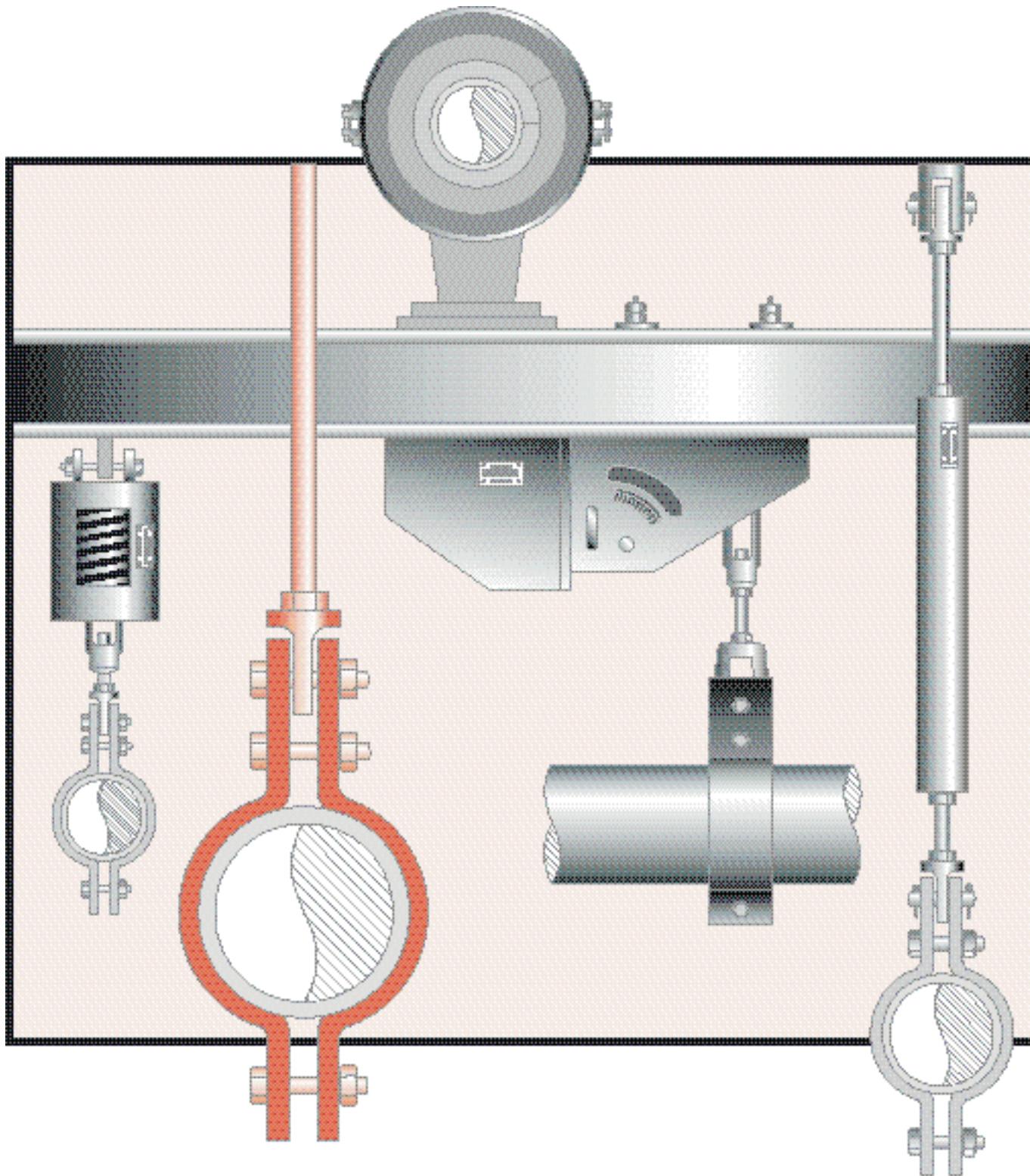




**BERGEN-POWER PIPE SUPPORTS**



**INDEX**

**Hardware Catalog 98H**

## Foreword

Bergen-Power Pipe Supports is a complete line manufacturing and engineering organization offering pipe hangers, supports, restraints and specialty devices to support and control piping and equipment used in fossil power generating stations, petro-chemical plants, and other industrial processing piping systems.

In addition to our product line, representing one of the most complete in the industry, Bergen-Power provides complete engineering and technical services, including analysis, hanger design and detailing, and other construction support programs. To provide effective distribution of our products and services, engineering and sales offices are maintained in major cities throughout the continental United States.

This new catalog, illustrating our hardware product line, incorporates some design changes and expanded sizes in previous products along with additional concepts to meet current industry and code requirements.

## General Notes

Outline dimensions and data shown in this catalog are for reference only and are not intended for inspection purposes.

Designs and dimensions are subject to change without notice.

All hanger products shown herein are manufactured in accordance with industry standards and are for installation and service as described. When used for other purposes or in ways other than those for which designed and manufactured, Bergen-Power cannot be held responsible for product failure, injuries, or property damage.

Cataloged products meet requirements of MSS-SP-58 and MSS-SP-69.

Maximum rated loads for hangers are based on a safety factor applicable to the codes listed in this catalog or the allowable stresses specified in ASME B31.1, ASME B31.3, and MSS-SP-58.

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**WELDED BEAM ATTACHMENT**

**Figure 113A**  
**Figure 113B**

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

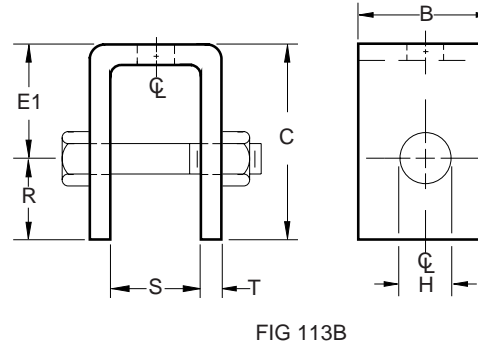
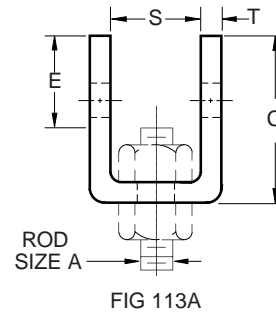
Figure 113B is recommended for attachment to the bottom of beams, when pipe movement is expected. A bolt & nut or pin is supplied. A pin with cotters is normally supplied for rod sizes over 1.

**Compliance:** Federal Specification WW-H-171 (Type 22), MSS SP-69 (Type 22) and BSPSS-BS3974.

**Material:** Carbon Steel.

**Finish:** Plain, Painted, Galvanized.

**Ordering:** Specify Figure No., rod size and finish. For Metric applications specify M113A or M113B.



**FIGURE 113 – WELDED BEAM ATTACHMENT**

ROD SIZE	MAX LOAD 650° F 343° C	BOLT OR PIN SIZE	B	C	ROD TAKEOUT		H	R	S	T	WEIGHT EACH	
					FIG 113A E	FIG 113B E1					FIG 113A W/O B&N	FIG 113B W B&N
M10	610 2714	1/2 M12	2 51	2 7/8 73	1 7/8 48	2 51	9/16 14	7/8 22	1 1/4 32	1/4 6	0.96 0.44	1.20 0.54
M12	1130 5027	5/8 M16	2 51	2 7/8 73	1 3/4 44	2 51	11/16 17	7/8 22	1 1/4 32	1/4 6	0.96 0.44	1.20 0.54
M16	1810 8052	3/4 M20	2 51	2 7/8 73	1 3/4 44	2 51	13/16 21	7/8 22	1 1/4 32	1/4 6	0.96 0.44	1.60 0.73
M20	2710 12055	7/8 M20	2 3/4 70	3 1/8 79	1 1/8 29	2 51	15/16 24	1 1/8 29	2 1/8 54	3/8 10	1.90 0.86	2.80 1.27
M20	3770 16770	1 M24	2 1/2 64	4 1/4 108	2 5/8 67	3 76	1 1/8 29	1 1/4 32	2 1/8 54	3/8 10	2.50 1.13	3.90 1.77
M24	4960 22064	1 1/8 M30	3 76	4 1/2 114	3 76	3 1/2 89	1 1/4 32	1 1/2 38	2 7/8 73	1/2 13	4.30 1.95	6.30 2.86
M30	8000 35587	1 3/8 M36	4 102	5 127	2 51	3 76	1 1/2 38	2 51	3 76	3/4 19	8.10 3.67	10.20 4.63
M36	11600 51601	1 5/8 M42	5 127	5 1/2 140	2 1/2 64	4 102	1 3/4 44	2 1/2 64	3 76	3/4 19	15.60 7.08	19.00 8.62
M42	15700 69840	1 7/8 M48	5 127	7 3/4 197	2 3/4 70	5 127	2 51	2 3/4 70	3 3/4 95	3/4 19	18.70 8.48	24.20 10.98
M48	20700 92082	2 1/4 M56	6 152	8 1/4 210	3 1/4 83	5 127	2 3/8 60	3 1/4 83	3 1/2 89	1/2 13	22.80 10.34	30.60 13.88
M56	27200 120996	2 1/2 M64	6 152	9 3/4 248	3 1/2 89	6 1/4 159	2 5/8 67	3 1/2 89	3 1/2 89	5/8 16	26.40 117.44	36.80 16.69
M64	33500 149021	2 1/2 M64	6 152	9 3/4 248	3 1/2 89	6 1/4 159	2 7/8 73	3 3/4 95	3 3/4 95	5/8 16	26.70 118.77	39.70 176.60
M72	41580 184964	3 M80X6	6 152	9 3/4 248	N/A N/A	5 3/4 146	3 1/8 79	4 102	3 3/4 95	5/8 16	N/A N/A	39.70 176.60
M80	50580 225000	3 1/4 M80	7 178	10 1/4 260	N/A N/A	6 1/4 159	3 3/8 86	4 102	3 3/4 95	5/8 16	N/A N/A	49.00 217.97
M80	71280 317082	3 1/2 M90X6	7 178	11 1/2 292	N/A N/A	7 178	3 5/8 92	4 1/2 114	4 1/4 108	3/4 19	N/A N/A	67.60 300.71
M90	71280 317082	3 3/4 M90-6	7 178	12 305	N/A N/A	7 1/2 191	3 7/8 98	4 1/2 114	4 1/4 108	3/4 19	N/A N/A	79.30 352.76

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

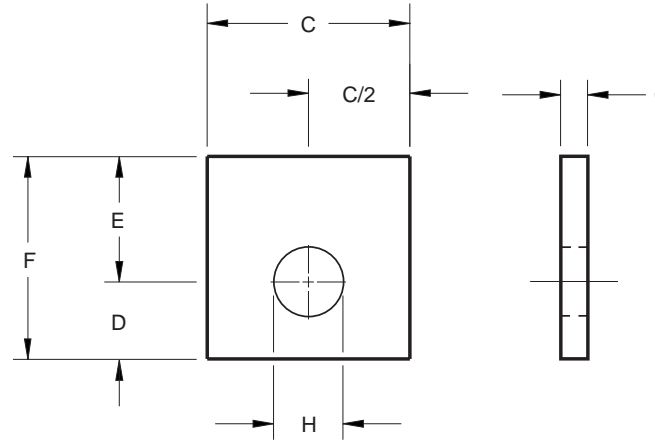
**WELDING LUG**

**Figure 220**

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

**Material:** Carbon Steel

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



**FIGURE 220 – WELDING LUG**

ROD SIZE	BOLT OR PIN SIZE	MAXIMUM LOAD	C	D	E	F	G	H	WEIGHT EACH
1/2	5/8	1130	2 1/2	1 1/4	3	4 1/4	1/4	11/16	0.75
12	M16	5027	64	32	76	108	6	17	0.34
5/8	3/4	1810	2 1/2	1 1/4	3	4 1/4	1/4	13/16	0.68
16	M20	8052	64	32	76	108	6	21	0.31
3/4	7/8	2710	2 1/2	1 1/4	3	4 1/4	3/8	15/16	1.00
20	M20	12055	64	32	76	108	10	24	0.45
7/8	1	3770	2 1/2	1 1/4	3	4 1/4	3/8	1 1/8	0.98
20	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
24	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
30	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
36	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
42	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
48	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
56	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
64	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
72	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
80	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
80	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
90	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
100	M125	368772	229	127	152	279	44	105	16.28

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## 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, Galvanized.

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

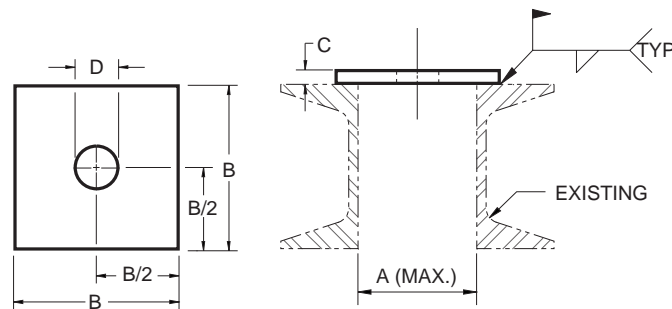


FIGURE 260 – WASHER PLATE

ROD SIZE	MAX LOAD	A	B	C	HOLE D	WGT EACH
<sup>3</sup> / <sub>8</sub>	610	1 <sup>1</sup> / <sub>2</sub>	3	<sup>1</sup> / <sub>4</sub>	<sup>7</sup> / <sub>16</sub>	0.63
M10	2713	38	76	6	11	0.29
<sup>1</sup> / <sub>2</sub>	1130	1 <sup>1</sup> / <sub>2</sub>	3	<sup>1</sup> / <sub>4</sub>	<sup>9</sup> / <sub>16</sub>	0.61
M12	5026	38	76	6	14	0.28
<sup>5</sup> / <sub>8</sub>	1810	1 <sup>1</sup> / <sub>2</sub>	3	<sup>3</sup> / <sub>8</sub>	<sup>11</sup> / <sub>16</sub>	0.95
M16	8051	38	76	10	17	0.43
<sup>3</sup> / <sub>4</sub>	2710	2	4	<sup>3</sup> / <sub>8</sub>	<sup>13</sup> / <sub>16</sub>	1.60
M20	12055	51	102	10	21	0.73
<sup>7</sup> / <sub>8</sub>	3770	2	4	<sup>1</sup> / <sub>2</sub>	<sup>15</sup> / <sub>16</sub>	2.17
M20	16770	51	102	13	24	0.98
1	4960	2 <sup>1</sup> / <sub>2</sub>	4	<sup>1</sup> / <sub>2</sub>	<sup>11</sup> / <sub>16</sub>	2.15
M24	22063	64	102	13	27	0.98
<sup>1</sup> / <sub>8</sub>	6230	2 <sup>1</sup> / <sub>2</sub>	4	<sup>1</sup> / <sub>2</sub>	<sup>11</sup> / <sub>4</sub>	2.13
M30	27712	64	102	13	32	0.97
<sup>1</sup> / <sub>4</sub>	8000	3	5	<sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>8</sub>	3.28
M30	35586	76	127	13	35	1.49
<sup>1</sup> / <sub>2</sub>	11630	3 <sup>1</sup> / <sub>2</sub>	5	<sup>5</sup> / <sub>8</sub>	<sup>15</sup> / <sub>8</sub>	4.05
M36	51733	89	127	16	41	1.84
<sup>13</sup> / <sub>4</sub>	15700	3 <sup>1</sup> / <sub>2</sub>	5	<sup>5</sup> / <sub>8</sub>	2	3.88
M42	69837	89	127	16	51	1.76
2	20700	4	6	<sup>3</sup> / <sub>4</sub>	<sup>21</sup> / <sub>4</sub>	4.47
M48	92078	102	152	19	57	2.03
<sup>21</sup> / <sub>4</sub>	27200	4	6	<sup>3</sup> / <sub>4</sub>	<sup>21</sup> / <sub>2</sub>	6.62
M56	120991	102	152	19	64	3.00
<sup>21</sup> / <sub>2</sub>	33500	4 <sup>1</sup> / <sub>2</sub>	6	<sup>3</sup> / <sub>4</sub>	<sup>23</sup> / <sub>4</sub>	6.40
M64	149015	114	152	19	70	2.90
<sup>23</sup> / <sub>4</sub>	41580	4 <sup>1</sup> / <sub>2</sub>	6	<sup>3</sup> / <sub>4</sub>	3	6.16
M72	184956	114	152	19	76	2.79
3	50580	4 <sup>1</sup> / <sub>2</sub>	6	<sup>3</sup> / <sub>4</sub>	<sup>31</sup> / <sub>4</sub>	5.89
M80	224990	114	152	19	83	2.67
<sup>31</sup> / <sub>4</sub>	60480	4 <sup>1</sup> / <sub>2</sub>	6	<sup>3</sup> / <sub>4</sub>	<sup>31</sup> / <sub>2</sub>	5.56
M80	269027	114	152	19	89	2.52
<sup>31</sup> / <sub>2</sub>	71280	5	7	<sup>3</sup> / <sub>4</sub>	<sup>33</sup> / <sub>4</sub>	8.07
M90	317068	127	178	19	95	3.66
<sup>33</sup> / <sub>4</sub>	82890	5	7	<sup>3</sup> / <sub>4</sub>	4	7.75
M95	368711	127	178	19	102	3.52

## SELF DRILLING ANCHOR

Figure 1302

The Figure 1302 is used for bolting components to concrete structures. The shell is fitted with a snap off chucking end for power drilling and shell expansion.

NOTE: This product is not designed or recommended for direct threading to hanger rods. Intermediate attachments are recommended.

**WARNING:** Recommended practice in sizing and application of concrete fasteners should be followed.

**Material:** Case hardened plated shell and expander plug.

**Finish:** Electro-Galvanized.

**Ordering:** Specify figure number and size. For Metric applications specify Figure M1302.

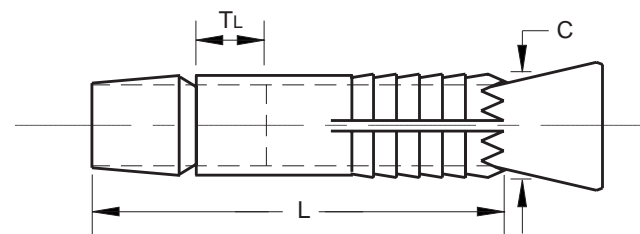


FIGURE 1302 – SELF DRILLING ANCHOR

TAP SIZE	3500 PSI CONCRETE SAFE WORKING LOAD		C	L	T <sub>L</sub>	WGT EACH
	TENSION	SHEAR				
<sup>1</sup> / <sub>4</sub>	915	330	<sup>7</sup> / <sub>16</sub>	<sup>13</sup> / <sub>32</sub>	<sup>3</sup> / <sub>8</sub>	0.05
M6	4070	1468	11	28	10	0.02
<sup>3</sup> / <sub>8</sub>	1415	840	<sup>9</sup> / <sub>16</sub>	<sup>17</sup> / <sub>32</sub>	<sup>9</sup> / <sub>16</sub>	0.10
M10	6294	3737	14	39	14	0.05
<sup>1</sup> / <sub>2</sub>	2125	1680	<sup>11</sup> / <sub>16</sub>	<sup>21</sup> / <sub>32</sub>	<sup>13</sup> / <sub>16</sub>	0.17
M12	9453	7473	17	52	21	0.08
<sup>5</sup> / <sub>8</sub>	2925	2975	<sup>27</sup> / <sub>32</sub>	<sup>215</sup> / <sub>32</sub>	<sup>15</sup> / <sub>16</sub>	0.32
M16	13012	13234	21	63	24	0.15
<sup>3</sup> / <sub>4</sub>	4050	4050	1	<sup>31</sup> / <sub>4</sub>	<sup>17</sup> / <sub>32</sub>	0.56
M20	18016	18016	25	83	31	0.25
<sup>7</sup> / <sub>8</sub>	4460	4610	<sup>11</sup> / <sub>8</sub>	<sup>311</sup> / <sub>32</sub>	<sup>113</sup> / <sub>32</sub>	0.72
M20	19840	20507	29	85	36	0.33

**STEEL BEAM CLAMP WITH WELDLESS EYENUT**

**Figure 297**

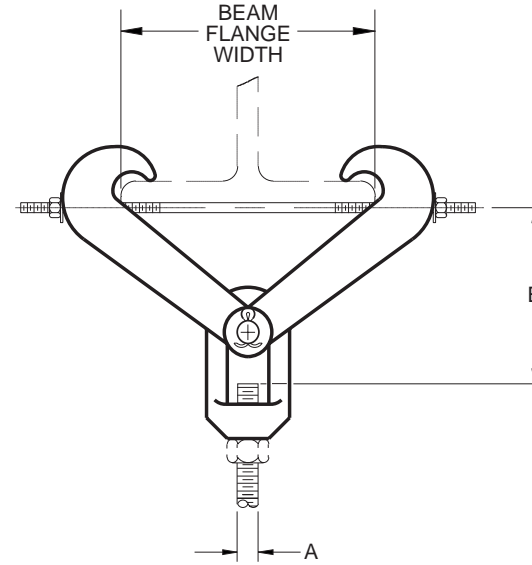
The Figure 297 beam clamp with eyenut is used when welding to the structure is prohibited for supports where some movement is expected. The clamping effect is produced by the “ice tong” action of the arms and is locked in place by the through bolt located just under the beam flange.

**Material:** Carbon Steel with Forged Steel Eyenut.

**Compliance:** Federal Specification WW-H-171 (Type 4), MSS-SP-69 (Type 4) and BSPSS-BS3974

**Finish:** Plain, Galvanized.

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



**FIGURE 297 – STEEL BEAM CLAMP WITH WELDLESS EYENUT**

CLAMP SIZE	MAXIMUM LOAD	MAXIMUM ROD SIZE A	BEAM WIDTH	BODY SIZE	MAXIMUM FLANGE THICKNESS	WEIGHT EACH
1	2710	3/4	3 - 8	A	0.6	5.5
	68834	M20	76 - 203		15	2.5
2	4960	1	3 - 8	A	0.6	5.5
	125984	M24	76 - 203		15	2.5
3	4960	1	4 - 11	B	0.6	9.0
	125984	M24	102 - 279		15	4.1
4	4960	1	4 - 12	C	1.03	29.0
	125984	M24	102 - 305		26	13.2
5	4960	1	11 - 15	D	1.03	33.3
	125984	M24	279 - 381		26	15.1
6	11500	1 1/2	4 - 12	C	1.03	29.0
	292100	M36	102 - 305		26	13.2
7	11500	1 1/2	11 - 15	D	1.03	33.3
	292100	M36	279 - 381		26	15.1
8	11500	2	4 - 12	C	1.03	29.0
	292100	M48	102 - 305		26	13.2

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

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	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 Fig 133 Threaded 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 Fig 279 Weldless Eyenut or Figure 93 Welded EyeroD. A two-anchor pattern is used on sizes  $\frac{3}{8}$ " thru  $\frac{5}{8}$ " and all others use four anchors.

**Material:** Carbon Steel.

**Finish:** Plain.

**Ordering:** Specify figure number, finish, and rod size. For Metric applications specify Figure M1020 Type 1 or Type 2.

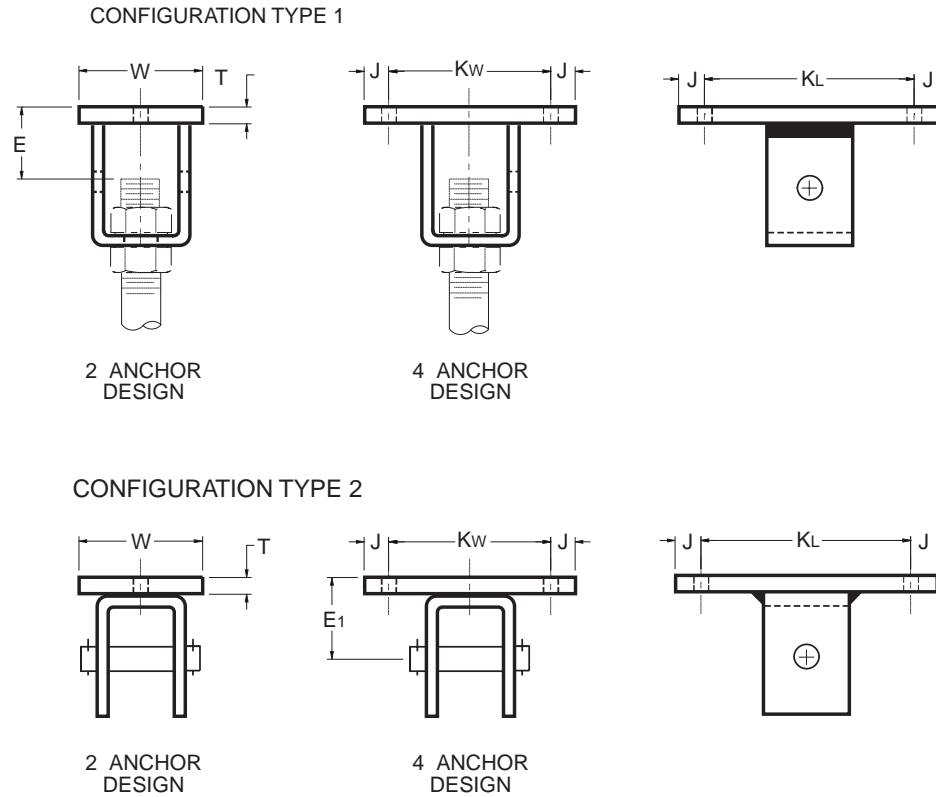


FIGURE 1020 – CONCRETE ATTACHMENT

ROD SIZE	MAX LOAD	E	E <sub>1</sub>	H*	P	J	K <sub>L</sub>	K <sub>W</sub>		T	W	WGT EACH W/PIN	WGT EACH W/O PIN
$\frac{3}{8}$	610	2 $\frac{1}{8}$	2 $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	1	4	N/A	5	$\frac{1}{4}$	4	2.8	2.7
M10	2714	54	57	13	13	25	102	N/A	127	6	102	1.3	1.2
$\frac{1}{2}$	1130	2 $\frac{1}{8}$	2 $\frac{3}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	1	5	N/A	5	$\frac{3}{8}$	4	4.1	3.9
M12	5027	54	60	16	16	25	127	N/A	127	10	102	1.9	1.8
$\frac{5}{8}$	1810	2 $\frac{1}{4}$	2 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	1	6	N/A	5	$\frac{1}{2}$	4	5.8	5.5
M16	8052	57	64	19	19	25	152	N/A	127	13	102	2.6	2.5
$\frac{3}{4}$	2710	2 $\frac{1}{8}$	2 $\frac{3}{8}$	$\frac{5}{8}$	$\frac{7}{8}$	1	5	5	5	$\frac{3}{8}$	N/A	7.7	7.1
M20	12055	54	60	16	22	25	127	127	127	10	N/A	3.5	3.2
$\frac{7}{8}$	3770	3 $\frac{3}{8}$	3 $\frac{5}{8}$	$\frac{7}{8}$	1	1 $\frac{1}{4}$	6 $\frac{1}{2}$	7	5	$\frac{5}{8}$	N/A	19.8	18.6
M20	16770	86	92	22	25	32	165	165	127	16	N/A	9.0	8.4
1	4960	3 $\frac{3}{8}$	3 $\frac{5}{8}$	$\frac{7}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	6 $\frac{1}{2}$	7	6	$\frac{5}{8}$	N/A	19.8	18.6
M24	22064	86	92	22	29	32	165	165	152	16	N/A	9.0	8.4
$\frac{1}{4}$	8000	3 $\frac{5}{8}$	3 $\frac{3}{4}$	1	1 $\frac{3}{8}$	2	8	8	6	$\frac{3}{4}$	N/A	41.0	38.7
M30	35587	92	95	25	35	51	203	203	152	19	N/A	18.6	17.6
$\frac{1}{2}$	11630	5	5	1 $\frac{1}{8}$	1 $\frac{5}{8}$	2	8	8	6	1	N/A	60.0	56.4
M36	51735	127	127	29	41	51	203	203	152	25	N/A	27.2	25.6
$\frac{3}{4}$	15700	6 $\frac{1}{4}$	6 $\frac{1}{4}$	1 $\frac{3}{8}$	2	2	10	10	7	1 $\frac{1}{4}$	N/A	93.6	88.0
M42	69840	159	159	35	51	51	254	254	178	32	N/A	42.5	39.9
2	20700	6 $\frac{1}{2}$	6 $\frac{1}{4}$	1 $\frac{3}{8}$	2 $\frac{1}{4}$	2	10	10	7	1 $\frac{1}{4}$	N/A	100.0	92.0
M48	92082	165	159	35	57	51	254	254	178	32	N/A	45.4	41.7

\* Holes are  $\frac{1}{8}$ " larger than recommended anchor bolt diameter to allow for installation tolerance.

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	KILOGRAMS

**CONCRETE SINGLE LUG PLATE**

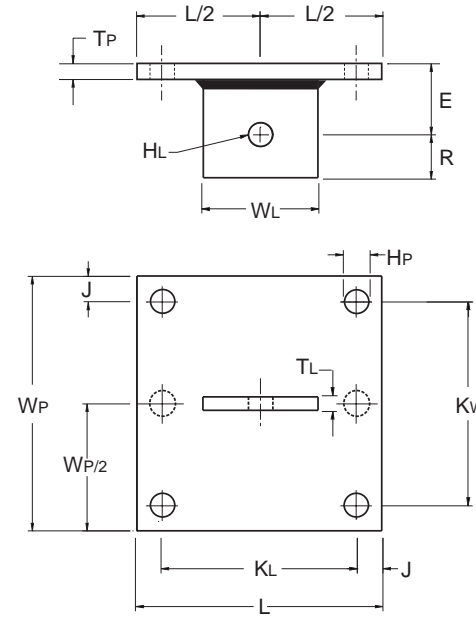
**Figure 1022**

The Figure 1022 is for attachment to a concrete structure where movement is anticipated. A two-anchor pattern is used on sizes <sup>3</sup>/<sub>8</sub>" thru <sup>5</sup>/<sub>8</sub>" and all others use four anchors. Used with the Figure 276 Forged Steel Clevis and Type "C" variable springs.

**Material** Carbon Steel.

**Finish:** Plain.

**Ordering:** Specify figure number, finish, and rod size. 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	HL	HP	J	KL	Kw	L	R	TP	TL	WP	WL	WGT EACH
<sup>3</sup> / <sub>8</sub>	610	1 <sup>3</sup> / <sub>4</sub>	<sup>1</sup> / <sub>2</sub>	<sup>1</sup> / <sub>2</sub>	1	4	-	6	1 <sup>1</sup> / <sub>4</sub>	<sup>1</sup> / <sub>4</sub>	<sup>1</sup> / <sub>4</sub>	4	2 <sup>1</sup> / <sub>2</sub>	11.6
M10	5027	44	13	13	25	102	-	152	32	6	6	102	64	5.3
<sup>1</sup> / <sub>2</sub>	1130	1 <sup>7</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	1	5	-	7	1 <sup>1</sup> / <sub>4</sub>	<sup>3</sup> / <sub>8</sub>	<sup>1</sup> / <sub>4</sub>	4	2 <sup>1</sup> / <sub>2</sub>	11.6
M12	5027	48	16	16	25	127	-	178	32	10	6	102	64	5.3
<sup>5</sup> / <sub>8</sub>	1810	2	<sup>3</sup> / <sub>4</sub>	<sup>3</sup> / <sub>4</sub>	1	6	-	8	1 <sup>1</sup> / <sub>4</sub>	<sup>1</sup> / <sub>2</sub>	<sup>1</sup> / <sub>4</sub>	4	2 <sup>1</sup> / <sub>2</sub>	11.6
M16	8052	51	19	19	25	152	-	203	32	13	6	102	64	5.3
<sup>3</sup> / <sub>4</sub>	2710	2 <sup>1</sup> / <sub>4</sub>	<sup>7</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	1	5	5	7	1 <sup>1</sup> / <sub>4</sub>	<sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>8</sub>	7	2 <sup>1</sup> / <sub>2</sub>	12.0
M20	12055	57	22	16	25	127	127	178	32	13	10	178	64	5.4
<sup>7</sup> / <sub>8</sub>	3770	3	1	<sup>7</sup> / <sub>8</sub>	1	6 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	9	1 <sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>4</sub>	<sup>3</sup> / <sub>8</sub>	9	3	22.0
M20	16770	76	25	22	25	165	165	229	38	19	10	229	76	10.0
1	4960	3	1 <sup>1</sup> / <sub>8</sub>	<sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	8	8	9	1 <sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>4</sub>	<sup>1</sup> / <sub>2</sub>	9	3	31.9
M24	22064	76	29	22	32	203	203	229	38	19	13	229	76	14.5
<sup>1</sup> / <sub>4</sub>	8000	4	1 <sup>3</sup> / <sub>8</sub>	1	2	8	8	12	2	1	<sup>5</sup> / <sub>8</sub>	12	4	43.8
M30	35587	102	35	25	51	203	203	305	51	25	16	305	102	19.9
<sup>1</sup> / <sub>2</sub>	11630	4 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	2	8	8	12	2 <sup>1</sup> / <sub>2</sub>	1	<sup>3</sup> / <sub>4</sub>	12	5	45.6
M36	51735	108	41	29	51	203	203	305	64	25	19	305	127	20.7
<sup>1</sup> / <sub>4</sub>	15700	4 <sup>1</sup> / <sub>2</sub>	1 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	2	8	8	12	2 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>	<sup>3</sup> / <sub>4</sub>	12	5	55.7
M42	69840	114	48	35	51	203	203	305	64	32	19	305	127	25.3
2	20700	5 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	2	8	8	12	3	1 <sup>1</sup> / <sub>4</sub>	<sup>3</sup> / <sub>4</sub>	12	6	58.2
M48	92082	133	57	35	51	203	203	305	76	32	19	305	152	26.4

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	KILOGRAMS

**HILTI® KWIK-BOLT ANCHORS**

**Figure 1308**

The Figure 1308 is used for bolting components to concrete structures. Allows for through drilling applications.

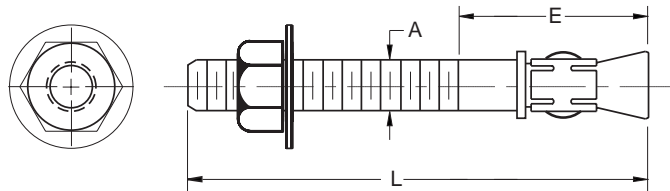
**INSTALLATION:** Drill holes the same diameter as the bolt an deeper than the required embedment. Drive the bolt into the hole so that at least six threads are below the top surface of the fixture. Tighten the nut with the washer in place. The resistance will increase after the third or fourth turn.

**NOTE:** Loads listed are based on a safety factor of four when installed in accordance with manufacturer’s recommendations. Contact us for higher loads are allowed due to increased embedment.

**Material:** High Tensile Steel. (Also available in Stainless Steel).

**Finish:** Zinc Plated.

**Ordering:** Specify figure number, diameter and length. For Metric applications specify Figure M1308.



**FIGURE 1308 – HILTI KWIK-BOLT ANCHORS**

BOLT DIA.	4000 PSI CONCRETE SAFE WORKING LOAD		L	D(Embd.)	T <sub>L</sub>
	TENSION	SHEAR			
1/4 M6	365 1624	650 2891	1 3/4 44	1 1/8 29	3/4 19
			2 1/4 57		
			3 1/4 83		
3/8 M10	935 4159	590 2625	2 1/4 57	1 5/8 41	7/8 22
			3 76		1 1/8 29
			3 3/4 95		1 1/8 29
			5 127		1 1/8 29
			5 1/2 140		1 1/8 29
1/2 M12	1375 6117	2080 9253	2 3/4 70	2 1/4 57	1 1/4 32
			3 3/4 95		
			4 1/2 114		
			5 1/2 140		
			6 152		
5/8 M16	1650 7340	2900 12900	3 3/4 95	2 3/4 70	2 3/4 70
			4 3/4 121		
			6 152		
			7 178		
			8 203		
3/4 M20	2535 11277	4280 19039	4 3/4 121	3 1/4 83	1 1/2 38
			5 1/2 140		
			7 178		
			8 203		
			9 229		
1 M24	4000 17794	6700 29804	6 152	4 1/2 114	2 1/4 57
			9 229		
1 1/4 M30	5750 25578	8900 39591	9 229	5 1/2 140	3 1/4 83

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

**RED HEAD® TRUBOLT  
WEDGE ANCHOR  
Figure 1309**

The Figure 1309 is used for bolting components to concrete structures. Allows for through drilling applications.

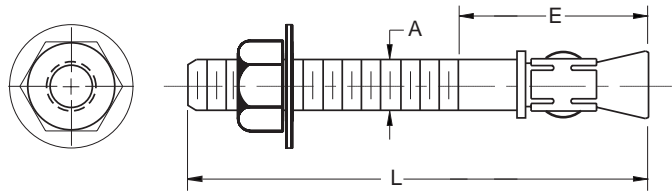
**INSTALLATION:** Drill holes the same diameter as the bolt an deeper than the required embedment. Drive the bolt into the hole so that at least six threads are below the top surface of the fixture. Tighten the nut with the washer in place. The resistance will increase after the third or fourth turn.

**NOTE:** Loads listed are based on a safety factor of four when installed in accordance with manufacturer’s recommendations. Contact us for higher loads are allowed due to increased embedment.

**Material:** High Tensile Steel. (Also available Galvanized or Stainless Steel).

**Finish:** Zinc Plated.

**Ordering:** Specify figure number, diameter and length. For Metric applications specify Figure M1309.



BOLT DIA.	4000 PSI CONCRETE SAFE WORKING LOAD		L	MIN. D(Embd)	MAX THCKNSS OF MAT'L TO BE FASTENED	T <sub>L</sub>
	TENSION	SHEAR				
1/4 6	390 1735	450 2002	1 3/4	1 1/8 29	3/8	1 1/8 29
			44		10	
			2 1/4		7/8	
			57		22	
3/8 10	805 3581	1000 4448	3 1/4	1 1/2 38	17/8	1 1/2 38
			83		48	
			2 1/4		3/8	
			57		10	
			2 3/4		7/8	
			70		22	
			3		1 1/8	
			76		29	
1/2 13	1350 6005	1725 7673	3 3/4	2 1/4 57	1 7/8	2 1/4 57
			95		48	
			5		3 1/8	
			127		79	
			2 3/4		1/8	
			70		3	
			3 3/4		1	
			95		25	
			4 1/4		1 1/2	
			108		38	
5/8 16	2000 8897	3120 13879	5 1/2	2 3/4 70	2 3/4	2 3/4 70
			140		70	
			7		4 1/4	
			178		108	
			3 1/2		1/8	
			89		3	
			4 1/4		7/8	
			108		22	
			5		1 5/8	
			127		41	
			6		2 5/8	
			152		67	
			7		3 5/8	
			178		92	
3/4 19	2500 11121	4500 20018	8 1/2	3 1/4 83	5 1/8	1 1/2 38
			216		130	
			10		6 3/8	
			254		168	
			4 1/4		1/4	
			108		6	
			4 3/4		3/4	
			121		19	
			5 1/2		1 1/2	
			140		38	
			6 1/4		2 1/4	
			159		57	
			7		3	
			178		76	
7/8 22	3400 15125	6300 28025	8 1/2	3 3/4 95	4 1/2	2 1/2 64
			216		114	
			10		6	
			254		159	
			6		1 3/8	
			152		35	
1 25	5200 23132	7100 31584	8	4 1/2 114	3 3/8	2 1/2 64
			203		86	
			10		5 3/8	
			254		137	
			6		1 1/2	
			152		13	
1 1/4 32	6800 30249	11000 48932	9	6 140	3 1/2	3 1/2 89
			229		89	
			12		6 1/2	
			305		165	
			12		2 3/4	3 1/2 89
			305		70	
					5 1/4	
			305		133	

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## HORIZONTAL TRAVELER

Figure 7054

The Figure 7054 is used to accommodate horizontal piping movement that exceeds the normal 4° misalignment limits. It is to be welded all around to the building structural member. Each unit is compact, self-contained and ready for installation. The design minimizes friction and dust accumulation thus assuring proper functioning.

**Material:** Carbon Steel with self lubricating bushings.

**Finish:** Plain.

**Ordering:** Specify figure number and size. For Metric applications specify Figure M7054.

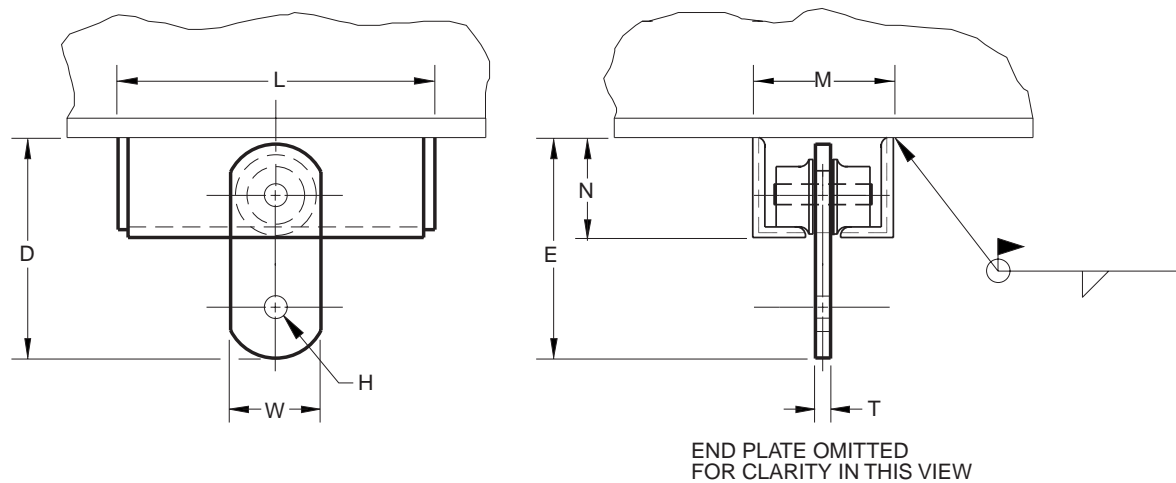


FIGURE 7054 – HORIZONTAL TRAVELER

SIZE	MAX LOAD	D	E	H (Max.)	L	M	N	T	W	WEIGHT EACH
1	3770	5 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	15	4 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	15
	16770	137	105	29	381	117	64	19	64	7
2	6230	7 <sup>7</sup> / <sub>8</sub>	6	1 <sup>3</sup> / <sub>8</sub>	16 <sup>1</sup> / <sub>2</sub>	6 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	34
	27714	200	152	35	419	171	89	19	89	15
3	11630	10 <sup>1</sup> / <sub>2</sub>	8	1 <sup>3</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	5	1	5	77
	51735	267	203	44	451	216	127	25	127	35
4	20700	12 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub>	10	6	1 <sup>1</sup> / <sub>2</sub>	6	120
	92082	318	241	60	502	254	152	38	152	54

## STANDARD HEX BOLT

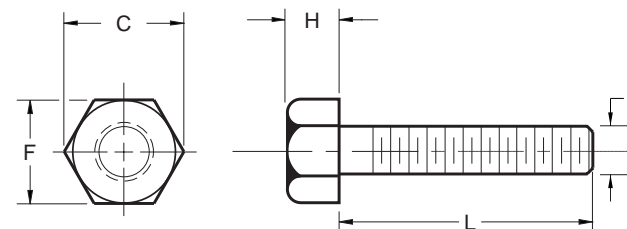
Figure 160

American Standard hex head bolts are stocked for immediate shipment in sizes <sup>3</sup>/<sub>8</sub>" to 1<sup>1</sup>/<sub>2</sub>" in various lengths. Length is measured from under the head to end.

**Material:** ASTM A-563 Grade A (Alloy and Stainless Steel grades are Available).

**Finish:** Plain, Electro-galvanized, Hot-Dip Galvanized.

**Ordering:** Specify figure number, finish and tap size. For Metric applications specify M160.



DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

**WELDED EYEROD**

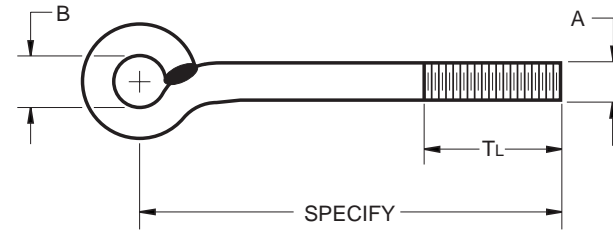
**Figure 93 (Right Hand Threads)**

**Figure 93L (Left Hand Threads)**

Welded Eyerods are designed to permit swing in the attachment component due to pipe movement.

**Material:** Carbon Steel. Larger rod diameters up to 2 1/2", special materials, and special eye dimensions can be furnished upon request. See Fig 5308 for larger sizes.

**Ordering:** Specify figure number, finish, rod size, rod length, and thread length if other than standard. For Metric applications specify M93 or M93L.



**FIGURE 93, 93L – WELDED EYEROD**

<b>A</b>	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>B</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
<b>THREAD LENGTH (TL)</b>	3	3	3	3	4	4	4	6	6	6	6	6
	76	76	76	76	102	102	102	152	152	152	152	152
<b>LOAD AT 650° F / 343° C</b>	610	1130	1810	2710	3770	4960	8000	11630	15700	20700	27200	33500
	2713	5026	8051	12055	16770	22063	35586	51733	69837	92078	120991	149015

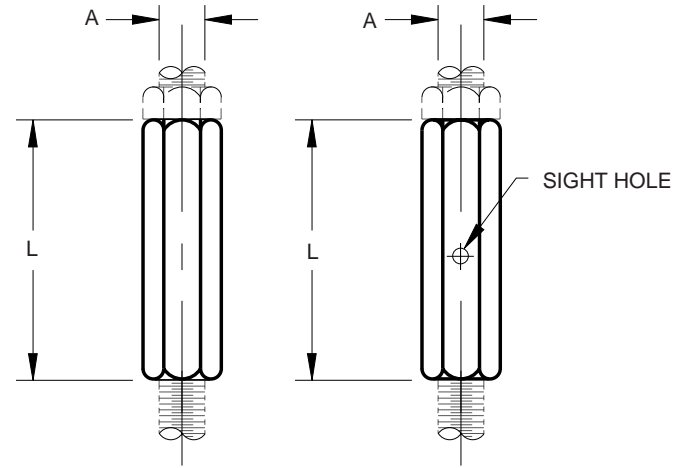
**STEEL ROD COUPLING**

**Figure 123**

**Figure 123W**

Figure 123 is used to connect rods up to 1 1/2 inch diameter. The Rod Coupling is made of carbon steel and can be welded to the rod after assembly. The Figure 123W has a sight hole mid length to allow for determining depth of thread engagement.

**Ordering:** Specify figure number, finish and rod size. For Metric applications specify Figure M123 or M123W.



**FIGURE 123**

**FIGURE 123W**

**FIGURE 123, 123W – ROD COUPLING**

ROD SIZE	MAXIMUM LOAD	L	WEIGHT EACH
1/4	240	7/8	0.02
M6	1068	22	0.01
3/8	610	1 3/4	0.08
M10	2714	44	0.04
1/2	1130	1 3/4	0.12
M12	5027	44	0.05
5/8	1810	2 1/8	0.17
M16	8052	54	0.08
3/4	2710	2 1/4	0.28
M20	12055	57	0.13
7/8	3770	2 1/4	0.44
M20	16770	57	0.20
1	4150	2 3/4	0.72
M24	18461	70	0.33
1 1/4	6660	3 1/4	1.41
M30	29626	83	0.64
1 1/2	7000	4	1.96
M36	31139	102	0.89

DIMENSIONS	TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS

## ALL-THREAD HANGER ROD

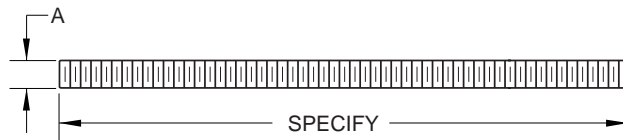
**Figure 94**  
**Figure 94SS**

This product has a standard machine thread running its entire length. It is particularly useful when exact rod lengths are questionable.

**Material:** Figure 94 is made of carbon steel while Figure 94SS is available in either 304 or 316 stainless steel. Available in precut six, ten, and twelve foot lengths. Can be cut to suit customer need upon request.

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

**Ordering:** Specify figure number, finish, rod size, and length. For Metric applications specify Figure M94 or M94SS.



**FIGURE 94, 94SS – ALL-THREAD HANGER ROD**

DIAMETER A	MAXIMUM LOAD	WEIGHT PER FOOT
<sup>3</sup> / <sub>8</sub>	610	0.30
M10	2714	0.14
<sup>1</sup> / <sub>2</sub>	1130	0.53
M12	5027	0.24
<sup>5</sup> / <sub>8</sub>	1810	0.84
M16	8052	0.38
<sup>3</sup> / <sub>4</sub>	2710	1.20
M20	12055	0.54
<sup>7</sup> / <sub>8</sub>	3700	1.70
M20	16459	0.77
1	4960	2.30
M24	22064	1.04
1 <sup>1</sup> / <sub>4</sub>	8000	3.60
M30	35587	1.63
1 <sup>1</sup> / <sub>2</sub>	11600	5.10
M36	51601	2.31

## MACHINE THREAD RODS

**Figure 133**  
(Right Hand Threads Both Ends)

**Figure 133L**  
(Right Hand and Left Hand Thread)

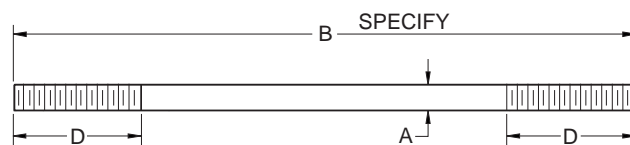
Furnished with UNC threads this product is made from carbon steel.

Maximum loads given are rated for up to 650° F (343° C).

**Material:** Carbon Steel (Stainless Steel is Available).

**Finish:** Plain, Electro-galvanized, Hot-Dip Galvanized.

**Ordering:** Specify material if other than carbon steel, figure number, finish, rod diameter, and length, and thread length if other than standard. For Metric applications specify M133 or M133L.



**FIGURE 133, 133L – MACHINE THREAD RODS**

DIAMETER A	THREAD LENGTH	LOAD AT 650° F / 343° C
<sup>3</sup> / <sub>8</sub>	3	610
M10	76	2713
<sup>1</sup> / <sub>2</sub>	3	1130
M12	76	5026
<sup>5</sup> / <sub>8</sub>	3	1810
M16	76	8051
<sup>3</sup> / <sub>4</sub>	3	2710
M20	76	12055
<sup>7</sup> / <sub>8</sub>	4	3770
M20	102	16770
1	4	4960
M24	102	22063
1 <sup>1</sup> / <sub>4</sub>	4	8000
M30	102	35586
1 <sup>1</sup> / <sub>2</sub>	6	11630
M36	152	51733
1 <sup>3</sup> / <sub>4</sub>	6	15700
M42	152	69837
2	6	20700
M48	152	92078
2 <sup>1</sup> / <sub>4</sub>	6	27200
M56	152	120991
2 <sup>1</sup> / <sub>2</sub>	6	33500
M64	152	149015
2 <sup>3</sup> / <sub>4</sub>	6	41580
M72	152	184956
3	6	50580
M80	152	224990
3 <sup>1</sup> / <sub>4</sub>	6	60480
M80	152	269027
3 <sup>1</sup> / <sub>2</sub>	6	71280
M90	152	317068
3 <sup>3</sup> / <sub>4</sub>	6	82890
M95	152	368711
4	6	95400
M100	152	424358

DIMENSIONS	TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS

**TURNBUCKLE**

**Figure 132**

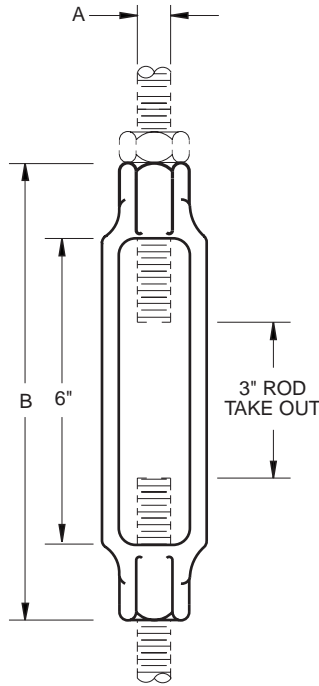
The Figure 132 is used to connect right and left hand threaded rods together and provide for adjustment.

**Material:** Forged Steel.

**Compliance:** Federal Specification WW-H-171 (Type 15), MSS-SP 69 (Type 13), and BSPSS-BS3974.

**Finish:** Plain, Galvanized.

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



**FIGURE 132 – TURNBUCKLE**

ROD SIZE	MAXIMUM LOAD		WEIGHT EACH
	A	B	
<sup>3</sup> / <sub>8</sub>	610	7 <sup>1</sup> / <sub>8</sub>	0.30
M10	2714	181	0.14
<sup>1</sup> / <sub>2</sub>	1130	7 <sup>1</sup> / <sub>2</sub>	0.60
M12	5027	191	0.27
<sup>5</sup> / <sub>8</sub>	1810	7 <sup>7</sup> / <sub>8</sub>	1.00
M16	8052	200	0.45
<sup>3</sup> / <sub>4</sub>	2710	8 <sup>1</sup> / <sub>4</sub>	1.20
M20	12055	210	0.54
<sup>7</sup> / <sub>8</sub>	3370	8 <sup>5</sup> / <sub>8</sub>	1.90
M20	14991	219	0.86
1	4960	9	2.50
M24	22064	229	1.13
<sup>1</sup> / <sub>4</sub>	8000	9 <sup>1</sup> / <sub>8</sub>	3.80
M30	35587	232	1.72
<sup>1</sup> / <sub>2</sub>	11630	9 <sup>3</sup> / <sub>4</sub>	5.70
M36	51735	248	2.59
<sup>1</sup> / <sub>4</sub>	15700	10 <sup>3</sup> / <sub>8</sub>	8.20
M42	69840	264	3.72
2	20700	11	14.20
M48	92082	279	6.44
<sup>2</sup> / <sub>4</sub>	27200	12 <sup>7</sup> / <sub>8</sub>	27.00
M56	120996	327	12.25
<sup>2</sup> / <sub>2</sub>	33500	13 <sup>1</sup> / <sub>2</sub>	33.00
M64	149021	343	14.97

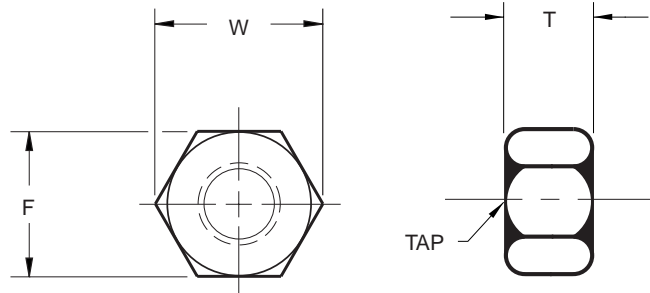
**HEAVY HEX NUT**

**Figure 165**

**Material:** ASTM A-563 Grade A (Alloy and Stainless Steel grades are available).

**Finish:** Plain, Electro-galvanized, Hot-Dip Galvanized.

**Ordering:** Specify figure number, finish and tap size. For Metric applications specify M165.



**FIGURE 165 – HEAVY HEX NUT**

TAP SIZE	MAX LOAD	F	T	W	WGT EACH
<sup>3</sup> / <sub>8</sub>	610	<sup>11</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	<sup>13</sup> / <sub>16</sub>	0.031
M10	2714	17	10	21	0.014
<sup>1</sup> / <sub>2</sub>	1130	<sup>7</sup> / <sub>8</sub>	<sup>1</sup> / <sub>2</sub>	1	0.065
M12	5027	22	13	25	0.030
<sup>5</sup> / <sub>8</sub>	1810	<sup>1</sup> / <sub>16</sub>	<sup>5</sup> / <sub>8</sub>	<sup>1</sup> / <sub>4</sub>	0.119
M16	8052	27	16	32	0.054
<sup>3</sup> / <sub>4</sub>	2710	<sup>1</sup> / <sub>4</sub>	<sup>3</sup> / <sub>4</sub>	<sup>17</sup> / <sub>16</sub>	0.193
M20	12055	32	19	37	0.088
1	4960	<sup>15</sup> / <sub>8</sub>	1	<sup>17</sup> / <sub>8</sub>	0.425
M24	22064	41	25	48	0.193
<sup>1</sup> / <sub>4</sub>	8000	2	<sup>1</sup> / <sub>4</sub>	<sup>25</sup> / <sub>16</sub>	0.786
M30	35587	51	32	59	0.357
<sup>1</sup> / <sub>2</sub>	11630	<sup>23</sup> / <sub>8</sub>	<sup>1</sup> / <sub>2</sub>	<sup>23</sup> / <sub>4</sub>	1.310
M36	51735	60	38	70	0.594
<sup>1</sup> / <sub>4</sub>	15700	<sup>23</sup> / <sub>4</sub>	<sup>13</sup> / <sub>4</sub>	<sup>33</sup> / <sub>16</sub>	2.040
M42	69840	70	44	81	0.925
2	20700	<sup>31</sup> / <sub>8</sub>	2	<sup>35</sup> / <sub>8</sub>	2.990
M48	92082	79	51	92	1.356
<sup>2</sup> / <sub>4</sub>	27200	<sup>31</sup> / <sub>2</sub>	<sup>2</sup> / <sub>4</sub>	<sup>41</sup> / <sub>16</sub>	4.190
M56	120996	89	57	103	1.901
<sup>2</sup> / <sub>2</sub>	33500	<sup>37</sup> / <sub>8</sub>	<sup>2</sup> / <sub>2</sub>	<sup>41</sup> / <sub>2</sub>	5.640
M64	149021	98	64	114	2.558
<sup>2</sup> / <sub>4</sub>	41580	<sup>41</sup> / <sub>4</sub>	<sup>23</sup> / <sub>4</sub>	<sup>415</sup> / <sub>16</sub>	7.380
M72	184964	108	70	125	3.348
3	50580	<sup>45</sup> / <sub>8</sub>	3	<sup>55</sup> / <sub>16</sub>	9.500
M80	225000	117	76	135	4.309
<sup>3</sup> / <sub>4</sub>	60480	5	<sup>3</sup> / <sub>4</sub>	<sup>53</sup> / <sub>4</sub>	11.940
M80	269039	127	83	146	5.416
<sup>3</sup> / <sub>2</sub>	71280	<sup>53</sup> / <sub>8</sub>	<sup>3</sup> / <sub>2</sub>	<sup>63</sup> / <sub>16</sub>	15.260
M90	317082	137	89	157	6.922

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## FORGED STEEL CLEVIS

Figure 276  
Figure 276P

The Figure 276 is used to connect rod ends with structural steel welding lug plates or lugs welded to pipe. It provides a pivot point and adjustment. It can be supplied with a pin as Fig 276P.

**Material:** Forged Steel.

**Compliance:** Federal Specification WW-H-171 (Type 14), MSS-SP 69 (Type 14), and BSPSS-BS3974.

**Finish:** Plain, Galvanized.

**Ordering:** Specify figure number, rod size, pin size, grip "G" and finish. For Metric applications specify M276 or M276P.

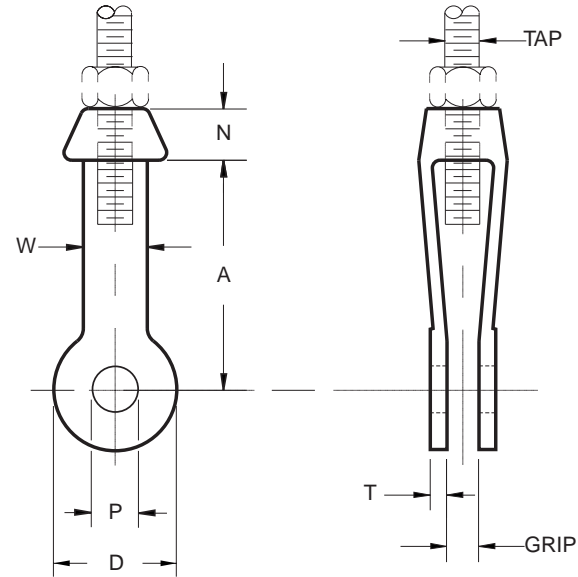


FIGURE 276 – FORGED STEEL CLEVIS

ROD SIZE	MAX LOAD		PIN/BOLT DIA.	SIZE NO.	A	D	N	P	T	W	WGT EACH
	650° F	343° C									
<sup>3</sup> / <sub>8</sub>	610		<sup>1</sup> / <sub>2</sub>	2	3 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	<sup>4</sup> / <sub>7</sub>	<sup>1</sup> / <sub>3</sub>	1	0.77
M10	2713		M12	48	95	38	16	14	8	25	0.35
<sup>1</sup> / <sub>2</sub>	1130		<sup>5</sup> / <sub>8</sub>	2	3 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	<sup>1</sup> / <sub>3</sub>	<sup>1</sup> / <sub>3</sub>	1	0.77
M12	5026		M16	48	95	38	16	8	8	25	0.35
<sup>5</sup> / <sub>8</sub>	1810		<sup>3</sup> / <sub>4</sub>	2	3 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	<sup>4</sup> / <sub>5</sub>	<sup>1</sup> / <sub>3</sub>	1	0.77
M16	8051		M20	48	95	38	16	21	8	25	0.35
<sup>3</sup> / <sub>4</sub>	2710		<sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	4	2 <sup>1</sup> / <sub>2</sub>	<sup>7</sup> / <sub>8</sub>	1	<sup>1</sup> / <sub>3</sub>	1 <sup>1</sup> / <sub>4</sub>	2.50
M20	12055		M20	64	102	64	22	24	8	32	1.13
<sup>7</sup> / <sub>8</sub>	3770		1	2 <sup>1</sup> / <sub>2</sub>	4	2 <sup>1</sup> / <sub>2</sub>	<sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	<sup>1</sup> / <sub>3</sub>	1 <sup>1</sup> / <sub>4</sub>	2.50
M20	16770		M24	64	102	64	22	29	8	32	1.13
1	4960		1 <sup>1</sup> / <sub>8</sub>	3	5	3	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	<sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	4.00
M24	22063		M30	80	127	76	35	32	13	38	1.81
1 <sup>1</sup> / <sub>4</sub>	8000		1 <sup>3</sup> / <sub>8</sub>	3	5	3	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	<sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	4.00
M30	35586		M36	80	127	76	35	38	13	38	1.81
1 <sup>1</sup> / <sub>2</sub>	11630		1 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	6	3 <sup>1</sup> / <sub>2</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	<sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>4</sub>	6.00
M36	51733		M42	90	152	89	41	44	13	44	2.72
1 <sup>3</sup> / <sub>4</sub>	15700		1 <sup>7</sup> / <sub>8</sub>	4	6	4	1 <sup>3</sup> / <sub>4</sub>	2	<sup>1</sup> / <sub>2</sub>	2	8.00
M42	69837		M48	100	152	102	102	51	13	51	3.63
2	20700		2 <sup>1</sup> / <sub>4</sub>	5	7	5	2 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	16.00
M48	92078		M56	125	178	127	102	60	16	64	7.26
2 <sup>1</sup> / <sub>4</sub>	27200		2 <sup>1</sup> / <sub>2</sub>	6	8	6	2 <sup>3</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	3	26.00
M56	120991		M64	150	203	152	102	67	19	76	11.79
2 <sup>1</sup> / <sub>2</sub>	33500		2 <sup>3</sup> / <sub>4</sub>	6	8	6	2 <sup>3</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	3	36.00
M64	149015		M72	150	203	152	102	73	19	76	16.33

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

**FORGED WELDLESS EYENUT**

**Figure 279**  
**Figure 279L**

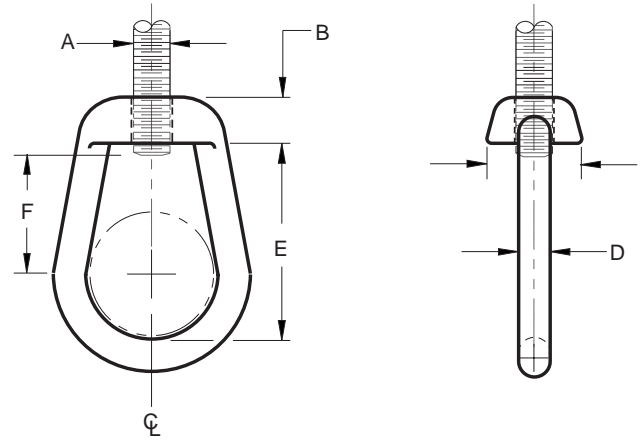
The Figure 279 is used to connect rod ends with structural steel welded beam attachments or pipe clamps as a substitute for a welded eyerod. It provides a pivot point and adjustment. It can also be supplied tapped left hand as Fig 279L.

**Material:** Forged Steel.

**Compliance:** Federal Specification WW-H-171 (Type 17), MSS-SP 69 (Type 17), and BSPSS-BS3974.

**Finish:** Plain, Galvanized.

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



**FIGURE 279 – WELDLESS EYENUT**

ROD TAP	MAX LOAD 650° F / 343 °C						WEIGHT EACH
A		B	C	D	E	F	
<sup>3</sup> / <sub>8</sub>	610	<sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>4</sub>	<sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>	1	0.20
M10	2714	13	19	8	32	25	0.09
<sup>1</sup> / <sub>2</sub>	1130	<sup>5</sup> / <sub>8</sub>	<sup>7</sup> / <sub>8</sub>	<sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	1	0.31
M12	5027	16	22	10	38	25	0.14
<sup>5</sup> / <sub>8</sub>	1810	<sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	<sup>1</sup> / <sub>2</sub>	1 <sup>7</sup> / <sub>8</sub>	1	0.55
M16	8052	19	35	13	48	25	0.25
<sup>3</sup> / <sub>4</sub>	2710	<sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	1	1.00
M20	12055	19	38	16	64	25	0.45
<sup>7</sup> / <sub>8</sub>	3770	1	2	<sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1.55
M20	14991	25	51	19	64	35	0.70
1	4960	1 <sup>1</sup> / <sub>8</sub>	2	<sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>4</sub>	2.45
M24	22064	29	51	19	64	44	1.11
1 <sup>1</sup> / <sub>4</sub>	8000	1 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	1	3 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	3.75
M30	35587	32	60	25	86	44	1.70
1 <sup>1</sup> / <sub>2</sub>	11630	1 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	1	3 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	6.75
M36	51735	32	60	25	86	44	3.06
1 <sup>3</sup> / <sub>4</sub>	15700	2 <sup>1</sup> / <sub>4</sub>	4	1 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	16.40
M42	69840	57	102	38	159	83	7.44
2	20700	2 <sup>1</sup> / <sub>4</sub>	4	1 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	16.75
M48	92082	57	102	38	159	83	7.60
2 <sup>1</sup> / <sub>4</sub>	27200	2 <sup>1</sup> / <sub>4</sub>	4	1 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	16.75
M56	120996	57	102	38	159	83	7.60
2 <sup>1</sup> / <sub>2</sub>	33500	2 <sup>1</sup> / <sub>4</sub>	4	1 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	16.75
M64	149021	57	102	38	159	83	7.60

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## LOAD COUPLING

Figure 5105

The Figure 5105 is used for adjustment of the support rods, similar to Figure 132, with up to 24" of adjustment. It is furnished with right and left hand UNC threads.

Rated loads are for up to 650° F (343° C).

**Material:** Carbon Steel.

**Compliance:** Federal Specification WW-H-171 (Type 15), MSS-SP-69 (Type 13), and BSPSS-BS3974.

**Finish:** Plain, Electro-Galvanized.

**Ordering:** Specify figure number, gap, and rod size.  
For Metric applications specify Figure M5105.

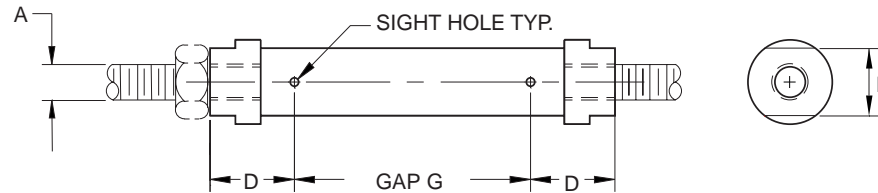


FIGURE 5105 – LOAD COUPLING

ROD SIZE A	MAXIMUM LOAD	D	E	GAP OPENING "G"			
				WEIGHT EACH			
				6"	12"	18"	24"
1 <sup>1</sup> / <sub>4</sub>	8000	2 <sup>5</sup> / <sub>8</sub>	2	11	15	19	23
M30	35587	67	51	5	7	9	10
1 <sup>1</sup> / <sub>2</sub>	11630	2 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	11	15	18	22
M36	51735	67	60	5	7	8	10
1 <sup>3</sup> / <sub>4</sub>	15700	2 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	10	14	18	21
M42	69840	67	70	5	6	8	10
2	20700	3 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	20	25	30	35
M48	92082	92	79	9	11	14	16
2 <sup>1</sup> / <sub>4</sub>	27200	3 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	18	23	29	34
M56	120996	92	89	8	10	13	15
2 <sup>1</sup> / <sub>2</sub>	33500	3 <sup>5</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	17	22	27	32
M64	149021	92	98	8	10	12	15
2 <sup>3</sup> / <sub>4</sub>	41580	4 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>4</sub>	36	52	60	67
M72	184964	108	108	16	24	27	30
3	50580	4 <sup>1</sup> / <sub>4</sub>	4 <sup>5</sup> / <sub>8</sub>	42	50	57	65
M80	225000	108	117	19	23	26	29
3 <sup>1</sup> / <sub>4</sub>	60480	4 <sup>1</sup> / <sub>4</sub>	5	40	48	55	63
M80	269039	108	127	18	22	25	29
3 <sup>1</sup> / <sub>2</sub>	71280	5 <sup>1</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>8</sub>	73	90	100	111
M90	317082	133	137	33	41	45	50
3 <sup>3</sup> / <sub>4</sub>	82890	5 <sup>1</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	76	86	97	107
M95	368728	133	146	34	39	44	49
4	95400	5 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>8</sub>	76	90	103	117
100	424377	133	156	34	41	47	53
4 <sup>1</sup> / <sub>4</sub>	109000	5 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	72	85	99	112
108	484875	133	165	33	39	45	51
4 <sup>1</sup> / <sub>2</sub>	123000	6 <sup>1</sup> / <sub>2</sub>	6 <sup>7</sup> / <sub>8</sub>	131	150	168	186
114	547153	165	175	59	68	76	84
4 <sup>3</sup> / <sub>4</sub>	138000	6 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>4</sub>	126	144	162	180
120	613879	165	184	57	65	73	82
5	154000	6 <sup>1</sup> / <sub>2</sub>	7 <sup>5</sup> / <sub>8</sub>	120	138	156	174
127	685053	165	194	54	63	71	79

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

**ROD WITH EYE**

**Figure 5308**

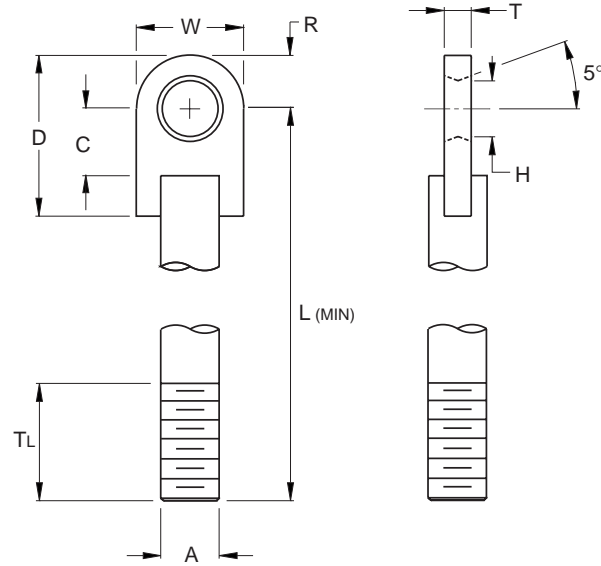
The Figure 5308 provides eyerod capability for large diameter rods with heavy loads. Furnished with right hand UNC threading in sizes 2<sup>3</sup>/<sub>4</sub>" to 5".

Rated loads are for up to 650° F (343° C).

**Material:** Carbon Steel.

**Finish:** Plain, Electro-Galvanized.

**Ordering:** Specify figure number and rod size. For Metric applications specify Figure M5308.



**FIGURE 5308 – ROD WITH EYE**

PIPE SIZE	MAX LOAD	C	D	H	L (MIN.)	R	T	T <sub>L</sub>	W	WGT EA. AT MIN. LENGTH	WGT PER FOOT OF ADD'L ROD
2 <sup>3</sup> / <sub>4</sub>	41580	3 <sup>3</sup> / <sub>4</sub>	9	3 <sup>1</sup> / <sub>8</sub>	19	3	1 <sup>1</sup> / <sub>2</sub>	12	6	35.9	20.2
M72	184964	95	229	79	483	76	38	305	152	16.3	9.2
3	50580	4	10	3 <sup>3</sup> / <sub>8</sub>	20	3	1 <sup>1</sup> / <sub>2</sub>	12	6	42.9	24.0
M80	225000	102	254	86	508	76	38	305	152	19.5	10.9
3 <sup>1</sup> / <sub>4</sub>	60480	4	11 <sup>1</sup> / <sub>2</sub>	3 <sup>5</sup> / <sub>8</sub>	21	3 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	12	7	54.7	28.2
M80	269039	102	292	92	533	89	38	305	178	24.8	12.8
3 <sup>1</sup> / <sub>2</sub>	71280	4 <sup>3</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>2</sub>	3 <sup>7</sup> / <sub>8</sub>	24	3 <sup>1</sup> / <sub>2</sub>	2	15	7	67.3	32.7
M90	317082	121	292	98	610	89	51	381	178	30.5	14.8
3 <sup>3</sup> / <sub>4</sub>	82890	5	13 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>8</sub>	25	4 <sup>1</sup> / <sub>4</sub>	2	15	8 <sup>1</sup> / <sub>2</sub>	80.0	37.6
M95	368728	127	337	105	635	108	51	381	216	36.3	17.1
4	90069	5	14 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	26	4 <sup>1</sup> / <sub>2</sub>	2	15	9	97.0	42.7
M100	400663	127	368	111	660	114	51	381	229	44.0	19.4
4 <sup>1</sup> / <sub>4</sub>	95217	5 <sup>1</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>8</sub>	30	4 <sup>3</sup> / <sub>4</sub>	2	18	9 <sup>1</sup> / <sub>2</sub>	127.0	48.2
M108	423563	133	394	117	762	121	51	457	241	57.6	21.9
4 <sup>1</sup> / <sub>2</sub>	123000	5 <sup>3</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	30	4 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	18	9 <sup>3</sup> / <sub>4</sub>	131.0	54.1
M114	547153	146	384	124	762	124	64	457	248	59.4	24.5
4 <sup>3</sup> / <sub>4</sub>	138000	5 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>8</sub>	31	5 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	18	10 <sup>1</sup> / <sub>2</sub>	154.0	60.3
M120	613879	146	413	130	787	133	64	457	267	69.9	27.4
5	154000	6 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	32	5 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	18	11 <sup>1</sup> / <sub>4</sub>	175.0	66.8
M127	685053	159	460	137	813	143	64	457	286	79.4	30.3

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## HEAVY DUTY THREE BOLT PIPE CLAMP

Figure 91

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

Rated loads are for up to 750° F (399° C).

**Material:** Carbon Steel.

**Compliance:** Federal Specification WW-H-171 (Type 3), MSS-SP-69 (Type 3), and BSPSS-BS3974.

**Finish:** Plain, Galvanized.

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

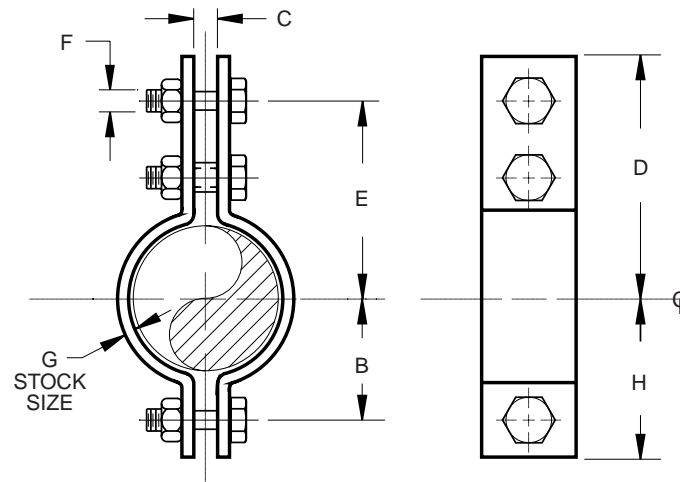


FIGURE 91 – HEAVY DUTY THREE BOLT PIPE CLAMP

PIPE SIZE	MAXIMUM LOAD		B	C	D	TAKE OUT E	F	G	H	WEIGHT EACH
	650° F 343° C	750° F 399° C								
6	3500	3125	4 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>4</sub>	9	1	<sup>3</sup> / <sub>8</sub> x 2 <sup>1</sup> / <sub>2</sub>	6	14.26
150	15569	13901	121	44	260	229	M24	10 x 64	152	6.47
8	4800	4285	6	2	11 <sup>3</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	<sup>1</sup> / <sub>2</sub> x 2 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>4</sub>	22.20
200	21352	19061	152	51	289	257	M30	13 x 64	184	10.07
10	5500	4910	7 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	<sup>1</sup> / <sub>2</sub> x 3 <sup>1</sup> / <sub>2</sub>	9	35.10
250	24466	21842	184	57	333	289	M30	13 x 89	229	15.92
12	7000	6250	8 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	14 <sup>7</sup> / <sub>8</sub>	12 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub> x 4	10 <sup>7</sup> / <sub>8</sub>	58.09
300	31139	27802	225	64	378	327	M36	16 x 102	276	26.35
14	9500	8485	10	2 <sup>1</sup> / <sub>2</sub>	15 <sup>5</sup> / <sub>8</sub>	13 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>4</sub> x 4	12	71.31
350	42260	37745	254	64	397	346	M36	19 x 102	305	32.35
16	10000	8930	10 <sup>7</sup> / <sub>8</sub>	3	17 <sup>1</sup> / <sub>8</sub>	14 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	<sup>3</sup> / <sub>4</sub> x 5	13 <sup>1</sup> / <sub>8</sub>	105.77
400	44484	39724	276	76	435	378	M42	19 x 127	333	47.98
18	13800	12325	12 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>2</sub>	19 <sup>3</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>4</sub>	2	1 x 4	15	153.73
450	61388	54827	318	89	502	438	M48	25 x 102	381	69.73
20	15300	13665	13 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>2</sub>	20 <sup>3</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>4</sub>	2	1 x 5	16	176.40
500	68060	60787	343	89	527	464	M48	25 x 127	406	80.02
24	16300	14555	16	3 <sup>1</sup> / <sub>2</sub>	23 <sup>1</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>4</sub>	2	1 x 6	19	237.02
600	72509	64746	406	89	591	514	M48	25 x 152	483	107.51
30	20500	18300	19 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	28 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	1 x 8	24 <sup>3</sup> / <sub>8</sub>	388.37
750	91192	81406	505	108	832	718	M56	25 x 203	619	176.16
36	28000	.....	24 <sup>5</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	40 <sup>1</sup> / <sub>4</sub>	34 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub> x 8	30 <sup>1</sup> / <sub>8</sub>	678.00
900	124555	.....	625	114	1022	883	M72	38 x 203	765	307.54

DIMENSIONS	TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	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.

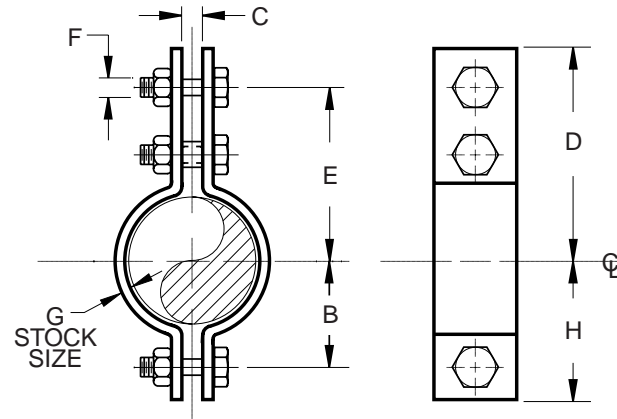
Temperature range: Above 750° F (399° C) to 1050° F (566° C).

**Material:** Chrome Molybdenum Steel ASTM A-387 Grade 22.

**Compliance:** Federal Specification WW-H-171 (Type 3), MSS-SP-69 (Type 3), and BSPSS-BS3974.

**Finish:** Plain

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



**FIGURE 91Z – HEAVY ALLOY THREE BOLT PIPE CLAMP**

PIPE SIZE	MAXIMUM LOAD			B	C	D	E	F	G	H	WEIGHT EACH
	950° F 510° C	1000° F 538° C	1050° F 566° C								
6	7300	5200	3700	5 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	11	9	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub> x 4	7	28
150	32473	23132	16459	133	44	279	229	M36	13 x 102	178	13
8	7300	5200	3700	6 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	12	10	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub> x 4	8 <sup>1</sup> / <sub>2</sub>	33
200	32473	23132	16459	168	44	305	254	M36	13 x 102	216	15
10	10000	7200	5000	7 <sup>7</sup> / <sub>8</sub>	2	14	12	1 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub> x 4	10	53
250	44484	32028	22242	200	51	356	305	M42	19 x 102	254	24
12	10000	7200	5000	9 <sup>3</sup> / <sub>8</sub>	2	15	13	1 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub> x 4	11 <sup>1</sup> / <sub>4</sub>	65
300	44484	32028	22242	238	51	381	330	M42	19 x 102	286	29
14	11600	8300	6000	9 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	14	1 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub> x 4 <sup>1</sup> / <sub>2</sub>	12	88
350	51601	36922	26690	251	57	413	356	M48	19 x 114	305	40
16	11600	8300	6000	11	2 <sup>1</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>4</sub>	15	1 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub> x 4 <sup>1</sup> / <sub>2</sub>	13	95
400	51601	36922	26690	279	57	438	381	M48	19 x 114	330	43
18	11600	8300	6000	12	2 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>4</sub>	16	1 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub> x 4 <sup>1</sup> / <sub>2</sub>	14	103
450	51601	36922	26690	305	57	464	406	M48	19 x 114	356	47
20	15000	10600	7500	13 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>2</sub>	18	2	1 x 5	15 <sup>1</sup> / <sub>2</sub>	142
500	66726	47153	33363	343	57	521	457	M48	25 x 127	394	64
24	15000	13000	9000	15 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	23	20	2	1 <sup>1</sup> / <sub>8</sub> x 6	18	213
600	66726	57829	40036	400	57	584	508	M48	29 x 152	457	97
30	15000	13000	9000	19	2 <sup>1</sup> / <sub>4</sub>	28	25	2	1 <sup>1</sup> / <sub>4</sub> x 6	21 <sup>1</sup> / <sub>2</sub>	300
750	66726	57829	40036	483	57	711	635	M48	32 x 152	546	136
36	15000	13000	9000	22	2 <sup>1</sup> / <sub>4</sub>	31	28	2	1 <sup>1</sup> / <sub>4</sub> x 6	24 <sup>1</sup> / <sub>2</sub>	340
900	66726	57829	40036	559	57	787	711	M48	32 x 152	622	154

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## CLEVIS HANGER

Figure 100  
Figure 100SS

Designed to support non-insulated, stationary lines from above allowing for approximately 1" to 1½" 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.

Hangers for 12" pipe size and larger are furnished with spreaders on the cross bolts.

Rated Loads are for up to 650° F (343° C).

**Material:** Carbon Steel (Also available in Stainless Steel as Figure 100SS).

**Compliance:** Federal Specification WW-H-171E Type 1, MSS-SP-69 (Type 1) and BSPSS-BS3974.

**Finish:** Plain, Galvanized, Plastic Coated.

**Ordering:** Specify figure number, finish and pipe size. For Metric applications specify Figure M100 OR M100SS.

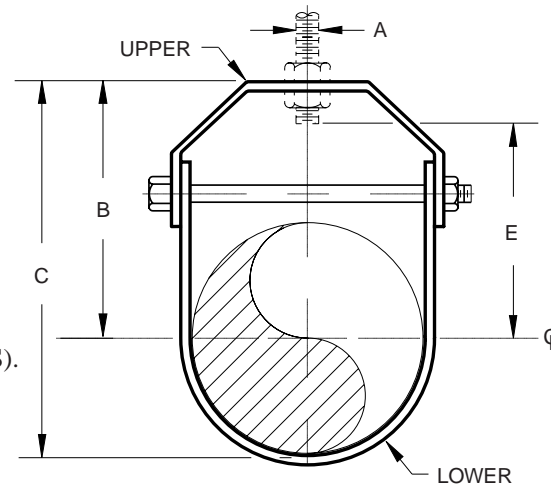


FIGURE 100 – CLEVIS HANGER

PIPE SIZE	MAXIMUM LOAD	A	B	C	ROD TAKE OUT E	STEEL SIZE UPPER	STEEL SIZE LOWER	WEIGHT EACH
½	610	⅜	2¾	3⅛	1⅞	11ga x 1	11ga x 1	0.27
15	2714	M10	70	79	48	3 x 25	3 x 25	0.12
¾	610	⅜	2⅛	2¾	1½	11ga x 1	11ga x 1	0.29
20	2714	M10	54	70	38	3 x 25	3 x 25	0.13
1	610	⅜	3	3¾	2¼	11ga x 1	11ga x 1	0.33
25	2714	M10	76	95	57	3 x 25	3 x 25	0.15
1¼	610	⅜	3⅛	4	2¼	11ga x 1	11ga x 1	0.36
32	2714	M10	79	102	57	3 x 25	3 x 25	0.16
1½	610	⅜	3¼	4¼	2⅜	11ga x 1	11ga x 1	0.42
40	2714	M10	83	108	60	3 x 25	3 x 25	0.19
2	610	⅜	3⅜	4⅝	1¼	11ga x 1	11ga x 1	0.52
50	2714	M10	86	117	32	3 x 25	3 x 25	0.24
2½	1130	½	4⅛	5⅝	3⅛	7ga x 1¼	7ga x 1¼	0.61
65	5027	M12	105	143	79	5 x 32	5 x 32	0.28
3	1130	½	5	6⅞	4⅛	7ga x 1¼	7ga x 1¼	0.90
80	5027	M12	127	175	105	5 x 32	5 x 32	0.41
3½	1130	½	4½	6⅝	3⅝	7ga x 1¼	7ga x 1¼	0.99
90	5027	M12	114	168	92	5 x 32	5 x 32	0.45
4	1430	⅝	5⅜	7¾	4⅜	3ga x 1¼	7ga x 1¼	1.40
100	6361	M16	137	197	111	6 x 32	5 x 32	0.64
5	1430	⅝	6	8⅞	5	3ga x 1¼	7ga x 1¼	2.10
125	6361	M16	152	225	127	6 x 32	5 x 32	0.95
6	1940	¾	7	10½	5⅞	3ga x 1¼	7ga x 1½	3.00
150	8630	M20	178	267	149	6 x 32	4 x 38	1.36
8	2000	¾	8½	12¾	6¾	¼ x 1¾	⅜ x 1¾	5.25
200	8897	M20	216	324	171	6 x 44	5 x 44	2.38
10	3600	⅞	10	15⅝	8¼	⅜ x 1¾	¼ x 1¾	9.10
250	16014	M20	254	391	210	10 x 44	6 x 44	4.13
12	3800	⅞	11⅛	17½	9¼	⅜ x 2	¼ x 2	11.75
300	16904	M20	283	445	235	10 x 51	6 x 51	5.33
14	4200	1	12½	19½	10⅝	½ x 2	¼ x 2	14.25
350	18683	M24	318	495	270	13 x 51	6 x 51	6.46
16	4800	1	15	23	13⅞	½ x 2½	¼ x 2½	20.75
400	21352	M24	381	584	333	13 x 64	6 x 64	9.41
18	4800	1¼	15¾	24¾	13¾	½ x 2½	¼ x 2½	23.00
450	21352	M30	400	629	349	13 x 64	6 x 64	10.43
20	4800	1¼	17⅜	27⅜	15¼	⅝ x 3	⅜ x 3	41.50
500	21352	M30	441	695	387	16 x 76	10 x 76	18.82
24	4800	1¼	19⅝	31⅝	17½	⅝ x 3	⅜ x 3	50.00
600	21352	M30	498	803	445	16 x 76	10 x 76	22.68
30	6000	1¼	24¾	40¾	21¾	¾ x 3	⅜ x 3	68.08
750	26690	M30	629	1035	552	19 x 76	10 x 76	30.88
36	9500	1½	32⅞	50⅞	30	¾ x 6	½ x 6	68.68
900	42260	M36	835	1292	762	19 x 152	13 x 152	31.15

## ELONGATED CLEVIS HANGER

### Figure 100EL

The 100EL is designed for the suspension of insulated stationary pipe lines. Made of carbon steel it will accommodate 2 inches (51mm) of insulation up to 1½" (40mm) pipe, and 4 inches (102mm) of insulation for pipe 2½" (65mm) and larger.

Hanger locking nut above the clevis must be tightened securely to assure proper hanger performance. The nuts are not included.

Hangers for 18 inch (450mm) pipe and larger are furnished with spreaders on the cross bolts.

Rated Loads are for up to 650° F (343° C).

**Approvals:** Federal Specification WW-H-171 (Type 1), MSS-SP-69 (Type 1) and BSPSS-BS3974.

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

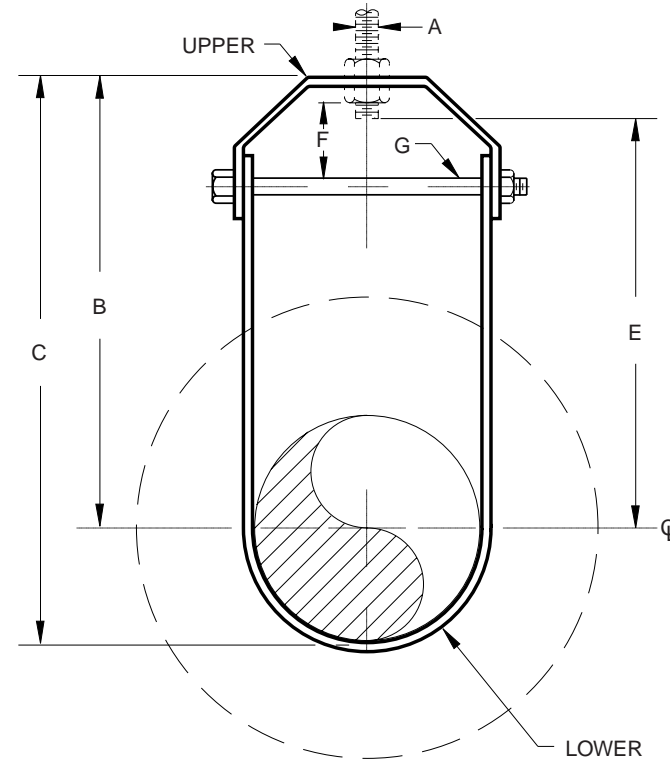


FIGURE 100EL – ELONGATED CLEVIS HANGER

PIPE SIZE	MAX LOAD	A	B	C	E	F	STEEL SIZE UPPER	STEEL SIZE LOWER	WEIGHT EACH
½	600	⅜	3¾	4¼	3½	⅝	⅛ x 1	⅛ x 1	0.66
15	2669	M10	95	108	89	16	3 x 25	3 x 25	0.30
¾	600	⅜	4¼	4⅞	3⅞	⅝	⅛ x 1	⅛ x 1	0.70
20	2669	M10	108	124	98	16	3 x 25	3 x 25	0.32
1	600	⅜	5⅞	5¾	4¾	1⅝	⅛ x 1	⅛ x 1	0.74
25	2669	M10	130	146	121	41	3 x 25	3 x 25	0.34
1¼	600	⅜	5⅜	6⅞	4⅞	1⅝	⅛ x 1	⅛ x 1	0.78
32	2669	M10	137	156	124	41	3 x 25	3 x 25	0.35
1½	600	⅜	5½	6⅜	5	1½	⅝/32 x 1	⅛ x 1	0.81
40	2669	M10	140	162	127	38	4 x 25	3 x 25	0.37
2	600	⅜	7⅝	8¾	7⅞	1⅝	⅝/32 x 1	⅛ x 1	0.88
50	2669	M10	194	222	181	41	4 x 25	3 x 25	0.40
2½	1100	½	7⅞	9¼	7¼	1⅞	⅜/16 x 1¼	⅜/16 x 1¼	1.83
65	4893	M12	200	235	184	29	5 x 32	5 x 32	0.83
3	1100	½	8⅞	9⅞	7½	1⅞	⅜/16 x 1¼	⅜/16 x 1¼	1.97
80	4893	M12	206	251	191	29	5 x 32	5 x 32	0.89
3½	1100	½	8¾	10¾	7¾	1¼	⅜/16 x 1¼	⅜/16 x 1¼	2.06
90	4893	M12	213	264	197	32	5 x 32	5 x 32	0.93
4	1400	⅝	9⅝	11⅞	8⅞	1¾	¼ x 1¼	⅜/16 x 1¼	2.57
100	6228	M16	244	302	225	44	6 x 32	5 x 32	1.17
5	1400	⅝	10¾	13⅞	9⅝	1⅞	¼ x 1¼	⅜/16 x 1¼	3.00
125	6228	M16	264	333	244	48	6 x 32	5 x 32	1.36
6	1900	¾	10⅞	14⅞	10	1⅝	¼ x 1½	⅜/16 x 1½	4.05
150	8452	M20	276	359	254	41	6 x 38	5 x 38	1.84
8	2000	⅞	12⅝	16⅞	11⅝	2⅞	¼ x 1¾	⅜/16 x 1¾	6.00
200	8897	M20	321	429	295	54	6 x 44	5 x 44	2.72
10	3600	⅞	13¼	18⅝	12⅞	2⅞	⅜/16 x 1¾	¼ x 1¾	10.10
250	16014	M20	337	562	308	60	5 x 44	6 x 44	4.58
12	3800	⅞	15¾	22⅞	14⅝	2⅝	⅜ x 2	¼ x 2	12.90
300	16904	M20	400	562	371	67	10 x 51	6 x 51	5.85

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## 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 supplied.

The stated Maximum Loads are based upon the use of the clamp as a rigid support. Use of the clamp with springs units will double the given Maximum Loads. Rated loads are for up to 650° F (343° C).

**Material:** Carbon Steel.

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

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

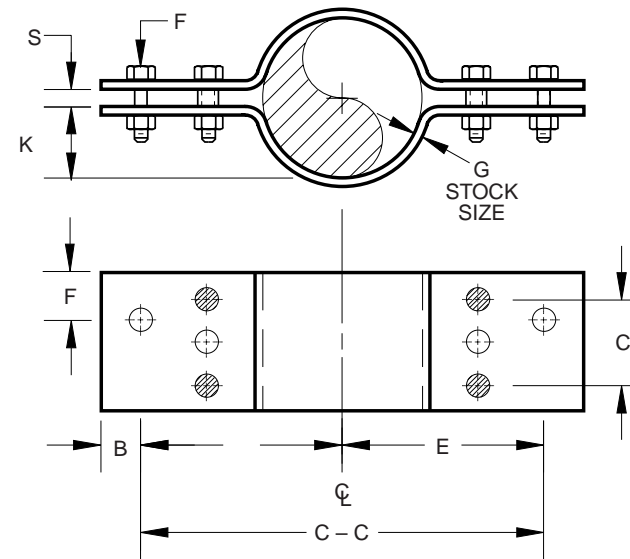


FIGURE 124 – RISER CLAMP

PIPE SIZE	MAX LOAD	A	B	C	C-C	E	F	G	K	S	WEIGHT EACH
2	900	1 <sup>1</sup> / <sub>4</sub>	2	-	18	9	<sup>3</sup> / <sub>8</sub>	1/2 x 2 <sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>16</sub>	<sup>3</sup> / <sub>4</sub>	17.5
50	4004	32	51	-	457	229	M10	13 x 64	5	19	7.9
2 <sup>1</sup> / <sub>2</sub>	900	1 <sup>1</sup> / <sub>4</sub>	2	-	20	10	<sup>3</sup> / <sub>8</sub>	1/2 x 2 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	<sup>3</sup> / <sub>4</sub>	19.1
65	4004	32	51	-	508	254	M10	13 x 64	27	19	8.7
3	1500	1 <sup>1</sup> / <sub>2</sub>	2	-	20	10	<sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub> x 3	1 <sup>3</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	29.4
80	6673	38	51	-	508	254	M12	16 x 76	35	19	13.3
4	2200	1 <sup>7</sup> / <sub>8</sub>	2	-	22	11	<sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>4</sub> x 3	1 <sup>7</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	38.5
100	9786	48	51	-	559	279	M12	19 x 76	48	19	17.5
5	2200	<sup>3</sup> / <sub>4</sub>	2	-	22	11	<sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub> x 4	2 <sup>3</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	43.2
125	9786	19	51	-	559	279	M12	16 x 102	60	19	19.6
6	3000	<sup>7</sup> / <sub>8</sub>	2	-	24	12	<sup>5</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub> x 4	2 <sup>13</sup> / <sub>16</sub>	1	56.8
150	13345	22	51	-	610	305	M16	19 x 102	71	25	25.8
8	3000	<sup>7</sup> / <sub>8</sub>	2	-	27	13 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub> x 5	3 <sup>13</sup> / <sub>16</sub>	1	79.2
200	13345	22	51	-	686	343	M16	19 x 127	97	25	35.9
10	5500	1 <sup>1</sup> / <sub>4</sub>	2	-	30	15	<sup>7</sup> / <sub>8</sub>	1 x 6	4 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	143.3
250	24466	32	51	-	762	381	M20	25 x 152	117	38	65.0
12	7800	1 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	-	32	16	1	1 x 7	5 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>4</sub>	183.7
300	34698	35	64	-	813	406	M24	25 x 178	140	44	83.3
14	7800	1 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	-	34	17	1	1 x 7	6 <sup>1</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	194.5
350	34698	35	64	-	864	432	M24	25 x 178	156	44	88.2
16	9000	1 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	-	36	18	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub> x 6	7	2	224.7
400	40036	38	64	-	914	457	M30	32 x 152	178	51	101.9
18	9000	1 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	-	39	19 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub> x 7	8	2	280.7
450	40036	38	64	-	991	495	M30	32 x 178	203	51	127.3
20	13500	1 <sup>7</sup> / <sub>8</sub>	3	4	42	21	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub> x 8	8 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	429.1
500	60053	48	76	102	1067	533	M36	38 x 203	222	64	194.6
24	13500	1 <sup>7</sup> / <sub>8</sub>	3	4	45	22 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub> x 8	10 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	465.1
600	60053	48	76	102	1143	572	M36	38 x 203	273	64	211.0

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

**PIPE STANCHION WITH U-BOLT**

**Figure 125**

The Figure 125 is used for support of piping from below without welding to the pipe.

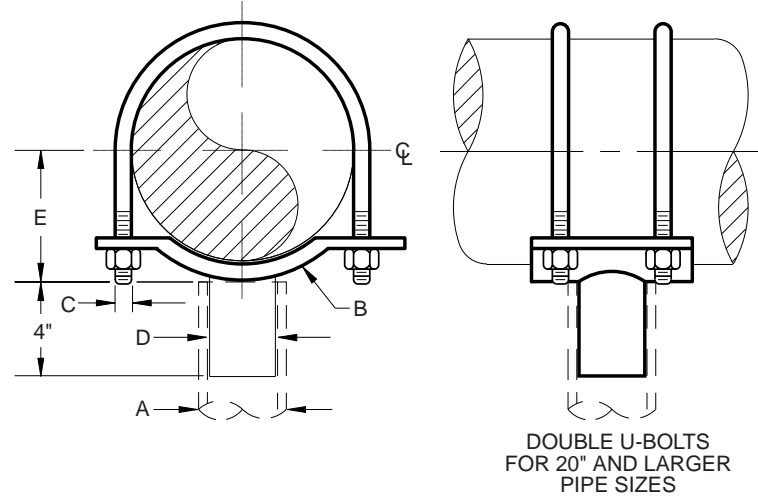
Rated loads are for up to 650° F (343° C).

**Material:** Made from carbon steel, sizes 20 inch and larger are furnished with two U-bolts. The lower supporting pipe 'A' must be ordered separately.

**Compliance:** Federal Specification WW-H-171 (Type 38), MSS-SP-69 (Type 37), and BSPSS-BS3974

**Finish:** Plain, Galvanized

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



**FIGURE 125 – PIPE STANCHION WITH U-BOLT**

PIPE SIZE	MAXIMUM LOAD	SUPPORT PIPE A	STEEL SIZE B	C	STEM D	WEIGHT EACH
4	1200	3	1/4 x 4	1/2	2 1/2	5.15
100	270	80	6 x 102	M12	65	2.34
5	1200	3	1/4 x 4	1/2	2 1/2	5.61
125	270	80	6 x 102	M12	65	2.54
6	1200	3	3/8 x 4	5/8	2 1/2	7.30
150	270	80	10 x 102	M16	65	3.31
8	1200	3	3/8 x 4	5/8	2 1/2	9.25
200	270	80	10 x 102	M16	65	4.20
10	1200	3	1/2 x 4	3/4	2 1/2	13.75
250	270	80	13 x 102	M20	65	6.24
12	1200	3	1/2 x 4	7/8	2 1/2	15.50
300	270	80	13 x 102	M20	65	7.03
14	1500	4	5/8 x 5	7/8	3	25.35
350	337	100	16 x 127	M20	80	11.50
16	1750	4	5/8 x 5	7/8	3	30.80
400	393	100	16 x 127	M20	80	13.97
18	2000	4	3/4 x 5	1	3	37.64
450	450	100	19 x 127	M24	80	17.07
20	3500	6	3/4 x 8	(2)-1	5	75.35
500	787	150	19 x 203	(2)-M24	125	34.18
24	3500	6	1 x 8	(2)-1 1/8	5	112.80
600	787	150	25 x 203	(2)-M30	125	51.17
30	3500	6	1 x 8	(2)-1 1/8	5	137.30
750	787	150	25 x 203	(2)-M30	125	62.28
36	3500	8	1 x 10	(2)-1 1/4	6	210.15
900	787	200	25 x 250	(2)-M30	150	95.32

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## EXTENSION RISER CLAMP

Figure 126

The Figure 126 is designed for the support or steadying of vertical pipe risers. It is made of carbon steel and 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 rods. Use our Figure 124 when hanger rods are required.

**Approvals:** Federal Specification WW-H-171 (Type 8), MSS-SP-69 (Type 8) and BSPSS-BS3974.

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

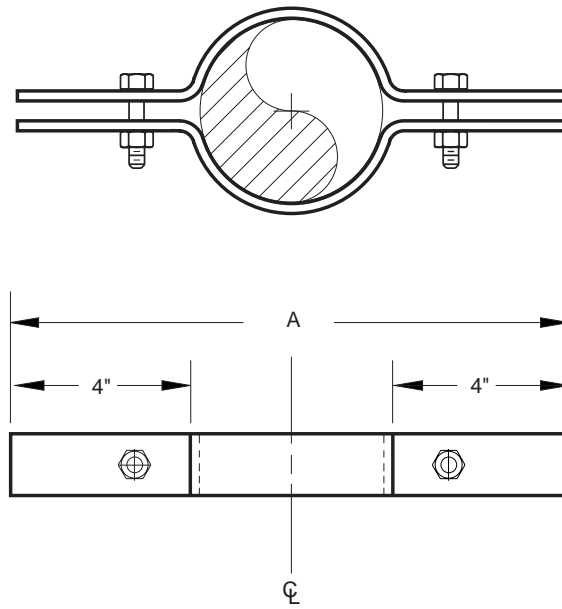


FIGURE 126 – EXTENSION RISER CLAMP

PIPE SIZE	MAX LOAD	A	STEEL SIZE	BOLT SIZE	WGT EACH
1/2	255	9	3/16 x 1 1/4	3/8 x 1 1/4	1.00
15	1134	229	5 x 32	10 x 32	0.45
3/4	255	8 7/8	3/16 x 1	3/8 x 1 1/2	1.08
20	1134	225	5 x 25	10 x 38	0.49
1	255	8 7/8	3/16 x 1	3/8 x 1 1/2	1.08
25	1134	225	5 x 25	10 x 38	0.49
1 1/4	255	10	3/16 x 1	3/8 x 1 1/2	1.86
32	1134	254	5 x 25	10 x 38	0.84
1 1/2	255	10 1/4	3/16 x 1	3/8 x 1 1/2	1.22
40	1134	260	5 x 25	10 x 38	0.55
2	255	10 1/4	3/16 x 1	7/16 x 1 1/2	1.30
50	1134	6613	5 x 25	11 x 38	0.59
2 1/2	390	11 1/4	1/4 x 1	7/16 x 1 1/2	1.74
65	1735	286	6 x 25	11 x 38	0.79
3	530	11 3/8	1/4 x 1	7/16 x 1 1/2	1.98
80	2358	289	6 x 25	11 x 38	0.90
3 1/2	670	12 7/8	1/4 x 1	1/2 x 2	2.14
90	2980	327	6 x 25	13 x 51	0.97
4	810	12 7/8	1/4 x 1	1/2 x 2	2.28
100	3603	327	6 x 25	13 x 51	1.03
5	1160	13 3/4	1/4 x 1 1/2	1/2 x 2	3.60
125	5160	349	6 x 38	13 x 51	1.63
6	1570	14 3/4	1/4 x 1 1/2	1/2 x 2	3.68
150	6984	375	6 x 38	13 x 51	1.67
8	2500	18 1/2	3/8 x 1 1/2	5/8 x 2	7.26
200	11121	470	10 x 38	16 x 51	3.29
10	2500	20 3/4	3/8 x 2	5/8 x 2 1/2	11.00
250	11121	527	10 x 51	16 x 64	4.99
12	2700	22 3/4	1/2 x 2	5/8 x 2 1/2	15.94
300	12011	578	13 x 51	16 x 64	7.23
14	2700	24	1/2 x 2	5/8 x 3	17.36
350	12011	610	13 x 51	16 x 76	7.87
16	2900	26	5/8 x 2 1/2	3/4 x 3	29.68
400	12900	660	16 x 64	19 x 76	13.46
18	2900	28	5/8 x 2 1/2	3/4 x 3	31.64
450	12900	711	16 x 64	19 x 76	14.35
20	2900	30	5/8 x 2 1/2	3/4 x 3 1/2	34.84
500	12900	762	16 x 64	19 x 89	15.80
24	2900	34	5/8 x 3	1 1/8 x 4	50.00
600	12900	864	16 x 76	29 x 102	22.68

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

**STANDARD ALLOY YOKE CLAMP**

**Figure 134**

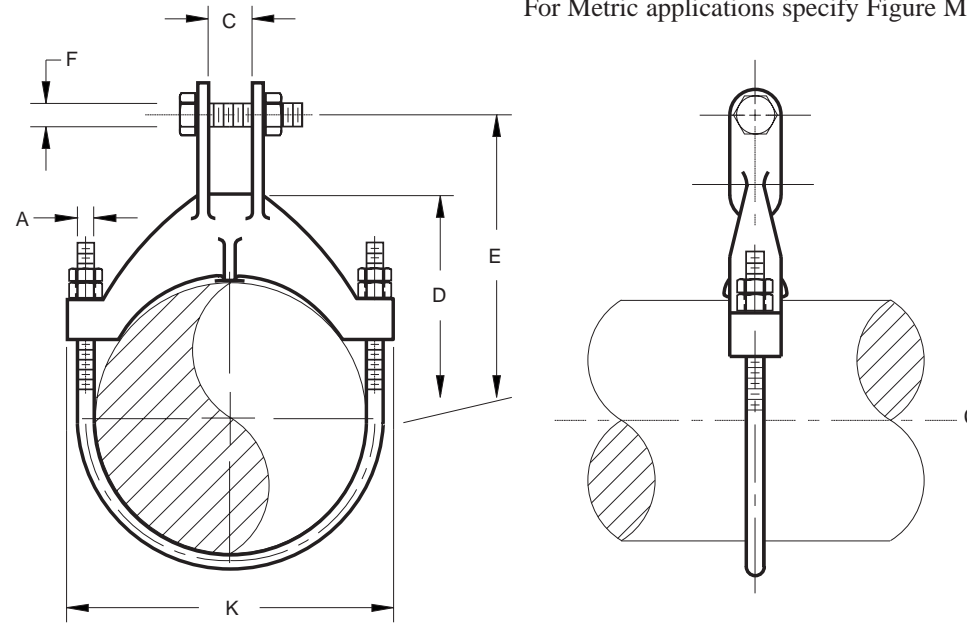
The Figure 134 is recommended for the suspension of high temperature piping that requires up to 4 inches of insulation. Normally used with a Figure 93 Welded EyeroD or Figure 279 Weldless EyenuD. An alloy load distribution strap is provided.

**Material:** Chrome molybdenum steel except U-bolt, which is stainless steel.

**Compliance:** Federal Specification WW-H-171 (Type 2), MSS-SP-69 (Type 2), and BSPSS-BS3974.

**Finish:** Plain.

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



**FIGURE 134 – STANDARD ALLOY YOKE CLAMP**

PIPE SIZE	MAXIMUM LOAD				C	D	TAKE OUT E	F	K	WEIGHT EACH
	750° F 399° C	950° F 510° C	1000° F 538° C	1050° F 566° C						
4	3780	3300	2770	1890	1 1/8	3 7/8	6 3/4	7/8	6 1/2	4.0
100	16815	14680	12322	8407	29	98	171	M20	165	1.8
6	6060	5290	4440	3030	1 1/2	5 1/2	8 3/8	1	9 1/8	7.5
150	26957	23532	19751	13479	38	140	213	M24	232	3.4
8	6060	5290	4440	3030	1 1/2	6 3/4	9 5/8	1	11 1/8	9.0
200	26957	23532	19751	13479	38	171	244	M24	283	4.1
10	9060	7910	6640	4420	1 1/2	8 3/8	10 7/8	1 1/8	13 5/8	15.8
250	40302	35187	29537	19662	38	213	276	M30	346	7.2
12	12570	10980	9015	6010	2	10 1/8	12 7/8	1 1/2	16 1/8	24.3
300	55916	48843	40102	26735	51	257	327	M36	410	11.0
14	12570	10980	9015	6010	2	11 1/8	13 7/8	1 1/2	17 3/8	26.3
350	55916	48843	40102	26735	51	283	352	M36	441	11.9
16	12570	10980	9015	6010	2	12 1/4	15	1 1/2	19 5/8	31.0
400	55916	48843	40102	26735	51	311	381	M36	498	14.1

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## ADJUSTABLE PIPE SUPPORT

Figure 137

Designed to support pipe from below, the Figure 137 is used in conjunction with flange or base mounted pipe column "B". The stem is threaded its full length and furnished with an nut to allow for vertical adjustment. A hardened flat washer (not furnished) should be installed under the adjustment nut.

Rated Loads are for up to 650° F (343° C).

**Material:** Carbon Steel.

**Finish:** Plain, Electro-galvanized.

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

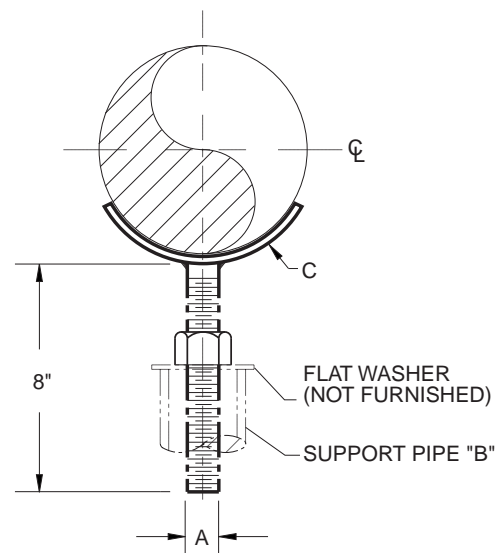


FIGURE 137 – ADJUSTABLE PIPE SUPPORT

PIPE SIZE	A	B	STEEL SIZE C	WEIGHT EACH
1	<sup>5</sup> / <sub>8</sub>	8	<sup>1</sup> / <sub>4</sub> x <sup>1</sup> / <sub>4</sub>	0.70
25	M16	203	6 x 32	0.32
1 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	8	<sup>1</sup> / <sub>4</sub> x <sup>1</sup> / <sub>4</sub>	0.74
40	M16	203	6 x 32	0.34
2	<sup>5</sup> / <sub>8</sub>	8	<sup>1</sup> / <sub>4</sub> x 1	0.80
50	M16	203	6 x 25	0.36
2 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	8	<sup>1</sup> / <sub>4</sub> x 1	0.84
65	M16	203	6 x 25	0.38
3	<sup>5</sup> / <sub>8</sub>	8	<sup>1</sup> / <sub>4</sub> x 1	1.02
80	M16	203	6 x 25	0.46
3 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	8	<sup>1</sup> / <sub>4</sub> x 1	1.06
90	M16	203	6 x 25	0.48
4	<sup>7</sup> / <sub>8</sub>	8	<sup>1</sup> / <sub>4</sub> x <sup>1</sup> / <sub>4</sub>	1.86
100	M20	203	6 x 32	0.84
5	<sup>7</sup> / <sub>8</sub>	8	<sup>1</sup> / <sub>4</sub> x <sup>1</sup> / <sub>4</sub>	2.50
125	M20	203	6 x 32	1.13
6	1	8	<sup>3</sup> / <sub>8</sub> x <sup>1</sup> / <sub>2</sub>	2.98
160	M24	203	10 x 38	1.35
8	1	8	<sup>3</sup> / <sub>8</sub> x <sup>1</sup> / <sub>2</sub>	3.28
200	M24	203	10 x 38	1.49
10	<sup>1</sup> / <sub>4</sub>	8	<sup>1</sup> / <sub>2</sub> x 2	6.30
250	M30	203	13 x 51	2.86
12	<sup>1</sup> / <sub>4</sub>	8	<sup>1</sup> / <sub>2</sub> x 2	7.00
300	M30	203	13 x 51	3.18

DIMENSIONS	TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS

**TWO BOLT PIPE CLAMP**

**Figure 175**  
**Figure 175SP**

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 Eyerod, or Figure 93 Welded Eyerod. 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.

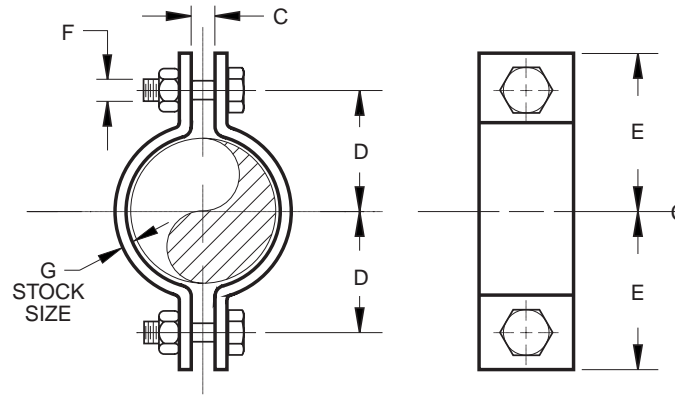
Rated Loads are for up to 750° F (399° C).

**Material:** Carbon Steel.

**Compliance:** Federal Specification WW-H-171 (Type 4), MSS-SP-69 (Type 4) and BSPSS-BS3974.

**Finish:** Plain, Galvanized.

**Ordering:** Specify figure number, finish and pipe size. 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		C	ROD TAKE OUT D	E	F	G	WEIGHT EACH
	650° F / 343° C	750° F / 343° C						
1/2	500	445	3/8	1 1/8	1 5/8	3/8	1/8 x 1	0.31
15	2224	1980	10	29	41	M10	3 x 25	0.14
3/4	500	445	3/8	1 1/4	1 3/4	3/8	1/8 x 1	0.35
20	2224	1980	10	32	44	M10	3 x 25	0.16
1	500	445	3/8	1 3/8	1 7/8	3/8	1/8 x 1	0.39
25	2224	1980	10	35	48	M10	3 x 25	0.18
1 1/4	500	445	3/8	1 5/8	2 1/8	3/8	1/8 x 1	0.40
32	2224	1980	10	41	54	M10	3 x 25	0.18
1 1/2	800	715	3/8	1 3/4	2 1/4	3/8	1/8 x 1	0.45
40	3559	3181	10	44	57	M10	3 x 25	0.20
2	1040	930	1/2	2 1/8	2 5/8	1/2	1/4 x 1	1.23
50	4626	4137	13	54	67	M12	6 x 25	0.56
2 1/2	1040	930	5/8	2 5/8	3 1/8	1/2	1/4 x 1	1.33
65	4626	4137	16	67	79	M12	6 x 25	0.60
3	1040	930	5/8	3	3 1/2	1/2	1/4 x 1	1.53
80	4626	4137	16	76	89	M12	6 x 25	0.69
4	1040	930	3/4	3 5/8	4 3/8	1/2	1/4 x 1 1/4	2.20
100	4626	4137	19	92	111	M12	6 x 32	1.00
5	1040	930	3/4	4 1/4	5	1/2	1/4 x 1 1/4	2.39
125	4626	4137	19	108	127	M12	6 x 32	1.08
6	1615	1440	7/8	6 1/4	5 1/4	3/4	3/8 x 1 1/2	5.87
150	7184	6406	22	159	133	M20	10 x 38	2.66
8	1615	1440	1	7 3/8	6 3/8	3/4	3/8 x 1 1/2	6.95
200	7184	6406	25	187	162	M20	10 x 38	3.15
10	2490	2220	1	8 3/4	7 5/8	7/8	1/2 x 2	14.39
250	11077	9875	25	222	194	M20	13 x 51	6.53
12	2490	2220	1	10 1/4	8 3/4	7/8	1/2 x 2	16.73
300	11077	9875	25	260	222	M20	13 x 51	7.59
14	2490	2220	1 1/8	10 5/8	9 1/4	7/8	1/2 x 2 1/2	21.26
350	11077	9875	29	270	235	M20	13 x 64	9.64
16	2490	2220	1 1/8	11 5/8	10 1/4	7/8	1/2 x 2 1/2	23.39
400	11077	9875	29	295	260	M20	13 x 64	10.61
18	3060	2730	1 1/4	13	11 5/8	1	5/8 x 2 1/2	32.96
450	13612	12144	32	330	295	M24	16 x 64	14.95
20	3060	2730	1 3/8	14 1/8	12 3/4	1 1/8	5/8 x 2 1/2	36.74
500	13612	12144	35	359	324	M30	16 x 64	16.67
24	3060	2730	1 1/2	16 7/8	15 1/4	1 1/4	5/8 x 3	52.96
600	13612	12144	38	429	387	M30	16 x 76	24.02
30	3500	3360	2	20 3/4	18 1/2	1 1/2	3/4 x 4	103.50
750	15569	14947	51	527	470	M36	19 x 102	46.95

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## ADJUSTABLE PIPE STANCHION WITH U-BOLT

Figure 191

The Figure 191 is used for support of piping from below without welding to the pipe with the added adjustment feature and a U-bolt for increased stability. The lower supporting pipe "B" must be ordered separately. A hardened flat washer (not furnished) should be used under the adjusting nut.

Rated loads are for up to 650° F (343° C).

**Material:** Carbon Steel.

**Compliance:** Federal Specification WW-H-171 (Type 38), MSS-SP-69 (Type 37), and BSPSS-BS3974.

**Finish:** Plain, Electro-Galvanized.

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

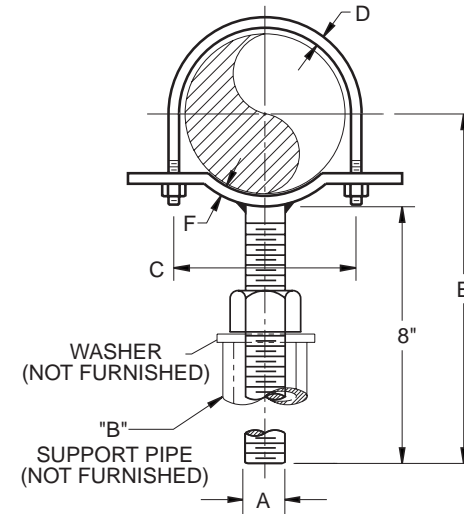


FIGURE 191 – ADJUSTABLE PIPE STANCHION WITH U-BOLT

PIPE SIZE	A	SUPPORT PIPE B	C	D	E	STEEL SIZE F	WEIGHT EACH
2	<sup>5</sup> / <sub>8</sub>	1	2 <sup>7</sup> / <sub>8</sub>	<sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>2</sub>	<sup>1</sup> / <sub>4</sub> x 1	1.2
50	M16	25	73	6	241	6 x 25	0.5
2 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	1	3 <sup>3</sup> / <sub>8</sub>	<sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>4</sub>	<sup>1</sup> / <sub>4</sub> x 1	1.4
65	M16	25	86	10	248	6 x 25	0.6
3	<sup>5</sup> / <sub>8</sub>	1	4	<sup>3</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>8</sub>	<sup>1</sup> / <sub>4</sub> x 1	1.6
80	M16	25	102	10	257	6 x 25	0.7
3 <sup>1</sup> / <sub>2</sub>	<sup>5</sup> / <sub>8</sub>	1	5	<sup>3</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>8</sub>	<sup>1</sup> / <sub>4</sub> x 1	2.6
90	M16	25	127	10	264	6 x 25	1.2
4	<sup>7</sup> / <sub>8</sub>	1	5 <sup>1</sup> / <sub>8</sub>	<sup>1</sup> / <sub>2</sub>	10 <sup>5</sup> / <sub>8</sub>	<sup>1</sup> / <sub>4</sub> x 1 <sup>1</sup> / <sub>4</sub>	3.0
100	M20	25	130	13	270	6 x 32	1.4
5	<sup>7</sup> / <sub>8</sub>	1	6 <sup>1</sup> / <sub>8</sub>	<sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>8</sub>	<sup>1</sup> / <sub>4</sub> x 1 <sup>1</sup> / <sub>4</sub>	3.2
125	M20	25	156	13	283	6 x 32	1.5
6	1	1 <sup>1</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>4</sub>	<sup>3</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>2</sub>	4.9
150	M24	32	187	16	298	10 x 38	2.2
8	1	1 <sup>1</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>4</sub>	<sup>3</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>2</sub>	6.2
200	M24	32	238	16	324	10 x 38	2.8
10	1 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	11 <sup>5</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	14	<sup>1</sup> / <sub>2</sub> x 2	10.5
250	M30	38	295	16	356	13 x 51	4.8
12	1 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>4</sub>	<sup>5</sup> / <sub>8</sub>	15	<sup>1</sup> / <sub>2</sub> x 2	11.8
300	M30	38	349	16	381	13 x 51	5.4

DIMENSIONS	TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS

**PIPE STRAPS**

**Figure 242A, 242B**

The Figure 242 is designed to restrain piping laterally while permitting movement in the axial and vertical direction. Fig 242A is a welded design and Figure 242B is bolted. Larger sizes are available upon request. Rated loads are for up to 650° F (343° C).

**Material:** Carbon Steel.

**Finish:** Plain.

**Ordering:** Specify figure number, and pipe size. For Metric applications, specify Figure M242A or M242B.

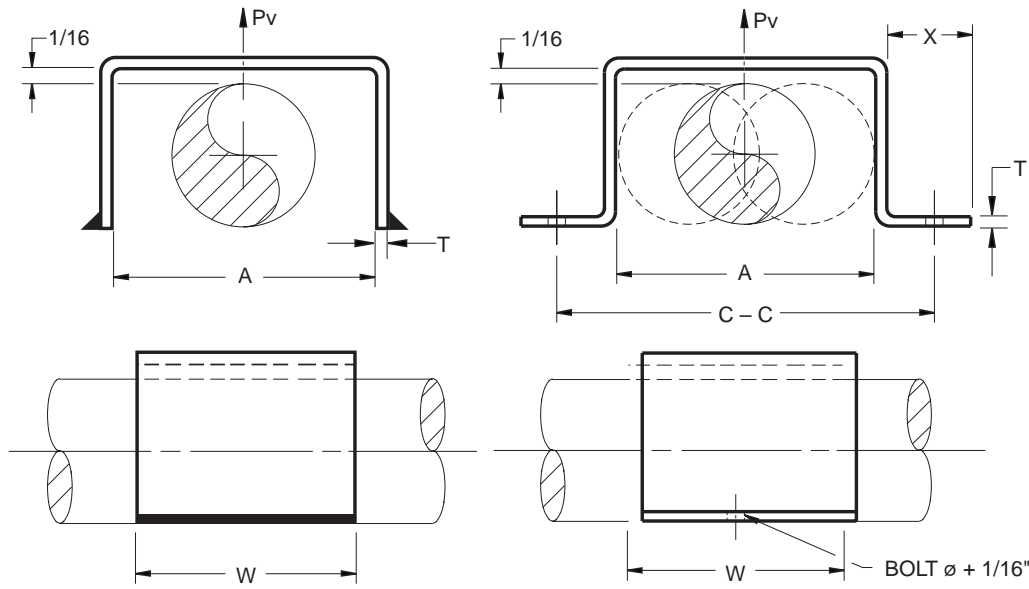


FIGURE 242A

FIGURE 242B

**FIGURE 242A, 242B – PIPE STRAPS**

PIPE SIZE	MAX LOAD PL	BOLT SIZE	A	B	C	E	F	G	WEIGHT EACH	
									242A	242B
1/2	125	3/4	1	2	4	3	1/4	3	1.06	1.77
15	556	M20	25	51	102	76	6	76	0.48	0.80
3/4	125	3/4	1 3/16	2	4 3/16	3	1/4	3	1.09	1.80
20	556	M20	30	51	106	76	6	76	0.49	0.82
1	125	3/4	1 7/16	2	4 7/16	3 1/4	1/4	3	1.20	1.90
25	556	M20	37	51	113	83	6	76	0.54	0.86
1 1/4	300	3/4	1 3/4	3	4 3/4	3 1/2	3/8	3	3.03	4.46
32	1335	M20	44	76	121	89	10	76	1.37	2.02
1 1/2	300	3/4	2	3	5	4	3/8	3	3.43	4.86
40	1335	M20	51	76	127	102	10	76	1.55	2.20
2	300	3/4	2 1/2	3	5 1/2	4 1/2	3/8	3	3.90	5.34
50	1335	M20	64	76	140	114	10	76	1.77	2.42
2 1/2	450	7/8	3	3	6 3/4	5	1/2	3 3/4	5.95	8.29
65	2002	M20	76	76	171	127	13	95	2.70	3.76
3	450	7/8	3 9/16	4	7 5/16	5 1/2	1/2	3 3/4	8.82	11.93
80	2002	M20	90	102	186	140	13	95	4.00	5.41
4	450	7/8	4 9/16	4	8 5/16	6 1/2	1/2	3 3/4	10.52	13.63
100	2002	M20	116	102	211	165	13	95	4.77	6.18
6	500	7/8	6 3/4	6	10 1/2	8 1/2	1/2	3 3/4	21.04	25.71
M48	2224	M20	171	152	267	216	13	95	9.54	11.66

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

## PIPE STRAPS

Figure 243A, 243B

The Figure 243 is designed to restrain piping vertically while permitting movement in the axial and lateral directions. Fig 243A is a welded design and Figure 243B is bolted. Larger sizes are available upon request. Rated loads are for up to 650° F (343° C).

**Material:** Carbon Steel.

**Finish:** Plain.

**Ordering:** Specify figure number, and pipe size.  
For Metric applications, specify Figure M243A or M243B.

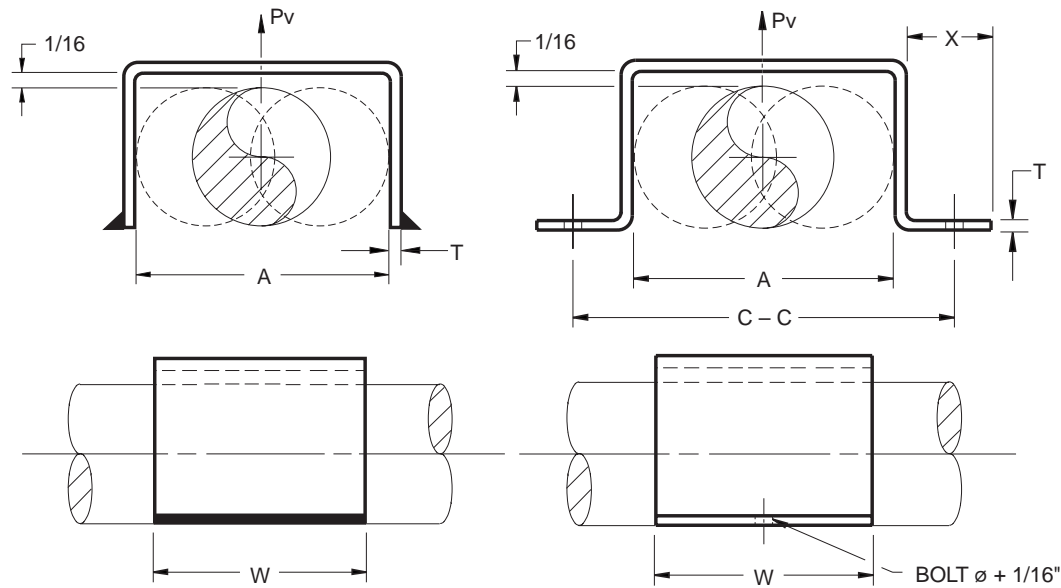


FIGURE 243A, 243B – PIPE STRAPS

PIPE SIZE	MAX LOAD PL	BOLT SIZE	A	B	C-C	T	W	X	WEIGHT EACH	
									243A	243B
1/2	600	3/4	3	15/16	6	1/4	2	3	0.76	1.47
15	2669	M20	76	24	152	6	51	76	0.35	0.67
3/4	600	3/4	3 1/2	1 1/8	6 1/2	1/4	2	3	0.89	1.59
20	2669	M20	89	29	165	6	51	76	0.40	0.72
1	600	3/4	4	1 3/8	7	1/4	2	3	1.03	1.74
25	2669	M20	102	35	178	6	51	76	0.47	0.79
1 1/4	1500	3/4	4 1/2	1 3/4	7 1/2	3/8	3	3	2.79	4.22
32	6673	M20	114	44	191	10	76	76	1.26	1.92
1 1/2	1500	3/4	5	2	8	3/8	3	3	3.11	4.54
40	6673	M20	127	51	203	10	76	76	1.41	2.06
2	1500	3/4	5 1/2	2 7/16	8 1/2	3/8	3	3	3.55	4.98
50	6673	M20	140	62	216	10	76	76	1.61	2.26
2 1/2	2500	7/8	6	2 15/16	9	1/2	3	3 3/4	5.47	7.81
65	11121	M20	152	75	229	13	76	95	2.48	3.54
3	2800	7/8	6 1/2	3 9/16	10 1/2	1/2	4	3 3/4	8.29	11.40
80	12456	M20	165	90	267	13	102	95	3.76	5.17
4	2800	7/8	7 1/2	4 9/16	11 1/2	1/2	4	3 3/4	9.99	13.10
100	12456	M20	191	116	292	13	102	95	4.53	5.94
6	3000	7/8	9 3/4	6 1 1/16	15 3/4	1/2	6	3 3/4	20.50	25.18
150	13345	M20	248	170	400	13	152	95	9.30	11.42

DIMENSIONS	TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS

**PIPE STRAPS**

**Figure 244A, 244B**

The Figure 244 is designed to restrain piping vertically and laterally while permitting movement in the axial direction. Fig 244A is a welded design and Figure 244B is bolted. Larger sizes are available upon request. Rated loads are for up to 650° F (343° C).

**Material:** Carbon Steel.

**Finish:** Plain.

**Ordering:** Specify figure number, and pipe size.  
For Metric applications, specify Figure M244A or M244B.

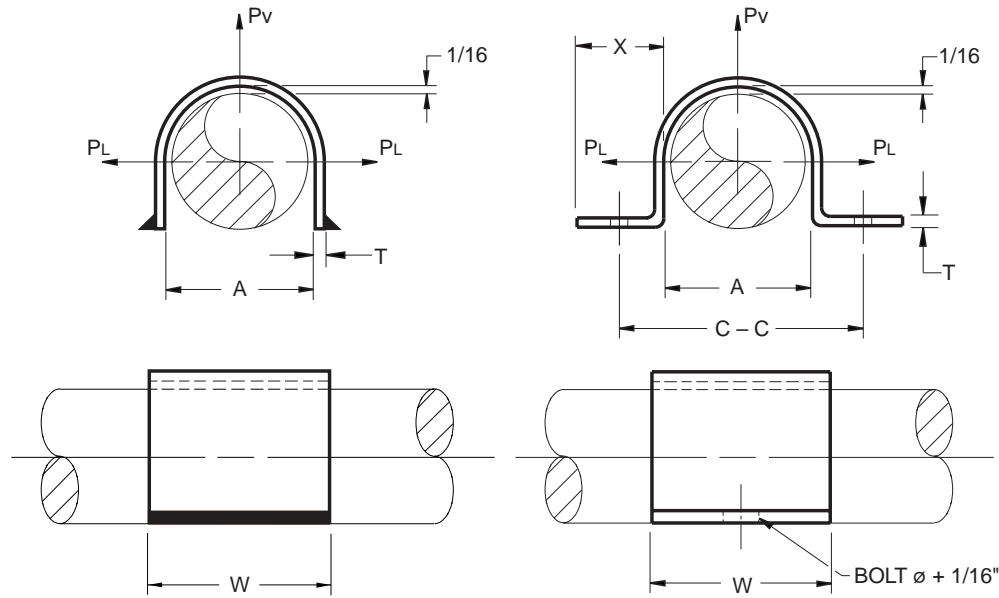


FIGURE 244A

FIGURE 244B

**FIGURE 244A, 244B – PIPE STRAPS**

PIPE SIZE	MAX LOAD PL	MAX LOAD Pv	BOLT SIZE	A	C-C	T	W	X	WEIGHT EACH	
									244A	244B
1/2	250	1500	3/4	1	4	1/4	2	3	0.46	1.10
15	1112	6673	M20	25	102	6	51	76	0.21	0.50
3/4	250	1500	3/4	13/16	43/16	1/4	2	3	0.51	1.20
20	1112	6673	M20	30	106	6	51	76	0.23	0.54
1	250	1500	3/4	17/16	47/16	1/4	2	3	0.58	1.20
25	1112	6673	M20	37	113	6	51	76	0.27	0.54
1 1/4	500	2000	3/4	1 3/4	4 3/4	3/8	3	3	0.96	1.60
32	2224	8897	M20	44	121	10	76	76	0.44	0.73
1 1/2	500	2000	3/4	2	5	3/8	3	3	1.90	2.80
40	2224	8897	M20	51	127	10	76	76	0.86	1.27
2	500	2000	3/4	2 1/2	5 1/2	3/8	3	3	2.50	3.90
50	2224	8897	M20	64	140	10	76	76	1.13	1.77
2 1/2	650	2300	7/8	3	6 3/4	1/2	3	3 3/4	4.30	6.30
65	2891	10231	M20	76	171	13	76	95	1.95	2.86
3	650	2300	7/8	3 9/16	7 5/16	1/2	4	3 3/4	8.10	10.20
80	2891	10231	M20	90	186	13	102	95	3.67	4.63
4	650	2300	7/8	4 9/16	8 5/16	1/2	4	3 3/4	15.60	19.00
100	2891	10231	M20	116	211	13	102	95	7.08	8.62
6	700	2300	7/8	6 3/4	10 1/2	1/2	6	3 3/4	22.80	30.60
M48	3114	10231	M20	171	267	13	152	95	10.34	13.88

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	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 of insulation. Normally used with a Figure 93 Welded Eyerod or Figure 279 Weldless Eyerod. An alloy load distribution strap is provided.

**Material:** Chrome molybdenum steel except U-bolt, which is stainless steel.

**Compliance:** Federal Specification WW-H-171 (Type 2), MSS-SP-69 (Type 2), and BSPSS-BS3974.

**Finish:** Plain.

**Ordering:** Specify figure number, pipe exact O.D., and finish. For Metric applications specify Figure M246.

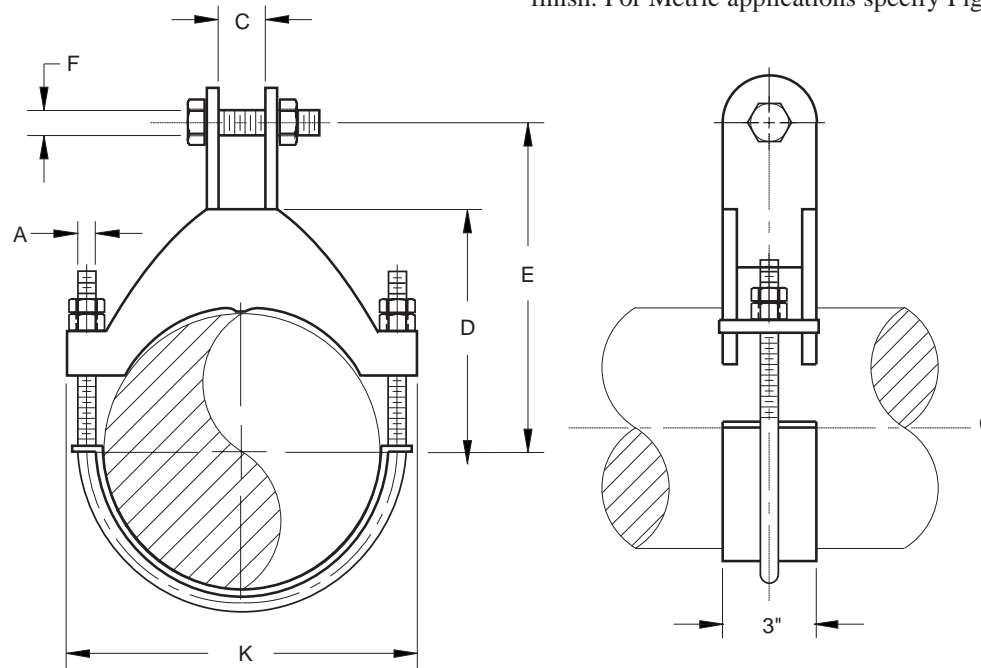


FIGURE 246 – HEAVY DUTY ALLOY YOKE CLAMP

PIPE SIZE	USED ON O.D. PIPE SIZE	OPERATING TEMPERATURE				C	D	E	F	K	WEIGHT EACH
		950° F 510° C	1000° F 538° C	1050° F 566° C	1075° F 579° C						
		MAXIMUM RECOMMENDED LOAD									
10	8 <sup>3</sup> / <sub>4</sub> - 10 <sup>13</sup> / <sub>16</sub>	13500	11780	7850	6120	2	9 <sup>1</sup> / <sub>8</sub>	12	1 <sup>1</sup> / <sub>2</sub>	15 <sup>3</sup> / <sub>8</sub>	42.0
250	222 - 275	60053	52402	34920	27224	51	232	305	M36	391	19.1
12	10 <sup>7</sup> / <sub>8</sub> - 12 <sup>13</sup> / <sub>16</sub>	16500	14910	9940	7750	2 <sup>1</sup> / <sub>4</sub>	10 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	17 <sup>7</sup> / <sub>8</sub>	58.0
300	276 - 325	73399	66326	44217	34475	57	273	349	M42	454	26.3
14	12 <sup>7</sup> / <sub>8</sub> - 14 <sup>1</sup> / <sub>16</sub>	16500	14910	9940	7750	2 <sup>1</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>2</sub>	14 <sup>1</sup> / <sub>2</sub>	1 <sup>5</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>8</sub>	63.0
350	327 - 357	73399	66326	44217	34475	57	292	368	M42	486	28.6
16	14 <sup>1</sup> / <sub>8</sub> - 16 <sup>1</sup> / <sub>16</sub>	16500	14910	9940	7750	2 <sup>1</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	21 <sup>1</sup> / <sub>8</sub>	69.0
400	359 - 408	73399	66326	44217	34475	57	333	416	M42	537	31.3
18	16 <sup>1</sup> / <sub>8</sub> - 18 <sup>1</sup> / <sub>16</sub>	19000	18410	12270	9570	2 <sup>1</sup> / <sub>2</sub>	14 <sup>1</sup> / <sub>2</sub>	18 <sup>1</sup> / <sub>4</sub>	2	24 <sup>1</sup> / <sub>8</sub>	94.0
450	410 - 459	84520	81895	54582	42571	64	368	464	M48	613	42.6
20	18 <sup>1</sup> / <sub>8</sub> - 20 <sup>1</sup> / <sub>16</sub>	19000	18410	12270	9570	2 <sup>1</sup> / <sub>2</sub>	15 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>2</sub>	2	26 <sup>1</sup> / <sub>8</sub>	104.0
500	460 - 510	84520	81895	54582	42571	64	400	495	M48	664	47.2
24	20 <sup>1</sup> / <sub>8</sub> - 24 <sup>1</sup> / <sub>16</sub>	25000	22280	14850	11580	3	18 <sup>1</sup> / <sub>4</sub>	22	2 <sup>1</sup> / <sub>4</sub>	30 <sup>3</sup> / <sub>4</sub>	167.0
600	511 - 611	111210	99110	66059	51512	76	464	559	M56	781	75.8

DIMENSIONS	TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS

**STANDARD U-BOLT**

**Figure 283**

The Figure 283 is recommended for use as a support or guide for piping. It is supplied with four hex nuts to allow use as a guide. Special U-Bolts can be fabricated to your requirements.

NOTE: Tack weld a 1/4" thick spacer between the pipe and structure is required when using sizes 1/2" to 1 1/2" as a guide.

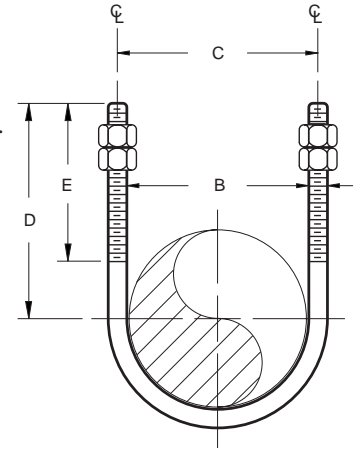
**Material:** Carbon Steel

**Compliance:** Federal Specification WW-H-171 (Type 24), MSS-SP 69 (Type 24), and BSPSS-BS3974.

**Finish:** Plain, Galvanized.

NOTE: When finished, galvanized oversized hex nuts must be used.

**Ordering:** Specify figure number, rod size and finish. For Metric applications specify M283.



**FIGURE 283 – STANDARD U-BOLT**

PIPE SIZE	MAX LOAD 650° F / 343 °C	STOCK SIZE A	B	C	D	E	WEIGHT EACH
1/2	480	1/4	1 3/8	1 1/8	2 3/4	2 1/8	11
15	2135	M6	35	29	70	54	5
3/4	480	1/4	1 1/8	1 3/8	2 3/4	2 1/8	12
20	2135	M6	29	35	70	54	5
1	480	1/4	1 3/8	1 5/8	2 3/4	2 1/8	12
25	2135	M6	35	41	70	54	5
1/2	480	3/8	1 3/8	1 1/4	2 3/4	2 1/8	16
15	2135	M10	35	32	70	54	7
3/4	480	3/8	1 1/8	1 1/2	2 3/4	2 1/8	16
20	2135	M10	29	38	70	54	7
1	480	3/8	1 3/8	1 3/4	2 3/4	2 1/8	19
25	2135	M10	35	44	70	54	9
1 1/4	1200	3/8	1 3/4	2 1/8	2 7/8	2 1/8	28
32	5338	M10	44	54	73	54	13
1 1/2	1200	3/8	2	2 3/8	3	2 1/2	30
40	5338	M10	51	60	76	64	14
2	1200	3/8	2 1/2	2 7/8	3 1/4	2 1/2	33
50	5338	M10	64	73	83	64	15
2 1/2	2200	1/2	3	3 1/2	3 3/4	3	70
65	9786	M12	76	89	95	76	32
3	2200	1/2	3 5/8	4 1/8	4	3	78
80	9786	M12	92	105	102	76	35
3 1/2	2200	1/2	4 1/8	4 5/8	4 1/2	3	84
90	9786	M12	105	117	114	76	38
4	2200	1/2	4 5/8	5 1/8	4 1/2	3	90
100	9786	M12	117	130	114	76	41
5	2200	1/2	5 5/8	6 1/8	5	3	104
125	9786	M12	143	156	127	76	47
6	3600	5/8	6 3/4	7 3/8	6 1/8	3 3/4	200
150	16014	M16	171	187	156	95	91
8	3600	5/8	8 3/4	9 3/8	7 1/8	3 3/4	230
200	16014	M16	222	238	181	95	104
10	5400	3/4	10 7/8	11 5/8	8 3/8	4	490
250	24021	M20	276	295	213	102	222
12	7500	7/8	12 7/8	13 3/4	9 5/8	4 1/4	770
300	33363	M20	327	349	244	108	349
14	7500	7/8	14 1/8	15	10 1/4	4 1/4	830
350	33363	M20	359	381	260	108	376
16	7500	7/8	16 1/8	17	11 1/4	4 1/4	920
400	33363	M20	410	432	286	108	417
18	9900	1	18 1/8	19 1/8	12 5/8	4 3/4	1350
450	44039	M24	460	486	321	121	612
20	9900	1	20 1/8	21 1/8	13 5/8	4 3/4	1460
500	44039	M24	511	537	346	121	662
24	9900	1	24 1/8	25 1/8	15 5/8	4 3/4	1690
600	44039	M24	613	638	397	121	767
28	9900	1	28 1/8	29 1/8	17 5/8	4 3/4	1800
700	44039	M24	714	740	448	121	816
30	9900	1	30 1/8	31 1/8	18 5/8	4 3/4	1910
750	44039	M24	765	791	473	121	866
36	9900	1	36 1/8	37 1/8	21 5/8	4 3/4	2320
900	44039	M24	918	943	549	121	1052

## 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 Eyerut or Figure 93 Welded Eyerod.

Rated Loads are for up to 750° F (399° C).

**Material:** Carbon Steel.

**Compliance:** Federal Specification WW-H-171 (Type 4), MSS-SP-69 (Type 4) and BSPSS-BS3974.

**Finish:** Plain, Galvanized.

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

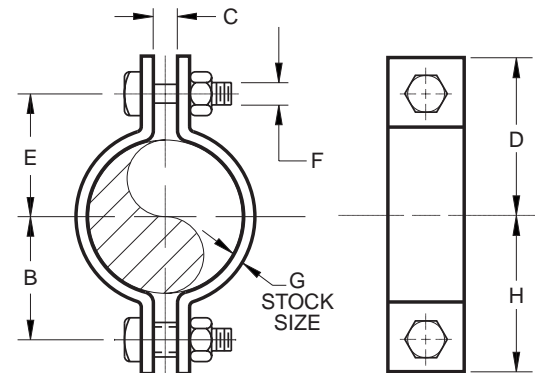


FIGURE 298 – HEAVY DUTY TWO BOLT PIPE CLAMP

PIPE SIZE	MAX LOAD		B	C	D	E	F	STOCK SIZE G	H	WGT EACH
	650° F 343° C	750° F 399° C								
2	3400	3000	2	3/4	3	2	5/8	1/4 x 1 1/2	3	2.1
50	15125	13345	51	19	76	51	M16	6 x 38	76	1.0
3	3550	3150	3 1/8	1	4	3 1/8	3/4	1/4 x 2	4	3.8
80	15792	14012	79	25	102	79	M20	6 x 51	102	1.7
4	3550	3150	3 3/4	1	4 7/8	3 3/4	7/8	3/8 x 2	4 7/8	6.5
100	15792	14012	95	25	124	95	M20	10 x 51	124	2.9
5	3550	3150	4 3/8	1	5 1/2	4 3/8	7/8	3/8 x 2	5 1/2	7.4
125	15792	14012	111	25	140	111	M20	10 x 51	140	3.4
6	4900	4350	5 3/8	1 1/8	6 3/4	5 3/8	1	1/2 x 2 1/2	6 3/4	14.0
150	21797	19351	137	29	171	137	M24	13 x 64	171	6.4
8	4900	4350	6 3/4	1 1/8	8 1/8	6 3/4	1	1/2 x 2 1/2	8 1/8	16.4
200	21797	19351	171	29	206	171	M24	13 x 64	206	7.4
10	6000	5400	7 5/8	1 1/4	9 1/8	7 3/4	1 1/4	5/8 x 2 1/2	9	25.3
250	26690	24021	194	32	232	197	M30	16 x 64	229	11.5
12	8700	7750	9 1/4	1 5/8	11 3/8	9 1/2	1 1/2	3/4 x 3	11 1/8	44.1
300	38701	34475	235	41	289	241	M36	19 x 76	283	20.0
14	9150	8150	9 3/4	1 5/8	11 7/8	10	1 1/2	3/4 x 4	11 5/8	58.8
350	40703	36254	248	41	302	254	M36	19 x 102	295	26.7
16	9150	8150	11	1 5/8	12 7/8	11	1 1/2	3/4 x 4	12 7/8	64.1
400	40703	36254	279	41	327	279	M36	19 x 102	327	29.1
18	13800	12280	14 1/2	3	17 1/4	14 1/2	2	3/4 x 6	17 1/4	126.3
450	61388	54626	368	76	438	368	M48	19 x 152	438	57.3
20	15300	13620	16	3	18 3/4	16	2	1 x 5	18 3/4	150.0
500	68060	60587	406	76	476	406	M48	25 x 127	476	68.0
24	16300	14500	18 1/2	3 1/4	21 1/2	18 1/2	2 1/4	1 x 6	21 1/2	210.5
600	72509	64502	470	83	546	470	M56	25 x 152	546	95.5
30	20500	18250	22 1/2	3 1/2	26	22 1/2	2 1/2	1 1/4 x 7	26	365.4
750	91192	81183	572	89	660	572	M64	32 x 178	660	165.7
36	28000	24900	26 1/2	3 1/2	30 1/4	26 1/2	2 3/4	1 1/2 x 8	30 1/4	575.1
900	124555	110765	673	89	768	673	M72	38 x 203	768	260.9

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

### THREE BOLT PIPE CLAMP

Figure 304

The Figure 304 is designed for hot insulated pipe lines up to 750° F. The spacer on the top inner bolt provides uniform space for the connecting eyerod or weldless eyenut. See Figure 91 for higher load ratings. We will also, design to meet special requirements such as special pipe sizes, order Figure 304SP.

Rated Loads are for up to 750° F (399° C).

**Material:** Carbon Steel.

**Compliance:** Federal Specification WW-H-171 (Type 3), MSS-SP-69 (Type 3) and BSPSS-BS3974.

**Finish:** Plain.

**Ordering:** Specify figure number, and pipe size. Also, include any special requirements for Figure 304SP. For Metric applications specify Figure M304 or M304SP.

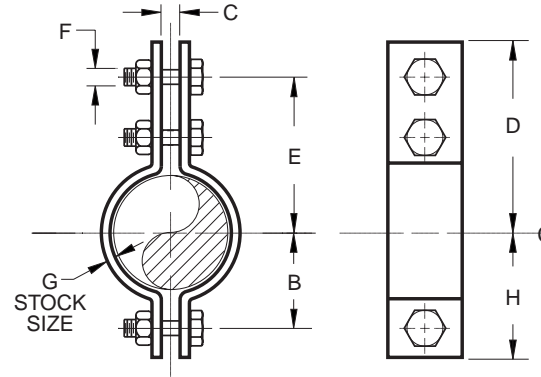


FIGURE 304 – THREE BOLT PIPE CLAMP

PIPE SIZE	MAXIMUM LOAD		B	C	D	TAKE OUT E	F	G	H	WGT EACH
	650° F 343° C	750° F 399° C								
1/2	950	845	1	5/8	27/8	2 1/4	3/8	3/16 x 1	1 5/8	0.61
15	4226	3759	25	16	73	57	M10	5 x 25	41	0.28
3/4	950	845	1 1/8	5/8	3 1/4	2 1/2	3/8	3/16 x 1	1 3/4	0.66
20	4226	3759	29	16	83	64	M10	5 x 25	44	0.30
1	950	845	1 1/2	5/8	3 3/4	2 1/2	3/8	3/16 x 1	2 1/8	0.69
25	4226	3759	38	16	95	64	M10	5 x 25	54	0.31
1 1/4	950	845	1 1/2	3/4	3 5/8	2 7/8	3/8	3/16 x 1	2 1/4	0.75
32	4226	3759	38	19	92	73	M10	5 x 25	57	0.34
1 1/2	1545	1380	1 3/4	1	4 7/8	4 1/8	5/8	1/4 x 1 1/4	2 3/8	2.14
40	6873	6139	44	25	124	105	M16	6 x 32	60	0.97
2	1545	1380	2 1/8	1 1/8	5 7/8	5 1/8	5/8	1/4 x 1 1/4	2 3/4	2.43
50	6873	6139	54	29	149	130	M16	6 x 32	70	1.10
2 1/2	1545	1380	3	1 1/8	6 1/8	5 3/8	5/8	1/4 x 1 1/2	3	2.92
65	6873	6139	76	29	156	137	M16	6 x 38	76	1.32
3	1545	1380	2 7/8	1 1/8	6 5/8	6	5/8	1/4 x 1 1/2	3 3/8	3.19
80	6873	6139	73	29	168	152	M16	6 x 38	86	1.45
4	2500	2230	3 1/2	1	7 5/8	6 1/2	3/4	3/8 x 2	4 5/8	7.12
100	11121	9920	89	25	194	165	M20	10 x 51	117	3.23
5	2500	2230	4	1 1/8	8 1/8	7	3/4	3/8 x 2	5 1/8	7.96
125	11121	9920	102	29	206	178	M20	10 x 51	130	3.61
6	2865	2555	4 3/4	1 1/4	9 5/8	8 1/4	7/8	3/8 x 2 1/2	6 1/8	11.85
150	12745	11366	121	32	244	210	M20	10 x 64	156	5.38
8	2865	2555	5 3/4	1 1/4	10 5/8	9 1/4	7/8	3/8 x 2 1/2	7 1/8	13.59
200	12745	11366	146	32	270	235	M20	10 x 64	181	6.16
10	3240	2890	6 7/8	1 1/4	12	10 1/2	1	1/2 x 2 1/2	8 1/4	21.33
250	14413	12856	175	32	305	267	M24	13 x 64	210	9.68
12	3240	2890	8 3/8	1 1/2	13	11 1/2	1	1/2 x 2 1/2	9 7/8	23.65
300	14413	12856	213	38	330	292	M24	13 x 64	251	10.73
14	4300	3835	9 1/8	2	14 3/8	12 3/4	1 1/4	5/8 x 3	10 3/4	38.78
350	19128	17060	232	51	365	324	M30	16 x 76	273	17.59
16	4300	3835	11	2	15 5/8	14	1 1/4	5/8 x 3	12	42.89
400	19128	17060	279	51	397	356	M30	16 x 76	305	19.45
18	4300	3835	11 5/8	2	16 3/4	15 1/8	1 1/4	5/8 x 3	13 1/4	46.35
450	19128	17060	295	51	425	384	M30	16 x 76	337	21.02
20	4500	4015	12 3/8	2	17 1/2	15 7/8	1 3/8	3/4 x 3	14	58.67
500	20018	17860	314	51	445	403	M36	19 x 76	356	26.61
24	5490	4900	14 3/4	2	19 7/8	17 7/8	1 1/2	3/4 x 4	16 3/8	89.32
600	24422	21797	375	51	505	454	M36	19 x 102	416	40.52
30	7500	6690	18 1/2	1 1/2	26 3/8	23 3/8	1 1/2	3/4 x 5	21	140.89
750	33363	29760	470	38	670	594	M36	19 x 127	533	63.91
36	10500	9360	22 1/2	3	32 1/8	28 3/4	1 3/4	1 x 5	26	246.44
900	46708	41637	572	76	816	730	M42	25 x 127	660	111.79

## 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 space for the connecting eyerod or weldless eyenut. See Figure 91Z for higher load ratings.

**Temperature range:** above 750° F (399° C) to 1050° F (566° C).

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

**Compliance:** Federal Specification WW-H-171 (Type 3), MSS-SP-69 (Type 3) and BSPSS-BS3974.

**Finish:** Plain.

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

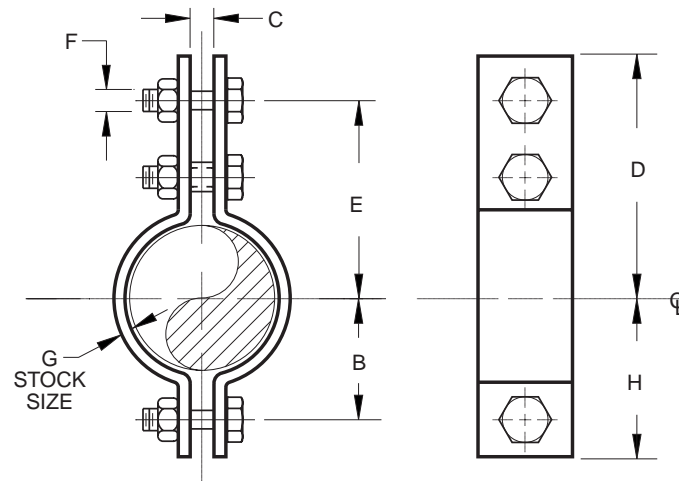


FIGURE 304Z – ALLOY THREE BOLT PIPE CLAMP

PIPE SIZE	MAXIMUM LOAD			B	C	D	TAKE OUT E	F	G	H	WEIGHT EACH
	950° F 510° C	1000° F 538° C	1050° F 566° C								
3/4	870	600	440	1 1/8	5/8	3	2 1/2	3/8	1/4 x 1	1 5/8	1.09
20	3870	2669	1957	29	16	76	64	M10	6 x 25	41	0.49
1	870	600	440	1 1/4	5/8	3 1/8	2 5/8	3/8	1/4 x 1	1 3/4	1.14
25	3870	2669	1957	32	16	79	67	M10	6 x 25	44	0.52
1 1/4	870	600	440	1 1/2	3/4	3 3/4	2 7/8	3/8	1/4 x 1	2 1/4	1.23
32	3870	2669	1957	38	19	95	73	M10	6 x 25	57	0.56
1 1/2	1400	1000	700	1 3/4	1	4 7/8	4 1/8	5/8	1/4 x 1 1/4	2 3/8	2.48
40	6228	4448	3114	44	25	124	105	M16	6 x 32	60	1.12
2	1400	1000	700	2 1/8	1	5 7/8	5 1/8	5/8	1/4 x 1 1/4	2 3/4	2.70
50	6228	4448	3114	54	25	149	130	M16	6 x 32	70	1.22
2 1/2	1400	1000	700	2 3/8	1	6 1/8	5 3/8	5/8	1/4 x 1 1/4	3	2.76
65	6228	4448	3114	60	25	156	137	M16	6 x 32	76	1.25
3	1400	1000	700	2 7/8	1	6 3/4	6	5/8	1/4 x 1 1/4	3 3/8	3.19
80	6228	4448	3114	73	25	171	152	M16	6 x 32	86	1.45
4	2300	1600	1100	3 1/2	1	7 5/8	6 1/2	3/4	3/8 x 2	4 5/8	7.30
100	10231	7117	4893	89	25	194	165	M20	10 x 51	117	3.31
5	2300	1600	1100	4	1 1/8	8 1/8	7	3/4	3/8 x 2	5 1/8	7.96
125	10231	7117	4893	102	29	206	178	M20	10 x 51	130	3.61
6	2600	1800	1300	4 3/4	1 1/4	10	8 5/8	7/8	3/8 x 2 1/2	6 1/8	12.26
150	11566	8007	5783	121	32	254	219	M20	10 x 64	156	5.56
8	2600	1800	1300	5 3/4	1 1/4	11	9 5/8	7/8	3/8 x 2 1/2	7 1/8	14.04
200	11566	8007	5783	146	32	279	244	M20	10 x 64	181	6.37
10	3000	2100	1500	6 7/8	1 1/4	12	10 1/2	1	1/2 x 2 1/2	8 1/4	21.33
250	13345	9342	6673	175	32	305	267	M24	13 x 64	210	9.68
12	3000	2100	1500	8 3/8	1 1/2	13 1/8	11 5/8	1	1/2 x 2 1/2	9 7/8	24.00
300	13345	9342	6673	213	38	333	295	M24	13 x 64	251	10.89
14	3900	2800	2000	9 1/8	2	14 1/8	12 3/4	1 1/4	5/8 x 3	10 3/4	38.78
350	17349	12456	8897	232	51	365	324	M30	16 x 76	273	17.59
16	3900	2800	2000	10 3/8	2	15 1/8	14	1 1/4	5/8 x 3	12	43.13
400	17349	12456	8897	264	51	397	356	M30	16 x 76	305	19.56
18	39	2800	2000	11 5/8	2	16 3/4	15 1/8	1 1/4	5/8 x 3	13 1/4	47.78
450	173	12456	8897	295	51	425	384	M30	16 x 76	337	21.67
20	5000	3200	2000	12 3/8	2	17 1/2	15 7/8	1 1/8	3/4 x 3	14	58.67
500	22242	14235	8897	314	51	445	403	M36	19 x 76	356	26.61
24	5500	3500	2700	14 3/4	1 1/2	19 7/8	17 7/8	1 1/2	3/4 x 4	16 3/8	90.82
600	24466	15569	12011	375	38	505	454	M36	19 x 102	416	41.20

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

**PIPE COVERING PROTECTION SADDLE**

**Figure 351 to 357Z**

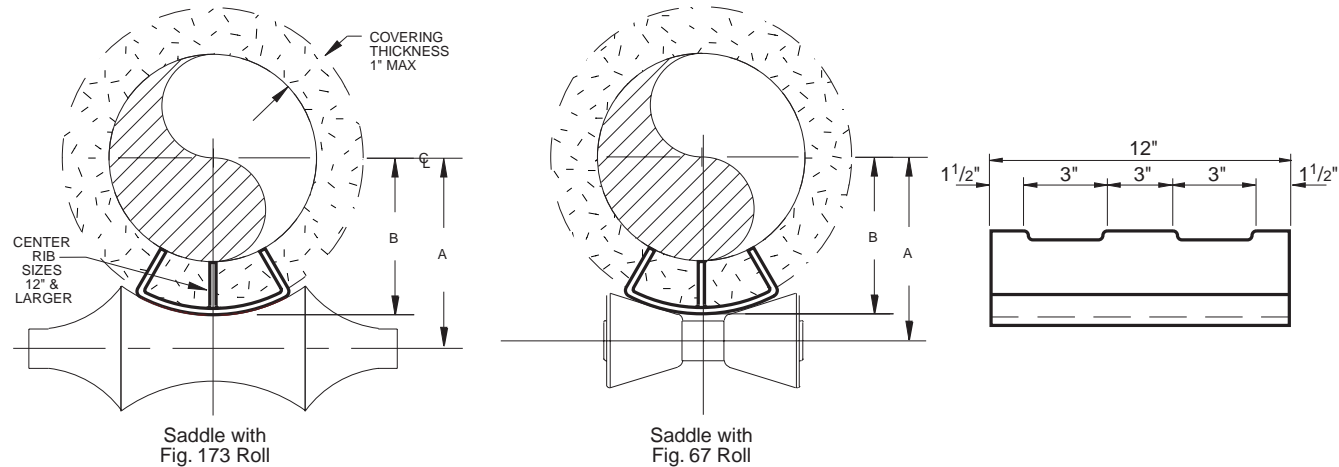
The Figure 351 to 357APCP saddles are used to protect the insulation against damage and keep heat loss to a minimum. They are designed for from 1" up to 5" of covering. All Saddles are 12" long with three tabs on each side for welding to pipe. Sizes 12" and larger have a welded in center rib.

**Material:** Carbon Steel.(except Fig 356Z and 357Z which are Chrome Molybdenum Steel)

**Compliance:** Federal Specification WW-H-171 (Type 40-A or 40-B), MSS-SP-69 (Type 39A or 39B) and BSPSS-BS3974.

**Finish:** Plain.

**Ordering:** Specify figure number and pipe size. For Metric applications specify Figure M351 to M357Z.



**FIGURE 351 TO 357Z – PIPE COVERING PROTECTION SADDLE**

PIPE SIZE	FIG NO.	MAXIMUM COVERING THICKNESS	ACTUAL COVERING THICKNESS	MAX. LOAD	T	SADDLE WITH FIG. 173 ROLL			SADDLE WITH FIG. 67 ROLL			WEIGHT EACH
						ROLL SIZE	A	B	ROLL SIZE	A	B	
3/4 20	351	1	15/16	1200	1/8	2 1/2	2 1/8	1 5/8	2-3 1/2	2 5/16	1 3/8	1.15
		25	24	5338	3	64	54	41	50-90	59	41	29
	352	1 1/2	1 1/2	1200	1/8	3	2 5/8	2 1/8	2-3 1/2	2 11/16	2 1/8	2.1
		38	38	5338	3	76	67	54	50-90	68	54	53
	353	2	2	1200	1/8	4	3 1/4	2 5/8	2-3 1/2	3 3/8	2 5/8	1.87
		51	51	5338	3	100	83	67	50-90	86	67	47
1 25	351	1	1 1/16	1200	1/8	2 1/4	2 3/4	1 3/4	2-3 1/2	2 7/16	1 3/4	1.15
		25	27	5338	3	65	70	44	50-90	62	44	29
	352	1 1/2	1 9/16	1200	1/8	3	2 7/8	2 3/8	2-3 1/2	2 15/16	2 3/8	2.1
		38	40	5338	3	80	73	60	50-90	75	60	53
	353	2	2 1/8	1200	1/8	4	3 3/8	2 3/4	2-3 1/2	3 1/2	2 3/4	1.87
		51	54	5338	3	100	86	70	50-90	89	70	47
1 1/4 32	351	1	7/8	1200	1/8	3	2 1/2	2	2-3 1/2	2 9/16	2	1.25
		25	22	5338	3	80	64	51	50-90	65	51	32
	352	1 1/2	1 5/8	1200	1/8	3 1/2	3	2 1/2	2-3 1/2	3 3/16	2 1/2	2.1
		38	41	5338	3	90	76	64	50-90	81	64	53
	353	2	1 15/16	1200	1/8	5	3 5/8	3 1/16	2-3 1/2	3 11/16	3 1/16	1.87
		51	49	5338	3	125	92	78	50-90	94	78	47
354	2 1/2	2 1/2	1200	1/8	6	4 1/4	3 1/2	4-6	4 1/16	3 1/2	3.25	
	64	64	5338	3	150	108	89	100-150	103	89	83	
1 1/2 40	351	1	1 1/16	1200	1/8	3	2 1/2	2	2-3 1/2	2 11/16	2	1.5
		25	27	5338	3	80	64	51	50-90	68	51	38
	352	1 1/2	1 9/16	1200	1/8	4	3 1/8	2 5/8	2-3 1/2	3 5/16	2 5/8	2.1
		38	40	5338	3	90	79	67	50-90	84	67	53
	353	2	2 3/8	1800	1/8	5	4 1/8	3 3/8	2-3 1/2	3 3/4	3 3/8	1.87
		51	60	8007	3	125	105	86	50-90	95	86	47
354	2 1/2	2 7/8	1800	1/8	6	4 5/8	3 7/8	4-6	4 3/16	3 7/8	3.25	
	64	73	8007	3	152	117	98	100-150	106	98	83	

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

FIGURE 351 TO 357Z – PIPE COVERING PROTECTION SADDLE

PIPE SIZE	FIG NO.	MAXIMUM COVERING THICKNESS	ACTUAL COVERING THICKNESS	MAX. LOAD	T	SADDLE WITH FIG. 173 ROLL			SADDLE WITH FIG. 67 ROLL			WEIGHT EACH
						ROLL SIZE	A	B	ROLL SIZE	A	B	
2 50	351	1	1 <sup>1/16</sup>	1200	1/8	3 <sup>1/2</sup>	27/8	2 <sup>3/8</sup>	2-3 <sup>1/2</sup>	2 <sup>15/16</sup>	2 <sup>3/8</sup>	1.63
		25	27	5338	3	80	73	60	50-90	75	60	41
		38	40	5338	3	102	79	67	50-90	84	67	53
	352	1 <sup>1/2</sup>	1 <sup>9/16</sup>	1200	1/8	4	3 <sup>1/8</sup>	2 <sup>5/8</sup>	2-3 <sup>1/2</sup>	3 <sup>5/16</sup>	2 <sup>5/8</sup>	2.1
		2	2 <sup>1/8</sup>	1800	1/8	6	4 <sup>1/4</sup>	3 <sup>1/2</sup>	4-6	3 <sup>7/8</sup>	3 <sup>1/2</sup>	3.12
		51	54	8007	3	152	108	89	100-150	98	89	79
		64	67	8007	3	178	121	102	100-150	122	102	92
353	2 <sup>1/2</sup>	2 <sup>5/8</sup>	1800	1/8	7	4 <sup>3/4</sup>	4	4-6	4 <sup>13/16</sup>	4	3.63	
	3	3 <sup>1/16</sup>	1800	1/8	7	5 <sup>1/4</sup>	4 <sup>1/2</sup>	7-10	5 <sup>5/16</sup>	4 <sup>1/2</sup>	4.4	
354	76	78	8007	3	178	133	114	180-255	135	114	112	
	351	1	1 <sup>1/16</sup>	1200	1/8	4	3 <sup>1/2</sup>	27/8	2-3 <sup>1/2</sup>	3 <sup>9/16</sup>	27/8	1.75
2 <sup>1/2</sup> 64	352	25	27	5338	3	102	89	73	50-90	90	73	44
		38	48	5338	3	152	114	86	50-90	95	86	61
		353	2	2 <sup>3/8</sup>	1800	1/8	6	4 <sup>5/8</sup>	3 <sup>7/8</sup>	2-3 <sup>1/2</sup>	3 <sup>3/4</sup>	3 <sup>3/8</sup>
	354	51	60	8007	3	152	117	98	100-150	106	98	79
		2 <sup>1/2</sup>	2 <sup>7/8</sup>	1800	1/8	7	5 <sup>1/8</sup>	4 <sup>3/8</sup>	7-10	5 <sup>1/16</sup>	4 <sup>3/8</sup>	3.63
		64	73	8007	3	178	130	111	180-255	129	111	92
		3	3 <sup>3/8</sup>	1800	1/8	7	5 <sup>5/8</sup>	4 <sup>7/8</sup>	7-10	5 <sup>9/16</sup>	4 <sup>7/8</sup>	4.4
355	76	86	8007	3	178	143	124	180-255	141	124	112	
	351	1	1 <sup>1/16</sup>	1200	1/8	4	3 <sup>1/2</sup>	27/8	2-3 <sup>1/2</sup>	3 <sup>9/16</sup>	27/8	1.75
3 76	352	25	27	5338	3	102	89	73	50-90	90	73	44
		38	40	8007	3	152	114	95	100-150	103	95	70
		353	2	2 <sup>1/16</sup>	1800	1/8	7	4 <sup>3/4</sup>	4	4-6	4 <sup>9/16</sup>	4
	354	51	52	8007	3	178	121	102	100-150	116	102	89
		2 <sup>1/2</sup>	2 <sup>9/16</sup>	1800	1/8	8	5 <sup>3/8</sup>	4 <sup>5/8</sup>	7-10	5 <sup>3/8</sup>	4 <sup>5/8</sup>	3.93
		64	65	8007	3	203	137	117	180-255	137	117	100
		3	3 <sup>1/16</sup>	1800	1/8	8	5 <sup>7/8</sup>	5	7-10	6	5	4.4
355	76	78	8007	3	203	149	127	180-255	152	127	112	
	351	1	1 <sup>1/16</sup>	1800	1/8	6	4 <sup>1/4</sup>	3 <sup>1/2</sup>	4-6	4	3 <sup>1/2</sup>	2.13
4 102	352	25	27	8007	3	152	108	89	100-150	102	89	54
		38	40	8007	3	178	121	102	100-150	103	102	76
		353	2	2 <sup>1/16</sup>	1800	1/8	7	5 <sup>3/8</sup>	4 <sup>5/8</sup>	4-6	5 <sup>1/8</sup>	4 <sup>5/8</sup>
	354	51	52	8007	3	178	137	117	100-150	130	117	89
		2 <sup>1/2</sup>	2 <sup>9/16</sup>	1800	1/8	10	6	5 <sup>1/8</sup>	7-10	5 <sup>7/8</sup>	5 <sup>1/8</sup>	3.93
		64	65	8007	3	254	152	130	180-255	149	130	100
		3	3 <sup>1/8</sup>	1800	1/8	10	6 <sup>5/8</sup>	5 <sup>3/4</sup>	7-10	6 <sup>3/8</sup>	5 <sup>3/4</sup>	5.0
	355	76	79	8007	3	254	168	146	180-255	162	146	127
		356	4	4 <sup>1/8</sup>	1800	1/8	12	7 <sup>3/4</sup>	6 <sup>1/2</sup>	7-10	7 <sup>9/16</sup>	6 <sup>1/2</sup>
	356Z	102	105	8007	3	305	197	165	180-255	192	165	160
4		4 <sup>1/16</sup>	1800	3/8	12	7 <sup>3/4</sup>	6 <sup>1/2</sup>	7-10	7 <sup>5/8</sup>	6 <sup>1/2</sup>	6.3	
357Z	102	103	8007	10	305	197	165	180-255	194	165	160	
	5 <sup>1/2</sup>	5 <sup>11/16</sup>	5000	3/8	16	9 <sup>5/8</sup>	8 <sup>1/4</sup>	16	9 <sup>1/2</sup>	8 <sup>1/4</sup>	26.4	
357Z	140	144	22242	10	406	244	210	180-255	241	210	671	
	351	1	1 <sup>1/16</sup>	1800	1/8	6	4 <sup>7/8</sup>	4 <sup>1/8</sup>	4-6	4	4 <sup>1/8</sup>	2.38
5 127	352	25	27	8007	3	152	124	105	100-150	102	105	60
		38	40	8007	3	178	140	121	100-150	132	121	76
		353	2	2 <sup>1/16</sup>	1800	1/8	8	6	5 <sup>1/4</sup>	7-10	6	5 <sup>1/4</sup>
	354	51	52	8007	3	203	152	133	180-255	152	133	92
		2 <sup>1/2</sup>	2 <sup>9/16</sup>	1800	1/8	10	6 <sup>5/8</sup>	5 <sup>3/4</sup>	7-10	6 <sup>7/16</sup>	5 <sup>3/4</sup>	4.06
		64	65	8007	3	254	168	146	180-255	164	146	103
		3	3 <sup>1/16</sup>	1800	1/8	10	7 <sup>1/8</sup>	6 <sup>1/4</sup>	7-10	7 <sup>5/32</sup>	6 <sup>1/4</sup>	5.0
	355	76	78	8007	3	254	181	159	180-255	182	159	127
		356	4	4 <sup>1/4</sup>	1800	1/8	12	8 <sup>1/4</sup>	7	7-10	8 <sup>3/32</sup>	7
	356Z	102	108	8007	3	305	210	178	180-255	206	178	160
4		4 <sup>3/16</sup>	5000	3/8	12	8 <sup>3/8</sup>	7 <sup>1/8</sup>	7-10	8 <sup>1/4</sup>	7 <sup>1/8</sup>	14.95	
357Z	102	106	22242	10	305	213	181	180-255	210	181	380	
	5 <sup>1/2</sup>	5 <sup>11/16</sup>	5000	3/8	18	10 <sup>3/16</sup>	8 <sup>3/4</sup>	18	10 <sup>3/4</sup>	8 <sup>3/4</sup>	27.4	
357Z	140	144	22242	10	457	259	222	180-255	273	222	696	

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

**BERGEN-POWER PIPE SUPPORTS**

**FIGURE 351 TO 357Z – PIPE COVERING PROTECTION SADDLE**

PIPE SIZE	FIG NO.	MAXIMUM COVERING THICKNESS	ACTUAL COVERING THICKNESS	MAX. LOAD	T	SADDLE WITH FIG. 173 ROLL			SADDLE WITH FIG. 67 ROLL			WEIGHT EACH
						ROLL SIZE	A	B	ROLL SIZE	A	B	
6 152	351	1	1	1800	<sup>3</sup> / <sub>16</sub>	7	5 <sup>3</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	4-6	5 <sup>1</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	3.85
		25	27	8007	5	178	137	117	100-150	130	117	98
	352	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	1800	<sup>3</sup> / <sub>16</sub>	8	5 <sup>7</sup> / <sub>8</sub>	5	7-10	6 <sup>3</sup> / <sub>16</sub>	5	4.75
		38	38	8007	5	203	149	127	180-255	157	127	121
	353	2	2 <sup>1</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	10	6 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	7-10	6 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	6.28
		51	52	8007	5	254	162	140	180-255	165	140	160
	354	2 <sup>1</sup> / <sub>2</sub>	2 <sup>9</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	12	7	6	12-15	7 <sup>5</sup> / <sub>8</sub>	6	7.09
		64	65	8007	5	305	178	152	305-380	194	152	180
	355	3	3 <sup>1</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	12	7 <sup>3</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	7-10	7 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	8.1
		76	78	8007	5	305	197	165	180-255	191	165	206
	356	4	4 <sup>3</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	12	8 <sup>7</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>8</sub>	12-15	8 <sup>13</sup> / <sub>16</sub>	7 <sup>5</sup> / <sub>8</sub>	6.3
		102	106	8007	5	305	225	194	305-380	224	194	160
356Z	4	4 <sup>1</sup> / <sub>8</sub>	7200	<sup>3</sup> / <sub>8</sub>	12	8 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	12-15	8 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	16	
	102	105	32028	10	305	225	200	305-381	225	200	406	
357Z	5 <sup>1</sup> / <sub>2</sub>	5 <sup>5</sup> / <sub>8</sub>	7200	<sup>3</sup> / <sub>8</sub>	18	11 <sup>9</sup> / <sub>16</sub>	10	18	11 <sup>1</sup> / <sub>2</sub>	10	27.5	
	140	143	32028	10	457	294	254	180-255	292	254	699	
8 203	351	1	1 <sup>1</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	10	7	6	7-10	6 <sup>9</sup> / <sub>16</sub>	6	5.05
		25	27	8007	5	254	178	152	180-255	167	152	128
	352	1 <sup>1</sup> / <sub>2</sub>	1 <sup>9</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	10	7	6	7-10	7 <sup>3</sup> / <sub>16</sub>	6	5.25
		38	40	8007	5	254	178	152	180-255	183	152	133
	353	2	2 <sup>1</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	12	7 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	7-10	7 <sup>11</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	7.0
		51	52	8007	5	305	191	165	180-255	195	165	178
	354	2 <sup>1</sup> / <sub>2</sub>	2 <sup>11</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	14	8 <sup>1</sup> / <sub>4</sub>	7	12-15	8 <sup>11</sup> / <sub>16</sub>	7	7.55
		64	68	8007	5	356	210	178	305-380	221	178	192
	355	3	3 <sup>3</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	12	8 <sup>7</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>8</sub>	12-15	8 <sup>27</sup> / <sub>32</sub>	7 <sup>5</sup> / <sub>8</sub>	9.9
		76	81	8007	5	305	225	194	305-380	225	194	251
	356	4	4 <sup>3</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	16	10	8 <sup>3</sup> / <sub>4</sub>	12-15	9 <sup>13</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	1.31
		102	106	8007	5	406	254	222	305-380	249	222	33
356Z	4	4 <sup>3</sup> / <sub>16</sub>	7200	<sup>3</sup> / <sub>8</sub>	16	10	8 <sup>3</sup> / <sub>4</sub>	12-15	9 <sup>7</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>4</sub>	13.1	
	102	106	32028	10	406	254	222	305-380	251	222	333	
357Z	5 <sup>1</sup> / <sub>2</sub>	5 <sup>9</sup> / <sub>16</sub>	7200	<sup>3</sup> / <sub>8</sub>	20	11 <sup>13</sup> / <sub>16</sub>	10 <sup>1</sup> / <sub>4</sub>	20	11 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>4</sub>	34.1	
	140	141	32028	10	508	300	260	180-255	298	260	866	
10 254	351	1	1	1800	<sup>3</sup> / <sub>16</sub>	10	7 <sup>1</sup> / <sub>4</sub>	6	7-10	6 <sup>9</sup> / <sub>16</sub>	6	5.05
		25	25	8007	5	254	184	152	180-255	167	152	128
	352	1 <sup>1</sup> / <sub>2</sub>	1 <sup>5</sup> / <sub>8</sub>	1800	<sup>3</sup> / <sub>16</sub>	10	7	6	7-10	7 <sup>3</sup> / <sub>16</sub>	6	5.25
		38	41	8007	5	254	178	152	180-255	183	152	133
	353	2	2 <sup>1</sup> / <sub>16</sub>	1800	<sup>3</sup> / <sub>16</sub>	12	7 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	7-10	7 <sup>11</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	7.0
		51	52	8007	5	305	191	165	180-255	195	165	178
	354	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>8</sub>	1800	<sup>3</sup> / <sub>16</sub>	16	9 <sup>5</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>8</sub>	16-20	9 <sup>11</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>8</sub>	8.75
		64	54	8007	5	406	244	206	406-508	246	206	222
	355	3	3 <sup>1</sup> / <sub>8</sub>	5000	<sup>3</sup> / <sub>16</sub>	16	10 <sup>1</sup> / <sub>8</sub>	8 <sup>7</sup> / <sub>8</sub>	16-20	10 <sup>3</sup> / <sub>8</sub>	8 <sup>7</sup> / <sub>8</sub>	10.7
		76	79	22242	5	406	257	225	406-508	264	225	272
	356	4	4 <sup>1</sup> / <sub>8</sub>	5000	<sup>3</sup> / <sub>16</sub>	18	11 <sup>1</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>4</sub>	16-20	11 <sup>1</sup> / <sub>16</sub>	9 <sup>3</sup> / <sub>4</sub>	13.88
		102	105	22242	5	457	283	248	406-508	281	248	353
356Z	4	4 <sup>1</sup> / <sub>16</sub>	7200	<sup>3</sup> / <sub>8</sub>	18	11 <sup>1</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>4</sub>	16-20	11 <sup>1</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>4</sub>	13.88	
	102	103	32028	10	457	283	248	406-508	283	248	353	
357Z	5 <sup>1</sup> / <sub>2</sub>	5 <sup>9</sup> / <sub>16</sub>	7200	<sup>3</sup> / <sub>8</sub>	20	13 <sup>1</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	20	12 <sup>5</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	36.6	
	140	141	32028	10	508	333	286	406-508	321	286	930	
12 305	351	1	1 <sup>1</sup> / <sub>8</sub>	2500	<sup>3</sup> / <sub>16</sub>	14	9 <sup>3</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>8</sub>	12-15	9 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>8</sub>	7.3
		25	29	11121	5	356	238	206	305-380	235	206	185
	352	1 <sup>1</sup> / <sub>2</sub>	1 <sup>5</sup> / <sub>8</sub>	5000	<sup>3</sup> / <sub>16</sub>	14	9 <sup>3</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>8</sub>	12-15	9 <sup>7</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>8</sub>	7.35
		38	41	22242	5	356	238	238	305-380	251	206	187
	353	2	2 <sup>1</sup> / <sub>8</sub>	5000	<sup>3</sup> / <sub>16</sub>	16	10	8 <sup>5</sup> / <sub>8</sub>	16-20	9 <sup>15</sup> / <sub>16</sub>	8 <sup>5</sup> / <sub>8</sub>	9.2
		51	54	22242	5	406	254	219	406-508	252	219	234
	354	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>8</sub>	5000	<sup>3</sup> / <sub>16</sub>	18	10 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>8</sub>	16-20	10 <sup>9</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>8</sub>	10.04
		64	54	22242	5	457	267	232	406-508	268	232	255
	355	3	3 <sup>1</sup> / <sub>8</sub>	5000	<sup>3</sup> / <sub>16</sub>	18	11 <sup>1</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>4</sub>	16-20	11 <sup>1</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>4</sub>	11.0
		76	79	22242	5	457	286	248	406-508	283	248	279
	356	4	4 <sup>1</sup> / <sub>8</sub>	5000	<sup>3</sup> / <sub>16</sub>	20	12 <sup>1</sup> / <sub>4</sub>	10 <sup>3</sup> / <sub>4</sub>	16-20	12 <sup>1</sup> / <sub>16</sub>	103 <sup>4</sup> / <sub>4</sub>	14.45
		102	105	22242	5	508	311	273	406-508	306	273	367
356Z	4	4 <sup>1</sup> / <sub>8</sub>	11000	<sup>3</sup> / <sub>8</sub>	20	12 <sup>1</sup> / <sub>4</sub>	10 <sup>3</sup> / <sub>4</sub>	16-20	12 <sup>1</sup> / <sub>8</sub>	103 <sup>4</sup> / <sub>4</sub>	14.45	
	102	105	48932	10	508	311	273	406-508	308	273	367	
357Z	5 <sup>1</sup> / <sub>2</sub>	5 <sup>9</sup> / <sub>16</sub>	11000	<sup>3</sup> / <sub>8</sub>	24	14 <sup>1</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>8</sub>	24	13 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>8</sub>	36.6	
	140	141	48932	10	610	362	314	406-508	349	314	930	

DIMENSIONS		TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS	
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS	

FIGURE 351 TO 357Z – PIPE COVERING PROTECTION SADDLE

PIPE SIZE	FIG NO.	MAXIMUM COVERING THICKNESS	ACTUAL COVERING THICKNESS	MAX. LOAD	T	SADDLE WITH FIG. 173 ROLL			SADDLE WITH FIG. 67 ROLL			WEIGHT EACH
						ROLL SIZE	A	B	ROLL SIZE	A	B	
14 356	352	1 1/2	1 1/2	5000	3/16	16	10 1/4	9	16-20	10 3/8	9	8.25
		38	38	22242	5	406	260	229	406-508	264	229	210
	353	2	2	5000	3/16	18	10 3/4	9 3/8	16-20	10 3/4	9 3/8	9.2
		51	51	22242	5	457	273	238	406-508	273	238	234
	354	2 1/2	2 1/8	5000	3/16	18	11 3/8	9 7/8	16-20	11 1/4	9 7/8	10.04
		64	54	22242	5	457	289	251	406-508	286	251	255
	355	3	3	5000	3/16	18	12	10 1/2	16-20	11 3/4	10 1/2	11.0
		76	76	22242	5	457	305	267	406-508	298	267	279
	356	4	4	5000	3/16	24	13 1/4	11 3/4	22-24	12 3/8	11 3/4	15.5
		102	102	22242	5	610	337	298	559-610	314	298	394
	356Z	4	4	11000	3/8	24	12 3/4	11 1/4	22-24	11 7/8	11 1/4	15.5
		102	102	48932	10	610	324	286	559-610	302	286	394
	357Z	5 1/2	5 1/2	11000	3/8	24	15	13 1/8	24	14 1/2	13 1/8	36.6
		140	140	48932	10	610	381	333	559-610	368	333	930
16 406	352	1 1/2	1 1/2	5000	3/16	18	11 1/8	9 3/4	16-20	11 1/4	9 3/4	8.25
		38	38	22242	5	457	283	248	406-508	286	248	210
	353	2	2	5000	3/16	20	11 3/4	10 1/4	16-20	11 5/8	10 1/4	9.2
		51	51	22242	5	508	298	260	406-508	295	260	234
	354	2 1/2	2 1/2	7200	3/16	20	12 1/4	10 3/4	16-20	12 1/4	10 3/4	13.69
		64	64	32028	5	508	311	273	406-508	311	273	348
	355	3	3	7200	3/16	24	12 7/8	11 1/8	22-24	12 7/8	11 1/8	14.65
		76	76	32028	5	610	327	283	559-610	327	283	372
	356	4	4	7200	3/16	24	14	12 1/4	22-24	13 9/16	12 1/4	15.5
		102	102	32028	5	610	356	311	559-610	344	311	394
	356Z	4	4	11000	3/8	24	14	12 1/4	22-24	13 5/8	12 1/4	15.5
		102	102	48932	10	610	356	311	559-610	346	311	394
	357Z	5 1/2	5 1/2	11000	3/8	30	16 1/5	13 7/8	30	15 3/4	13 7/8	39
		140	140	48932	10	762	411	352	559-610	400	352	991
18 457	352	1 1/2	1 1/2	5000	3/16	20	12 1/4	10 3/4	16-20	12 1/4	10 3/4	9.35
		38	38	22242	5	508	311	273	406-508	311	273	237
	353	2	2	7200	3/16	24	13 1/8	11 5/8	22-24	12 3/8	11 5/8	12.0
		51	51	32028	5	610	333	295	559-610	314	295	305
	354	2 1/2	2 1/2	7200	3/16	24	13 1/2	11 3/4	22-24	13	11 3/4	14.19
		64	64	32028	5	610	343	298	559-610	330	298	360
	355	3	3	7200	3/16	24	14	12 1/4	22-24	13 1/2	12 1/4	15.25
		76	76	32028	5	610	356	311	559-610	343	311	387
	356	4	4	7200	1/4	24	15 3/8	13 5/8	22-24	14 5/8	13 5/8	15.5
		102	102	32028	6	610	330	346	559-610	371	346	394
	356Z	4	4	13200	3/8	24	15 1/8	13 3/8	22-24	14 3/8	13 3/8	15.5
		102	102	58719	10	610	384	340	559-610	365	340	394
	357Z	5 1/2	5 1/2	13200	3/8	30	17 1/3	15	30	16 7/8	15	40
		140	140	58719	10	762	440	381	559-610	429	381	1016
20 508	352	1 1/2	1 1/2	7200	3/16	24	13 1/2	11 3/4	22-24	13	11 3/4	11.05
		38	38	32028	5	610	343	298	559-610	330	298	281
	353	2	2	7200	3/16	24	14	12 1/4	22-24	13 1/2	12 1/4	12.4
		51	51	32028	5	610	356	311	559-610	343	311	315
	354	2 1/2	2 1/2	7200	3/16	24	14 5/8	12 7/8	22-24	14 1/8	12 7/8	14.19
		64	64	32028	5	610	371	327	559-610	359	327	360
	355	3	3	7200	3/16	24	15 1/4	13 3/4	26-30	14 7/8	13 3/4	15.25
		76	76	32028	5	610	387	349	660-762	378	349	387
	356	4	4	7200	1/4	30	16 1/2	14 1/4	26-30	15 3/4	14 1/4	16.6
		102	102	32028	6	762	359	362	660-762	400	362	422
	356Z	4	4	13200	3/8	7	16 5/8	14 3/8	26-30	15 7/8	14 3/8	16.6
		102	102	58719	10	178	422	365	660-762	403	365	422
	357Z	5 1/2	5 1/2	13200	3/8	30	18 1/3	16	30	17 7/8	16	42.4
		140	140	58719	10	762	465	406	660-762	454	406	1077
24 610	352	1 1/2	1 1/2	7200	3/16	30	16 3/8	14 1/8	26-30	15 3/4	14 1/8	12.90
		38	38	32028	5	762	416	359	660-762	400	359	328
	353	2	2	7200	3/16	30	16 3/8	14 1/8	26-30	15 3/4	14 1/8	13.9
		51	51	32028	5	762	416	359	660-762	400	359	352
	354	2 1/2	2 1/2	7200	3/16	30	17	14 3/4	26-30	16 5/8	14 3/4	18.07
		64	64	32028	5	762	432	375	660-762	422	375	459
	355	3	3	7200	1/4	30	17 1/2	15 1/4	26-30	17 1/8	15 1/4	19.35
		76	76	32028	6	762	445	387	660-762	435	387	491
	356	4	4	7200	1/4	30	18 3/4	16 1/2	26-30	18	16 1/2	17.2
		102	102	32028	6	762	422	419	660-762	457	419	437
	356Z	4	4	13200	3/8	30	18 7/8	16 5/8	26-30	18 1/8	16 5/8	17.2
		102	102	58719	10	762	479	422	660-762	460	422	437

**CHANNEL ASSEMBLY**

**Figure 371**

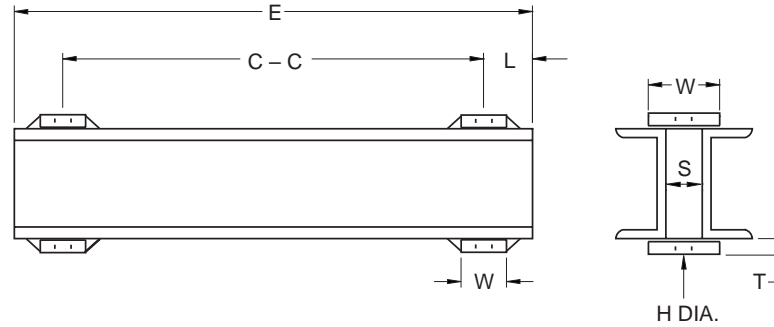
The Figure 371 Channel assembly is composed of two channels welded back to back with a spacer on each end. The washer plates, four (4), for the support rods are shipped loose.

The allowable safe loads are based on a factor of safety of five for the channels only.

**Material:** Carbon Steel.

**Finish:** Plain, Galvanized.

**Ordering:** Specify figure number, channel size, rod size and C to C dim. For Metric applications specify Figure M371.



**FIGURE 371 – CHANNEL ASSEMBLY**

<b>ROD DIA</b>	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	2 3/4	3	3 1/4	3 1/2
	10	13	16	19	22	25	32	38	44	51	57	64	70	76	83	89
<b>H HOLE</b>	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	2 3/4	3	3 1/4	3 1/2	3 3/4
	13	16	19	22	25	32	38	44	51	57	64	70	76	83	89	95
<b>S</b>	9/16	11/16	13/16	15/16	1 1/16	1 3/8	1 5/8	1 7/8	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4
	14	17	21	24	27	35	41	48	57	64	70	76	83	89	95	102
<b>W</b>	3	3	3	4	4	4	5	5	5	5	6	6	6	6	6	7
	76	76	76	102	102	102	127	127	127	127	152	152	152	152	152	178
<b>T</b>	1/4	1/4	3/8	3/8	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
	6	6	10	10	13	13	19	19	19	19	19	19	19	19	19	19
<b>L</b>	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2	1/2
	10	10	10	10	10	10	10	10	10	10	10	10	10	13	13	13

SPAN	ALLOWABLE CONCENTRATED LOAD AT CENTER OF SPAN								
	12	18	24	30	36	42	48	60	72
	305	441	610	762	914	1067	1219	1524	1829
<b>SIZE</b>									
3] [4.1	10000	6800	5100	4100	3400	2900	2500	2000	1700
	44484	30249	22687	18238	15125	12900	11121	8897	7562
4] [5.4	17500	11600	8800	7000	5800	5000	4400	3500	2900
	77847	51601	39146	31139	25801	22242	19573	15569	12900
5] [6.7	27600	18400	13800	11000	9200	7900	6900	5500	4600
	122776	81851	61388	48932	40925	35142	30694	24466	20463
6] [8.2	39500	26300	19800	15800	13200	11300	9900	7900	6600
	175712	116993	88078	70285	58719	50267	44039	35142	29359
8] [11.5	74500	49600	37300	29800	24800	21300	18650	14900	12400
	331406	220641	165925	132562	110320	94751	82963	66281	55160
12] [20.7	—	—	98500	78800	65600	56300	49200	39400	32800
	—	—	438167	350534	291815	250445	218861	175267	45907

DIMENSIONS	TEMPERATURE	LOADS	WEIGHT
INCHES	FAHRENHEIT	POUNDS	POUNDS
MILLIMETERS	CELSIUS	NEWTONS	KILOGRAMS



**BERGEN-POWER PIPE SUPPORTS**



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