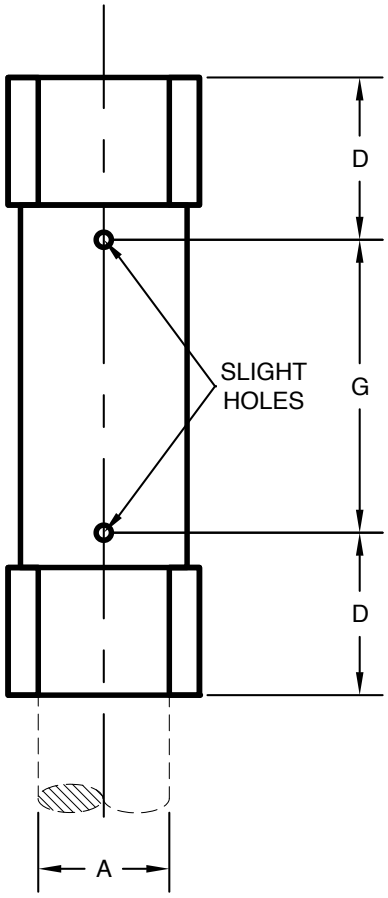


FIGURE 5105 - LOAD COUPLING

ROD SIZE A	MAX LOAD	D	WEIGHT EA GAP G 6"	12"	18"	24"
1 1/4	9500	2 5/8	11.2	15.1	18.9	22.7
M30	42260	67	5.1	6.8	8.6	10.3
1 1/2	13800	2 5/8	10.6	14.5	18.3	22.1
M36	61388	67	4.8	6.6	8.3	10.0
1 3/4	18600	2 5/8	9.1	13.7	17.6	21.4
M42	82740	67	4.1	6.2	8.0	9.7
2	24600	3 5/8	19.6	24.8	29.9	35.0
M48	109431	92	8.9	11.2	13.6	15.9
2 1/4	32300	3 5/8	18.2	23.3	28.5	33.6
M56	143683	92	8.3	10.6	12.9	15.2
2 1/2	39800	3 5/8	16.6	21.8	26.9	32.0
M64	177046	92	7.5	9.9	12.2	14.5
2 3/4	49400	4 1/4	44.7	52.2	59.7	67.2
M72	219751	108	20.3	23.7	27.1	30.5
3	60100	4 1/4	42.4	49.9	57.4	64.9
M80	267349	108	19.2	22.6	26.0	29.4
3 1/4	71900	4 1/4	40.0	47.5	55.0	62.5
M80	319840	108	18.1	21.5	24.9	28.4
3 1/2	84700	5 1/4	79.6	90.0	100	111
M90	376779	133	36.1	40.8	45.5	50.3
3 3/4	98500	5 1/4	76.0	86.4	96.8	108
M95	438167	133	34.5	39.2	43.9	49.0
4	114000	5 1/4	76.0	89.5	103	117
M100	507117	133	34.5	40.6	46.7	53.1

EXTENSION PIECE

Figure 157

The Figure 157 is designed for attaching rods to the Figure 82 Beam Clamp and similar types of attachments.

Material: Malleable Iron

Maximum Temperature: 450ºF (232ºC)

Compliance: Federal Specification A-A-1192A (Type 30), ANSI / MSS SP-58 (Type 30) when used with a Figure 82.

Finish: Plain, Painted, Electro-Galvanized

Ordering: Specify rod size, figure number, and finish.
Order Figure 82 separately, if required.

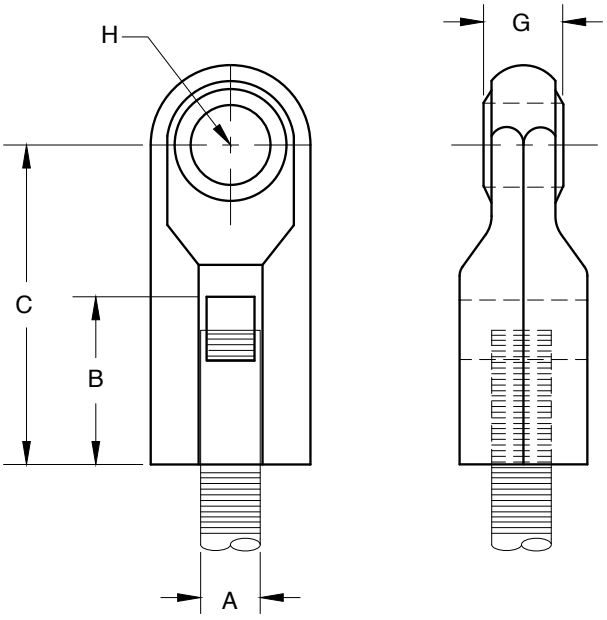


FIGURE 157 EXTENSION PIECE

ROD SIZE A	MAX LOAD	B	C	G	H	WEIGHT EA
3/8	730	1 1/4	2 1/8	1/2	1/2	0.20
M10	3247	32	54	13	13	0.09
1/2	1350	1 3/8	2 3/8	5/8	1/2	0.40
M12	6005	35	60	16	13	0.18
5/8	1550	1 1/2	2 1/2	5/8	1/2	0.44
M16	6895	38	64	16	13	0.20
3/4	2100	1 3/4	2 7/8	5/8	1/2	0.65
M20	9342	44	73	16	13	0.29
7/8	2350	1 7/8	3	3/4	9/16	0.78
M20	10454	48	76	19	14	0.35

FORGED WELDLESS EYE NUT

Figure 279 (Right Hand Tap)

Figure 279L (Left Hand Tap)

Figure 279 SS316 (Type 316 Stainless – RH Tap)

The Figure 279 is used to connect rod ends with structural steel welded beam attachments or pipe clamps; as a substitute for a welded eyerod. It provides a pivot point and adjustment. It can also be supplied tapped left hand as a Figure 279L. Non-standard rod taping is available.

Material: Forged Steel or Forged Stainless Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

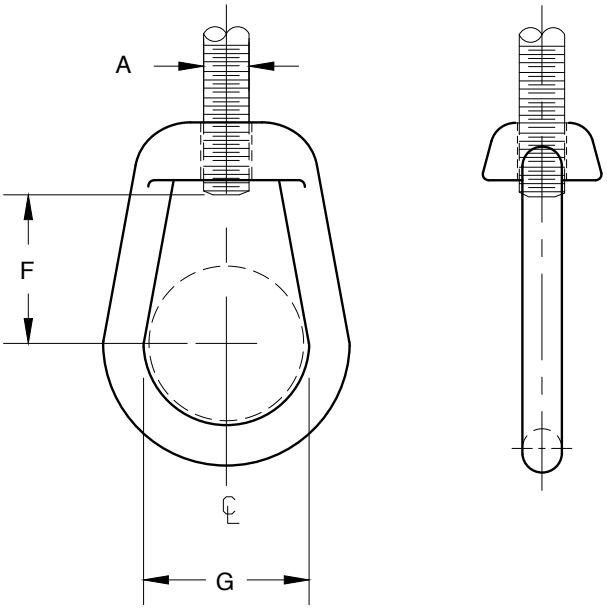
Compliance: Federal Specification: A-A-1192A (Type 17), ANSI/MSS SP-58 (Type 17)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify rod size, figure number, and finish.
For Metric applications specify Figure Number M279 or M279L.

FIGURE 279 - WELDLESS EYE NUT

ROD TAP A	MAX LOAD 650º F / 343º C	F	G	WEIGHT EA
3/8	730	1	1 1/2	0.63
M10	3247	25	38	0.29
1/2	1350	1	1 1/2	0.63
M12	6005	25	38	0.29
5/8	2160	1	1 1/2	0.62
M16	9608	25	38	0.28
3/4	3230	1	1 1/2	0.60
M20	14368	25	38	0.27
7/8	4480	1 3/8	2	1.70
M20	19928	35	51	0.77
1	5900	1 3/4	2	1.70
M24	26244	44	51	0.77
1 1/4	9500	1 3/4	2 1/2	3.75
M30	42258	44	64	1.70
1 1/2	13800	1 3/4	2 1/2	3.50
M36	61385	44	64	1.59
1 3/4	18600	3 1/4	4	16.40
M42	82737	83	102	7.44
2	24600	3 1/4	4	15.90
M48	109426	83	102	7.21
2 1/4	32300	3 1/4	4	15.40
M56	143677	83	102	6.99
2 1/2	39800	3 1/4	4	14.90
M64	177038	83	102	6.76



FORGED STEEL CLEVIS

Figure 276 (w/o Pin and Cotters)

Figure 276P (with Pin and Cotters)

Figure 276P SS316 (Type 316 Stainless Steel w/ Pin and Cotters)

The Figure 276P is used to connect rod ends with structural steel welding lug plates or lugs welded to pipe. It provides a pivot point and adjustment. All are right-hand tapped, UNC. Left-hand tap is available on request.

Non-standard Pin Sizes are available as a Special Order

Material: Forged Carbon Steel, Forged Stainless Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

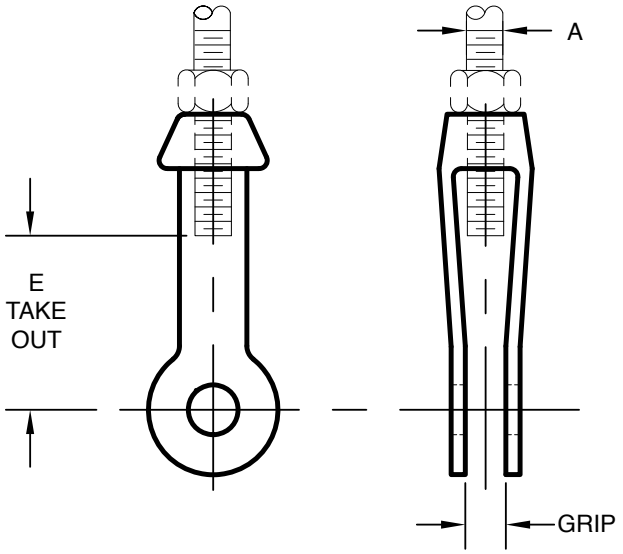
Compliance: Federal Specification A-A-1192A (Type 14), ANSI/ MSS SP-58 (Type 14)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify rod size, figure number, pin size (if not standard), grip (if not standard), and finish. Add "LH" as a suffix to the Figure Number for a Left Hand Tap e.g. 276PLH.

FIGURE 276 and 276P - FORGED STEEL CLEVIS

ROD SIZE A	MAX LOAD 650ºF / 343ºC	PIN/ BOLT DIA.	TAKE OUT E	GRIP	FIGURE 276P WEIGHT EA
3/8	730	1/2	3 1/2	1/2	1.00
M10	3247	M12	89	13	0.45
1/2	1350	5/8	3 1/2	5/8	0.90
M12	6005	M16	89	16	0.41
5/8	2160	3/4	3 1/2	5/8	0.90
M16	9608	M20	89	16	0.41
3/4	3230	7/8	4	3/4	3.00
M20	14368	M20	102	24	1.36
7/8	4480	1	4	7/8	3.40
M22	19928	M24	102	22	1.54
1	5900	1 1/8	5	1	5.10
M24	26244	M30	127	25	2.31
1 1/4	9500	1 3/8	5	1 1/4	5.50
M30	42258	M36	127	32	2.49
1 1/2	13800	1 5/8	6	1 1/2	8.50
M36	61385	M42	152	38	3.86
1 3/4	18600	1 7/8	6	1 1/2	12.90
M42	82737	M48	152	38	5.85
2	24600	2 1/4	7	2 1/2	23.30
M48	109426	M56	178	64	10.57
2 1/4	32300	2 1/2	8	2 1/2	35.10
M56	143677	M64	203	64	15.92
2 1/2	39800	2 3/4	8	2 1/2	36.00
M64	177038	M72	203	64	16.33



MALE / FEMALE SWING ROD FITTING

Figure 701

This fitting is used when flexible movement of pipeline is required. The threaded stud portion can be installed into a concrete insert or bolted to flange of I beam, angle or channel.

Material: Carbon Steel

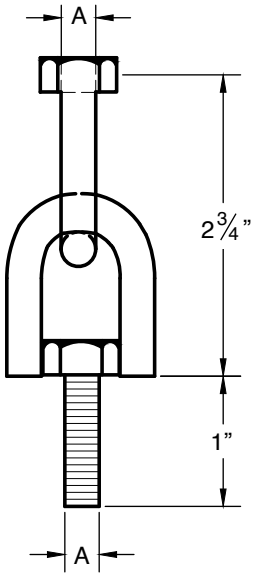
Compliance: ANSI / MSS SP-58

Finish: Electro-Galvanized

Ordering: Specify rod size, and figure number

FIGURE 701 - MALE / FEMALE SWING ROD FITTING

ROD SIZE A	MAX LOAD	WEIGHT EA
3/8	610	0.26
M10	2714	0.12
1/2	610	0.26
M12	2714	0.12



ADJUSTABLE PIPE SUPPORT

Figure 101

The Figure 101 is used for support and adjustment of stationary piping from below, without welding to the piping. It consists of a steel saddle, pipe nipple, and pipe reducer.

This assembly can be mated to our Figure 138 Threaded Base Stand (ordered separately).

Made special for customer requirements, it can be ordered for Nominal Pipe Sizes, Iron Pipe Sizes, Cast Iron pipe, Ductile Iron pipe or non-standard dimensions.

Materials: Pipe Reducer is Cast Iron, Pipe saddle and pipe nipple are Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Compliance: Federal Specification: A-A-1192A (Type 39), ANSI/ MSS SP-58 (Type 39)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, type of pipe and finish. For Metric applications specify Figure M101.

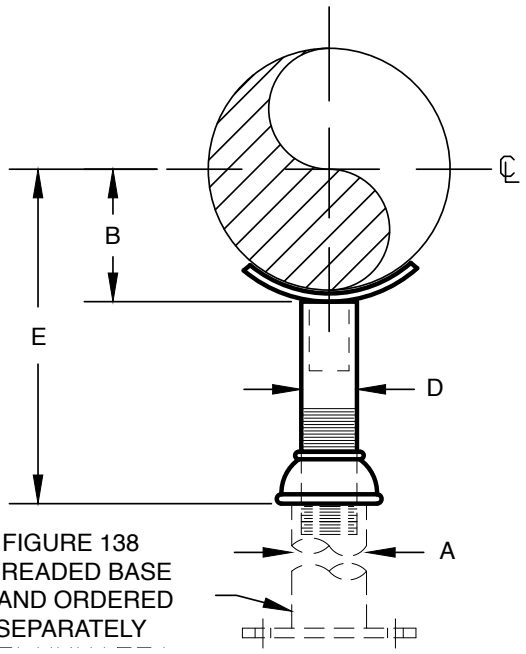


FIGURE 138
THREADED BASE
STAND ORDERED
SEPARATELY

FIGURE 101 - ADJUSTABLE PIPE SUPPORT

PIPE SIZE	MAX LOAD	A	B	D	E		WEIGHT EA
					MIN.	MAX.	
1 1/2	5,000	2 1/2	1 1/4	1 1/2	8	13	4.75
40	22242	65	32	40	203	330	2.15
2	5,000	2 1/2	1 1/2	1 1/2	8	13	4.80
50	22242	65	38	40	203	330	2.18
2 1/2	5,000	2 1/2	1 7/8	1 1/2	8	13	4.90
65	22242	65	48	40	203	330	2.22
3	5,000	2 1/2	2 1/8	1 1/2	8	13	5.00
80	22242	65	54	40	210	337	2.27
4	7,000	3	2 5/8	2 1/2	9	14	9.30
100	31139	80	67	65	232	359	4.22
5	7,000	3	3 1/4	2 1/2	9 5/8	14 5/8	9.65
125	31139	80	83	65	244	371	4.38
6	7,000	3	3 7/8	2 1/2	10	15	11.65
150	31139	80	98	65	254	381	9.40
8	7,000	3	4 7/8	2 1/2	11	16	12.85
200	31139	80	124	65	279	406	5.83
10	7,000	3	5 7/8	2 1/2	12 1/8	17 1/8	14.10
250	31139	80	149	65	308	435	6.40
12	7,000	3	6 7/8	2 1/2	13 1/8	18 1/8	15.25
300	31139	80	175	65	333	460	6.92
14	7,000	4	7 1/2	3	13	18	21.70
350	31139	100	191	80	330	457	9.84
16	7,000	4	8 5/8	3	14 1/8	19 1/8	25.35
400	31139	100	219	80	359	486	11.50
18	7,000	6	9 5/8	4	15 1/8	20 1/8	39.30
450	31139	150	244	100	384	511	17.83
20	7,000	6	10 5/8	4	16 1/8	21 1/8	44.90
500	31139	150	270	100	410	537	20.37
24	10,000	6	12 3/4	4	18 1/4	23 1/4	54.30
600	44484	150	324	100	464	591	24.63

Note: The stated Loads apply solely to the Figure 101 and not to the Figure 138. The customer is solely responsible for the adequacy of the design.

ADJUSTABLE FLOOR SUPPORT

Figure 101U

The Figure 101U is used for support and adjustment of stationary piping from below without welding to the pipe, where there is no axial or transverse movement. It consists of a steel saddle assembly with U-bolt(s), pipe nipple, and pipe reducer.

This assembly can be mated to our Figure 138 Threaded Base Stand (ordered separately).

Made special for customer requirements, it can be ordered for Nominal Pipe Sizes, Iron Pipe Sizes, Cast Iron pipe, Ductile Iron pipe or non-standard dimensions.

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Materials: Pipe Reducer is Cast Iron, Pipe saddle, nipple and U-bolt are Carbon Steel

Compliance: Federal Specification A-A-1192A (Type 39) ANSI/MSS SP-58 (Type 39)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify figure number, pipe size, pipe type, and finish. For Metric applications specify Figure M101U.

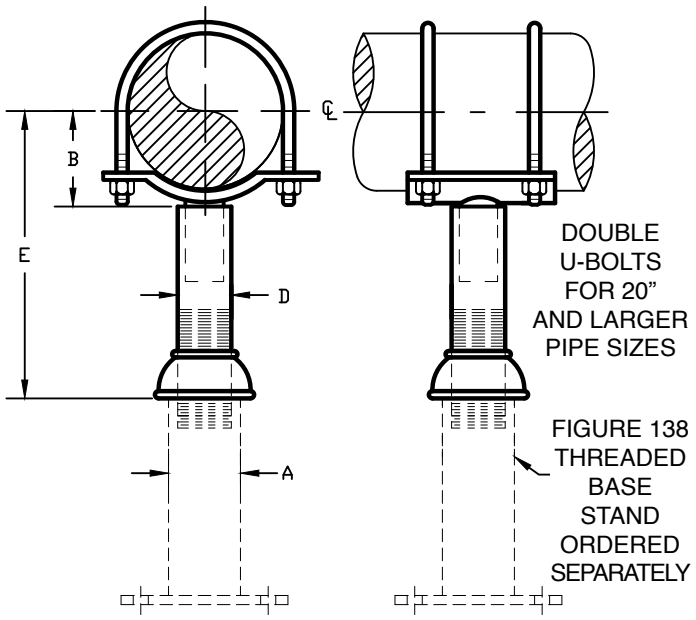


FIGURE 101U - ADJUSTABLE FLOOR SUPPORT

PIPE SIZE	MAX LOAD	A	B	D	E		WEIGHT EA
					MIN.	MAX.	
1 1/2	5,000	2 1/2	1 1/4	1 1/2	8	13	4.75
40	22242	65	32	40	203	330	2.15
2	5,000	2 1/2	1 1/2	1 1/2	8	13	4.80
50	22242	65	38	40	203	330	2.18
2 1/2	5,000	2 1/2	1 7/8	1 1/2	8	13	4.90
65	22242	65	48	40	203	330	2.22
3	5,000	2 1/2	2 1/8	1 1/2	8 1/4	13 1/4	5.0
80	22242	65	54	40	210	337	2.27
4	7,000	3	2 5/8	2 1/2	9 1/8	14 1/8	9.30
100	31139	80	67	65	232	359	4.22
5	7,000	3	3 1/4	2 1/2	9 5/8	14 5/8	9.65
125	31139	80	83	65	244	371	4.38
6	7,000	3	3 7/8	2 1/2	10	15	11.7
150	31139	80	98	65	254	381	9.40
8	7,000	3	4 7/8	2 1/2	11	16	12.9
200	31139	80	124	65	279	406	5.83
10	7,000	3	5 7/8	2 1/2	12 1/8	17 1/8	14.1
250	31139	80	149	65	308	435	6.40
12	7,000	3	6 7/8	2 1/2	13 1/8	18 1/8	15.3
300	31139	80	175	65	333	460	6.9
14	7,000	4	7 1/2	3	13	18	21.7
350	31139	100	191	80	330	457	9.84
16	7,000	4	8 5/8	3	14 1/8	19 1/8	25.4
400	31139	100	219	80	359	486	11.5
18	7,000	6	9 5/8	4	15 1/8	20 1/8	39.3
450	31139	150	244	100	384	511	17.8
20	7,000	6	10 5/8	4	16 1/8	21 1/8	44.9
500	31139	150	270	100	410	537	20.4
24	10,000	6	12 3/4	4	18 1/4	23 1/4	54.3
600	44484	150	324	100	464	591	24.6

Note: The stated Loads apply solely to the Figure 101U and not to the Figure 138.
The customer is solely responsible for the adequacy of the design.

PIPE SADDLE WITH U-BOLT

Figure 125

The Figure 125 is used for support of stationary piping from below without welding to the pipe. The U-Bolt is for added stability. Field adjustment is accomplished by field welding the Figure 125 pipe stub to the lower Base Stand, our Figure 138S (not included).

The Load ratings, as stated, are only applicable to the Figure 125.

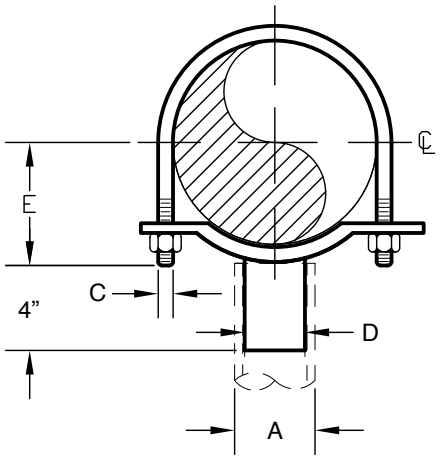
Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Compliance: Federal Specification A-A-1192A (Type 37), ANSI/ MSS SP-58 (Type 37)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M125.



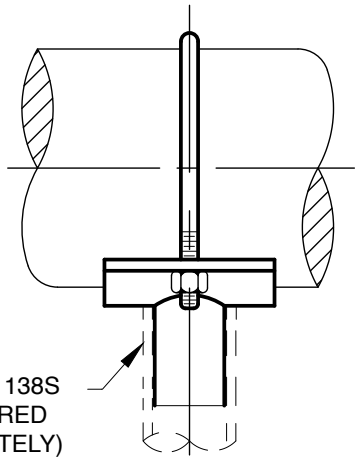


FIGURE 138S (ORDERED SEPARATELY)

FIGURE 125 - PIPE SADDLE WITH YOKE

PIPE SIZE	MAX LOAD	SUPPORT PIPE A (SCH. 40 PIPE)	C	STEM D	E	WEIGHT EA
2	900	1 1/2	3/8	1	1 7/16	1.50
50	202	40	M10	25	37	0.68
2 1/2	1200	2	1/2	1 1/2	1 11/16	2.50
65	270	65	M12	40	43	1.13
3	1200	3	1/2	1 1/2	2	2.87
80	270	80	M12	40	51	1.30
4	3800	3	1/2	2 1/2	2 1/2	5.07
100	854	80	M12	65	64	2.30
5	3800	3	1/2	2 1/2	3 1/16	5.36
125	854	80	M12	65	78	2.43
6	3800	3	5/8	2 1/2	3 5/8	6.82
150	854	80	M16	65	92	3.09
8	3800	3	5/8	2 1/2	4 11/16	7.64
200	854	80	M16	65	119	3.47
10	3800	3	3/4	2 1/2	5 7/8	10.3
250	854	80	M20	65	149	4.69
12	3800	3	7/8	2 1/2	6 7/8	15.8
300	854	80	M20	65	175	7.15
14	5300	4	7/8	3	7 5/8	20.6
350	1191	100	M20	80	194	9.34
16	5300	4	7/8	3	8 5/8	23.1
400	1191	100	M20	80	219	10.5
18	6700	4	1	3	9 3/4	34.1
450	1506	100	M24	80	248	15.5
20	6700	6	1	5	10 3/4	37.3
500	1506	150	M24	125	273	16.9
24	7300	6	1	5	13	49.2
600	1641	150	M24	125	330	22.3
30	7300	6	1	5	16	59.7
750	1641	150	M24	125	406	27.1
36	7300	8	1	6	19	80.9
900	1641	200	M24	150	483	36.7

PIPE SADDLE WITH U-BOLT FOR DUCTILE IRON AND CAST IRON PIPE

Figure 125DI

The Figure 125DI is used for support of stationary Ductile and Cast Iron piping from below. The U-Bolt is for added stability. Field adjustment is accomplished by field welding the Figure 125DI pipe stub to the lower Base Stand. Our Figure 138S (not included) must be ordered separately.

The Load ratings, as stated, are only applicable to the Figure 125DI.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Compliance: Federal Specification A-A-1192A (Type 37), ANSI/MSS SP-58 (Type 37)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure Number M125DI.

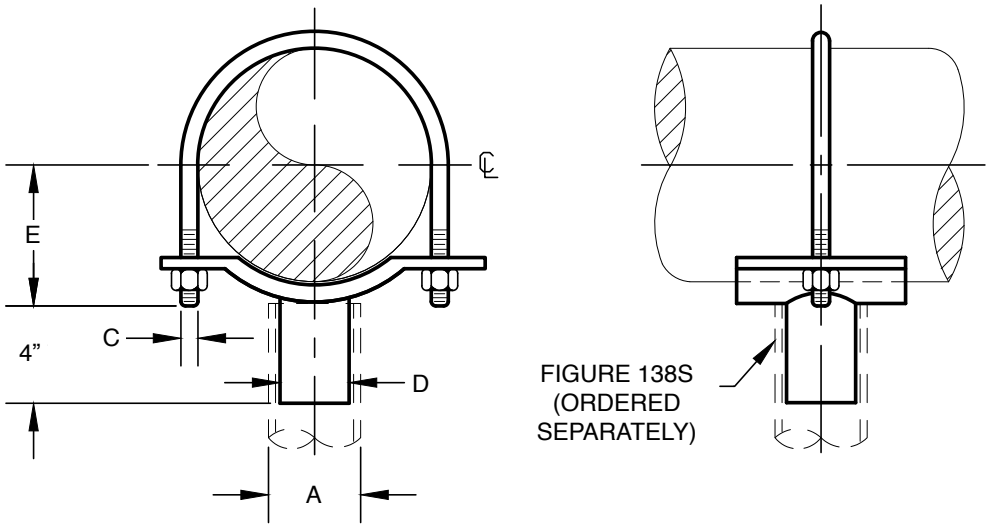


FIGURE 125DI - PIPE SADDLE WITH YOKE FOR DUCTILE IRON AND CAST IRON PIPE

D.I. / C.I. PIPE SIZE	ACTUAL PIPE DIAMETER	MAX LOAD	SUPPORT PIPE A (SCH. 40 PIPE)	C	STEM D	E	WEIGHT EA
3	3.96	3800	3	1/2	1 1/2	2 3/4	2.8
100	100.6	854	80	M12	40	70	1.3
4	4.80	3800	3	1/2	2 1/2	3 5/8	5.1
125	121.9	854	80	M12	65	92	2.3
6	6.90	3800	3	5/8	2 1/2	4 1/4	8.2
160	175.3	854	80	M16	65	108	3.7
8	9.05	3800	3	5/8	2 1/2	4 5/8	9.7
225	229.9	854	80	M16	65	117	4.4
10	11.1	3800	3	3/4	2 1/2	5 1/2	13.5
280	281.9	854	80	M20	65	140	6.1
12	13.2	3800	3	7/8	2 1/2	6 3/4	17.1
315	335.3	854	80	M20	65	171	7.8
14	15.3	3800	4	7/8	3	7 1/2	25.9
400	388.6	854	100	M20	80	191	11.7
16	17.4	6700	4	7/8	3	8	30.5
450	442	1506	100	M20	80	203	13.8
18	19.5	6700	4	1	3	9	39.0
500	495.3	1506	100	M24	80	229	17.7
20	21.6	7300	6	1	5	9 1/4	47.7
500	548.6	1641	150	M24	125	235	21.6
24	25.8	7300	6	1	5	11 1/2	102
630	655.3	1641	150	M24	125	292	46.3
30	32.0	7300	6	1	5	13	132
800	812.3	1641	150	M24	125	330	59.9
36	38.3	7300	8	1 1/4	6	14 1/2	210
900	812.3	1641	200	M30	150	368	95.3

ADJUSTABLE PIPE SUPPORT

Figure 137

The Figure 137 is designed to support stationary pipe from below. The stem is threaded its full length and furnished with a nut and washer to allow for vertical adjustment.

This assembly is used with our Figure 138S Base Stand (ordered separately).

Material: Carbon Steel.

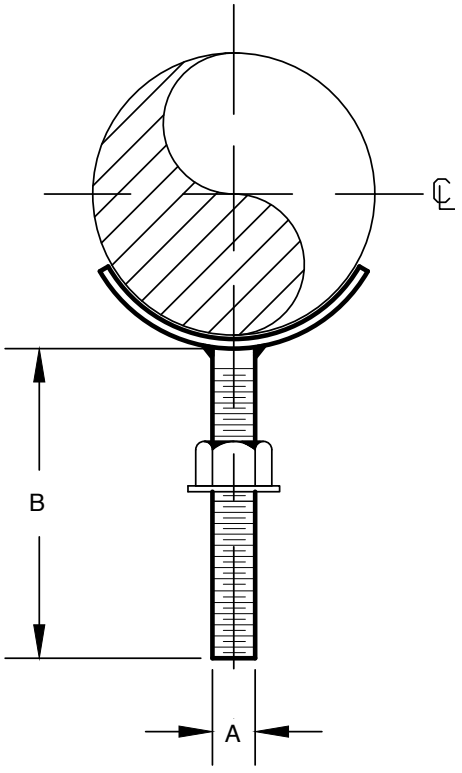
Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M137.

FIGURE 137 - ADJUSTABLE PIPE SUPPORT

PIPE SIZE	A	B	WEIGHT EA
1	5/8	8	0.70
25	M16	203	0.32
1 1/2	5/8	8	0.74
40	M16	203	0.34
2	5/8	8	0.80
50	M16	203	0.36
2 1/2	5/8	8	0.84
65	M16	203	0.38
3	5/8	8	1.02
80	M16	203	0.46
3 1/2	5/8	8	1.06
90	M16	203	0.48
4	7/8	8	1.86
100	M20	203	0.84
5	7/8	8	2.50
125	M20	203	1.13
6	1	8	2.98
160	M24	203	1.35
8	1	8	3.28
200	M24	203	1.49
10	1 1/4	8	6.30
250	M30	203	2.86
12	1 1/4	8	7.00
300	M30	203	3.18



PIPE SUPPORT

Figure 247

The Figure 247 is used in conjunction with a Base Stand to support stationary piping from below.

Our Figure 138 can be ordered, separately, to mate with the Figure 247.

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

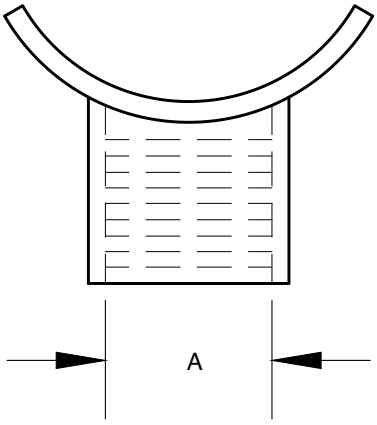
Compliance: Federal Specification A-A-1192A (Type 38), ANSI/ MSS SP-58 (Type 38)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M247.

FIGURE 247 - PIPE SUPPORT

PIPE SIZE	SUPPORT PIPE A (SCH. 40 PIPE)	WEIGHT EA
2	1 1/4	1.35
50	32	0.61
3	1 1/2	2.45
80	40	1.11
4	2	3.63
100	50	1.65
5	2	4.30
125	50	1.95
6	2 1/2	7.03
150	65	3.19
8	2 1/2	8.53
200	65	3.87
10	3	13.0
250	80	5.91
12	3	15.1
300	80	6.84



ADJUSTABLE PIPE STANCHION WITH U-BOLT

Figure 191

The Figure 191 is used for support of stationary piping from below without welding to the pipe, has the ability for field adjustment and a U-Bolt for increased stability. The lower supporting Base Stand "B", our Figure 138, must be ordered separately. Comes with a hex nut and flat steel washer.

Material: Carbon Steel

Maximum Temperature: 650º F (343º C), Hot-Dip Galvanized 450º F (232º C)

Compliance: Federal Specification A-A-1192A (Type 38), ANSI/MSS SP-58 (Type 38)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M191.

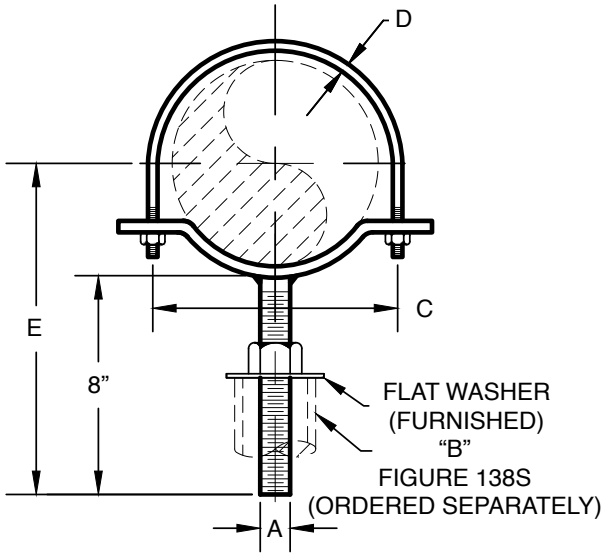


FIGURE 191 - ADJUSTABLE PIPE STANCHION WITH U-BOLT

PIPE SIZE	A	BASE STAND B	C	D	E	WEIGHT EA
2	5/8	1	2 7/8	1/4	9 1/2	1.2
50	M16	25	73	6	241	0.5
2 1/2	5/8	1	3 3/8	3/8	9 3/4	1.4
65	M16	25	86	10	248	0.6
3	5/8	1	4	3/8	10 1/8	1.6
80	M16	25	102	10	257	0.7
3 1/2	5/8	1	4 1/2	3/8	10 3/8	2.6
90	M16	25	114	10	264	1.2
4	7/8	1	5 1/8	1/2	10 5/8	3.0
100	M20	25	130	13	270	1.4
5	7/8	1	6 3/16	1/2	11 1/8	3.2
125	M20	25	157	13	283	1.5
6	1	1 1/4	7 1/8	5/8	11 3/4	4.9
150	M24	32	181	16	298	2.2
8	1	1 1/4	9 3/8	5/8	12 3/4	6.2
200	M24	32	238	16	324	2.8
10	1 1/4	1 1/2	11 1/2	5/8	14	10.5
250	M30	38	292	16	356	4.8
12	1 1/4	1 1/2	13 1/2	5/8	15	11.8
300	M30	38	343	16	381	5.4

BASE STAND

Figure 138 (with Pipe Threads)

Figure 138S (no Pipe Threads)

This product is designed to function as a pipe stanchion used to connect various pipe support attachments for steel and concrete structures.

All Figure 138 Pipe Sizes are NPT threaded while the Figure 138S is straight cut.

Pipe Size selection, height of the Base Stand, related load capacity and fitness for the application are the responsibility of the customer.

Figure 138 is for use with our Figures 101, 101F, 101U, and 247 while the Figure 138S is for use with our Figures 125, 137, and 191.

Materials: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Compliance: Federal Specification A-A-1192A (Types 36, 37, 38, 39), ANSI/MSS SP-58 (Types 36, 37, 38) when used with the appropriate Pipe Saddle type attachment.

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify figure number, pipe size, height, with or without base plate holes, and finish. For Metric applications specify figure M138 or 138T

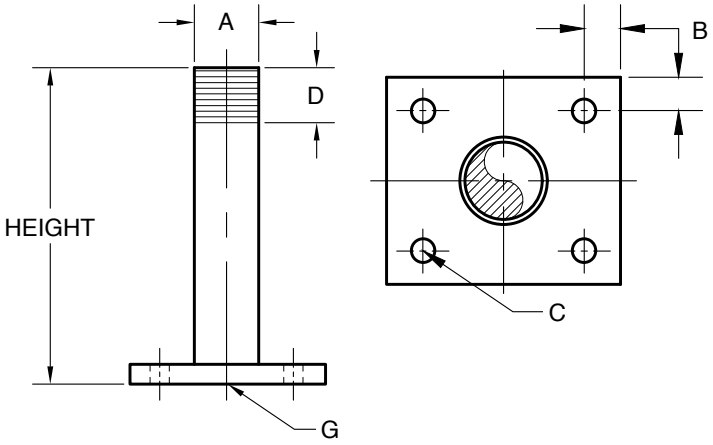


FIGURE 138 - FIGURE 138S BASE STAND

PIPE SIZE	B	C	D	G	WEIGHT EA
1	1	9/16	1 1/2	6 x 6 x 1/4	4.95
25	25	14	38	152 x 152 x 6	2.25
1 1/4	1	9/16	1 1/2	6 x 6 x 1/4	5.83
32	25	14	38	152 x 152 x 6	2.64
1 1/2	1	9/16	1 1/2	6 x 6 x 1/4	6.49
40	25	14	38	152 x 152 x 6	2.94
2	1	9/16	1 1/2	6 x 6 x 1/4	7.85
50	25	14	38	152 x 152 x 6	3.56
2 1/2	1 1/4	9/16	1 1/2	8 x 8 x 3/8	15.2
65	32	14	38	203 x 203 x 10	6.91
3	1 1/2	13/16	1 1/2	12 x 12 x 3/8	26.2
80	40	21	38	305 x 305 x 10	11.9
4	1 1/2	15/16	2	12 x 12 x 1/2	35.9
100	40	24	51	304 x 305 x 13	16.3
6	1 1/2	1 1/8	2	18 x 18 x 1/2	73.5
150	40	29	51	457 x 457 x 13	9.40

Weights are based upon a Height “H” of 18”
All Pipe Sizes are Schedule 40

WELDED BASE ANCHOR SUPPORT

Figure 375

This product is for steel piping that is required to be fixed or anchored at a vertical elbow in the piping system and is of welded construction.

It is assumed that the structure is adequate to support or restrain the imposed forces.

Pipe wall stress determination is the responsibility of the customer.

Made special to customer order.

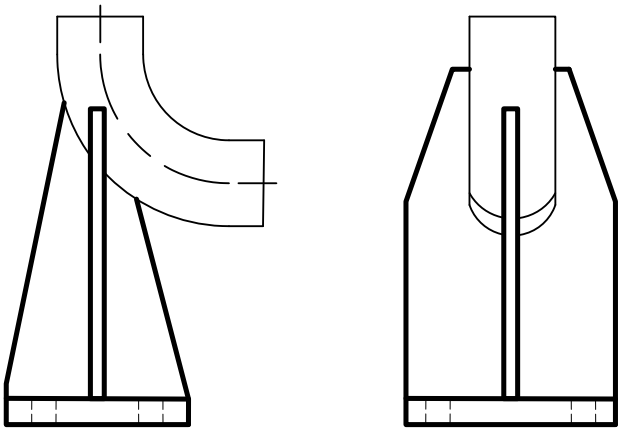
An outline drawing for field installation will be provided.

Compliance: ANSI/MSS SP-58 and/or Customer Requirements

Material: Carbon Steel, Alloy Steel, Stainless Steel

Finish: Specified by Customer

Ordering: Pipe size, pipe material, design temperature, distance from structure to centerline of pipe, type of elbow, applicable forces-moments-and rotation values, support structure information, and as needed.



ADJUSTABLE PIPE SUPPORT FOR FLANGED PIPE

Figure 101F

Figure 101F SS (Type 304 Stainless Steel)

Figure 101F SS316 (Type 316 Stainless Steel)

The Figure 101F is used for support and adjustment of stationary, flanged piping from below without welding to the pipe, where there is no axial or transverse movement. It consists of a steel flange connector assembly with, pipe nipple, and pipe reducer. Connecting Flange Bolts are not included.

This assembly can be mated to our Figure 138 Threaded Base Stand (ordered separately).

Made special for customer requirements, it can be ordered for Nominal Pipe Sizes, based upon a 150# Flange Pressure Class. Other flanged bolt patterns can be provided upon request.

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Materials: Pipe Reducer is cast iron, Flange connector and nipple are carbon steel

Compliance: ANSI/MSS SP-58

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify figure number, pipe size, pipe type, and finish. For Metric applications specify Figure M101F

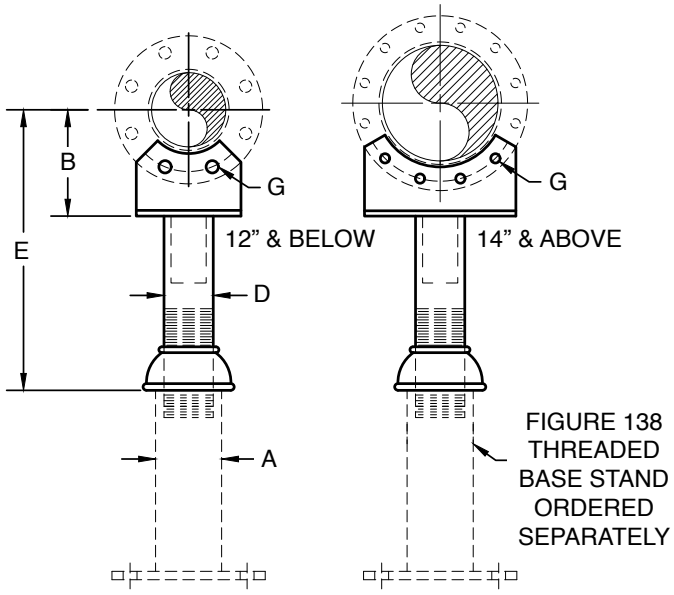


FIGURE 101F - ADJUSTABLE PIPE SUPPORT FOR FLANGED PIPE

PIPE SIZE	MAX LOAD	A	B	D	E		HOLE DIA. G	WEIGHT EA
					MIN.	MAX.		
3	3,800	2 1/2	5 1/8	1 1/2	11 1/4	16 1/4	3/4	10.5
80	16904	65	130	40	286	413	19	4.76
4	3,800	3	5 7/8	2 1/2	12 1/4	17 1/4	3/4	15.2
100	16904	80	149	65	311	438	19	6.89
6	3,800	3	7	2 1/2	13 1/4	18 1/4	7/8	17.4
150	16904	80	178	65	337	464	22	7.89
8	3,800	3	8 1/4	2 1/2	14 1/2	19 1/2	7/8	18.4
200	16904	80	210	65	368	495	22	8.35
10	3,800	3	9 1/2	2 1/2	15 3/4	20 3/4	1	23.3
250	16904	80	241	65	400	527	25	10.57
12	3,800	3	11	2 1/2	17 1/4	22 1/4	1	33.4
300	16904	80	279	65	438	565	25	15.2
14	5,300	4	12	3	17 1/2	22 1/2	1 1/8	36.6
350	23577	100	305	80	445	572	29	16.60
16	5,300	4	13	3	18 7/8	23 7/8	1 1/8	39.8
400	23577	100	330	80	479	606	29	18.1
18	6,700	6	14 1/8	4	19 5/8	24 5/8	1 1/4	61.5
450	29804	150	359	100	498	625	32	27.9
20	6,700	6	15 3/8	4	20 7/8	25 7/8	1 1/4	60.9
500	29804	150	391	100	530	657	32	27.6
24	7,300	6	17 3/4	4	23 1/4	28 1/4	1 3/8	64.4
600	32473	150	451	100	591	718	35	29.2

Note: The stated Loads apply solely to the Figure 101F and not to the Figure 138.
The customer is solely responsible for the adequacy of the design.

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

PIPE COVERING PROTECTION SADDLE

Figure 351 to 357Z

The Figures 351 through 357Z are PCP Saddles and are used to protect the insulation against damage and keep heat loss to a minimum. They are designed from 1"up to 5 ½"of Covering. All Saddles are 12" long with three tabs on each side for tack welding to the pipe. Sizes 12" and larger, and all alloy steel saddles have a welded in-center rib.

Loads are based upon the Saddle being welded to the pipe and being on a flat bearing surface or the stated Roll Hanger. When used with a Roll Hanger the smaller of the two Product Loads is applicable.

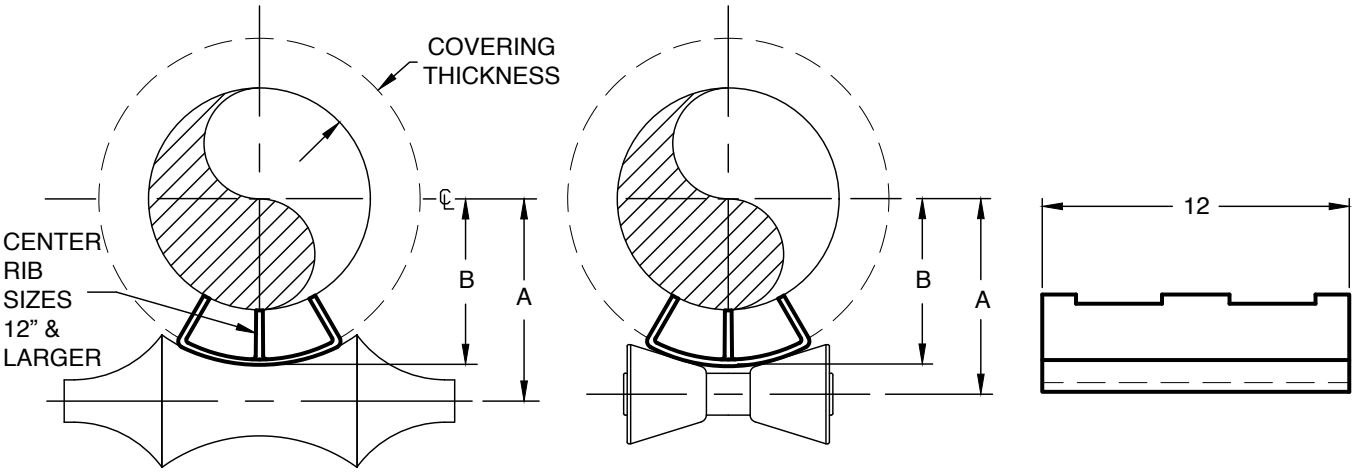
Material: Carbon Steel. (except Figures 356Z and 357Z which are ASTM A-387 Grade 22 Alloy Steel)

Maximum Temperatures: Carbon Steel 650º F (343º C) Alloy Steel 950º F (510º C) Hot-Dip Galvanizing 450º F (232º C)

Finish: Plain, Painted, Electro-Galvanized and Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 39 ANSI/MSS SP-58 (Type 39)

Ordering: Specify pipe size and figure number.
For Metric applications prefix the Figure Number with an "M".



SADDLE FOR
FIG. 140, 142 AND 333

SADDLE FOR
FIG. 17, 39, 40 AND 53

FIGURE 351 TO 357Z - PIPE COVERING PROTECTION SADDLE

PIPE SIZE	FIGURE NUMBER	NOMINAL COVERING THICKNESS	MAX LOAD	FIGURE 142 FIGURE 333		FIGURE 140		FIGURES 17, 39, 40, 53		CENTER LINE OF PIPE TO BOTTOM OF SADDLE "B"	WEIGHT EA
				ROLL SIZE	A	ROLL SIZE	A	PIPE SIZE	A		
3/4" 20	351	1	1200	2 1/2	2 1/8	2 1/2	2	2-3 1/2	2 5/16	1 5/8	1.2
		25	5338	64	54	64	51	50-90	59	41	0.5
	352	1 1/2	1200	3	2 5/8	3	2 1/4	2-3 1/2	2 11/16	2 1/8	2.1
		38	5338	76	67	90	57	50-90	68	54	1.0
	353	2	1200	4	3 1/4	5	3 1/2	2-3 1/2	3 3/8	2 5/8	2.6
		51	5338	102	83	125	89	50-90	86	67	1.2
1" 25	351	1	1200	2 1/2	2 3/4	3	2 1/4	2-3 1/2	2 7/16	1 3/4	1.2
		25	5338	64	70	80	57	50-90	62	44	0.5
	352	1 1/2	1200	3	2 7/8	4	2 7/8	2-3 1/2	2 15/16	2 3/8	2.1
		38	5338	76	73	100	73	50-90	75	60	1.0
	353	2	1200	4	3 3/8	5	3 1/2	2-3 1/2	3 1/2	2 3/4	2.6
		51	5338	102	86	125	89	50-90	89	70	1.2
1 1/4" 32	351	1	1200	3	2 1/2	3	2 1/4	2-3 1/2	2 9/16	2	1.3
		25	5338	76	64	80	57	50-90	65	51	0.6
	352	1 1/2	1200	4	3	5	3 1/2	2-3 1/2	3 3/16	2 1/2	2.1
		38	5338	102	76	125	89	50-90	81	64	1.0
	353	2	1200	5	3 5/8	5	3 1/2	2-3 1/2	3 11/16	3 1/16	2.6
		51	5338	127	92	125	89	50-90	94	78	1.2
	354	2 1/2	1200	6	4 1/4	6	4	4-6	4 1/16	3 1/2	3.3
		64	5338	152	108	150	102	100-150	103	89	1.5

FIGURE 351 TO 357Z - PIPE COVERING PROTECTION SADDLE

PIPE SIZE	FIGURE NUMBER	NOMINAL COVERING THICKNESS	MAX LOAD	FIGURE 142 FIGURE 333		FIGURE 140		FIGURES 17, 39, 40, 53		CENTER LINE OF PIPE TO BOTTOM OF SADDLE "B"	WEIGHT EA
				ROLL SIZE	A	ROLL SIZE	A	PIPE SIZE	A		
1 1/2" 40	351	1	1200	3	2 1/2	3 1/2	2 5/8	2-3 1/2	2 11/16	2	1.5
		25	5338	76	64	90	67	50-90	68	51	0.7
	352	1 1/2	1200	4	3 1/8	5	3 1/2	2-3 1/2	3 5/16	2 5/8	2.1
		38	5338	102	79	125	89	50-90	84	67	1.0
	353	2	1800	5	4 1/8	6	4	2-3 1/2	3 3/4	3 3/8	3.1
		51	8007	127	105	150	102	50-90	95	86	1.4
	354	2 1/2	1800	6	4 5/8	7	4 3/4	4-6	4 3/16	3 7/8	3.8
		64	8007	152	117	175	121	100-150	106	98	1.7
2" 50	351	1	1200	4	2 7/8	4	2 7/8	2-3 1/2	2 15/16	2 3/8	1.6
		25	5338	102	73	100	73	50-90	75	60	0.7
	352	1 1/2	1200	4	3 1/8	5	3 1/2	2-3 1/2	3 5/16	2 5/8	2.1
		38	5338	102	79	125	89	50-90	84	67	1.0
	353	2	1800	6	4 1/4	6	4	4-6	3 7/8	3 1/2	3.1
		51	8007	152	108	150	102	100-150	98	89	1.4
	354	2 1/2	1800	7	4 3/4	7	4 3/4	4-6	4 13/16	4	3.6
		64	8007	178	121	175	121	100-150	122	102	1.6
	355	3	1800	7	5 1/4	8	5 1/8	7-10	5 5/16	4 1/2	4.4
		76	8007	178	133	200	130	180-255	135	114	2.0
2 1/2" 65	351	1	1200	4	3 1/2	5	3 1/2	2-3 1/2	3 9/16	2 7/8	1.8
		25	5338	102	89	125	89	50-90	90	73	0.8
	352	1 1/2	1200	5	4 1/2	6	4	2-3 1/2	3 3/4	3 3/8	2.4
		38	5338	125	114	150	102	50-90	95	86	1.1
	353	2	1800	6	4 5/8	7	4 3/4	4-6	4 3/16	3 7/8	3.1
		51	8007	152	117	175	121	100-150	106	98	1.4
	354	2 1/2	1800	7	5 1/8	8	5 1/8	7-10	5 1/16	4 3/8	3.6
		64	8007	178	130	200	130	180-255	129	111	1.6
	355	3	1800	7	5 5/8	10	6 1/4	7-10	5 9/16	4 7/8	4.4
		76	8007	178	143	250	159	180-255	141	124	2.0
3" 80	351	1	1200	4	3 1/2	5	3 1/2	2-3 1/2	3 9/16	2 7/8	1.8
		25	5338	102	89	125	89	50-90	90	73	0.8
	352	1 1/2	1800	5	4 1/2	6	4	4-6	4 1/16	3 3/4	2.8
		38	8007	125	114	150	102	100-150	103	95	1.2
	353	2	1800	6	4 3/4	7	4 3/4	4-6	4 9/16	4	3.5
		51	8007	152	121	175	121	100-150	116	102	1.6
	354	2 1/2	1800	8	5 3/8	8	5 1/8	7-10	5 3/8	4 5/8	3.9
		64	8007	203	137	200	130	180-255	137	117	1.8
	355	3	1800	8	5 7/8	10	6 1/4	7-10	6	5	4.4
		76	8007	203	149	250	159	180-255	152	127	2.0
4" 100	351	1	1800	6	4 1/4	6	4	4-6	4	3 1/2	2.1
		25	8007	152	108	150	102	100-150	102	89	1.0
	352	1 1/2	1800	7	4 3/4	7	4 3/4	4-6	4 1/16	4	3.0
		38	8007	178	121	175	121	100-150	103	102	1.4
	353	2	1800	7	5 3/8	8	5 1/8	4-6	5 1/8	4 5/8	3.5
		51	8007	178	137	203	130	100-150	130	117	1.6
	354	2 1/2	1800	8	6	10	6 1/4	7-10	5 7/8	5 1/8	3.9
		64	8007	203	152	254	159	180-255	149	130	1.8
	355	3	1800	10	6 5/8	10	6 1/4	7-10	6 3/8	5 3/4	5.0
		76	8007	254	168	250	159	180-255	162	146	2.3
	356	4	1800	12	7 3/4	12	7 1/2	7-10	7 9/16	6 1/2	6.3
		102	8007	305	197	250	191	180-255	192	165	2.9
	356Z	4	5000	12	7 3/4	12	7 1/2	7-10	7 5/8	6 1/2	14.5
		102	22242	305	197	250	191	180-255	194	165	6.6
	357Z	5 1/2	5000	16	9 5/8	-----	-----	16	9 1/2	8 1/4	26.4
		140	22242	406	244	-----	-----	180-255	241	210	12.0

FIGURE 351 TO 357Z - PIPE COVERING PROTECTION SADDLE

PIPE SIZE	FIGURE NUMBER	NOMINAL COVERING THICKNESS	MAX LOAD	FIGURE 142 FIGURE 333		FIGURE 140		FIGURES 17, 39, 40, 53		CENTER LINE OF PIPE TO BOTTOM OF SADDLE "B"	WEIGHT EA
				ROLL SIZE	A	ROLL SIZE	A	PIPE SIZE	A		
5" 125	351	1	1800	6	4 7/8	7	4 3/4	4-6	4	4 1/8	2.4
		25	8007	152	124	175	121	100-150	102	105	1.1
	352	1 1/2	1800	7	5 1/2	8	5 1/8	4-6	5 3/16	4 3/4	3.0
		38	8007	178	140	200	130	100-150	132	121	1.4
	353	2	1800	8	6	10	6 1/4	7-10	6	5 1/4	3.6
		51	8007	203	152	200	159	180-255	152	133	1.6
	354	2 1/2	1800	10	6 5/8	10	6 1/4	7-10	6 7/16	5 3/4	4.1
		64	8007	254	168	200	159	180-255	164	146	1.8
	355	3	1800	10	7 1/8	12	7 1/2	7-10	7 5/32	6 1/4	5.0
		76	8007	254	181	250	191	180-255	182	159	2.3
	356	4	1800	12	8 1/4	12	7 1/2	7-10	8 3/32	7	6.3
		102	8007	305	210	250	191	180-255	206	178	2.9
	356Z	4	5000	12	8 3/8	12	7 1/2	7-10	8 1/4	7 1/8	15.0
		102	22242	305	213	250	191	180-255	210	181	6.8
	357Z	5 1/2	5000	18	10 1/4	-----	-----	18	10 3/4	8 3/4	27.4
		140	22242	457	260	-----	-----	180-255	273	222	12.4
6" 150	351	1	1800	7	5 3/8	8	5 1/8	4-6	5 1/8	4 5/8	3.9
		25	8007	178	137	200	130	100-150	130	117	1.7
	352	1 1/2	1800	8	5 7/8	10	6 1/4	7-10	6 3/16	5	4.8
		38	8007	203	149	200	159	180-255	157	127	2.2
	353	2	1800	10	6 3/8	10	6 1/4	7-10	6 1/2	5 1/2	6.3
		51	8007	254	162	200	159	180-255	165	140	2.8
	354	2 1/2	1800	12	7	12	7 1/2	12-15	7 5/8	6	7.1
		64	8007	305	178	250	191	305-380	194	152	3.2
	355	3	1800	12	7 3/4	12	7 1/2	7-10	7 1/2	6 1/2	8.1
		76	8007	305	197	250	191	180-255	191	165	3.7
	356	4	1800	14	8 7/8	16	9 1/2	12-15	8 13/16	7 5/8	10.2
		102	8007	356	225	400	241	305-380	224	194	4.6
	356Z	4	7200	14	8 7/8	16	9 1/2	12-15	8 7/8	7 7/8	16.0
		102	32028	356	225	400	241	305-381	225	200	7.3
	357Z	5 1/2	7200	18	11 5/8	-----	-----	18	11 1/2	10	27.5
		140	32028	457	295	-----	-----	180-255	292	254	12.5
8" 200	351	1	1800	10	7	10	6 1/4	7-10	6 9/16	6	5.1
		25	8007	254	178	200	159	180-255	167	152	2.3
	352	1 1/2	1800	10	7	12	7 1/2	7-10	7 3/16	6	5.3
		38	8007	254	178	250	191	180-255	183	152	2.4
	353	2	1800	12	7 1/2	12	7 1/2	7-10	7 11/16	6 1/2	7.0
		51	8007	305	191	250	191	180-255	195	165	3.2
	354	2 1/2	1800	14	8 1/4	14	8 3/8	12-15	8 11/16	7	7.6
		64	8007	356	210	350	213	305-380	221	178	3.4
	355	3	1800	14	8 7/8	16	9 1/2	12-15	8 27/32	7 5/8	9.9
		76	8007	356	225	400	241	305-380	225	194	4.5
	356	4	1800	16	10	18	10 1/2	12-15	9 13/16	8 3/4	10.1
		102	8007	406	254	450	267	305-380	249	222	4.6
	356Z	4	7200	16	10	18	10 1/2	12-15	9 7/8	8 3/4	16.9
		102	32028	406	254	450	267	305-380	251	222	7.7
	357Z	5 1/2	7200	20	11 7/8	-----	-----	20	11 3/4	10 1/4	34.1
		140	32028	508	302	-----	-----	180-255	298	260	15.5

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

FIGURE 351 TO 357Z - PIPE COVERING PROTECTION SADDLE

PIPE SIZE	FIGURE NUMBER	NOMINAL COVERING THICKNESS	MAX LOAD	FIGURE 142 FIGURE 333		FIGURE 140		FIGURES 17, 39, 40, 53		CENTER LINE OF PIPE TO BOTTOM OF SADDLE "B"	WEIGHT EA
				ROLL SIZE	A	ROLL SIZE	A	PIPE SIZE	A		
10" 250	351	1	1800	12	8 1/4	12	7 1/2	7-10	6 9/16	7 1/4	5.4
		25	8007	305	210	250	191	180-255	167	184	2.5
	352	1 1/2	1800	14	8 1/4	14	8 3/8	7-10	7 3/16	7 1/4	5.7
		38	8007	356	210	350	213	180-255	183	184	2.6
	353	2	1800	14	9 1/8	16	9 1/2	7-10	7 11/16	7 7/8	7.0
		51	8007	356	232	400	241	180-255	195	200	3.2
	354	2 1/2	1800	16	9 5/8	16	9 1/2	16-20	9 11/16	8 1/8	8.0
		64	8007	406	244	400	241	406-508	246	206	3.6
	355	3	5000	16	10 1/8	18	10 1/2	16-20	10 3/8	8 7/8	9.2
		76	22242	406	257	450	267	406-508	264	225	4.2
	356	4	5000	18	11 1/8	20	11 5/8	16-20	11 1/16	9 3/4	10.8
		102	22242	457	283	500	295	406-508	281	248	4.9
	356Z	4	7200	18	11 1/8	20	11 5/8	16-20	11 1/8	9 3/4	17.5
		102	32028	457	283	500	295	406-508	283	248	7.9
	357Z	5 1/2	7200	20	13 1/8	-----	-----	20	12 5/8	11 1/4	24.3
		140	32028	508	333	-----	-----	406-508	321	286	11.0
12" 300	351	1	2500	14	9 3/8	14	8 3/8	12-15	9 1/4	8 1/8	7.3
		25	11121	356	238	350	213	305-380	235	206	3.3
	352	1 1/2	5000	16	9 3/8	16	9 1/2	12-15	9 7/8	8 1/8	7.4
		38	22242	406	406	400	241	305-380	251	206	3.3
	353	2	5000	16	10	18	10 1/2	16-20	9 15/16	8 5/8	9.2
		51	22242	406	254	450	267	406-508	252	219	4.2
	354	2 1/2	5000	18	10 1/2	18	10 1/2	16-20	10 9/16	9 1/8	10.0
		64	22242	457	267	450	267	406-508	268	232	4.6
	355	3	5000	18	11 1/4	20	11 5/8	16-20	11 1/8	9 3/4	11.0
		76	22242	457	286	500	295	406-508	283	248	5.0
	356	4	5000	20	12 1/4	24	14	16-20	12 1/16	10 3/4	14.5
		102	22242	508	311	600	356	406-508	306	273	6.6
	356Z	4	11000	20	12 1/4	24	14	16-20	12 1/8	10 3/4	28.0
		102	48932	508	311	600	356	406-508	308	273	12.7
	357Z	5 1/2	11000	24	14 1/4	-----	-----	24	13 3/4	12 3/8	36.6
		140	48932	610	362	-----	-----	406-508	349	314	16.6
14" 350	352	1 1/2	5000	16	10 1/4	16	9 1/2	16-20	10 3/8	9	8.3
		38	22242	406	260	350	241	406-508	264	229	3.7
	353	2	5000	18	10 3/4	18	10 1/2	16-20	10 3/4	9 3/8	9.2
		51	22242	457	273	450	267	406-508	273	238	4.2
	354	2 1/2	5000	18	11 3/8	20	11 5/8	16-20	11 1/4	9 7/8	10.0
		64	22242	457	289	500	295	406-508	286	251	4.6
	355	3	5000	18	12	20	11 5/8	16-20	11 3/4	10 1/2	11.0
		76	22242	457	305	500	295	406-508	298	267	5.0
	356	4	5000	24	13 1/4	24	14	22-24	12 3/8	11 3/4	15.5
		102	22242	610	337	600	356	559-610	314	298	7.0
	356Z	4	11000	24	12 3/4	24	14	22-24	11 7/8	11 1/4	27.6
		102	48932	610	324	600	356	559-610	302	286	12.5
	357Z	5 1/2	11000	24	15	-----	-----	24	14 1/2	13 1/8	36.6
		140	48932	610	381	-----	-----	559-610	368	333	16.6

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

FIGURE 351 TO 357Z - PIPE COVERING PROTECTION SADDLE

PIPE SIZE	FIGURE NUMBER	NOMINAL COVERING THICKNESS	MAX LOAD	FIGURE 142 FIGURE 333		FIGURE 140		FIGURES 17, 39, 40, 53		CENTER LINE OF PIPE TO BOTTOM OF SADDLE "B"	WEIGHT EA
				ROLL SIZE	A	ROLL SIZE	A	PIPE SIZE	A		
16" 400	352	1 1/2	5000	18	11 1/8	20	11 5/8	16-20	11 1/4	9 3/4	8.3
		38	22242	457	283	500	295	406-508	286	248	3.7
	353	2	5000	20	11 3/4	20	11 5/8	16-20	11 5/8	10 1/4	9.2
		51	22242	508	298	500	295	406-508	295	260	4.2
	354	2 1/2	7200	20	12 1/4	24	14	16-20	12 1/4	10 3/4	13.7
		64	32028	508	311	600	356	406-508	311	273	6.2
	355	3	7200	24	12 7/8	24	14	22-24	12 7/8	11 1/8	14.7
		76	32028	610	327	600	356	559-610	327	283	6.6
	356	4	7200	24	14	24	14	22-24	13 9/16	12 1/4	15.5
		102	32028	610	356	600	356	559-610	344	311	7.0
	356Z	4	11000	24	14	24	14	22-24	13 5/8	12 1/4	30.1
		102	48932	610	356	600	356	559-610	346	311	13.7
	357Z	5 1/2	11000	30	16 1/4	-----	-----	30	15 3/4	13 7/8	39.0
		140	48932	762	413	-----	-----	559-610	400	352	17.7
18" 450	352	1 1/2	5000	20	12 1/4	24	14	16-20	12 1/4	10 3/4	9.4
		38	22242	508	311	600	356	406-508	311	273	4.2
	353	2	7200	24	13 1/8	24	14	22-24	12 3/8	11 5/8	12.0
		51	32028	610	333	600	356	559-610	314	295	5.4
	354	2 1/2	7200	24	13 1/2	24	14	22-24	13	11 3/4	14.2
		64	32028	610	343	600	356	559-610	330	298	6.4
	355	3	7200	24	14	24	14	22-24	13 1/2	12 1/4	15.3
		76	32028	610	356	600	356	559-610	343	311	6.9
	356	4	7200	24	15 3/8	-----	-----	22-24	14 5/8	13 5/8	21.0
		102	32028	610	330	-----	-----	559-610	371	346	9.5
	356Z	4	13200	24	15 1/8	-----	-----	22-24	14 3/8	13 3/8	40.3
		102	58719	610	384	-----	-----	559-610	365	340	18.3
	357Z	5 1/2	13200	30	17 3/8	-----	-----	30	16 7/8	15	52.1
		140	58719	762	441	-----	-----	559-610	429	381	23.6
20" 500	352	1 1/2	7200	24	13 1/2	24	14	22-24	13	11 3/4	11.1
		38	32028	610	343	600	356	559-610	330	298	5.0
	353	2	7200	24	14	24	14	22-24	13 1/2	12 1/4	12.4
		51	32028	610	356	600	356	559-610	343	311	5.6
	354	2 1/2	7200	24	14 5/8	-----	-----	22-24	14 1/8	12 7/8	14.2
		64	32028	610	371	-----	-----	559-610	359	327	6.4
	355	3	7200	24	15 1/4	-----	-----	26-30	14 7/8	13 3/4	15.3
		76	32028	610	387	-----	-----	660-762	378	349	6.9
	356	4	7200	30	16 1/2	-----	-----	26-30	15 3/4	14 1/4	22.8
		102	32028	762	359	-----	-----	660-762	400	362	10.3
	356Z	4	13200	30	16 5/8	-----	-----	26-30	15 7/8	14 3/8	44.8
		102	58719	762	422	-----	-----	660-762	403	365	20.3
	357Z	5 1/2	13200	30	18 3/8	-----	-----	30	17 7/8	16	52.1
		140	58719	762	467	-----	-----	660-762	454	406	23.6

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

FIGURE 351 TO 357Z - PIPE COVERING PROTECTION SADDLE

PIPE SIZE	FIGURE NUMBER	NOMINAL COVERING THICKNESS	MAX LOAD	FIGURE 142 FIGURE 333		FIGURE 140		FIGURES 17, 39, 40, 53		CENTER LINE OF PIPE TO BOTTOM OF SADDLE "B"	WEIGHT EA
				ROLL SIZE	A	ROLL SIZE	A	PIPE SIZE	A		
24" 600	352	1 1/2	7200	30	16 3/8	-----	-----	26-30	15 3/4	14 1/8	12.9
		38	32028	762	416	-----	-----	660-762	400	359	5.9
	353	2	7200	30	16 3/8	-----	-----	26-30	15 3/4	14 1/8	13.9
		51	32028	762	416	-----	-----	660-762	400	359	6.3
	354	2 1/2	7200	30	17	-----	-----	26-30	16 5/8	14 3/4	18.1
		64	32028	762	432	-----	-----	660-762	422	375	8.2
	355	3	7200	30	17 1/2	-----	-----	26-30	17 1/8	15 1/4	19.4
		76	32028	762	445	-----	-----	660-762	435	387	8.8
	356	4	7200	30	18 3/4	-----	-----	26-30	18	16 1/2	23.1
		102	32028	762	422	-----	-----	660-762	457	419	10.5
	356Z	4	13200	30	18 7/8	-----	-----	26-30	18 1/8	16 5/8	34.0
		102	58719	762	479	-----	-----	660-762	460	422	15.4
	357Z	5 1/2	13200	-----	-----	-----	-----	32-36	19 3/8	18	46.5
		140	58719	-----	-----	-----	-----	800-762	457	457	21.1
30" 750	352	1 1/2	7200	-----	-----	-----	-----	32-36	18 3/8	16 15/16	17.9
		38	32028	-----	-----	-----	-----	800-762	433	430	8.1
	353	2	7200	-----	-----	-----	-----	32-36	19	17 1/2	19.8
		51	32028	-----	-----	-----	-----	800-762	446	445	9.0
	354	2 1/2	7200	-----	-----	-----	-----	32-36	19 3/8	18 1/16	21.6
		64	32028	-----	-----	-----	-----	800-762	458	459	9.8
	355	3	7200	-----	-----	-----	-----	32-36	20	18 5/8	23.2
		76	32028	-----	-----	-----	-----	800-762	471	473	10.5
	356	4	7200	-----	-----	-----	-----	42	21	19 11/16	26.6
		102	32028	-----	-----	-----	-----	1050	497	500	12.1
	356Z	4	13200	-----	-----	-----	-----	42	21	19 15/16	53.0
		102	58719	-----	-----	-----	-----	1050	497	506	24.0
	357Z	5 1/2	13200	-----	-----	-----	-----	42	22	21 1/2	62.5
		140	58719	-----	-----	-----	-----	1050	523	546	28.4
36" 900	352	1 1/2	7200	-----	-----	-----	-----	42	21 1/2	20 1/4	20.7
		38	32028	-----	-----	-----	-----	1050	510	514	9.4
	353	2	7200	-----	-----	-----	-----	42	22	20 15/16	22.9
		51	32028	-----	-----	-----	-----	1050	523	532	10.4
	354	2 1/2	7200	-----	-----	-----	-----	42	22 1/2	21 5/16	24.1
		64	32028	-----	-----	-----	-----	1050	536	541	10.9
	355	3	7200	-----	-----	-----	-----	42	23	21 7/8	25.8
		76	32028	-----	-----	-----	-----	1050	549	556	11.7
	356	4	7200	-----	-----	-----	-----	42	24 1/8	22 7/8	32.6
		102	32028	-----	-----	-----	-----	1050	574	581	14.8
	356Z	4	13200	-----	-----	-----	-----	42	24 1/8	23 1/8	57.8
		102	58719	-----	-----	-----	-----	1050	574	587	26.2

Notes: The Maximum Load of the Pipe Saddle is based upon being used on a flat surface or roller hanger and tack welded to the pipe.
The Maximum Load when used with a pipe roller is the smaller of either the pipe roller or the pipe saddle.
All alloy saddles have a center rib welded in.
Figure 333 is only available up to 12" Pipe Size.

INSULATION SHIELD

Figure 265P

Figure 265P SS (Stainless Steel Type 304)

Figure 265P SS316 (Stainless Steel Type 316)

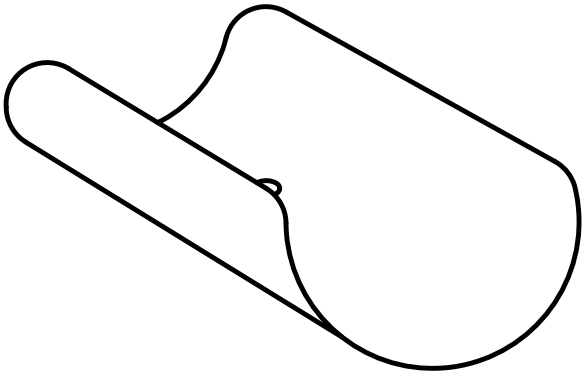
The Figure 265P is designed to support insulated pipe and prevent crushing of the insulation at the point of support. This item is usually used with our Figure 100 Clevis Hanger.

Materials: Carbon Steel, Type 304 and Type 316 Stainless Steel

Finish: Plain, Painted, Pre-Galvanized

Compliance: Federal Specification A-A-1192A (Type 40), ANSI/MSS SP-58 (Type 40)

Ordering: Specify hanger size, and figure number. For Metric applications prefix the Figure Number with an "M".



DIMENSIONS: Inches • Millimeters

TEMPERATURE: Fahrenheit • Celsius

LOADS: Pounds • Newtons

WEIGHT: Pounds • Kilograms

FIGURE 265P, 265P SS, 265P SS316 - INSULATION SHIELD

INSIDE DIAMETER	CLEVIS HANGER SIZE	LENGTH	WEIGHT EACH
2 3/8	2	12	0.62
60	50	305	0.28
2 7/8	2 1/2	12	0.76
73	65	305	0.34
3 1/2	3	12	0.92
89	80	305	0.42
4	3 1/2	12	1.04
102	90	305	0.47
4 1/2	4	12	1.16
114	100	305	0.53
5	5	12	1.32
127	125	305	0.60
5 5/8	6	12	1.46
143	150	305	0.66
6 5/8	6	12	1.58
168	150	305	0.72
7 5/8	7	12	1.74
194	175	305	0.79
8 5/8	8	12	2.02
219	200	305	0.92
9 5/8	10	12	2.28
244	250	305	1.03
10 3/4	10	12	2.54
273	250	305	1.15
11 3/4	12	12	2.84
298	300	305	1.29
12 3/4	12	12	4.18
324	300	305	1.90
14	14	12	4.58
356	350	305	2.08
15	16	12	4.90
381	400	305	2.22
16	16	12	5.20
406	400	305	2.36
17	18	12	5.53
432	450	305	2.51
18	18	12	6.20
457	450	305	2.81
19	20	12	6.50
483	500	305	2.95
20	20	12	7.25
508	500	305	3.29
21	24	12	7.30
533	600	305	3.31
22	24	12	7.60
559	600	305	3.45
23	24	12	7.75
584	600	305	3.52
24	24	12	8.00
610	600	305	3.63
26	30	12	8.36
660	750	305	3.79
28	30	12	8.97
710	750	305	4.07
30	30	12	9.60
750	750	305	4.35
36	36	12	11.60
900	900	305	5.26

INSULATION SHIELD

Figure 265GS

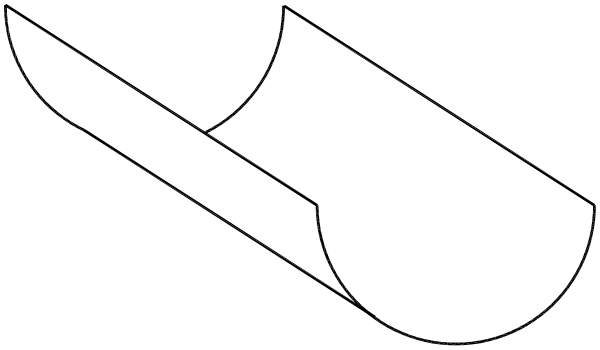
The Figure 265GS is designed to support insulated pipe and prevent crushing of the insulation at the point of support. This item is usually used with our Figure 100 Clevis Hanger.

Material: Carbon Steel

Compliance: Federal Specification A-A-1192 (Type 40), ANSI/MSS SP-58 (Type 40)

Finish: Plain, Painted, Pre-Galvanized

Ordering: Specify hanger size, and figure number. For Metric applications specify Figure M265GS.



DIMENSIONS: Inches • Millimeters

TEMPERATURE: Fahrenheit • Celsius

LOADS: Pounds • Newtons

WEIGHT: Pounds • Kilograms

FIGURE 265GS - INSULATION SHIELD

INSIDE DIAMETER	CLEVIS HANGER SIZE	SHIELD GAUGE	LENGTH	WEIGHT EACH
2 3/8	2	18	12	0.62
60	50	1	305	0.28
2 7/8	2 1/2	18	12	0.76
73	65	1	305	0.34
3 1/2	3	18	12	0.92
89	80	1	305	0.42
4	3 1/2	18	12	1.04
102	90	1	305	0.47
4 1/2	4	18	12	1.16
114	100	1	305	0.53
5	5	18	12	1.32
127	125	1	305	0.60
5 5/8	6	18	12	1.46
143	150	1	305	0.66
6 5/8	6	16	12	2.3
168	150	1	305	1.04
7 5/8	7	16	12	2.7
194	175	1	305	1.22
8 5/8	8	16	12	3.0
219	200	1	305	1.36
9 5/8	10	16	18	5.1
244	250	1	457	2.31
10 3/4	10	16	18	5.6
273	250	1	457	2.54
11 3/4	12	14	24	10
298	300	2	610	4.5
12 3/4	12	14	24	11
324	300	2	610	5.0
14	14	14	24	12
356	350	2	610	5.4
15	16	14	24	13
381	400	2	610	5.9
16	16	14	24	14
406	400	2	610	6.4
17	18	14	24	15
432	450	2	610	6.8
18	18	12	24	17
457	450	3	610	7.7
19	20	12	24	23
483	500	3	610	10.4
20	20	12	24	24
508	500	3	610	10.9
21	24	12	24	25
533	600	3	610	11.3
22	24	12	24	26
559	600	3	610	11.8
23	24	12	24	28
584	600	3	610	12.7
24	24	12	24	29
610	600	3	610	13.2
26	30	12	24	31
660	750	3	610	14.1
27	30	12	24	32
686	750	3	610	14.5
28	30	12	24	34
711	750	3	610	15.4

HARVARD ROLL HANGER

Figure 140

Designed to support piping lines from above, allowing for vertical adjustment, and axial movement in the piping. The lower hex nut (not furnished) adjusts the pipe line to the proper elevation. The top hex nut (not furnished) prevents loosening due to vibration, and must be tightened securely to assure proper hanger performance. For Cast Iron and Ductile Iron pipe sizes, please see our conversion Table.

For pipe with insulation and a pipe covering protection saddle the Figure 140 will have to be oversized to suit. Please see the Tables below showing the correct sizing for insulated piping.

Material: Carbon Steel frame with a Cast Iron Roll

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Compliance: Federal Specification A-A-1192A (Type 43), ANSI/MSS SP-58 (Type 43)

Finish: Plain, Painted, and Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M140..

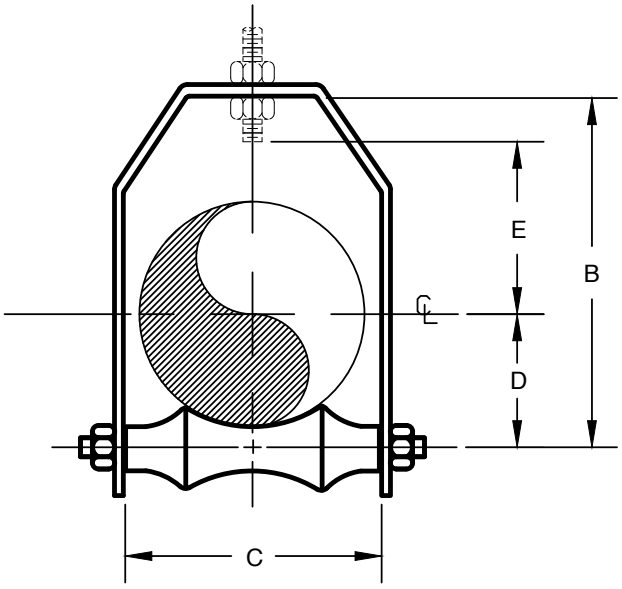


FIGURE 140 - HARVARD ROLL HANGER

PIPE SIZE	MAX LOAD	ROD SIZE A	B	C	D	E	WEIGHT EA
2	150	1/2	4 1/4	2 3/4	1 5/8	2 5/8	1.6
50	667	M12	108	70	41	67	0.73
2 1/2	225	1/2	4 7/8	3 1/4	2	2 7/8	2.0
65	1001	M12	124	83	51	73	0.91
3	310	1/2	6 1/4	3 7/8	2 1/4	3 1/8	2.3
80	1379	M12	159	98	57	79	1.04
3 1/2	390	1/2	6 7/8	4 1/2	2 5/8	3 1/2	2.5
90	1735	M12	175	114	67	89	1.13
4	475	5/8	7 1/2	4 7/8	2 7/8	3 5/8	4.0
100	2113	M16	191	124	73	92	1.81
5	685	5/8	8 3/8	6 3/8	3 1/2	4 1/2	5.3
125	3047	M16	213	162	89	114	2.40
6	780	3/4	9 7/8	7 5/8	4	5	7.0
150	3470	M20	251	194	102	127	9.40
7	780	3/4	11 1/8	8 1/2	4 3/4	5 1/4	9.4
175	3470	M20	283	216	121	133	4.26
8	780	7/8	12 5/8	9 1/2	5 1/8	6 1/8	12.3
200	3470	M20	321	241	130	156	5.58
10	965	7/8	15	11 1/4	6 1/4	7 1/4	19.3
250	4293	M20	381	286	159	184	8.75
12	965	7/8	17 1/8	13 1/2	7 1/2	8 3/8	23.1
300	4293	M20	435	343	191	213	10.5
14	1200	1	18 3/8	14 5/8	8 3/8	8 3/4	35.5
350	5338	M24	467	371	213	222	16.1
16	1400	1	20 1/2	17 1/4	9 1/2	9 3/4	46.5
400	6228	M24	521	438	241	248	21.1
18	1400	1	23 1/8	19	10 1/2	11 1/2	57.0
450	6228	M24	587	483	267	292	25.9
20	1600	1 1/4	24 1/2	21	11 5/8	12 1/4	75.9
500	7117	M30	622	533	295	311	34.4
24	1800	1 1/2	29 7/8	24 3/4	14	15 3/4	119.3
600	8007	M36	759	629	356	400	54.1

PIPE SIZE OF COVERING PROTECTION SADDLE TO BE USED WITH FIGURE 140

FIGURE 140 PIPE SIZE OF ROLL	FIGURE 351 1" COVER 25 COVER	FIGURE 352 1 1/2" COVER 38 COVER	FIGURE 353 2" COVER 51 COVER	FIGURE 354 2 1/2" COVER 64 COVER	FIGURE 355 3" COVER 76 COVER	FIGURE 356 4" COVER 100 COVER
2 1/2	3/4					
65	20					
3	1 to 1 1/4	3/4				
80	25 to 32	20				
4	1 1/2	1				
100	40	25				
5	2	1 1/4 to 2				
125	50	32 to 50				
6	2 1/2 to 3	2 1/2 to 3	3/4 to 1 1/4			
150	65 to 80	65 to 80	20 to 32			
7	3 1/2 to 4	3 1/2 to 4	1 1/2 to 2	1 1/4		
175	90 to 100	90 to 100	40 to 50	32		
8	5	5	2 1/2 to 3	1 1/2 to 2		
200	125	125	80 to 90	40 to 50		
8	6	6	3 1/2 to 4	2 1/2 to 3	2	
200	150	150	90 to 100	80 to 90	50	
10	8	8	5 to 6	3 1/2 to 5	2 1/2 to 4	
250	200	200	125 to 150	90 to 125	80 to 100	
12	10	10	8	6	5 to 6	
300	250	250	200	150	125 to 150	
14	12	12		8		
350	300	300		200		
16	14	14	10	10	8	6
400	350	350	250	250	200	150
18		16	12 to 14	12	10	8
450		400	300 to 350	300	250	200
20		18 to 20	16	14	12 to 14	10
500		450 to 500	400	350	300 to 350	300
24			18 to 20	16 to 18	16 to18	12 to 16
600			450 to 500	400 to 450	400 to 450	350 to 400

DUCTILE & CAST IRON PIPING ROLL SIZE

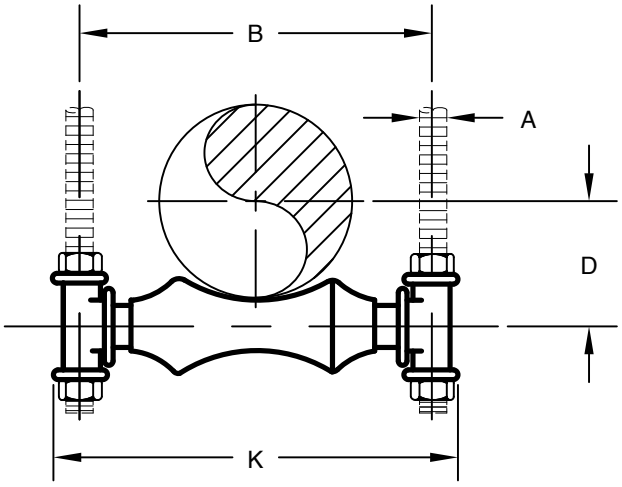
CI/DI PIPE SIZE	FIGURE 40 PIPE SIZE
3	4
100	100
4	5
150	125
6	6
200	150
8	8
250	200
10	10
300	250
12	14
350	350
14	16
400	400
16	18
450	450
18	20
500	500
20	24
600	600

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

ADJUSTABLE TWO ROD ROLLER HANGER

Figure 142

Figure 142 SS316 (Type 316 Stainless Steel)



The Figure 142 is designed for longitudinal movement of pipe where vertical adjustment is required. Although primarily used for support of the pipe, this product may also be placed over the pipe to act as a guide. For Cast Iron and Ductile Iron pipe sizes, please see our conversion Table.

For pipe with insulation and a pipe covering protection saddle the Figure 142 will have to be oversized to suit. Please see the Table below which shows the correct sizing for insulated pipe.

Material: Cast Iron Pipe Roll and Sockets with a Carbon Steel Axle, Type 316 Stainless Steel with a Cast Stainless Steel Roll

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Compliance: Federal Specification A-A-1192A (Type 41), ANSI/MSS SP-58 (Type 41)

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M142.

FIGURE 142 - ADJUSTABLE TWO ROD ROLLER HANGER

PIPE SIZE	MAX LOAD	ROD SIZE A	B	D	K	WEIGHT EA
1	600	3/8	3	1	4 1/8	0.45
25	2669	M10	76	25	105	0.20
1 1/4	600	3/8	3 3/8	1 1/4	4 1/2	0.48
32	2669	M10	86	32	114	0.22
1 1/2	600	3/8	3 5/8	1 3/8	4 3/4	0.51
40	2669	M10	92	35	121	0.23
2	600	3/8	4 1/8	1 5/8	5 1/4	0.57
50	2669	M10	105	41	133	0.26
2 1/2	600	1/2	5 1/2	2	7	1.48
65	2669	M12	140	51	178	0.67
3	700	1/2	6 1/8	2 1/4	7 5/8	1.48
80	3114	M12	156	57	194	0.67
4	700	5/8	7 1/8	2 7/8	8 5/8	1.78
100	3114	M16	181	73	219	0.81
5	700	5/8	8 3/8	3 1/2	9 7/8	2.42
125	3114	M16	213	89	251	1.10
6	1000	3/4	9 5/8	4	11 3/8	3.96
150	4448	M20	244	102	289	1.80
7	1200	3/4	10 3/4	4 3/4	12 1/2	5.99
175	5338	M20	273	121	318	2.72
8	1300	7/8	12	5 1/8	14	6.43
200	5783	M20	305	130	356	2.92
10	1700	7/8	14 1/8	6 1/4	16	8.45
250	7562	M20	359	159	406	3.83
12	2400	7/8	16 1/8	7 1/2	18	10.2
300	10676	M20	410	191	457	4.63
14	3100	1	17 3/4	8 3/8	20	20.9
350	13790	M24	451	213	508	9.48
16	3900	1	19 7/8	9 1/2	22 1/8	26.07
400	17349	M24	505	241	562	11.8
18	4200	1	22 1/8	10 1/2	24 3/8	36.59
450	18683	M24	562	267	619	16.6
20	4500	1 1/4	24 1/8	11 5/8	26 5/8	39.00
500	20018	M30	613	295	676	17.7
24	6100	1 1/2	28 7/8	14	32 1/8	66.9
600	27135	M36	733	356	816	30.3
30	7200	1 1/2	35 1/2	17 1/2	39 7/8	134
750	32028	M36	902	445	1013	60.8

PIPE SIZE OF COVERING PROTECTION SADDLE FOR FIGURE 142 AND FIGURE 333

FIGURE 142 PIPE SIZE OF ROLL	FIGURE 351 1" COVER 25 COVER	FIGURE 352 1 1/2" COVER 38 COVER	FIGURE 353 2" COVER 51 COVER	FIGURE 354 2 1/2" COVER 64 COVER	FIGURE 355 3" COVER 76 COVER	FIGURE 356 4" COVER 102 COVER
2 1/2	3/4 to 1					
65	20 to 25					
3	1 1/4 to 1 1/2	3/4 to 1				
80	32 to 40	20 to 25				
4	2 to 3	1 1/4 to 1 1/2	3/4 to 1			
100	50 to 80	32 to 40	20 to 25			
5	3 1/2	2 to 3	1 1/4 to 1 1/2			
125	90	50 to 80	32 to 40			
6	4 to 5	----------	2 to 3	1 1/4 to 1 1/2		
150	100 to 125	----------	50 to 80	32 TO 40		
7	6	4 to 5	4	2 to 2 1/2	2 to 2 1/2	
175	150	100 to125	100	50 to 65	50 to 65	
8	----------	6	5	3 to 4	3	
200	----------	150	125	80 to 100	80	
10	8	8	6	5	4 to 5	
250	200	200	150	125	100 to 125	
12	10	----------	8	6	6	4 to 5
300	250	----------	200	150	150	100 to 125
14	12	10	10	8	8	6
350	300	250	250	200	200	150
16	14	12 to14	12	10	10	8
400	350	300 to 350	300	250	250	200
18	16	16	14	12	12 to 14	10
450	400	400	350	300	300 to 400	250
20	18	18	16	14 to 16	----------	12
500	450	450	400	400 to 450	----------	300
24	20	20	18 to 20	18 to 20	16 to 20	14 to 18
600	500	500	450 to 500	450 to 450	400 to 500	350 to 450
30	24	24	24	24	24	20 to 24
750	600	600	600	600	600	500 to 300

DUCTILE & CAST IRON PIPING ROLL SIZE

DI/CI PIPE SIZE	FIGURE 142 PIPE SIZE
3	4
100	100
4	5
150	125
6	6
200	150
8	8
250	200
10	10
300	250
12	14
350	350
14	16
400	400
16	18
450	450
18	20
500	500
20	24
600	600
24	30
700	750

ROLLER CHAIR

Figure 54

The Figure 54 is designed for longitudinal movement of pipe where vertical adjustment is not required. Although two bolts and nuts are supplied for installation, the Roller Chair can be, alternatively, welded to the structure.

For pipe with insulation and a pipe covering protection saddle the Figure 54 will have to be oversized to suit. Please see the Table for the Figure 142 which shows the correct sizing for insulated pipe.

For Cast Iron and Ductile Iron piping, please see the correct Roller Sizing Table as shown on our Figure 142.

Material: Carbon Steel Chair and Axle with Cast Iron Pipe Roll Use a Figure 17 when a Cast Iron Chair is required.

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Compliance: Federal Specification A-A-1192A (Type 44), ANSI/MSS SP-58 (Type 44)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish. For Metric applications specify Figure M54.

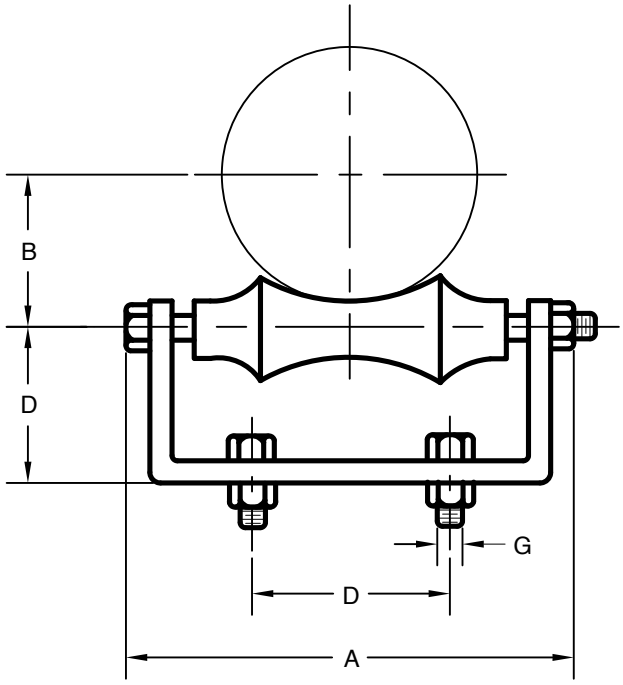
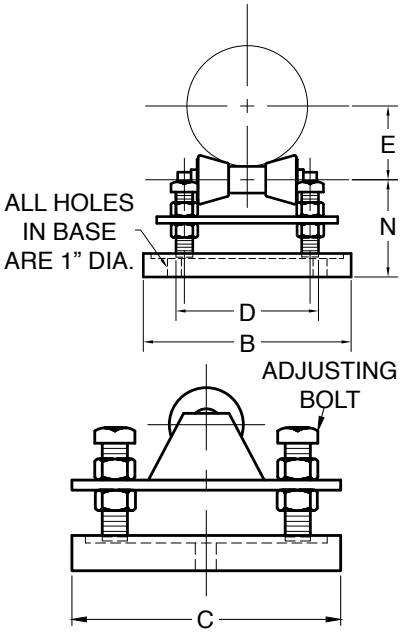


FIGURE 54 - ROLLER CHAIR

PIPE SIZE	MAX LOAD	A	B	C	D	BOLT SIZE G	WEIGHT EA
2	300	4 7/8	1 5/8	1 1/2	2	3/8 x 1 1/2	1.1
50	1335	124	41	38	51	M10 x 38	0.50
2 1/2	600	4 7/8	2	1 5/8	2	3/8 x 1 1/2	1.4
65	2669	124	51	41	51	M10 x 38	0.64
3	600	6	2 1/4	1 3/4	2	3/8 x 1 1/2	1.6
80	2669	152	57	44	51	M10 x 38	0.73
3 1/2	600	6 1/2	2 5/8	2 1/8	2	3/8 x 1 1/2	2.6
90	2669	165	67	54	51	M10 x 38	1.18
4	700	7	2 7/8	2 3/8	2 1/2	3/8 x 1 1/2	2.9
100	3114	178	73	60	64	M10 x 38	1.32
5	700	7 5/8	3 1/2	2 1/2	3	1/2 x 2	3.9
125	3114	194	89	64	76	M12 x 51	1.77
6	1000	9 3/4	4	2 3/4	3 1/4	1/2 x 2	6.1
150	4448	248	102	70	83	M12 x 51	2.77
8	1300	11 7/8	5 1/8	3	4 1/2	5/8 x 2	9.4
200	5783	302	130	76	114	M16 x 51	4.26
10	1700	14 1/2	6 3/8	3 5/8	5	3/4 x 2 1/2	13.8
250	7562	368	162	92	127	M20 x 64	6.26
12	2300	16 1/4	7 1/2	4 1/8	6	3/4 x 2 1/2	18.9
300	10231	413	191	105	152	M20 x 64	8.57
14	3100	18 1/2	8 3/8	4 3/4	6 1/2	3/4 x 2 1/2	28.1
350	13790	470	213	121	165	M20 x 64	12.7
16	3900	20	9 3/8	5 3/8	10	7/8 x 3	34.9
400	17349	508	238	137	254	M20 x 76	15.8
18	4200	22 3/4	10 1/2	6	9 1/4	3/4 x 2 1/2	44.4
450	18683	578	267	152	235	M20 x 64	20.1
20	4500	25 5/8	11 5/8	6 1/2	10 1/4	3/4 x 2 1/2	56.3
500	20018	651	295	165	260	M20 x 64	25.6
24	6000	30	14	7 7/8	12 1/4	7/8 x 3 1/2	87.5
600	26690	762	356	200	311	M20 x 102	39.7
30	7200	37 3/4	15 3/8	8 3/4	15 3/8	7/8 x 3 1/2	154
750	32028	959	391	222	391	M20 x 102	69.9

ADJUSTABLE CHAIR AND ROLL

Figure 40



The Figure 40 is designed for longitudinal movement of pipe where vertical and lateral adjustment is required. Because the base plate is made of steel, it can be either welded or bolted in position. The correct height can be obtained by adjusting the hex nuts at each corner. The correct lateral location can be achieved by sliding the chair on the ends of the adjusting studs. The Figure 40 may be used without the Base Plate to rest on customer provided flooring or structure.

For pipe with insulation and a pipe covering protection saddle the Figure 40 will have to be oversized to suit. Please see the Table below showing the correct sizing.

Material: Carbon Steel Chair, Base, Axle and Adjusting Studs with Cast Iron Pipe Roll. Use a Figure 53 when a Cast Iron Chair and Base are required.

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Compliance: Federal Specification A-A-1192A (Type 46), ANSI/MSS SP-58 (Type 46)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify chair number, figure number, and finish.
For Metric applications specify Figure M40.

FIGURE 40 ADJUSTABLE STEEL CHAIR AND ROLL

CHAIR NUMBER	MAX LOAD	BARE PIPE SIZE	B	C	D	E	N. MIN.	N. MAX.	WEIGHT EA
1A	390	2 2 1/2 3 3 1/2	6 7/8	5 1/2	3 7/8	1 3/4 2 1/8 2 1/2 2 1/2	3	3 7/8	15.5
1A	1735	50 65 80 90	175	140	98	44 54 64 64	76	98	7.0
1	950	4 5 6	8 1/2	5 3/4	5 1/8	2 7/8 3 3 7/8	3 3/8	4 1/2	20.7
1	4226	100 125 150	216	146	130	73 76 98	86	114	9.4
2	2100	8 10	10 5/8	7 1/2	7 3/8	5 3/8 6	4 7/8	6 5/8	34.3
2	9342	200 250	270	191	187	137 152	124	168	15.6
3	3075	12 14	12 1/2	8 1/4	9 1/2	7 1/8 8	5 7/8	7 5/8	50.6
3	13679	300 350	318	210	241	181 203	149	194	23.0
4	4980	16 18 20	14 5/8	9 1/4	11 1/8	9 1/4 10 1/2 11 1/4	5 7/8	7 3/4	73.6
4	22153	400 450 500	371	235	283	235 267 286	149	197	33.4
5	6100	24	15 3/4	9 1/4	12 1/4	13 3/8	6 1/8	8	88.7
5	27135	600	400	235	311	340	156	203	40.2
6	7500	30	19 1/4	11 1/2	15 3/4	16 7/8	7 1/4	10 1/2	166
6	33363	750	489	292	400	429	184	267	75.3
7	12000	36	22 1/2	13	16	20	8 3/8	11 3/4	233
7	53381	900	572	330	406	508	213	298	106
7	12000	40	22 1/2	13	16	22 1/8	8 3/8	11 3/4	233
7	53381	1000	572	330	406	562	213	298	106
7	12000	42	22 1/2	13	16	23 1/8	8 3/8	11 3/4	233
7	53381	1050	572	330	406	587	213	298	106

PIPE SIZE OF COVERING PROTECTION SADDLE TO BE USED WITH FIGURE 40

CHAIR NUMBER	BARE PIPE SIZE	FIG. 351 1" COV. 25 COV.	FIG. 352 1 1/2" COV. 38 COV.	FIG. 353 2" COV. 51 COV.	FIG. 354 2 1/2" COV. 64 COV.	FIG. 355 3" COV. 76 COV.
1A	2 2 1/2 3 3 1/2	3/4 to 3 20 TO 80	3/4 to 2 1/2 20 to 65	3/4 to 1 1/2 20 to 40		
1	4 5 6	4 to 6 100 to 150	3 to 5 80 to 125	2 to 4 50 to 100	3/4 to 1 1/2 20 to 40	
2	8 10	8 200	5 to 8 125 to 200	5 to 8 125 to 200	2 to 5 50 to 125	2 to 6 50 to 150
3	12 14	10 to 12 250 to 300	10 to 12 250 to 300	10 to 12 250 to 300	6 to 8 150 to 200	8 200
4	16 18 20	14 to 18 350 to 450	14 to 18 350 to 450	14 to 18 350 to 450	10 to 16 250 to 400	10 to 14 250 to 350
5 5	24 600	20 500	18 to 20 450 to 500	18 to 20 450 to 500	18 to 20 450 to 500	16 to 18 400 to 450
6 6	30 750	24 600	24 600	24 600	24 600	20 to 24 500 to 600
7	36 900	30 750	30 750	30 750	30 750	30 750
7	40 1000	32 to 36 800	32 800	32 800	32 800	32 800
7	42 1050	40 1000	36 900	36 900	36 900	36 900

CI / DI ROLL SIZING

CI/DI PIPE SIZE:	FIGURE 40 CHAIR NO.
3	1
4	1
6	1
8	2
10	2
12	3
14	4
16	4
18	4
20	5
24	6
30	7
36	7

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CHAIR AND ROLL

Figure 39

The Figure 39 is designed for longitudinal movement of pipe where vertical adjustment is not required. Because the chair is made of steel, it can be either welded or bolted in position.

For pipe with insulation and a pipe covering protection saddle the Figure 39 will have to be oversized to suit. Please see the Table below showing the correct sizing for insulated pipe.

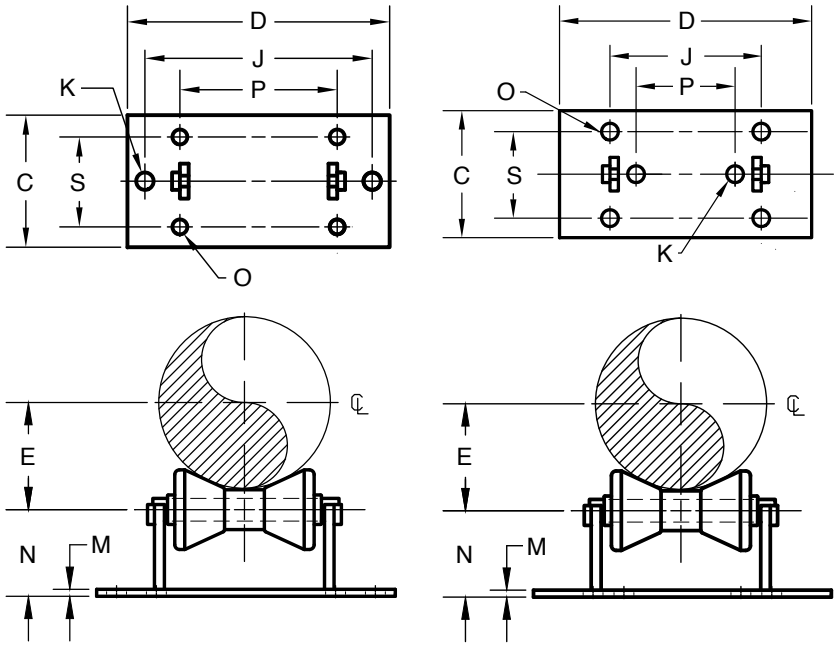
Material: Carbon Steel Chair and Axle with Cast Iron Pipe Roll. Use a Figure 17 when a Cast Iron Chair is required.

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Compliance: Federal Specification A-A-1192A (Type 44), ANSI/MSS-SP-69 (Type 44)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify chair number, figure number, and finish.
For Metric applications specify Figure M39.



CHAIR NO. 1A &1 CHAIR NO. 2 THRU 7

FIGURE 39 CHAIR AND ROLL

CHAIR NUMBER	MAX LOAD	BARE PIPE SIZE	C	D	E	J	K	M	N	O	P	S	WEIGHT EA
1A	390	2 2 1/2 3 3 1/2	6	8 1/2	1 1/2 1 3/4 2 1/8 2 3/8	6 1/2	1	1/4	2	9/16	3 1/2	4 1/8	7.0
1A	1735	50 65 80 90	152	216	38 44 54 60	165	25	6	51	14	89	105	3.2
1	950	4 5 6	6	10 1/8	2 3/4 3 3/8 3 7/8	8	1	1/4	2 3/8	9/16	4 3/4	4 1/4	10.5
1	4226	100 125 150	152	257	70 86 98	203	25	6	60	14	121	108	4.8
2	2100	8 10	7	9	5 1/8 6 1/4	4	1	3/8	3 3/4	11/16	7	5	16.5
2	9342	200 250	178	229	130 159	102	25	10	95	17	178	127	7.5
3	3075	12 14	8	11	7 3/8 8	5 3/4	1	3/8	4 3/4	11/16	9	6	26.8
3	13679	300 350	203	279	187 203	146	25	10	121	17	229	152	12.2
4	4980	16 18 20	9	12 1/2	8 7/8 10 11	6 3/4	1	1/2	4 3/4	13/16	10	6 1/2	40.5
4	22153	400 450 500	229	318	225 254 279	171	25	13	121	21	254	165	18.4
5	6100	24	8 7/8	13 3/4	13	7 1/2	1	5/8	4 7/8	13/16	11 1/2	6 3/4	51.0
5	27135	600	225	349	330	191	25	16	124	21	292	171	23.1
6	7500	30	11	17 1/4	16 1/4	10	1	5/8	5 5/8	13/16	14 1/4	8	89.8
6	33363	750	279	438	413	254	25	16	143	21	362	203	40.7
7	12000	36 42	12	20	20 23 1/8	12	1	1	5 7/8	1 1/16	17	9	145
7	53381	900 1320	305	508	508 587	305	25	25	149	27	432	229	65.8

PIPE SIZE OF COVERING PROTECTION SADDLE TO BE USED WITH FIGURE 39

CHAIR NUMBER	BARE PIPE SIZE	FIG. 351 1" COVER 25 COVER	FIG. 352 1 1/2" COVER 38 COVER	FIG. 353 2" COVER 51 COVER	FIG. 354 2 1/2" COVER 64 COVER	FIG. 355 3" COVER 76 COVER	FIG. 356 4" COVER 102 COVER
1A	2 2 1/2 3 3 1/2	3/4 to 3 20 TO 80	3/4 to 2 1/2 20 to 65	3/4 to 1 1/2 20 to 40			
1	4 5 6	4 to 6 100 to 150	3 to 5 80 to 125	2 to 4 50 to 100	3/4 to 1 1/2 20 to 40		
2	8 10	8 200	6 to 8 150 to 200	5 to 8 125 to 200	2 to 5 50 to 125	2 to 6 50 to 150	4 to 5 100 to 125
3	12 14	10 to 12 250 to 300	10 to 12 250 to 300	10 to 12 250 to 300	6 to 8 150 to 200	8 200	6 to 8 150 to 200
4	16 18 20	14 to 18 350 to 450	14 to 18 350 to 450	14 to 18 350 to 450	10 to 16 250 to 400	10 to 14 250 to 350	10 to 12 250 to 300
5 5	24 600	20 500	20 500	18 to 20 450 to 500	18 to 20 450 to 500	16 to 18 400 to 450	14 to 18 350 to 450
6 6	30 750	24 600	24 600	24 600	24 600	20 to 24 500 to 600	20 to 24 500 to 600
7	36 900	30 750	30 750	30 750	30 750	30 750	28 700
7	42 1050	40 1000	36 900	36 900	36 900	36 900	32 800

ADJUSTABLE CHAIR AND ROLL

Figure 53

The Figure 53 is designed for longitudinal movement of pipe where vertical and lateral adjustment is required. The correct height can be obtained by adjusting the hex nuts at each corner. The correct lateral location can be achieved by sliding the chair on the ends of the adjusting studs. The Figure 53 may be used without the Base Plate; to rest on customer provided flooring or structure. Stainless steel Adjusting Studs and nuts are available as an option.

For pipe with insulation and a pipe covering protection saddle the Figure 53 will have to be oversized to suit. Please see the Table, attached, showing the correct sizing for insulated pipe. See Figure 17 for additional Dimensions.

Material: Cast Iron Chair, Base and Roll. Carbon Steel Axle and Adjusting Studs Use a Figure 40 when a Carbon Steel Base is required.

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Compliance: Federal Specification A-A-1192A (Type 46), ANSI/MSS SP-58 (Type 46)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify chair number, figure number, and finish. For Metric applications specify Figure M53.

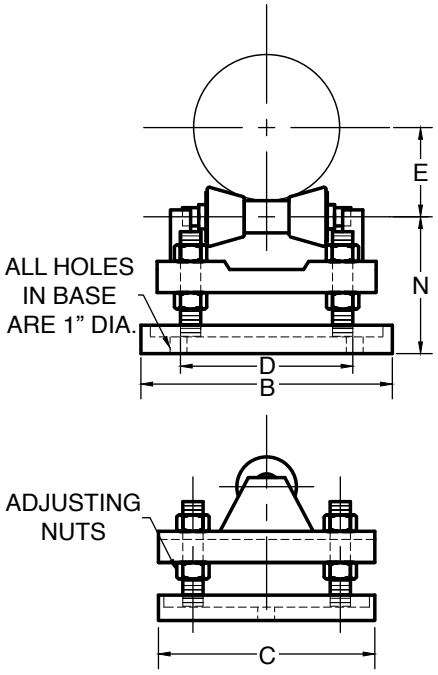


FIGURE 53 ADJUSTABLE CHAIR AND ROLL

CHAIR NUMBER	MAX LOAD	BARE PIPE SIZE	B	C	D	E	N		WEIGHT EA
							MIN.	MAX.	
1A	390	2 390 390 390	6 7/8	5 1/2	3 7/8	1 3/4 2 1/8 2 1/2 2 1/2	3	4 1/4	15.5
1A	1735	50 65 80 90	175	140	98	44 54 64 64	76	108	7.0
1	950	4 5 6	8 1/2	5 3/4	5 1/8	2 7/8 3 3 7/8	3 3/8	4 1/2	20.7
1	4226	100 0 0	216	146	130	73 76 98	86	114	9.4
2	2100	8 2100	10 5/8	7 1/2	7 3/8	5 3/8 6	4 7/8	7	34.3
2	9342	200 9342	270	191	187	137 152	124	178	15.6
3	3075	12 3075	12 1/2	8 1/4	9 1/2	7 1/8 8	5 3/4	7 3/4	50.6
3	13679	300 13679	318	210	241	181 203	146	197	23.0
4	4980	16 4980 4980	14 5/8	9 1/4	11 1/8	9 1/4 10 1/2 11 1/4	5 7/8	7 3/4	73.6
4	22153	400 22153 22153	371	235	283	235 267 286	149	197	33.4
5	6100	24	15 3/4	9 1/4	12 1/4	13 3/8	6 3/4	8 5/8	88.7
5	27135	600	400	235	311	340	171	219	40.2
6	7500	30	19 1/4	11 1/2	15 3/4	16 7/8	7 1/4	10 1/2	166
6	33363	750	489	292	400	429	184	267	75.3
7	12000	36	22 1/2	13	16	20	8 3/8	11 3/4	233
7	53381	900	572	330	406	508	213	298	106
7	12000	42	22 1/2	13	16	23 1/8	8 3/8	11 3/4	233
7	53381	1050	572	330	406	587	213	298	106

PIPE SIZE OF COVERING PROTECTION SADDLE TO BE USED WITH FIGURE 17 AND FIGURE 53

CHAIR NUMBER	BARE PIPE SIZE	FIG. 351 1" COVER 25 COVER	FIG. 352 1 1/2" COV. 38 COVER	FIG. 353 2" COVER 51 COVER	FIG. 354 2 1/2" COV. 64 COVER	FIG. 355 3" COVER 76 COVER	FIG. 355 4" COVER 102 COVER
1A	2 2 1/2 3 3 1/2	3/4 to 3 20 TO 80	3/4 to 2 1/2 20 to 65	3/4 to 1 1/2 20 to 40			
1	4 5 6	4 to 6 100 to 150	3 to 5 80 to 125	2 to 4 50 to 100	3/4 to 1 1/2 20 to 40		
2	8 10	8 200	6 to 8 150 to 200	5 to 8 125 to 200	2 to 5 50 to125	2 to 6 50 to150	4 to 5 100 to125
3	12 14	10 to 12 250 to 300	10 to 12 250 to 300	10 to 12 250 to 300	6 to 8 150 to 200	8 200	6 to 8 150 to 200
4	16 18 20	14 to 18 350 to 450	14 to 18 350 to 450	14 to 18 350 to 450	10 to 16 250 to 400	10 to 14 250 to 350	10 to 12 250 to 300
5 5	24 600	20 500	20 500	18 to 20 450 to 500	18 to 20 450 to 500	16 to 18 400 to 450	14 to 18 350 to 450
6 6	30 750	24 600	24 600	24 600	24 600	20 to 24 500 to 600	20 to 24 500 to 600
7	36 900	30 750	30 750	30 750	30 750	30 750	28 700
7	42 1050	40 1000	36 900	36 900	36 900	36 900	32 800

CHAIR AND ROLL

Figure 17

The Figure 17 is designed for longitudinal movement of pipe where vertical adjustment is not required.

For pipe with insulation and a pipe covering protection saddle the Figure 17 will have to be oversized to suit. Please see the Sizing Table on the following page, showing the correct size for insulated pipe.

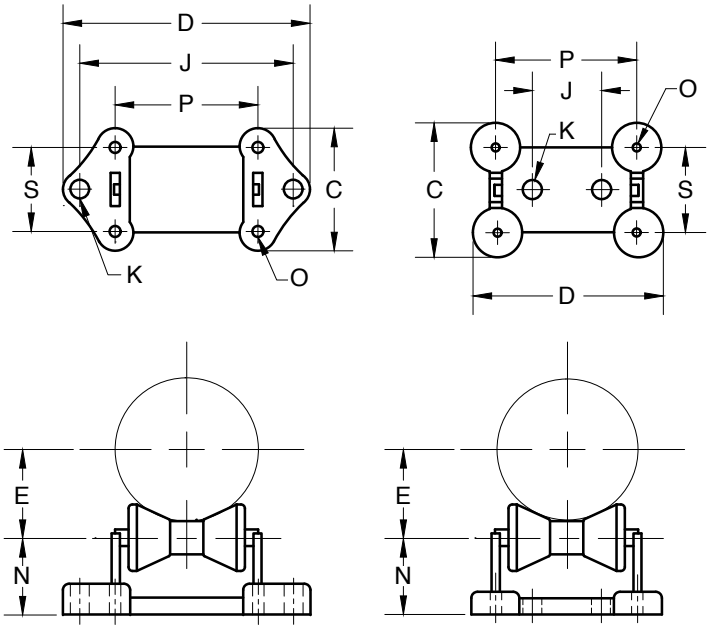
Material: Cast Iron Pipe Roll and Chair with Carbon Steel Axle Use a Figure 39 when a Carbon Steel Chair is required.

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Compliance: Federal Specification A-A-1192A (Type 44) ANSI/MSS SP-58 (Type 44)

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify chair number, figure number, and finish. For Metric applications specify Figure M17.



PIPE SIZES 2" TO 4"

PIPE SIZES 2" TO 4"

FIGURE 17 - CHAIR AND ROLL

CHAIR NUMBER	MAX LOAD	BARE PIPE SIZE	C	D	E	J	K	N	O	P	S	WEIGHT EA
1A	390	2 2 1/2 3 3 1/2	5 3/4	8 1/2	1 1/2 1 3/4 2 1/2 2 3/4	6 1/2	1	2	7/16	3 1/2	4 1/8	7.0
1A	1735	50 65 80 90	146	216	38 44 64 70	165	25	51	11	89	105	3.2
1	950	4 5 6	5 3/4	10 1/8	2 3/4 3 3/8 3 7/8	8	1	2 3/8	9/16	4 3/4	4 1/4	10.5
1	4226	100 125 150	146	257	70 86 98	203	25	60	14	121	108	4.8
2	2100	8 10	6 7/8	8 7/8	5 1/8 6 1/4	4	7/8	3 3/4	5/8	7	5	16.5
2	9342	200 250	175	225	130 159	102	22	95	16	178	127	7.5
3	3075	12 14	7 7/8	11	7 3/8 8	5 3/4	7/8	4 3/4	9/16	9 1/4	6	26.8
3	13679	300 350	200	279	187 203	146	22	121	14	235	152	12.2
4	498	16 18 20	8 3/4	12 1/2	8 7/8 10 11	6 3/4	1	4 5/8	3/4	10 1/4	6 1/2	40.5
4	22153	400 450 500	222	318	225 279	171	25	117	19	260	165	18.4
5	6100	24	8 7/8	13 3/4	13	7 1/2	1	4 3/4	13/16	11 1/2	6 3/4	51.0
5	27135	600	225	349	330	191	25	121	21	292	171	23.1
6	7500	30	10 3/4	17 1/4	16 1/4	10	1	5 5/8	1	14 3/8	8	89.8
6	33363	750	273	438	413	254	25	143	25	365	203	40.7
7	12000	36 42	12	18 3/4	20 23 1/8	12	1	5 3/4	1 5/16	17	9	152
7	53381	900 1050	305	476	508 587	305	25	146	33	432	229	68.9

PIPE SIZE OF COVERING PROTECTION SADDLE TO BE USED WITH FIGURE 17, 39 AND 53

CHAIR NUMBER	BARE PIPE SIZE	BARE PIPE SIZE	FIG. 351 1" COV. 25	FIG. 352 1 1/2" COV. 38	FIG. 353 2" COV. 51	FIG. 354 2 1/2" COV. 64	FIG. 355 3" COV. 76	FIG. 356 4" COV. 102
1A	2 2 1/2 3 3 1/2	50 65 80 90	3/4 x 3 20 TO 80	3/4 to 2 1/2 20 to 65	3/4 to 1 1/2 20 to 40			
1	4 5 6	100 125 150	3 1/2 to 6 90 to 150	3 to 5 80 to 125	2 to 4 50 to 100	3/4 to 1 1/2 20 to 40		
2	8 10	200 250	8 200	6 to 8 150 to 200	5 to 8 125 to 200	2 to 5 50 to 125	2 to 6 50 to 150	4 to 5 100 to 125
3	12 14	300 350	10 to 12 250 to 300	10 to 12 250 to 300	10 to 12 250 to 300	6 to 8 150 to 200	8 200	6 to 8 150 to 200
4	16 18 20	400 450 500	14 to 18 350 to 450	14 to 18 350 to 450	14 to 18 350 to 450	10 to 16 250 to 400	10 to 14 250 to 350	10 to 12 250 to 300
5 5	24	600	20 500	20 500	18 to 20 450 to 500	18 to 20 450 to 500	16 to 18 400 to 450	14 to 18 350 to 450
6 6	30	750	24 600	24 600	24 600	24 600	20 to 24 500 to 600	20 to 24 500 to 600
7	36	900	30 750	30 750	30 750	30 750	30 750	28 700
7	42	1050	40 1000	36 900	36 900	36 900	36 900	32 800

ROLL AND PLATE

Figure 63

Figure 63 SS316

The plate is made of steel with holes for anchoring to piers or structures. It is used for supporting pipe lines where limited axial movement is anticipated, and vertical adjustment is not required.

Material: Figure 63 Carbon Steel Base, with a Cast Iron Roll
Figure 63 SS316 Stainless Steel Base with a Cast 316 Stainless Steel Roll

Maximum Temperature: 400° F (204° C) at the contact point to the roll.

Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 45), ANSI/MSS SP-58 (Type 45)

Ordering: Specify plate number and figure number. For metric applications, add a prefix "M" to the Figure Number.

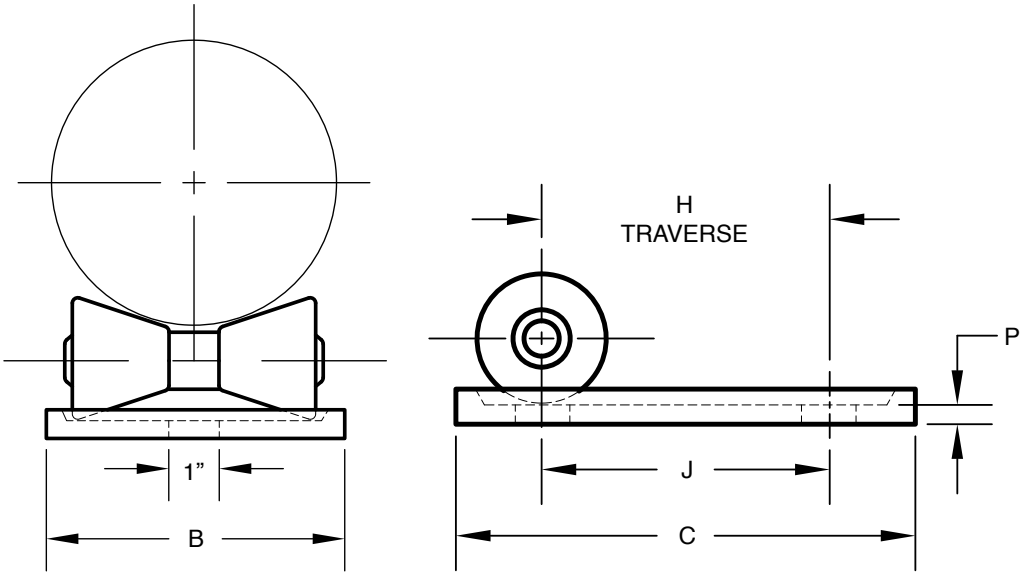


FIGURE 63 - ROLL AND PLATE

PLATE NO.	PIPE SIZES	MAX LOAD	A	B	C	H	J	P	WEIGHT EA
1A	2-3	390	1 1/4	3 1/8	6 3/8	4 3/8	3 7/8	5/16	3.16
1A	50 - 80	177	32	79	162	111	98	8	1.43
1	4-6	950	1 3/8	4 1/8	7 3/8	5 1/4	4 3/4	5/16	4.75
1	100 - 150	431	35	105	187	133	121	8	2.15
2	8-10	2100	2	6 1/2	8 1/2	5 3/8	5 3/4	3/8	11.4
2	200 - 250	953	51	165	216	137	146	10	5.17
3	12-14	3075	2 1/2	8 5/8	9 5/8	6 1/4	6 1/2	3/8	21.9
3	300 - 350	1395	64	219	244	159	165	10	9.93
4	16-20	4980	2 3/4	9 5/8	10 5/8	7	7 1/2	1/2	28.2
4	400 - 500	2259	70	244	270	178	191	13	12.8
5	24	6100	2 7/8	10 3/4	11 3/4	8	8 1/2	5/8	38.9
5	600	2767	73	273	298	203	216	16	17.6
6	30	7500	3 3/8	13 1/2	13	8 1/2	9 1/2	5/8	59.0
6	750	3402	86	343	330	216	241	16	26.7

ADJUSTABLE ROLL SUPPORT

Figure 109

Figure 109 SS316

The Figure 109 is designed for longitudinal movement of pipe where vertical adjustment of up to six inches of is required. This part is normally used directly above the supporting structure. Adjusting rods and hex nuts are included.

For pipe with insulation and / or a pipe covering protection saddle (not included) the Figure 109 will have to be oversized to suit. Please see the Table for the Figure 142 which shows the correct sizing for insulated pipe.

The Figure 109 SS316 is intended for high corrosion areas and is only available on Pipe Sizes 4" through 18" as a Special Order.

Material: Figure 109 Cast Iron Pipe Roll and Sockets, Carbon Steel Axle, Continuous Thread Rods, and Hex Nuts. Figure 109 SS316 Cast Stainless Steel Pipe Roll, Axle and Sockets, Continuous Thread Stainless Steel Rods, and Hex Nuts.

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 41), ANSI/MSS SP-58 (Type 41)

Ordering: Specify pipe size, pipe covering thickness, figure number, and finish.
For Metric applications specify Figure M109.

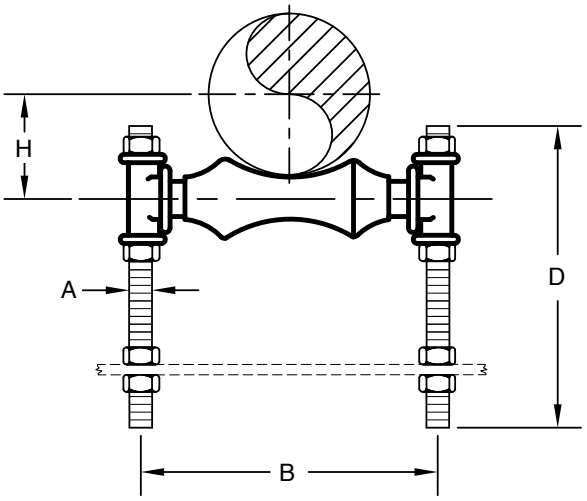


FIGURE 109 AND FIGURE 109 SS316 ADJUSTABLE ROLL SUPPORT

PIPE SIZE	MAX LOAD	A	B	D	H	WEIGHT EA
1 1/4	300	3/8	3 3/8	7 1/4	1 1/4	1.08
32	1335	M10	86	184	32	0.49
1 1/2	300	3/8	3 5/8	7 1/4	1 3/8	1.11
40	1335	M10	92	184	35	0.50
2	300	3/8	4 1/8	7 1/4	1 5/8	1.65
50	1335	M10	105	184	41	0.75
2 1/2	600	1/2	5 1/2	8	2	2.72
65	2669	M12	140	203	51	1.23
3	600	1/2	6 1/8	8	2 1/4	2.72
80	2669	M12	156	203	57	1.23
3 1/2	700	1/2	7 1/8	8	2 5/8	2.72
90	3114	M12	181	203	67	1.23
4	700	5/8	7 1/8	8 1/2	2 7/8	3.91
100	3114	M16	181	216	73	1.77
5	700	5/8	8 3/8	9	3 1/2	4.63
125	3114	M16	213	229	89	2.10
6	1000	3/4	9 5/8	9	4	7.07
150	4448	M20	244	229	102	3.21
8	1300	7/8	12	10	5 1/8	11.4
200	5783	M20	305	254	130	5.15
10	1700	7/8	14 1/8	11	6 3/8	13.7
250	7562	M20	359	279	162	6.22
12	2300	7/8	16 1/8	12	7 1/2	15.9
300	10231	M20	410	305	191	7.21
14	3075	1	17 3/4	12	8 3/8	28.7
350	13679	M24	451	305	213	13.0
16	3970	1	19 3/4	18	9 1/2	42.5
400	17660	M24	502	457	241	19.3
18	4200	1	21 7/8	18	10 1/2	46.6
450	18683	M24	556	457	267	21.1
20	4550	1 1/4	24 1/4	18	11 5/8	66.2
500	20240	M30	616	457	295	30.0
24	6160	1 1/2	28 5/8	24	14	102.5
600	27402	M36	727	610	356	46.5
30	7290	1 1/2	35 1/2	24	17 1/2	186.8
750	32429	M36	902	610	445	84.7

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

ROLLER SUPPORT

Figure 333

The Figure 333 is designed for longitudinal movement of pipe where vertical adjustment is required. This part is normally used directly above the supporting structure.

For pipe with insulation and a pipe covering protection saddle the Figure 333 will have to be oversized to suit. Please see the Table for the Figure 142 which shows the correct sizing for insulated pipe.

Material: Cast Iron Pipe Roll, Carbon Steel Axle, Chair, and Hex Nuts

Maximum Temperature: 400º F (204ºC) at the contact point to the roll.

Finish: Plain, Painted, Electro-Galvanized, Hot-Dip Galvanized

Ordering: Specify pipe size, figure number, and finish.
For Metric applications specify Figure M333.

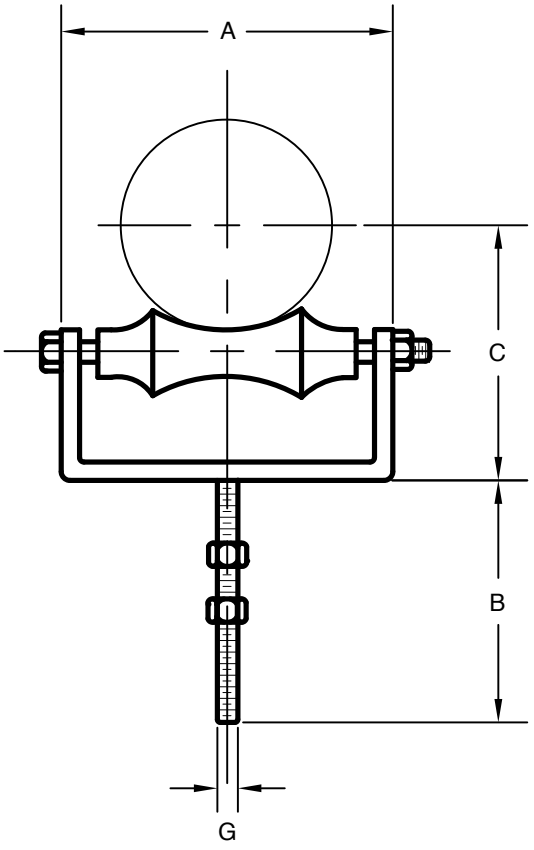


FIGURE 333 ROLLER SUPPORT

PIPE SIZE	MAX LOAD	A	B	C	G	WEIGHT EA
2	400	3 3/8	6	2 7/8	1/2	2.09
50	1779	86	152	73	M12	0.95
2 1/2	400	3 7/8	6	3 1/4	1/2	2.43
65	1779	98	152	83	M12	1.10
3	400	4 1/2	6	3 5/8	1/2	2.65
80	1779	114	152	92	M12	1.20
3 1/2	400	4 1/2	6	4	1/2	2.72
90	1779	114	152	102	M12	1.23
4	600	5 1/2	6	4 5/16	5/8	3.43
100	2669	140	152	110	M16	1.56
5	600	6 7/8	6	5 1/16	5/8	4.26
125	2669	175	152	129	M16	1.93
6	900	7 7/8	6	6	3/4	7.71
150	4004	200	152	152	M20	3.50
8	900	10 1/8	6	7 1/4	3/4	9.93
200	4004	257	152	184	M20	4.50
10	1100	12 1/4	6	8 13/16	1	16.7
250	4893	311	152	224	M24	7.55
12	1100	14 1/2	6	10 5/16	1	19.3
300	4893	368	152	262	M24	8.77

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

LARGE DIAMETER FABRICATED PIPE ROLL

Figure 6718

The Figure 6718 is designed for longitudinal movement of large diameter pipe where vertical adjustment is not required. Because the chair is made of carbon steel, it can be either welded or bolted in position.

For pipe with insulation and a pipe covering protection saddle, the Figure 6718 should be oversized to suit the larger effective outside diameter.

This product can accommodate FRP pipe, but should be fitted with an FRP Pipe Saddle to control any abrasive wear and may, also, require being oversized to suit.

Larger or smaller pipe sizes, load ratings, and special customer designs, can be provided.

For piping subjected to a corrosive environment or atmosphere, we offer an optional Figure 6718 Hot-Dip Galvanized with a Stainless Steel Axle.

Material: Carbon Steel

Maximum Temperature: Hot-Dip Galvanized 450º F (232ºC.)

Finishes: Plain, Painted, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify figure number, pipe size, and finish.
For Metric applications specify figure M6718

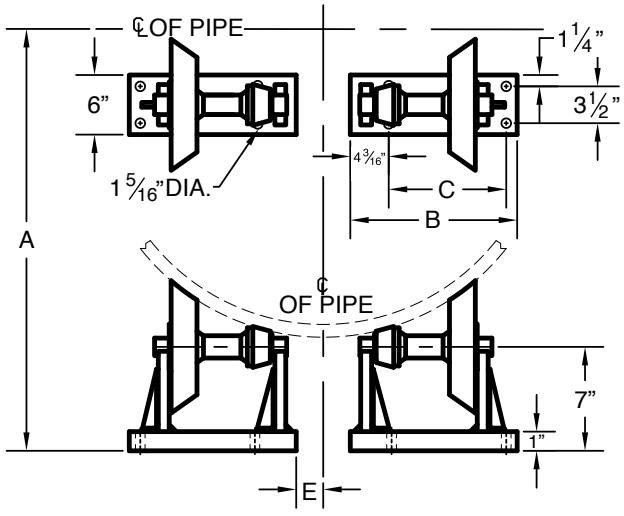


FIGURE 6178 - LARGE DIAMETER PIPE ROLL

PIPE SIZES	MAX LOAD	A	B	C	D	E
30	60000	23 1/4	13 5/8	8 3/16	8 15/16	0.00
750	266893	591	346	208	227	0
36	60000	26	13 5/8	8 3/16	9 15/16	1
900	266893	660	346	208	252	25
42	60000	28 15/16	13 5/8	8 3/16	10 15/16	2
1050	266893	735	346	208	278	51
46	60000	30 7/8	13 5/8	8 3/16	11 7/16	2 7/16
1150	266893	784	346	208	290	61
46	60000	31 1/8	16 1/4	10 13/16	12 7/8	1 1/4
1150	266893	791	413	275	327	32
48	60000	32	16 1/4	10 13/16	13 1/4	1 11/16
1200	266893	813	413	275	337	43
54	60000	34 7/8	16 1/4	10 13/16	14 5/16	2 3/4
1350	266893	886	413	275	364	70
60	60000	37 3/4	16 1/4	10 13/16	15 7/8	3 15/16
1500	266893	959	413	275	403	100
66	60000	40 9/16	16 1/4	10 13/16	16 1/2	5
1650	266893	1030	413	275	419	127
72	60000	43 3/8	16 1/4	10 13/16	17 5/8	6 1/16
1800	266893	1102	413	275	448	154

NOMINAL C.I. /D.I. PIPE SIZES	MAX LOAD	A	B	C	D	E
30	60000	24 3/16	13 5/8	8 3/16	9 1/4	7/16
800	266893	614	346	208	235	11
36	60000	27 3/16	13 5/8	8 3/16	10 3/8	1 9/16
900	266893	691	346	208	264	40
42	60000	30 1/8	13 5/8	8 3/16	11 1/2	2 9/16
1000	266893	765	346	208	292	65
48	60000	33 1/2	16 1/4	10 13/16	13 3/4	2 3/16
1200	266893	851	413	275	349	56

LIGHT DUTY PIPE ALIGNMENT GUIDE

Figure 1006

Designed to maintain the axial alignment of piping as it expands and contracts during operation. It is most typically installed adjacent to expansion joints and at reasonable distances between the expansion joint and the anchor point. Our Figures 1007 and 1010, also, offer alternative means for your piping alignment needs. Longer barrels or special spiders can be made to your specifications. Please see our Figure 1006 CE for copper tubing lines.

Note: Guides are designed to maintain pipe alignment and not to carry piping system loads. Guides, however, may accept small incidental loads up to a maximum of 20% of the typical normal horizontal pipe span for a given pipe size.

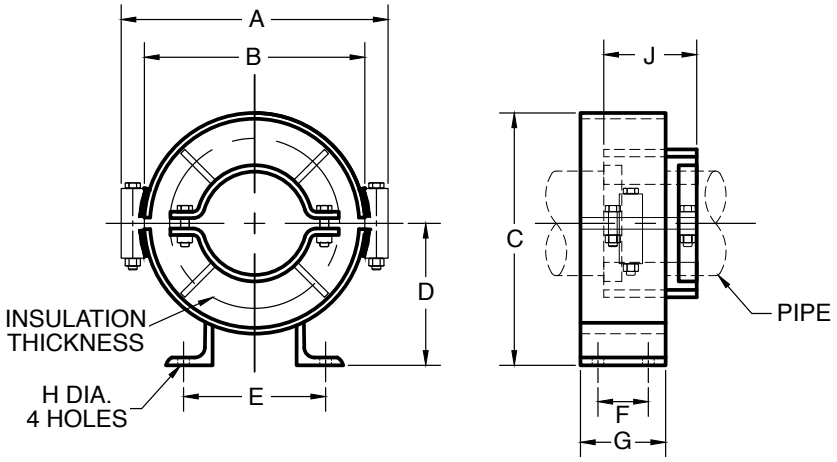
Material: Carbon Steel

Maximum Temperature: Plain 650° F (343° C) Hot-Dip Galvanized 450° F (232° C)

Finish: Plain, Painted, Hot-Dip Galvanized with Zinc Plated Fasteners

Compliance: ANSI/MSS SP-58

Ordering: Specify guide size, pipe size, insulation thickness, figure number and finish. For Metric applications prefix the Figure Number with an "M".



PIPE SIZE	J	MAX. MOVEMENT
1	6 3/4	4 1/2
	171	114
2	7 1/4	5 5/8
	184	143
3	8 3/8	6 5/8
	213	168

FIGURE 1006 - LIGHT DUTY PIPE ALIGNMENT GUIDE

SIZE NUMBER	A	B	C	D	E	F	G	H	WEIGHT EA
1	6 3/4	4 1/2	5 3/8	3 1/8	5	1 1/2	3	5/8	5.8
	171	114	137	79	127	38	76	16	2.6
2	7 1/4	5 5/8	6 1/8	3 1/2	6 1/4	1 1/2	3	5/8	7.2
	184	143	156	89	159	38	76	16	3.3
3	8 3/8	6 5/8	7 3/8	4	6 3/4	1 1/2	3	5/8	8.2
	213	168	187	102	171	38	76	16	3.7
4	10 3/8	8 5/8	9 3/8	5	7 3/8	1 1/2	3	5/8	10.6
	264	219	238	127	187	38	76	16	4.8
5	12 1/8	10 3/4	11 5/8	6 1/4	7 3/8	2	4	5/8	15.6
	308	273	295	159	187	51	102	16	7.1
6	14 7/8	12 3/4	13 5/8	7 1/4	8	2	4	5/8	19.5
	378	324	346	184	203	51	102	16	8.8
7	16 7/8	14 3/4	15 7/8	8 1/2	9 3/4	2	4	3/4	26.8
	429	375	403	216	248	51	102	19	12.2
8	18 7/8	16 3/4	17 7/8	9 1/2	10 1/4	4	6	3/4	35.6
	479	425	454	241	260	102	152	19	16.1
9	21 5/8	19	20	10 1/2	11 1/4	4	6	3/4	44.2
	549	483	508	267	286	102	152	19	20.0
10	23 5/8	21	22	11 1/2	14 1/8	4	6	7/8	52.6
	600	533	559	292	359	102	152	22	23.9
11	25 5/8	23	24	12 1/2	14 3/4	4	6	7/8	66.3
	651	584	610	318	375	102	152	22	30.1
12	28 3/8	25 3/4	26 5/8	13 3/4	15 7/8	4	6	1	79.7
	721	654	676	349	403	102	152	25	36.2
13	32 1/8	29 1/2	30 1/2	15 3/4	16 7/8	5 1/2	8	1	106
	816	749	775	400	429	140	203	25	48.2
14	36 1/8	33 1/2	34 1/2	17 3/4	17 1/8	5 1/2	8	1	117
	918	851	876	451	435	140	203	25	53.0

Please use the following Chart for selecting the correct Guide Size

FIGURE 1006 - LIGHT DUTY PIPE ALIGNMENT GUIDE

SIZE NUMBER	THICKNESS OF INSULATION					
	1	**1 1/2**	**2**	**2 1/2**	**3**	**4**
	25	**38**	**51**	**64**	**76**	**102**
1	1					
	25					
2	1 1/4 - 2	1				
	32 to 50	25				
3	2 1/2	1 1/4 - 2	1			
	65	32 to 50	25			
4	3 - 4	2 1/2 - 3 1/2	1 1/4 - 2 1/2	1 - 2	1	
	80 to 100	65 to 90	32 to 65	25 to 50	25	
5	5 - 6	4 - 5	3 - 4	2 1/2 - 3 1/2	1 1/2 - 2 1/2	1
	125 to 150	100 to 125	80 to 100	65 to 90	32 to 65	25
6		6	5 - 6	4 - 5	3 - 4	1 1/2 - 2 1/2
		150	125 to 150	100 to 125	80 to 100	32 to 65
7		8	8	6	5 - 6	3 - 4
		200	200	150	125 to 150	80 to 100
8		10	10	8	8	5 - 6
		250	250	200	200	125 to 150
9		12	12	10	10	8
		300	300	250	250	200
10			14	12 - 14	12	10
			350	300 to 350	300	250
11			16	16	14	12
			400	400	350	300
12					16 - 18	14 - 16
					400 to 450	350 to 400
13					20	18 - 20
					500	450 to 500
14					24	24
					600	600

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

COPPER TUBING ALIGNMENT GUIDE

Figure 1006 CE

Designed to maintain the axial alignment of copper tubing as it expands and contracts during operation.

Note: Guides are designed to maintain tubing alignment and not to carry the system loads. Guides, however, may accept small incidental loads up to a maximum of 20% of the typical normal horizontal tubing span for a given tubing size.

Material: Carbon Steel

Barrel Finish: Plain, Painted, Hot-Dip Galvanized with Zinc Plated Fasteners

Spider Clamp Finish: Copper Colored Epoxy

Compliance: ANSI/MSS SP-58

Ordering: Specify Guide size from Catalog Sizing Table, tube size, insulation thickness, figure number and finish.
For Metric applications prefix the Figure Number with an "M".

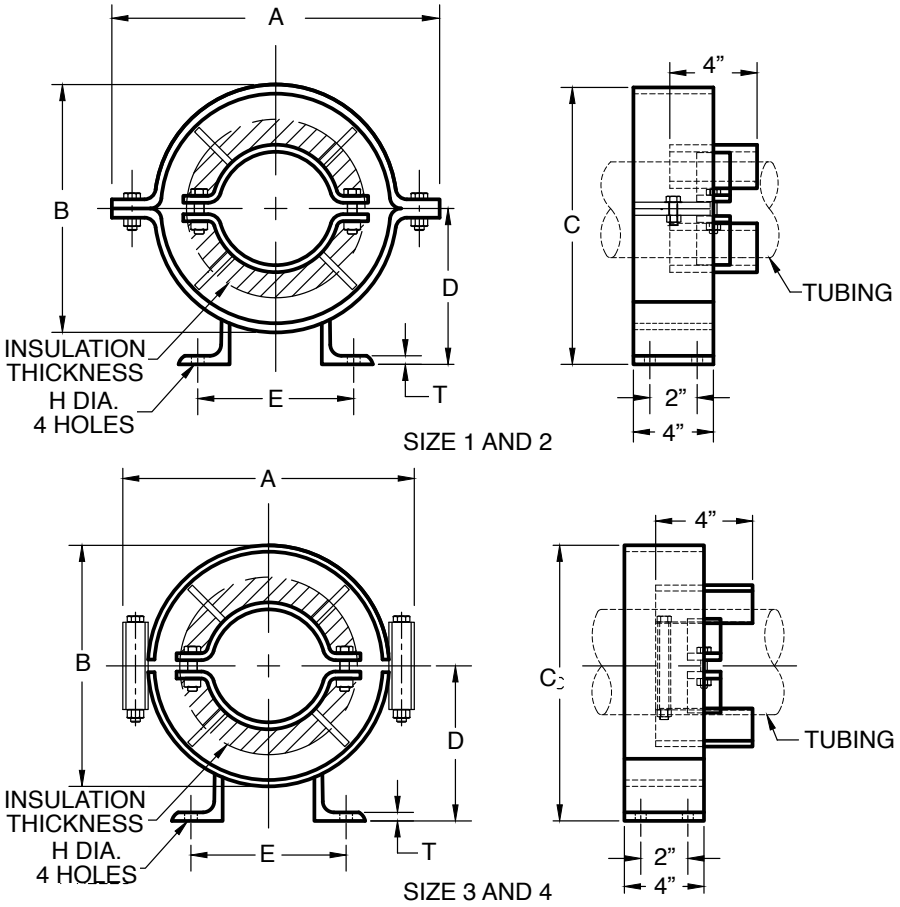


FIGURE 1006 CE- COPPER TUBING ALIGNMENT GUIDE

SIZE NUMBER	A	B	C	D	E	T	H
1	8 13/16	6 3/4	8	4 5/8	5 3/4	1/4	5/8
	224	171	203	117	146	6	16
2	11 13/16	8 3/4	10	5 3/8	7	1/4	5/8
	300	222	254	137	178	6	16
3	13 5/16	11 1/4	12 7/16	6 5/8	7 3/4	1/4	5/8
	338	286	316	168	197	6	16
4	15 7/8	13 3/8	14 13/16	7 15/16	9 1/4	3/8	3/4
	403	340	376	202	235	10	19

TUBING GUIDE NUMBER

TUBING SIZE	THICKNESS OF INSULATION					
	1	1 1/2	2	2 1/2	3	4
	25	38	51	64	76	102
1/2	1	1	1	1		
3/4	1	1	1	1		
1	1	1	1	1	3	3
1 1/4	1	1	1	3	3	3
1 1/2	1	1	1	3	3	3
2	2	2	3	3	3	3
2 1/2	2	2	2	2	3	3
3	2	2	2	2	4	4
3 1/2	2	2	2	4	4	4
4	2	2	2	4	4	4

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

PIPE ALIGNMENT GUIDE

Figure 1007

Designed to maintain the axial alignment of piping as it expands and contracts during operation. It is most typically installed adjacent to expansion joints and at reasonable distances between the expansion joint and the anchor point. Our Figures 1006 and 1010, also, offer alternative means for your piping alignment needs. Longer barrels or special spider clamps can be made to your specifications.

Note: Guides are designed to maintain pipe alignment and not to carry piping system loads. Guides, however, may accept small incidental loads up to a maximum of 20% of the typical normal horizontal pipe span for a given pipe size.

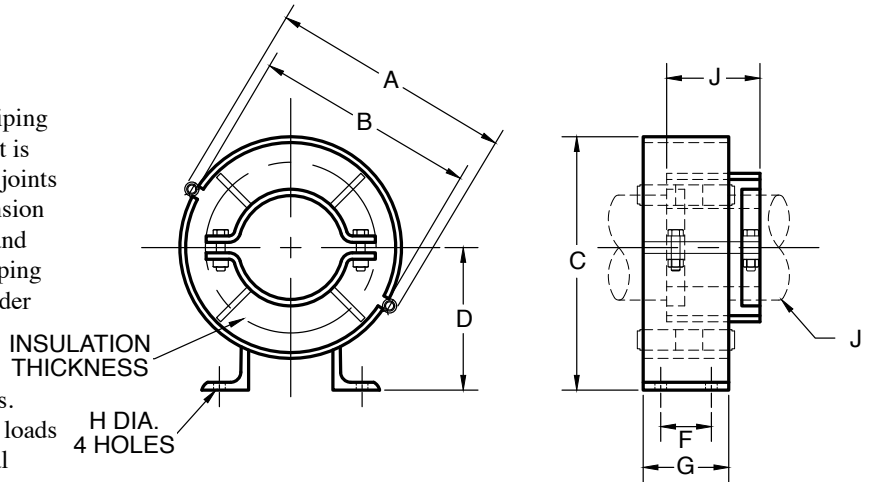
Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Hot-Dip Galvanized with Zinc Plated Fasteners

Compliance: ANSI/MSS SP-58

Ordering: Specify guide size, pipe size, insulation thickness, figure number and finish.
For Metric applications prefix the Figure Number with an “M”.



PIPE SIZE	J	MAX. MOVEMENT
1" to 6"	6	6
25 to 150	102	102
8" to 16"	8	8
200 to 400	152	152
18" to 24"	10	10
450 to 600	203	203

FIGURE 1006 CE- COPPER TUBING ALIGNMENT GUIDE

SIZE NUMBER	A	B	C	D	E	F	G	H	WEIGHT EA
1	5 7/8	4 1/2	5 3/8	3 1/8	5	2 1/2	4	5/8	9.5
1	149	114	6	79	127	64	102	16	4.3
2	7	5 5/8	6 3/8	3 1/2	6 1/4	2 1/2	4	5/8	12.0
2	178	143	162	89	159	64	102	16	5.4
3	8	6 5/8	7 3/8	4	6 3/4	2 1/2	4	5/8	13.2
3	203	168	187	102	171	64	102	16	6.0
4	10 3/8	8 5/8	9 3/8	5	7 3/8	2 1/2	4	5/8	16.3
4	264	219	238	127	187	64	102	16	7.4
5	12 1/2	10 3/4	11 5/8	6 1/4	7 3/8	4	6	5/8	26.0
5	318	273	295	159	187	102	152	16	11.8
6	14 7/8	12 3/4	13 5/8	7 1/4	8	4	6	5/8	32.3
6	378	324	346	184	203	102	152	16	14.7
7	16 7/8	14 3/4	15 7/8	8 1/2	9 3/4	5 1/2	8	3/4	48.2
7	429	17	403	216	248	140	203	19	21.9
8	18 7/8	16 3/4	17 7/8	9 1/2	10 1/4	5 1/2	8	3/4	57.0
8	479	425	454	241	260	140	203	19	25.9
9	21 5/8	19	20	10 1/2	11 1/4	5 1/2	8	3/4	72.1
9	549	483	508	267	286	140	203	19	32.7
10	23 5/8	21	22	11 1/2	14 1/8	5 1/2	8	7/8	84.5
10	600	533	559	292	359	140	203	22	38.3
11	25 5/8	23	24	12 1/2	14 3/4	5 1/2	8	7/8	103
11	651	584	610	318	375	140	203	22	46.8
12	28 5/8	25 3/4	26 5/8	13 3/4	15 7/8	5 1/2	8	1	129
12	727	654	676	349	403	140	203	25	58.6
13	32 1/8	29 1/2	30 1/2	15 3/4	16 3/8	5 1/2	8	1	153
13	816	749	775	400	416	140	203	25	69.5
14	36 1/8	33 1/2	34 1/2	17 3/4	17 1/8	5 1/2	8	1	140
14	918	851	876	451	435	140	203	25	63.5

Please use the following Chart for selecting the correct Guide Size Number

SIZE NUMBER	THICKNESS OF INSULATION					
	1	**1 1/2**	**2**	**2 1/2**	**3**	**4**
	25	**38**	**51**	**64**	**76**	**102**
1	1					
1	25					
2	1 1/4 - 2	1				
2	32 to 50	25				
3	2 1/2	1 1/4 - 2	1			
3	65	32 to 50	25			
4	3 - 4	2 1/2 - 3 1/2	1 1/4 - 2 1/2	1 - 2	1	
4	80 to 100	65 to 90	32 to 65	25 to 50	25	
5	5 - 6	4 - 5	3 - 4	2 1/2 - 3 1/2	1 1/2 - 2 1/2	1
5	125 to 150	100 to 125	80 to 100	65 to 90	32 to 65	25
6		6	5 - 6	4 - 5	3 - 4	1 1/2 - 2 1/2
6		150	125 to 150	100 to 125	80 to 100	32 to 65
7		8	8	6	5 - 6	3 - 4
7		200	200	150	125 to 150	80 to 100
8		10	10	8	8	5 - 6
8		250	250	200	200	125 to 150
9		12	12	10	10	8
9		300	300	250	250	200
10			14	12 - 14	12	10
10			350	300 to 350	300	250
11			16	16	14	12
11			400	400	350	300
12					16 - 18	14 - 16
12					400 to 450	350 to 400
13					20	18 - 20
13					500	450 to 500
14					24	24
14					600	600

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

PIPE SLIDE ASSEMBLY

Figure 1010

Designed to be welded directly to the pipe to allow for support from below and allow for horizontal movement with a low coefficient of friction.

The assembly consists of a carbon steel Tee with a polished stainless bottom which rests on a PTFE (glass filled Teflon) plate, bonded to a carbon steel plate. The base plate configuration will vary with the Type selected.

Greater height dimensions, longer transverse and longitudinal movements, and any other customer requirements, can be supplied upon request.

Material: Carbon Steel, Stainless Steel, PTFE (Polytetrafluoroethylene)

Maximum Temperature: 300º F (149º C) at the PTFE

Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: Federal Specification A-A-1192A (Type 35), ANSI/MSS SP-58 (Type 35)

Ordering: Specify pipe size, figure number, travel, and type.
For Metric applications specify Figure M1010.

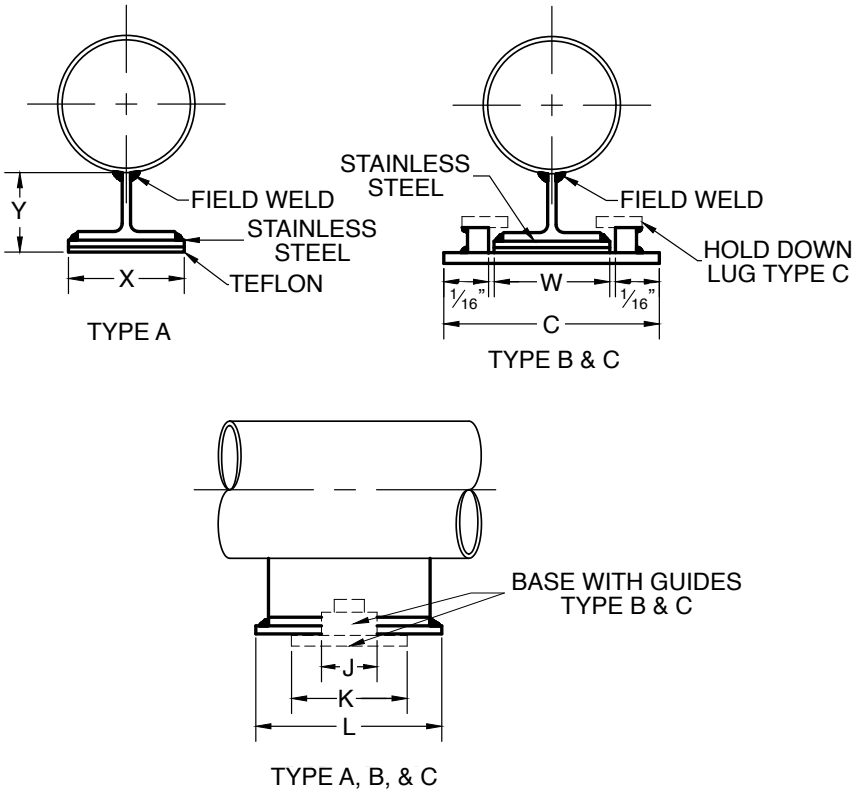


FIGURE 1010 PIPE SLIDE ASSEMBLY

PIPE SIZE	MAX LOAD	TRAVEL	Y TYPE A	Y TYPE B & C	L TYPES A, B, C	K TYPES A, B, C	W TYPES A, B, C	X TYPE A	X TYPE B & C	WEIGHT EA **
UP TO 8”	7000	5	3 3/4	4 1/4	8 1/2	4	3 1/2	3 1/2	6	7
		10			13 1/2					10
		15			18 1/2					13
		20			23 1/2					17
UP TO 200	31139	127	95	108	216	102	89	89	152	3.2
		254			343					4.5
		381			470					5.9
		508			597					7.7
10” TO 24”	13500	5	3 3/4	4 1/4	10 1/2	6	4 1/2	4 1/2	7	11
		10			15 1/2					15
		15			20 1/2					19
		20			25 1/2					23
250 TO 600	60053	127	95	108	267	152	114	114	178	5.0
		254			394					6.8
		381			521					8.6
		508			648					10.4

* Based upon 500 psi / 35.2 Kg per sq. cm. pressure on the PTFE
** Weight Each shown are for Type A Only

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

HEAT TRACE PIPE SHOE

Figure 1015

Designed to allow for the support of a piping system that must be heat traced to be protected from freezing or to maintain a constant flow temperature. The Shoe is clamped directly to the pipe to allow for support from below and to allow for axial movement. The space above the Shoe Clamp is reserved for the Heat Trace Line to prevent contact with the Shoe Clamp. Pipe Shoes with an 18" length will have three Clamps on it.

Normally supplied in carbon steel; stainless steel Shoes can be provide for corrosive environments; as a Special Order.

Shoes with different pipe sizes, heights, lengths and materials can be supplied upon request.

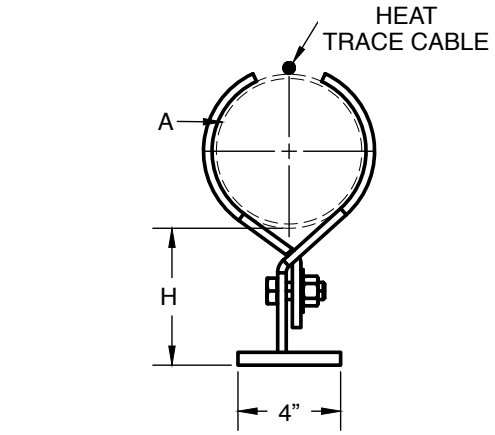
Materials: Carbon Steel or Stainless Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Hot-Dip Galvanized Hot-Dip Galvanized Shoes are supplied with Hot-Dip Galvanized fasteners.

Compliance: ANSI/MSS SP-58

Ordering: Specify pipe size, figure number, height, length and finish



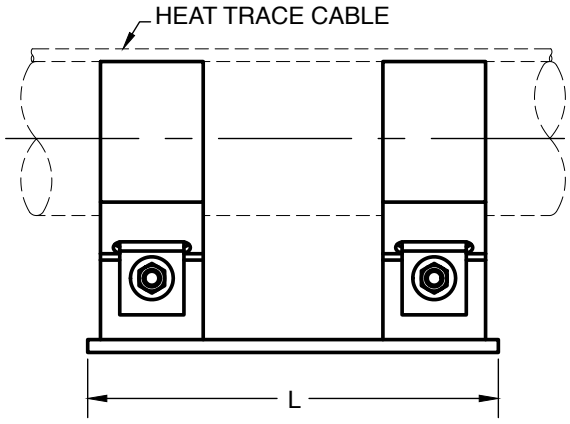


FIGURE 1015 - HEAT TRACE PIPE SHOE

PIPE SIZE A	SHOE LENGTH L	HEIGHT TO BOTTOM OF PIPE H	PIPE SIZE A	SHOE LENGTH L	HEIGHT TO BOTTOM OF PIPE H
1	12	3	4	12	3
		4			4
		6			6
	18	3		18	3
		4			4
		6			6
1 1-/2	12	3	6	12	3
		4			4
		6			6
	18	3		18	3
		4			4
		6			6
2	12	3	8	12	3
		4			4
		6			6
	18	3		18	3
		4			4
		6			6
3	12	3			
		4			
		6			
	18	3			
		4			
		6			

CHANNEL ASSEMBLY

Figure 371

The Figure 371 Channel Assembly is composed of two channels back to back with a spacer, shop welded on each end. Four (4) Figure 260 Washer Plates are included and shipped loose; their size is based upon the Rod Diameter furnished by the customer.

Made Special to Customer Order

Material: Carbon Steel

Maximum Temperature: Plain 650° F (343° C) Hot-Dip Galvanized 450° F (232° C)

Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify channel size, rod diameter, dimension "A", figure number, and finish.

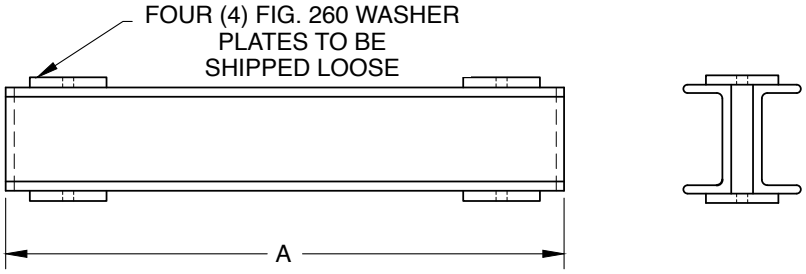


FIGURE 371 - CHANNEL ASSEMBLY

CHANNEL SIZE	ALLOWABLE CONCENTRATED LOAD AT CENTER OF SPAN F/S 5							
	12	18	24	30	36	42	60	72
	305	457	610	762	914	1067	1524	1829
3C 4.1	12100	8100	6000	4800	4000	3400	2400	2000
	53826	36032	26690	21352	17794	15125	10676	8897
4C 5.4	21300	14200	10600	8500	7100	6100	4200	3500
	94751	63167	47153	37811	31584	27135	18683	15569
5C 6.7	33200	22100	16600	13200	11000	9400	6600	5500
	147687	98310	73843	58719	48932	41815	29359	24466
6C 8.2		32300	24200	19300	16100	13800	9600	8000
		143683	107651	85854	71619	61388	42705	35587
8C 11.5		60000	45000	36000	30000	25700	18000	15000
		266904	200178	160142	133452	114324	80071	66726
12C 20.7			118900	95100	79300	67900	47500	39600
			528915	423043	352758	302046	211299	176157

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

TRAPEZE SUPPORT ANGLE

Figure 7150

This product is used to support piping when headroom space is limited to the structure, or when piping cannot be directly supported to the existing structure. Long leg is vertical on unequal leg angles. Made Special to Customer Order.

Material: Carbon Steel

Maximum Temperature: Plain 650º F (343º C) Hot-Dip Galvanized 450º F (232º C)

Finish: Plain, Painted, Hot-Dip Galvanized

Compliance: ANSI/MSS SP-58

Ordering: Specify size, C-C dimension, diameter of drop rods, figure number and finish.

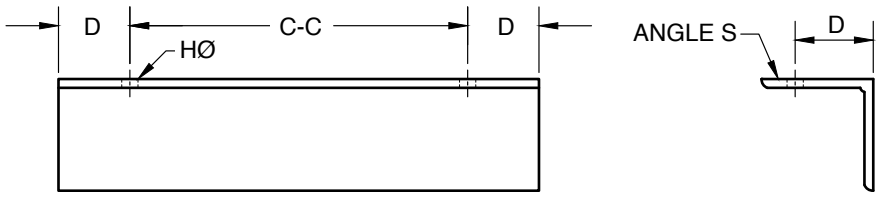


FIGURE 7150 - TRAPEZE SUPPORT ANGLE

ANGLE SIZE	ANGLE S	D	G	MAX. H Ø
1	1 1/2 X 1 1/2 X 1/4	1	7/8	9/16
2	2 X 2 X 3/8	1	1 1/8	11/16
3	3 X 3 X 3/8	1 1/2	1 3/4	13/16
4	4 X 3 X 3/8*	1 1/2	1 3/4	1 1/16
5	5 X 3 X 3/8*	2	1 3/4	1 1/16
6	6 X 4 X 1/2*	2	2 1/2	1 3/8

* Note Long Leg of Angle is Vertical

ANGLE SIZE	MAXIMUM CONCENTRATED LOAD AT CENTER OF SPAN IN POUNDS CENTER TO CENTER OF RODS IN INCHES													
	12	16	20	24	28	32	36	40	44	48	54	60	66	72
1	741	556	445	371	318	278	247							
2	1942	1457	1165	971	832	728	647	583	530	486				
3	4609	3457	2766	2305	1975	1728	1536	1383	1257	1152	1024	922		
4	8079	6059	4847	4039	3462	3030	2693	2424	2203	2020	1795	1616	1469	1346
5	11800	9296	7437	6197	5312	4648	4132	3718	3380	3099	2754	2479	2254	2066
6				11980	10268	8985	7986	7188	6534	5990	5324	4792	4356	3993

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

COLD COVER INSULATION PROTECTION SHIELD

Figure 265CVB-CS

The Figure 265CVB-CS is designed to support and insulate piping and copper tubing for Chilled Water and Domestic Hot Water services. Used on clamping type support systems with clevis or any other band type hangers, only. It is comprised of two 180° polyurethane foam (PUF) inserts each wrapped with an overlapping Mylar vapor barrier and two galvanized, overlapping, steel shields.

A high compressive strength PUF insert is provided for 10” and larger pipe sizes.

Copper tubing sizes 5/8” through 6” are available.

This product is designed for Indoor use. An Outdoor use version is available as a Special Order.

Special, non-standard designs, can be provided to suit customer requirements. Please contact your local C&P Sales office to discuss.

Materials: Polyurethane Foam, Carbon Steel, Mylar Vapor Barrier

Operating Temperature Range: -250°F to +225°F (-157°C to 107°C).

Finish: Pre-Galvanized

Ordering: Please see the Pipe/Copper Tubing Sizing Chart for our Pre-Insulated products in the Technical Section of this Catalog.

Specify: Pipe/tubing Size, Insulation Thickness, and Figure Number.

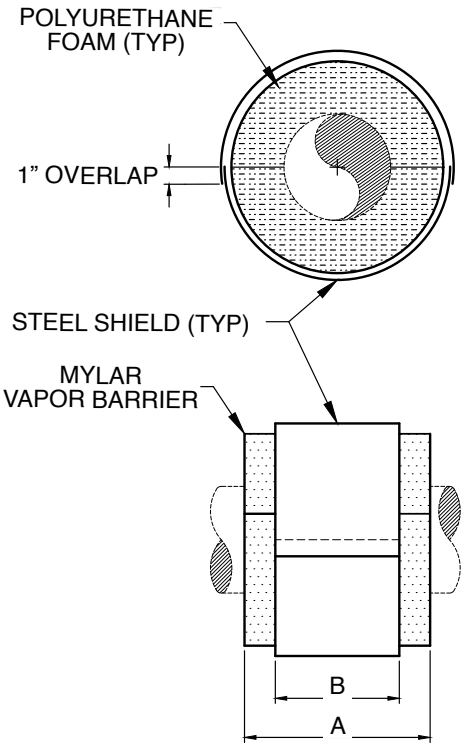


FIGURE 465CVB-MS LONG SPAN CALCIUM SILICATE INSULATED SHIELD

PIPE SIZE	COPPER TUBING OD	MAXIMUM LOAD		INSULATION LENGTH A	MAXIMUM PIPE SPAN (FEET / METERS)	SHIELD LENGTH B	SHIELD GAGE
		FLAT SURFACE	CLEVIS HANGER[1]				
1/2	5/8	20	30	6	7	4	20
15	15	89	133	150	2.13	100	
1	1	25	40	6	7	4	20
25	25	111	178	150	2.13	100	
1 1/2	1 5/8"	45	70	6	9	4	20
40	40	200	311	150	2.74	100	
2	2 1/8"	100	190	6	10	4	18
50	50	445	845	150	3.05	100	
3	3 1/8"	150	280	6	10	4	18
80	80	667	1245	150	3.05	100	
4	4 1/8"	180	370	6	10	4	18
100	100	801	1646	150	3.05	100	
6	6 1/8"	350	600	9	10	6	16
150	150	1557	2669	228	3.05	150	
8	-	600	900	9	10	6	16
200		2669	4003	228	3.05	150	
10	-	900	1200	12	10	10	14
250		4003	5338	300	3.05	250	
12	-	1100	1500	12	10	10	14
300		4893	6672	300	3.05	250	
14	-	CALL C&P SALES	1600	12	10	10	14
350			7117	300	3.05	250	
16	-		2000	12	10	10	14
400			8896	300	3.05	250	
18	-		2300	12	10	10	14
450			10231	300	3.05	250	
20	-		3000	12	10	10	14
500			13345	300	3.05	250	
24	-		3750	12	10	10	14
600			16681	300	3.05	250	

[1]Check load capacity of clevis hanger. Design around lesser of the two values

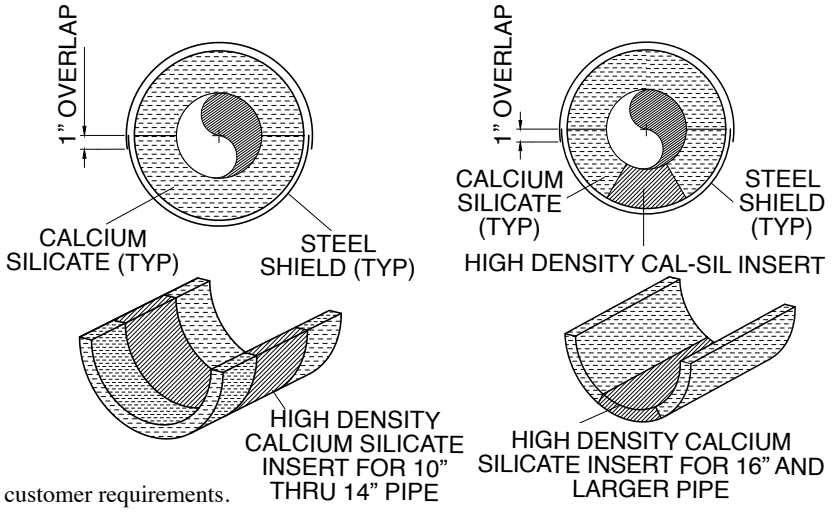
LONG SPAN CALCIUM SILICATE INSULATION SHIELD

Figure 465CVB-MS

The Figure 465 CVB-MS is designed to support and insulate piping and tubing in clevis or clamp type hangers only, for thermal efficiency. It is comprised of two 180° calcium silicate inserts each with an overlapping ASJ vapor barrier and galvanized steel shield. A 900 psi High-Density, calcium silicate, insert is used on 10" NPS pipe and larger. Copper tubing sizes 2-1/2" though 6" are available.

Insulation thickness of 1/2" (to 6" pipe) through 4 inches.

This product is designed for Indoor use. An Outdoor use version is available as a Special Order.



Special, non-standard designs, can be provided to suit customer requirements. Please contact your local C&P Sales office to discuss.

Materials: Calcium Silicate, Carbon Steel, Non-reactive ASJ Vapor Barrier

Operating Temperature Range: 20°F to 1200°F (-7°C to 648°C).

Finish: Pre-Galvanized

Compliance: ANSI/MSS SP-58 (Type 40)

Ordering: Please see the Pipe/Copper Tubing Sizing Chart for our Pre-Insulated products in the Technical Section of this Catalog.

Specify: Pipe/tubing size, Insulation Thickness, and Figure Number.

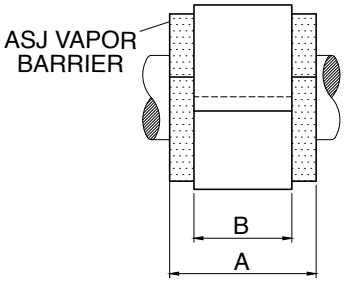


FIGURE 465CVB-MS LONG SPAN CALCIUM SILICATE INSULATED SHIELD

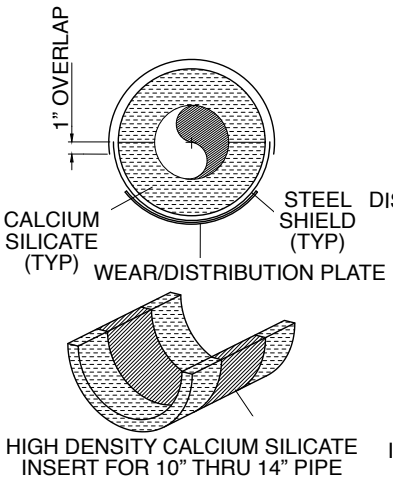
PIPE SIZE	COPPER TUBING OD	MAX LOAD	INSULATION LENGTH A	MAX PIPE SPAN (FEET / METERS)	SHIELD LENGTH B	SHIELD GAGE
1/2	5/8	80	6	7	4	18
15	15	356	150	2.13	100	
1	1 1/8	130	6	7	4	18
25	25	579	150	2.13	100	
1 1/2	1 5/8	185	6	9	4	18
40	40	823	150	2.74	100	
2	2 1/8	300	9	10	6	16
50	50	1335	228	3.05	150	
2 1/2	2 5/8	350	9	11	6	16
65	65	1558	228	3.35	150	
3	3 1/8	400	9	12	6	14
80	80	1780	228	3.66	150	
4	4 1/8	500	9	14	6	14
100	100	2225	228	4.27	150	
6	6 1/8	900	9	17	6	14
150	150	4005	228	5.18	150	
8		1150	9	19	6	14
200		5118	228	5.79	150	
10		2575	9	22	6	14
250		11459	300	6.71	225	
12		3550	9	23	6	14
300		15798	300	7.01	225	
14		4820	9	25	6	12
350		21449	350	7.62	300	
16		8250	9	27	6	12
400		36713	350	8.23	300	
18		9505	9	28	6	12
450		42297	350	8.53	300	
20		10550	9	30	6	12
500		46948	350	9.14	300	
24		17350	9	32	6	12
600		77208	350	9.75	300	

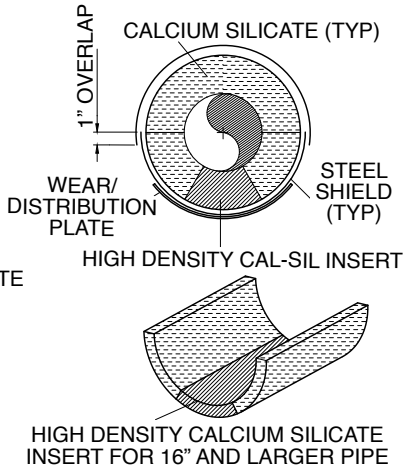
HIGH POINT LOAD CALCIUM SILICATE INSULATION SHIELD

Figure 465CVB-MSRH

The Figure 465CVB-MSRH is designed to insulate the pipe and copper tubing for thermal efficiency where high point loading is a concern, such as on pipe rollers and flat surfaces. It is comprised of two 180° calcium silicate inserts wrapped with two, overlapping, ASJ vapor barriers, and two, overlapping, galvanized, steel shields. The assembly is reinforced with a 60°, plain steel, wear/load distribution plate for 4"and larger piping. A High Density, 900 psi, calcium silicate insert is used in 10" and larger pipe sizes. Copper tubing sizes 2-1/2" through 6" are available. Insulation thickness of 1/2" (to 6" pipe) through 4 inches.

This product is designed for Indoor use. An Outdoor use version is available as a Special Order.





Special, non-standard designs, can be provided to suit customer requirements. Please contact your local C&P Sales office to discuss.

Materials: Calcium Silicate, Carbon Steel, Non-reactive Vapor Barrier

Operating Temperature Range: 20°F to 1200°F (-7°C to 648°C).

Finish: Pre-Galvanized

Compliance: ANSI/MSS SP-58 (Type 40)

Ordering: Please see the Pipe/Copper Tubing Sizing Chart for our Pre-Insulated products in the Technical Section of this Catalog.

Specify: Pipe/tubing Size, Insulation Thickness, and Figure Number.

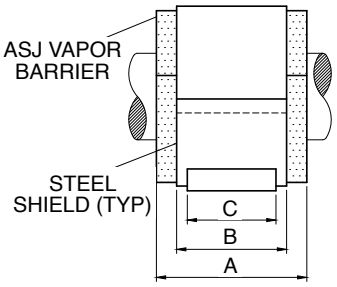


FIGURE 465CVB-MSRH HIGH POINT LOAD CALCIUM SILICATE INSULATION SHIELD

PIPE SIZE	COPPER TUBING OD	MAXIMUM ALLOWABLE LOAD		INSULATION LENGTH A	MAXIMUM PIPE SPAN (FEET / METERS)	SHIELD LENGTH B	SHIELD GAGE	DISTRIBUTION PLATE C
		FLAT SURFACE	PIPE ROLL					
1/2	5/8	40	80	6	7	4	18	
15	15	178	356	150	2.13	100		
1	1 1/8	60	130	6	7	4	18	
25	25	267	579	150	2.13	100		
1 1/2	1 5/8	85	185	6	9	4	18	
40	40	378	823	150	2.74	100		
2	2 1/8	300	300	9	10	6	16	
50	50	1335	1335	228	3.05	150		
2 1/2	2 5/8	350	350	9	11	6	16	
65	65	1558	1558	228	3.35	150		
3	3 1/8	400	400	9	12	6	16	
80	80	1780	1780	228	3.66	150		
4	4 1/8	500	500	9	14	6	14	1/8 X 6
100	100	2225	2225	228	4.27	150		3 X 150
6	6 1/8	900	900	9	17	6	14	1/8 X 6
150	150	4005	4005	228	5.18	150		3 X 150
8		1150	1150	9	19	6	14	1/8 X 6
200		5118	5118	228	5.79	150		3 X 150
10		2575	2450	12	22	8	14	1/4 X 8
250		11459	10903	300	6.71	225		6 X 203
12		3550	3480	12	23	8	14	1/4 X 8
300		15798	15486	300	7.01	225		6 X 203
14		4820	4770	12	25	10	14	1/4 X 10
350		21449	21227	350	7.62	300		6 X 254
16		8250	8050	12	27	10	14	1/4 X 10
400		36713	35823	350	8.23	300		6 X 254
18		9505	9025	12	28	10	14	1/4 X 10
450		42297	40161	350	8.53	300		6 X 254
20		10550	9550	12	30	10	14	1/4 X 10
500		46948	42498	350	9.14	300		6 X 254
24		17350	15500	12	32	10	14	1/4 X 10
600		77208	68975	350	9.75	300		6 X 254

HANGER COVER INSULATION PROTECTION SHIELD

Figure 465CVB-PSNT

The Figure 465CVB-PSNT is designed to insulate pipe and copper tubing on flat surfaces, clevis and other band type hangers for thermal efficiency. It is comprised of two 180° calcium silicate inserts, wrapped in two, overlapping, ASJ vapor barriers, and a bottom galvanized steel shield.

A High Density, 900 psi, calcium silicate insert, is used in 10" and larger pipe sizes. Copper Tubing sizes 5/8" through 6"are available. . Insulation thickness of 1/2" (to 6" pipe) through 4 inches.

This product is designed for Indoor use. An Outdoor use version is available as a Special Order.

Special, non-standard designs, can be provided to suit customer requirements.

Please contact your local C&P Sales office to discuss.

Materials: Calcium Silicate, Carbon Steel, Non-reactive Vapor Barrier

Operating Temperature Range: 20°F to 1200°F (-7°C to 648°C).

Finish: Pre-Galvanized

Compliance: ANSI/MSS SP-58 (Type 40)

Ordering: Please see the Pipe/Copper Tubing Sizing Chart for our Pre-Insulated products in the Technical Section of this Catalog.

Specify: Pipe/tubing Size, Insulation Thickness, and Figure Number.

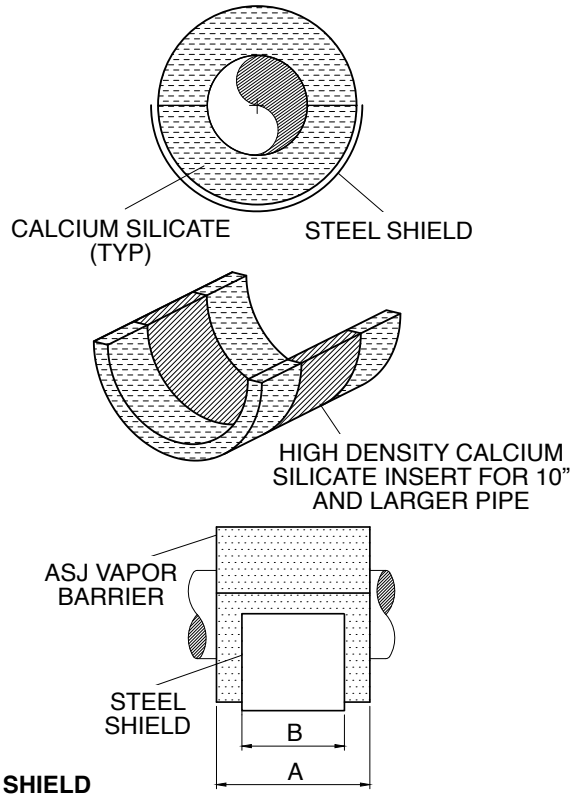


FIGURE 465CVB-PSNT HANGER COVER INSULATION PROTECTION SHIELD

PIPE SIZE	COPPER TUBING OD	MAXIMUM ALLOWABLE LOAD		INSULATION LENGTH A	MAXIMUM PIPE SPAN (FEET / METERS)	SHIELD LENGTH B	SHIELD GAGE
		FLAT SURFACE	CLEVIS HANGER				
1/2	5/8"	45	80	6	7	4	22
15	15	200	355	150	2.13	100	
1	1 1/8"	60	130	6	7	4	22
25	25	266	578	150	2.13	100	
1 1/2	1 5/8"	90	185	6	9	4	22
40	40	400	822	150	2.74	100	
2	2 1/8"	130	230	6	10	4	20
50	50	578	1023	150	3.05	100	
2 1/2	25/8	170	260	6	10	4	20
65	65	756	1156	150	3.05	100	
3	3 1/8"	200	325	6	10	4	20
80	80	889	1445	150	3.05	100	
4	4 1/8"	290	390	6	10	4	20
100	100	1290	1734	150	3.05	100	
6	6 1/8"	500	620	9	10	6	16
150	150	2224	2757	228	3.05	150	
8	-	750	800	9	10	6	16
200		3336	3558	228	3.05	150	
10	-	1000	1450	9	10	6	14
250		4448	6450	300	3.05	150	
12	-	1200	1800	9	10	6	14
300		5337	8006	300	3.05	150	
14	-	1400	2000	12	10	10	12
350		6227	8896	300	3.05	250	
16	-	CALL C&P SALES	2600	12	10	10	12
400			11565	300	3.05	250	
18	-		3300	12	10	10	12
450			14679	300	3.05	250	
20	-		4000	12	10	10	12
500			17792	300	3.05	250	
24	-		6200	12	10	10	12
600			27578	300	3.05	250	

FULL COVER INSULATION PROTECTION SHIELD

Figure 465CVB-PS360

The Figure 465CVB-PS360 is designed to insulate the pipe and copper tubing for thermal efficiency on clamping support systems, flat surfaces, clevis or other band type hangers. It is comprised of two 180° calcium silicate inserts, wrapped in two, overlapping, ASJ vapor barriers, and two, overlapping, galvanized steel shields. A High Density, 900 psi, calcium silicate insert, is used in 10'' and larger pipe sizes. Copper tubing sizes 5/8" through 6" are available. . Insulation thickness of 1/2" (to 6" pipe) through 4 inches.

This product is designed for Indoor use. An Outdoor use version is available as a Special Order.

Special, non-standard designs, can be provided to suit customer requirements. Please contact your local C&P Sales office to discuss.

Materials: Calcium Silicate, Carbon Steel, Non-reactive Vapor Barrier

Operating Temperature Range: 20°F to 1200°F (-7°C to 648°C).

Finish: Pre-galvanized

Compliance: ANSI/MSS SP-58 (Type 40)

Ordering: Please see the Pipe/Copper Tubing Sizing Chart for our Pre-Insulated products in the Technical Section of this Catalog.

Specify Pipe/copper tubing Size, Insulation Thickness, and Figure Number.

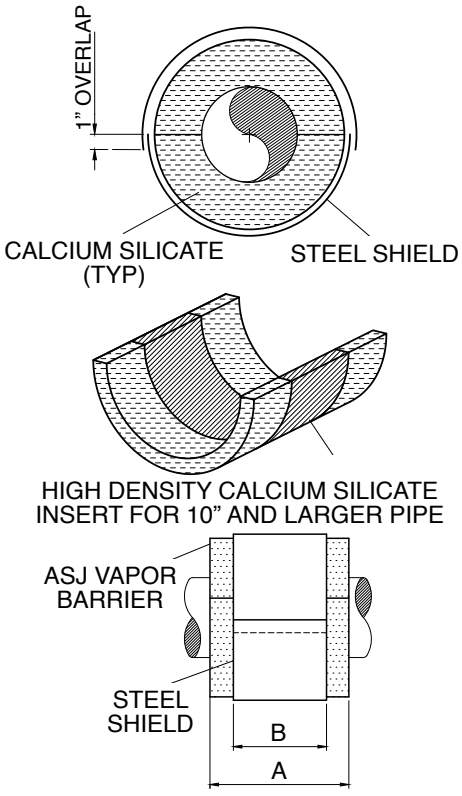


FIGURE 465CVB-PS360 FULL COVER INSULATION PROTECTION SHIELD

PIPE SIZE	COPPER TUBING OD	MAXIMUM ALLOWABLE LOAD		INSULATION LENGTH A	MAXIMUM PIPE SPAN (FEET / METERS)	SHIELD LENGTH B	SHIELD GAGE
		FLAT SURFACE	CLEVIS HANGER				
1/2	5/8"	45	80	6	7	4	22
15	15	200	355	150	2.13	100	
1	1 1/8"	60	130	6	7	4	22
25	25	266	578	150	2.13	100	
1 1/2	1 5/8"	90	185	6	9	4	22
40	40	400	822	150	2.74	100	
2	2 1/8"	130	230	6	10	4	20
50	50	578	1023	150	3.05	100	
21/2	2 5/8	170	260	6	10	4	20
65	65	756	1156	150	3.05	100	
3	3 1/8"	200	325	6	10	4	20
80	80	889	1445	150	3.05	100	
4	4 1/8"	290	390	6	10	4	20
100	100	1290	1734	150	3.05	100	
6	6 1/8"	500	620	9	10	6	16
150	150	2224	2757	228	3.05	150	
8	-	750	800	9	10	6	16
200		3336	3558	228	3.05	150	
10	-	1000	1450	9	10	6	14
250		4448	6450	300	3.05	150	
12	-	1200	1800	9	10	6	14
300		5337	8006	300	3.05	150	
14	-	1400	2000	12	10	10	12
350		6227	8896	300	3.05	250	
16	-	CALL C&P SALES	2600	12	10	10	12
400			11565	300	3.05	250	
18	-		3300	12	10	10	12
450			14679	300	3.05	250	
20	-		4000	12	10	10	12
500			17792	300	3.05	250	
24	-		6200	12	10	10	12
600			27578	300	3.05	250	

SPEED SHIELD

Figure 465CVB-QS

The Figure 465CVB-QS is designed to insulate the pipe/copper tubing on flat surfaces, clevis and band type hangers for thermal efficiency. It is comprised of a 180° calcium silicate insert, wrapped with an extended ASJ vapor barrier, inside a 180º galvanized steel shield. A High Density, 900 psi, calcium silicate insert, is included for 10" pipe and larger. Copper Tubing sizes 5/8" through 6" are available. Insulation thickness of 1/2" (to 6" pipe) through 4 inches.

This product is designed for Indoor use. An Outdoor use version is available as a Special Order.

Materials: Calcium Silicate, Carbon Steel, Non-reactive Vapor Barrier Stainless steel Shields are available as a Special Order.

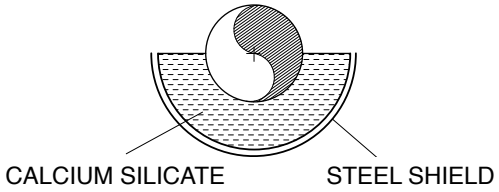
Operating Temperature Range: 20°F - 1200°F (-7°C - 648°C).

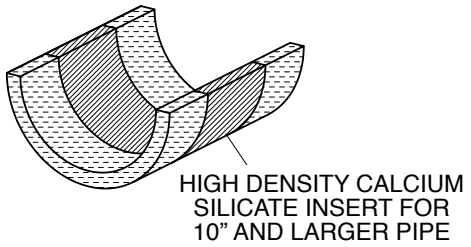
Compliance: ANSI/MSS SP-58 (Type 40)

Finish: Pre-Galvanized

Ordering: Please see the Pipe/Copper Tubing Sizing Chart for our Pre-Insulated products in the Technical Section of this Catalog.

Specify: Pipe/copper tubing Size, Insulation Thickness, and Figure Number.





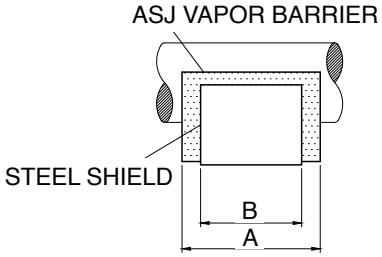


FIGURE 465CVB-QS SPEED SHIELD

PIPE SIZE	COPPER TUBING OD	MAXIMUM ALLOWABLE LOAD		INSULATION LENGTH A	MAXIMUM PIPE SPAN (FEET / METERS)	SHIELD LENGTH B	SHIELD GAGE
		FLAT SURFACE	CLEVIS HANGER				
1/2	5/8"	45	80	6	7	4	22
15	15	200	355	150	2.13	100	
1	1 1/8"	60	130	6	7	4	22
25	25	266	578	150	2.13	100	
11/2	1 5/8"	90	185	6	9	4	22
40	40	400	822	150	2.74	100	
2	2 1/8"	130	230	6	10	4	20
50	50	578	1023	150	3.05	100	
2 1/2	2 5/8	170	260	6	10	4	20
65	65	756	1156	150	3.05	100	
3	3 1/8"	200	325	6	10	4	20
80	80	889	1445	150	3.05	100	
4	4- /8"	290	390	6	10	4	20
100	100	1290	1734	150	3.05	100	
6	6 1/8"	500	620	9	10	6	16
150	150	2224	2757	228	3.05	150	
8	-	750	800	9	10	6	16
200		3336	3558	228	3.05	150	
10	-	1000	1450	9	10	6	14
250		4448	6450	300	3.05	150	
12	-	1200	1800	9	10	6	14
300		5337	8006	300	3.05	150	
14	-	1400	2000	12	10	10	12
350		6227	8896	300	3.05	250	
16	-	CALL C&P SALES	2600	12	10	10	12
400			11565	300	3.05	250	
18	-		3300	12	10	10	12
450			14679	300	3.05	250	
20	-		4000	12	10	10	12
500			17792	300	3.05	250	
24	-		6200	12	10	10	12
600			27578	300	3.05	250	

PRE-INSULATED MANUFACTURERS PRODUCT CONVERSION TABLE

C&P FIGURE NUMBER	VALUE ENGINEERING	NATIONAL PIPE HANGER	PIPE SHIELDS	RILCO
265CVB-CS 465CVB-MS	Chill-Shield MaxSpan	Chill-Shield Maxspan	(no equal) A9000	CF-2000 HC-9000
465CVB-MSRH 465CVB-PSNT	MaxSpan R.H. (no equal)	Maxspan R.H. Pro-Shield N.T.	A8400 (no equal)	HR--8400 (no equal)
465CVB-PS360 465CVB-QS	Pro-Shield Quik-Shield	Pro-Shield Quik-Shield	A3000 (no equal)	HC / HF-3000 (no equal)

Note: This is a general guide for the User. It does not provide a direct equivalency.
Actual dimensions and Loads may vary by manufacturer
The User is responsible to verify the product for their application.

PIPE SLEEVE

Figure 450

Used as a form to provide a penetration in concrete walls, ceilings or floors for piping and other services. It is installed by nailing to the structure prior to the concrete pour. Special Order. Sleeve Covers are available upon request.

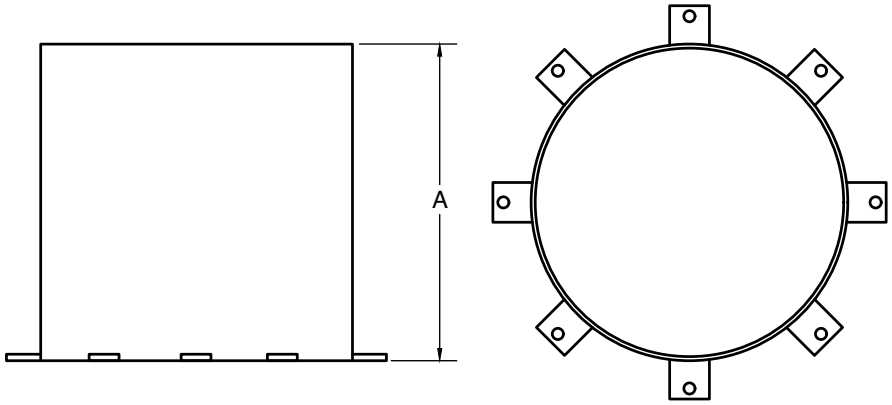
Other types of Pipe Sleeves are available e.g. Figure 453 Waterproof and Figure 454 Interlocking. Custom diameters and lengths are available upon request.

Wall Penetration Seals are available, upon request.

Material: Carbon Steel, 24 gauge. Thicker gauges are on request.

Finish: Pre-Galvanized

Ordering: Specify inside sleeve diameter, length "A" and figure number.



WATERPROOF PIPE SLEEVE

Figure 453

Used as a penetration in concrete walls, ceilings or floors for piping and other services. It is fabricated with a plate welded mid-point of the length to provide protection against moisture penetrating the wall. Special Order. Sleeve Covers are available upon request.

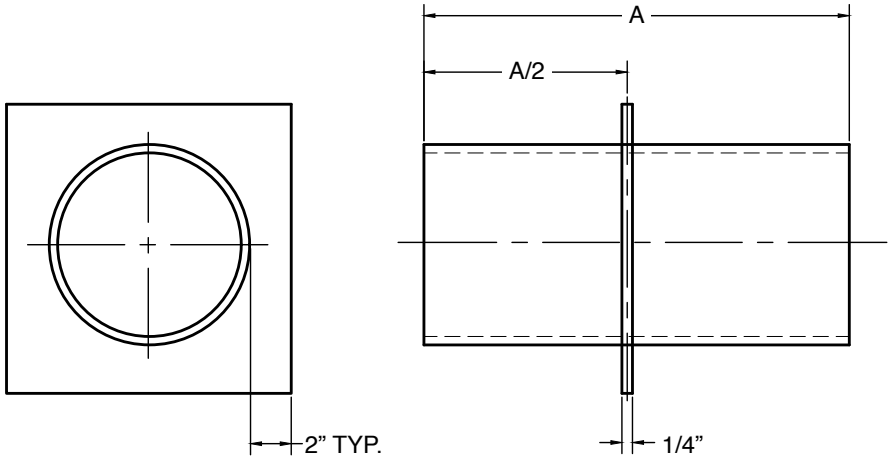
Other types of Pipe Sleeves are available e.g. Figure 450 Pipe Sleeve and Figure 454 Interlocking. Custom diameters and lengths are available upon request.

Wall Penetration Seals are available, upon request.

Material: Carbon Steel Schedule 40 pipe up to 12" NPS, Standard Wall pipe up to 20" NPS and rolled plate for larger sizes.

Finish: Plain, Painted, Hot-Dip Galvanized

Ordering: Specify inside sleeve diameter, length"A", figure number, and finish.



DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

SPRING HANGER

Figure SH

The Figure SH is a simple spring support, designed to provide the most economical means of supporting small to medium pipe loads. The unit, also, provides vibration isolation to the structure. As an option, the spring coil can be pre-compressed to the customers Load value, for ease of installation. Units are color coded for easy identification.

Units of similar design, for larger loads and longer travels, are available. Please call.

Material: Carbon Steel, Neoprene

Maximum Temperature: 212º F (100º C)

Finish: Pre-Galvanized, Painted, Hot-Dip Galvanized
All spring coils are epoxy powder coated.

Compliance: ANSI/MSS SP-58

Ordering: Specify size, figure number, and finish.
For any other vibration isolation needs, please see our "Novia" product Catalog.

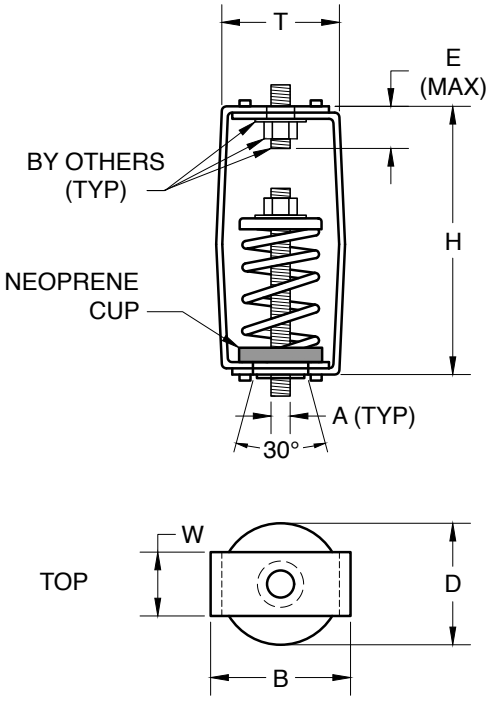


FIGURE SH - SPRING HANGER

SPRING SIZE	MAX LOAD	RATED DEFLECTION	SPRING RATE (LBS./IN.)	COLOR CODE	MAX ROD DIA. TR	COIL FREE HEIGHT	RP	B	D	H	T	W	WEIGHT EA
A-29	29	1.16	25	ORANGE	1/2	2 1/2	1 1/16	2 1/2	N/A	5 1/8	2 1/2	2	1.5
A-59	59	1.18	50	RED									
A-75	75	1.00	75	BLUE									
A-103	103	1.03	100	GREEN									
A-136	136	1.01	135	BLACK									
A-200	200	1.00	200	GRAY									
B-261	261	1.04	250	ORANGE	3/4	3 3/8	1 3/8	3 7/8	3 1/4	7 1/8	2 7/16	2	2.5
B-371	371	1.24	300	RED									
B-640	640	1.28	500	BLUE									
B-731	731	1.04	700	BLACK									
B-908	908	1.01	900	GRAY									2.8
C-1061	1061	1.06	1000	ORANGE	1	4 3/8	2	5 1/2	4 3/4	9 3/4	4 3/8	2 1/2	8.3
C-1268	1268	1.01	1250	RED									
C-1608	1608	1.07	1500	BLUE									
C-1811	1811	1.03	1750	GREEN									9.0
C-2000	2000	1.00	2000	BLACK									
C-2450	2450	1.00	2450	GRAY									

Notes: Type A housing is shown. Type B and C housings differ slightly in design.
Maximum Deflection allows for 30% additional Travel to solid spring height.
Springs have a 50% overload capacity from Maximum Load

DIMENSIONS: Inches • Millimeters | **TEMPERATURE:** Fahrenheit • Celsius | **LOADS:** Pounds • Newtons | **WEIGHT:** Pounds • Kilograms

CUSHION SPRING ASSEMBLY

Figure 478

Designed to provide an economical method to support piping with vertical movement, as well as absorbing vibration, normally found in piping systems.

It is comprised of two spring coils and four steel cups, the Cushion Spring Assembly is usually used in conjunction with our Figure 142 Two Rod Roll Hanger. The drop rods; and hex nuts must be ordered separately. The Figure 478 can also be used for insulated piping; provided the correct Figure 142 saddle size has been provided.

Material: Carbon Steel

Maximum Temperature: 400º F (204º C) at the contact point to the Pipe Roll

Finish: Cups-Plain, Painted, Hot-Dip Galvanized.
Coils-Plain, Painted, Neoprene Coated when used with Hot-Dip Galvanized Cups

Compliance: Federal Specification A-A-1192A (Type 49), ANSI/MSS SP-58 (Type 49)

Ordering: Specify drop rod diameter, spring number, figure number, and finish.
For Metric applications specify Figure M478.

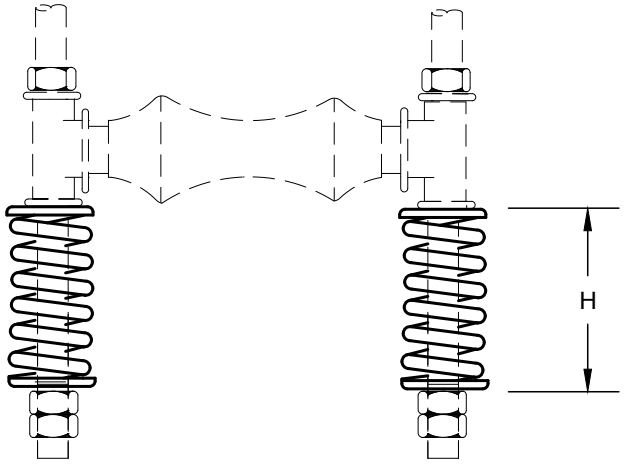


FIGURE 478 - CUSHION SPRING ASSEMBLY

SPRING NUMBER	TOTAL MAX LOAD*	MAX DEFLECTION	TOTAL COMBINED SPRING RATE	NORMAL ROD SIZE	MAX ROD SIZE	H	WEIGHT EA
1	535	1 1/4	428 lbs./in.	3/8	3/4	6 1/4	4.5
1	2380	32	74 N/mm	M10	M20	159	2.0
2	1500	1 1/4	1200 lbs./in.	1/2	3/4	5 5/8	14
2	6673	32	208 N/mm	M12	M20	143	6.4
3	3750	1 1/4	3000 lbs./in.	7/8	1 1/2	8 7/8	22
3	16681	32	417 N/mm	M20	M36	225	10.0

* At Maximum Deflection

REFERENCE DATA – METRIC CONVERSION CHART

	TO CONVERT FROM	TO	MULTIPLY BY
Angle	degree	radian (rad)	1.745329×10^{-2}
	radian (rad)	degree	$5.729578 \times 10^{+1}$
Area	foot^2	square meter (m^2)	9.290304×10^{-2}
	inch^2	square meter (m^2)	6.451600×10^{-4}
	circular mil	square meter (m^2)	$5{,}067075 \times 10^{-10}$
	square centimeter (cm^2)	square inch (in^2)	1.550003×10^{-1}
	square meter (m^2)	foot^2	$1.076391 \times 10^{+1}$
	square meter (m^2)	inch^2	$1.550003 \times 10^{+3}$
	square meter (m^2)	circular mil	$1.973525 \times 10^{+9}$
Bending Moment of Torque	lbf•ft	newton meter (N•m)	1.355818
	lbf•in	newton meter (N•m)	1.129848×10^{-1}
	N•m	lbf•ft	7.375621×10^{-1}
	N•m	lbf•in	8.850748
Force	pounds-force (lbf)	newtons (N)	4.448222
Length	foot (ft)	meter (m)	3.048000×10^{-1}
	inch (in)	meter (m)	2.540000×10^{-2}
	mil	meter (m)	2.540000×10^{-5}
	inch (in)	micrometer (μm)	$2.540000 \times 10^{+4}$
	meter (m)	foot (ft)	3.280840
	meter (m)	inch (in)	$3.937008 \times 10^{+1}$
	meter (m)	mil	$3.937008 \times 10^{+4}$
	micrometer (μm)	Inch (in)	3.937008×10^{-5}
Mass	ounce (avoirdupois)	kilogram (kg)	2.834952×10^{-2}
	pound (avoirdupois)	kilogram (kg)	4.535924×10^{-1}
	ton (short, 2000 lb)	kilogram (kg)	$9.071847 \times 10^{+2}$
	ton (long, 2240 lb)	kilogram (kg)	$1.016047 \times 10^{+3}$
	kilogram (kg)	ounce (avoirdupois)	$3.527396 \times 10^{+1}$
	kilogram (kg)	pound (avoirdupois)	2.204622
	kilogram (kg)	ton (short, 2000 lb)	1.102311×10^{-3}
	kilogram (kg)	ton (long, 2240 lb)	9.842064×10^{-4}
Mass Per Unit Length	lb/ft	kilogram per meter (kg/m)	1.488164
	lb/in	kilogram per meter (kg/m)	$1.785797 \times 10^{+1}$
	kg/m	lb/ft	6.719689×10^{-1}
	kg/m	lb/in	5.599741×10^{-2}
Mass Per Unit Volume (Density)	lb/ft^3	kilogram per cubic meter (kg/m^3)	1.601846×10^{-1}
	lb/in^3	kilogram per cubic meter (kg/m^3)	$2.767990 \times 10^{+4}$
	kg/m^3	lb/ft^3	6.242797×10^{-2}
	kg/m^3	lb/in^3	$3\ 612730 \times 10^{-5}$
	lbs/ft^3	lbs/in^3	$1.728000 \times 10^{+3}$
Mass Per Area Unit	lb/ft^2	kilogram per square meter (kg/m^2)	4882428
	kg/m^2	pound per square foot (lb/ft^2)	2.048161×10^{-1}
Pressure or Stress	lbf/in^2 (psi)	pascal (Pa)	$6.894757 \times 10^{+3}$
	kip/in^2 (ksi)	pascal (Pa)	$6\text{-}894757 \times 10^{+6}$
	lbf/in^2 (psi)	megapascals (MPa)	6.894757×10^{-3}
	pascal (Pa)	pound force per sq. inch (psi)	1.450377×10^{-4}
	pascal (Pa)	kip per sq. inch (ksi)	1.450377×10^{-7}
	megapascals (MPa)	lbf/in^2 (psi)	$1\text{-}450377 \times 10^{+2}$
Section Properties	section modulus S (in^3)	S (m^3)	1.638706×10^{-5}
	section modulus S (M^3)	S (in^3)	$6.102374 \times 10^{+4}$
	moment of inertia I (in^4)	1 (m^4)	4.162314×10^{-7}
	moment of inertia I (M^4)	I (in^4)	$2.402510 \times 10^{+6}$
	modulus of elasticity E (psi)	E (Pa)	$6.894757 \times 10^{+3}$
	modulus of elasticity E (Pa)	E (psi)	1.450377×10^{-4}
Temperature	degree Fahrenheit	degree Celsius	$t°^{C} = (t°^{F} - 32) / 1.8$
	degree Celsius	degree Fahrenheit	$t°^{F} = 1.8\ t°^{C} + 32$
Volume	foot^3	cubic meter (m^3)	2.831685×10^{-2}
	inch^3	cubic meter (m^3)	1.638706×10^{-2}
	cubic centimeter (cm^3)	cubic inch (in^3)	6.102374×10^{-2}
	cubic meter (m^3)	foot^3	$3.531466 \times 10^{+1}$
	cubic meter (m^3)	inch^3	$6.102376 \times 10^{+4}$
	gallon (U.S. liquid)	cubic meter (m^3)	3.785412×10^{-3}

ASME ABBREVIATIONS

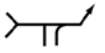
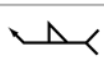
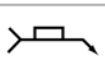
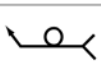
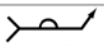
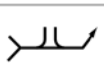
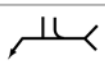
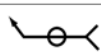
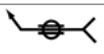
AISC = American Institute of Steel Construction
AISI = American Iron & Steel Institute
ANSI = American National Standards Institute
ASME = American Society of Mechanical Engneers
ASTM = American Society for Testing & Materials
AWWA = American Water Works Association
CPVC = Chlorinated Poly Vinyl Chloride
Dia. = Diameter
Ft. = Feet
Ga = Gauge
I.D. = Inside Diameter
In. = Inch
Lbs. = Pounds
Max. = Maximum
Min. = Minimum
MSS = Manufacturers' Standardization Society
NFPA = National Fire Protection Association
O.D. = Outside Diameter
Oz. = Ounces
psi = Pounds Per Square Inch
PVC = Poly Vinyl Chloride
UNC = Unified Course Threads
UNCR = Unified Course Threads (Rounded Root)

METRIC SYMBOLS

cm = centimeter
kg = kilogram
kN = kilonewton
m = meter
μm = micrometer
mm = millimeter
MPa = megapascal
N = newton
Nm = newton-meter
Pa = pascal

WELDING

BASIC WELDING SYMBOLS AND THEIR LOCATION SIGNIFICANCE

Location Significance	Fillet	Plug or Slot	Spot or Projection	Seam	Back or backing	Surfacing	Flange Edge	Flange Corner
Arrow side					(groove weld symbol) 			
Other side					 (groove weld symbol)	not used		
Both sides		not used	not used	not used	not used	not used	not used	not used
No arrow side or other side significance	not used	not used			not used	not used	not used	not used

SUPPLEMENTARY SYMBOLS USED WITH WELDING SYMBOLS

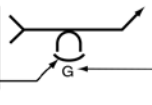
Flush Contour Symbol

Flush contour symbol indicates face of weld to be made flush. When used without a finish symbol, indicates weld to be welded flush without subsequent finishing.

Finish symbol (user's standard) indicates method of obtaining specified contour but not degree of finish.

Convex Contour Symbol

Convex countour symbol indicates face of weld to be finished to convex contour.

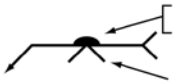


Finish symbol (user's standard) indicates method of obtaining specified contour but not degree of finish.

Weld-All-Around Symbol

Weld all-around symbol indicates that weld extends completely around the joint

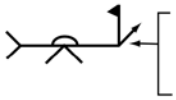
Melt-Thru Symbol



Melt-thru symbol is not dimensioned (except height)

Any applicable weld symbol

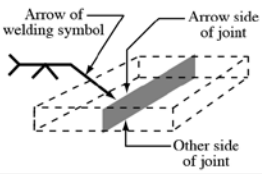
Field Weld Symbol



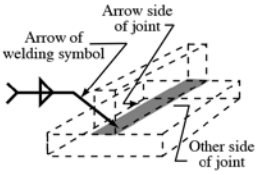
Field weld symbol indicates that weld is to be made at a place other than that of initial construction

BASIC JOINTS – Identification of arrow side and other side of joint

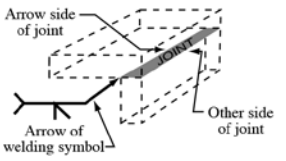
Butt Joint

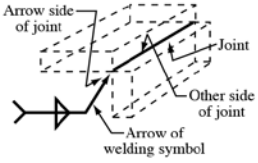


T-Joint

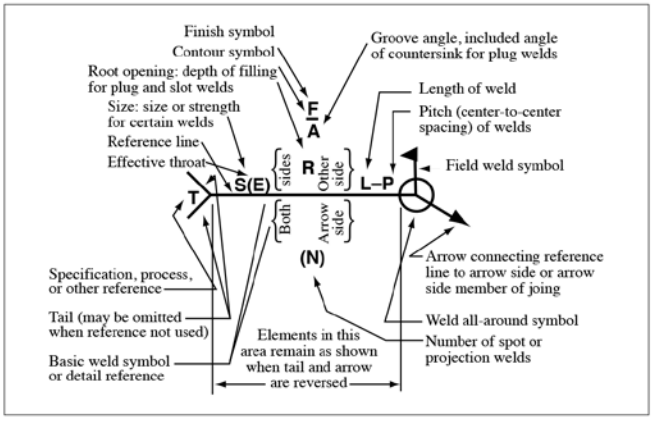


Corner Joint



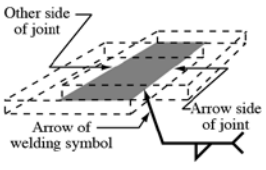


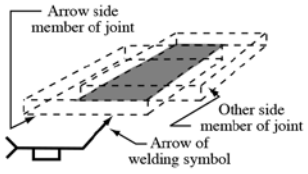
LOCATION OF ELEMENTS OF A WELDING SYMBOL



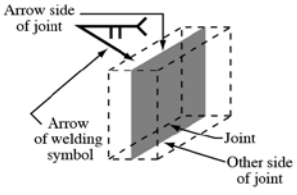
ARROW SIDE AND OTHER SIDE MEMBER OF JOINT

Lap Joint





Edge Joint



DESIGNATION OF WELDING AND ALLIED PROCESSES BY LETTERS

AAC ... air carbon arc cutting	B ... brazing	CW ... cold welding	ESW ... electroslag welding	FOC ... chemical flux cutting
AAW ... air acetylene welding	BB ... block brazing	DB ... dip brazing	EXW ... explosion welding	FOW ... forge welding
ABD ... adhesive bonding	BMAW ... bare metal arc welding	DFB ... diffusion brazing	FB ... furnace brazing	FRW ... friction welding
AB ... arc brazing	CAC ... carbon arc cutting	DFW ... diffusion welding	FCAW ... flux cored arc welding	FS ... furnace soldering
AC ... arc cutting	CAW ... carbon arc welding	DS ... dip soldering	FCAW-EG ... flux cored arc welding–electrogas	FW ... flash welding
AHW ... atomic hydrogen welding	CAW-G ... gas carbon arc welding	EASP ... electric arc spraying	FLB ... flow brazing	GMAC ... gas metal arc cutting
AOC ... oxygen arc cutting	CAW-S ... shielded carbon arc welding	EBC ... electron beam cutting	FLOW ... flow welding	GMAW ... gas metal arc welding
AW ... arc welding	CAW-T ... twin carbon arc welding	EBW ... electron beam welding	FLSP ... flame spraying	GMAW-EG ... gas metal arc welding- electrogas

PIPE WEIGHTS FOR STANDARD AND EXTRA STRONG PIPE

PIPE DATA					PIPE WEIGHT			
NOMINAL PIPE SIZE	PIPE SCHEDULE	OUTSIDE DIA.		WALL TH'K	W/ GAS, AIR, STEAM		W/ WATER	
		in	mm	in	lbs/ft	N/m	lbs/ft	N/m
1/2"	Std / 40	0.840	22	0.109	0.9	12	1.0	14
(15mm)	XS / 80			0.147	1.1	16	1.2	17
3/4"	Std / 40	1.050	28	0.113	1.1	17	1.4	20
(20mm)	XS / 80			0.154	1.5	22	1.7	24
1"	Std / 40	1.315	34	0.133	1.7	25	2.1	30
(25mm)	XS / 80			0.179	2.2	32	2.5	36
1 1/4"	Std / 40	1.660	42	0.140	2.3	33	2.9	43
(32mm)	XS / 80			0.191	3.0	44	3.6	52
1 1/2"	Std / 40	1.900	48	0.145	2.7	40	3.6	53
(40mm)	XS / 80			0.200	3.6	53	4.4	64
2"	Std / 40	2.375	60	0.154	3.7	53	5.1	75
(50mm)	XS / 80			0.218	5.0	73	6.3	92
2 1/2"	Std / 40	2.875	75	0.203	5.8	85	7.9	115
(65mm)	XS / 80			0.276	7.7	112	9.5	139
3"	Std / 40	3.500	89	0.216	7.6	111	11	157
(80mm)	XS / 80			0.300	10	150	13	191
3 1/2"	Std / 40	4.000	102	0.226	9.1	133	13	195
(90mm)	XS / 80			0.318	13	182	16	239
4"	Std / 40	4.500	114	0.237	11	157	16	238
(100mm)	XS / 80			0.337	15	219	20	291
5"	Std / 40	5.563	141	0.258	15	213	23	340
(125mm)	XS / 80			0.375	21	303	29	418
6"	Std / 40	6.625	168	0.280	19	277	31	460
(150mm)	XS / 80			0.432	29	417	40	582
8"	Std / 40	8.625	219	0.322	29	417	50	733
(200mm)	XS / 80			0.500	43	633	63	922
10"	Std / 40	10.75	273	0.365	40	591	75	1090
(250mm)	XS / 60			0.500	55	799	87	1271
12"	Std	12.75	235	0.375	50	723	99	1439
(300mm)	XS			0.500	65	955	112	1641
14"	Std / 30	14.00	355.6	0.375	55	796	114	1669
(350mm)	XS			0.500	72	1052	130	1892
16"	Std / 30	16.00	406.4	0.375	63	913	142	2069
(400mm)	XS / 40			0.500	83	1208	159	2326
18"	Std	18.00	457.2	0.375	71	1030	172	2509
(450mm)	XS			0.500	93	1364	192	2800
20"	Std / 20	20.00	508.0	0.375	79	1147	205	2988
(500mm)	XS / 30			0.500	104	1520	227	3313
24"	Std / 20	24.00	609.6	0.375	95	1381	279	4067
(600mm)	XS			0.500	125	1831	306	4460
30"	Std	30.00	762.0	0.375	119	1731	410	5983
(750mm)	XS / 20			0.500	158	2299	444	6478
36"	Std	36.00	914.4	0.375	143	2082	566	8256
(900mm)	XS / 20			0.500	190	2766	607	8853
42"	Std	42.00	1066.8	0.375	167	2433	746	10888
(1050mm)	XS / 20			0.500	222	3234	794	11587

Pipe Weights are based on Carbon Steel pipe

AMERICAN WATER WORKS ASSOCIATION - DUCTILE IRON PIPE DATA

BASED UPON AWWA C108-70 CLASS 53

NOMINAL PIPE SIZE		O.D. SIZE		WALL THICKNESS		WEIGHT OF PIPE		WEIGHT OF PIPE FILLED WITH WATER	
in.	mm	in.	mm	in.	mm	Lbs./Ft.	Kg/m	Lbs./Ft.	Kg/m
3	80	3.96	100.6	0.31	7.9	11.2	16.7	15.0	22.3
4	100	4.80	121.9	0.32	8.1	14.2	21.1	20.1	29.9
6	150	6.90	175.3	0.34	8.6	22.0	32.7	35.1	52.2
8	200	9.05	229.9	0.36	9.1	31.0	46.1	54.0	80.4
10	250	11.1	281.9	0.38	9.7	40.4	60.1	76.8	114.3
12	300	13.2	335.3	0.40	10.2	50.7	75.5	103.0	153.3
14	350	15.3	388.6	0.42	10.7	62.4	92.9	133.5	198.7
16	400	17.4	442.0	0.43	10.9	72.8	108.3	165.9	246.9
18	450	19.5	495.3	0.44	11.2	83.6	124.4	201.5	299.9
20	500	21.6	548.6	0.45	11.4	95.2	141.7	241.0	358.7
24	600	25.8	655.3	0.47	11.9	119.2	177.4	329.4	490.2
30	750	32.0	812.8	0.51	13.0	161.3	240.0	487.8	725.9
36	900	38.3	972.8	0.58	14.7	219.5	326.7	688.8	1025.1
42	1050	44.5	1130.3	0.65	16.5	285.2	424.4	920.1	1369.3
48	1200	50.8	1290.3	0.72	18.3	360.3	536.2	1189.2	1769.8
54	1350	57.1	1450.3	0.81	20.6	455.0	677.1	1502.2	2235.6

Note: Add flange weight for flanged ductile iron pipe

CAST IRON PIPE DATA

MECHANICAL JOINT PIPE CLASS 150

NOMINAL PIPE SIZE		O.D. SIZE		WALL THICKNESS		WEIGHT OF PIPE		WEIGHT OF PIPE FILLED WITH WATER	
in.	mm	in.	mm	in.	mm	Lbs./Ft.	Kg/m	Lbs./Ft.	Kg/m
3	100	3.96	100.6	0.32	8.1	12.9	19.2	16.6	24.7
4	150	4.80	121.9	0.35	8.9	16.4	24.4	22.1	32.9
6	200	6.90	175.3	0.38	9.7	25.7	38.2	38.5	57.3
8	250	9.05	229.9	0.41	10.4	36.7	54.6	59.8	89.0
10	300	11.1	281.9	0.44	11.2	48.7	72.5	84.2	125.3
12	350	13.2	335.3	0.48	12.2	62.9	93.6	113.9	169.5
14	400	15.3	388.6	0.51	13.0	78.8	117.3	148.1	220.4
16	450	17.4	442.0	0.54	13.7	95.0	141.4	185.3	275.8
18	500	19.5	495.3	0.58	14.7	114.7	170.7	228.7	340.4
20	600	21.6	548.6	0.62	15.7	135.9	202.2	277.4	412.8
24	700	25.8	655.3	0.73	18.5	190.4	283.4	391.4	582.5
30	800	32.0	812.8	0.85	21.6	277.3	412.7	589.3	877.0
36	900	38.3	972.8	0.94	23.9	368.9	549.0	817.9	1217.2
42	1000	44.5	1130.3	1.05	26.7	479.1	713.0	1091.1	1623.8
48	1200	50.8	1290.3	1.14	29.0	595.2	885.8	1398.2	2080.8

Note: Add flange weight for flanged ductile iron pipe

NO-HUB CAST IRON PIPE DATA

BASED UPON CAST IRON SOIL PIPE INSTITUTE STANDARDS 301-72, TABLE 1

NOMINAL PIPE SIZE		O.D. SIZE		WALL THICKNESS		WEIGHT OF PIPE		WEIGHT OF PIPE FILLED WITH WATER	
in.	mm	in.	mm	in.	mm	Lbs./Ft.	Kg/m	Lbs./Ft.	Kg/m
1-1/2'	40	1.9	48.3	0.16	4.1	2.7	4.0	6.2	9.2
2"	50	2.35	59.7	0.16	4.1	3.6	5.4	8.6	12.8
3"	80	3.35	85.1	0.16	4.1	5.2	7.7	13.5	20.1
4"	100	4.38	111.3	0.19	4.8	7.4	11.0	20.2	30.1
5"	125	5.30	134.6	0.19	4.8	9.6	14.3	27.5	40.9
6"	150	6.30	160.0	0.19	4.8	11.0	16.4	34.0	50.6
8"	200	8.38	212.9	0.23	5.8	18.0	26.8	57.5	85.6

DECIMALS OF AN INCH & EQUIVALENT MILLIMETERS

FRACTION	DECIMAL	MM	FRACTION	DECIMAL	MM	FRACTION	DECIMAL	MM	FRACTION	DECIMAL	MM
1/32	0.031	0.794	9/32	0.281	7.144	17/32	0.531	13.494	25/32	0.781	19.844
1/16	0.063	1.588	5/16	0.313	7.938	9/16	0.563	14.288	13/16	0.813	20.638
3/32	0.094	2.381	11/32	0.344	8.731	19/32	0.594	15.081	27/32	0.844	21.431
1/8	0.125	3.175	3/8	0.375	9.525	5/8	0.625	15.875	7/8	0.875	22.225
5/32	0.156	3.969	13/32	0.406	10.319	21/32	0.656	16.669	29/32	0.906	23.019
3/16	0.188	4.763	7/16	0.438	11.113	11/16	0.688	17.463	15/16	0.938	23.813
7/32	0.219	5.556	15/32	0.469	11.906	23/32	0.719	18.256	31/32	0.969	24.606
1/4	0.250	6.350	1/2	0.500	12.700	3/4	0.750	19.050	1	1.000	25.400

ELECTRICAL CONDUIT SIZES

NORMAL CONDUIT SIZE	ELECTRICAL METALLIC CONDUIT O.D.	INTERMEDIATE METALLIC CONDUIT O.D.	STEEL RIGID CONDUIT O.D.
1/2	0.706	0.815	0.840
3/4	0.922	1.029	1.050
1	1.163	1.290	1.315
1 1/4	1.510	1.638	1.660
1 1/2	1.740	1.863	1.900
2	2.197	2.360	2.375
2 1/2	2.875	2.857	2.875
3	3.500	3.476	3.500
3 1/2	4.000	3.971	4.000
4	4.500	4.466	4.500
5			5.563
6			6.625

MAXIMUM RECOMMENDED TORQUE VALUES

BOLT / THREAD SIZE		MAXIMUM TORQUE [1]	
		FIGURE 126 & 89 [2] FOOT-POUNDS	C-CLAMP SET SCREW MSS TYPE 19 & 23 INCH-POUNDS [3]
1/4	M6	6	40
3/8	M10	21	60
1/2	M12	46	125
5/8	M16	100	250
3/4	M20	150	400
7/8	M22	190	665
1	M24	280	----------

Bolts are ASTM A307, Nuts are ASTM A563 • [1] Do NOT over tighten • [2] Not intended for use on PVC or CPVC pipe. • [3] per MSS SP-58

COPPER TUBING DATA - TYPE L

NOMINAL TUBING SIZE		O.D. SIZE		WALL THICKNESS		WEIGHT OF TUBING		WEIGHT OF TUBING FILLED WITH WATER	
in.	mm	in.	mm	in.	mm	Lbs./Ft.	Kg/m	Lbs./Ft.	Kg/m
1/4	8	0.375	9.5	0.030	0.8	0.13	0.19	0.15	0.22
3/8	10	0.500	12.7	0.035	0.9	0.20	0.29	0.26	0.39
1/2	15	0.625	15.9	0.040	1.0	0.29	0.42	0.38	0.57
5/8	18	0.750	19.1	0.042	1.1	0.36	0.54	0.51	0.76
3/4	20	0.875	22.2	0.045	1.1	0.46	0.68	0.66	0.98
1	25	1.125	28.6	0.050	1.3	0.66	0.97	1.01	1.50
1 1/4	32	1.375	34.9	0.055	1.4	0.88	1.32	1.42	2.11
1 1/2	40	1.625	41.3	0.060	1.5	1.14	1.70	1.91	2.84
2	50	2.125	54.0	0.070	1.8	1.75	2.60	3.09	4.60
2 1/2	65	2.625	66.7	0.080	2.0	2.48	3.69	4.54	6.76
3	80	3.125	79.4	0.090	2.3	3.33	4.96	6.28	9.35
3 1/2	90	3.625	92.1	0.100	2.5	4.29	6.38	8.28	12.32
4	100	4.125	104.8	0.110	2.8	5.38	8.01	10.57	15.73
5	125	5.125	130.2	0.125	3.2	7.61	11.3	15.69	23.35
6	150	6.125	155.6	0.140	3.6	10.20	15.2	21.81	32.46
8	200	8.125	206.4	0.200	5.1	19.26	28.7	39.49	58.77
10	250	10.125	257.2	0.250	6.4	20.10	29.9	61.69	91.81
12	300	12.125	308.0	0.280	7.1	40.40	60.1	85.83	127.73

COPPER TUBING DATA - TYPE K

NOMINAL TUBING SIZE		O.D. SIZE		WALL THICKNESS		WEIGHT OF TUBING		WEIGHT OF TUBING FILLED WITH WATER	
in.	mm	in.	mm	in.	mm	Lbs./Ft.	Kg/m	Lbs./Ft.	Kg/m
1/4	8	0.375	9.5	0.035	0.9	0.14	0.21	0.17	0.25
3/8	10	0.500	12.7	0.049	1.2	0.27	0.40	0.32	0.48
1/2	15	0.625	15.9	0.049	1.2	0.34	0.51	0.43	0.64
5/8	18	0.750	19.1	0.049	1.2	0.42	0.63	0.56	0.83
3/4	20	0.875	22.2	0.065	1.7	0.64	0.95	0.83	1.24
1	25	1.125	28.6	0.065	1.7	0.84	1.25	1.18	1.76
1 1/4	32	1.375	34.9	0.065	1.7	1.04	1.55	1.57	2.34
1 1/2	40	1.625	41.3	0.072	1.8	1.36	2.02	2.10	3.13
2	50	2.125	54.0	0.083	2.1	2.06	3.07	3.37	5.02
2 1/2	65	2.625	66.7	0.095	2.4	2.92	4.35	4.92	7.32
3	80	3.125	79.4	0.109	2.8	4.00	5.95	6.96	10.36
3 1/2	90	3.625	92.1	0.120	3.0	5.12	7.62	9.02	13.42
4	100	4.125	104.8	0.134	3.4	6.51	9.69	11.57	17.22
5	125	5.125	130.2	0.160	4.1	9.67	14.4	17.67	26.30
6	150	6.125	155.6	0.192	4.9	13.87	20.6	25.07	37.31
8	200	8.125	206.4	0.271	6.9	25.90	38.5	45.40	67.56
10	250	10.125	257.2	0.338	8.6	40.30	60.0	70.72	105.25
12	300	12.125	308.0	0.405	10.3	57.80	86.0	101.48	151.02

PIPE WEIGHTS FOR PVC and CPVC PIPE - TYPES I & II

PIPE DATA					PVC PIPE WEIGHT				CPVC PIPE WEIGHT			
NOMINAL PIPE SIZE	PIPE SCHEDULE	OUTSIDE DIA.		WALL TH'K	W/ GAS, AIR		W/ WATER		W/ GAS, AIR		W/ WATER	
		in	mm	in	lbs/ft	N/m	lbs/ft	N/m	lbs/ft	N/m	lbs/ft	N/m
1/8"	40	0.405	10	0.068	0.05	0.7	0.07	1.0				
(3mm)	80			0.095	0.06	0.9	0.08	1.1				
1/4"	40	0.54	14	0.088	0.08	1.2	0.13	1.9	0.09	1.3	0.13	2.0
(6mm)	80			0.119	0.10	1.5	0.13	2.0	0.12	1.7	0.14	2.1
3/8"	40	0.675	17	0.091	0.11	1.6	0.19	2.8	0.12	1.8	0.20	3.0
(10mm)	80			0.126	0.14	2.1	0.20	3.0	0.16	2.3	0.22	3.2
1/2"	40	0.840	22	0.109	0.17	2.4	0.30	4.4	0.19	2.7	0.31	4.6
(15mm)	80			0.147	0.21	3.1	0.31	4.6	0.24	3.5	0.33	4.8
	120			0.170	0.24	3.4	0.32	4.7				
3/4"	40	1.050	28	0.113	0.22	3.2	0.45	6.6	0.25	3.6	0.47	6.9
(20mm)	80			0.154	0.29	4.2	0.47	6.9	0.32	4.7	0.50	7.3
	120			0.170	0.31	4.5	0.48	7.0				
1"	40	1.315	34	0.133	0.33	4.8	0.70	10	0.37	5.4	0.73	11
(25mm)	80			0.179	0.42	6.2	0.74	11	0.47	6.9	0.77	11
	120			0.200	0.46	6.8	0.75	11				
1 1/4"	40	1.660	42	0.140	0.44	6.5	1.1	16	0.50	7.2	1.1	16
(32mm)	80			0.191	0.58	8.5	1.1	17	0.65	9.5	1.2	17
	120			0.215	0.65	9.5	1.2	17				
1 1/2"	40	1.900	48	0.145	0.53	7.8	1.4	21	0.60	8.7	1.5	21
(40mm)	80			0.200	0.71	10	1.5	22	0.79	12	1.5	22
	120			0.225	0.79	11	1.5	22				
2"	40	2.375	60	0.154	0.72	10	2.2	32	0.80	12	2.2	33
(50mm)	80			0.218	0.98	14	2.3	33	1.1	16	2.3	34
	120			0.250	1.1	16	2.3	34				
2 1/2"	40	2.875	75	0.203	1.1	17	3.2	47	1.3	18	3.3	48
(65mm)	80			0.276	1.5	22	3.3	49	1.7	24	3.5	50
	120			0.300	1.6	24	3.4	49				
3"	40	3.500	89	0.216	1.5	22	4.7	68	1.7	24	4.8	70
(80mm)	80			0.300	2.0	29	4.9	71	2.2	33	5.0	73
	120			0.350	2.3	34	5.0	73				
3 1/2"	40	4.000	102	0.226	1.8	26	6.1	89	2.0	29	6.2	91
(90mm)	80			0.318	2.5	36	6.3	92	2.7	40	6.5	95
4"	40	4.500	114	0.237	2.1	31	7.6	111	2.4	34	7.8	114
(100mm)	80			0.337	2.9	43	7.9	116	3.3	48	8.2	119
	120			0.437	3.7	54	8.2	120				
5"	40	5.563	141	0.258	2.9	42	12	168				
(125mm)	80			0.375	4.1	60	12	175				
6"	40	6.625	168	0.280	3.7	54	16	237	4.2	61	17	242
(150mm)	80			0.432	5.6	82	17	247	6.3	91	17	253
	120			0.562	7.1	104	17	254				
8"	40	8.625	219	0.322	5.6	82	27	398	6.3	91	28	405
(200mm)	80			0.500	8.5	124	28	413	9.5	139	29	423
10"	40	10.75	273	0.365	8.0	116	42	615	8.9	130	43	624
(250mm)	80			0.593	13	184	44	639	14	206	45	654
12"	40	12.75	235	0.406	11	153	59	862	12	171	60	874
(300mm)	80			0.687	17	254	61	897	19	283	63	917
14"	40	14.00	355.6	0.437	12	182	71	1038				
(350mm)	80			0.750	21	304	74	1081				
16"	40	16.00	406.4	0.500	16	238	93	1356				
(400mm)	80			0.843	27	391	97	1409				
18"	40	18.00	457.2	0.562	22	328	119	1743				
(450mm)	80			0.937	34	489	122	1781				
20"	40	20.00	508.0	0.593	27	388	147	2146				
(500mm)	80			1.031	42	618	152	2217				
24"	40	24.00	609.6	0.687	37	542	211	3086				
(600mm)	80			1.218	60	879	219	3189				

PVC and CPVC pipe weights are based on the "average I.D."

CALCULATION OF PIPING INSULATION WEIGHT

PIPE (EMPTY)
Weight (lbs/ft) = 10.68 x T x (D - T) x F

PIPE CONTENTS
Weight (lbs/ft) = 0.3405 x G x (D - 2T)^2

LEGEND
D = Outside Diameter (inches)
F = Material Weight Factor
G = Specific Gravity of Pipe Contents
Normally, 1.0 for Water, 0 for Air and Steam
L = Length (inches)
T = Pipe Wall, Plate or Bar Thickness (inches)
W = Width (inches)

PLATE AND BAR
Weight (lbs) = 0.2833 x T x W x L x F

ROUND ROD
Weight (lbs/ft) = 2.67 x D^2

MATERIAL WEIGHT FACTORS
Carbon, Chrome-Moly Steel.....1.00
Aluminum.....0.35
Brass.....1.12
Cast Iron.....0.91
Copper.....1.14
Ferritic Stainless Steel.....0.95
Austenitic Stainless Steel.....1.02
Wrought Iron.....0.98

CALCULATION OF PIPING INSULATION WEIGHT

The weight per foot of insulation is calculated by using the weight factor "X" from the Table, below, and multiplying it by the insulation density (lbs/cu-ft).

EXAMPLE: A 16" pipe with 3 1/2" of insulation is found to have a Weight Factor "X" of .1.49 (from the Table below). With an insulation density of 11 lbs/cu-ft. The calculation for insulation weight is 1.49 x 11 = 16.39 lbs / ft.

INSULATION WEIGHT FACTOR "X"

NOMINAL PIPE SIZE	NOMINAL INSULATION THICKNESS										
	1"	1 1/2'	2"	2 1/2"	3"	3 1/2"	4"	4	4 1/2"	5"	6"
1	0.057	0.10	0.16	0.23	0.31	0.40					
1 1/4	0.051	0.12	0.15	0.22	0.30	0.39					
1 1/2	0.07	0.11	0.21	0.29	0.38	0.48					
2	0.08	0.14	0.21	0.29	0.37	0.47	0.59				
2 1/2	0.09	0.19	0.27	0.36	0.46	0.58	0.70	0.83			
3	0.10	0.17	0.25	0.34	0.44	0.56	0.68	0.81			
3 1/2	0.15	0.23	0.31	0.41	0.54	0.66	0.78	-----	0.97		
4	0.13	0.21	0.30	0.39	0.51	0.63	0.77	0.96	1.10		
5	0.15	0.24	0.34	0.45	0.58	0.71	0.88	1.04	1.20		
6	0.17	0.27	0.38	0.51	0.64	0.83	0.97	1.13	1.34		
8		0.34	0.47	0.66	0.80	0.97	1.17	1.36	1.56	1.75	
10		0.43	0.59	0.75	0.93	1.12	1.32	1.54	1.76	1.99	
12		0.50	0.58	0.88	1.07	1.28	1.52	1.74	1.99	2.24	2.50
14		0.51	0.70	0.90	1.11	1.34	1.57	1.81	2.07	2.34	2.62
16		0.57	0.78	1.02	1.24	1.49	1.74	2.01	2.29	2.58	2.99
19		0.64	0.87	1.12	1.27	1.64	1.92	2.21	2.51	2.82	3.14
20		0.70	0.96	1.23	1.50	1.79	2.09	2.40	2.73	3.06	3.40
24		0.83	1.13	1.44	1.77	2.10	2.44	2.80	3.16	3.54	3.92

General Formula: For pipe sizes not shown in the Table above, use the following formula to determine the insulation weight.

Insulation Weight: (lb/ft) = 0.0218 x I x T x (T + D)

Where: I = Insulation density (lb/cu-ft)
T = Insulation thickness (inches)
D = Outside Diameter of pipe (inches)

MAXIMUM HORIZONTAL HANGER SPACING

PER ANSI / MSS SP-58

NOMINAL PIPE SIZE OR TUBE DIAMETER	STANDARD WEIGHT STEEL PIPE (FEET / METERS)		COPPER TUBING (FEET / METERS)	
	WATER	VAPOR	WATER	VAPOR
1/4	7	8	5	5
8	2.13	2.44	1.52	1.52
3/8	7	8	5	6
10	2.13	2.44	1.52	1.83
1/2	7	8	5	6
15	2.13	2.44	1.52	1.83
3/4	7	9	5	7
20	2.13	2.74	1.52	2.13
1	7	9	6	8
25	2.13	2.74	1.83	2.44
1 1/4	7	9	7	9
32	2.13	2.74	2.13	2.74
1 1/2	9	12	8	10
40	2.74	3.66	2.44	3.05
2	10	13	8	11
50	3.05	3.96	2.44	3.35
2 1/2	11	14	9	13
65	3.35	4.27	2.74	3.96
3	12	15	10	14
80	3.66	4.57	3.05	4.27
3 1/2	13	16	11	15
90	3.96	4.88	3.35	4.57
4	14	17	12	16
100	4.27	5.18	3.66	4.88
5	16	19	13	18
125	4.88	5.79	3.96	5.49
6	17	21	14	20
150	5.18	6.40	4.27	6.10
8	19	24	16	23
200	5.79	7.32	4.88	7.01
10	22	26	18	25
250	6.71	7.92	5.49	7.62
12	23	30	19	28
300	7.01	9.14	5.79	8.53
14	25	32		
350	7.62	9.75		
16	27	35		
400	8.23	10.67		
18	28	37		
450	8.53	11.28		
20	30	39		
500	9.14	11.89		
24	32	42		
600	9.75	12.80		
30	33	44		
750	10.06	13.41		

Note: Local Codes and specifications may require hanger spacing less than the values shown above.

LOAD CHART FOR THREADED ROD

MATERIALS: ASTM A36, A575 GR. 1020 OR A576 GR 1020

NOMINAL ROD DIAMETER	MAXIMUM SAFE ROD LOAD		WEIGHT PER FOOT	ROOT AREA IN^2
	650° F	750° F		
	349° C	399° C	METER	MM^2
1/4	240	210	0.167	0.027
M6	1068	934	0.248	0.017
3/8	610	540	0.360	0.068
M10	2714	2402	0.536	0.044
1/2	1130	1010	0.668	0.126
M12	5027	4493	0.994	0.081
5/8	1810	1610	1.040	0.202
M16	8052	7162	1.548	0.130
3/4	2710	2420	1.500	0.302
M20	12055	10765	2.232	0.195
7/8	3770	3360	2.040	0.419
M20	16770	14947	3.036	0.270
1	4960	4420	2.670	0.552
M24	22064	19662	3.973	0.356
1 1/4	8000	7140	3.380	0.889
M30	35587	31762	5.029	0.574
1 1/2	11630	10370	4.170	1.293
M36	51735	46130	6.205	0.834

GAUGE THICKNESS

GAUGE	MINIMUM	NOMINAL
3	0.215	0.239
3	5.461	6.071
7	0.167	0.179
7	4.242	4.547
11	0.108	0.12
11	2.743	3.048
12	0.093	0.105
12	2.362	2.667
13	0.08	0.09
13	2.032	2.286
14	0.066	0.075
14	1.676	1.905
16	0.053	0.06
16	1.346	1.524
18	0.042	0.048
18	1.067	1.219

HANGER SPACING FOR PVC AND CPVC PIPING

		PVC										CPVC											
PIPE		60 F		80 F		100 F		120 F		140 F		73 F		100 F		120 F		140 F		160 F		180 F	
SIZE	SCH.	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m
1/2"	40	4.5	1.37	4.5	1.37	4.0	1.22	2.5	0.76	2.5	0.76	5.0	1.52	4.5	1.37	4.5	1.37	4.0	1.22	2.5	0.76	2.5	0.76
(15mm)	80	5.0	1.52	4.5	1.37	4.5	1.37	3.0	0.91	2.5	0.76	5.5	1.68	5.5	1.68	4.5	1.37	4.5	1.37	3.0	0.91	2.5	0.76
	120	5.0	1.52	5.0	1.52	4.5	1.37	3.0	0.91	2.5	0.76												
3/4"	40	5.0	1.52	4.5	1.37	4.0	1.22	2.5	0.76	2.5	0.76	5.0	1.52	5.0	1.52	4.5	1.37	4.0	1.22	2.5	0.76	2.5	0.76
(20mm)	80	5.5	1.68	5.0	1.52	4.5	1.37	3.0	0.91	2.5	0.76	5.5	1.68	5.5	1.68	5.0	1.52	4.5	1.37	3.0	0.91	2.5	0.76
	120	5.5	1.68	5.0	1.52	4.5	1.37	3.0	0.91	3.0	0.91												
1"	40	5.5	1.68	5.0	1.52	4.5	1.37	3.0	0.91	2.5	0.76	5.5	1.68	5.5	1.68	5.0	1.52	4.5	1.37	3.0	0.91	2.5	0.76
(25mm)	80	6.0	1.83	5.5	1.68	5.0	1.52	3.5	1.07	3.0	0.91	6.0	1.83	6.0	1.83	5.5	1.68	5.0	1.52	3.5	1.07	3.0	0.91
	120	6.0	1.83	5.5	1.68	5.0	1.52	3.5	1.07	3.0	0.91												
1 1/4"	40	5.5	1.68	5.5	1.68	5.0	1.52	3.0	0.91	3.0	0.91	5.5	1.68	5.5	1.68	5.5	1.68	5.0	1.52	3.0	0.91	3.0	0.91
(32mm)	80	6.0	1.83	6.0	1.83	5.5	1.68	3.5	1.07	3.0	0.91	6.5	1.98	6.0	1.83	6.0	1.83	5.5	1.68	3.5	1.07	3.0	0.91
	120	6.5	1.98	6.0	1.83	5.5	1.68	3.5	1.07	3.5	1.07												
1 1/2"	40	6.0	1.83	5.5	1.68	5.0	1.52	3.5	1.07	3.0	0.91	6.0	1.83	6.0	1.83	5.5	1.68	5.0	1.52	3.5	1.07	3.0	0.91
(40mm)	80	6.5	1.98	6.0	1.83	5.5	1.68	3.5	1.07	3.5	1.07	7.0	2.13	6.5	1.98	6.0	1.83	5.5	1.68	3.5	1.07	3.5	1.07
	120	6.5	1.98	6.5	1.98	6.0	1.83	4.0	1.22	3.5	1.07												
2"	40	6.0	1.83	5.5	1.68	5.0	1.52	3.5	1.07	3.0	0.91	6.0	1.83	6.0	1.83	5.5	1.68	5.0	1.52	3.5	1.07	3.0	0.91
(50mm)	80	7.0	2.13	6.5	1.98	6.0	1.83	4.0	1.22	3.5	1.07	7.0	2.13	7.0	2.13	6.5	1.98	6.0	1.83	4.0	1.22	3.5	1.07
	120	7.5	2.29	7.0	2.13	6.5	1.98	4.0	1.22	3.5	1.07												
2 1/2"	40	7.0	2.13	6.5	1.98	6.0	1.83	4.0	1.22	3.5	1.07	7.0	2.13	7.0	2.13	6.5	1.98	6.0	1.83	4.0	1.22	3.5	1.07
(65MM)	80	7.5	2.29	7.5	2.29	6.5	1.98	4.5	1.37	4.0	1.22	8.0	2.44	7.5	2.29	7.5	2.29	6.5	1.98	4.5	1.37	4.0	1.22
	120	8.0	2.44	7.5	2.29	7.0	2.13	4.5	1.37	4.0	1.22												
3"	40	7.0	2.13	7.0	2.13	6.0	1.83	4.0	1.22	3.5	1.07	7.0	2.13	7.0	2.13	7.0	2.13	6.0	1.83	4.0	1.22	3.5	1.07
(80mm)	80	8.0	2.44	7.5	2.29	7.0	2.13	4.5	1.37	4.0	1.22	8.0	2.44	8.0	2.44	7.5	2.29	7.0	2.13	4.5	1.37	4.0	1.22
	120	8.5	2.59	8.0	2.44	7.5	2.29	5.0	1.52	4.5	1.37												
3 1/2"	40	7.5	2.29	7.0	2.13	6.5	1.98	4.0	1.22	4.0	1.22	7.5	2.29	7.5	2.29	7.0	2.13	6.5	1.98	4.0	1.22	4.0	1.22
(90mm)	80	8.5	2.59	8.0	2.44	7.5	2.29	5.0	1.52	4.5	1.37	8.5	2.59	8.5	2.59	8.0	2.44	7.5	2.29	5.0	1.52	4.5	1.37
4"	40	7.5	2.29	7.0	2.13	6.5	1.98	4.5	1.37	4.0	1.22	7.5	2.29	7.5	2.29	7.0	2.13	6.5	1.98	4.5	1.37	4.0	1.22
(100mm)	80	9.0	2.74	8.5	2.59	7.5	2.29	5.0	1.52	4.5	1.37	8.5	2.59	9.0	2.74	8.5	2.59	7.5	2.29	5.0	1.52	4.5	1.37
	120	9.5	2.90	9.0	2.74	8.5	2.59	5.5	1.68	5.0	1.52												
5"	40	8.0	2.44	7.5	2.29	7.0	2.13	4.5	1.37	4.0	1.22	8.0	2.44	8.0	2.44	7.5	2.29	7.0	2.13	5.0	1.52	4.5	1.37
(125mm)	80	9.5	2.90	9.0	2.74	8.0	2.44	5.5	1.68	5.0	1.52	9.0	2.74	9.0	2.74	8.5	2.59	8.0	2.44	5.5	1.68	5.0	1.52
6"	40	8.5	2.59	8.0	2.44	7.5	2.29	5.0	1.52	4.5	1.37	8.5	2.59	8.0	2.44	7.5	2.29	7.0	2.13	5.0	1.52	4.5	1.37
(150mm)	80	10.0	3.05	9.5	2.90	9.0	2.74	6.0	1.83	5.0	1.52	10.0	3.05	9.5	2.90	9.0	2.74	8.0	2.44	5.5	1.68	5.0	1.52
	120	11.5	3.51	10.5	3.20	9.5	2.90	6.5	1.98	6.0	1.83												
8"	40	9.0	2.74	8.5	2.59	8.0	2.44	5.0	1.52	4.5	1.37	9.5	2.90	9.0	2.74	8.5	2.59	7.5	2.29	5.5	1.68	5.0	1.52
(200mm)	80	11.0	3.35	10.5	3.20	9.5	2.90	6.5	1.98	5.5	1.68	11.0	3.35	10.5	3.20	10.0	3.05	9.0	2.74	6.0	1.83	5.5	1.68
10"	40	10.0	3.05	9.0	2.74	8.5	2.59	5.5	1.68	5.0	1.52	10.5	3.20	10.0	3.05	9.5	2.90	8.0	2.44	6.0	1.83	0.56	0.17
(250mm)	80	12.0	3.66	11.0	3.35	10.0	3.05	7.0	2.13	6.0	1.83	11.5	3.51	11.0	3.35	10.5	3.20	9.5	2.90	6.5	1.98	0.60	0.18
12"	40	11.5	3.51	10.5	3.20	9.5	2.90	6.5	1.98	5.5	1.68	11.5	3.51	10.5	3.20	10.0	3.05	8.5	2.59	6.5	1.98	6.0	1.83
(300mm)	80	13.0	3.96	12.0	3.66	10.5	3.20	7.5	2.29	6.5	1.98	12.5	3.81	12.0	3.66	11.5	3.51	10.5	3.20	7.5	2.29	6.5	1.98
14"	40	12.0	3.66	11.0	3.35	10.0	3.05	7.0	2.13	6.0	1.83												
(350mm)	80	13.5	4.11	13.0	3.96	11.0	3.35	8.0	2.44	7.0	2.13												
16"	40	12.5	3.81	11.5	3.51	10.5	3.20	7.5	2.29	6.5	1.98												
(400mm)	80	14.0	4.27	13.5	4.11	11.5	3.51	8.5	2.59	7.5	2.29												
18"	40	13.0	3.96	12.0	3.66	11.0	3.35	8.0	2.44	7.0	2.13												
(450mm)	80	14.5	4.42	14.0	4.27	12.0	3.66	9.0	2.74	8.0	2.44												
20"	40	13.5	4.11	12.5	3.81	11.5	3.51	8.5	2.59	7.5	2.29												
(500mm)	80	15.0	4.57	14.5	4.42	12.5	3.81	9.5	2.90	8.5	2.59												
24"	40	14.0	4.27	13.0	3.96	12.0	3.66	9.0	2.74	8.0	2.44												
(600mm)	80	18.5	5.64	15.0	4.57	13.0	3.96	10.0	3.05	9.0	2.74												

This data as shown is a general guideline to the User. The recommendations of the actual pipe manufacturer should be used.
Local Codes, Specifications, and customer requirements may differ from the data stated in this Table.
This chart is based on continuous spans, uninsulated piping, and carrying fluids with a specific gravity up to 1.0.

THERMAL EXPANSION OF PIPE MATERIALS

TEMPERATURE	CARBON STEEL THOUGH 3% CR MO	ALLOY STEELS THROUGH 9% CR MO	STAINLESS STEELS (304, 316, 347)	COPPER	BRASS	ALUMINUM
0	-0.0051		-0.0078	-0.0079	-0.0081	-0.0104
-17.8	-0.4250		-0.6500	-0.6583	-0.6750	-0.8666
50	-0.0015	0.0000	-0.0022	-0.0022	-0.0023	-0.003
10.0	-0.1250	0.0000	-0.1833	-0.1833	-0.1917	-0.2500
100	0.0023	0.0022	0.0034	0.0034	0.0035	0.0046
37.8	0.1917	0.1833	0.2833	0.2833	0.2917	0.3833
150	0.0061	0.0058	0.0090	0.0091	0.0093	0.0123
65.6	0.5083	0.4833	0.7500	0.7583	0.7750	1.0250
200	0.0099	0.0094	0.0146	0.0151	0.0152	0.0200
93.3	0.8250	0.7833	1.2166	1.2583	1.2666	1.6666
250	0.0141	0.0132	0.0203	0.0208	0.0214	0.0283
121	1.1750	1.1000	1.6916	1.7333	1.7833	2.3582
300	0.0182	0.0171	0.0261	0.0267	0.0276	0.0366
149	1.5166	1.4249	2.1749	2.2249	2.2999	3.0499
350	0.0226	0.0210	0.0321	0.0327	0.0340	0.0452
177	1.8833	1.7499	2.6749	2.7249	2.8332	3.7665
400	0.0270	0.0250	0.0380	0.0388	0.0405	0.0539
204	2.2499	2.0833	3.1665	3.2332	3.3749	4.4915
450	0.0316	0.0292	0.0440	0.0449	0.0472	0.0628
232	2.6332	2.4332	3.6665	3.7415	3.9332	5.2331
500	0.0362	0.0335	0.0501	0.0512	0.0540	0.0717
260	3.0165	2.7916	4.1748	4.2665	4.4998	5.9748
550	0.0411	0.0379	0.0562	0.0574	0.0610	0.0810
288	3.4249	3.1582	4.6831	4.7831	5.0831	6.7497
600	0.0460	0.0424	0.0624	0.0639	0.0680	0.0903
316	3.8332	3.5332	5.1998	5.3248	5.6664	7.5247
650	0.0512	0.0469	0.0687	0.0703	0.0753	
343	4.2665	3.9082	5.7248	5.8581	6.2747	
700	0.0563	0.0514	0.0750	0.0768	0.0826	
371	4.6915	4.2832	6.2498	6.3997	6.8831	
750	0.0617	0.0562	0.0815	0.0834	0.0902	
399	5.1415	4.6831	6.7914	6.9497	7.5164	
800	0.0670	0.0610	0.0880	0.0900	0.0978	
427	5.5831	5.0831	7.3330	7.4997	8.1497	
850	0.0726	0.0658	0.0946	0.0967	0.1056	
454	6.0498	5.4831	7.8830	8.0580	8.7996	
900	0.0781	0.0707	0.1012	0.1037	0.1135	
482	6.5081	5.8914	8.4330	8.6413	9.4580	
950	0.0835	0.0756	0.1080	0.1105	0.1216	
510	6.9581	6.2997	8.9996	9.2080	10.1329	
1000	0.0889	0.0806	0.1148	0.1175	0.1298	
538	7.4080	6.7164	9.5663	9.7913	10.8162	
1050	0.0946	0.0855	0.1216			
566	7.8830	7.1247	10.1329			
1100	0.1004	0.0905	0.1284			
593	8.3663	7.5414	10.6996			

DIMENSIONS	TEMPERATURE
Inches per Foot	Fahrenheit
Millimeter per Meter	Celsius

COMMON STRUCTURAL SHAPES USED FOR PIPE SUPPORTS

STRUCTURAL SHAPE	SIZE	WEIGHT PER FOOT (LBS.)	DEPTH INCHES	FLANGE		SECTION MODULUS INCHES³
				WIDTH INCHES	THICKNESS INCHES	
ANGLE	L 1 1/2 x 1 1/2 x 1/4	2.3	1 1/2	1 1/2	1/4	0.13
	L 2 x 2 x 1/4	3.2	2	2	1/4	0.25
	L 2 1/2 x 2 1/2 x 1/4	4.1	2 1/2	2 1/2	1/4	0.38
	L 3 x 3 x 1/4	4.9	3	3	1/4	0.58
	L 3 x 3 x 3/8	7.2	3	3	3/8	0.83
	L 3 x 3 x 1/2	9.4	3	3	1/2	1.07
	L 3 1/2 x 3 1/2 x 3/8	8.5	3 1/2	3 1/2	3/8	1.15
	L 4 x 4 x 3/ 8	9.8	4	4	3/8	1.52
	L 4 x 4 x 1/2	12.8	4	4	1/2	1.97
	L 5 x 5 x 1/2	16.2	5	5	1/2	3.16
	L 6 x 6 x 1/2	19.6	6	6	1/2	4.61
	L 6 x 6 x 3/4	28.7	6	6	3/4	6.66
CHANNEL	C 3 x 4.1	4.1	3	1 3/8	1/4	1.10
	C 4 x 5.4	5.4	4	1 5/8	5/16	1.93
	C 5 x 6.7	6.7	5	1 3/4	5/16	3.00
	C 6 x 8.2	8.2	6	1 7/8	5/16	4.38
	C 8 x 11.5	11.5	8	2 1/4	3/8	8.14
	C 10 x 15.3	15.3	10	2 5/8	7/16	13.50
	C 12 x 20.7	20.7	12	3	1/2	21.50
	C 15 x 33.9	33.9	15	3 3/8	5/8	42.00
SQUARE TUBING	ST 2 x 2 x 1/4	5.4	2	2	1/4	0.77
	ST 3 x 3 x 1/4	8.8	3	3	1/4	2.10
	ST 4 x 4 x 1/4	12.2	4	4	1/4	4.11
	ST 4 x 4 x 3/8	17.3	4	4	3/8	5.35
	ST 4 x 4 x 1/2	21.6	4	4	1/2	6.13
	ST 6 x 6 x 1/4	19.0	6	6	1/4	10.10
	ST 6 x 6 x 3/8	27.5	6	6	3/8	13.90
	ST 6 x 6 x 1/2	35.2	6	6	1/2	16.80
	ST 8 X 8 X 1/4	25.8	8	8	1/4	18.80
	ST 8 x 8 x 3/8	38.9	8	8	3/8	26.40
	ST 8 x 8 x 1/2	48.9	8	8	1/2	32.90
I-BEAM	S 4 x 7.7	7.7	4	2 5/8	5/16	3.04
	W 4 x 13	13.0	4 1/8	4	3/8	5.46
	W 6 x 12	12.0	6	4	1/4	7.31
	W 6 x 15	15.0	6	6	1/4	9.72
	W 6 x 20	20.0	6 1/4	6	3/8	13.40
	W 8 x 18	18.0	8 1/8	5 1/4	5/16	15.20
	W 8 x 24	24.0	7 7/8	6 1/2	3/8	20.90
	W 8 x 31	31.0	8	8	7/16	27.50
	W 10 x 22	22.0	10 1/8	5 3/4	3/8	23.20
	W 10 x 33	33.0	9 3/4	8	7/16	35.00
	W 12 x 26	26.0	12 1/4	6 1/2	3/8	33.40
	W 12 x 40	40.0	12	8	1/2	51.90

Note: Flange thickness for I-Beam and Channel is the "mean" thickness

COMPONENT TYPES

FIGURE NUMBER	ANSI / MSS SP-58	WW-H-171 A-A 1192A	FIGURE NUMBER	ANSI / MSS SP-58	WW-H-171 A-A 1192A	FIGURE NUMBER	ANSI / MSS SP-58	WW-H-171 A-A 1192A
1A	7	7	89	8	8	142	41	42
1A PVC	7	7	91	3	3	142 SS316	41	42
1A CE	7	7	91Z	3	3	153	34	35
9	34	34	100	1	1	D153S	34	35
12	16	16	100F	1	1	157	30	30
14	27	54	100 CE	1	1	158	8	8
14A	27	54	100F CE	1	1	158DB	8	8
15	21	21	100DI	1	1	175	4	4
17	44	45	100PVC	1	1	175SP	4	4
18	25	25	100EL	1	1	191	38	38
39	44	45	100 SS	1	1	192	19	NA
40	46	47	100 SS316	1	1	192 SS316	19	NA
47	23	23	100SH	1	1	192W	19	NA
47 SS316	23	23	101	38	39	192RS	19	NA
49	13	na	101U	38	39	196	23	23
53	46	47	109	41	42 / 41	200	1	12
54	44	46	109 SS316	41	42 / 41	200V	1	12
63	45	46	113A	22	22	217	25	NA
63 SS316	45	46	113B	22	22	220	57	NA
69	31	32	124	42	42	227	NA	27
72	26	26	125	37	38	227S	NA	27
72CT	26	26	125DI	37	38	238	23	23
75I	18	19	126	8	8	246	2	2
81C	12	60	126CE	8	8	247	38	38
81RT E	12	60	126LD	8	8	265CVB-CS	40	41
81RT2 E	12	25 / 60	126LD PVC	8	8	265GS	40	41
81RT2 CE	12	25 / 60	126 PVC	8	8	265P	40	41
81RT CE	12	60	132	13	15	265P SS	40	41
D81RTSTP E	12	25 / 60	134	2	2	265P SS316	40	41
D81RTSTP CT	12	25 / 60	137	49	49	268	21	21
82	30	30	139	33	33	276	14	14
84	32	33	140	43	43	276P	14	14

COMPONENT TYPES

FIGURE NUMBER	ANSI / MSS SP-58	WW-H-171 A-A 1192A	FIGURE NUMBER	ANSI / MSS SP-58	WW-H-171 A-A 1192A
276P SS316	14	14	800FP	10	10
279	17	17	800 PVC	10	10
279 SS316	17	17	800F PVC	10	10
279L	17	17	967J	5	5
283	24	24	967JF	5	5
283 SS	24	24	967J PVC	5	5
283 SS316	24	24	1010	35	NA
283DI	24	24	7150	69	NA
283DI SS303	24	24	C-1108	25	26
283DI SS316	24	24	SH	48	49
283HS	24	24			
283LD	24	24	2915	47	NA
283PVC	24	24	2250	47	NA
297	28	28	2252	47	NA
298	4	4	522	47	NA
303	34	35	2300	50	NA
304	3	3	910 to 980	51	NA
304Z	3	3	910F to 980F	52	NA
314	21	21	910G to 980G	53	NA
351 to 357Z	39	40A / 40B	880V	55	NA
371	69	NA	881H	54	NA
465CVB-MS	40	41	880V TypeG	56	NA
465CVB-MSRH	40	41	881H Type G	56	NA
465CVB-PSNT	40	41			
465CVB-PS360	40	41			
465CVB-QS	40	41			
478	49	50			
650I	18	19			
800	10	10			
800F	10	10			
800 CE	10	10			
800F CE	10	10			

INSULATED NOMINAL PIPE SIZE HANGER SIZING CHART

	INSULATION THICKNESS						
IPS	1/2	1	1 1/2	2	2 1/2	3	4
1/2	1 1/2	2 1/2	3 1/2	5	-----	-----	-----
3/4	2	2 1/2	3 1/2	5	6	8	-----
1	2	3	4	5	6	8	10
1 1/4	2 1/2	3	5	5	6	8	10
1 1/2	3	3 1/2	5	6	8	8	10
2	3	4	5	6	8	8	10
2 1/2	3 1/2	5	6	8	8	10	10
3	4	5	6	8	8	10	12
4	5	6	8	8	10	10	12
5	6	8	8	10	10	12	14
6	8	8	10	10	12	12	16
8	-----	10	12	12	12	16	16
10	-----	12	14	16	16	18	20
12	-----	16	16	18	18	20	24
14	-----	16	18	18	20	20	24
16	-----	18	20	20	24	24	24
18	-----	20	24	24	24	24	26
20	-----	22	24	24	28	26	28
24	-----	26	28	28	30	30	32

INSULATED COPPER TUBING HANGER SIZING CHART

	INSULATION THICKNESS						
COPPER TUBE OD	1/2	1	1 1/2	2	2 1/2	3	4
5/8	1 1/2	2 1/2	3 1/2	4	6	8	8
7/8	1 1/2	2 1/2	3 1/2	5	6	8	8
1 1/8	2	2 1/2	3 1/2	5	6	8	10
1 3/8	2	3	4	5	6	8	10
1 5/8	2 1/2	3	5	5	8	8	10
2 1/8	3	3 1/2	5	6	8	8	10
2 5/8	3	4	5	6	8	10	10
3 1/8	3 1/2	5	6	8	10	10	12
4 1/8	5	6	8	8	10	12	12
5 1/8	6	8	8	10	12	12	14
6 1/8	6	8	10	10	-----	-----	-----

Note: Sizes shown include Vapor Barrier Jacket, but not Shields and any Distribution Plate

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Product Name	Figure No.
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Band Hanger, PVC	1A PVC
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Base Stand	138, 138S
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Beam Clamp, Top / Side	18
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Bracket, Wall, Cantilever, Angle	7022
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Bracket, Light, Welded Steel	69
Bracket, Medium, Welded Steel	84
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Clevis Hanger, Copper Tubing, Felt Liner	100F CE
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Clevis Hanger, PVC	100PVC
Clevis Hanger, Stainless Steel	100 SS, 100 SS316
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Concrete Insert Nut	75N 650N
Concrete Insert, Steel	75I 650
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Extension Piece	157
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Insulation Protection Shield, Hanger Cover	465CVB-PSNT
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J-Hanger with PVC Coating	967J PVC
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NFPA, Swivel Ring, Adjustable, PVC Coated	800FP PVC
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