

"All The Support You Need"

RILCO

Manufacturing Company, Inc

2007 Hardware Catalog



Since 1972, RILCO Manufacturing Company Incorporated has been providing our discerning clients with custom fabricated pipe support systems, engineered and manufactured to the most exacting standards. A pioneer in the development of low and high temperature pipe supports, we offer a full range of products (listed below) and engineered systems used in a multitude of environmentally sensitive applications, from corrosive resistant to cryogenic systems for both industrial and commercial applications worldwide.

RILCO support includes:

Complete Engineering & Project Management:

Design and detailing using:

Pro-Engineer / 3D Parametric Model Math CAD ACAD Visual Basic Gateway

Engineered Products:

Variable & Constant Spring Hangers & Supports Sway Struts Mechanical & Hydraulic Shock Arrestors (Snubbers)

Industrial & Commercial Pipe Hanger & Support Hardware

Cold and Hot Service Pipe Supports:

Pre-Insulated Pipe Shoes, Anchors & Guides

Isolation Blocks

Permal Block

Calcium Silicate Insulation

Micarta™ Blocks, Sleeves and Washers

Polyurethane Foam of 6#, 8#, 10#, 20# & 30# density

Marinite™

FOAMGLAS® Insulation



Fabric Expansion Joints:

Insulcon Fabric Compensators and Multi-Bellows

Fabricated Pipe Supports:

Non-Insulated Pipe Shoe, Anchor and Guides Stanchions (Rigid or Adjustable) Adjustable Pipe Support

Structural Pipe Supports manufactured to your specifications

Slide Plates:

Teflon Stainless Steel Graphite

Embeds

Instrument Stands

Hold Down Clamps



MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
CERT-06335-2004-AQ-HOU-ANAB

Initial certification date:
09 January 2004

Valid:
16 March 2019 - 16 March 2022

This is to certify that the management system of

Rilco Manufacturing Co., Inc.

12700 Tanner Road, Houston, TX, 77041, USA

and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:

ISO 9001:2015

This certificate is valid for the following scope:

The Design and Manufacture of Insulated Pipe Supports, Steel Fabrication and Spring Hangers.

Place and date:
Katy, TX, 29 January 2019



For the issuing office:
DNV GL – Business Assurance
1400 Ravello Drive, Katy, TX, 77449-5164,
USA

John Stefan
Management Representative



PIPE HANGERS

The present line of RILCO pipe hangers and supports are the result of over thirty-five years experience in the industrial piping field. Our large, complete line includes pipe hangers or supports of American manufacture for any suspension needs encountered in pipe installation work.

Maximum recommended load ratings for hangers have been established through testing by the RILCO Research and Development Department and are based on the allowable stresses specified in the ANSI/ASME B31.1 & B31.3 code for Pressure Piping; the Manufacturers Standardization Society Standard Practice SP-58, 69 & 89; applicable ASTM codes or RILCO design standards, as requested or applicable.

Should some detail of construction or piping arrangement make it necessary to deviate from our standard hangers or supports, RILCO, through our superior design team and our state of the art manufacturing facilities, is equipped to furnish hangers and supports to meet your most stringent requirements. We are continually monitoring our projects and collaborating with engineers and architects in the preparation of specifications for hanger requirements and the interpretation of applicable piping codes.

RILCO is recognized worldwide as a leader in the arena of pipe hangers and supports because of our exacting standards of research, design, engineering and manufacturing that go into the production of all of our products. All RILCO products are manufactured in accordance with approved ISO 9001:2000 quality programs.

WARNING

ALL products included in this catalog are intended for installation and service only as described or specified herein.

RILCO cannot be held responsible for injuries to persons or property damage caused by misapplication or improper use of any products in its catalogs used in ways or for purposes other than for which said products have been designed and manufactured. Some examples of misuse are: use of hanger products as erection tools; use of beam clamps on beams for which they were not specified; use of concrete inserts as anchors for pulling pipe to proper elevation and suspension of one clevis hanger under another, resulting in a cumulative load greater than specified support capability.

RILCO products are carefully designed and manufactured in accordance with the approvals and/or codes referenced above. Care should be exercised by installers and end users to install, use and maintain these products properly to avoid any possible on-the-job accidents.

All designed products are subject to change without notice.



Section 1



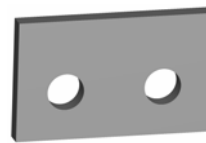
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Welded Beam
Attachment
Pg. 1-2



PART # 101
Concrete Pin Lug
Pg. 1-3



PART # 102
Concrete Rod
Attachment
Pg. 1-4



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PART # 125
Beam Clamp
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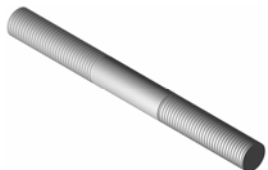


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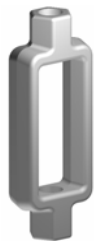
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Pg. 2-6



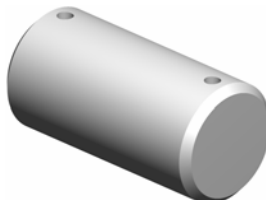
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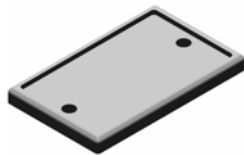


PART # 440
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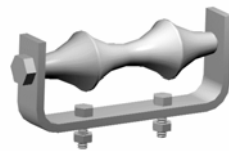
Section 5



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PART # 510
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Pg. 5-3



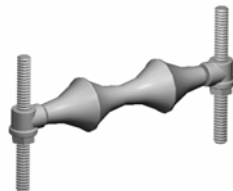
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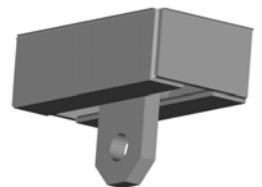
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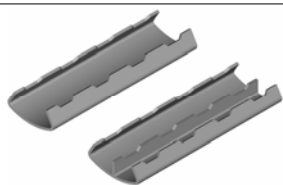


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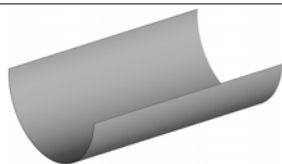


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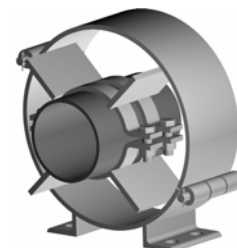
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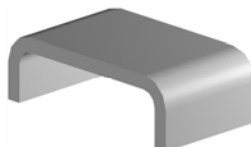


Part # 690
Pipe Alignment
Guide:
Heavy Duty
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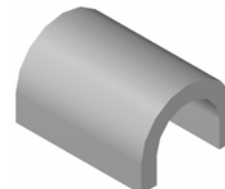
Section 7



Part # 700
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Section 8



Part # 800/801
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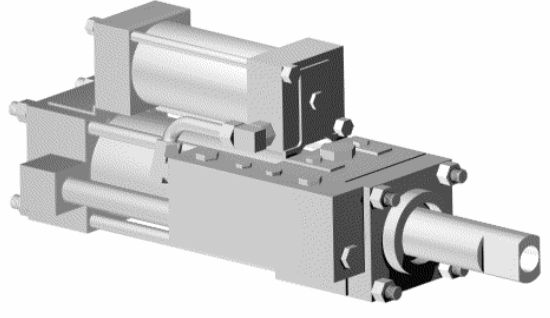


Part # 802
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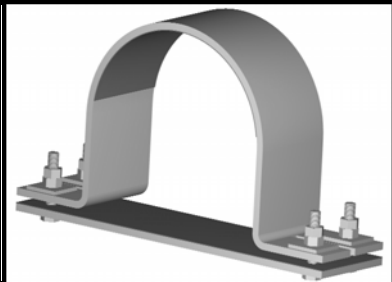
Part # 830/831
Vibration Control
And Sway Brace
Pg. 8-4

Hydraulic Snubber

	Loads (lbs)	
	Cylinder Size (in)	Max Load
	1 1/2 (5" stroke)	3000
	1 1/2 (10" stroke)	1250
	2 1/2 (5" , 10" , 15" stroke)	12500
	2 1/2 (20" stroke)	10500
	3 1/4	21000
	4	32000
	5	50000
	6	72000
	8	128000

Hold Down Clamps

Guide and capture applications. Available for all pipe sizes, materials and finishes. Built to customer specifications. Can be supplied with Teflon liners and slides and/or vibration dampening materials.

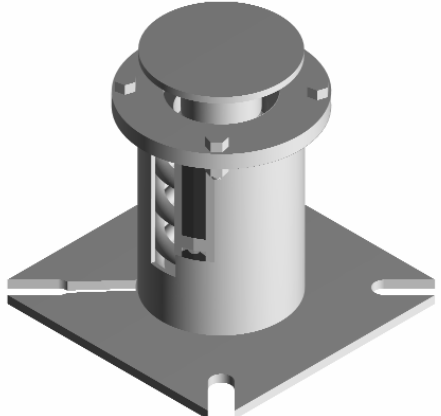


Constant Springs

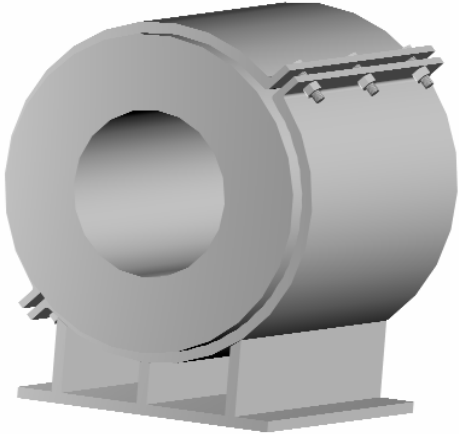
	Types	Figures	Sizes
	A	RCS 80V, RCS 81H	1-110
	B	RCS 80V, RCS 81H	1-110
	C	RCS 80V, RCS 81H	1-110
	D	RCS 80V, RCS 81H	1-110
	E	RCS 80V, RCS 81H	1-110
	F	RCS 80V, RCS 81H	1-110
	G	RCS 80V	1-110
	UPTHRUST	RCS 81H	1-63
Designs available for non-standard loads or dimensions			

Catalog Available

Variable Springs

Types	Figure, and Numbers	Sizes	 Catalog Available
A	RVS 82, 268, 98, 3X, 4X	000 thru 22	
B	RVS 82, 268, 98, 3X, 4X	000 thru 22	
C	RVS 82, 268, 98, 3X, 4X	000 thru 22	
D	RVS 82, 268, 98, 3X, 4X	000 thru 22	
E	RVS 82, 268, 98, 3X, 4X	000 thru 22	
F	RVS 82, 268, 98, 3X, 4X	000 thru 22	
G	RVS 82, 268, 98, 3X, 4X	000 thru 22	

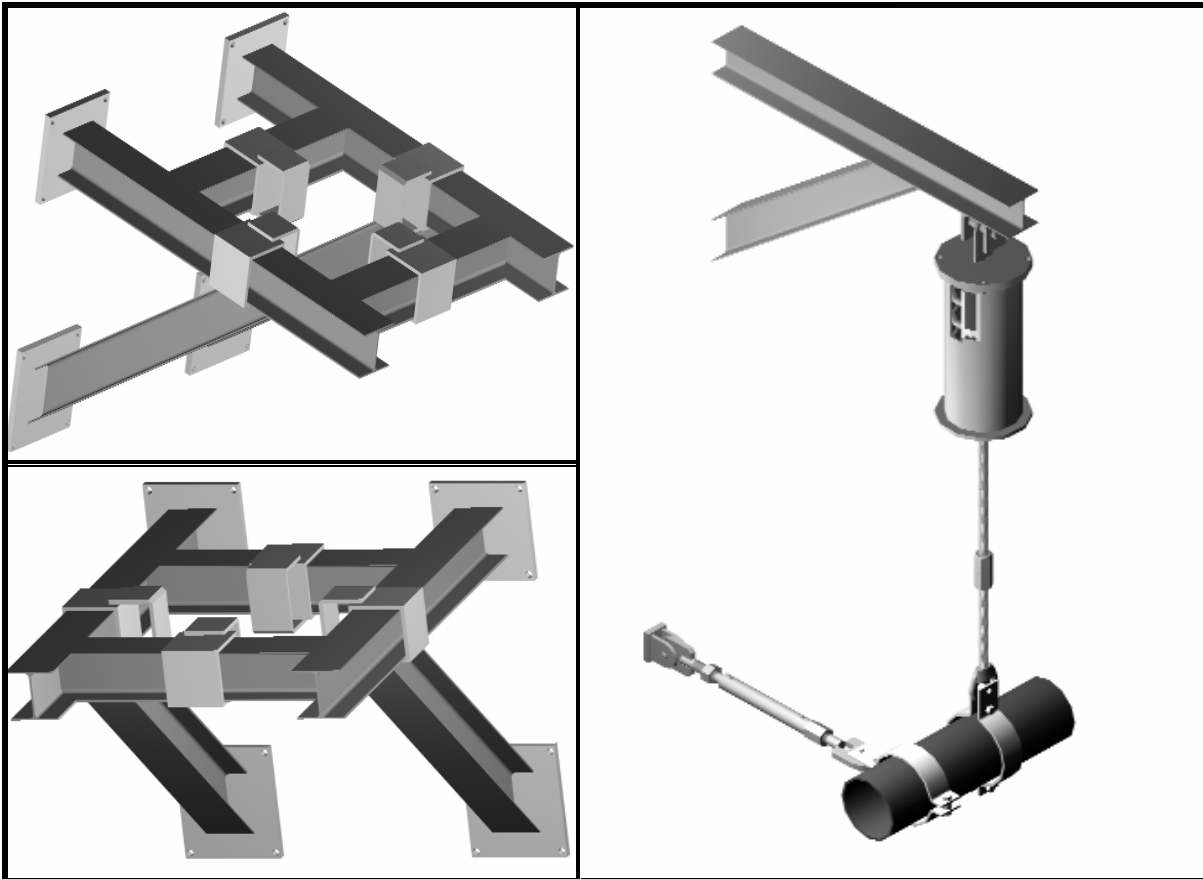
High Temperature Supports

	Temperatures up to 1200° F Applications for guides, resting, anchors, hangers, insulation blocks, riser clamps, and trunnion supports. Available in all pipe sizes and insulation thickness. Select from RILCO standard supports or custom designed per customer specification.
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Low Temperatures Supports

Temperature range: – 425° F to 275° F Applications for guides, resting, anchors, hangers, insulation blocks, riser clamps, and trunnion supports. Available in all pipe sizes and insulation thickness. Select from RILCO standard supports or custom designed per customer specification.	
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Fabricated Steel



RILCO designed and manufactured to meet your specifications using commercially available and fabricated members in a wide range of materials and plate thicknesses.



NOTES:

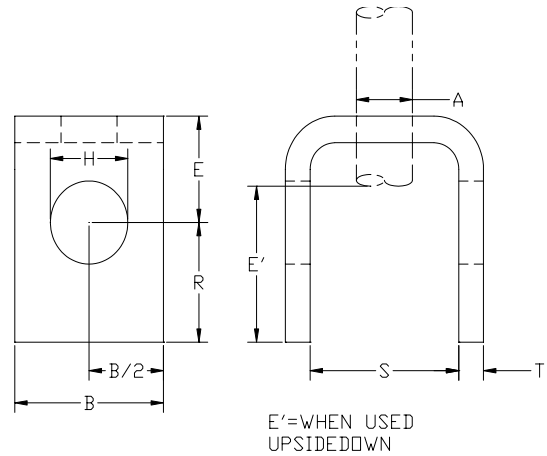
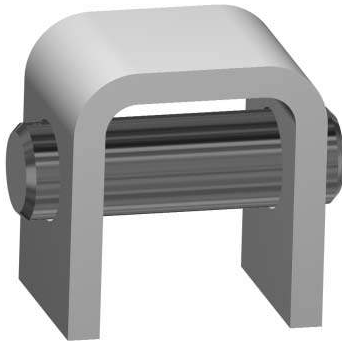
Section 1

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Part # 100

Beam Attachments Welded Beam Attachments



SIZE RANGE: 3/8" to 3 1/2" inches

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications

APPLICATIONS: Recommended for attachment to bottom of steel where extreme loads are present and rod sizes are large.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 22)

HOW TO SIZE: Size of attachments is determined by size of rod.

ORDERING: Specify rod size, part number, name, and finish. Specify (with bolt and nut) if required for 1" inch rod size and smaller. Specify (with pin and cotter pins) if required for 1 1/4" inch rod size and larger.

Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size A	*Bolt Size	*Maximum Load		Weight		Rod Take-off		B	H	R	S	T
				Without bolt and nut	With bolt and nut							
		650 F	750 F			E	E'					
3/8	1/2 X 2 1/2	730	572	0.96	1.20	1 7/8	2	2	9/16	7/8	1 1/4	1/4
1/2	5/8 X 2 1/2	1350	1057	0.96	1.30	1 3/4	2	2	11/16	7/8	1 1/4	1/4
5/8	3/4 X 2 3/4	2160	1692	0.96	1.60	1 3/4	2	2	13/16	7/8	1 1/4	1/4
3/4	7/8 X 4	3230	2530	1.90	2.80	1 3/4	2	2 1/2	15/16	1 1/8	1 7/8	3/8
7/8	1 X 4	4480	3508	2.50	3.90	2 5/8	3	2 1/2	1 1/8	1 1/4	2	3/8
1	1 1/8 X 5	5900	4620	4.30	6.30	2 3/4	3	3	1 1/4	1 1/2	2 1/2	1/2
1 1/4**	1 3/8 X 5 3/8	9500	7440	8.10	10.20	-	3	4	1 1/2	2	2 1/2	5/8
1 1/2**	1 5/8 X 6	13800	10807	15.60	19.00	-	4	5	1 3/4	2 1/2	3	3/4
1 3/4**	1 7/8 X 6 7/8	18600	14566	18.70	24.20	-	5	5	2	2 3/4	3 3/4	3/4
2**	2 1/4 X 7 3/8	24600	19265	22.80	30.60	-	5	6	2 3/8	3 1/4	3 1/2	1/2
2 1/4**	2 1/2 X 7 3/8	32300	25295	26.40	36.80	-	6	6	2 5/8	3 1/2	3 1/2	5/8
2 1/2**	2 3/4 X 7 5/8	39800	31169	26.70	39.70	-	6	6	2 7/8	3 3/4	3 3/4	5/8
2 3/4**	3 X 7	49400	38687	26.80	40.80	-	5 3/4	6	3 1/8	4	3 3/4	5/8
3**	3 1/4 X 7	60100	47066	32.60	46.70	-	6 1/4	7	3 3/8	4	3 3/4	5/8
3 1/4**	2 1/2 X 7 3/4	71900	56307	45.10	62.10	-	7	7	3 5/8	4 1/2	4 1/4	3/4
3 1/2**	3 3/4 X 7 3/4	84700	66331	53.40	72.40	-	7 1/2	8	3 7/8	4 1/2	4 1/4	3/4

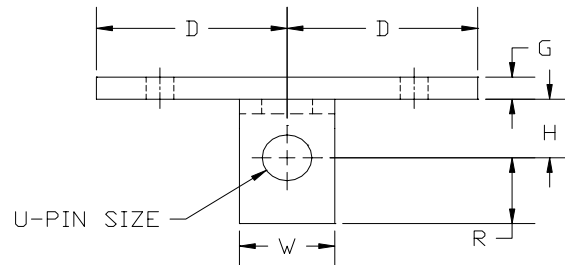
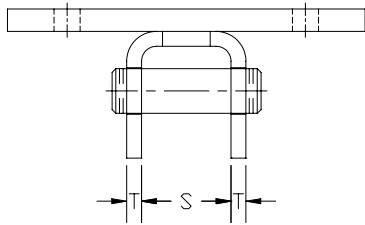
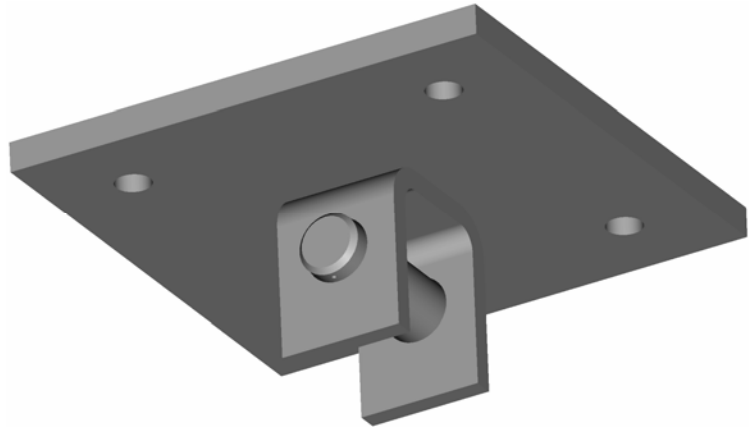
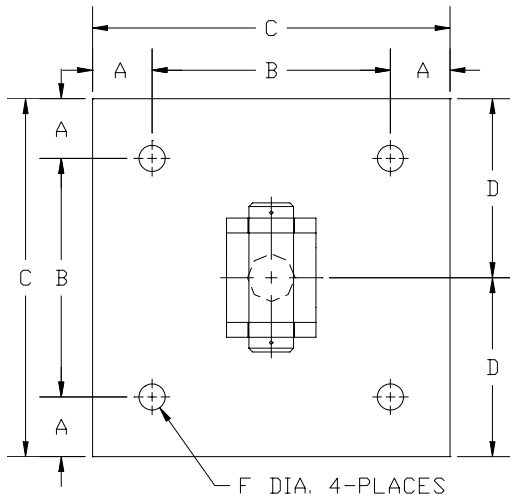
**1 1/4" and larger are pins with cotter pins

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

Concrete Attachments

Concrete Pin Lug

Part # 101



SIZE RANGE: For use with rod sizes 3/8" to 2" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications

APPLICATIONS: Structural attachment to concrete ceiling where flexibility is desired. Concrete Pin Lug is normally used in conjunction with Part #295 weldless eye nut (right hand thread) or Part #220 hanger rod eye nut (right hand thread).

ORDERING: Specify rod size, Part number, name, and finish.

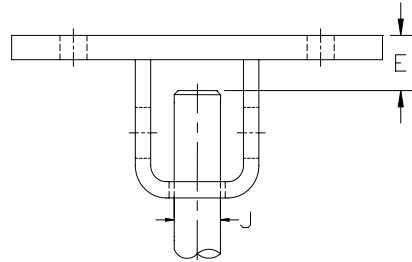
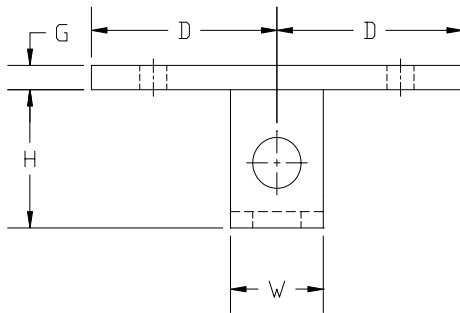
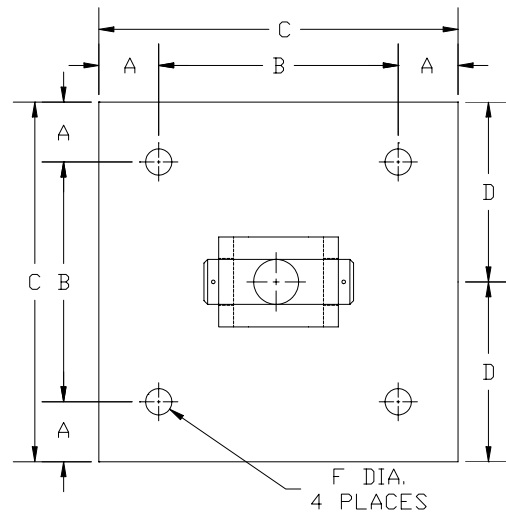
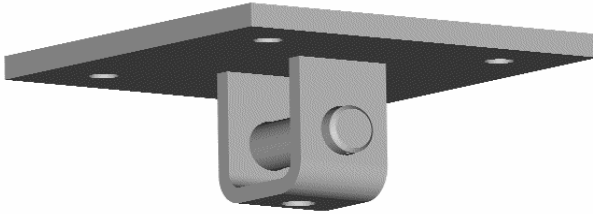
Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size	*Maximum Load	Weight	A	B	C	D	F	G	H	R	T	U	W
3/8	730	11.8	1	8	10	5	9/16	3/8	2	7/8	1/4	1/2	2
1/2	1350	11.9	1	8	10	5	9/16	3/8	2	7/8	1/4	5/8	2
5/8	2160	15.7	1	8	10	5	9/16	1/2	2	7/8	1/4	3/4	2
3/4	3230	16.9	1	8	10	5	11/16	1/2	2	1 1/8	3/8	7/8	2 1/2
7/8	4480	18.1	1	8	10	5	11/16	1/2	3	1 1/4	3/8	1	2 1/2
1	5900	36.9	2	8	12	6	13/16	3/4	3	1 1/2	1/2	1 1/8	3
1 1/4	9500	40.9	2	8	12	6	15/16	3/4	3	2	5/8	1 3/8	4
1 1/2	13800	59.8	2	8	12	6	1 1/8	1	4	2 1/2	3/4	1 5/8	5
1 3/4	18600	93.6	2	10	14	7	1 3/8	1 1/4	5	2 3/4	1/2	1 7/8	5

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

Part # 102

Concrete Attachments Concrete Rod Attachment



SIZE RANGE: For use with rod sizes 3/8" to 1" inch.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Structural attachment to concrete ceiling where vertical adjustment is desired. Normally used with threaded rod and nut.

ORDERING: Specify rod size, part number, name, and finish.

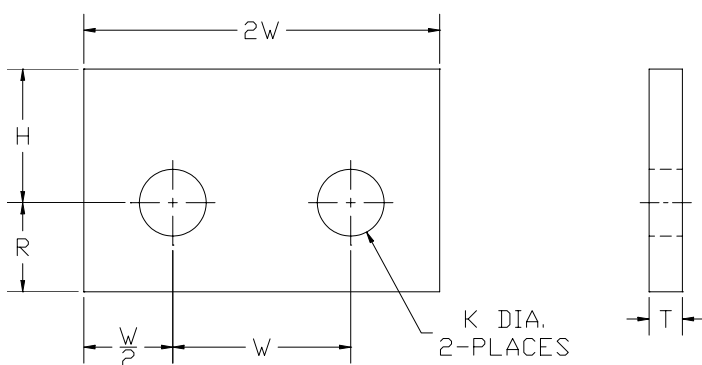
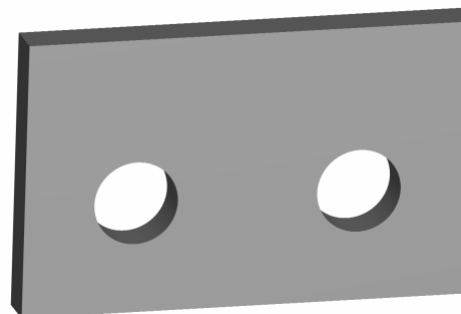
Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size J (inches)	*Maximum Recommended Load (lbs)	Weight (approx) lbs each	A	B	C	D	E	F	G	H	W
3/8	730	11.6	1	8	10	5	2 1/4	9/16	3/8	2 7/8	2
1/2	1350	11.6	1	8	10	5	2 1/8	9/16	3/8	2 7/8	2
5/8	2160	15.1	1	8	10	5	2 1/4	9/16	1/2	2 7/8	2
3/4	3230	16.1	1	8	10	5	2 1/4	11/16	1/2	3 1/8	2 1/2
7/8	4480	16.7	1	8	10	5	3 1/8	11/16	1/2	4 1/4	2 1/2
1	9500	34.9	2	8	12	6	3 1/2	13/16	1/2	4 1/2	3
1 1/4	9500	40.9	2	8	12	6	3 5/8	13/16	3/4	5	3

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Beam Lug Attachment

Part # 104



SIZE RANGE: For use with rod sizes 1/2 " to 2 1/2" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications

APPLICATIONS: For single rod suspension of part #RCS 81– H, Type B & C Constant Supports.

ORDERING: Specify rod size, part number, name, finish, and "H" dimension.

Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size	*Maximum Load	**Weight "H" Dimension				***Rod Take-out "H" Constant Support Frame Sizes				Pin or Bolt	K Hole	R	T	W	2W	W/2
		1 1/2	2	3	4	1 1/2	1 1/2	3	4							
1/2	1350	1.4	1.7	2.2	-	1 1/2	1 1/2	3	-	5/8	11/16	1 1/4	3/8	2 1/2	5	1 1/4
5/8	2160	1.4	1.6	2.2	-	1 1/2	1 1/2	3	-	3/4	13/16	1 1/4	3/8	2 1/2	5	1 1/4
3/4	3230	1.3	1.6	2.1	2.6	-	1 1/2	3	4	7/8	15/16	1 1/4	3/8	2 1/2	5	1 1/4
1	5900	-	2.6	3.5	4.3	-	-	3	4	1 1/8	1 1/4	1 1/2	1/2	3	6	1 1/2
1 1/4	9500	-	5.0	6.5	7.9	-	-	3	4	1 3/8	1 1/2	2	5/8	4	8	2
1 1/2	13800	-	-	10.7	12.8	-	-	3	4	1 5/8	1 3/4	2 1/2	3/4	5	10	2 1/2
1 3/4	18600	-	-	10.4	12.5	-	-	3	4	1 7/8	2	2 1/2	3/4	5	10	2 1/2
2	24600	-	-	-	16	-	-	-	4	2 1/4	2 3/8	3	3/4	6	12	3
2 1/4	32300	-	-	-	15.6	-	-	-	4	2 1/2	2 5/8	3	3/4	6	12	3

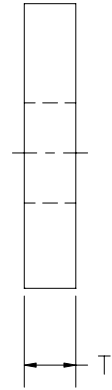
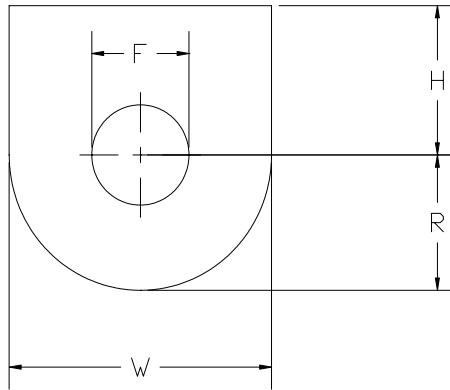
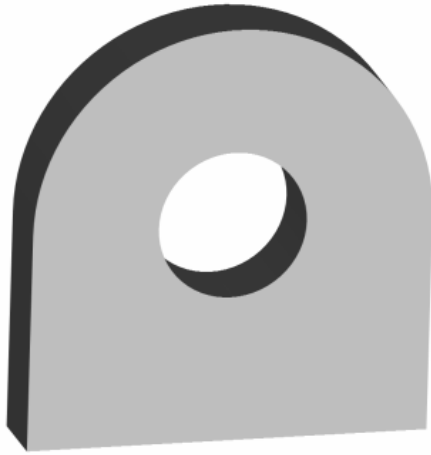
* Based on the allowable stresses shown in the ASME Code for Pressure Piping

** Select "H" Dimension Applicable to Constant Support Frame Size

*** Weight varies with "H" dimension

Part # 105

Structural Attachments Beam Lug Attachment One Hole



SIZE RANGE: Short lug is available for use with 1/2" to 3 3/4" inch rod; long lug may be used with 1/2" through 2" inch rod.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications

APPLICATIONS: For attachment to structural steel in conjunction with part #290 clevis and with type B and C spring hanger.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 57)

ORDERING: Specify rod size, part number, name, finish, and whether short or long lug is required.

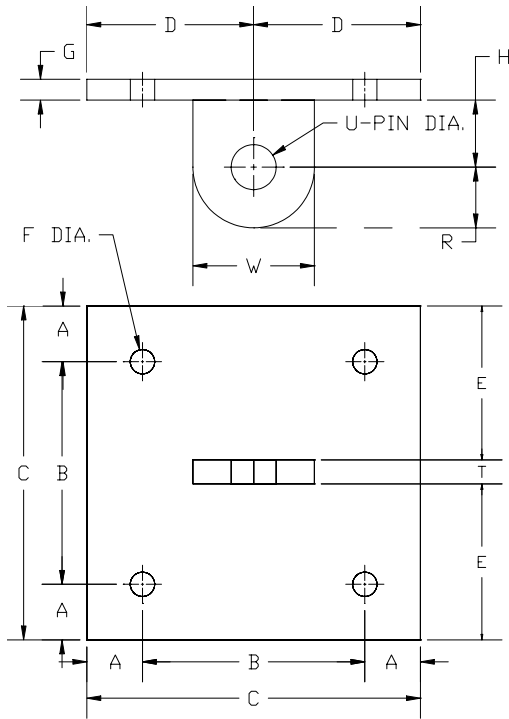
Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size	*Maximum Load		Weight		Pin or Bolt	F	Rod take out "H"		R	T	W
	650° F	750° F	Short	Long			Short	Long			
1/2	1350	1057	0.48	0.75	5/8	11/16	1 1/2	3	1 1/4	1/4	2 1/2
5/8	2160	1692	0.41	0.68	3/4	13/16	1 1/2	3	1 1/4	1/4	2 1/2
3/4	3230	2530	0.60	1.00	7/8	15/16	1 1/2	3	1 1/4	3/8	2 1/2
7/8	4480	3508	0.71	0.98	1	1 1/8	2	3	1 1/4	3/8	2 1/2
1	5900	4620	1.20	1.60	1 1/8	1 1/4	2	3	1 1/2	1/2	3
1 1/4	9500	7440	3.00	3.70	1 3/8	1 1/2	3	4	2	5/8	4
1 1/2	13800	10807	4.80	6.40	1 5/8	1 3/4	3	4 1/2	2 1/2	3/4	5
1 3/4	18600	14566	4.70	6.30	1 7/8	2	3	4 1/2	2 1/2	3/4	5
2	24600	19265	7.20	8.80	2 1/4	2 3/8	4	4 1/2	3	3/4	6
2 1/4	32300	25295	7.60	-	2 1/2	2 5/8	4 1/2	-	3	3/4	6
2 1/2	39800	31169	15.50	-	2 3/4	2 7/8	4 1/2	-	4	1	8
2 3/4	49400	38687	15.10	-	3	3 1/8	4 1/2	-	4	1	8
3	60100	47066	16.00	-	3 1/4	3 3/8	5	-	4	1	8
3 1/4	71900	56307	18.90	-	3 1/2	3 5/8	5	-	4 1/2	1	9
3 1/2	84700	66331	31.30	-	3 3/4	3 7/8	6	-	4 1/2	1 1/2	9
3 3/4	98500	77139	35.90	-	4	4 1/8	6	-	4 1/2	1 3/4	9

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

Concrete Attachments Single Lug

Part # 106



SIZE RANGE: For use with rod sizes 1/2 " to 2" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications

APPLICATIONS: Structural attachment to concrete ceiling Lug is used in conjunction with part # 290 forged steel clevis.

ORDERING: Specify rod size, part number, name, and finish.

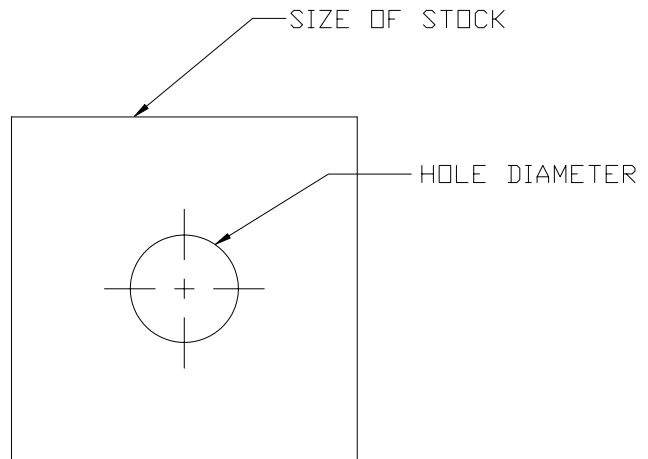
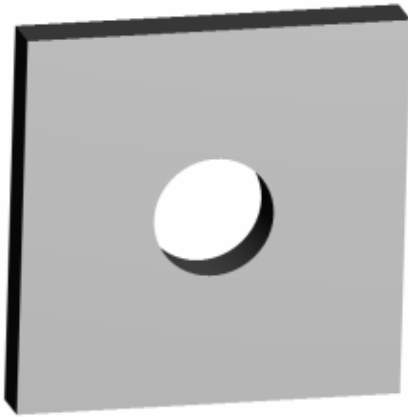
Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size	*Maximum Load	Weight	A	B	C	D	E	F	G	H	R	T	U	W
1/2	1350	11.1	1	8	10	5	4 7/8	9/16	3/8	1 1/2	1 1/4	1/4	5/8	2 1/2
5/8	2160	14.6	1	8	10	5	4 7/8	9/16	1/2	1 1/2	1 1/4	1/4	3/4	2 1/2
3/4	3230	14.8	1	8	10	5	4 13/16	11/16	1/2	1 1/2	1 1/4	3/8	7/8	2 1/2
7/8	4480	22.0	1	8	10	5	4 13/16	11/16	3/4	2	1 1/4	3/8	1	2 1/2
1	5900	31.9	2	8	12	6	5 3/4	13/16	3/4	2	1 1/2	1/2	1 1/8	3
1 1/4	9500	43.8	2	8	12	6	5 11/16	15/16	1	3	2	5/8	1 3/8	4
1 1/2	13800	45.6	2	8	12	6	5 5/8	1 1/8	1	3	2 1/2	3/4	1 5/8	5
1 3/4	18600	55.7	2	8	12	6	5 5/8	1 3/8	1 1/4	3	2 1/2	3/4	1 7/8	5
2	24600	58.2	2	8	12	6	5 5/8	1 3/8	1 1/4	4	3	3/4	2 1/4	6

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

Part # 110

Beam Attachments Washer Plate



SIZE RANGE: For use with 3/8" to 3 3/4" inch rod.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications

APPLICATIONS: The heavy-duty washer plate is used on top of channels or angles for supporting pipe with rods or U-bolts.

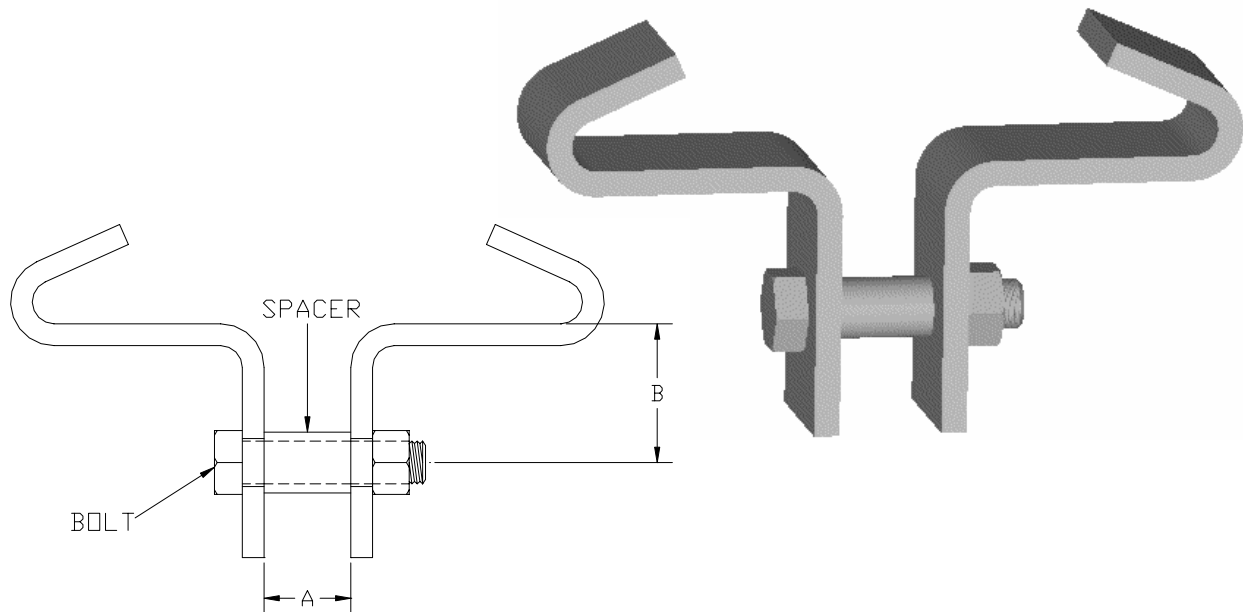
ORDERING: Specify rod size, part number, name, and finish.

Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size	Weight	Max Load		Size of Stock	Hole Diameter
		650° F	750° F		
3/8	0.6	730	572	3 x 3 x 1/4	1/2
1/2	0.6	1350	1057	3 x 3 x 1/4	5/8
5/8	0.9	2160	1692	3 x 3 x 3/8	3/4
3/4	1.6	3230	2530	4 x 4 x 3/8	7/8
7/8	2.2	4480	3508	4 x 4 x 1/2	1
1	2.1	5900	4620	4 x 4 x 1/2	1 1/4
1 1/4	3.3	9500	7440	5 x 5 x 1/2	1 1/2
1 1/2	4.8	13800	10807	5 x 5 x 3/4	1 3/4
1 3/4	4.7	18600	14566	5 x 5 x 3/4	2
2	4.5	24600	19295	5 x 5 x 3/4	2 1/4
2 1/4	6.6	32300	25295	6 x 6 x 3/4	2 1/2
2 1/2	6.4	39800	31169	6 x 6 x 3/4	2 3/4
2 3/4	6.2	49400	38687	6 x 6 x 3/4	3
3	5.9	60100	47066	6 x 6 x 3/4	3 1/4
3 1/4	5.6	71900	56307	6 x 6 x 3/4	3 1/2
3 1/2	8.1	84700	66331	7 x 7 x 3/4	3 3/4
3 3/4	7.8	98500	77139	7 x 7 x 3/4	4

Beam Clamp

Part # 125



SIZE RANGE: 4" to 8" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications

COMPONENTS: Two half-clamps, pipe spacer and bolt with nut (assembled).

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 21)

ORDERING: Figure number, width of flange, name, and finish.

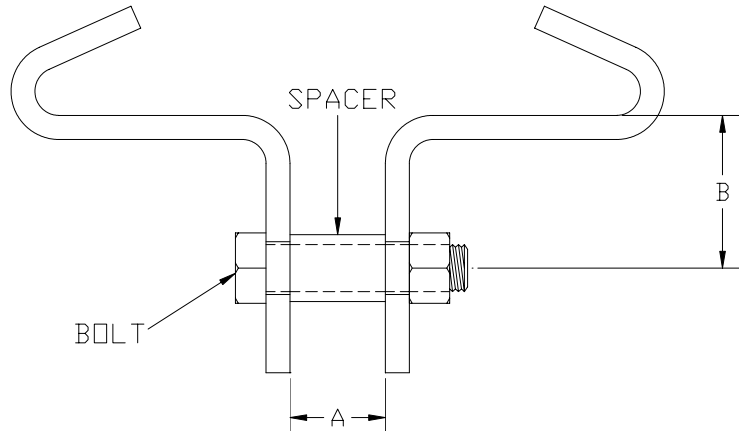
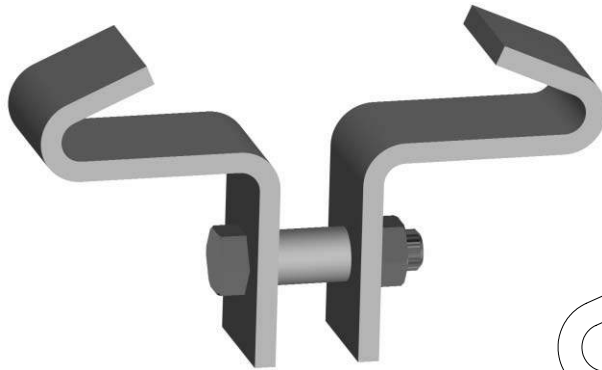
Weights (lbs) • Dimensions (inches)

Nominal Flange Width	Max Flange Thickness	Weight (approx) lbs each
4	$\frac{1}{2}$	0.91
5	$\frac{5}{8}$	1.00
6	$\frac{3}{4}$	1.15
7	$\frac{7}{8}$	1.29
8	$\frac{7}{8}$	1.44

Part#	A	B	Bolt Size	Maximum Recommended Load lbs
125	$\frac{1}{2}$	$1 \frac{3}{8}$	$\frac{3}{8}$	1000

Part # 126

Beam Clamp Heavy Duty



SIZE RANGE: 4" to 12" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

COMPONENTS: Two half-clamps, pipe spacer and bolt with nut assembled.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 21).

ORDERING: Part number, width of flange, name, and finish.

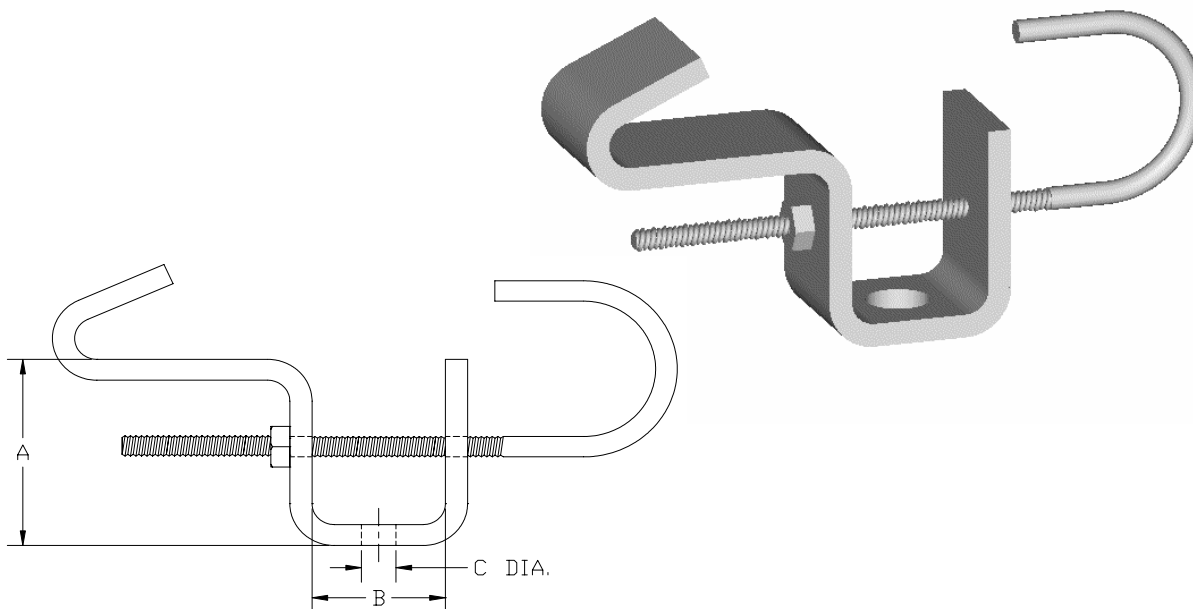
Weights (lbs) • Dimensions (inches)

Nominal Flange Width	Max Flange Thickness	Weight (approx) lbs each
4	$\frac{1}{2}$	3.82
5	$\frac{5}{8}$	4.35
6	$\frac{3}{4}$	4.52
7	$\frac{7}{8}$	4.84
8	$\frac{7}{8}$	5.10
9	1	5.83
10	1	6.25
11	1	6.67
12	1	7.09

Part#	A	B	Bolt Size	Spacer O.D.	Maximum Recommended Load lbs
126	$\frac{3}{4}$	$2 \frac{1}{4}$	$\frac{5}{8}$	$1 \frac{1}{16}$	3000

Beam Clamps Adjustable

Part # 130



SIZE RANGE: 3/8" to 5/8" inches

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for supporting pipe from the bottom flange of beams.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 27)

ORDERING: Specify rod size, part number and finish.

Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size	Maximum Recommended Load lbs.	A	B	C
3/8	300	2 1/2	2	7/16
1/2	700			9/16
5/8	1000			11/16

Steel size	Adjustment		Weight (approx.) lbs. each
	Min. Beam Width	Max. Beam Width	
1/4 x 1 1/4	3 1/2	8	1.19
1/4 x 1 1/2			1.67
1/4 x 1 3/4			2.23



NOTES:

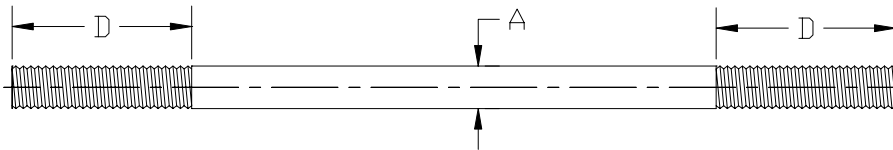
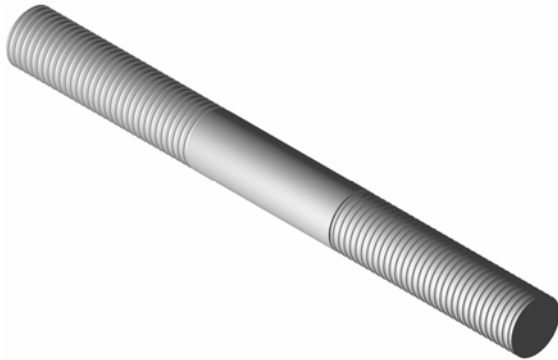
Section 2

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Part # 200/210

Machine Threaded Rods
Threaded Both Ends
Right-Hand threads: Part # 200
Right And Left-Hand Threads: Part # 210



SIZE RANGE: 3/8" to 3 3/4" inches.

MATERIAL TYPES: Carbon Steel Rod

MAXIMUM TEMPERATURE: 650°F

FINISH: Black, Galvanized, or coated to customer specifications.

ORDERING: Specify rod size, part number, name, finish, and rod length. Specify thread length if other than standard.

Loads (lbs) • Dimensions (inches)

Rod Size A	*Maximum Load		Standard Rod Thread Length D, inches
	650° (F)	750° (F)	
3/8	730	572	2 1/2
1/2	1350	1057	2 1/2
5/8	2160	1692	2 1/2
3/4	3230	2530	3
7/8	4480	3508	3 1/2
1	5900	4620	4
1 1/4	9500	7440	5
1 1/2	13800	10807	6
1 3/4	18600	14566	7
2	24600	19265	8
2 1/4	32300	25295	9
2 1/2	39800	31169	10

Loads (lbs) • Dimensions (inches) (cont.)

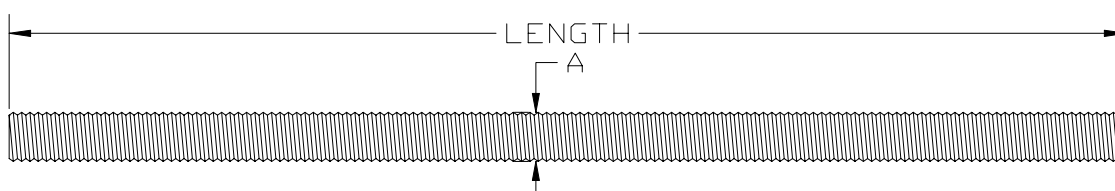
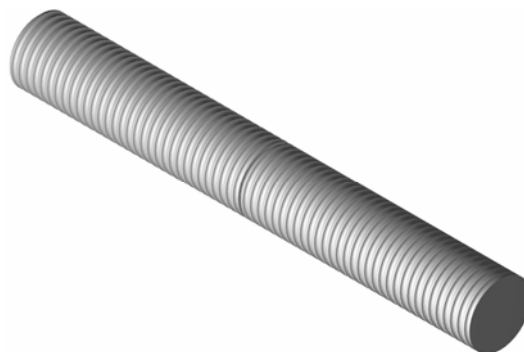
Rod Size A	Maximum Load		Standard Rod Thread Length D, inches
	650° (F)	750° (F)	
2 3/4	49400	38687	2 1/2
3	60100	47066	2 1/2
3 1/4	71900	56307	2 1/2
3 1/2	84700	66331	3
3 3/4	98500	77139	3 1/2
4	113400	88807	4
4 1/4	129400	101337	5
4 1/2	146600	114807	6
4 3/4	164700	128982	7
5	18400	144096	8

Note 3/8", 1/2" and 5/8 " inch Part # 200 rod in lengths of 24" inches or shorter will be furnished as continuous thread unless order states that all thread rod is **not** acceptable.

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

Hanger Rod Continuous Thread

Part # 205



SIZE RANGE: 1/4" through 1 1/2" inch diameter. Stocked in six, ten and twelve foot lengths. Other even foot lengths can be furnished upon order.

MATERIAL TYPES: Carbon Steel Rod (Threaded complete length).

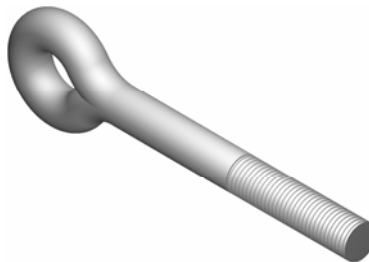
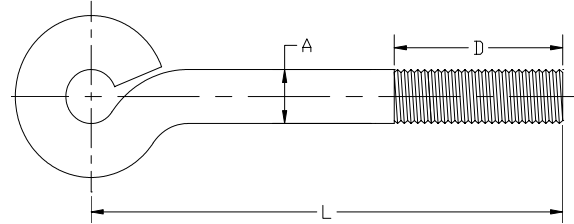
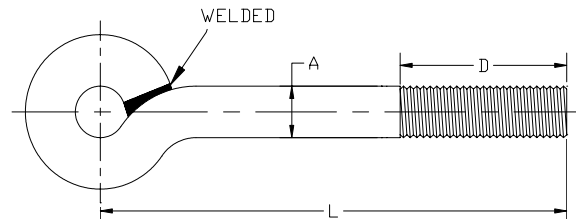
FINISH: Black, Galvanized, or coated to customer specifications.

MAXIMUM TEMPERATURE: 650°F

ORDERING: Specify rod diameter, length, part number, name, and finish.

Loads (lbs) • Dimensions (inches)

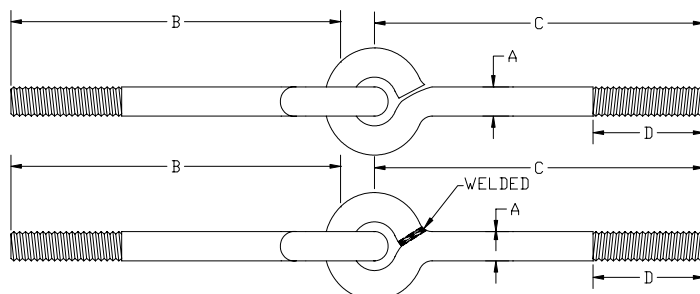
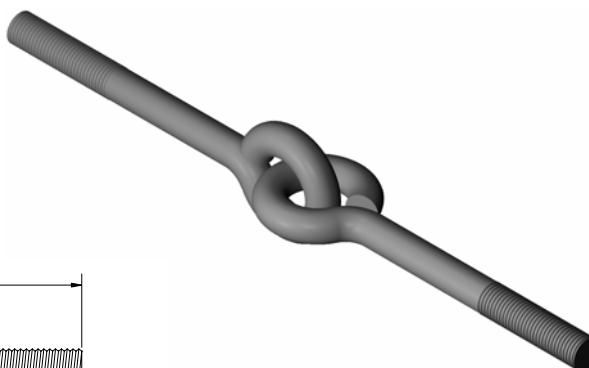
Rod Size A	Maximum Load	Weight (approx) lbs Each
	650° (F)	
1/4	240	0.12
3/8	730	0.30
1/2	1350	0.53
5/8	2160	0.84
3/4	3230	1.20
7/8	4480	1.70
1	5900	2.30
1 1/4	9500	3.60
1 1/2	13800	5.10

Part # 220/221**Part # 225/226****Eye Rods****Not Welded****Right-Hand Thread: Part # 220****Left-Hand Thread: Part # 221L****Welded****Right-Hand Thread: Part # 225****SIZE RANGE:** 3/8" to 2 1/2" inches**MATERIAL TYPES:** Carbon Steel Rod**FINISH:** Black, Galvanized, or coated to customer specifications.**MAXIMUM TEMPERATURE:** 650°F for Part # 225; 750°F for Part # 220**ORDERING:** Specify rod diameter, part number, name, finish, and rod length. Specify thread length if other than standard.**Loads (lbs) • Dimensions (inches)**

Rod Size A	Maximum Load			Standard Rod Thread Length D	L (Minimum)
	Part # 220	Part # 225			
	650° (F)	650° (F)	750° (F)		
³ / ₈	240	730	572	2 ¹ / ₂	4 ¹ / ₄
¹ / ₂	240	1350	1057	2 ¹ / ₂	4 ¹ / ₄
⁵ / ₈	705	2160	1692	2 ¹ / ₂	4 ¹ / ₂
³ / ₄	1050	3230	2530	3	5 ¹ / ₂
⁷ / ₈	1470	4480	3508	3 ¹ / ₂	6 ¹ / ₂
1	1940	5900	4620	4	7 ¹ / ₄
1 ¹ / ₄	3120	9500	7440	5	8 ¹ / ₄
1 ¹ / ₂	4650	13800	10807	6	10
1 ³ / ₄	6380	18600	14566	7	12
2	8280	24600	19265	8	14
2 ¹ / ₄	10900	32600	25295	9	15 ¹ / ₂
2 ¹ / ₂	13400	39800	31169	10	17

Linked Eye Rods
Not Welded: Part # 222
Welded: Part # 230

Part # 222/230



SIZE RANGE: 3/8" to 2 1/2" inches

Material Types: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specification.

SERVICE: The use of linked eye rods in a hanger assembly allows universal movement of the piping without bending and possible fracture of a straight rod.

ORDERING: Specify the length and size of each eye rod by part number.

example:

1—7/8" Part # 222 linked welded eye rod consisting of:

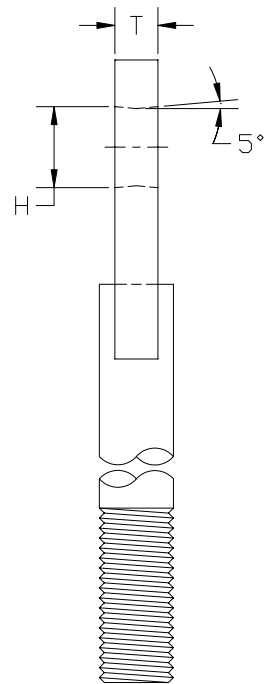
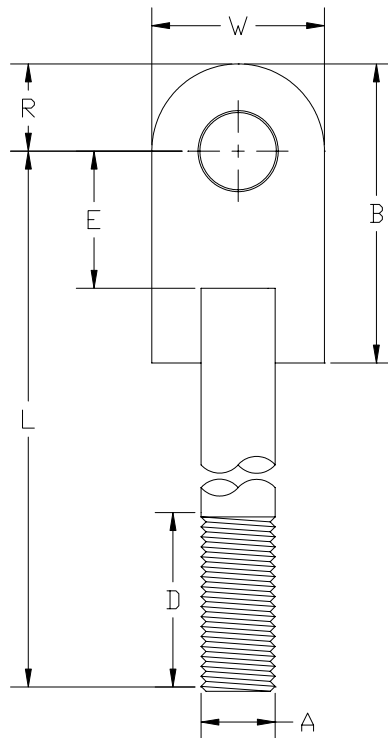
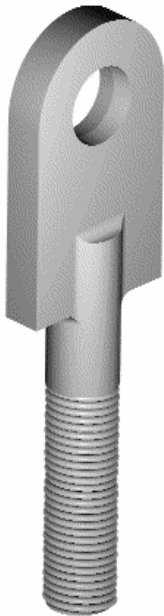
One part # 220 of diameter (A) and length (B), and one part # 225 of diameter (A) and length (C)

Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size A	Standard Rod Thread Length - D	Maximum Load		
		Part # 222 650° F	Part # 230	
			650° F	750° F
3/8	2 1/2	240	730	572
1/2	2 1/2	440	1350	1057
5/8	2 1/2	705	2160	1692
3/4	3	1050	3230	2530
7/8	3 1/2	1470	4480	3508
1	4	1940	5900	4620
1 1/4	5	3120	9500	7440
1 1/2	6	4650	13800	10807
1 3/4	7	6380	18600	14566
2	8	8280	24600	19265
2 1/4	9	10900	32300	25295
2 1/2	10	13400	39800	31169

Part # 235

Hanger Rods Rod With Eye End



SIZE RANGE: Rod sizes 2 3/4" to 5" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: A large diameter rod with eye end for load ratings from 41,580 to 154,000 pounds.

ORDERING: Specify rod size, part number, name, finish and "L" dimension. Indicate if desired thread length is other than Standard.

Loads (lbs) • Weights (lbs) • Dimensions (inches)

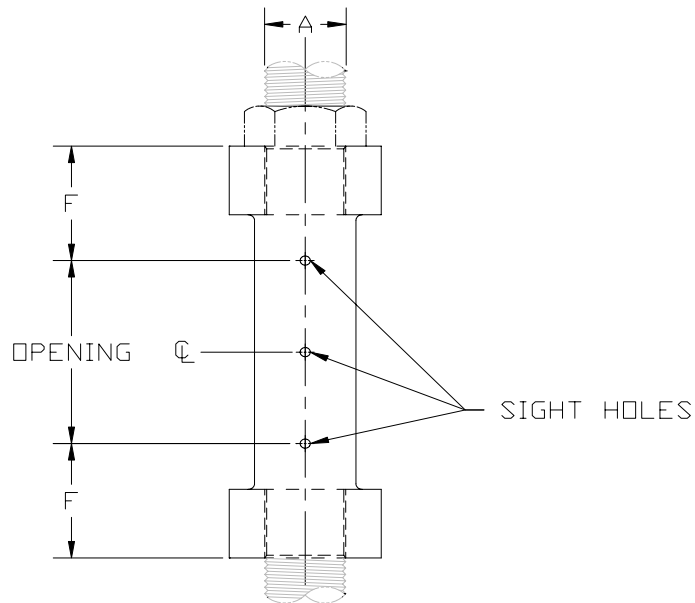
Rod Size A	*Maximum Load		♦ Weight Minimum Length	Weight/Ft. Additional Length	B	D	E	H	L (Min)	R	T	W
	650° F	750° F										
2 3/4	49400	38687	35.9	20	9 5/8	12	3 3/4	3 1/8	19	3 5/8	1 1/2	6
3	60100	47066	42.9	24	11	12	4	3 3/8	20	4	1 1/2	6
3 1/4	71900	56307	54.7	28	12 1/4	12	4	3 5/8	21	4 1/4	1 1/2	7
3 1/2	84700	66331	67.3	33	12 1/2	15	4 3/4	3 7/8	24	4 1/2	2	7
3 3/4	98500	77139	80.0	37	13 7/8	15	5	4 1/8	25	4 7/8	2	7 1/2
4	113400	88807	97.0	43	15 1/8	15	5	4 3/8	26	5 1/8	2	8 1/2
4 1/4	129400	101337	127.0	48	16 1/4	18	5 1/4	4 5/8	30	5 1/2	2	9 1/2
4 1/2	146600	114807	131.0	54	16	18	5 3/4	4 7/8	30	5 3/4	2 1/2	8 1/2
4 3/4	164700	128982	154.0	60	17	18	5 3/4	5 1/8	31	6	2 1/2	9 1/2
5	184000	144096	175.0	67	17 7/8	18	6 1/4	5 3/8	32	6 3/8	2 1/2	10

♦ Weight calculated with minimum "L" for standard thread.

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

Rod Attachments Turnbuckle

Part # 280



SIZE RANGE: For use with rod sizes 1 1/4" to 5" inches..

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICES: Provides adjustments up to 24 inches with loads from 8,000 to 154,000 pounds.

ORDERING: Specify rod size, part number, name, finish, and opening dimension.

Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size A	*Maximum Load	Weight /Opening				F
		6"	12"	18"	24"	
1 1/4	9500	-	9.0	10.8	12.6	2 1/8
1 1/2	13800	-	12.4	14.9	17.4	2 3/8
1 3/4	18600	-	11.7	14.2	16.7	2 3/8
2	24600	-	20.9	24.7	28.5	3 3/16
2 1/4	32300	-	29.5	34.6	39.7	3 1/4
2 1/2	39800	-	28.3	33.4	38.5	3 1/4
2 3/4	49400	35.60	41.8	48.1	54.3	3 1/2
3	60100	41.60	49.1	56.6	64.1	3 13/16
3 1/4 *	71900	39.60	47.0	54.5	62.0	3 13/16
3 1/2 *	84700	72.50	82.9	93.3	103.7	4 7/16
3 3/4 *	98500	69.60	80.0	90.4	107.3	4 7/16
4 *	113400	110.70	125.1	139.4	153.6	5
4 1/4 *	129400	107.10	121.5	135.7	150.0	5
4 1/2 *	146600	233.50	255.2	276.9	298.6	6 13/16
4 3/4 *	164700	227.60	249.3	271.0	292.7	6 13/16
5 *	184000	221.40	243.1	264.8	286.5	6 13/16

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Part # 281



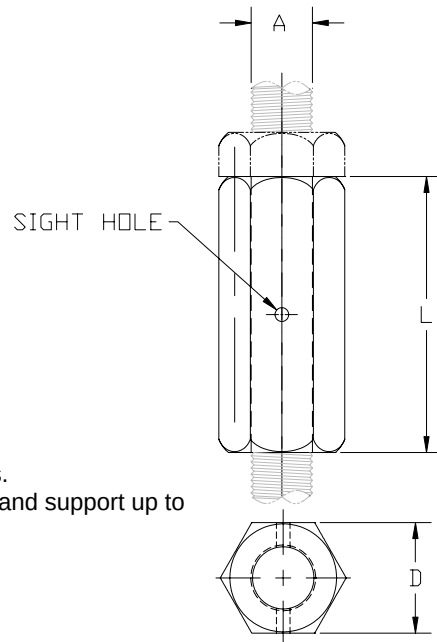
MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or custom coated to customer specifications.

SERVICE: For connecting rods to accommodate up to 1" inch diameter and support up to 4960 pounds.

ORDERING: Specify rod size, part number, name, and finish.

Steel Rod Coupling
Straight With Sight-Hole: Part # 281
Straight Less Sight-Hole: Part # 281E
Reducing: Part # 281R



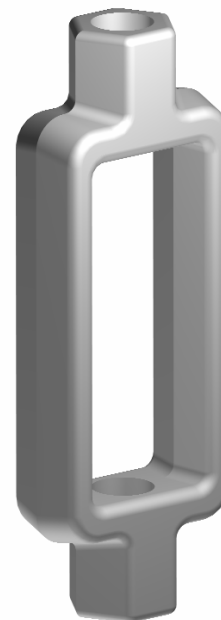
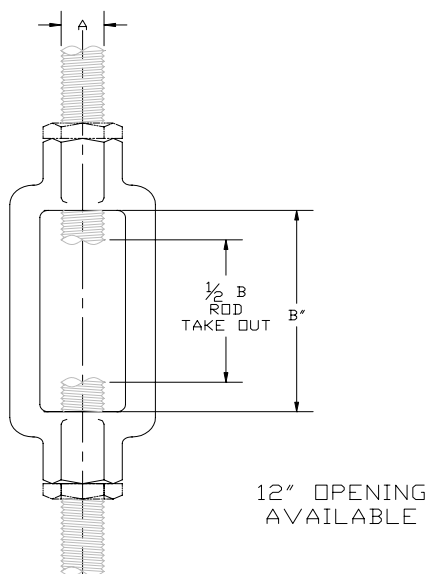
Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size A	*Maximum Load	Weight	D	L
Part # 281				
$\frac{3}{8}$	730	.09	$\frac{5}{8}$	$1 \frac{3}{4}$
$\frac{1}{2}$	1350	.12	$\frac{3}{4}$	$1 \frac{1}{2}$
$\frac{5}{8}$	2160	.24	$\frac{15}{16}$	$1 \frac{7}{8}$
$\frac{3}{4}$	3230	.42	$1 \frac{1}{8}$	$2 \frac{1}{4}$
$\frac{7}{8}$	4480	.66	$1 \frac{5}{16}$	$2 \frac{5}{8}$
1	5900	1	$1 \frac{1}{2}$	3
Part # 281E				
$\frac{1}{4}$	240	.03	$\frac{3}{8}$	$\frac{7}{8}$
$\frac{3}{8}$	730	.09	$\frac{5}{8}$	$1 \frac{3}{4}$
$\frac{1}{2}$	1350	.14	$\frac{11}{16}$	$1 \frac{3}{4}$
$\frac{5}{8}$	2160	.26	$\frac{13}{16}$	$2 \frac{1}{4}$
$\frac{3}{4}$	3230	.34	1	$2 \frac{1}{4}$
Part # 281R				
$\frac{3}{8} \times \frac{1}{4}$	240	.13	$\frac{5}{8}$	$1 \frac{3}{4}$
$\frac{1}{2} \times \frac{3}{8}$	730	.13	$\frac{11}{16}$	$1 \frac{3}{4}$
$\frac{5}{8} \times \frac{1}{2}$	1350	.19	$\frac{13}{16}$	$2 \frac{1}{8}$
$\frac{3}{4} \times \frac{5}{8}$	2160	.26	1	$2 \frac{1}{4}$
$\frac{7}{8} \times \frac{3}{4}$	3230	.41	$1 \frac{1}{4}$	$2 \frac{1}{2}$

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Turnbuckle

Part # 285



Tapped Right handed and Left handed

SIZE RANGE: 3/8" to 2 1/2" inches.

MATERIAL TYPES: Forged Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: Provides adjustment up to 12" inches for heavy loads.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 13).

ORDERING: Specify rod size, part number, name, and finish. Stub ends furnished only upon request.

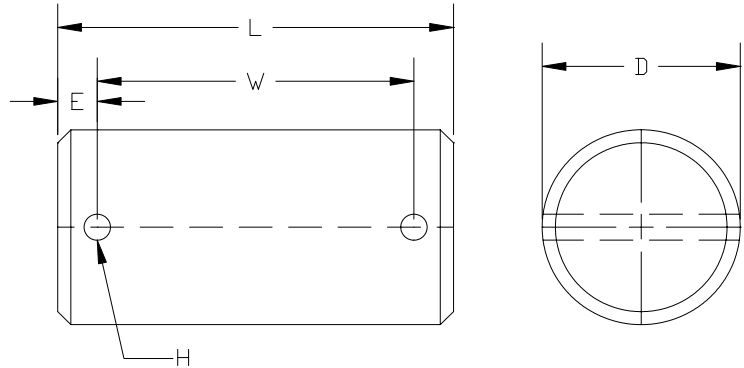
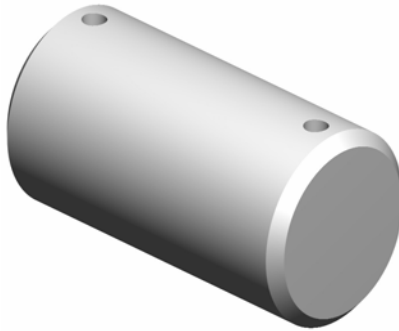
Loads (lbs) • Weights (lbs) • Dimensions (inches)

Rod Size A	*Maximum Load		6" Opening Weight	12" Opening Weight
	650° (F)	750° (F)		
3/8	730	572	.42	—
1/2	1350	1057	.65	1.2
5/8	2160	1692	.98	1.58
3/4	3230	2530	1.5	2.35
7/8	4480	3508	1.9	4.05
1	5900	4620	2.6	4.02
1 1/4	9500	7440	4.5	—
1 1/2	13800	10807	6.4	—
1 3/4	18600	14566	11.0	—
2	24600	19265	14.9	—
2 1/4	32300	25295	19.6	—
2 1/2	39800	31169	26.9	—

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

Part # 289

Clevis Pin with Cotters



SIZE RANGE: 1/2" to 4" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: For use with type C variable spring hanger, type C constant support (Fig. 81-H only) and Part #100 welded beam attachment.

ORDERING: Specify pin diameter, part number, name, and finish.

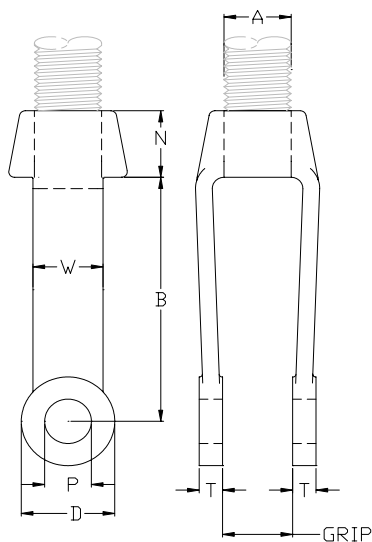
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pin Diameter (D)	*Maximum Load	Weight	L	W	E	H	Cotter Pin Size
1/2	730	.12	2 7/8	2 1/8	3/8	5/32	1/8 X 1 1/4
5/8	1350	.18	3 1/8	2 3/8	3/8		
3/4	2160	.29	3 5/8	2 7/8	3/8	7/32	3/16 X 1 1/2
7/8	3230	.47	4	3 1/4	3/8		
1	4480	.67	4	3 1/4	3/8		3/16 X 2
1 1/8	5900	1.0	4 3/4	4	3/8	9/32	
1 1/4	7410	1.7	4 7/8	4 1/4	3/8		1/4 X 2
1 3/8	9500	2.1	5 3/8	4 3/8	1/2		
1 5/8	13800	3.3	6	5	1/2	3/8	3/8 X 3
1 7/8	18600	4.8	7 1/8	5 7/8	5/8		3/8 X 4
2 1/4	24600	7.2	7 1/8	5 7/8	5/8		3/8 X 4
2 1/2	32300	9.3	7 5/8	6 3/8	5/8		3/8 X 4
2 3/4	39800	12.5	7 7/8	5 5/8	5/8	1/2	
3	49400	16.6	8 1/4	6 3/4	3/4		1/2 X 5
3 1/4	60100	20.0	8 1/2	7	3/4		
3 1/2	71900	23.9	8 3/4	7 1/4	3/4		
3 3/4	84700	25.1	9 1/2	8	3/4	1/2	1/2 X 6
4	98500	34.8	9 3/4	8 1/4	3/4		

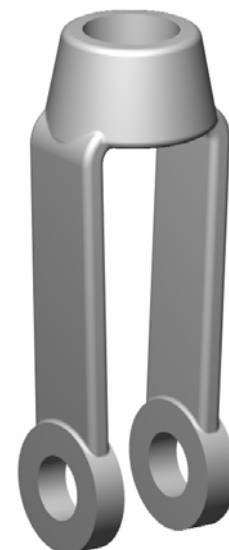
* Based on the allowable stresses shown in the ASME Code for Pressure Piping.

Rod Attachment Forged Steel Clevis

Part # 290



CAUTION: Order by Rod Size



SIZE RANGE: 3/8" to 4" inches.

MATERIAL TYPES: Forged Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: For use on hot temperature piping installation.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 14)

ORDERING: Specify rod size, part number, name, and finish. If pin and cotter pins are required, specify "with pin".

If other than standard combination of clevis size and rod tapping size is required, specify clevis number, special rod tapping size, pin size, grip.

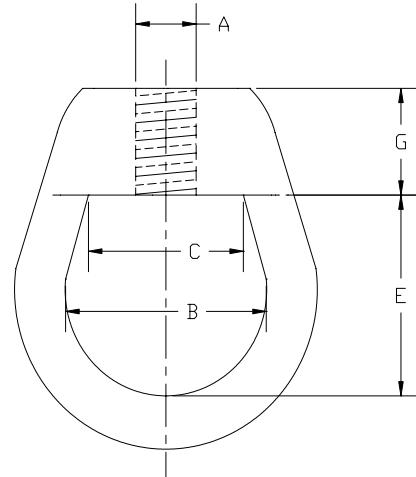
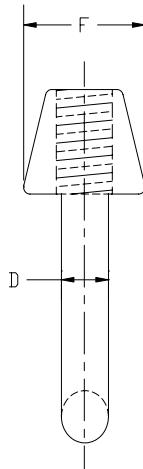
Load (lbs) • Weight (lbs) • Dimensions (inches)

Rod Size A	*Maximum Load		Weight		Rod Take Out B	D	N	Pin Size P	T	W	Grip	Size No.
	650° (F)	750° (F)	Without pin	With pin								
3/8	730	572	.9	1.0	3 11/16	1 7/16	5/8	1/2	5/16	1 1/16	1/2	2
1/2	1350	1057	.7	.9				5/8			1/2	
5/8	2160	1692	.7	.9				3/4			5/8	
3/4	3230	2530	2.5	3.0	5	2	7/8	7/8	3/8	1 1/4	3/4	2 1/2
7/8	4480	3508	2.5	3.4				1			7/8	
1	5900	4620	4.0	5.1	5	3	1 5/16	1 1/8	1/2	1 1/2	1	3
1 1/4	9500	7440	3.8	5.5				1 3/8			1 1/4	
1 1/2	13800	10807	6.0	8.5	6	3 1/2	1 5/8	1 5/8	1/2	1 3/4	1 1/2	3 1/2
1 3/4	18600	14566	8.0	12.9	6	4	1 3/4	1 7/8	1/2	2	1 1/2	4
2	24600	19265	16.0	23.3	7	5	2 1/4	2 1/4	5/8	2 1/2	2 1/2	5
2 1/4	32300	25295	26.0	35.1	8	6	2 3/4	2 1/2	3/4	3	2 1/2	6
2 1/2	39800	31169	25.5	36.0				2 3/4			2 1/2	
2 3/4	49400	38687	36.0	50.0	9	7	3	3	7/8	3 1/2	2 1/2	7
3	60100	47066	35.0	51.5				3 1/4			2 1/2	
3 1/4	71900	56307	90.0	116.0	10	8	4	3 1/2	1 1/2	4	4	8
3 1/2	84700	66331	88.0	118.0				3 3/4			4	
3 3/4	98500	77139	86.0	120.0				4			4	
4	113400	88807	84.0	122.0				4 1/4			4	

* Based on the allowable stresses shown on the ASME Code for Pressure Piping.

Weldless Eye Nut
Right-Hand Thread: Part # 295
Left-Hand Thread: Part # 296

Part # 295



SIZE RANGE: 3/8" to 2 1/2" inches.

MAXIMUM LOAD: 33,500 lbs.

MATERIAL TYPES: Forged Carbon Steel

FINISH: Black or Electro-galvanized or coated to customer specification.

SERVICE: For use on high temperature piping installations.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 17)

ORDERING: Specify rod size, part number, name, and finish. If other than standard combination of eye nut and rod size, specify eye nut size and special rod tapping size.

Loads (lbs) • Weights (lbs) • Dimensions

Rod Size A	*Maximum Load		Weight	B	C	D	Rod Take Out E	F	G	SIZE No.
	650° (F)	750° (F)								
3/8	730	572	.63	1 1/2	1 3/16	1/2	2	1 3/8	11/16	1
1/2	1350	1057	.63							
5/8	2160	1692	.62							
3/4	3230	2530	.60							
7/8	4480	3508	1.7	2	1 11/16	3/4	2 5/8	1 15/16	1	2
1	5900	4620	1.7							
1 1/4	9500	7440	3.6							
1 1/2	13800	10807	3.5	2 1/2	1 13/16	1	3 3/8	2 3/8	1 1/4	3
1 3/4	18600	14566	16.4							
2	24600	19265	15.9							
2 1/4	32300	25295	15.4	4	4	1 1/2	6 1/4	4	2 1/4	4
2 1/2	39800	31169	14.9							

* Based on the allowable stresses shown on the ASME Code for Pressure Piping.



NOTES:



NOTES:

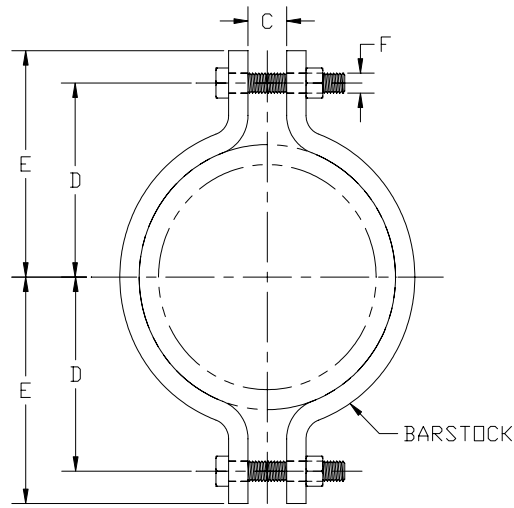
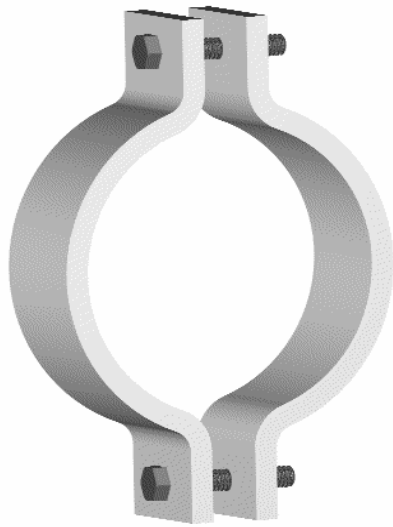
Section 3

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Part # 300

Medium Pipe Clamp



SIZE RANGE: 1/2" to 30" inches.

MATERIAL TYPES: Carbon Steel

FINISH : Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension of **cold** or **hot** pipe lines where no insulation is required.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 4)

MAXIMUM TEMPERATURE: 750° F (398°C)

ORDERING: Specify pipe size, part number, name and finish.

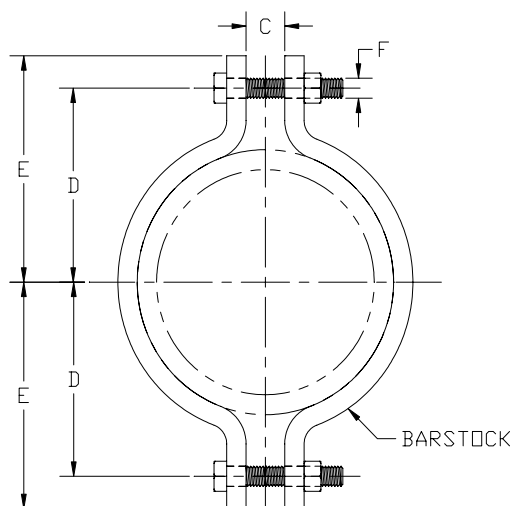
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	*Maximum Load		Weight	C	Rod Take Out D	E	F	BARSTOCK
	650° F	750° F						
1/2	500	-	0.29	1/2	1 3/16	1 23/32	5/16	1/8 x1
3/4	500	-	0.33	1/2	1 1/4	1 25/32	5/16	1/8 x1
1	500	-	0.35	1/2	1 3/8	1 29/32	5/16	1/8 x1
1 1/4	500	-	0.38	1/2	1 5/8	2 5/32	5/16	1/8 x1
1 1/2	800	-	0.43	1/2	1 11/16	2 7/32	5/16	1/8 x1
2	1040	930	1.10	1/2	2 1/8	2 3/4	1/2	1/4 x1
2 1/2	1040	930	1.20	5/8	2 5/8	3 1/4	1/2	1/4x1
3	1040	930	1.40	5/8	2 15/16	3 9/16	1/2	1/4 x1
3 1/2	1040	930	1.50	5/8	3 3/16	3 13/16	1/2	1/4 x1
4	1040	930	2.30	3/4	3 5/8	4 3/8	5/8	1/4 x1 1/4
5	1040	930	2.60	3/4	4 3/16	4 15/16	5/8	1/4 x1 1/4
6	1615	1440	5.40	7/8	5	5 7/8	3/4	3/8 x1 1/2
8	1615	1440	6.50	1	6 1/8	7	3/4	3/8 x1 1/2
10	2490	2220	13.60	1	7 7/16	8 9/16	7/8	1/2 x2
12	2490	2220	15.20	1	8 7/16	9 9/16	7/8	1/2 x2
14	2490	2220	20.50	1 1/8	9 1/4	10 5/8	7/8	1/2 x2 1/2
16	2490	2220	22.30	1 1/8	10 1/4	12 5/8	7/8	1/2 x2 1/2
18	3060	2730	31.60	1 1/4	11 5/8	13	1	5/8 x2 1/2
20	3060	2730	35.80	1 3/8	12 3/4	14 1/8	1 1/8	5/8 x2 1/2
24	3060	2730	53.10	1 5/8	15 1/4	16 7/8	1 1/4	5/8 x3
30	3500	3360	113.90	2	19	21 1/8	1 3/4	3/4 x4

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Steel Pipe Clamps Heavy Pipe Clamp

Part # 305



SIZE RANGE: 3" to 42" inches.

MATERIAL TYPES: Carbon Steel

FINISH : Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension of heavy loads where little or no insulation is required.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 4)

MAXIMUM TEMPERATURE: 750°F (398°C)

ORDERING: Specify pipe size, part number, name and finish.

Load (lbs) • Weight (lbs) • Dimensions (inches)

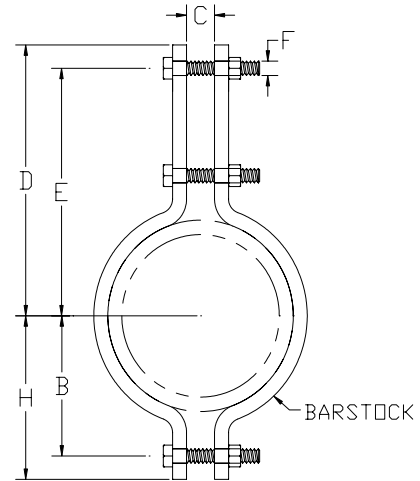
Pipe Size	*Maximum Load		Weight	C	Rod Take Out D	E	F	BARSTOCK
	650° (F)	750° (F)						
3	3370	3005	3.6	1	3 1/8	4	3/4	5/16 x 2
4	3515	3135	5.5	1	3 3/4	4 7/8	7/8	3/8 x 2
5	3515	3135	6.3	1	4 3/8	5 1/2	7/8	3/8 x 2
6	4865	4350	11.7	1 1/8	5 1/4	6 5/8	1	1/2 x 2 1/2
8	4865	4340	13.9	1 1/8	6 1/4	7 5/8	1	1/2 x 2 1/2
10	6010	5360	22.3	1 1/4	7 11/16	9 1/16	1 1/4	5/8 x 2 1/2
12	8675	7740	38.1	1 5/8	9 1/4	10 7/8	1 1/2	3/4 x 3
14	9120	8135	46.8	1 5/8	10	11 7/8	1 1/2	3/4 x 3 1/2
16	9120	8135	51.4	1 5/8	11	12 7/8	1 1/2	3/4 x 3 1/2
18	13800	-	130.1	3	14 1/2	17 1/4	2	3/4 x 6
20	15300	-	163.6	3	16	18 3/4	2	1 x 5
24	16300	-	215.2	3 1/4	18 1/2	21 1/2	2 1/4	1 x 6
28	18000	-	302.8	3 1/4	20 1/2	23 1/2	2 1/4	1 x 8
30	20500	-	365.4	3 1/2	22 1/2	26	2 1/2	1 1/4 x 7
32	23750	-	431.7	3 1/2	23 1/2	27	2 1/2	1 1/4 x 8
34	25000	-	533.8	3 1/2	25	28 1/2	2 1/2	1 1/2 x 8
36	28000	-	575.1	3 1/2	26 1/2	30 1/4	2 3/4	1 1/2 x 8
42	35000	-	915.7	3 1/2	30	33 3/4	2 3/4	1 3/4 x 10

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Part # 310



Steel Pipe Clamps Double Bolt Pipe Clamp



SIZE RANGE: 3/4" to 36" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension of pipe requiring insulation and where flexibility of the clamp is desirable - within the limitation of temperature and loads shown below.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 3).

MAXIMUM TEMPERATURE: 750° F (398°C)

ORDERING: Specify pipe size, part number, name and finish.

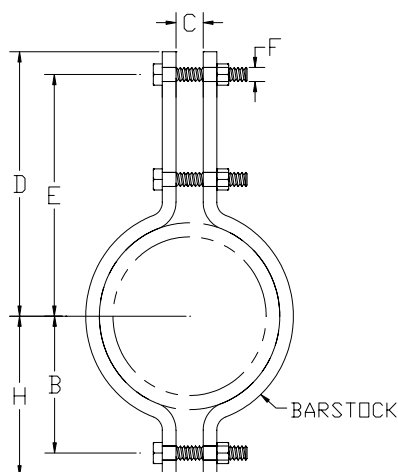
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	*Maximum Load		Weight	B	C	D	Rod Take Out E	F	H	BARSTOCK
	650° (F)	750° (F)								
3/4	950	-	0.70	15/16	5/8	2 7/8	2 7/16	3/8	1 3/8	3/16 X 1
1	950	-	0.8	1 1/16	5/8	3	2 9/16	3/8	1 1/2	3/16 X 1
1 1/4	950	-	0.8	1 1/4	5/8	3 1/8	2 11/16	3/8	1 11/16	3/16 X 1
1 1/2	1545	1380	2.3	1 13/16	1 1/16	4 7/8	4 1/8	5/8	2 3/8	1/4 X 1 1/4
2	1545	1380	2.6	2 1/8	1 1/16	5 7/8	5 1/8	5/8	2 11/16	1/4 X 1 1/4
2 1/2	1545	1380	2.7	2 5/16	1 1/16	6 1/8	5 3/8	5/8	2 15/16	1/4 X 1 1/4
3	1545	1380	3.0	2 3/4	1 1/16	6 11/16	5 15/16	5/8	3 1/2	1/4 X 1 1/4
4	2500	2230	6.7	3 3/8	1 1/16	7 5/8	6 1/2	3/4	4 1/2	5/16 X 2
5	2500	2230	7	3 15/16	1 1/16	8 1/8	7	3/4	5	5/16 X 2
6	2865	2555	11.5	4 3/4	1 7/16	9 11/16	8 9/16	7/8	6 1/8	3/8 X 2 1/2
8	2865	2555	13.2	5 3/4	1 7/16	10 11/16	9 9/16	7/8	7 1/8	3/8 X 2 1/2
10	3240	2890	19.8	6 7/8	1 7/16	12	10 7/16	1	8 1/4	1/2 X 2 1/2
12	3240	2890	22.3	7 7/8	1 7/16	13	11 7/16	1	9 1/4	1/2 X 2 1/2
14	4300	3835	37.7	9 1/16	2	14 5/16	12 11/16	1 1/4	10 11/16	5/8 X 3
16	4300	3835	41.4	10 1/16	2	15 5/16	13 11/16	1 1/4	11 11/16	5/8 X 3
18	4300	3835	44.9	11 1/16	2	16 5/16	14 11/16	1 1/4	12 11/16	5/8 X 3
20	5490	4900	57.3	12 3/8	2	17 5/8	15 7/8	1 3/8	14	3/4 X 3
24	4500	4015	65.9	14 3/8	2	19 5/8	17 7/8	1 3/8	16	3/4 X 3
28	6000	-	112.3	17 1/2	2 1/4	24 1/4	21 3/4	1 1/4	20	3/4 X 4
30	7500	-	150.0	18 1/2	2 1/2	26 1/8	23 3/8	1 3/8	21 1/4	3/4 X 5
32	8250	-	193.3	19 5/8	2 1/2	28	25	1 1/2	22 5/8	3/4 X 6
34	9800	-	248.8	21 1/2	3	31 1/4	27 3/4	1 3/4	25	1 X 5
36	10500	-	257.5	22 1/2	3	32 1/4	28 3/4	1 3/4	26	1 X 5

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Alloy Double Bolt Pipe Clamp

Part # 310A



SIZE RANGE: 1 1/2" to 24" inches.

MATERIAL TYPES: Chrome molybdenum steel (ASTM A-387 Grade 22).

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension of high temperature pipe requiring insulation.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 3).

MAXIMUM TEMPERATURE: 1050°F (565°C)

ORDERING: Specify pipe size, part number, name and finish.

Load (lbs) • Weight (lbs) • Dimensions (inches)

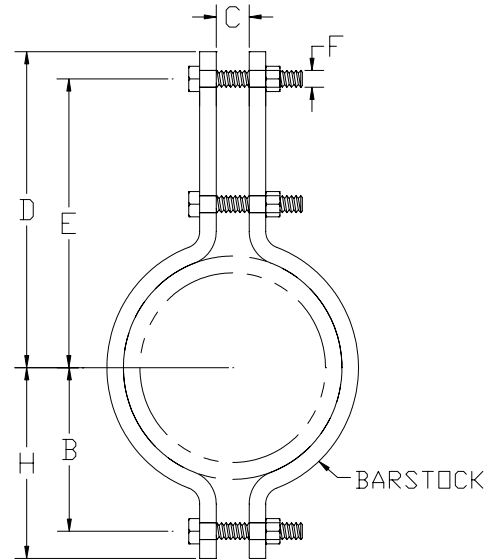
Pipe Size	*Maximum Load				Weight	B	C	D	Rod Take Out E	F	H	BARSTOCK
	650° F	750° F	1000° F	1050° F								
1 1/2	1545	1410	1000	745	2.3	1 13/16	1 1/16	4 7/8	4 1/8	5/8	2 3/8	1/4 X 1 1/4
2	1545	1410	1000	745	2.6	2 1/8	1 1/16	5 7/8	5 1/8	5/8	2 11/16	1/4 X 1 1/4
2 1/2	1545	1410	1000	745	2.7	2 5/16	1 1/16	6 1/8	5 3/8	5/8	2 15/16	1/4 X 1 1/4
3	1545	1410	1000	745	3.0	2 3/4	1 1/16	6 11/16	5 15/16	5/8	3 1/2	1/4 X 1 1/4
4	2500	2290	1625	1200	6.7	3 3/8	1 1/16	7 5/8	6 1/2	3/4	4 1/2	3/8 X 2
5	2500	2290	1625	1200	7.0	3 15/16	1 1/16	8 1/8	7	3/4	5	3/8 X 2
6	2865	2620	1860	1380	11.5	4 3/4	1 7/16	9 15/16	8 9/16	7/8	6 1/8	3/8 X 2 1/2
8	2865	2620	1860	1380	13.2	5 3/4	1 7/16	10 15/16	9 9/16	7/8	7 1/8	3/8 X 2 1/2
10	3240	2970	2100	1565	19.8	7 1/16	1 7/16	12	10 5/8	1	8 1/4	1/2 X 2 1/2
12	3240	2970	2100	1565	22.3	8 1/16	1 7/16	12 15/16	11 5/8	1	9 5/16	1/2 X 2 1/2
14	4300	3915	2795	2060	37.7	9 1/16	2	14 5/16	12 11/16	1 1/4	10 11/16	5/8 X 3
16	4300	3915	2795	2060	41.4	10 1/16	2	15 5/16	13 11/16	1 1/4	11 11/16	5/8 X 3
18	4300	3915	2795	2060	44.9	11 1/16	2	16 5/16	14 11/16	1 1/4	12 11/16	5/8 X 3
20	5490	4995	3550	2635	57.3	12 3/8	2	17 1/2	15 7/8	1 3/8	14	3/4 X 3
24	4500	4095	2910	2160	65.9	14 3/8	2	19 1/2	17 7/8	1 3/8	16	3/4 X 3

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Part # 315



Heavy Duty Double Bolt Pipe Clamp



SIZE RANGE: 6" to 36" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension of pipe requiring insulation and where flexibility of the clamp is desirable - within the limitation of temperature and loads shown below.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 3).

MAXIMUM TEMPERATURE: 750°F (398°C)

ORDERING: Specify pipe size, part number, name and finish.

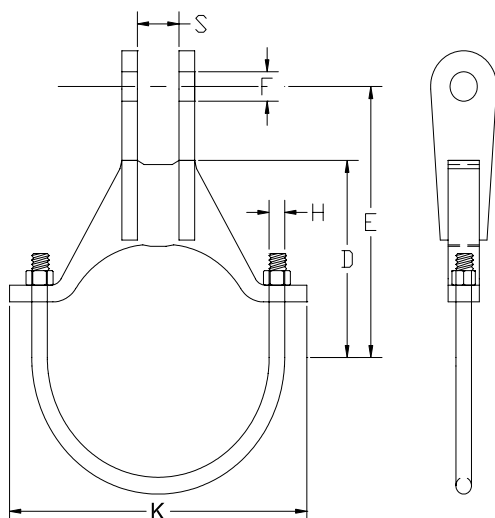
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	*Maximum Load		Weight	B	C	D	Rod Take Out E	F	H	Bar-Stock
	650° F	750° F								
6	3500	3125	12	4 ³ / ₄	1 ³ / ₄	10 ¹³ / ₁₆	8 ¹⁵ / ₁₆	1	6	³ / ₈ X 2 ¹ / ₂
8	4800	4285	18.5	6	2	11 ³ / ₈	10 ¹ / ₈	1 ¹ / ₈	7 ¹ / ₄	¹ / ₂ X 2 ¹ / ₂
10	5500	4910	30.3	7 ¹ / ₄	2 ¹ / ₄	13 ¹ / ₈	11 ³ / ₈	1 ¹ / ₄	9	¹ / ₂ X 3 ¹ / ₂
12	7000	6250	42	8 ⁵ / ₈	2 ¹ / ₂	14 ⁵ / ₁₆	12 ⁹ / ₁₆	1 ³ / ₈	10 ³ / ₈	⁵ / ₈ X 3 ¹ / ₂
14	9500	8485	60	9 ⁵ / ₈	2 ¹ / ₂	15 ¹ / ₂	13 ¹ / ₂	1 ¹ / ₂	11 ⁵ / ₈	³ / ₄ X 4
16	10000	8930	80	10 ⁷ / ₈	3	17 ¹ / ₈	14 ⁷ / ₈	1 ³ / ₄	13 ¹ / ₈	³ / ₄ X 4 ¹ / ₂
18	13800	12325	115	12 ¹ / ₂	3 ¹ / ₂	18 ¹ / ₄	16 ¹ / ₄	2	14 ¹ / ₂	1 X 4
20	15300	13665	140	13 ¹ / ₂	3 ¹ / ₂	19 ³ / ₄	17 ¹ / ₄	2	16	1 X 5
24	16300	14555	190	15 ¹ / ₂	3 ¹ / ₂	22 ⁵ / ₁₆	19 ⁵ / ₁₆	2	18 ¹ / ₂	1 X 6
28	18000	-	354	18 ⁷ / ₈	4	31 ³ / ₄	27 ¹ / ₄	2 ¹ / ₄	23 ³ / ₈	1 X 7
30	20500	-	406	19 ⁷ / ₈	4 ¹ / ₄	32 ³ / ₄	28 ¹ / ₄	2 ¹ / ₄	24 ³ / ₈	1 X 8
32	23750	-	555	21 ³ / ₄	4 ¹ / ₄	36	31	2 ¹ / ₂	26 ³ / ₄	1 ¹ / ₄ X 8
34	25000	-	604	23 ³ / ₈	4 ¹ / ₄	37 ¹ / ₂	32 ¹ / ₄	2 ¹ / ₂	28 ³ / ₈	1 ¹ / ₂ X 7
36	28000	-	678	24 ⁵ / ₈	4 ¹ / ₂	40 ¹ / ₄	34 ¹ / ₄	2 ³ / ₄	30 ¹ / ₈	1 ¹ / ₂ X 8

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Alloy Steel Pipe Clamp

Part # 320



SIZE RANGE: 4" to 16" inches.

MATERIAL TYPES: Chrome molybdenum steel except U-bolt which is stainless steel.

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension high temperature pipe requiring up to 4" inches of insulation.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 2)

MAXIMUM TEMPERATURE: 1050°F (565°C)

ORDERING: Specify pipe size, part number, name and finish.

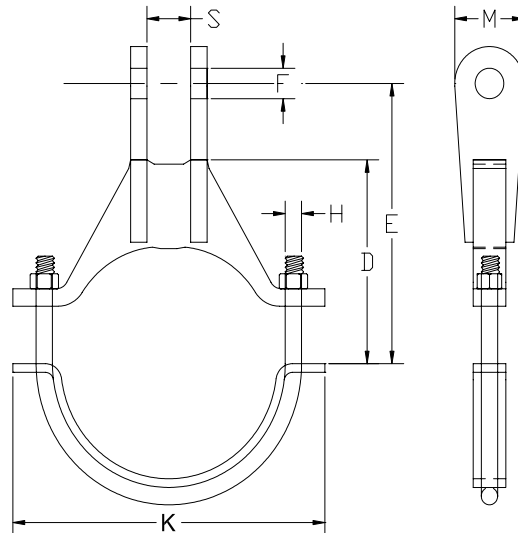
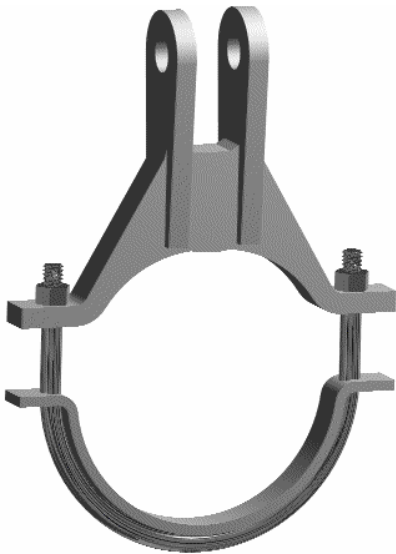
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	*Maximum Load				Weight	D	Rod Take Out E	F	H	K	S
	750° F	950° F	1000° F	1050° F							
4	3780	3300	2770	1890	4.0	3 ⁷ / ₈	6 ³ / ₄	⁷ / ₈	¹ / ₂	6 ¹ / ₂	1 ¹ / ₁₆
6	6060	5290	4440	3030	7.5	5 ⁷ / ₁₆	8 ⁵ / ₁₆	1	⁵ / ₈	9 ¹ / ₈	1 ⁷ / ₁₆
8	6060	5290	4440	3030	9.0	6 ¹¹ / ₁₆	9 ⁹ / ₁₆	1	⁵ / ₈	11 ¹ / ₈	1 ⁷ / ₁₆
10	9060	7910	6640	4420	15.8	8 ³ / ₈	10 ⁷ / ₈	1 ¹ / ₈	³ / ₄	13 ⁵ / ₈	1 ⁷ / ₁₆
12	12570	10980	9015	6010	24.3	10 ¹ / ₈	12 ⁷ / ₈	1 ¹ / ₂	⁷ / ₈	16 ¹ / ₈	1 ¹⁵ / ₁₆
14	12570	10980	9015	6010	26.3	11 ¹ / ₈	13 ⁷ / ₈	1 ¹ / ₂	⁷ / ₈	17 ³ / ₈	1 ¹⁵ / ₁₆
16	12570	10980	9015	6010	31.0	12 ¹ / ₄	15	1 ¹ / ₂	⁷ / ₈	19 ⁵ / ₈	1 ¹⁵ / ₁₆

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Part # 325

Heavy Duty Alloy Steel Pipe Clamp



SIZE RANGE: 10" to 24" inches.

MATERIAL TYPES: Chrome molybdenum steel except U-bolt which is stainless steel.

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension high temperature pipe requiring up to 6" of insulation.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 2)

MAXIMUM TEMPERATURE: 1075°F (580°C)

ORDERING: Specify pipe size (nominal and exact), part number, name and finish. Special Alloy filler plates will be provided, at an extra charge, when the O.D. of the pipe size is other than standard, Installation instructions are attached to the clamp when the filler plates are required.

Load (lbs) • Weight (lbs) • Dimensions (inches)

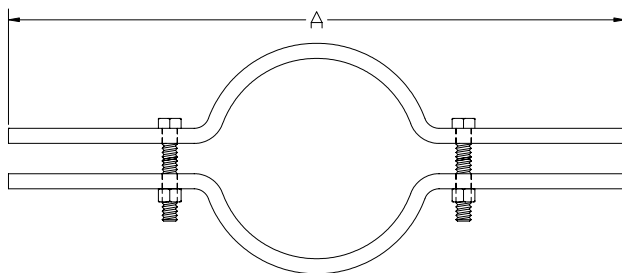
Pipe Size	*Maximum Load				Weight	D	Rod Take Out E	F	H	K	M	S
	950° F	1000° F	1050° F	1075° F								
10	13500	11780	7850	6120	42.00	9 1/8	12	1 1/2	1	15 3/8	3 1/4	2
12	16500	14910	9940	7750	58.00	10 3/4	13 3/4	1 5/8	1 1/4	17 7/8	4	2 1/4
14	16500	14910	9940	7750	63.00	11 1/2	14 1/2	1 5/8	1 1/4	19 1/8	4	2 1/4
16	16500	14910	9940	7750	69.00	13 1/8	16 3/8	1 5/8	1 1/4	21 1/8	4	2 1/4
18	19000	18410	12270	9570	94.00	14 1/2	18 1/4	2	1 1/4	24 1/8	4 1/2	2 1/2
20	19000	18410	12270	9570	104.00	15 3/4	19 1/2	2	1 1/4	26 1/8	4 1/2	2 1/2
24	25000	22280	14850	11580	167.00	18 1/4	22	2 1/4	1 3/8	30 3/4	6	3

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Steel Pipe Clamps

Riser Clamp

Part # 360



SIZE RANGE: 3/4" to 24" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: For bare or insulated pipe to stabilize pipe or insulation material. Can be used to hold insulation on vertical lines to minimize insulation slippage.

MAXIMUM TEMPERATURE: 650°F (343°C)

ORDERING: Specify pipe size, part number, name and finish.

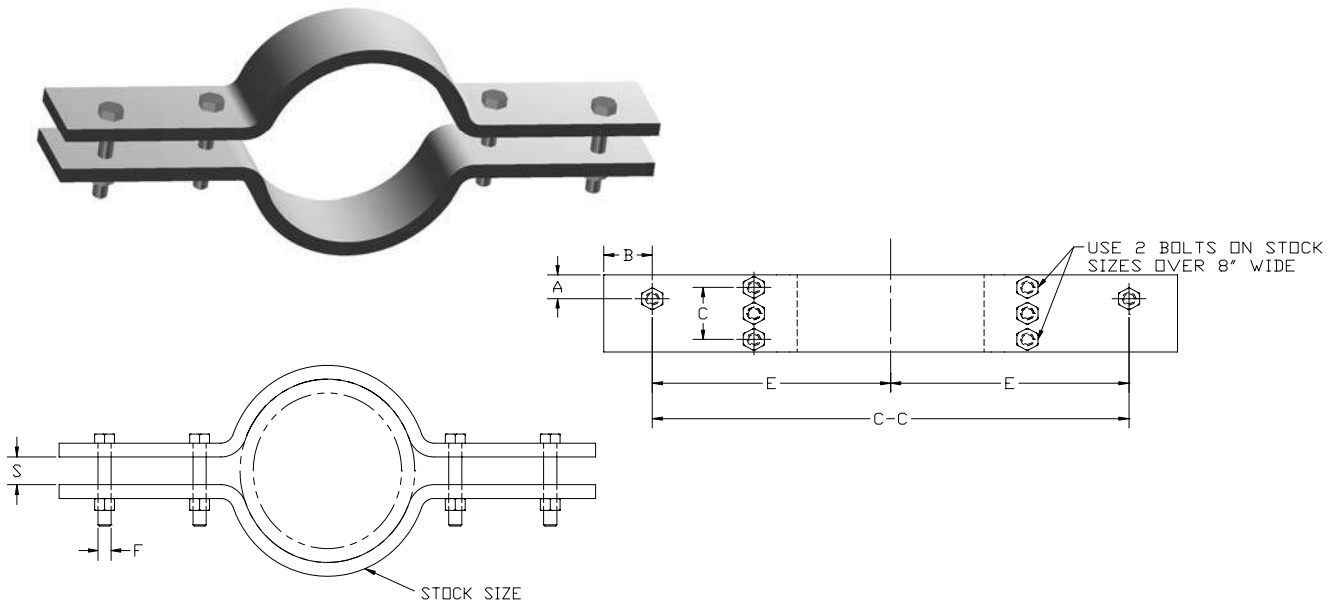
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	*Maximum Load	Weight	Length A	Stock size	Bolts size
3/4	220	1.1	8 7/8	3/16 X 1	3/8 X 1 1/2
1	220	1.1	8 7/8	3/16 X 1	3/8 X 1 1/2
1 1/4	250	1.6	10	3/16 X 1	3/8 X 1 1/2
1 1/2	250	1.6	10 1/4	3/16 X 1	3/8 X 1 1/2
2	300	1.7	10 1/4	3/16 X 1	7/16 X 1 1/2
2 1/2	400	1.9	11 1/4	1/4 X 1	7/16 X 1 1/2
3	500	1.9	11 3/8	1/4 X 1	7/16 X 1 1/2
3 1/2	600	2.3	12 7/8	1/4 X 1	1/2 X 2
4	750	2.4	12 7/8	1/4 X 1	1/2 X 2
5	1500	3.6	13 3/4	1/4 X 1 1/2	1/2 X 2
6	1600	4.0	14 3/4	1/4 X 1 1/2	1/2 X 2
8	2500	7.6	18 1/2	3/8 X 1 1/2	5/8 X 2 1/2
10	2500	11.1	20 1/4	3/8 X 2	5/8 X 2 1/2
12	2700	16.5	22 3/4	1/2 X 2	5/8 X 2 1/2
14	2700	17.7	24	1/2 X 2	5/8 X 2 1/2
16	2900	30.4	26	5/8 X 2 1/2	3/4 X 3
18	2900	33.8	28	5/8 X 2 1/2	3/4 X 3
20	2900	35.0	30	5/8 X 2 1/2	3/4 X 3
24	3200	82.0	36 3/4	3/4 X 3	7/8 X 4

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Part # 361

Riser Clamp– Standard



SIZE RANGE: 2" to 24" inches.

MATERIAL TYPES: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Riser Clamps are used for the support of vertical piping.

MAXIMUM TEMPERATURE: 650°F (343°C)

ORDERING: Specify pipe size, part number, name and finish.

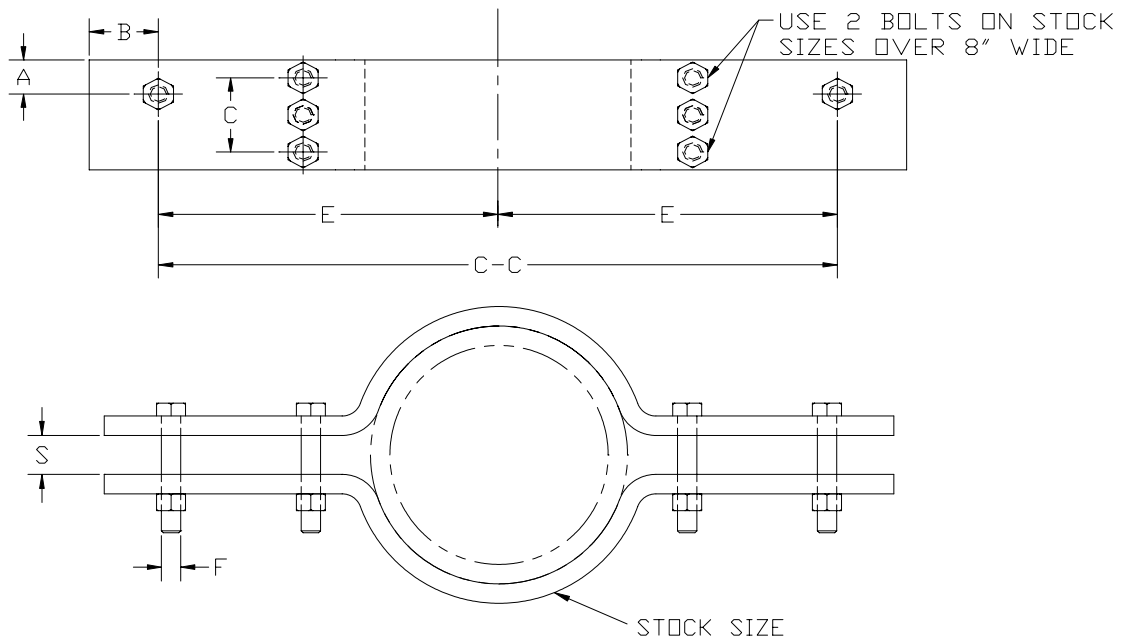
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	*Maximum Load		Weight	A	B	C	C-C	E	F	S	Stock size
	Rigid Assembly	Spring Assembly									
2	900	1800	17.50	$\frac{7}{8}$	2	-	18	9	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2} \times 2 \frac{1}{2}$
2 $\frac{1}{2}$	900	1800	19.10	$\frac{7}{8}$	2	-	20	10	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2} \times 2 \frac{1}{2}$
3	1500	3000	29.40	$\frac{7}{8}$	2	-	20	10	$\frac{5}{8}$	1	$\frac{5}{8} \times 3$
4	2200	4400	38.50	$1 \frac{1}{8}$	2	-	22	11	$\frac{3}{4}$	$1 \frac{1}{4}$	$\frac{3}{4} \times 3$
5	2200	4400	43.20	$1 \frac{1}{8}$	2	-	22	11	$\frac{3}{4}$	$1 \frac{1}{4}$	$\frac{5}{8} \times 4$
6	3000	6000	56.80	$1 \frac{1}{4}$	2	-	24	12	$\frac{7}{8}$	$1 \frac{1}{2}$	$\frac{3}{4} \times 4$
8	3000	6000	79.20	$1 \frac{1}{4}$	2	-	27	$13 \frac{1}{2}$	$\frac{7}{8}$	$1 \frac{1}{2}$	$\frac{3}{4} \times 5$
10	5500	11000	143.0	$1 \frac{5}{8}$	3	-	30	15	$1 \frac{1}{4}$	$2 \frac{1}{4}$	1×6
12	7800	15600	184.0	$1 \frac{7}{8}$	3	-	32	16	$1 \frac{1}{2}$	$2 \frac{1}{2}$	1×7
14	7800	15600	195.0	$1 \frac{3}{8}$	3	-	34	17	$1 \frac{1}{2}$	$2 \frac{1}{2}$	1×7
16	9000	18000	225.0	2	3	-	36	18	$1 \frac{1}{2}$	$2 \frac{1}{2}$	$1 \frac{1}{4} \times 6$
18	9000	18000	281.0	2	3	-	39	$19 \frac{1}{2}$	$1 \frac{1}{2}$	$2 \frac{1}{2}$	$1 \frac{1}{4} \times 7$
20	13500	27000	429.0	$2 \frac{5}{8}$	$4 \frac{1}{4}$	4	42	21	2	$3 \frac{1}{2}$	$1 \frac{1}{2} \times 8$
24	13500	27000	465.0	$2 \frac{5}{8}$	$4 \frac{1}{4}$	4	45	$22 \frac{1}{2}$	2	$3 \frac{1}{2}$	$1 \frac{1}{2} \times 8$

* Based on Allowable stresses shown in the ASME Code for Pressure Piping

Riser Clamp – S.D.

Part # 362



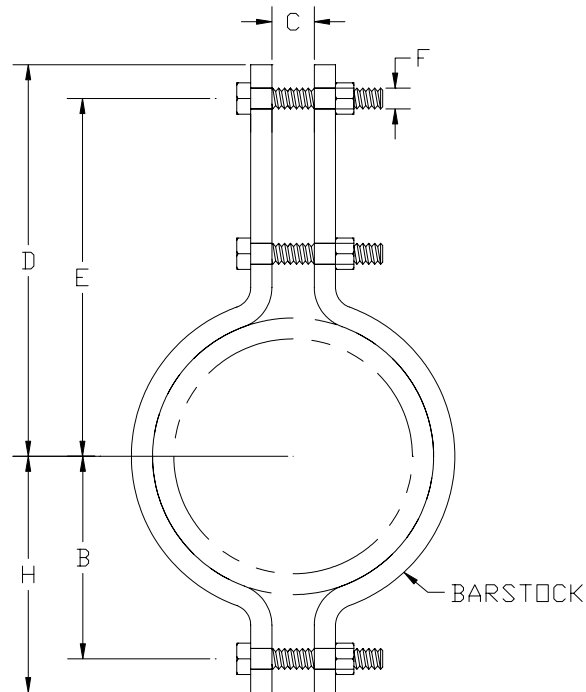
MATERIAL TYPES: Carbon steel, chrome molybdenum or stainless steel.

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Riser Clamps are used for the support of vertical piping. Load is carried by shear lugs which are welded to the pipe. (*Shear lugs not provided.*)

MAXIMUM TEMPERATURE: As required

ORDERING: Specify Part #362, material, exact pipe size, load, operating temperature, insulation thickness, C-C dimension, rod diameter and if connected to a spring or rigid connection.

Part # 363**Non-Standard Three Bolt Pipe Clamp**

MATERIAL TYPES: Carbon Steel, chrome molybdenum or stainless steel.

FINISH: Black, Galvanized, or coated to customer specifications.

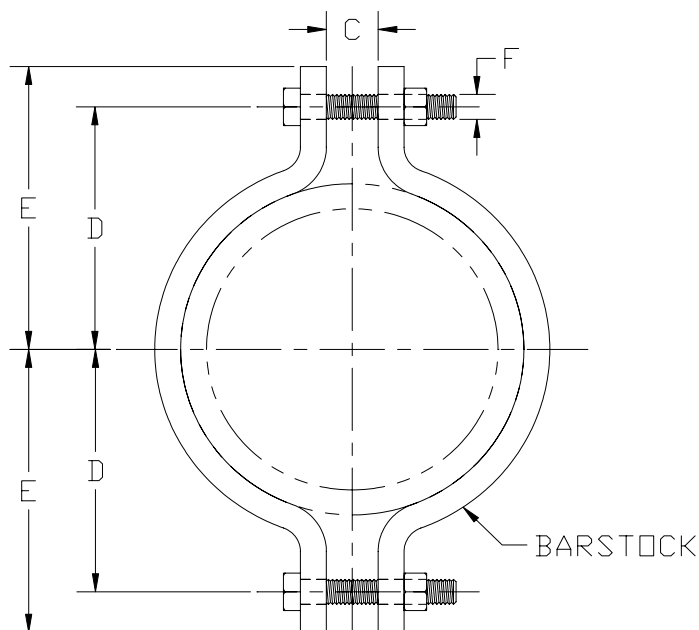
APPLICATIONS: Recommended for suspension of high temperature pipe requiring insulation.

MAXIMUM TEMPERATURE: As required

ORDERING: RILCO part #363 Double Bolt Pipe Clamp, material type, pipe size, load, operating temperature, insulation thickness. Alloy clamps, unless otherwise specified, will be furnished with alloy studs made from ASTM spec. A-193-B7 stud stock with the center third unthreaded, and hex nuts.

Non-Standard Two Bolt Pipe Clamp

Part # 364



MATERIAL TYPES: Carbon steel, chrome molybdenum or stainless steel.

FINISH : Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension of cold or hot pipe lines where no insulation is required.

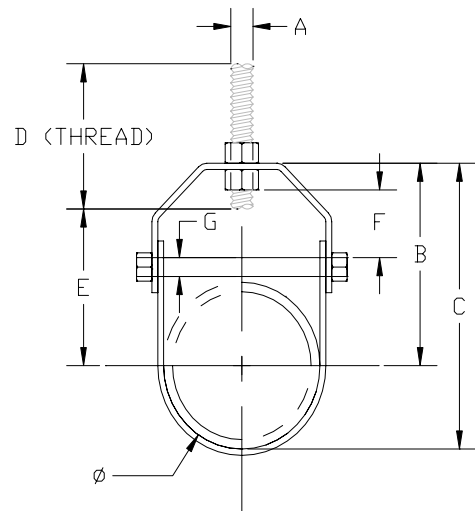
MAXIMUM TEMPERATURE: As required

ORDERING: RILCO Part #364 Pipe Clamp, material type, pipe size, load, operating temperature. Alloy clamps, unless otherwise specified, will be furnished with alloy studs made from ASTM spec. A-193-B7 stud stock with the center unthreaded and hex nuts.

Part # 381



Adjustable Clevis Hanger



SIZE RANGE: 1/2" to 30" inches.

MATERIAL TYPES: Carbon Steel or Stainless Steel

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension of stationary pipes.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 1).

MAXIMUM TEMPERATURE: 450°F (323°C)

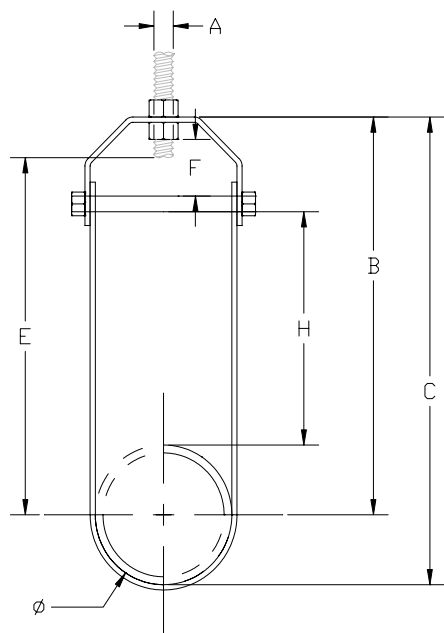
ORDERING: Specify pipe size, part number, name and finish.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	Maximum Load	Weight	Rod size A	B	C	D	Rod Take Out E	Adjustment F	G
	450° F								
1/2	730	0.34	3/8	1 11/16	2 1/8	1 1/2	15/16	3/8	1/4
3/4	730	0.30	3/8	2 1/16	2 9/16	1 5/8	1 3/8	1/2	1/4
1	730	0.35	3/8	2 5/16	3	1 3/4	1 5/8	5/8	1/4
1 1/4	730	0.40	3/8	2 3/8	3 1/4	1 3/4	1 11/16	5/8	1/4
1 1/2	730	0.45	3/8	2 13/16	2 13/16	2	2 1/8	7/8	1/4
2	730	0.50	3/8	3 5/16	4 1/2	2 1/4	2 5/8	1 1/8	1/4
2 1/2	1350	0.85	1/2	4 1/16	5 1/2	2 3/4	3 3/16	1 5/16	3/8
3	1350	1.50	1/2	4 3/4	6 1/2	3 1/4	4 1/16	1 5/8	3/8
3 1/2	1350	1.10	1/2	5 1/16	7 1/16	3 1/4	4 3/16	1 13/16	3/8
4	1430	1.75	5/8	5 9/16	7 13/16	3 1/4	4 1/2	1 11/16	3/8
5	1430	1.82	5/8	6 3/16	8 15/16	3 1/2	5 1/16	1 7/8	1/2
6	1940	3.60	3/4	6 15/16	10 1/4	3 3/4	5 3/4	1 11/16	1/2
8	2000	5.00	3/4	8 3/8	12 11/16	4	7 3/16	2	5/8
10	3600	8.80	7/8	9 7/8	15 1/4	4	8 7/16	2 1/8	3/4
12	3800	11.40	7/8	11 9/16	17 15/16	4 1/2	10 1/8	2 13/16	3/4
14	4200	12.40	1	12 9/16	19 9/16	5 1/4	10 11/16	2 11/16	7/8
16	4600	19.85	1	14	22	5 1/2	12	2 3/4	1
18	4800	22.25	1	15 9/16	24 15/16	6 1/2	13 15/16	3 13/16	1
20	4800	40.33	1 1/4	17 9/16	27 9/16	7	15 3/16	3 7/8	1 1/4
24	4800	49.83	1 1/4	19 13/16	31 13/16	7 1/4	17 5/16	3 7/8	1 1/4
30	6000	70.00	1 1/4	24 3/16	39 3/16	8 1/2	21 9/16	5 1/8	1 1/4

Clevis Hanger Insulated

Part # 382



SIZE RANGE: 3/4" to 12" inches. Other sizes available upon request. Refer to Rilco Manufacturing "Insulated Pipe Support Catalog" for outside dimensions of insulated pipe supports.

MATERIAL TYPES: Carbon Steel or Stainless Steel

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for suspension of stationary pipes

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 1)

MAXIMUM TEMPERATURE: 450°F (323°C)

ORDERING: Specify pipe size, part number, name and finish.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	Maximum Load	Weight	Rod Size A	B	C	Rod Take Out E	Adjustment F	H
	450° F							
3/4	730	0.51	3/8	3 5/8	4 1/4	2 7/8	1/2	2
1	730	0.58	3/8	4	4 11/16	3 1/4	5/8	2
1 1/4	730	0.64	3/8	4 7/16	5 1/4	3 5/8	7/8	2
1 1/2	730	0.72	3/8	4 3/4	5 3/4	4 1/16	1 1/16	2
2	730	0.85	3/8	7 7/16	8 11/16	6 1/2	1 5/8	4
2 1/2	1350	1.90	1/2	8 7/16	9 15/16	7 1/2	2	4
3	1350	2.00	1/2	8 5/8	10 5/16	7 9/16	1 3/4	4
4	1430	2.50	5/8	9 3/8	11 5/8	8 3/16	1 15/16	4
5	1430	3.00	5/8	9 7/8	12 5/8	8 3/4	1 3/4	4
6	1940	3.40	3/4	10 5/8	14	9 3/8	1 7/8	4
8	2000	6.70	3/4	12 3/8	16 3/4	11	2	4
10	3600	11.00	7/8	13 3/4	19 3/16	12 1/4	2 1/8	4
12	3800	13.80	7/8	15 1/8	21 9/16	13 5/8	2 7/16	4



NOTES:



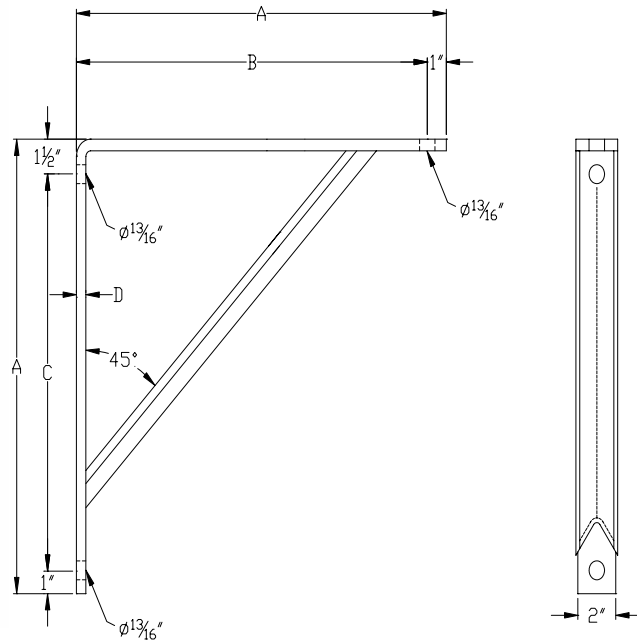
Section 4

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PART# 400

Steel Brackets Light Weight



MAXIMUM LOAD: 750 pounds.

MATERIAL: Carbon steel bracket.

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: Recommended for support from below.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 31)

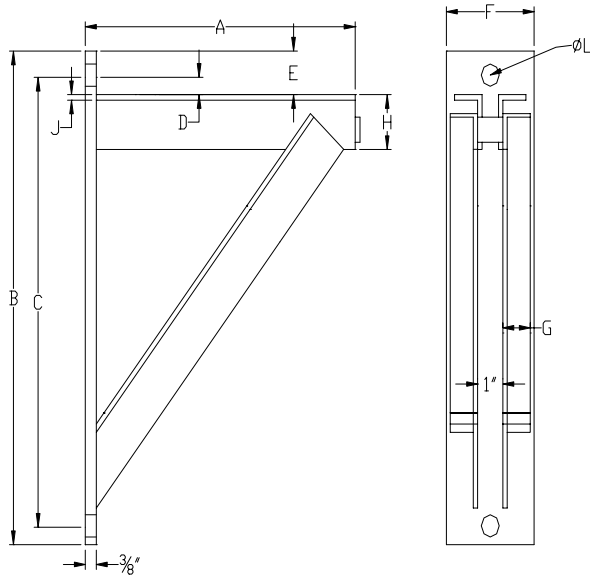
ORDERING: Specify bracket number, part number, name, and finish. Order hanger rods and hex nuts separately.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Bracket no.	Maximum Load	Weight	A	B	C	D
1	750	3.1	9	8	6 1/2	5/16
2	750	7.7	13	12	10 1/2	5/16
3	750	12.8	19	18	16 1/2	3/8

Medium Welded Steel Bracket

PART# 410



MAXIMUM LOAD: 1,500 lbs.

MATERIAL: Carbon Steel.

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: Recommended for the support of loads up to 1,500 lbs.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 32)

HOW TO SIZE: Determine size by dimensions most suitable to the installation (see dimensions of standard brackets below). Special welded steel brackets can be furnished to order.

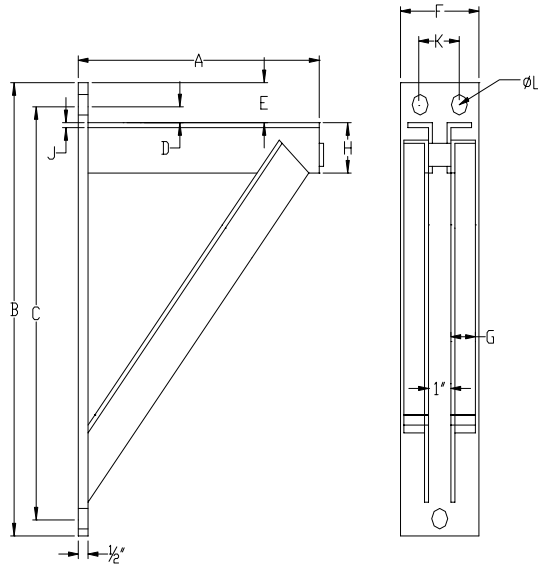
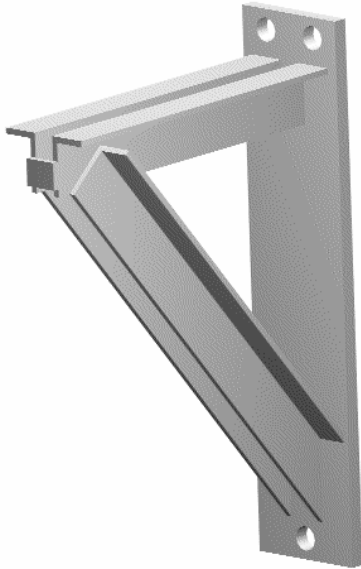
ORDERING: Specify bracket number, part number, name, and finish. Order separately: bolts, nuts, and back plates for fastening brackets to wall. Specify size and length of bolts; size, thickness and drilling of plates. Orders for special brackets are to be accompanied by a detailed sketch.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Bracket No.	Weight	Maximum Load	A	B	C	D	E	F	G	H	J	L
0	17.4	1500	12	18	15 1/2	1 1/4	2 1/2	4	1 1/2	1 1/2	1/4	13/16
1	27.3	1500	18	24	21 1/2	1 1/4	2 1/2	5	1 3/4	1 3/4	3/16	13/16
2	47.7	1500	24	30	27 1/2	1 1/4	2 1/2	5	2	2	1/4	13/16

PART# 420

Heavy Welded Steel Bracket



MAXIMUM LOAD: 3,000 lbs.

MATERIAL: Carbon Steel.

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: Recommended for the support of loads up to 3,000 lbs.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 33)

HOW TO SIZE: Determine size by dimensions most suitable to the installation (see dimensions of standard brackets below). Special welded steel brackets can be furnished to order.

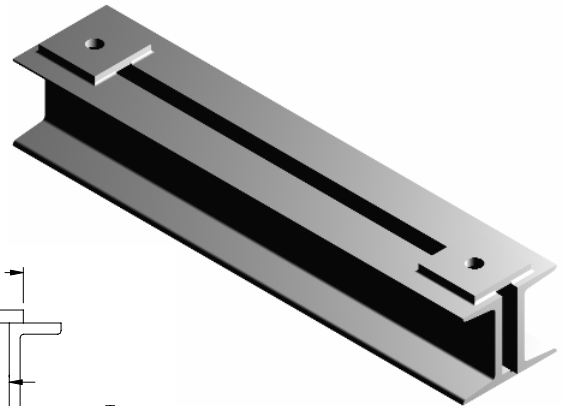
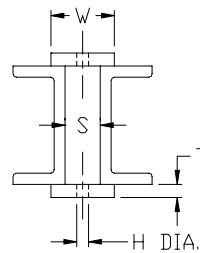
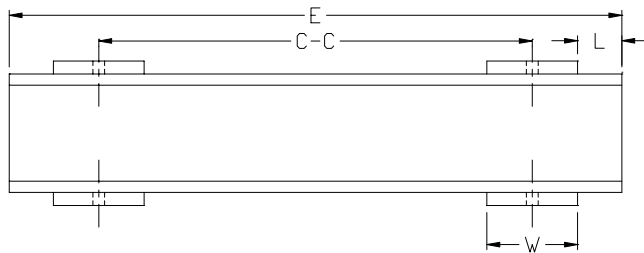
ORDERING: Specify bracket number, part number, name. Order separately: bolts, nuts, and back plates for fastening brackets to wall. Specify size and length of bolts; size, thickness and drilling of plates. Orders for special brackets are to be accompanied by a detailed sketch.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Bracket No.	Weight	A	Maximum Load	B	C	D	E	F	G	H	J	K	L
0	24.3	12	3000	18	15 1/4	1 3/8	2 3/4	4	1 1/2	2	1/4	-	13/16
1	51.8	18	3000	24	21 3/8	1 7/16	2 3/4	5	2	2	3/8	2 3/4	15/16
2	65.8	24	3000	30	27 1/2	1 1/2	2 3/4	5	2	2 1/2	5/16	2 1/2	11/16
3	82.1	30	3000	36	33 1/4	1 5/8	3	5	2	2 1/2	5/16	2 1/2	11/16
4	140.5	36	3000	42	39	1 1/2	3	6	2 1/2	3 1/2	3/8	3 1/2	11/16
5	166.4	42	3000	50	46	1 1/2	3 1/2	6	2 1/2	3 1/2	3/8	3 1/2	11/16

Channel Assembly

PART# 440



MATERIAL: Channel – Carbon Steel (ASTM A36)

Washer plate– Carbon Steel (ASTM A36 or A515 GR 65-70)

FINISH: Black, Galvanized, or coated to customer specifications.

ORDERING: Specify part number 440 Channel Assembly, channel size, rod size, c-c dimension.

Standard Dimensions (inches)

Rod Diameter	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$
H Hole	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{3}{4}$
S	$\frac{9}{16}$	$\frac{11}{16}$	$\frac{13}{16}$	$\frac{15}{16}$	$1\frac{11}{16}$	$1\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{7}{8}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{3}{4}$	4
W	3	3	3	4	4	4	5	5	5	5	6	6	6	6	6	7
T	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
L	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$

Safe Load (lbs) Table

Nom. size	Wt. Per Ft.	12	14	16	18	20	22	24	26	28	30	36	42	48	54	60
3	8.2	8800	7500	6600	5800	5200	4800	4400	3900	3600	3500	2900	2500	2200	1900	1700
4	10.8	15200	13100	11400	10200	9100	8300	7500	7000	6500	6100	5100	4300	3800	3300	3000
5	13.4	-	-	-	16000	14400	13100	12000	11100	10300	9600	8000	6800	6000	5300	4800
6	21.0	-	-	-	26600	24000	21800	20000	18400	17100	16000	13300	11400	10000	8800	8000
8	23.0	-	-	-	-	-	-	32300	29800	27700	25800	21500	18500	16100	14300	12900
10	30.6	-	-	-	-	-	-	53500	49400	45800	42800	35700	30600	26700	23800	21400
12	41.4	-	-	-	-	-	-	-	-	-	-	57000	48900	42800	38000	34200
15	67.8	-	-	-	-	-	-	-	-	-	-	111000	95300	83400	74100	66700



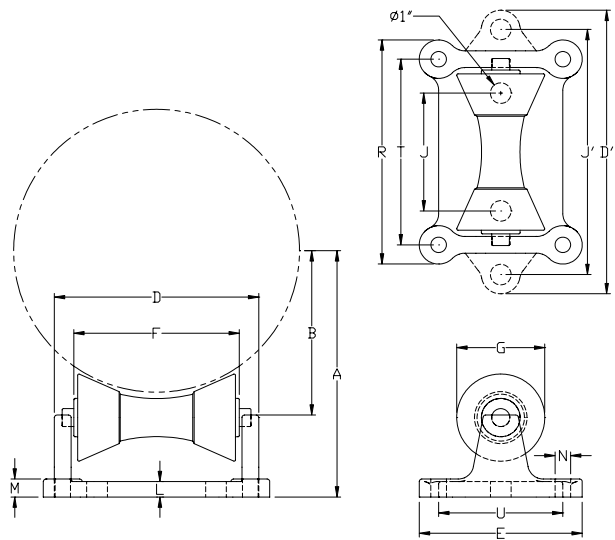
NOTES:

Section 5

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Pipe Roll Pipe Stand

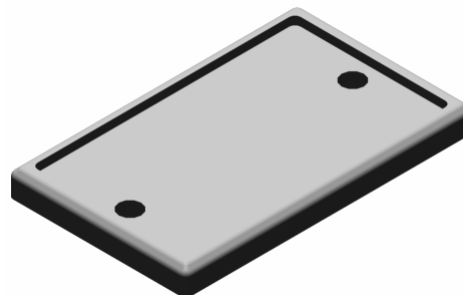
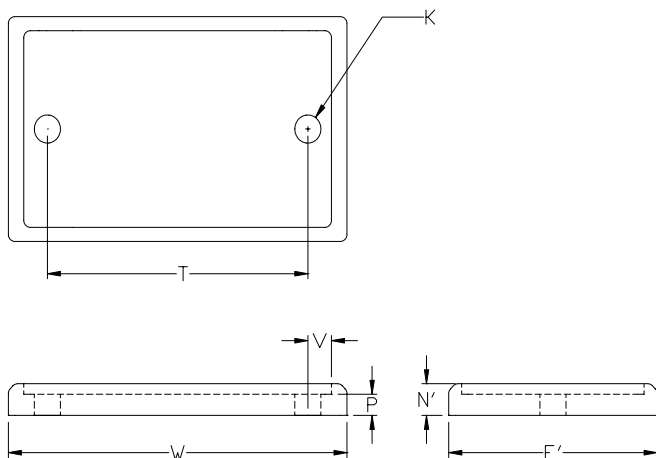


ORDERING: Specify pipe roll size, part number, name, and finish. Be certain to order oversized rolls where insulation makes this necessary. Pipe Rolls available without stand (part# 502) and Axle (part# 501).

Pipe size	A	B	D	D'	E	F	G	J	J'	L	M	N	R	T	U
2	3 1/2	1 3/4	4	8 3/8	5 3/8	2 3/4	1 7/8	-	6 3/8	9/16	11/16	1/2	-	3 7/16	4
2 1/2	3 7/8	2 1/8													
3	4 1/8	2 3/8													
3 1/2	4 3/8	2 5/8													
4	4 13/16	2 3/4	5 3/8	9 7/8	5 5/8	3 3/4	2 1/16	7 7/8	3/4	7/8	1/2	4 11/16	4 1/4		
5	5 7/16	3 3/8													
6	6 1/16	4													
8	8 11/16	5 1/4													
10	9 13/16	6 3/8	7 3/4	-	6 5/8	6	3 1/4	4	3/4	7/8	5/8	8 5/8	7	5	
12	11 3/8	7 1/2													
14	12	8 1/8													
16	13 5/8	9 3/8													
18	14 5/8	10 3/8													
20	15 5/8	11 3/8													
24	17 3/4	13 3/8	12 1/2												
30	21 7/8	16 3/4	15 3/4												
36	25 3/4	20	18 3/4	12	15	6 3/8	12	1 1/2	1 3/4	1 5/16	20	17	9		
42	28 7/8	20 1/8													

Pipe Roll Base plate

PART# 510



SIZE RANGE: 2" to 42" inch pipe.

MATERIAL: Cast iron plate.

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: (When used with Part #500) For support of pipe lines where longitudinal movement resulting from expansion and

contraction may take place and where vertical and lateral adjustment during installation is necessary.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 46)

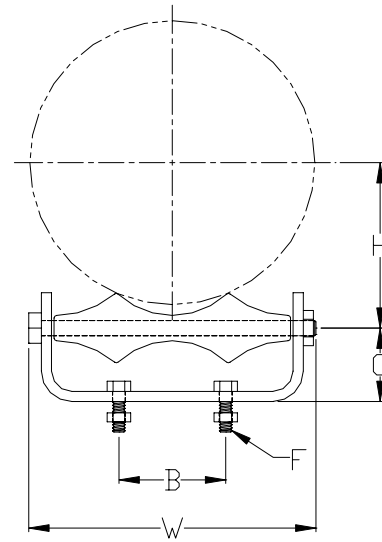
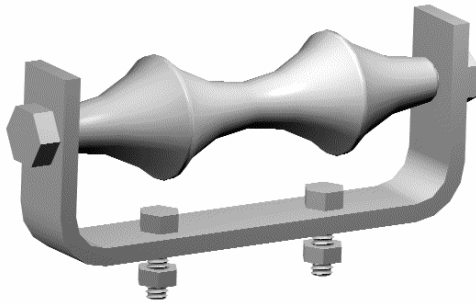
ORDERING: Specify pipe roll size in order to receive the correct plate size.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Maximum load	Weight	E'	K	N'	P	T	V	W			
2	390	15.3	5 ½	1	1	¾	3 7/16	1	6 7/8			
2 1/2												
3												
3 1/2												
4	950	19.3	5 ¾				13/16			7	4 11/16	8 ⅙
6												
8												
10												
12	2100	32.1	6 ¾		1 ⅙	¾	9 1/16		10 ⅝			
14												
16												
18												
20	4980	71.3	8 ⅝		1 ¼	7/8	10 1/4	1 3/16	14 ⅝			
24												
30												
36												
42	12000	304	11		1 ⅙	2	1 ½	17	2¼	23		

PART# 535

Pipe Roll Roller chair



SIZE RANGE: 2" to 30" inch pipe.

MATERIAL: Cast iron roll, Carbon Steel chair, roll rod, bolts and hex nuts.

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: For support of pipe where longitudinal movement due to expansion and contraction may occur, but where no vertical adjustment is needed.

HOW TO SIZE: If roll is to support bare pipe, select the size directly from nominal pipe size. If used with a pipe covering select O.D. of protection saddle.

ORDERING: Specify size of roll, part number, name and finish. Be sure to order oversized rolls when insulation and protection saddle are needed.

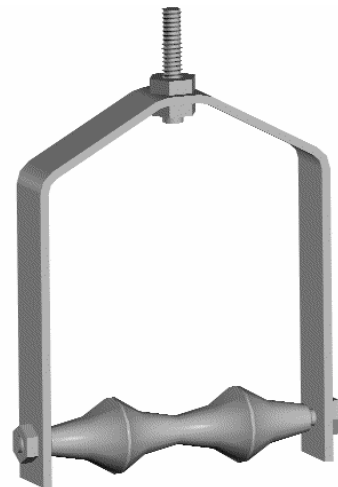
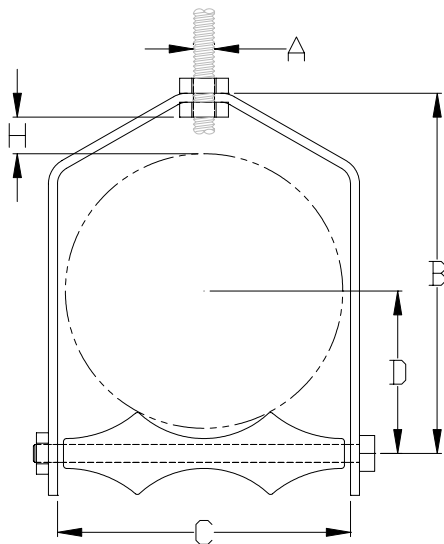
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Maximum load	Weight	W	B	C	F	H
2	600	1.1	4	1 1/4	1 1/2	3/8 x 1 1/2	1 5/8
2 1/2	660	1.4	4 7/8		1 5/8		1 15/16
3	700	1.6	5 3/8	2	1 3/4		2 1/4
3 1/2	750	2.6	6 1/8		2 1/16	1/2 x 1 1/2	2 9/16
4		2.9	6 3/8		2 5/16		2 13/16
5	1070	3..9	7 7/8	3	2 1/2		3 7/16
6		5.9	9 1/4	3 1/8	2 3/4	5/8 x 1 1/2	4
8	1350	9.0	11 5/8	3 3/8	3		5 1/8
10	1730	13.8	14 1/8	5 1/4	3 5/8	5/8 x 2	6 3/8
12	2400	18.9	16 1/8	5 1/2	4 1/8		7 7/16
14	3130	28.07	18 3/4	6 1/2	4 11/16	3/4 x 2	8 3/8
16	3970	34.93	21	8 1/4	5 3/8		9 3/8
18	4200	44.35	23 1/8	9 1/4	6	3/4 x 2 1/2	10 7/16
20	4550	56.34	24 5/8	10 1/4	6 1/2		11 5/8
24	6160	87.52	29 3/8	12 1/4	7 7/8	7/8 x 3 1/2	14
30	7290	151.25	34 13/16	15 3/8	8 3/4		17 7/16

Pipe Roll

Adjustable Steel Yoke Pipe Roll

PART# 536



SIZE RANGE: 2 1/2" to 24" inch pipe.

MATERIAL: Cast iron roll, carbon steel yoke, roll rod, bolts and hex nuts.

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: For suspension of pipe from a single rod where horizontal movement due to expansion and contraction may occur.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 43)

HOW TO SIZE: If roll is to support bare pipe, select the size directly from nominal pipe size. If used with a pipe covering select O.D. of protection saddle.

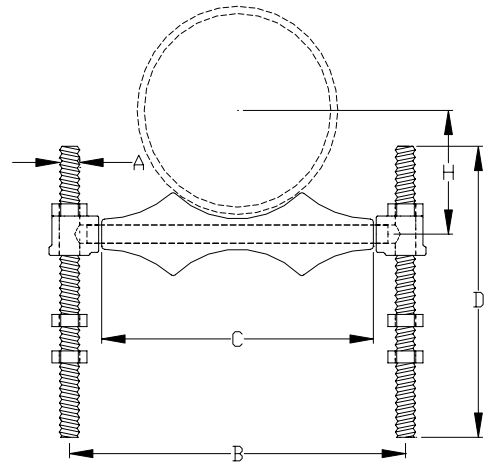
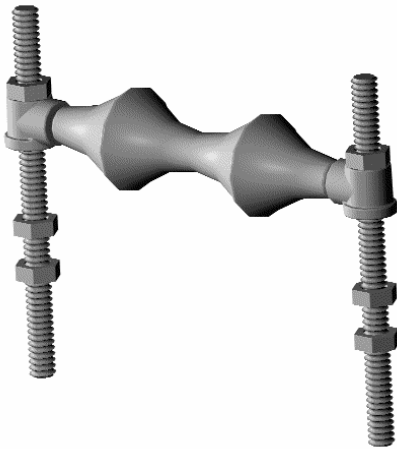
ORDERING: Specify size of roll, part number, name and finish. Be sure to order oversized rolls when insulation and protection saddle are needed.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Maximum load	Weight	Rod size A	B	C	D	Rod take-out	H
2 1/2	225	1.7	1/2	5 3/4	3 1/4	1 15/16	2 7/8	1 11/16
3	310	2.2		6 3/8	3 7/8	2 1/4	3 1/8	1 5/8
3 1/2	390	2.5		7	4 3/8	2 9/16	3 1/2	1 11/16
4	475	3.2	5/8	7 9/16	4 15/16	2 13/16	3 5/8	1 5/8
5	685	6.3	5/8	5 1/8	6	3 7/16	4 1/2	1 15/16
6	780	9.3	3/4	10 5/16	7 1/8	4	5	1 7/8
8	780	14.5		12 11/16	9 1/4	5 1/8	6 1/8	2
10	965	18.8	7/8	15 1/16	11 1/4	6 3/8	7 1/4	2 1/16
12	1200	27.7		17 7/16	13 1/4	7 7/16	8 3/8	2 1/4
14	1200	39.1	1	18 7/8	14 1/2	8 3/8	8 3/4	2
16	1200	49.1		20 13/16	16 1/2	9 3/8	9 11/16	1 15/16
18	1400	57.8		23 3/4	18 1/2	10 7/16	11 7/16	2 13/16
20	1600	75.9	1 1/4	26	20 1/2	11 5/8	12 1/4	2 1/2
24	1800	119.3	1 1/2	32 5/16	24 5/8	13 15/16	15 3/4	4 3/8

PART# 540

Pipe Roll Adjustable Pipe Roll Support



SIZE RANGE: 1" to 30" inch pipe.

MATERIAL: Cast iron roll and sockets, Carbon Steel roll rod, continuous thread rods and hex nuts.

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: For support of pipe where horizontal movement due to expansion and contraction may occur and where vertical adjustment up to 6 inches may be required.

APPROVALS: Complies with MSS-SP-69 (Type 41).

HOW TO SIZE: If roll is to support bare pipe, select the size directly from nominal pipe size. If used with a pipe covering select O.D. of protection saddle.

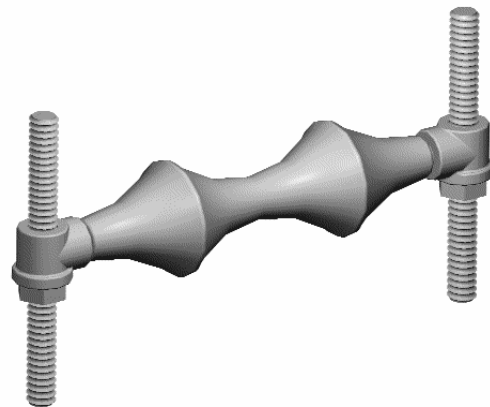
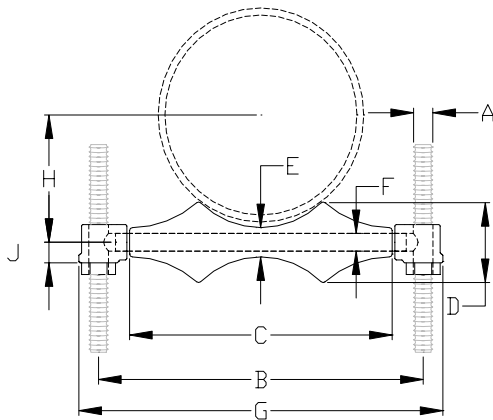
ORDERING: Specify size of roll, part number and name. Be sure to order oversized rolls when insulation and protection

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Weight	Rod size A	B	C	D	H
1	1.1	$\frac{3}{8}$	3	$1\frac{1}{2}$	12	$1\frac{1}{16}$
$1\frac{1}{4}$	1.2		$3\frac{3}{8}$	$1\frac{7}{8}$		$1\frac{1}{4}$
$1\frac{1}{2}$	1.2		$3\frac{5}{8}$	$2\frac{1}{8}$		$1\frac{3}{8}$
2	1.3		$4\frac{1}{8}$	$2\frac{5}{8}$		$1\frac{5}{8}$
$2\frac{1}{2}$	2.3	$\frac{1}{2}$	$4\frac{7}{8}$	$3\frac{1}{8}$		$1\frac{15}{16}$
3	2.4		$5\frac{1}{2}$	$3\frac{3}{4}$		$2\frac{1}{4}$
$3\frac{1}{2}$	2.7		$6\frac{1}{8}$	$4\frac{1}{4}$		$2\frac{9}{16}$
4	3.8		$6\frac{3}{4}$	$4\frac{3}{4}$		$2\frac{13}{16}$
5	4.7	$\frac{5}{8}$	$8\frac{1}{16}$	$5\frac{13}{16}$		$3\frac{7}{16}$
6	7.6		$9\frac{9}{16}$	$6\frac{7}{8}$		4
8	11		$11\frac{15}{16}$	$8\frac{7}{8}$		$5\frac{1}{8}$
10	13.7		$14\frac{1}{16}$	11		$6\frac{3}{8}$
12	19.4	$\frac{3}{4}$	$15\frac{13}{16}$	$12\frac{1}{2}$		$7\frac{7}{16}$
14	31.2		$17\frac{3}{4}$	$14\frac{1}{4}$		$8\frac{3}{8}$
16	42.5		$19\frac{3}{4}$	$16\frac{1}{4}$	18	$9\frac{7}{16}$
18	46.6		$21\frac{7}{8}$	$18\frac{1}{4}$		$10\frac{1}{2}$
20	66.2	$1\frac{1}{4}$	$24\frac{1}{4}$	$20\frac{1}{4}$		$11\frac{5}{8}$
24	102.5	$1\frac{1}{2}$	$28\frac{5}{8}$	$24\frac{1}{4}$	24	14
30	186.8		$35\frac{1}{2}$	$30\frac{1}{4}$		$17\frac{7}{16}$

Pipe Roll Single Pipe Roll Support

PART# 545



SIZE RANGE: 1" to 30" inch pipe.

MATERIAL: Cast iron roll and sockets, carbon steel roll rod, continuous thread rods and hex nuts.

FINISH: Black, Galvanized, or coated to customer specification.

SERVICE: For suspension of pipe where longitudinal movement due to expansion and contraction may occur.

APPROVALS: Complies with federal specification A-A-1192A (Type 41), WW-H-171-E (Type 42) and MSS-SP-69 (Type 41).

HOW TO SIZE: If roll is to support bare pipe, select the size directly from nominal pipe size. If used with a pipe covering select O.D. of protection saddle.

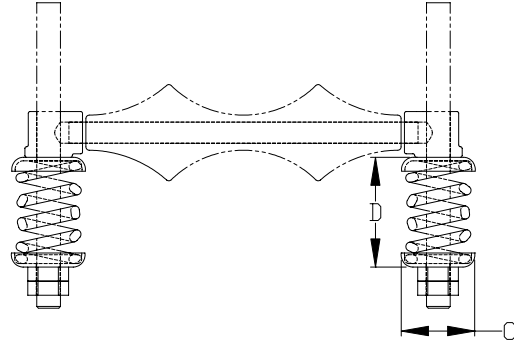
ORDERING: Specify size of roll, part number, name, and finish. Be sure to order oversized rolls when insulation and protection saddle are needed. ***Hanger rod and nuts to be ordered separately.***

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Weight	Maximum Load	Rod size A	B	C	D	E	F	G	J	H		
1	.45	600	3/8	3	1 1/2	1	3/4	3/8	4 1/8	9/16	1 1/16		
1 1/4	.48			3 3/8	1 7/8	1 1/16			4 1/2		1 1/4		
1 1/2	.51			3 5/8	2 1/8	1 1/8			4 3/4		1 3/8		
2	.57			4 1/8	2 5/8	1 3/16			5 1/4		1 5/8		
2 1/2	1.0	660	1/2	4 7/8	3 1/8	1 3/8	7/8	1/2	6 1/4	11/16	1 15/16		
3	1.1	700		5 1/2	3 3/4	1 7/16			6 7/8		2 1/4		
3 1/2	1.4	750		6 1/8	4 1/4	1 5/8			1		7 1/2	3/4	2 9/16
4	1.7			6 3/4	4 3/4	1 3/4					8 1/4		2 13/16
5	2.6		8 1/16	5 13/16	2	1 1/8	5/8	9 11/16		7/8	3 7/16		
6	4.5		1070	3/4	9 9/16	6 7/8	2 5/16	1 1/4		3/4	11 7/16		1
8	7.2	1350		11 15/16	8 7/8	2 13/16	1 1/2	7/8	14 1/16	1 1/8	5 1/8		
10	9.5	1730	7/8	14 1/16	11	3 3/8	1 3/4		16 3/16		6 3/8		
12	15.9	2400		15 13/16	12 1/2	3 7/8	2		1		17 15/16	1 1/4	7 7/8
14	24.3	3130		1	17 3/4	14 1/4	4 5/8		2 1/2		1 1/8	20 1/8	1 3/8
16	31.9	3970			19 3/4	16 1/4	5	2 5/8	1 1/4	22 1/8	1 1/2	9 7/16	
18	35.5	4200	21 7/8		18 1/4	5 7/16	2 3/4	24 1/2		10 1/2			
20	47.0	4550	1 1/4		24 1/4	20 1/4	6	3		27 1/4		1 5/8	11 5/8
24	76.3	6160	1 1/2	28 5/8	24 1/4	7 3/16	3 5/8	1 1/2		32 1/8		1 3/4	14
30	129.9	7290		35 1/2	30 1/4	8 15/16	4 1/2	1 3/4	39	2 7/16	17 7/16		

PART# 550

Pipe Roll Spring Cushion Hanger



MATERIAL: Spring cushion hanger is composed of a set of two springs and four cast iron retainers.

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: Usually used in installations where formal load and movement calculations are not required.

APPROVALS: Complies with MSS-SP-6 (Type49).

HOW TO SIZE: If roll is to support bare pipe, select the size directly from nominal pipe size. If used with a pipe covering select O.D of protection saddle.

ORDERING: Specify part number, name, and finish. The retainers' center hole can be drilled or reamed larger in order to adjust to the rod size of the pipe roll.

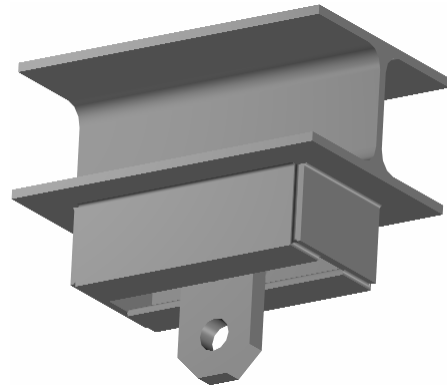
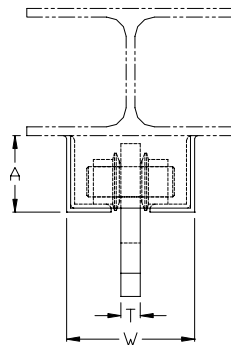
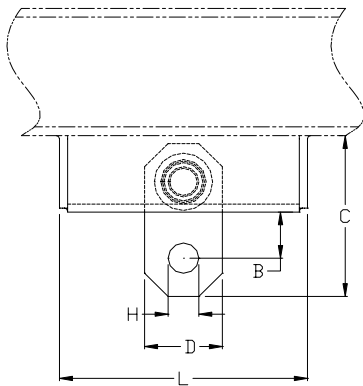
Load (lbs) • Weight (lbs) • Dimensions (inches)

Spring number	Max Spring Deflection	Load at Max Deflection	Weight	C	D	Retainer's center hole diameter	Maximum Rod size	Min Rod size
1	1 1/4	535	4.5	2 21/32	6 7/16	7/16	3/4	3/8
2		1500	14.0	4 1/8	6 1/16	9/16		1/2
3		3000	22.0		9 1/16	15/16	1 1/2	7/8

▪ Can be drilled to max. rod size.

Horizontal Traveler

PART# 580



MATERIAL: Carbon Steel

SIZE RANGE: Available in four sizes able to take up to 20,700 (lbs.). All sizes provide up to 12" inches of horizontal travel.

INSTALLATION: Part ready for installation. May be attached to existing support by welding around the frame.

FINISH: Black, Galvanized, or coated to customer specifications.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 58)

ORDERING: Specify size, part number, name and "H" dimension, if necessary.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Size	Maximum load	Weight	A	B	C	D	H Max	L	T	W
1	3770	15	2 1/2	1 5/8	5 3/8	2 1/2	1 1/8	15 1/8	3/4	4 5/8
2	6230	37	3 1/2	2 5/8	7 7/8	3 1/2	1 3/8	16 3/8		6 7/8
3	11630	69	5	3	10 1/2	5	1 3/4	17 7/8	1	8 7/16
4	20700	102	6	3 1/2	12 1/2	6	2 3/8	19 1/8	1 1/2	9 7/8



NOTES:

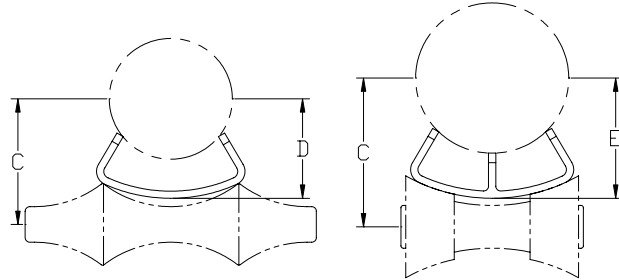
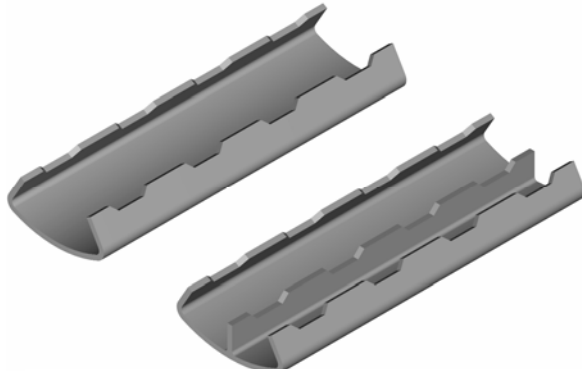
Section 6

Table of Contents Saddles And Supports

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PART# 600-606A

Pipe Saddle Protection Saddle



Part 600: 1" inch of insulation
 Part 601: 1 1/2" inches of insulation
 Part 602: 2" inches of insulation
 Part 603: 2 1/2" inches of insulation
 Part 604: 3" inches of insulation
 Part 605: 4" inches of insulation
 Part 605A: (Alloy) 4" inches of insulation
 Part 606A: (Alloy) 5 1/2" inches of insulation

SIZE RANGE: 3/4" to 36" inch pipe.

MATERIAL: Parts 600-605 are curved carbon steel plates; Part 606A and 607A are alloy steel material (A387 Grade 22) with a center plate for all pipe sizes. Parts 600-605 have a center plate for pipe sizes 12" inches and larger only. All saddles are 12" inches long.

FINISH: Black, Galvanized, or coated to customer specifications

SERVICE: For insulation protection and where heat losses are to be kept at a minimum.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 39A or Type 39B)

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Part number	Max load	Weight	Size of Pipe Rolls			C	D		E	
				Parts 535,540,545	Part 536	Part 500		Parts 535,540,545	Part 536	Part 500	
3/4	600	1200	1.4	2	2 ½	2-3 ½	1 ⅝	2 ¹⁄₁₆	2 ¹⁄₈	2 ¹⁄₄	
	601		2.1	3	3 ½		2 ³⁄₁₆	2 ¾	2 ¾	2 ⁷⁄₈	
	602		2.8	4	5		2 ¹¹⁄₁₆	3 ⁵⁄₁₆	3 ⁵⁄₁₆	3 ³⁄₈	
1	600	1200	1.4	2 ½	3		1 ¹³⁄₁₆	2 ⁵⁄₁₆	2 ¼	2 ⁷⁄₁₆	
	601		2.1	3	4		2 ⁵⁄₁₆	2 ⁷⁄₈	2 ⁷⁄₈	3	
	602		2.8	4	5		2 ⁷⁄₈	3 ½	3 ½	3 ½	
1 ¼	600	1200	1.4	2 ½	3		5	1 ¹⁵⁄₁₆	2 ½	2 ⁷⁄₁₆	2 ⁹⁄₁₆
	601		2.1	3 ½	2 ⁹⁄₁₆			3 ¹⁄₁₆	3 ¹⁄₁₆	3 ³⁄₁₆	
	602		2.8	4	3			3 ⁵⁄₈	3 ⁵⁄₈	3 ¹¹⁄₁₆	
	603		3.6	5	6	4-6	3 ¾	4 ¾	4 ¾	4 ¾	
1 ½	600	1200	1.5	3	3 ½	2-3 ½	2 ¹⁄₈	2 ⁵⁄₈	2 ⁵⁄₈	2 ¹¹⁄₁₆	
	601		2.1	3 ½	5		2 ⁵⁄₈	3 ¼	3 ¼	3 ⁵⁄₁₆	
	602		3.2	5	6	4-6	3 ⁵⁄₁₆	4	4	3 ⁷⁄₈	
	603		3.6	6	8		3 ⁷⁄₈	4 ½	4 ⁵⁄₈	4 ½	



Pipe Saddle Protection Saddle

PART# 600-606A

Weights (lbs) • Loads (lbs) • Dimensions (inches)

Pipe size	Part number	Max load	Weight	Size of Pipe Rolls			C	D		E
				Parts 535,540,545	Part 536	Part 500		Parts 535,540,545	Part 536	Part 500
2	600	1200	1.7	3 ½	4	2-3 ½	2 ¾	3	2 15/16	3 1/16
	601		2.3	4	5		2 7/8	3 ½	3 ½	3 9/16
	602		3.2	5	6	4-6	3 9/16	4 ¼	4 ¼	4 9/16
	603		3.6	6	8		4 1/16	4 ¾	4 13/16	4 ¾
	604		4.5	8			4 9/16	5 ¾	5 ¾	5 ¼
2 ½	600	1200	1.7	3 ½	5	2-3 ½	2 11/16	3 ¼	3 ¼	3 5/16
	601		2.8	5	6	4-6	3 5/16	4	4	3 15/16
	602		3.2	6	8		3 7/8	4 ½	4 5/8	4 ½
	603		4.1	8			4 ¼	5 1/8	5 1/8	5
	604		4.5		10		4 7/8	5 5/8	5 ¾	5 ½
3	600	1200	1.9	4	5	2-3 ½	2 15/16	3 ½	3 ½	3 9/16
	601		2.8	5	6	4-6	3 5/8	4 5/16	4 5/16	4 ¼
	602		3.6	6	8		4 1/8	4 13/16	4 13/16	4 11/16
	603		4.1	8			4 11/16	5 7/16	5 7/16	5 5/16
	604		4.9		10	8-10	5 1/16	6	6	6 1/16
3 ½	600	1200	2.3	5	6	4-6	3 5/16	4	4	3 15/16
	601		3.2	6	8		3 11/16	4 9/16	4 9/16	4 ½
	602		3.6	8			4 5/16	5 1/8	5 1/8	5
	603		4.5		10	4 11/16	5 5/8	5 5/8	5 11/16	
	604		4.9	10		8-10	5 ¾	6 5/16	6 5/16	6 ¾
4	600	1200	2.3	5	6	4-6	3 9/16	4 ¼	4 ¼	4 3/16
	601		3.2	6	8		4 1/16	4 7/8	4 7/8	4 ¾
	602		3.6	8			4 9/16	5 ¾	5 ¾	5 ¼
	603		4.5		10	5	5 15/16	5 15/16	6	
	604		4.9	10		8-10	5 5/8	6 9/16	6 9/16	6 5/8
	605		6.1		12	12-14	6 ½	7 5/8	7 5/8	7 9/16
	605A	7200	11.6	14			16	8 1/8	9 5/8	9 ½
	606A	15.7								

PART# 600-606A

Pipe Saddle Protection Saddle

Weights (lbs) • Loads (lbs) • Dimensions (inches)

Pipe size	Part number	Max load	Weight	Size of Pipe Rolls			C	D		E
				Parts 535,540,545	Part 536	Part 500		Parts 535,540,545	Part 536	Part 500
6	600	1800	3.8	8	8	4-6	4 1/2	5 3/8	5 3/8	5 1/4
	601		4.4		10	8-10	5 1/16	5 7/8	5 11/16	6
	602		5.7	10			5 1/2	6 7/16	6 7/16	6 1/2
	603		6.5		12		6 3/16	7 1/8	7 3/16	7 1/4
	604		7.7	6 9/16			7 5/8	7 5/8	7 5/8	
	605		10.2	14	16	12-14	7 9/16	9	9	8 3/4
	605A	12.9	7 5/8				9 1/8	8 13/16		
	606A	7200	16.3	16	18	16-20	9 1/8	10 5/8	10 9/16	10 7/16
	601		5.8				10	8-10	6	7 1/16
	602		6.3	6 1/2	7 9/16	7 9/16			7 9/16	
603	7.2		12	14	7 1/4	8 5/16	8 1/2		8 5/16	
604	7.7		14	16	12-14	7 11/16	9		9	8 3/4
605	10.2		16	18	16-20	8 11/16	10 1/8	10 1/8	9 7/8	
605A	16.9	10 1/16								
606A	7200	22.6	18	20	10 1/4	11 7/8	11 13/16	11 5/8		
10	601	1800	5.8	12	14	8-10	7 1/4	8 5/16	8 1/2	8 5/16
	602		7.7	14	16	12-14	7 5/8	9 1/16	9	8 13/16
	603		8.2				8 1/8	9 9/16	9 9/16	9 5/16
	604		8.8	16	18	16-20	8 11/16	10 1/8	10 1/16	10
	605		10.8	18	20		9 3/4	11 1/4	11 1/4	11 1/8
	605A	7200	18.9			9 11/16	11 5/16			
	606A	24.3	20	-	22-24	11 1/8	12 15/16	-	12 1/2	
12	601	5000	7.8	14	16	12-14	8 1/16	9 1/2	9 1/2	9 1/4
	602		9.9	16	18	16-20	8 5/8	10 3/16	10 1/16	10
	603		10.5				9 1/8	10 11/16	10 9/16	10 1/2
	604		11.4	18	20		9 5/8	11 1/8	11 1/8	11
	605		14.0	20	-		10 13/16	12 3/8	-	12 3/16
	605A	11140	28.0				-	11	12 1/2	-
	606A	35.5	24	-	22-24	12 5/16	14 1/4	-	13 11/16	



Pipe Saddle Protection Saddle

PART# 600-606A

Weights (lbs) • Loads (lbs) • Dimensions (inches)

Pipe size	Part number	Max load	Weight	Size of Pipe Rolls			C	D		E
				Parts 535,540,545	Part 536	Part 500		Parts 535,540,545	Part 536	Part 500
14	601	5000	7.8	16	18	12-14	8 ³ / ₄	10 ³ / ₁₆	10 ¹ / ₈	10 ¹ / ₁₆
	602		9.9			16-20	9 ⁵ / ₁₆	10 ⁷ / ₈	10 ¹³ / ₁₆	10 ¹¹ / ₁₆
	603		10.5	18	20		9 ⁷ / ₈	11 ⁵ / ₁₆	11 ³ / ₈	11 ³ / ₁₆
	604		11.4				10 ⁵ / ₁₆	11 ³ / ₄	11 ³ / ₄	11 ⁵ / ₈
	605	14.0	20	-	22-24	11 ⁵ / ₁₆	12 ⁷ / ₈	-	12 ⁵ / ₈	
	605A	27.6				-	11 ⁹ / ₁₆	13 ¹ / ₁₆	-	12 ⁷ / ₈
	606A	35.5	24	-	12 ⁷ / ₈	14 ³ / ₄	-	14 ¹ / ₄		
16	601	5000	8.4	18	20	16-20	9 ¹³ / ₁₆	11 ¹ / ₄	11 ¹ / ₄	11 ¹ / ₈
	602		10.4				-	10 ³ / ₁₆	11 ³ / ₁₆	11 ³ / ₄
	603	7200	11.1	20	-		10 ¹³ / ₁₆	12 ⁵ / ₁₆	-	12 ³ / ₁₆
	604		13.3	24	-	22-24	11 ¹ / ₁₆	12 ⁷ / ₈	-	12 ⁷ / ₁₆
	605		15.3		-		12 ³ / ₁₆	14 ¹ / ₈	-	13 ⁵ / ₈
	605A	30.1	-		12 ⁷ / ₁₆		14 ⁵ / ₁₆	-	13 ⁷ / ₈	
	606A	11140	40.0	30	-	26-30	13 ¹³ / ₁₆	16 ⁵ / ₈	-	15 ⁵ / ₈
18	601	5000	9.1	20	-	16-20	10 ¹³ / ₁₆	12 ⁵ / ₁₆	-	12 ³ / ₁₆
	602	7200	10.4		-	22-24	11 ⁵ / ₁₆	12 ⁷ / ₈	-	12 ¹¹ / ₁₆
	603		12.4	-	11 ⁵ / ₈		13 ⁹ / ₁₆	-	13 ¹ / ₁₆	
	604		13.3	-	12 ¹ / ₄		14 ³ / ₁₆	-	13 ⁵ / ₈	
	605		15.3	-	13 ⁵ / ₁₆		15 ¹ / ₄	-	14 ³ / ₄	
	605A	13370	40.3	-	13 ³ / ₄		15 ¹¹ / ₁₆	-	15 ¹ / ₈	
	606A		52.1	30	-	26-30	14 ⁷ / ₈	17 ⁵ / ₈	-	16 ⁵ / ₈
20	601	7200	10.4	24	-	22-24	11 ⁵ / ₈	13 ⁹ / ₁₆	-	13 ¹ / ₁₆
	602		11.6		-		12 ¹ / ₄	14 ¹ / ₈	-	13 ⁵ / ₈
	603		12.4		-		12 ³ / ₄	14 ¹¹ / ₁₆	-	14 ³ / ₁₆
	604		13.4		-		13 ⁵ / ₁₆	15 ¹ / ₄	-	14 ³ / ₄
	605	22.8	30	-	26-30	14 ¹ / ₈	17	-	15 ⁷ / ₈	
	605A	44.8		-		14 ³ / ₈	17 ³ / ₁₆	-	16 ¹ / ₈	
	606A	13370		52.1		-	16 ¹ / ₈	18 ¹⁵ / ₁₆	-	17 ⁷ / ₈

PART# 600-606A

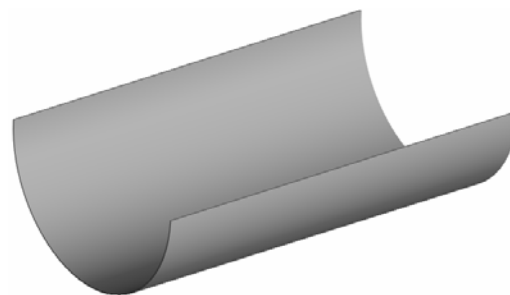
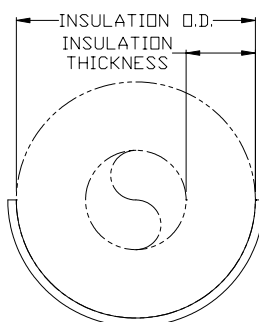
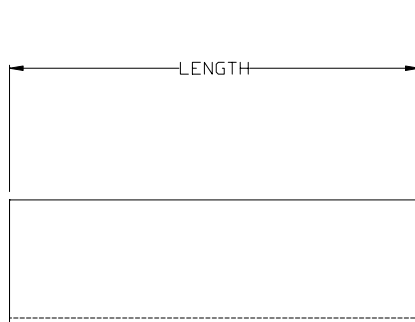
Pipe Saddle Protection Saddle

Weights (lbs) • Loads (lbs) • Dimensions (inches)

Pipe size	Part number	Max load	Weight	Size of Pipe Rolls			C	D		E
				Parts 535,540,545	Part 536	Part 500		Parts 535,540,545	Part 536	Part 500
24	601	7200	12.3	30	-	26-30	13 1/2	16 5/16	-	15 1/4
	602		13.4		-		14	16 7/8	-	15 3/4
	603		14.3		-		14 5/8	17 1/2	-	16 7/16
	604		20.3		-		15 1/4	18 1/16	-	17
	605		23.1		-		16 7/16	19 1/4	-	18 3/16
	605A	13370	45.4		-		16 11/16	19 1/2	-	18 7/16
	606A		52.1	-	-		18	-	-	19 3/4
30	601	7200	13.3	-	-	36-42	16 15/16	-	-	18 7/8
	602		14.0	-	-		17 1/2	-	-	19 3/8
	603		20.0	-	-		18 1/16	-	-	19 15/16
	604		21.4	-	-		18 5/8	-	-	20 1/2
	605		24.0	-	-		19 11/16	-	-	21 1/2
	605A	13370	47.9	-	-		19 5/8	-	-	21 3/4
	606A		55.6	-	-		21 1/2	-	-	23 3/8
36	601	7200	18.0	-	-	36-42	20 1/4	-	-	22 1/8
	602		18.9	-	-		20 15/16	-	-	22 5/8
	603		20.2	-	-		2 15/16	-	-	23 3/16
	604		21.6	-	-		21 7/8	-	-	23 11/16
	605		24.1	-	-		22 7/8	-	-	24 11/16
	605A	13370	48.3	-	-		23 1/8	-	-	25
	606A		55.8	-	-		24 5/8	-	-	26 1/2

Pipe Saddle Insulation Shield

PART# 615



SIZE RANGE: 1/2" to 24" pipe with 1/2", 3/4" up to 1", 1 1/2" and 2" thick insulation.

MATERIAL: Carbon steel.

FINISH: Black, Galvanized, or Painted

SERVICE: Recommended for outside of foam or fiberglass insulation for distribution of loads to preclude crushing of insulation without breaking the vapor barrier. May be used with Parts number 380 and 381.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 40)

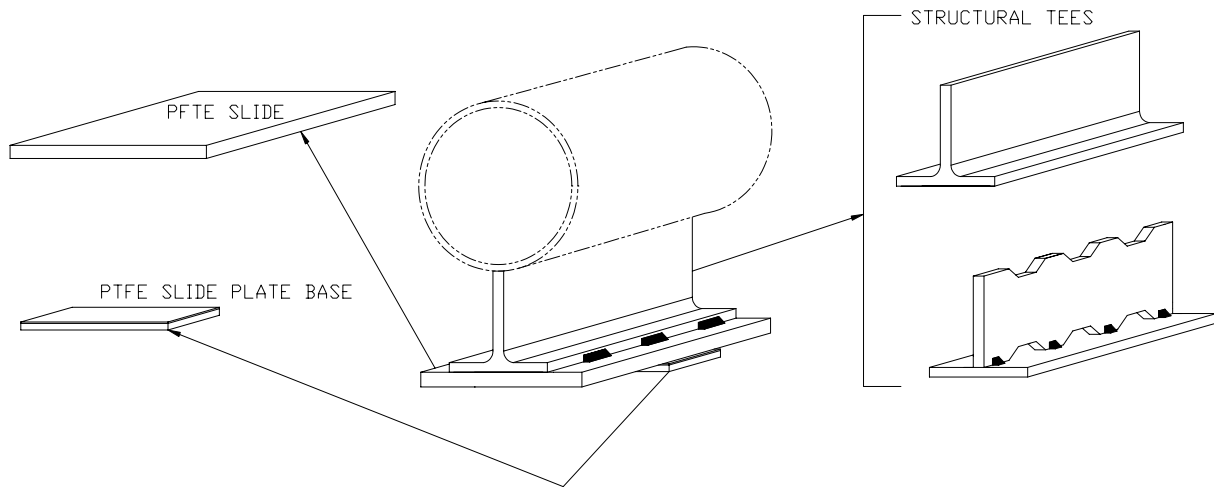
ORDERING: Specify size, part name, part number, and finish. Sizes other than shown on data table available upon request.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Insulation thickness					Insulation thickness					
	1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2	
	Shield size					Size of Part # 380 or Part# 381					
½	1A	1A	-	-	-	2	2	-	-	-	
¾		2A	3A	4A	6A		2 ½	3	3 ½	5	
1				5A	7A				4		
1 ¼	2A	3A	4A	6A		8A	2 ½	3	3 ½		5
1 ½											
2	3A	4A	5A	7A	9A	3	3 ½	4	6	8	
2 ½	4A	5A	6A	8A		3 ½	4	5			6
3	5A	6A	7A		10A	4	5				
3 ½	-	-	8A	9A		-	-	6	10		
4	-	-				-	-				
5	-	-	9B	10B	11B	-	-	8		10	12
6	-	-	10B	11B	12B	-	-				
8	-	-	12B	13C	14C	-	-	10	12	16	
10	-	-	14C	15C	16C	-	-	12	14	18	
12	-	-	16C	17C	18C	-	-	16	16	20	
14	-	-	17C	18C	19C	-	-		18		
16	-	-	19C	20C	21C	-	-	18	20	-	
18	-	-	21C	22C	23C	-	-	20	-	-	
20	-	-	23C	24C	25C	-	-	-	24	24	
24	-	-	26C	27C	28C	-	-	-	-	-	

PART# 630

Pipe Slide Pipe Slide Assembly



SIZE RANGE: Any size pipe within reasonable loads.

MAX TEMPERATURE: 750°F

TEMPERATURE RANGE AT PTFE: -20°F TO 400°F

MATERIAL: Rib can be carbon steel, stainless steel, or alloy depending on requirements, PTFE bonded slide plates with carbon steel, stainless steel or alloy steel base.

FINISH: Black, Galvanized, or coated to customer specifications

SERVICE: For the support of piping where horizontal movement resulting from expansion and contraction takes place and where a low coefficient of friction is necessary.

APPROVALS: Complies with Manufacturers Standardization Society SP-58 and SP-69

ORDERING: Specify part number, finish and any other options such as clamps, end plates, different lengths, etc.

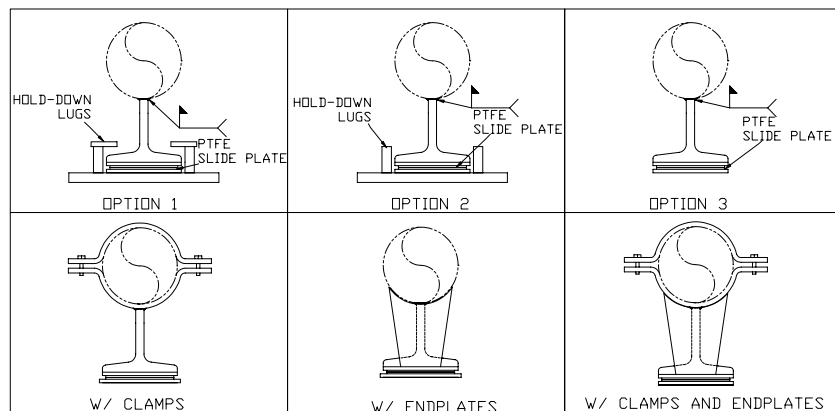
FEATURES:

- No lubrication required.
- Allows up to 3"-4" inches of insulation.
- Allows up to 10" inches of travel.
- Weld in place design.

AVAILABLE OPTIONS:

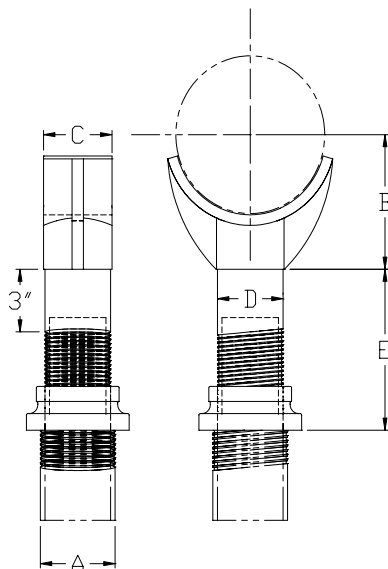
- Increased travels
- Increased "H" or "T" section heights
- Clamps
- Base plates with mounting holes

ASSEMBLIES: The pipe slide assemblies can be ordered with any of the shown ribs, structural tee or fabricated tee. Also, these can be ordered in any combination of options 1-3.

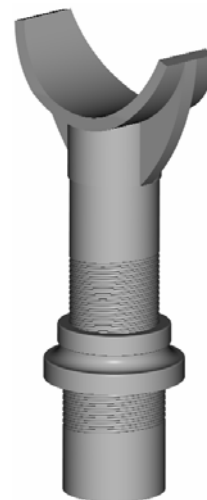


Pipe Supports

Adjustable Pipe Saddle



PART# 650



SIZE RANGE: 2 1/2" to 36" inches.

MATERIAL: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: Stanchion type support where vertical adjustment of stationary pipe is required.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 38)

INSTALLATION: Adjustment is made by turning the locknut. The lower end of the locknut is staked, upsetting the threads to prevent separation of locknut and coupling during adjustment.

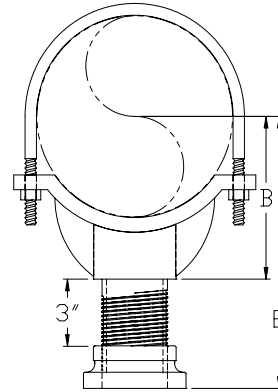
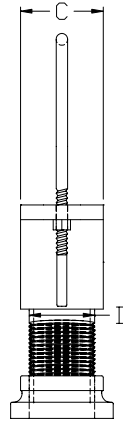
ORDERING: Specify part number, name, finish and pipe size to be supported.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Weight	A	B	C	D	E	
						Minimum	Maximum
2 ½	9.0	2 ½	3 ½	3	1 ½	8	13
3	9.2		3 ¾			8 ¼	13 ¼
3 ½	9.4		4			8 ½	13 ½
4	15.0	3	4 ¼	3 ⅝	2 ½	9 ¼	14
5	16.7		4 ⅞			10	14 ¾
6	17.7		5 ½			10 ½	15 ¼
8	20.2		6 ⅞			11 ¾	16 ½
10	25.2		8 ½			13 ½	18 ¼
12	29.0		9 ⅙			15	19 ¾
14	40.2	4	10 ⅙	4 ⅝	3	16 ¼	20 ¾
16	53.2		12 ⅜			17 ¾	22 ¼
18	70.8	6	13 ⅞	6 ¾	3 ½	19 ½	24
20	104.8		15 ⅜			21	25 ½
24	137.0		17 ⅙		4	23 ¾	28 ¼
30	170.0		21 ⅙	27		31 ½	
32	181.0		22 ½	28 ¼		32 ¾	
36	249.0		24 ½	8 ¾		30 ¼	34 ¾

PART# 660

Pipe Supports Pipe Saddle Support



SIZE RANGE: 4" to 36" inches.

MATERIAL: Carbon Steel

FINISH: Black, Galvanized, or coated to customers specifications.

SERVICE: Stanchion type support where vertical adjustment of stationary pipe is needed.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 37)

INSTALLATION: Adjustment is made by turning the locknut. The lower end of the locknut is staked, upsetting the threads to prevent separation of locknut and coupling during adjustment.

ORDERING: Specify part number, name, finish and pipe size to be supported.

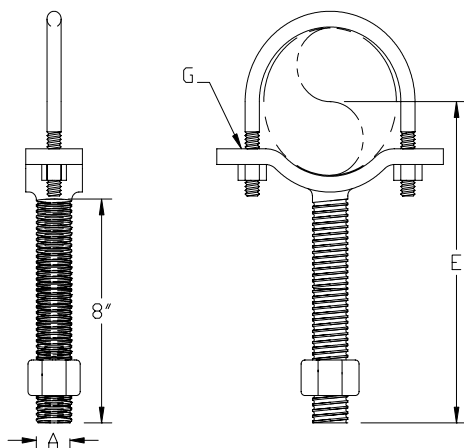
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Weight	B	C	D	E	
					Minimum	Maximum
4	22.0	4 ³ / ₁₆	3 ⁵ / ₈	3	9 ¹ / ₂	14
5	23.1	4 ¹³ / ₁₆			10 ¹ / ₈	14 ⁵ / ₈
6	23.9	5 ⁷ / ₁₆			10 ³ / ₄	15 ¹ / ₄
8	32.5	6 ¹⁵ / ₁₆			12 ¹ / ₄	16 ³ / ₄
10	36.9	8 ⁷ / ₁₆			13 ³ / ₄	18 ¹ / ₄
12	42.4	9 ¹⁵ / ₁₆			14 ⁵ / ₈	19 ¹ / ₈
14	39.2	10 ¹ / ₂	6	3 ¹ / ₂	15 ¹³ / ₁₆	20 ⁵ / ₁₆
16	42.2	11 ¹ / ₂			16 ¹³ / ₁₆	21 ⁵ / ₁₆
18	60.0	13 ¹ / ₂		4	19 ¹ / ₈	23 ⁵ / ₈
20	63.0	14 ¹ / ₂			20 ¹ / ₈	24 ⁵ / ₈
24	72.0	17 ¹ / ₂		4	23 ⁵ / ₁₆	27 ¹³ / ₁₆
30	89.0	20 ⁵ / ₈			26 ⁷ / ₁₆	30 ¹⁵ / ₁₆
32	93.0	21 ⁵ / ₈			27 ⁷ / ₁₆	31 ¹⁵ / ₁₆
36	101.0	23 ⁵ / ₈			29 ⁷ / ₁₆	33 ¹⁵ / ₁₆

Pipe Supports

Adjustable Pipe Stanchion saddle w/ U-bolt

PART# 662



SIZE RANGE: 2" to 12" inches.

MATERIAL: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: Stanchion type support where vertical adjustment and stability of stationary pipe is required.

ORDERING: Specify part number, name, finish and pipe size to be supported.

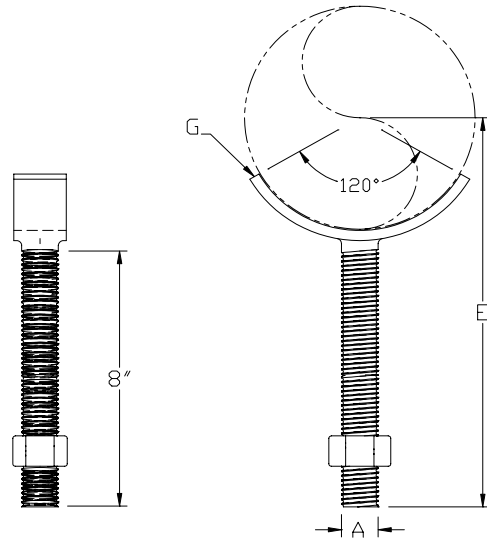
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Weight	A	C	E	G
2	1.2	$\frac{5}{8}$	$2 \frac{11}{16}$	$9 \frac{7}{16}$	$\frac{1}{4} \times 1$
2 ½	1.4		$3 \frac{5}{16}$	$9 \frac{11}{16}$	
3	1.6		$3 \frac{15}{16}$	10	
3 ½	2.6		$4 \frac{7}{16}$	$10 \frac{1}{4}$	
4	3.0	$\frac{7}{8}$	$5 \frac{1}{4}$	$10 \frac{1}{2}$	$\frac{1}{4} \times 1 \frac{1}{4}$
5	3.2		$6 \frac{1}{8}$	11	
6	4.9	1	$7 \frac{1}{4}$	$11 \frac{11}{16}$	$\frac{3}{8} \times 1 \frac{1}{2}$
8	6.2		$9 \frac{3}{8}$	$12 \frac{11}{16}$	
10	10.5	$1 \frac{1}{4}$	$11 \frac{1}{2}$	$13 \frac{7}{8}$	$\frac{1}{2} \times 2$
12	11.8		$13 \frac{1}{2}$	$14 \frac{7}{8}$	

PART# 664



Pipe Supports Adjustable Pipe Saddle Support



SIZE RANGE: 2" to 12" inches.

MATERIAL: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: Stanchion type support where vertical adjustment of stationary pipe is needed.

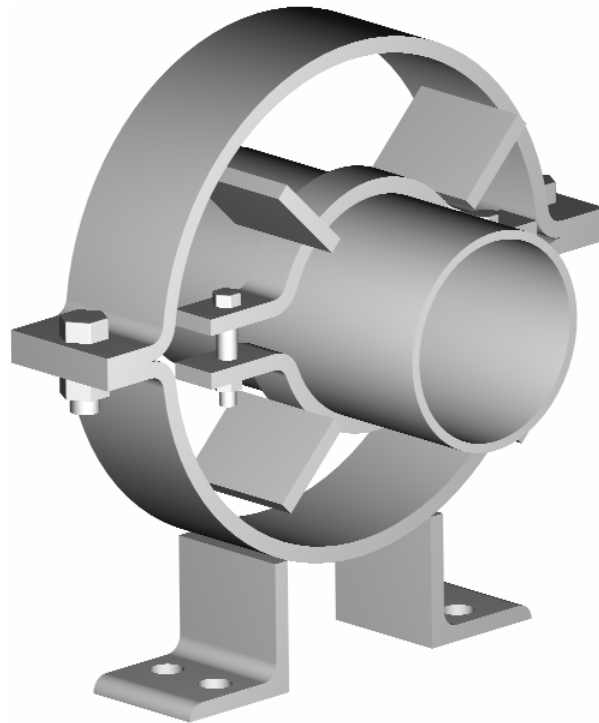
ORDERING: Specify part name, number, finish and pipe size to be supported.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Weight	A	E	G
2	1.0	$\frac{5}{8}$	$9 \frac{7}{16}$	$\frac{1}{4} \times 1$
2 ½	1.4		$9 \frac{11}{16}$	
3	1.6		10	
3 ½	2.6		$10 \frac{1}{4}$	
4	3.0	$\frac{7}{8}$	$10 \frac{1}{2}$	$\frac{1}{4} \times 1 \frac{1}{4}$
5	3.2		11	
6	4.9	1	$11 \frac{11}{16}$	$\frac{3}{8} \times 1 \frac{1}{2}$
8	6.2		$12 \frac{11}{16}$	
10	10.5	$1 \frac{1}{4}$	$13 \frac{7}{8}$	$\frac{1}{2} \times 2$
12	11.8		$14 \frac{7}{8}$	

Pipe Guides
Pipe Alignment Guide:
Medium Duty

PART# 680



SIZE RANGE: 1"- 24" inch pipe with 1"- 4" inches of insulation.

MATERIAL: Carbon Steel

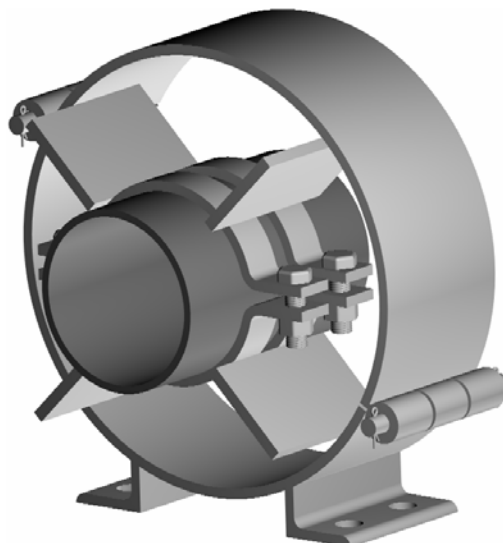
FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: For maintaining alignment of piping through its axial expansion and contraction cycles.

ORDERING: Specify finish, pipe size and insulation thickness.

Pipe Guides
Pipe Alignment Guide:
Heavy Duty

PART# 690





NOTES:



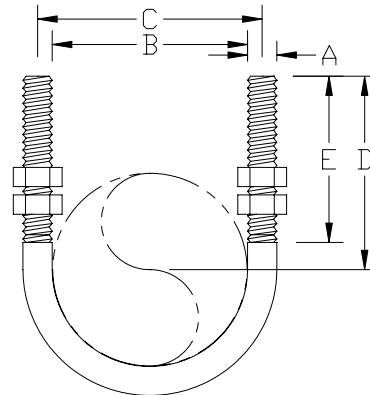
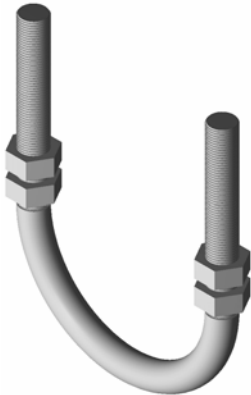
Section 7

Table of Contents U-bolts and Straps

U-Bolt (Part 700).....	7-2
Pipe Straps (Part 711).....	7-3
Pipe Straps (Part 712).....	7-3

PART# 700

U-Bolt Standard U-Bolt



SIZE RANGE: 1/2" to 36" inch pipe.

MATERIAL: Carbon Steel

FINISH: Black, Galvanized, or coated to customer specifications.

SERVICE: For support or guide of heavy loads.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 24).

ORDERING: Specify part name, number, rod size and pipe size to be supported.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	Rod size	Weight	B	C	D	E
1/2	3/8 - 1/4	.11	15/16	1 3/16	2 3/4	2 1/8
3/4		.12	1 1/8	1 3/8		
1		.12	1 3/8	1 5/8		
1 1/4	3/8	.28	1 11/16	2 1/16	2 7/8	2 1/2
1 1/2		.30	2	2 3/8	3	
2		.33	2 7/16	2 13/16	3 1/4	
2 1/2	1/2	.73	2 15/16	3 7/16	3 3/4	3
3		.78	3 9/16	4 1/16	4	
3 1/2		.84	4 1/16	4 9/16	4 1/4	
4		.90	4 9/16	5 1/16	4 1/2	
5		1.0	5 5/8	6 1/8	5	
6	5/8	2.0	6 3/4	7 3/8	6 1/8	3 3/4
8		2.3	8 3/4	9 3/8	7 1/8	
10	3/4	4.9	10 7/8	11 5/8	8 3/8	4
12	7/8	7.7	12 7/8	13 3/4	9 5/8	4 1/4
14		8.3	14 1/8	15	10 1/4	
16		9.2	16 1/8	17	11 1/4	
18	1	13.5	18 1/8	19 1/8	12 5/8	4 3/4
20		14.6	20 1/8	21 1/8	13 5/8	
24		16.9	24 1/8	25 1/8	15 5/8	
28		18.0	28 1/8	29 1/8	17 5/8	
30		19.1	30 1/8	31 1/8	18 5/8	
36		23.2	36 1/8	37 1/8	21 5/8	

Pipe Straps

PART# 711

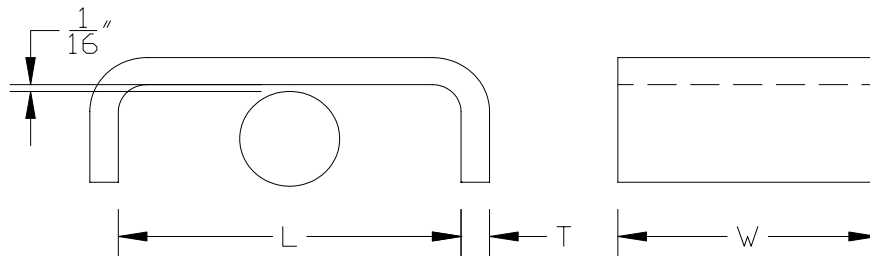
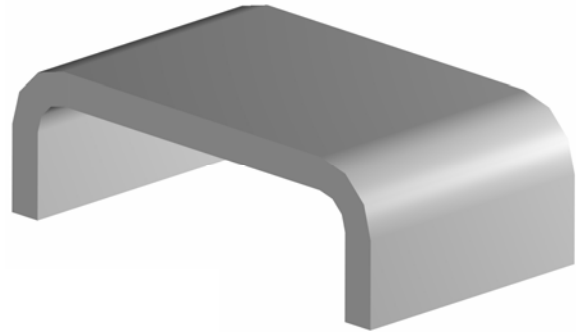
SIZE: 1/2" to 6" inches.

MATERIAL: Carbon Steel

FINISH: Black, Galvanized or coated to customer specifications.

SERVICE: For restraint of pipe.

ORDERING: Specify part number, name, finish.

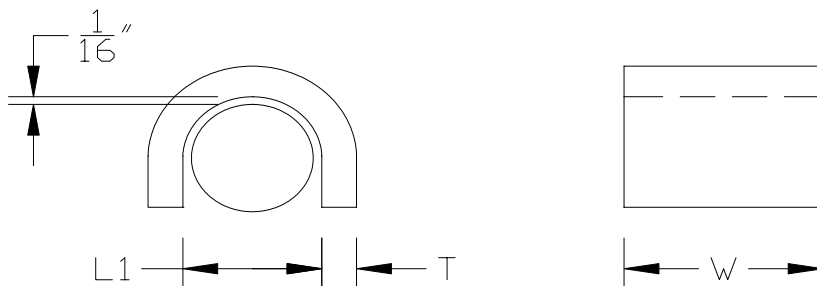
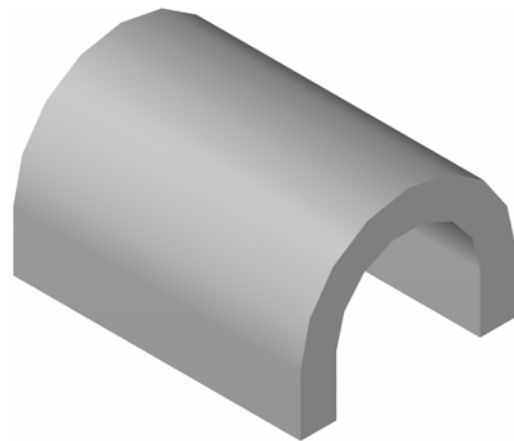


Pipe Saddle Protection Saddle

PART# 712

Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe size	L	L1	T	W
1/2	3	1	1/4	2
3/4	3 1/2	1 3/16		
1	4	1 7/16		
1 1/4	4 1/2	1 3/4	3/8	3
1 1/2	5	2		
2	5 1/2	2 1/2		
2 1/2	6	3	1/2	4
3	6 1/2	3 9/16		
4	7 1/2	4 9/16		
6	9 3/4	6 3/4		6





NOTES:

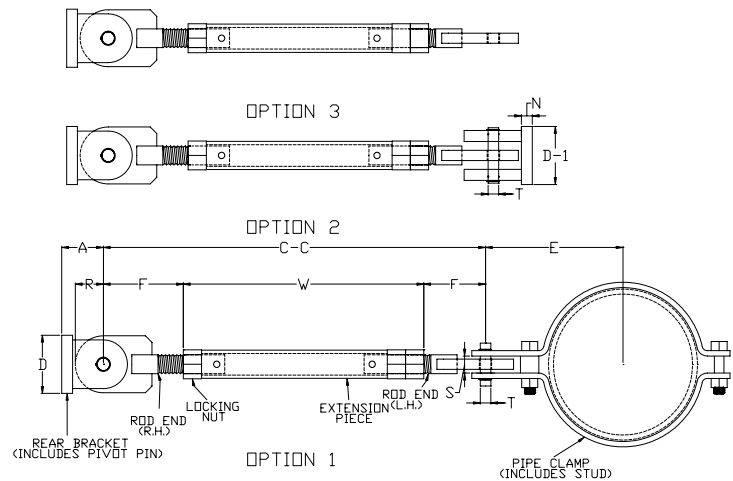
Section 8

Table of Contents Sway Struts & Sway Braces

Sway Strut (Part 800).....	8-2
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Mini-Sway Strut (Part 802).....	8-3
Vibration Control And Sway Brace (Part 830).....	8-4
Vibration Control And Sway Brace (Part 831).....	8-4

PART# 800/801

Sway Strut Assembly



FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Used to restrain movement of piping while allowing for movement in the other two directions.

FEATURES:

- Effective under either tensile or compressive force.
- Self-aligning bushings permits a plus or minus 5-degree misalignment or angular motion. Bushings are coated with dry lubricant.

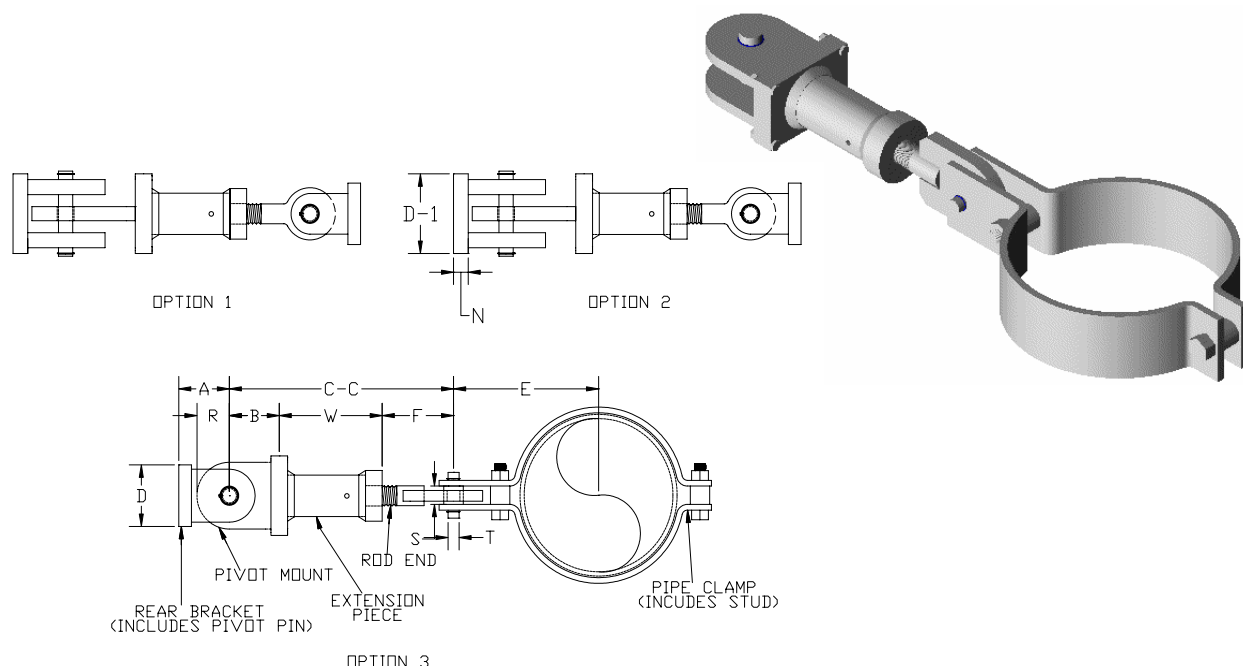
ORDERING: Specify assembly size, part number, name, option number, normal pipe or special O.D. and "W" dimensions. Alloy pipe clamps are available as a special order. The rear bracket assembly may be ordered separately. For restraint parallel to the pipe axis using two sway strut assemblies, a riser clamp is available. If a riser clamp is required, contact your **RILCO** "Support Team" member for assistance and information about this clamp.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Size	Part# 800/ Part# 801											Part# 800					Part# 801			
	Load	Ext. Piece	Rod End	A	F	D	D1	N	R	S	T	C-C		W		F	Weld Z	C-C		F
												Max	Min	Max	Min			Max	Min	
A	650	1	¾	1	3 ⁷ / ₁₆	2	1 ^¼	1 ^¼	5/8	5/8	0.374 0.372	60	16 ¹ / ₂	53 ¹ / ₈	9 ⁵ / ₈	3 ⁷ / ₁₆	3 ¹ / ₁₆	60	12 ¹ / ₈	2 ¹¹ / ₁₆
B	1500	2 ¹ / ₂	1	2 ¹ / ₂	4 ⁷ / ₁₆		2 ³ / ₈	5/8	1 ³ / ₈	1 ³ / ₈	0.749 0.747	108	19	99 ¹ / ₈	10 ¹ / ₈	4 ⁷ / ₁₆		14 ⁷ / ₁₆	3 ¹¹ / ₁₆	
C	4500	2	1		4 ¹³ / ₁₆		2 ⁷ / ₈	¾			0.749 0.747			111 ¹ / ₈	10 ¹ / ₈	4 ¹³ / ₁₆		5 ¹ / ₁₆	16 ¹ / ₂	4 ¹ / ₈
1	8000		1 ^¼	5	3 ³ / ₁₆				¾	1 ¹¹ / ₁₆	0.999 0.997	21	110 ³ / ₈	11 ³ / ₈	5		16 ⁷ / ₈			
2	11630	2 ¹ / ₂	1 ^½				3	7 ³ / ₄			1 ^½	1 ¹¹ / ₁₆	0.999 0.997	21 ³ / ₈	110	11 ³ / ₈	5 ³ / ₄	18 ³ / ₈	5	
3	15700		1 ^¾	6	3 ³ / ₁₆				¾	1 ^½			1 ¹¹ / ₁₆	1.249 1.247	22 ⁷ / ₈					108 ¹ / ₂
4	20700	3	2	4	7 ³ / ₄		6 ¹ / ₈	4 ¹ / ₄	1 ^¼	2 ^½	2	120	25	108	13	6 ³ / ₄	3 ³ / ₈	22	6	
5	27200		2 ^¼																	7 ⁵ / ₈
6	33500	4	2 ^½	5	7 ⁵ / ₈	7 ⁷ / ₈	5 ³ / ₈	7 ³ / ₄	3	2 ³ / ₈	1.749 1.747		28 ¹ / ₄	104 ³ / ₄	15	8 ³ / ₄	5 ⁵ / ₈	28	8	
7	68200		3	5 ³ / ₄	8 ³ / ₄	9 ¹ / ₈	6 ¹ / ₄	2	3 ¹ / ₂	3	1.999 1.997		32 ¹ / ₂	102 ¹ / ₂	11	3 ^¼	34 ³ / ₄	10 ¹ / ₄		
8	120000	6	4	7 ¹ / ₄	11	14	7 ³ / ₄	2 ¹ / ₄	7 ³ / ₄	3 ³ / ₈	2.499 2.497		31 ¹ / ₄	98	17 ¹ / ₄	11				

Mini Sway Strut

PART# 802



FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Used to restrain movement of piping in one direction while providing for movement due to thermal expansion or contraction in another direction.

FEATURES:

- Assembly provides a shorter C to C dimension.
- Effective under either tensile or compressive force.
- Self-aligning bushings permits a plus or minus 5-degree misalignment or angular motion. Bushings are coated with dry lubricant.

ORDERING: Specify assembly size, part number, name, O.D. or option number, if other than standard, and load.

Ex: Size A-1, Part #802 Mini Sway Strut 10³/₄ O.D. pipe, 650#. Alloy pipe clamps are available as a special order.

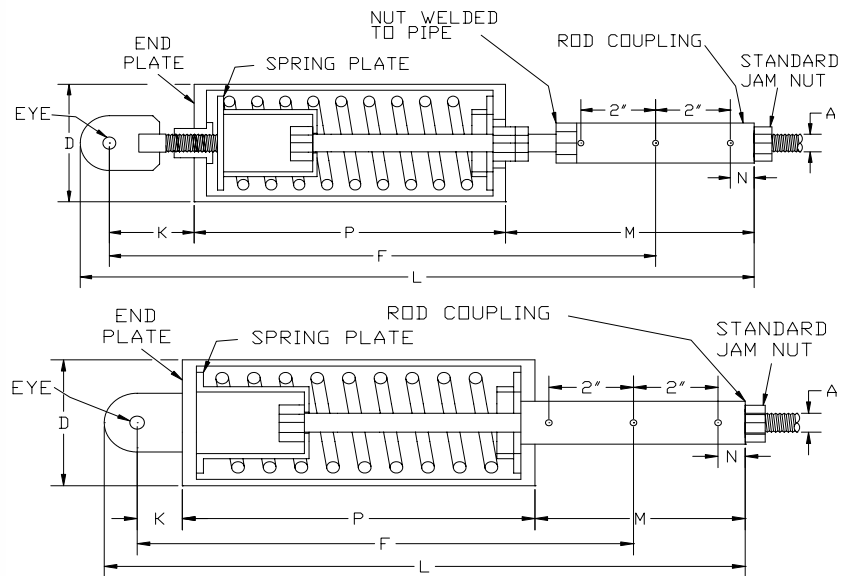
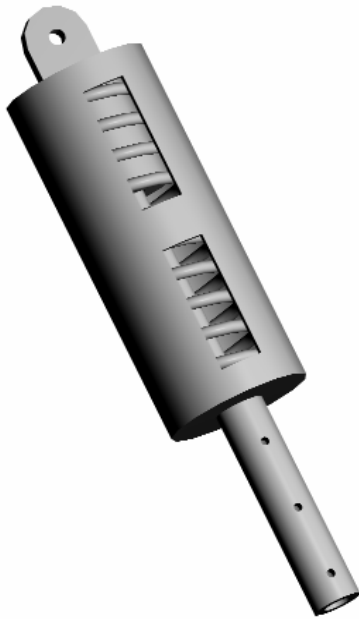
For restraint parallel to the pipe axis using two sway strut assemblies, a riser clamp is available. If a riser clamp is required, consult the nearest RILCO "Support Team" member for assistance and information about this clamp.

Load (lbs) • Weight (lbs) • Dimensions (inches)

Assembly Size	Load	C-C		F		W	Rod End	A	D	D1	N	R	S	T Nom.	B
		Max	Min	Max	Min										
A	A-1	6 ⁵ / ₈	5 ³ / ₈	2 ¹³ / ₁₆	1 ⁹ / ₁₆	2 ⁵ / ₈	³ / ₄	1	2	1 ¹ / ₄	¹ / ₄	⁵ / ₈	⁵ / ₈	³ / ₈	1 ³ / ₁₆
	A-2	8 ¹ / ₂	6 ¹ / ₂	4 ¹ / ₄	2 ¹ / ₄	3 ¹ / ₁₆									
	A-3	13 ¹ / ₄	8 ¹ / ₂	6 ¹ / ₄	1 ¹ / ₂	5 ¹³ / ₁₆									
B & C	BC-1	6 ¹ / ₂	6	2 ⁷ / ₈	2 ³ / ₈	1 ¹ / ₂	1 ³ / ₈	2 ¹ / ₂	2	2 ³ / ₈	⁵ / ₈	1 ³ / ₈	1 ³ / ₈	³ / ₄	2 ¹ / ₈
	BC-2	7 ³ / ₄	6 ⁵ / ₈	3 ¹ / ₂	2 ³ / ₈	2 ¹ / ₈									
	BC-3	8 ¹¹ / ₁₆	7 ⁹ / ₁₆	3 ¹³ / ₁₆	2 ¹¹ / ₁₆	2 ³ / ₄									
	BC-4	10 ¹⁵ / ₁₆	8 ¹¹ / ₁₆	4 ¹⁵ / ₁₆	2 ¹¹ / ₁₆	3 ⁷ / ₈									
	BC-5	15 ⁷ / ₁₆	10 ¹⁵ / ₁₆	7 ³ / ₁₆	2 ¹¹ / ₁₆	6 ¹ / ₈									
	BC-6	19 ⁹ / ₁₆	15 ⁷ / ₁₆	9 ¹ / ₄	5 ¹ / ₈	8 ³ / ₁₆									
1	1-1	8 ⁷ / ₈	8	3 ¹¹ / ₁₆	2 ¹³ / ₁₆	2 ¹⁵ / ₁₆	1 ¹ / ₄	2 ¹ / ₂	2	2 ⁷ / ₈	³ / ₄	1 ⁹ / ₁₆	1 ³ / ₈	1	2 ¹ / ₄
	1-2	10 ⁵ / ₈	8 ⁷ / ₈	4 ⁹ / ₁₆	2 ¹³ / ₁₆	3 ¹³ / ₁₆									
	1-3	11 ⁷ / ₈	10 ¹ / ₄	4 ¹³ / ₁₆	3 ³ / ₁₆	4 ¹³ / ₁₆									
	1-4	15 ¹ / ₈	11 ¹ / ₈	6 ¹ / ₁₆	3 ³ / ₁₆	6 ¹ / ₁₆									
	1-5	21 ⁵ / ₈	15 ¹ / ₈	9 ¹¹ / ₁₆	3 ³ / ₁₆	9 ¹¹ / ₁₆									

PART# 830/831

Vibration Control & Sway Brace



SIZE RANGE: Preload from 50 lbs to 1800 lbs and maximum forces 200 lbs to 7200 lbs.

FINISH: Black, Galvanized, or coated to customer specifications.

APPLICATIONS: Recommended for controlling vibration; absorbing shock, loading; guiding or restraining the movement of pipe resulting from thermal expansion and bracing a pipe line against sway.

SPECIFICATIONS: Fulfills the requirements of the ASME code for Pressure Piping as to fabrication details and materials.

ADJUSTMENT: The sway brace should be in the neutral position when the system is hot and operating, at which time both Spring plates should be in contact with the end plates. If they are not, the sway brace should adjusted to the neutral position by use of the load coupling.

PRELOAD ADJUSTMENT PART # 831: Turn the preload adjustment nut until desired preload is indicated. Turn thrust nut until it is in contact with the spring plate. Lock in position. Indicated deflection must be greater then thermal movement.

FEATURES:

- Vibration is opposed with an instantaneous counter force bringing the pipe back to normal position.
- A single pre-loaded spring provides two-way action.
- One spring valve saves space and simplifies design.
- Spring has 3"-inch travel in either direction.
- Accurate neutral adjustment assured.

APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 50)

ORDERING: Specify part number, name, sway brace size and finish. The RILCO part # 830 and part # 831 consists of the sway brace

Load (lbs) • Weight (lbs) • Dimensions (inches)

Sway Brace Size	Pipe Size	Preload And Spring Scale	Max Force	Weight	Rod Size A	Eye Dia. Hole	D	Length F 830 / 831	K 830 / 831	L 830 / 831	M 830 / 831	N	P 830 / 831	R
1	1 1/2- 24	50	200	22	3/4	1	4 1/2	13 5/8 / 20	1 5/8 / 5 15/16	17 7/8 / 20	6 1/8 / 7 7/8	1	8 7/8 / 9 3/16	1 1/4
2		150	600	25	1			14 3/8 / 20 3/4		18 5/8 / 20 3/4			9 5/8 / 9 15/16	
3		450	1800	36				17 3/4 / 24 1/8		22 / 24 1/8			13 / 13 5/16	
4	6 - 30	900	3600	64	1 1/4	1 1/2	6 5/8	17 / 24 5/16	2 1/4 / 6 9/16	22 5/16 / 24 5/16	6 3/4 / 9 1/4	1 1/2	11 1/2 / 12	1 13/16
5		1350	5400	79	1 1/2			18 1/2 / 25 13/16		23 13/16 / 25 13/16			13 / 13 1/2	
6		1800	7200	95				20 1/2 / 27 13/16		25 13/16 / 27 13/16			15 / 15 1/2	



NOTES:

Grinnell To RILCO Conversion Chart

Beam Clamps & Attachments	Grinnell	RILCO Part #
Concrete Pin Lug	49	101
Concrete Rod Attachment	52	102
Beam Lug Attachment	54	104
Beam Lug Attachment (single Hole)	55	105
Concrete Attachment Single Lug	47	106
Washer Plate	60	110
Welded Beam Attachments	66	100
Beam Clamps	133	125
Beam Clamp Heavy Duty	134	126
Steel Rod Couplings (with Sight Hole)	135	281
Standard U-Bolt	137	700
Machine Threaded Rods (RH)	140	200
Hanger Rods Continuous Thread	146	205
Hanger Rod With Eye End	148	235
Pipe Covering Protection Saddle (1")	160	600
Pipe Covering Protection Saddle (1-1/2")	161	601
Pipe Covering Protection Saddle (2")	162	602
Pipe Covering Protection Saddle (2-1/2")	163	603
Pipe Covering Protection Saddle (3")	164	604
Pipe Covering Protection Saddle (4")	165	605
Insulation Shield	167	615
Horizontal Traveler	170	580
Single Pipe Roll Support	171	545
Roller Chair	175	535
Adjustable Pipe Roll Support	177	540
Spring Cushion Hanger	178	550
Adjustable Steel Yoke Pipe Roll	181	536
Adjustable Pipe Stanchion Saddle	191	662
Adjustable Pipe Saddle Support	192	664
Steel Brackets Light -Weight	194	400
Steel Brackets Medium Duty Welded	195	410
Steel Brackets Heavy Duty Welded	199	420
Hydraulic Shock And Sway Suppressor	200	CONTACT RILCO
Sway Strut	211	800
Medium Pipe Clamps	212	300
Heavy Steel Pipe Clamps	216	305
Mini-Sway Strut	222	802
Alloy Steel Pipe Clamps	224	320
Turnbuckle	230	285
Turnbuckle	233	280
Lateral Strap	242	710
Round Strap	243	711
Heavy Duty Alloy Steel Pipe Clamps	246	325



Grinnell To RILCO Conversion Chart

Beam Clamps & Attachments	Grinnell	RILCO Part #
Eye rods (RH)	248	220
Machine Threaded Rods (RH,LH)	253	210
Pipe Alignment Guide	255	680
Pipe Alignment Guide	256	690
Pipe Slide Assemblies	257	630
Pipe Stanchion Saddle	265	660
Clevis Hanger	260	381
Riser Clamp (Light Duty)	261	360
Adjustable Pipe Saddle Support	264	650
Pipe Roll Stand	271	500
Pipe Roll & Axle (Only)	272	501
Pipe Roll (Only)	273	502
Adjustable Pipe Roll Stand & Base Plate	274	510
Welded Eye Rods (RH)	278	225
Weldless Eye Nut (RH)	290	295
Clevis pin With Cotters	291	289
Double Bolt Pipe Clamps	295	310
Vibration Control And Sway Brace	296	830
Forged Steel Clevis	299	290
Clevis Hanger Insulated	300	382
Vibration Control And Sway Brace (W/ Adjustable Preload)	301	831
Sway Strut (Field Alterable)	640	801
Limit Stop	1306	CONTACT RILCO
Limit Stop (W/ Extension)	1307	CONTACT RILCO
Pipe Covering Protection Saddle (4" Alloy)	165A	605A
Pipe Covering Protection Saddle (5-1/2" Alloy)	166A	606A
Eye Rods (LH)	248L	221L
Linked Eye Rods (Not Welded)	248X	222
Welded Eye Rods (LH)	278L	226L
Linked Eye Rods (Welded)	278X	230
Weldless Eye Nut (LH)	290L	296
Alloy Double Bolt Pipe Clamps	295A	310A
Heavy Duty Double Bolt Pipe Clamps	295H	315
Riser Clamp (Non-Standard)	40SD	362
Non-Standard Three Bolt Pipe Clamp	41SD	363
Non-Standard Two Bolt Pipe Clamp	42SD	364
Riser Clamp	40	361
Channel Assembly	45	440
Single Lug	47	106

STANDARD TERMS AND CONDITIONS

Terms and Conditions: followed by Special Terms & Conditions.

1) **CONTROLLING PROVISIONS.** This document (both pages) entitled "Standard Terms and Conditions" and the attached pricing proposal (which is incorporated herein for all purposes) are collectively referred to herein as the "Proposal." This Proposal, when submitted by the corporation identified as "Seller" on the attached pricing proposal or its authorized representatives (collectively, "Seller") and accepted by the person or entity identified as "Buyer" on the attached pricing proposal or his or its authorized representatives (collectively, "Buyer"), whether such acceptance is oral or in writing, by submission of a purchase order or purchase order number, by acceptance of a product, by commencement of performance hereunder, or by any other means, shall constitute the entire agreement between Buyer and Seller concerning its subject matter, and supercedes all prior agreements and understandings related thereto. Buyer's acceptance of this Proposal is expressly limited to the terms contained herein and no waiver, alteration, modification, amendment, or supplementation of, or conflict with, any provision in this Proposal, whether on Buyer's purchase order, by custom or practice, or otherwise, shall be valid unless such waiver, alteration, modification, amendment, supplementation, or conflict i) is specifically accepted in writing by Seller and signed by an authorized representative of Seller, and ii) specifically states in an obvious and conspicuous manner that it alters, amends, modifies, or supplements (as the case may be) this Proposal. This Proposal shall be governed by the laws of the State of Texas, excluding choice of law rules.

2) **DELIVERY.** Seller shall make a good faith effort to complete delivery of the products described on the attached pricing proposal, but Seller assumes no responsibility or liability, and will accept no back-charge or reduction in price, for loss or damage due to delay or inability to deliver caused by acts of God, war, labor difficulties, accident, delays of carriers, contractors or suppliers, inability to obtain materials, shortages of fuel and energy, or any other causes of any kind whatsoever beyond the control of Seller. Seller may terminate any agreement for sale of its products and/or services without liability of any nature to Seller by written notice to Buyer, if the delay in delivery or performances resulting from any of the aforesaid causes shall continue for a period of sixty (60) days or more. Under no circumstances shall Seller be liable for any special, consequential, incidental, or punitive damages or for loss, damage, or expense (whether based on negligence or any other form of liability) directly or indirectly arising from any delay or failure to give either notice of delay or notice of termination of an agreement or order. Under no circumstances shall Buyer be entitled to specific performance.

3) **WARRANTY.** Seller warrants, for one year from the date of shipment of any product manufactured by Seller, that Seller shall replace, correct, or, at its election, refund the net sales price of such manufactured product; provided Seller concludes, after its examination, that such manufactured product contains defects in materials or workmanship, does not conform to the specifications, drawings, or other descriptions supplied by Buyer, and cannot be used for the purpose and in the manner which Seller recommends. EXCEPT AS EXPRESSLY SET FORTH IN THIS PARAGRAPH, ALL PRODUCTS AND/OR SERVICES PROVIDED BY SELLER AND ITS EMPLOYEES AND AGENTS ARE PROVIDED "AS-IS," "WHERE-IS," AND "WITH ALL FAULTS" AND BUYER ACKNOWLEDGES THAT SELLER HAS NOT MADE, DOES NOT MAKE, AND SPECIFICALLY NEGATES, RENOUNCES, AND DISCLAIMS ANY REPRESENTATIONS, WARRANTIES, PROMISES, COVENANTS, AGREEMENTS, AND/OR GUARANTIES OF ANY KIND OR CHARACTER, EXPRESS OR IMPLIED, WITH RESPECT TO (1) THE PRODUCTS SOLD, THEIR MERCHANTABILITY, THEIR PHYSICAL CONDITION, THEIR FITNESS FOR A PARTICULAR PURPOSE, (2) THE MAINTENANCE OR OTHER EXPENSES TO BE INCURRED IN CONNECTION WITH THE PRODUCTS, (3) THE ENGINEERING, DESIGN, OR FABRICATION WORK OR ANY OTHER WORK OR SERVICE (WHETHER GRATUITOUS OR FOR PAYMENT) SUPPLIED BY SELLER AND/OR ITS AGENTS, SUPPLIERS, AND EMPLOYEES, AND (4) THE ACCURACY OR RELIABILITY OF ANY INFORMATION, DESIGNS, OR DOCUMENTS FURNISHED TO PURCHASER. SELLER NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY OTHER OBLIGATION IN CONNECTION WITH THIS PROPOSAL, INCLUDING, WITHOUT LIMITATION, THE SALE OF ITS PRODUCTS AND/OR RENDERING OF ITS SERVICES. THIS WARRANTY SHALL NOT APPLY TO ANY PRODUCTS OR PARTS OF PRODUCTS WHICH (1) HAVE BEEN REPAIRED OR ALTERED OUTSIDE OF SELLER'S FACTORY, IN ANY MANNER, (2) HAVE BEEN SUBJECT TO MISUSE, NEGLIGENCE, OR ACCIDENTS, (3) HAVE BEEN USED IN A MANNER CONTRARY TO SELLER'S INSTRUCTIONS, RECOMMENDATIONS, OR SPECIFICATIONS (IF ANY), (4) CONTAIN DESIGN OR MANUFACTURING ERRORS AS A RESULT OF INACCURATE, INCOMPLETE, OR MISLEADING INFORMATION OR SPECIFICATIONS SUPPLIED BY BUYER OR ITS EMPLOYEES OR AGENTS, OR (5) HAVE BEEN PRODUCED OR MANUFACTURED (IN WHOLE OR IN PART) BY PERSONS OTHER THAN SELLER.

4) **SELLER'S LIABILITY.** SELLER'S LIABILITY FOR BREACH OF THE WARRANTY IN PARAGRAPH 3 SHALL BE EXPRESSLY LIMITED TO AND SHALL NOT EXCEED THE NET SALES PRICE OF THE DEFECTIVE PRODUCT(S), AND NO ADDITIONAL ALLOWANCE SHALL BE MADE FOR THE LABOR OR EXPENSE OF REPAIRING OR REPLACING DEFECTIVE PRODUCTS OR WORKMANSHIP OR DAMAGE RESULTING FROM THE SAME. SELLER SHALL NOT BE LIABLE FOR ANY LOSS, DAMAGE, COST OF REPAIRS, OR INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, OF ANY KIND, WHETHER BASED UPON WARRANTY (EXCEPT FOR THE LIMITED OBLIGATION SET FORTH IN PARAGRAPH 3), CONTRACT, NEGLIGENCE, OR ANY OTHER TORT OR CAUSE OF ACTION, ARISING IN CONNECTION WITH THIS PROPOSAL AND/OR THE DESIGN, MANUFACTURE, INSTALLATION, SALE, TRANSPORTATION, USE, OR REPAIR OF THE PRODUCTS OR OF THE INFORMATION, DESIGNS, SERVICES, OR OTHER WORK SUPPLIED TO BUYER.

5) **INFRINGEMENT.** Buyer shall indemnify, defend, and hold Seller harmless against all claims, causes of action, and liability and expense incurred by Seller and its agents and employees, in connection with any alleged infringement of any patent, copyright, trademark, or other intellectual property or proprietary information resulting from or arising in connection with this Proposal, including, without limitation, any claims, causes of action, and liability and expense arising from or occurring in connection with the design, manufacture, sale, installation, use, or repair of Seller's products and/or the use or dissemination of any designs, drawings, plans, specifications, or other documents, information, or services used by Buyer and/or Seller. The provisions of this Paragraph 5 shall survive the termination of this Proposal.

6) **INDEMNITY.** Except as expressly set forth in Paragraph 3, and to the maximum extent permitted by applicable law, Buyer shall defend, indemnify, and hold harmless Seller and its agents and employees against any loss, damage, claim, suit, liability, judgment, and expense (including, without limitation, attorney's fees) arising out of or in connection with the injury, disease, or death of persons (including, without limitation, Buyer's and Seller's employees and agents) or damage to or loss of any property or the environment or violation of any applicable law of any governmental authority resulting from or in connection with this Proposal and/or the design, manufacture, sale, transportation, installation, use, or repair of the products or of the information, designs, services, or other work supplied to Buyer, whether caused by the concurrent and/or contributory negligence of Buyer, Seller, or any of their agents, employees, or suppliers. The obligations, indemnities, and covenants contained in this Paragraph 6 shall survive the termination of this Proposal.

7) **CONFIDENTIAL INFORMATION.** Buyer shall hold in confidence and not disclose (without the prior written approval of Seller, except that such prior written consent shall not be necessary under any circumstances in which such disclosure is required by law) or use for its own benefit or otherwise disseminate any confidential information. As used herein, confidential information shall include, without limitation, i) all plans, designs, blueprints, and specifications of Seller and its agents and suppliers, ii) all design, manufacturing, construction, and installation processes and techniques of Seller and its agents and suppliers, and iii) all patents, copyrights, trademarks, intellectual property, and other proprietary information produced, used, or owned by Seller or its agents or suppliers. Buyer shall indemnify and hold Seller and its agents and employees harmless for any failure to conform or breach of any provision in this Paragraph 7. If it is determined by a court of competent jurisdiction that any provision of Paragraphs 3 through 7 hereof is declared invalid, illegal, or unenforceable in any respect, such provision shall automatically be amended to conform to the maximum monetary limits and other legal limits and to the maximum amount of time allowed by applicable law. The obligations, indemnities, and covenants contained in this Paragraph 7 shall survive the termination of this Proposal.

8) **INSPECTION AND ACCEPTANCE.** Buyer shall have seven (7) days from the date Buyer receives such products to (i) inspect such products and services and (ii) notify Seller, in writing, of any non-conformance or rejection of such products. After such seven (7) day period, Buyer shall be deemed to have accepted the products, unless Buyer has already accepted the products in a manner provided in Section 2.606 of the Texas Business and Commerce Code. After such acceptance, Buyer shall have no right to reject the products for any reason or to revoke acceptance of any non-conforming products, except as specifically provided in Section 2.608 of the Texas Business and Commerce Code; it being agreed by both parties that such seven (7) day period is a reasonable amount of time for such inspection and revocation. Without affecting the preceding limitation, where engineering, design, or fabrication work or other service is supplied by Seller, Buyer's acceptance of Seller's design or delivery of such work or service shall relieve Seller of all further obligations, except for the limited warranty set forth herein. If Buyer rejects any product or service, Seller shall have forty-five (45) days to cure such defect or non-conformance. Buyer shall have no right to (i) order any change or modification to any product or service previously ordered by Buyer or its representatives, or (ii) terminate this Proposal, without Seller's written consent and without prior payment to Seller of all charges, expenses, commissions, and reasonable profits owed to or incurred by Seller.

9) **SHIPMENTS.** The cost of any special packing or special handling caused by Buyer's requirements or requests shall be added to the amount of the purchase price. If Buyer causes or requests a shipment delay, or if Seller ships or delivers the products erroneously as a result of inaccurate, incomplete, or misleading information supplied by Seller or its agents or employees, storage and all other additional costs shall be borne solely by Buyer. No claim for shortages shall be allowed unless made in accordance with Paragraph 8, and Seller's count shall be accepted as conclusive on all shipments. Claims for products damaged or lost in transit shall be made on the carrier, as Seller's responsibility ceases, and title passes to Buyer, on delivery to the Carrier.

10) **DEFAULT.** If Buyer breaches any provision hereof, or becomes insolvent, enters bankruptcy, receivership, or other similar proceeding (whether voluntarily or involuntarily), or makes an assignment for the benefit of its creditors, Seller shall have the right, in addition to any other right or remedy it may have hereunder or by law, to (i) defer shipment of any product, or (ii) terminate this Proposal by giving Buyer written notice. If Seller terminates this Proposal as provided herein, (i) Seller shall be released from all further obligations hereunder, and (ii) Buyer shall pay Seller, within thirty (30) days from the date Seller terminates this Proposal, the full value for all products and services previously delivered, for all costs and expenses incurred by Seller in attempting to complete this Proposal, and for all costs and expenses (including attorney's fees and collection costs) incurred by Seller as a result of Buyer's breach.



STANDARD TERMS AND CONDITIONS

11) **PRICES AND DESIGNS.** Prices and designs are subject to change without notice. All prices are F.O.B. Point of Shipment, unless otherwise stated by Seller in writing. All prices apply only to the specific products described on the attached pricing proposal.

12) **TAXES.** The amount of any sales, excise, or other taxes, if any, applicable to the products and services covered herein shall be added to the purchase price and shall be paid by Buyer unless Buyer provides Seller with an exemption certificate acceptable to Seller.

13) **TERMS.** Cash, net 30 days unless otherwise specified in writing by Seller. Buyer absolutely and unconditionally guarantees to Seller prompt payment, when due, of all amounts owing Seller. Seller may decline to make deliveries under this proposal and may withdraw any credit or payment terms and demand payment for any amount owed by Buyer to Seller, whenever Seller, for any reason, doubts Buyer's ability to pay and Seller advises Buyer, in writing. In addition to the Remedies contained in Paragraph 10, if Buyer fails to perform any of the terms of this Proposal, Seller shall have the right to defer shipments until such default is cured or lien project.

14) **ARBITRATION and Venue.** In the event of any dispute between Seller and Buyer in connection with this Proposal, the design, manufacture, sale, transporting, use, installation, or repair of the products provided, or the services provided, such dispute shall be settled by arbitration at the request of either party. To institute such arbitration proceedings, the party desiring to institute the arbitration procedure shall notify the other party and in such notice designate the first arbitrator. If the first arbitrator is acceptable to the other party, the other party shall so notify the first party within ten (10) days and the first arbitrator shall proceed to determine the dispute within twenty (20) days thereafter. If the first arbitrator is not acceptable, then within ten (10) days of notification of the name of the first arbitrator, the second party shall designate in writing a second arbitrator. If a second arbitrator is designated, the two arbitrators shall meet and select a third arbitrator and the three arbitrators shall determine the matter and dispute within twenty (20) days from the date of the designation of the second arbitrator. Failure of the two initial arbitrators to select a third arbitrator within ten (10) days, shall entitle either party to apply to an appropriate court for appointment of the third arbitrator. All arbitrators shall be licensed attorneys with at least five (5) years experience in business and/or commercial transactions.

The decision of the arbitrator or arbitrators shall be binding and conclusive on the parties hereto. The fees and expenses of the arbitrator appointed by each party shall be the responsibility of that party. If only one arbitrator is used, or with respect to the third arbitrator, the fees and expenses of such sole or third arbitrator, as the case may be, shall be borne equally by the parties. Any arbitrator designated to serve pursuant hereto shall not be an affiliate of any of the parties hereto. Any arbitration carried out pursuant to this Proposal shall be conducted in accordance with the Federal Arbitration Act and the applicable rules of the American Arbitration Association. The arbitrator(s) shall allow the production of all documents which form the basis of the dispute, as well as all supporting documentation reasonably necessary to explain the documents in dispute. No hearings or other discovery shall be allowed unless the arbitrator(s), in his or their sole opinion, deems it necessary for the arbitration. All the hearings and proceedings held and all investigations and actions taken by the arbitrator shall take place in the city in which the principal offices of Seller are located (as of the date of this Proposal, the principal offices of Seller are located in Houston, Harris County, Texas). Judgment upon any award rendered by the arbitrator or arbitrators may be entered in any court having jurisdiction thereof. While the fees and expenses of the arbitrators shall be apportioned as set forth above, the losing party will pay the prevailing party's attorneys' fees and other costs.

15) **INVALID PROVISIONS.** If any provision hereof is held to be illegal, invalid, or unenforceable under present or future laws effective during the term hereof, such provision shall be fully severable; this Proposal shall be construed and enforced as if such illegal, invalid, or unenforceable provision had never comprised a part hereof; and the remaining provisions here shall remain in full force and effect and shall not be affected by the illegal, invalid, or unenforceable provisions or by its severance herefrom.

16) **COSTS.** Except as specifically provided in Paragraph 14, the prevailing party in any dispute between the parties to this Proposal, arising out of the interpretation, application, or enforcement of any provision of this Proposal, shall be entitled to recover all of its reasonable attorneys' fees and costs, whether suit be filed or not.

17) **PAST DUE ACCOUNTS.** Buyer agrees to pay Seller the maximum lawful rate allowed by applicable state and federal law on all past due accounts.

18) **ASSIGNMENT.** This Proposal shall not be assigned by Buyer without the prior written consent of Seller.

19) **WAIVER.** A waiver by Seller of any provision of this Proposal or of any right or remedy shall not constitute a waiver of any other provision, right, or remedy.

20) **SECTION HEADINGS.** The section headings in this Proposal are for convenience only and shall have no meaning or effect.

Special Commercial Terms & Conditions:

Escalation-Prices for Raw material are quoted based on market price at time of quote. RILCO reserved the right to adjust final price of products based on changes in cost of raw materials due to mill surcharges at time of material delivery with proper documentation.

Late Payments-RILCO terms are offered based on timely payment of invoices. RILCO reserves the right to charge a late fee for payments 10 days past terms offered. RILCO reserves the right to hold shipments of goods if an account is past due until account been paid and is current. RILCO reserves the right to discontinue our offered terms if and account is not paid according to offered terms.

Liquidated Damages-RILCO does not accept liquidated damages for later delivery due to engineering changes, engineering review or other items beyond our direct control.

Credit-Credit is offered subject to credit approval.

Delivery-Quoted delivery schedule is based on production workload at time of proposal. RILCO reserves the right to provide a formal production schedule at time of order placement due to material availability and shop work load at time of order placement

We are currently basing our production on controlled order acceptance. This basically means that we are going to review each order on the date it is received for all conditions such as delivery requirements, payment terms, and material availability before we accept an order for manufacturing.

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RILCO's global headquarters, in Houston, Texas, is currently situated on over 225,000 square feet of manufacturing and office space at two locations. Each facility was specially designed and laid-out utilizing large bays for steel fabrication, including multiple fit-up and welding stations, in house blasting and painting as well as a separate assembly and packing area providing us with the capabilities to process jobs ranging from the simple to the most complex. We are ready and willing to provide you with *"All the Support You Need"* for your most important project.

Our state of the art steel fabrication equipment at Brittmoore Park and Irvington includes:

Press Breaks

One- Four Hundred Ton Capacity Sixteen Foot and;
One- Two Hundred Ton Capacity Ten Foot Press Breaks

Ironworkers

One- One Hundred Ton Capacity 6' x 6' x 1/2" angle and;
One- One Hundred Ton Capacity 1-1/2" x 12' flat bar



Shears

Two- 1/2" x 10'

Rolls

Two- 1/2" x 5' and;
Two- 1/4" x 4' and;
One- 1-1/2" x 6' and;
One- 1/2" x 10'

Plasma Burners

One-20' x 90' and;
One-10' x 40'

Saw Cutters

Three- capable of cutting up to 24" wide beams

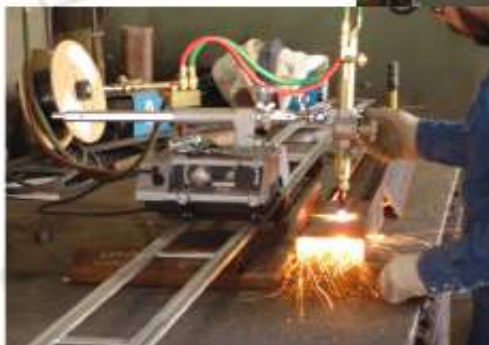
Punch Press

One-80 Ton Capacity



Overhead Cranes

Five-10 Ton Capacity and;
One-15 Ton Capacity



**Multiple welding and fit-up stations
as well as blasting and painting booths.**



RILCO Manufacturing Company, Inc.

11435 Brittmoore Park Drive, Houston, Texas 77041

(713) 466-4777, Fax (713) 466-6547

Toll Free 1-800-787-8024 Web: www.Rilcomfg.com