RILCO

Manufacturing Company, Inc.

2017 Catalog

Hardware - Variable Springs - Constant Supports

12700 Tanner Road Houston, Texas USA 77041 Phone No: (713) 466-4777 Fax No: (713) 466-6547 www.rilco.com

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 corrosion 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 Mathcad ACAD Visual Basic Gateway

Engineered Products:
Variable & Cam Roller™ Constant 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
CryoWrap™ & PyroWrap™ Pre-Insulated Pipe Shoes
Isolation Blocks
Permali Block
Calcium Silicate Insulation
Micarta™ Blocks, Sleeves, and Washers
Polyurethane Foam of 6 lb, 8 lb, 10 lb, 20 lb & 30 lb Density
Marinite™
FOAMGLAS® Insulation

Fabric Expansion Joints:
Insulcon Fabric Compensators and Multi-Bellows

Fabricated Pipe Supports:
Non-Insulated Pipe Shoes, Anchor and Guides Stanchions (Rigid or Adjustable) Adjustable Pipe Supports
Structural Pipe Supports Manufactured to Your Specifications

Slide Plates:
PTFE, 25% Glass Filled Stainless Steel Graphite

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

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

Initial certification date:
09, January, 2004

Valid:
16, March, 2016 - 15, September, 2018

This is to certify that the management system of

Rilco Manufacturing

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 9001:2008

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, 09, March, 2016

ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY

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

John C. Stefan
Management Representative

THE RILCO PROMISE

The present line of Rilco pipe hangers and supports are the result of over thirty-five years of experience in the industrial piping field. Our large, complete line includes pipe hangers and 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 : Beam Clamps and Attachments

Section 2 : Rods and Accessories

Section 3 : Pipe Clamps

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Medium Pipe Clamp
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Heavy Pipe Clamp
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Pipe Clamp
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Pipe Clamp
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Steel Bracket
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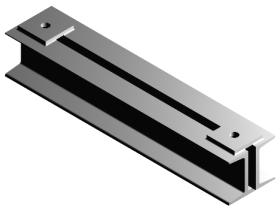
PART # 420
Heavy Welded
Steel Bracket
Pg. 4-4



PART # 440
Channel Assembly
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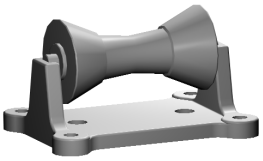
Section 5 : Pipe Rollers



PART # 500
Pipe Roll/Stand
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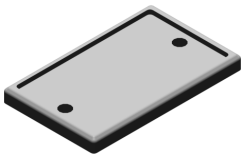

PART # 510
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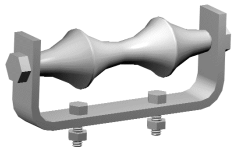

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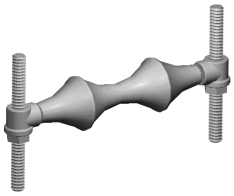

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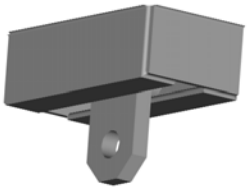

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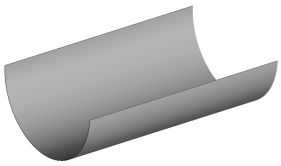

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Pipe Alignment Guide: Medium Duty
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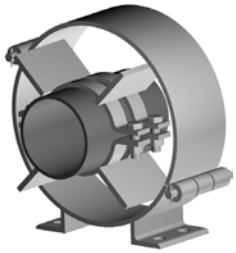

Part # 690
Pipe Alignment Guide: Heavy Duty
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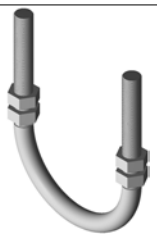

Part # 700
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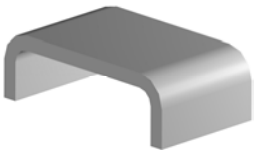
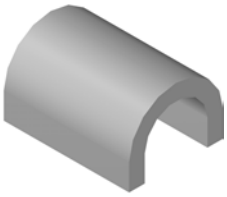


Part # 711
Pipe Strap
Pg. 7-3



Part # 712
Protection Saddle
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Section 8 : Sway Struts and Sway Braces

Part # 800/801
Sway Strut / Sway Strut Field Alterable
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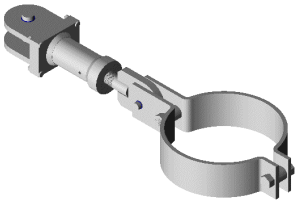

Part # 802
Mini Sway Strut
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Part # 830/831
Vibration Control and Sway Brace
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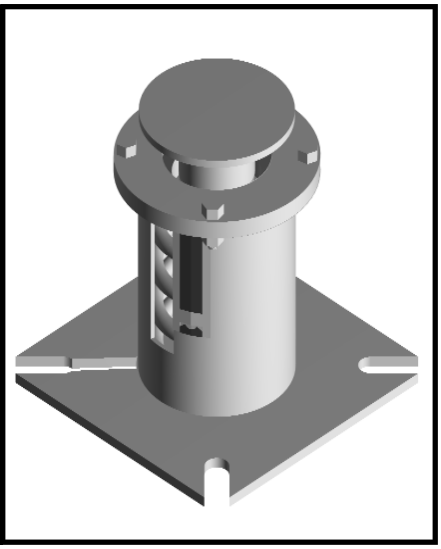
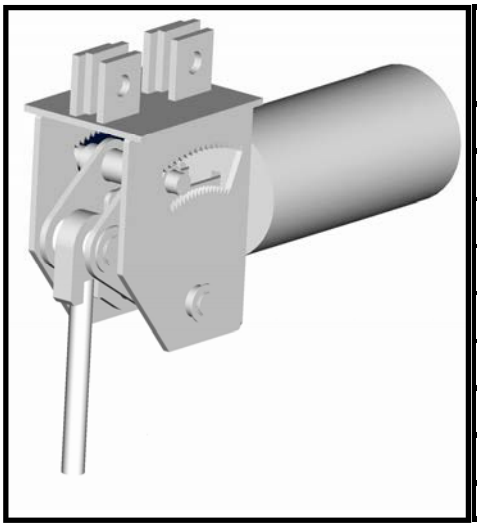
Section 9 : Variable Springs

Types	Figure, and Numbers	Sizes
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



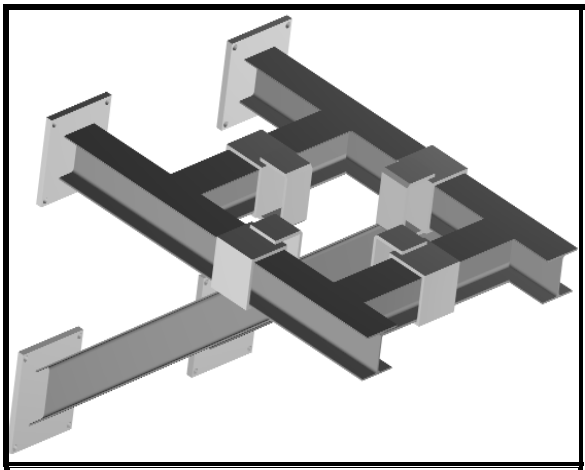
Section 10 : Constant Supports

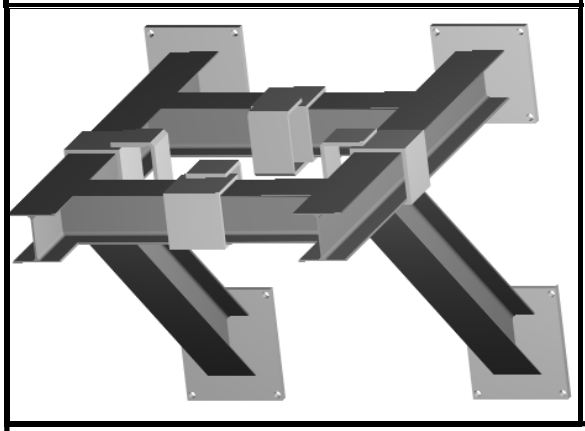


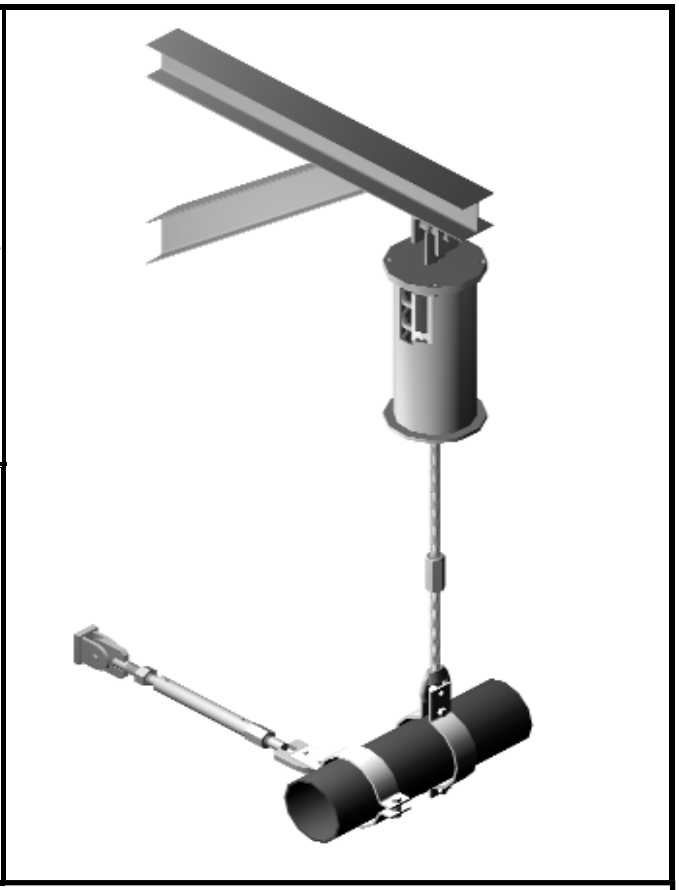
Types	Figures	Sizes
A	RCS 80V, RCS 81H	1-110
B	RCS 80V, RCS 81H	1-110
C	RCS 80V, RCS 81H	1-110
D	RCS 80V, RCS 81H	1-110
E	RCS 80V, RCS 81H	1-110
F	RCS 80V, RCS 81H	1-110
G	RCS 80V	1-110
UPTHRUST	RCS 81H	1-63
Designs available for non-standard loads or dimensions		

Applications and Combinations

Fabricated Steel





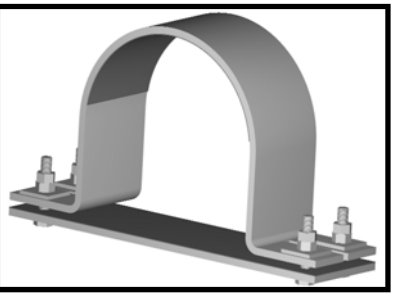


Fabricated Steel is Rilco designed and manufactured to meet your specifications using commercially available and fabricated members in a wide range of materials and plate thicknesses.

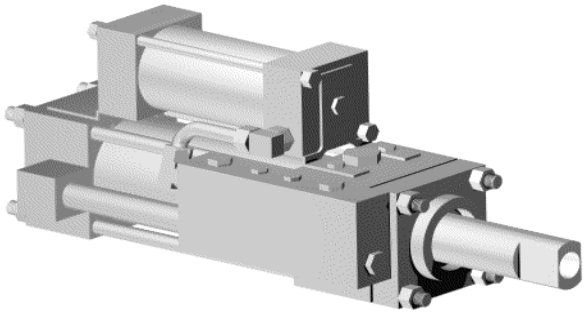
Hold Down Clamps

Guide and capture applications. Available for all pipe sizes, materials and finishes. Built to customer specifications.

Can be supplied with Teflon®
liners and slide plates and/or vibration dampening materials.

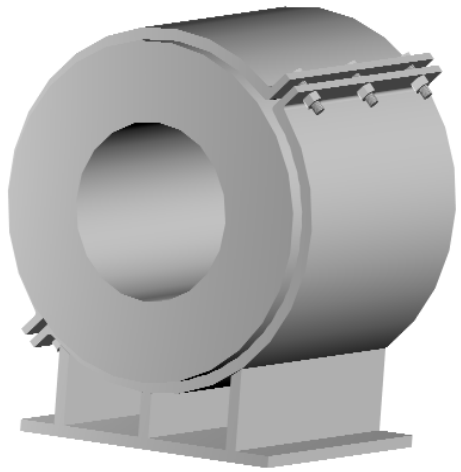


Hydraulic Snubber



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

High Temperature Supports



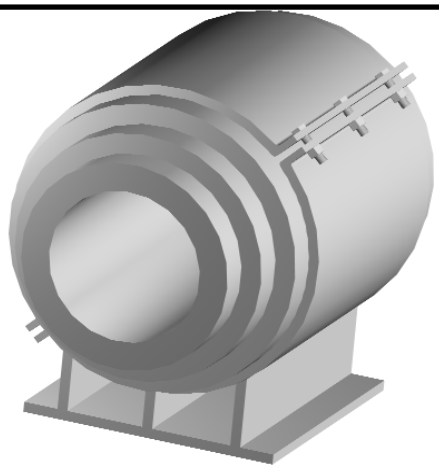
Temperatures up to 1200° F
Applications for guides, resting, anchors, hangers, insulation blocks, riser clamps, and trunnion supports.
Available in all pipe sizes and insulation thicknesses.
Select from Rilco standard supports or custom designed per customer specifications.

Catalog Available for Insulated Pipe Supports
(713) 466-4777 www.rilco.com

Low Temperature 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 thicknesses.
Select from Rilco standard supports or custom designed per customer specifications.

Catalog Available for Insulated Pipe Supports
(713) 466-4777 www.rilco.com



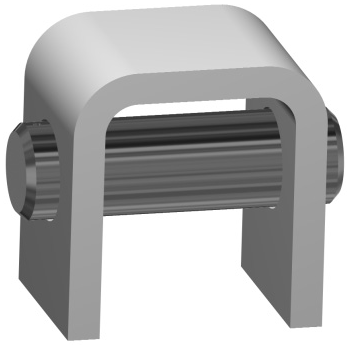
NOTES:

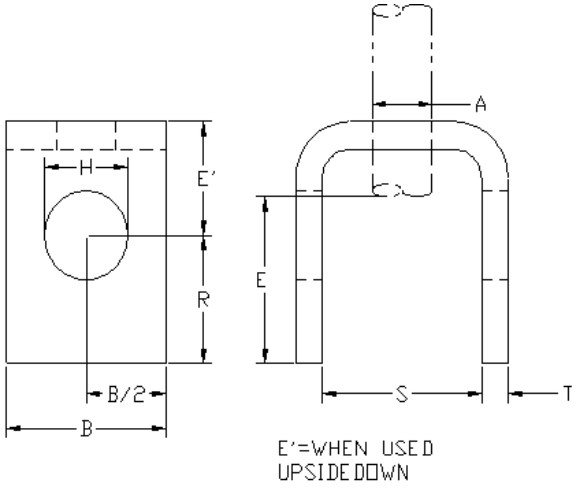
Section 1

Table of Contents
Beam Clamps & Attachments

Part # 100

Beam Attachments
Welded Beam Attachment





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.

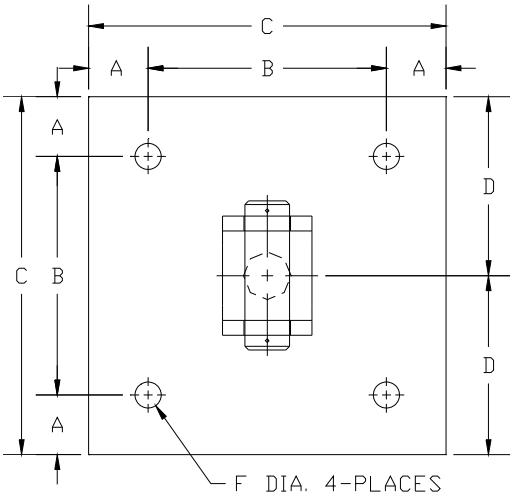
Loads (lbs) • Weights (lbs) • Dimensions (inches)

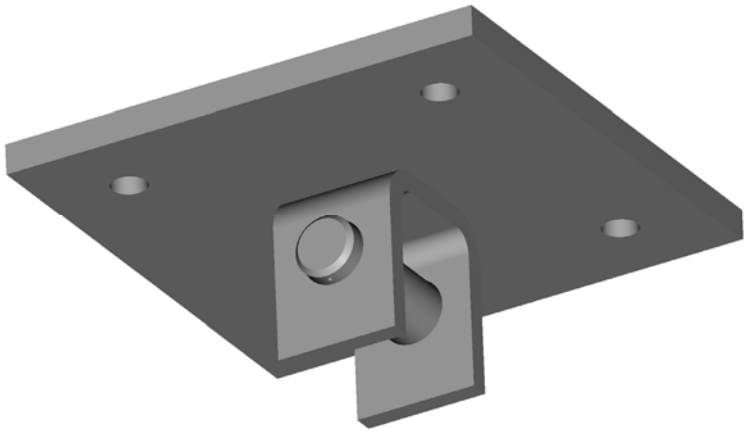
Rod Size A	*Bolt Size	*Maximum Load		Weight		Rod Take-off		B	H	R	S	T
		650 F	750 F	Without bolt and nut	With bolt and nut	E	E'					
3/8	1/2 X 2 1/2	730	572	0.96	1.20	1 7/8	2	2	9/16	7/8	1 1/4	1/4
1/2	5/8 X 2 1/2	1350	1057	0.96	1.30	1 3/4	2	2	11/16	7/8	1 1/4	1/4
5/8	3/4 X 2 3/4	2160	1692	0.96	1.60	1 3/4	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

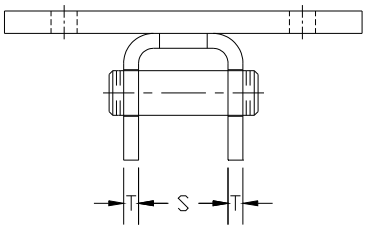
** 1 1/4″ and larger are made with welded joints and comes with cotter pins
* Based on the allowable stresses shown in the ASME Code for Pressure Piping

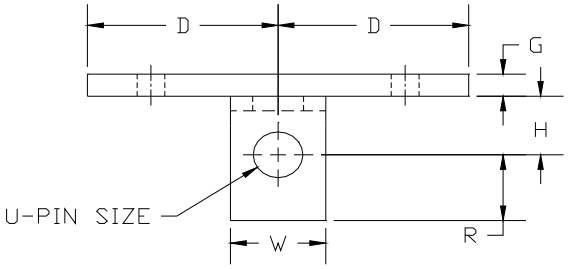
Concrete Attachments
Concrete Pin Lug

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.

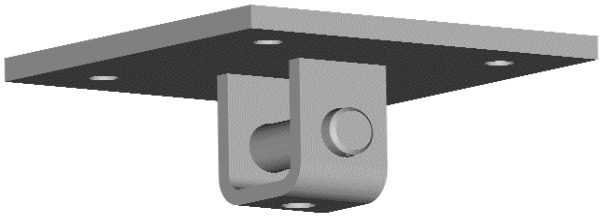
Loads (lbs) • Weights (lbs) • Dimensions (inches)

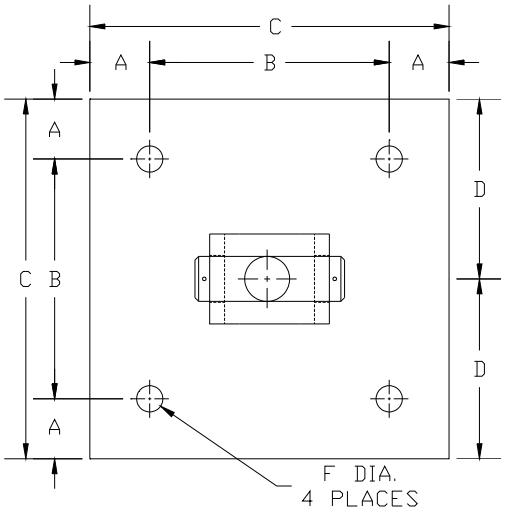
Rod Size	*Maximum Load	Weight	A	B	C	D	F	G	H	R	T	U	W
3/8	730	11.8	1	8	10	5	9/16	3/8	2	7/8	1/4	1/2	2
1/2	1350	11.9	1	8	10	5	9/16	3/8	2	7/8	1/4	5/8	2
5/8	2160	15.7	1	8	10	5	9/16	1/2	2	7/8	1/4	3/4	2
3/4	3230	16.9	1	8	10	5	11/16	1/2	2	1 1/8	3/8	7/8	2 1/2
7/8	4480	18.1	1	8	10	5	11/16	1/2	3	1 1/4	3/8	1	2 1/2
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

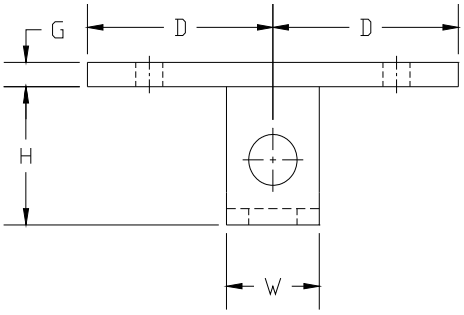
*Based on allowable stresses shown in the ASME Code for Pressure Piping.

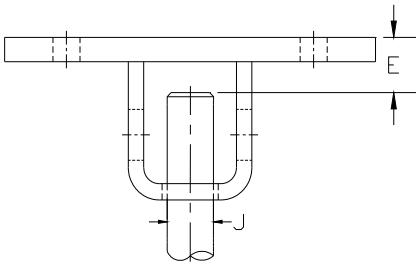
Part # 102

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.

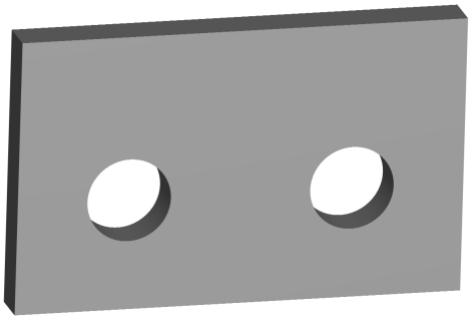
Loads (lbs) • Weights (lbs) • Dimensions (inches)

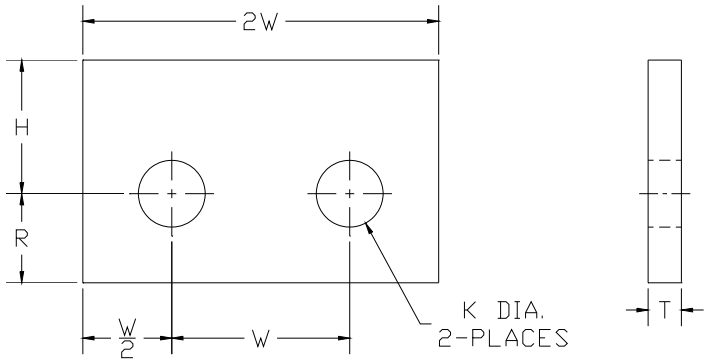
Rod Size J (inches)	*Maximum Recommended Load (lbs)	Weight (approx) lbs each	A	B	C	D	E	F	G	H	W
3/8	730	11.6	1	8	10	5	2 1/4	9/16	3/8	2 7/8	2
1/2	1350	11.6	1	8	10	5	2 1/8	9/16	3/8	2 7/8	2
5/8	2160	15.1	1	8	10	5	2 1/4	9/16	1/2	2 7/8	2
3/4	3230	16.1	1	8	10	5	2 1/4	11/16	1/2	3 1/8	2 1/2
7/8	4480	16.7	1	8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

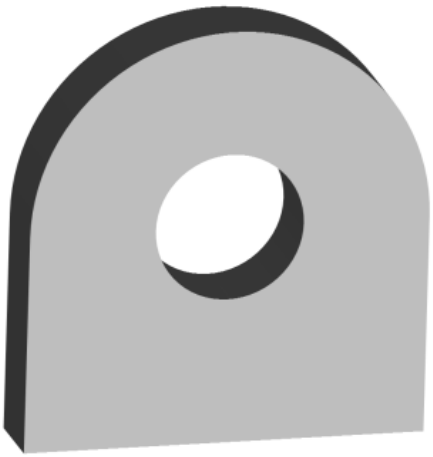
Loads (lbs) • Weights (lbs) • Dimensions (inches)

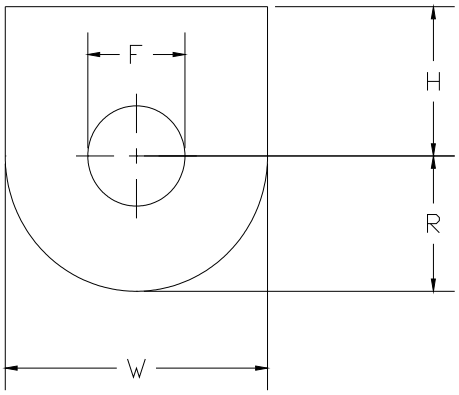
Rod Size	*Maximum Load	**Weight "H" Dimension				***Rod Take-out "H" Constant Support Frame Sizes				Pin or Bolt	K Hole	R	T	W	2W	W/2
		1 1/2	2	3	4											
1/2	1350	1.4	1.7	2.2	-	1 1/2	1 1/2	3	-	5/8	11/16	1 1/4	3/8	2 1/2	5	1 1/4
5/8	2160	1.4	1.6	2.2	-	1 1/2	1 1/2	3	-	3/4	13/16	1 1/4	3/8	2 1/2	5	1 1/4
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

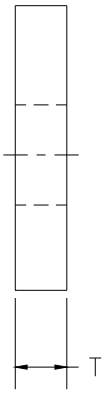
* Based on the allowable stresses shown in the ASME Code for Pressure Piping
** Select "H" Dimension Applicable to Constant Support Frame Size
*** Weight varies with "H" dimension

Part # 105

Structural Attachments
Beam Lug Attachment Single 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.

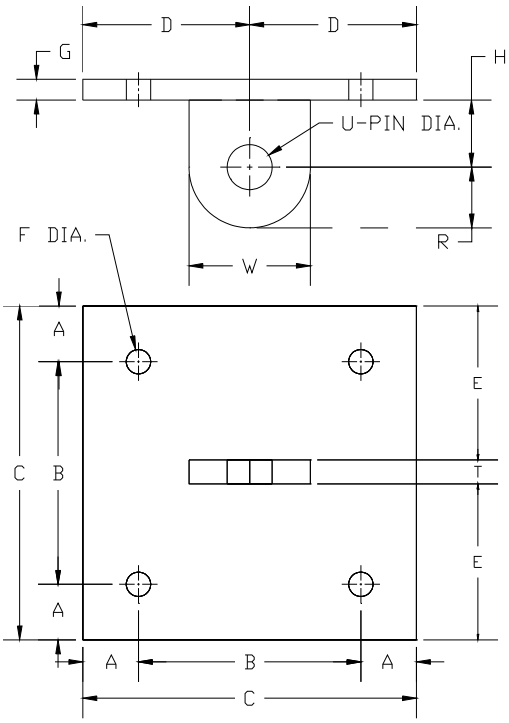
Loads (lbs) • Weights (lbs) • Dimensions (inches)

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: 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.

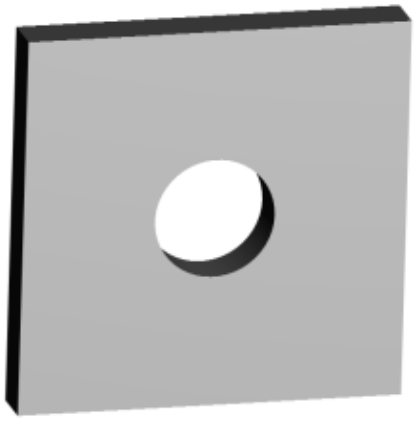
Loads (lbs) • Weights (lbs) • Dimensions (inches)

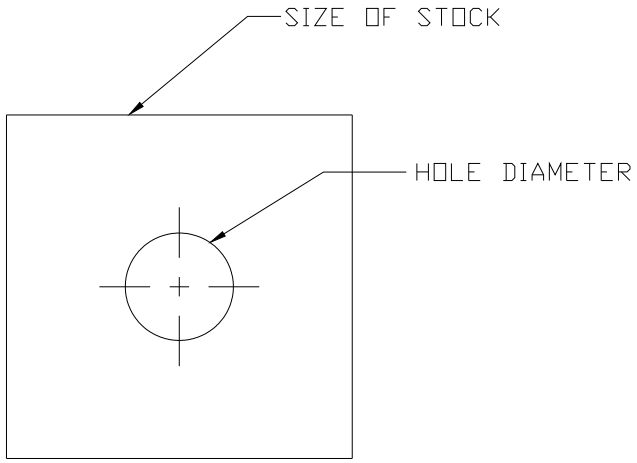
Rod Size	*Maximum Load	Weight	A	B	C	D	E	F	G	H	R	T	U	W
1/2	1350	11.1	1	8	10	5	4 7/8	9/16	3/8	1 1/2	1 1/4	1/4	5/8	2 1/2
5/8	2160	14.6	1	8	10	5	4 7/8	9/16	1/2	1 1/2	1 1/4	1/4	3/4	2 1/2
3/4	3230	14.8	1	8	10	5	4 13/16	11/16	1/2	1 1/2	1 1/4	3/8	7/8	2 1/2
7/8	4480	22.0	1	8	10	5	4 13/16	11/16	3/4	2	1 1/4	3/8	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





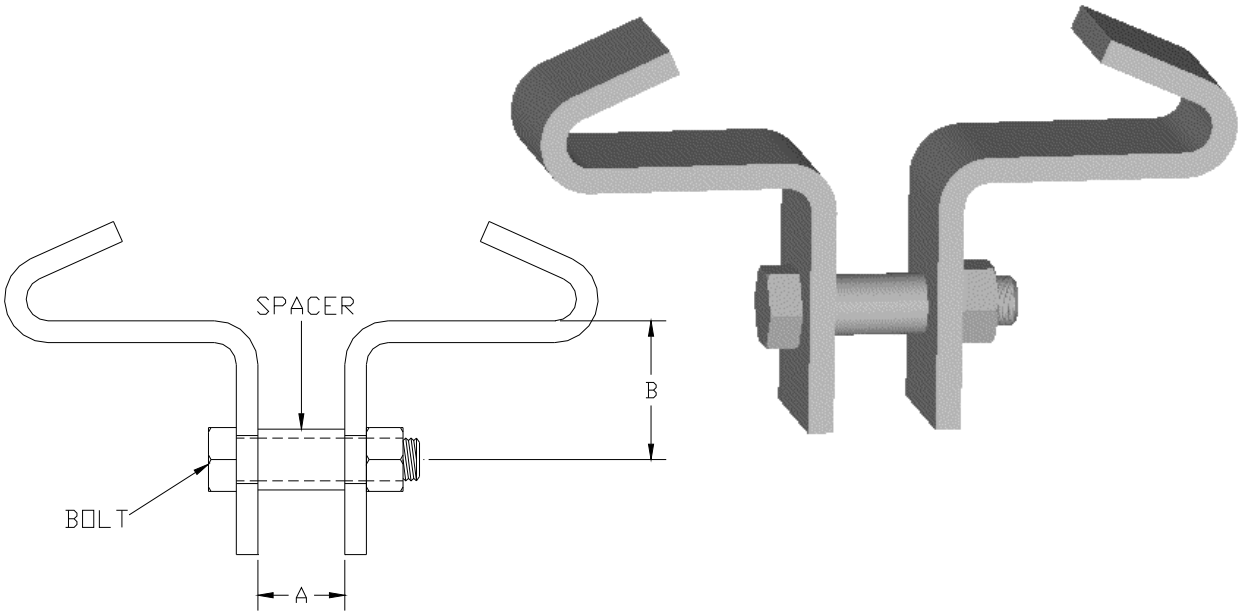
SIZE RANGE: For use with 3/8″ to 3 3/4″ inch rod.
MATERIAL TYPES: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: The heavy-duty washer plate is used on top of channels or angles for supporting pipe with rods or U-bolts.
ORDERING: Specify rod size, part number, 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.

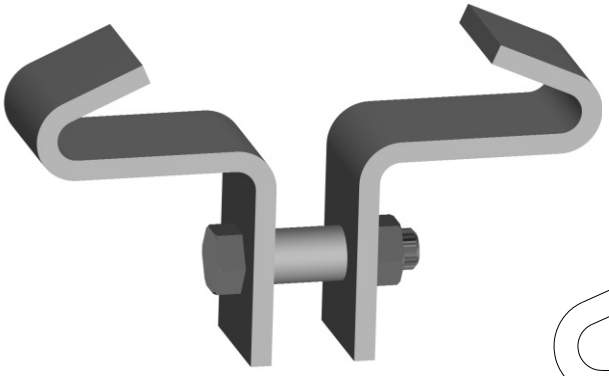
Weights (lbs) • Dimensions (inches)

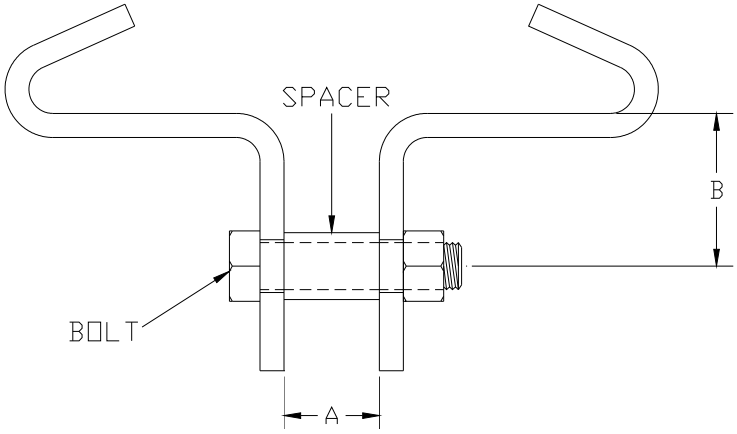
Nominal Flange Width	Max Flange Thickness	Weight (approx) lbs each
4	1/2	0.91
5	5/8	1.00
6	3/4	1.15
7	7/8	1.29
8	7/8	1.44

Part#	A	B	Bolt Size	Maximum Recommended Load lbs
125	1/2	1 3/8	3/8	1000

Part # 126

Heavy Duty Beam Clamp





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.

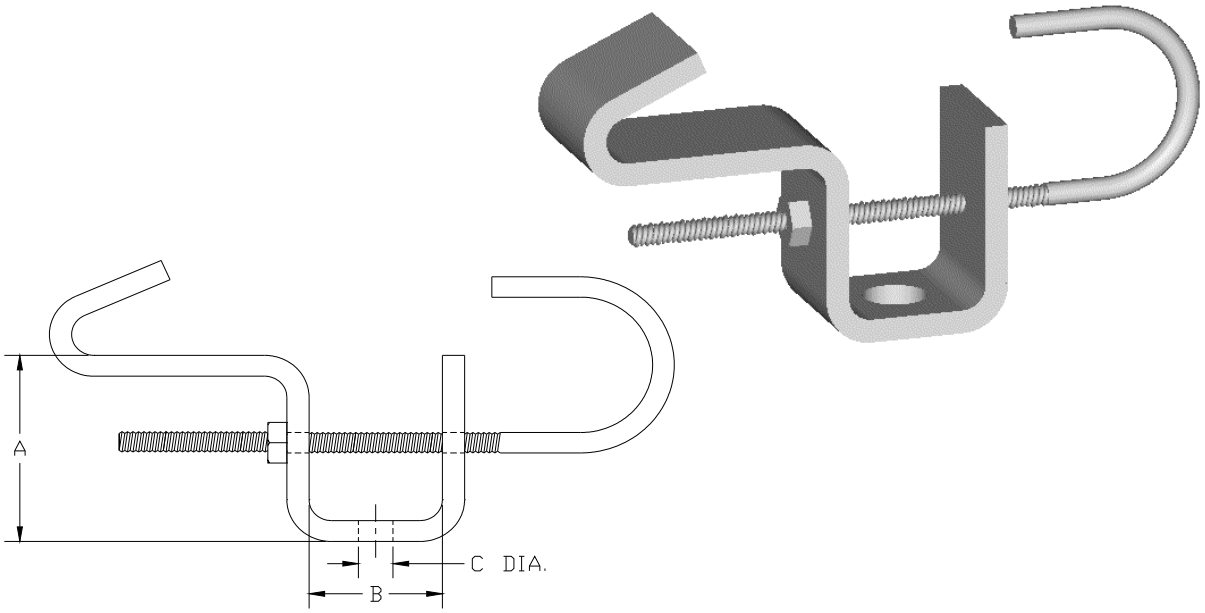
Weights (lbs) • Dimensions (inches)

Nominal Flange Width	Max Flange Thickness	Weight (approx) lbs each
4	1/2	3.82
5	5/8	4.35
6	3/4	4.52
7	7/8	4.84
8	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	3/4	2 1/4	5/8	1 1/16	3000

Adjustable Beam Clamp

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

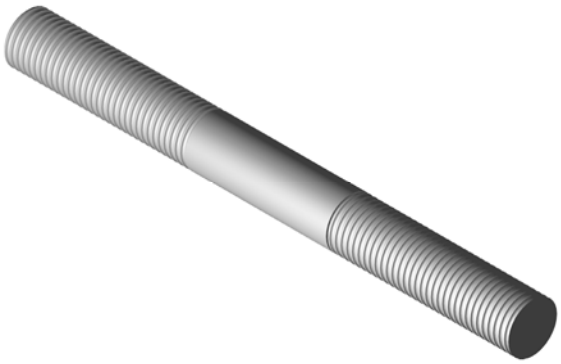
NOTES:

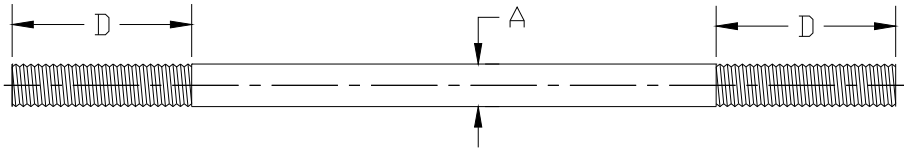
Section 2

Table of Contents
Hanger Rods & Accessories

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 5″ inch diameter.
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	5
1/2	1350	1057	5
5/8	2160	1692	5
3/4	3230	2530	6
7/8	4480	3508	7
1	5900	4620	8
1 1/4	9500	7440	10
1 1/2	13800	10807	12
1 3/4	18600	14566	12
2	24600	19265	12
2 1/4	32300	25295	12
2 1/2	39800	31169	15

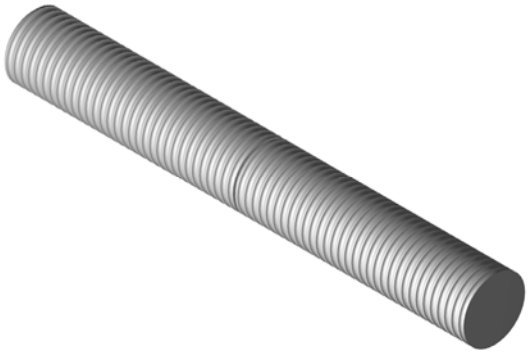
Loads (lbs) • Dimensions (inches) (cont.)

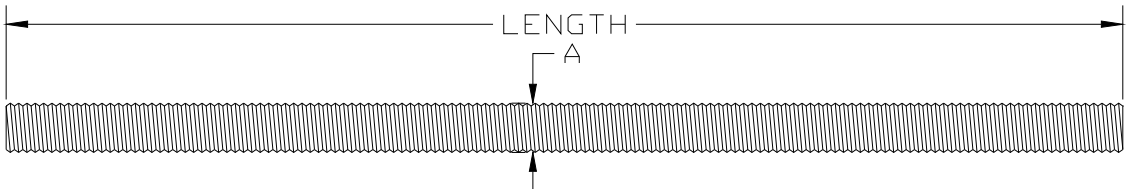
Rod Size A	Maximum Load		Standard Rod Thread Length D, inches
	650° (F)	750° (F)	
2 3/4	49400	38687	15
3	60100	47066	15
3 1/4	71900	56307	15
3 1/2	84700	66331	15
3 3/4	98500	77139	15
4	113400	88807	15
4 1/4	129400	101337	15
4 1/2	146600	114807	15
4 3/4	164700	128982	15
5	184000	144096	15

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 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.

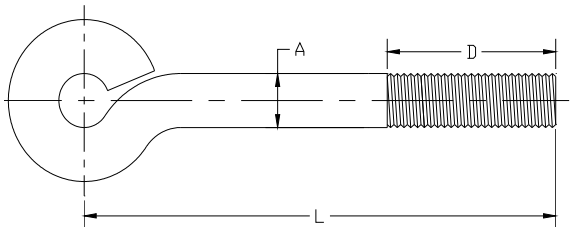
Loads (lbs) • Dimensions (inches)

Rod Size A	Maximum Load 650° (F)	Weight (approx) lbs ft
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
1 3/4	18600	7.80
2	24600	11.0

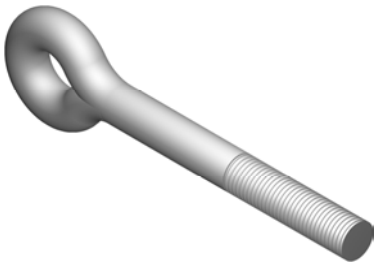
Part # 220/221
Part # 225/226

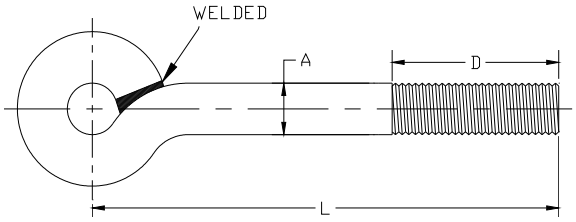
Eye Rods

Not Welded
Right-Hand Thread: Part # 220
Left-Hand Thread: Part # 221



Welded
Right-Hand Thread: Part # 225
Left-Hand Thread: Part # 226L





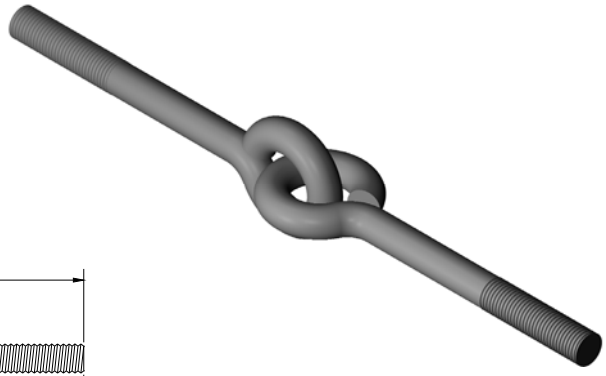
SIZE RANGE: 3/8″ to 2 1/2″ inches
MATERIAL TYPES: Carbon Steel Rod
FINISH: Black, Galvanized, or coated to customer specifications
MAXIMUM TEMPERATURE: 650°F for Part # 225; 750°F for Part # 220
ORDERING: Specify rod diameter, part number, name, finish, and rod length. Specify thread length if other than standard.

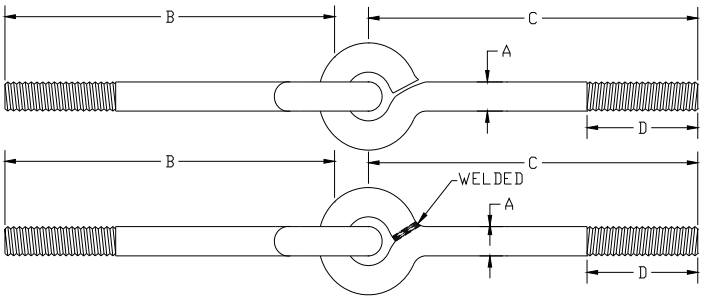
Loads (lbs) • Dimensions (inches)

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
Welded: Part # 222
Not Welded: Part # 230

Part # 222/230





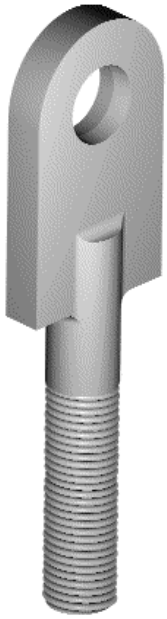
SIZE RANGE: 3/8″ to 2 1/2″ inches
Material Types: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: The use of linked eye rods in a hanger assembly allows universal movement of the piping without bending and possible fracture of a straight rod.
ORDERING: Specify 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)

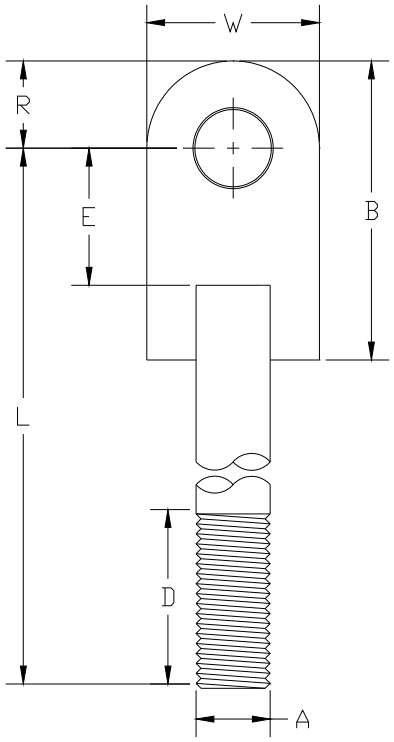
Loads (lbs) • Weights (lbs) • Dimensions (inches)

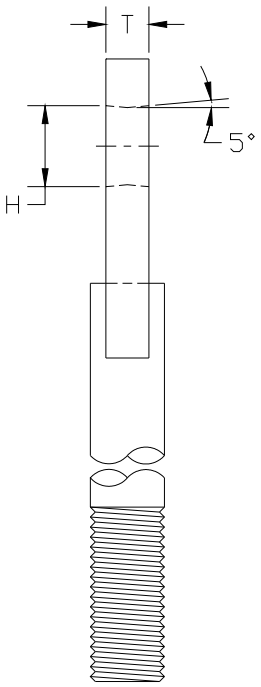
Rod Size A	Standard Rod Thread Length - D	Maximum Load		
		Part # 222 650° F	Part # 230	
			650° F	750° F
3/8	2 1/2	240	730	572
1/2	2 1/2	440	1350	1057
5/8	2 1/2	705	2160	1692
3/4	3	1050	3230	2530
7/8	3 1/2	1470	4480	3508
1	4	1940	5900	4620
1 1/4	5	3120	9500	7440
1 1/2	6	4650	13800	10807
1 3/4	7	6380	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
APPLICATIONS: 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.

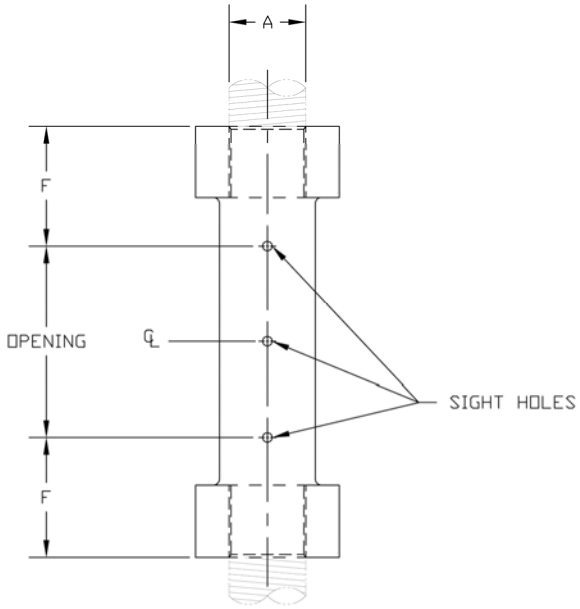
Loads (lbs) • Weights (lbs) • Dimensions (inches)

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
Fabricated 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
APPLICATIONS: 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.

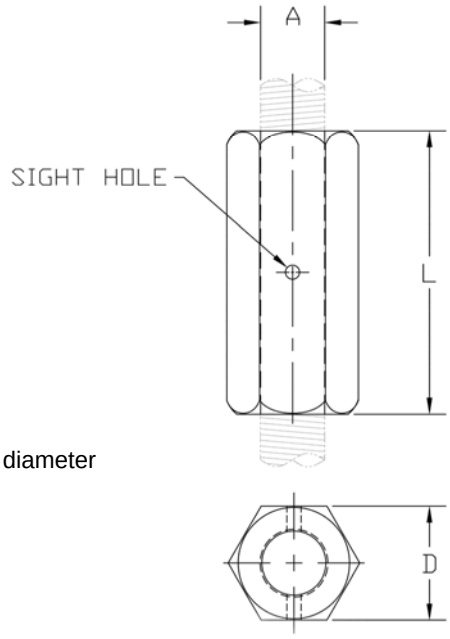
Loads (lbs) • Weights (lbs) • Dimensions (inches)

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

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



MATERIAL TYPES: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: 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.

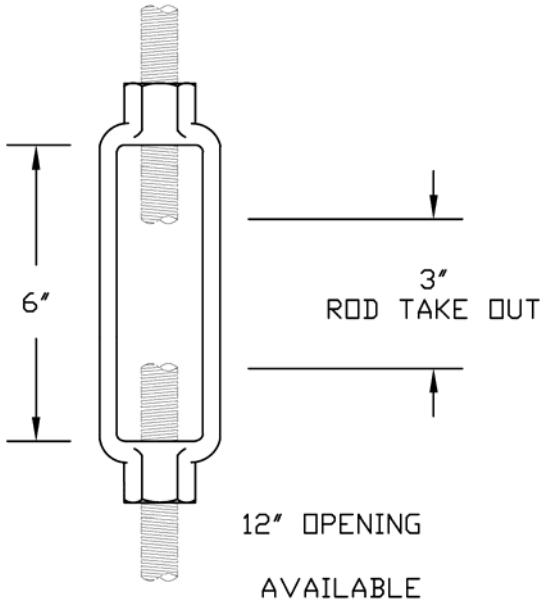
Loads (lbs) • Weights (lbs) • Dimensions (inches)

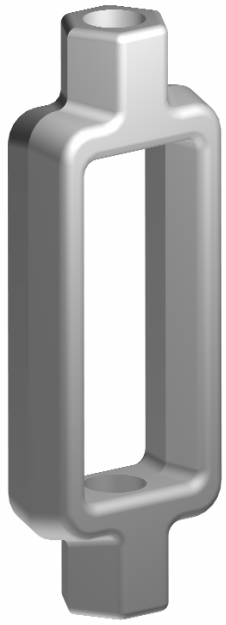
Rod Size A	*Maximum Load	Weight	D	L
Part # 281				
3/8	730	.09	5/8	1 3/4
1/2	1350	.12	3/4	1 1/2
5/8	2160	.24	15/16	1 7/8
3/4	3230	.42	1 1/8	2 1/4
7/8	4480	.66	1 5/16	2 5/8
1	5900	1	1 1/2	3
Part # 281E				
1/4	240	.03	3/8	7/8
3/8	730	.09	5/8	1 3/4
1/2	1350	.14	11/16	1 3/4
5/8	2160	.26	13/16	2 1/4
3/4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

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

Rod Attachments
Forged Turnbuckle

Part # 285





Tapped Right-Hand and Left-Hand

SIZE RANGE: 3/8″ to 2 1/2″ inches.
MATERIAL TYPES: Forged Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: 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.

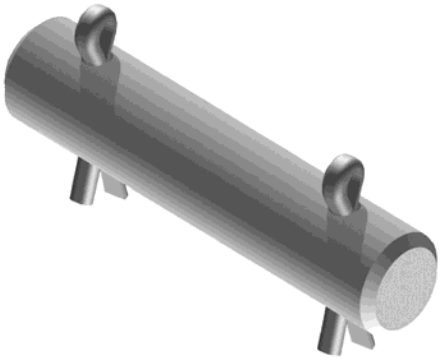
Loads (lbs) • Weights (lbs) • Dimensions (inches)

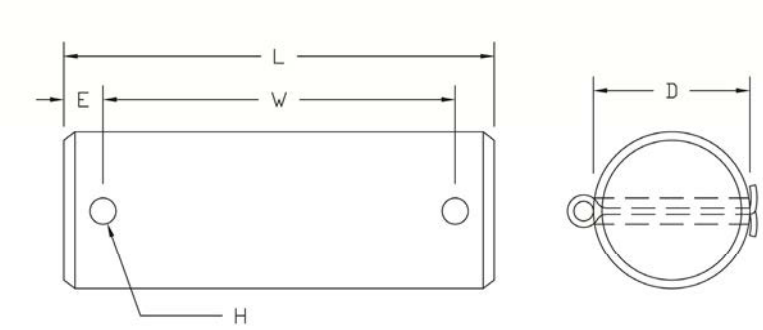
Rod Size A	*Maximum Load		6″ Opening Weight	12″ Opening Weight
	650° (F)	750° (F)		
3/8	730	572	.42	–
1/2	1350	1057	.65	1.2
5/8	2160	1692	.98	1.58
3/4	3230	2530	1.5	2.35
7/8	4480	3508	1.9	4.05
1	5900	4620	2.6	4.02
1 1/4	9500	7440	4.5	–
1 1/2	13800	10807	6.4	–
1 3/4	18600	14566	11.0	–
2	24600	19265	14.9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

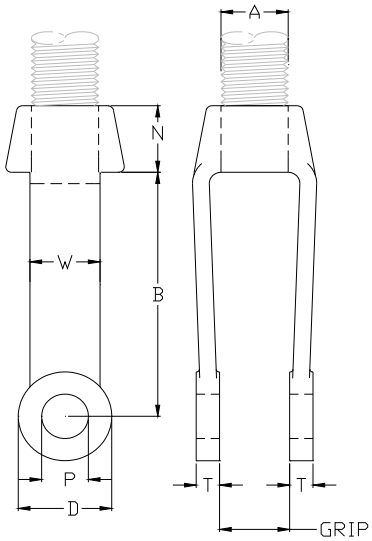
Load (lbs) • Weight (lbs) • Dimensions (inches)

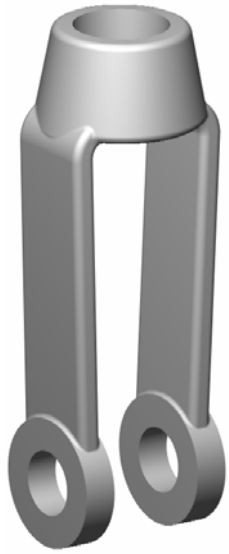
Pin Diameter (D)	*Maximum Load	Weight	L	W	E	H	Cotter Pin Size
1/2	730	.12	2 7/8	2 1/8	3/8	5/32	1/8 x 1 1/4
5/8	1350	.18	3 1/8	2 3/8	3/8		
3/4	2160	.29	3 5/8	2 7/8	3/8	7/32	3/16 x 1 1/2
7/8	3230	.47	4	3 1/4	3/8		
1	4480	.67	4	3 1/4	3/8		3/16 x 2
1 1/8	5900	1.0	4 3/4	4	3/8		
1 1/4	7410	1.7	4 7/8	4 1/4	3/8	9/32	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		
1 7/8	18600	4.8	7 1/8	5 7/8	5/8	3/8	3/8 x 3
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		3/8 x 4
3	49400	16.6	8 1/4	6 3/4	3/4	1/2	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 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 Attachments
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
APPLICATIONS: 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.

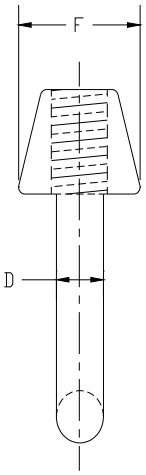
Load (lbs) • Weight (lbs) • Dimensions (inches)

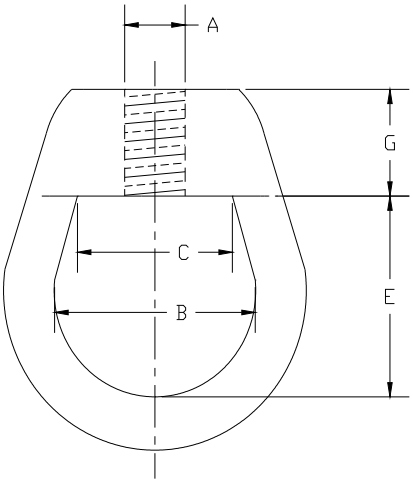
Rod Size A	*Maximum Load		Weight		Rod Take Out B	D	N	Pin Size P	T	W	Grip	Size No.
	650° (F)	750° (F)	Without Pin	With Pin								
3/8	730	572	.9	1.0	3 11/16	1 7/16	5/8	1/2	5/16	1 1/16	1/2	2
1/2	1350	1057	.7	.9				5/8			1/2	
5/8	2160	1692	.7	.9				3/4			5/8	
3/4	3230	2530	2.5	3.0	5	2	7/8	7/8	3/8	1 1/4	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.

Part # 295

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





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 specifications
APPLICATIONS: 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	2 1/2	1 13/16	1	3 3/8	2 3/8	1 1/4	3
1 1/2	13800	10807	3.5							
1 3/4	18600	14566	16.4							
2	24600	19265	15.9	4	4	1 1/2	6 1/4	4	2 1/4	4
2 1/4	32300	25295	15.4							
2 1/2**	39800	31169	14.9							

***** Based on the allowable stresses shown on the ASME Code for Pressure Piping
****** For Rod Sizes over 2 1/2″ refer to Part # 235

NOTES:

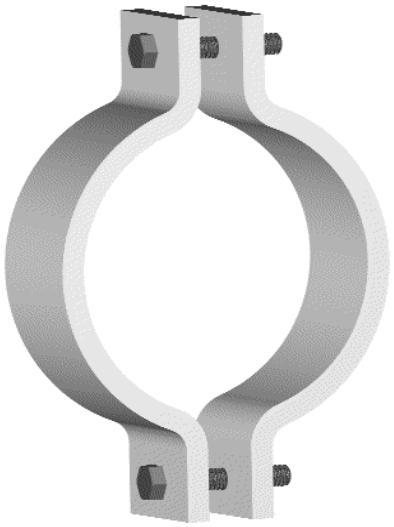
NOTES:

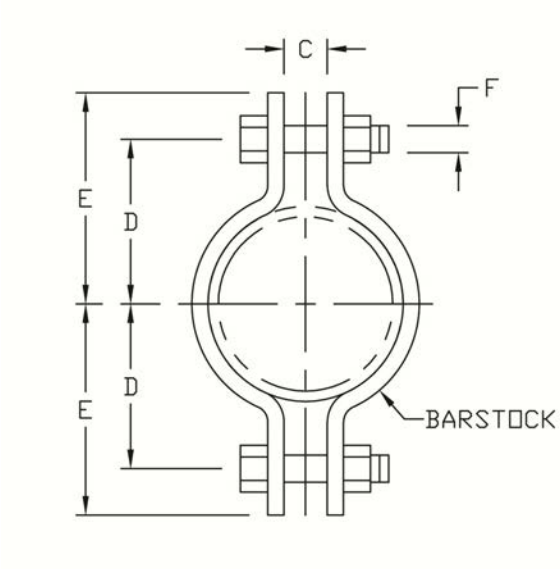
Section 3

Table of Contents
Pipe Clamps

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.

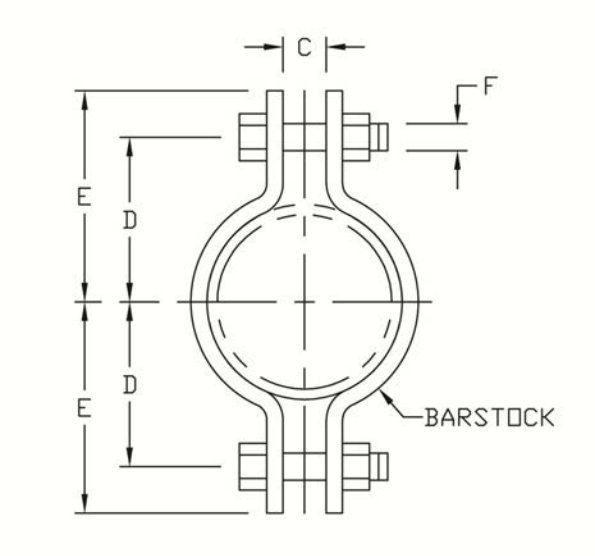
Load (lbs) • Weight (lbs) • Dimensions (inches)

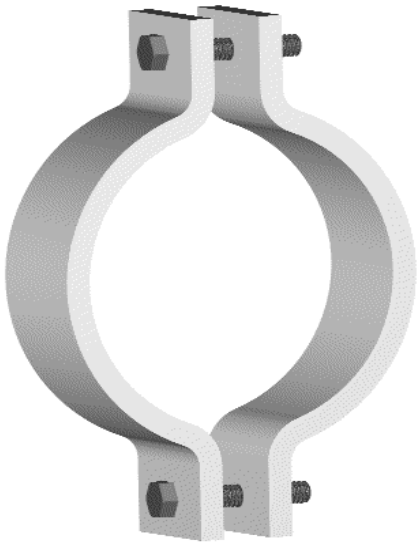
Pipe Size	*Maximum Load		Weight	C	Rod Take Out D	E	F	BARSTOCK
	650° F	750° F						
1/2	500	-	0.29	1/2	1 3/16	1 23/32	5/16	1/8 x1
3/4	500	-	0.33	1/2	1 1/4	1 25/32	5/16	1/8 x1
1	500	-	0.35	1/2	1 3/8	1 29/32	5/16	1/8 x1
1 1/4	500	-	0.38	1/2	1 5/8	2 5/32	5/16	1/8 x1
1 1/2	800	-	0.43	1/2	1 11/16	2 7/32	5/16	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.

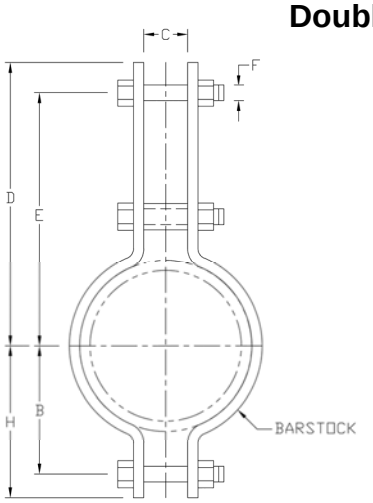
Load (lbs) • Weight (lbs) • Dimensions (inches)

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.

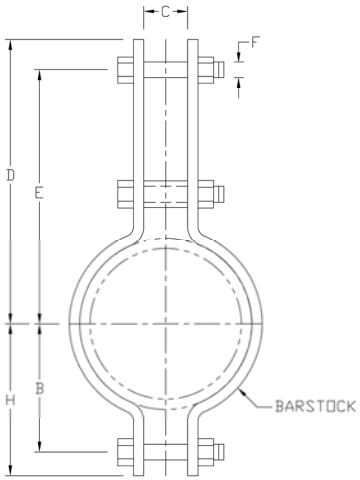
Load (lbs) • Weight (lbs) • Dimensions (inches)

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.

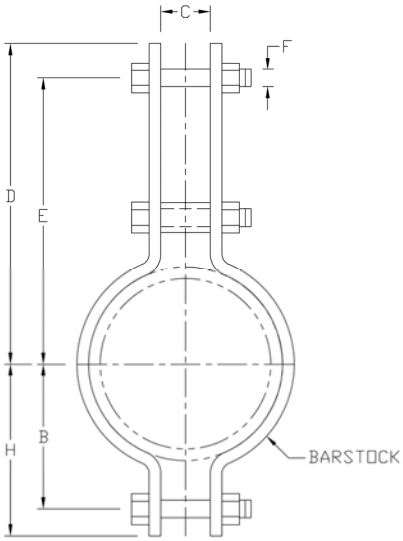
Load (lbs) • Weight (lbs) • Dimensions (inches)

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: 1 1/2″ 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.

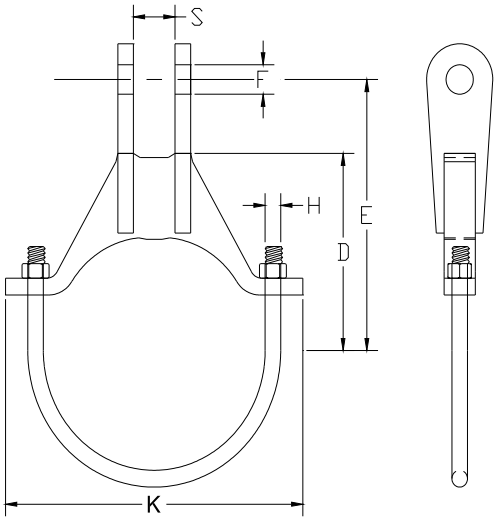
Load (lbs) • Weight (lbs) • Dimensions (inches)

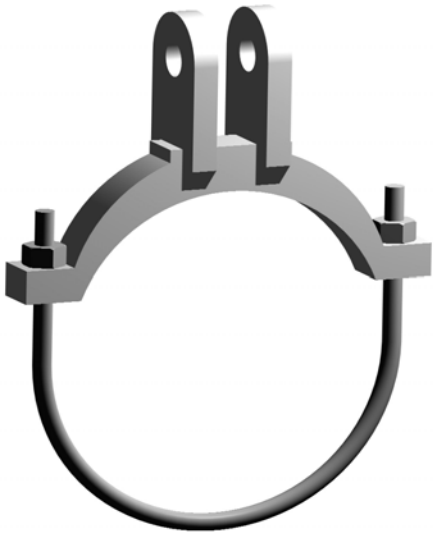
Pipe Size	Maximum Load		Weight	B	C	D	Rod Take Out E	F	H	Bar-Stock
	650° F	750° F								
1 1/2	-	-	5.5	2 1/8	1	5 13/16	5	3/4	3 1/8	3/8 x 2
2	-	-	5.7	3	1	6 1/16	5 1/16	3/4	4	3/8 x 2
3	-	-	7.5	3 5/8	1 1/2	8	6 1/2	3/4	5 1/8	3/8 x 2
4	-	3125	10.7	4 1/2	1 3/4	9	7	7/8	6 1/2	3/8 x 2 1/2
6	3500	3125	12	4 3/4	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.

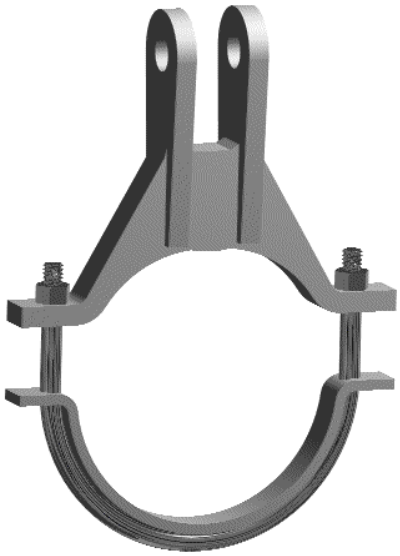
Load (lbs) • Weight (lbs) • Dimensions (inches)

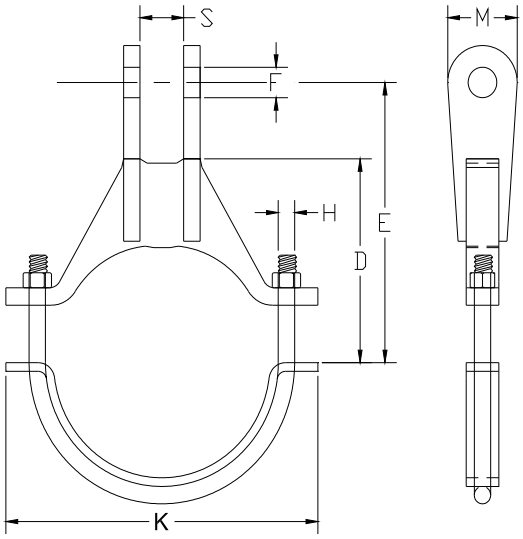
Pipe Size	*Maximum Load				Weight	D	Rod Take Out E	F	H	K	S
	750° F	950° F	1000° F	1050° F							
4	3780	3300	2770	1890	4.0	3 7/8	6 3/4	7/8	1/2	6 1/2	1 1/16
6	6060	5290	4440	3030	7.5	5 7/16	8 5/16	1	5/8	9 1/8	1 7/16
8	6060	5290	4440	3030	9.0	6 11/16	9 9/16	1	5/8	11 1/8	1 7/16
10	9060	7910	6640	4420	15.8	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 of 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.

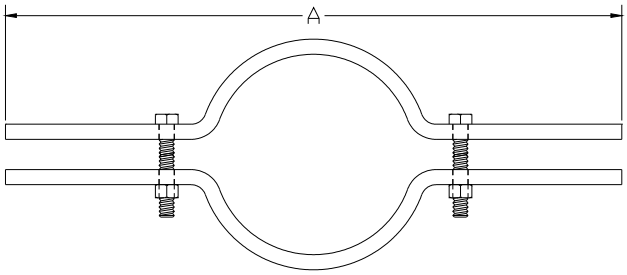
Load (lbs) • Weight (lbs) • Dimensions (inches)

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.

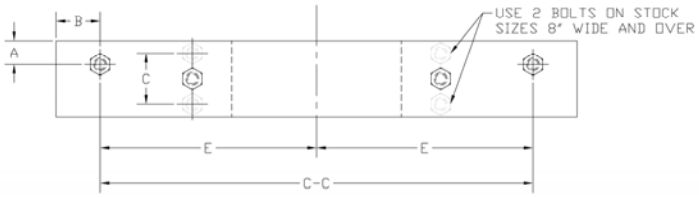
Load (lbs) • Weight (lbs) • Dimensions (inches)

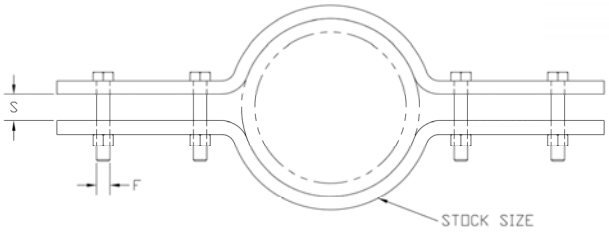
Pipe Size	*Maximum Load	Weight	Length A	Stock size	Bolts size
3/4	220	1.1	8 7/8	3/16 x 1	3/8 x 1 1/2
1	220	1.1	8 7/8	3/16 x 1	3/8 x 1 1/2
1 1/4	250	1.6	10	3/16 x 1	3/8 x 1 1/2
1 1/2	250	1.6	10 1/4	3/16 x 1	3/8 x 1 1/2
2	300	1.7	10 1/4	3/16 x 1	7/16 x 1 1/2
2 1/2	400	1.9	11 1/4	1/4 x 1	7/16 x 1 1/2
3	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.

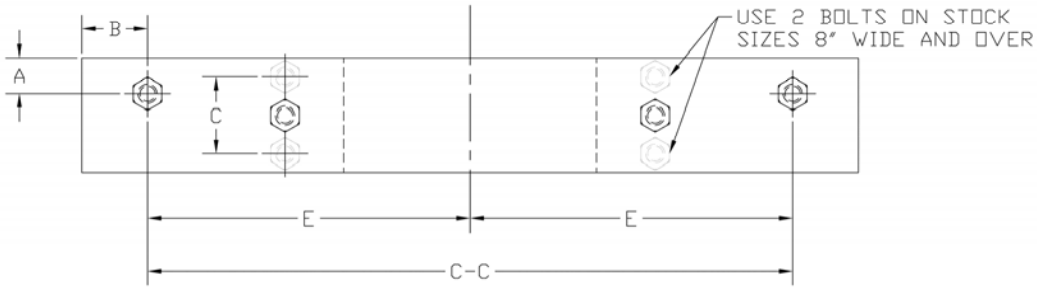
Load (lbs) • Weight (lbs) • Dimensions (inches)

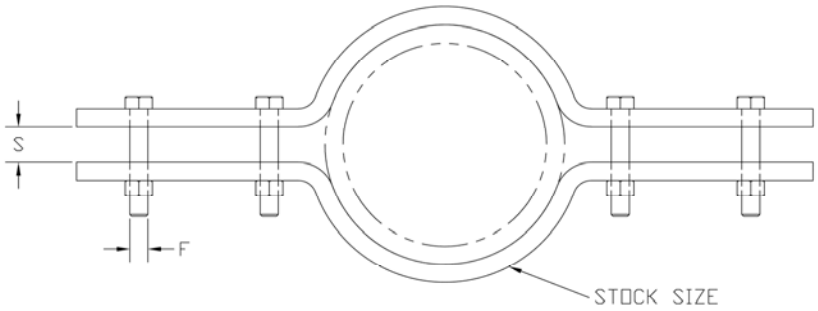
Pipe Size	*Maximum Load		Weight	A	B	C	C-C	E	F	S	Stock size
	Rigid Assembly	Spring Assembly									
2	900	1800	17.50	7/8	2	-	18	9	1/2	3/4	1/2 x 2 1/2
2 1/2	900	1800	19.10	7/8	2	-	20	10	1/2	3/4	1/2 x 2 1/2
3	1500	3000	29.40	7/8	2	-	20	10	5/8	1	5/8 x 3
4	2200	4400	38.50	1 1/8	2	-	22	11	3/4	1 1/4	3/4 x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

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

Non-Standard Riser Clamp

Part # 362

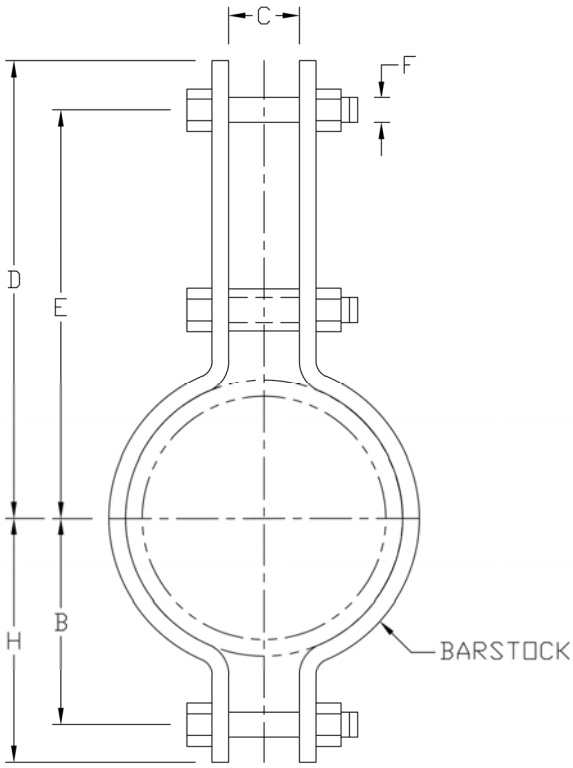




MATERIAL TYPES: Carbon steel, chrome molybdenum or stainless steel.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: Riser Clamps are used for the support of vertical piping. Load is carried by shear lugs which are welded to the pipe. (*Shear lugs not provided.)*
MAXIMUM TEMPERATURE: As required
ORDERING: Specify exact pipe size, part number, material, load, operating temperature, insulation thickness, C-C dimension, rod diameter and if connected to a spring or rigid connection.

Part # 363

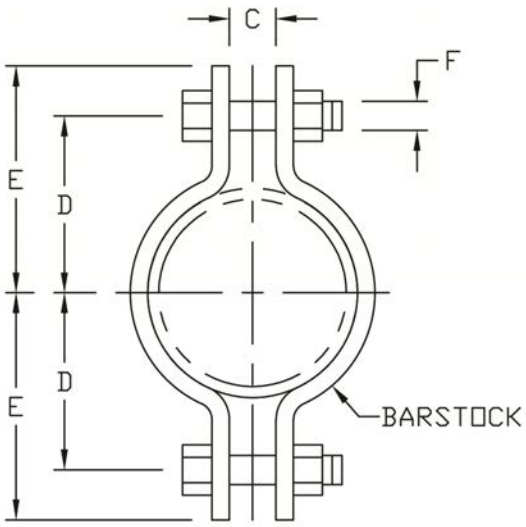
Non-Standard Three Bolt Pipe Clamp



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: Specify pipe size, part number, material type, 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

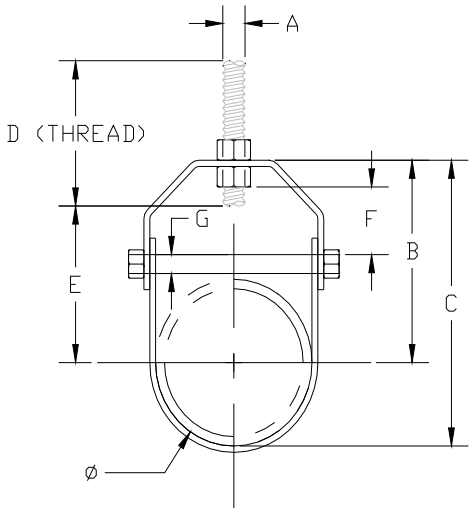
Part # 364



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: Specify pipe size, part number, material type, 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



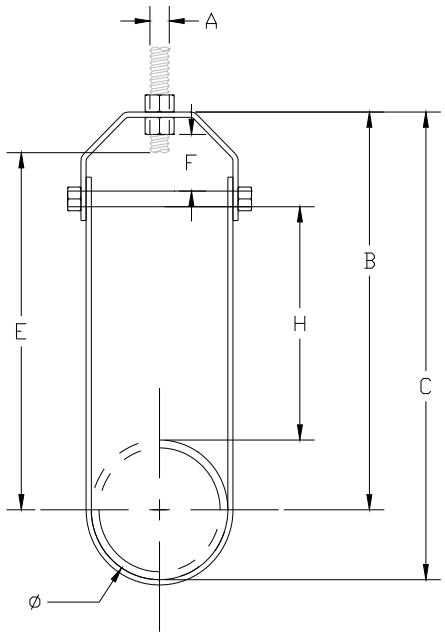
SIZE RANGE: 1/2″ to 30″ inches.
MATERIAL TYPES: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: Recommended for suspension of stationary pipes.
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 1).
MAXIMUM TEMPERATURE: 450°F (323°C)
ORDERING: Specify pipe size, part number, name and finish.

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

Pipe Size	Maximum Load 450° F	Weight	Rod size A	B	C	D	Rod Take Out E	Adjustment F	G
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
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 450° F	Weight	Rod Size A	B	C	Rod Take Out E	Adjustment F	H
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

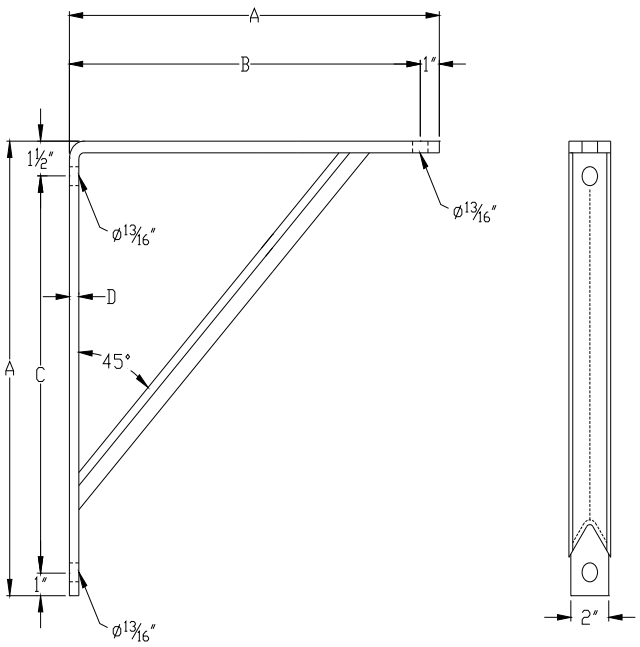
NOTES:

Section 4

Table of Contents
Steel Brackets & Channel Assembly

PART# 400

Steel Brackets
Light Weight



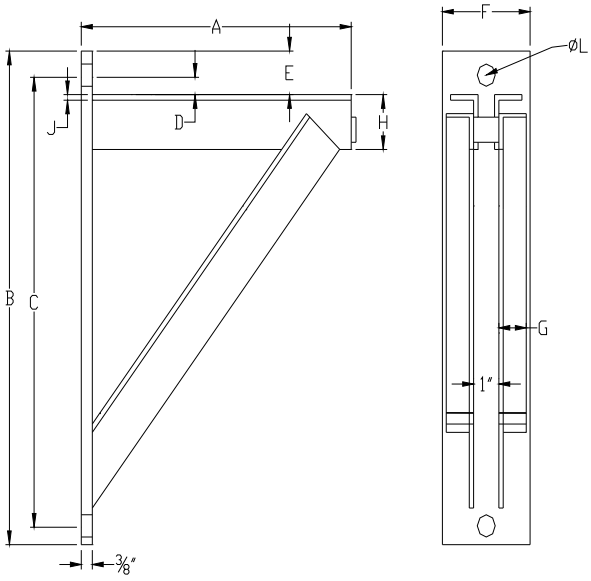
MAXIMUM LOAD: 750 pounds.
MATERIAL: Carbon steel bracket.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: Recommended for support from below.
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 31)
ORDERING: Specify bracket number, part number, name, 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



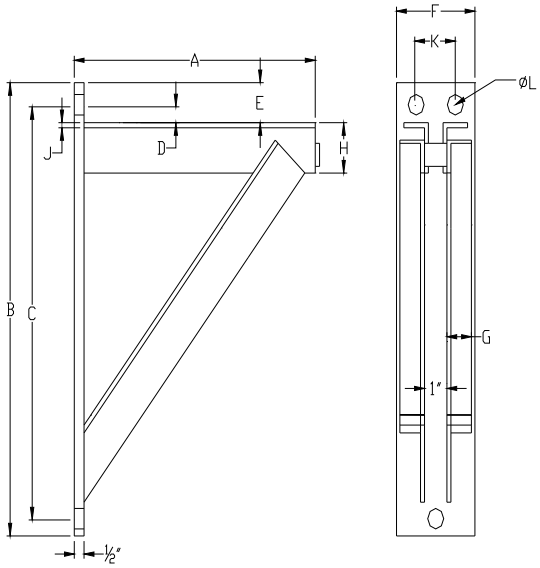
MAXIMUM LOAD: 1,500 lbs.
MATERIAL: Carbon Steel.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: Recommended for the support of loads up to 1,500 lbs.
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 32)
HOW TO SIZE: Determine size by dimensions 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



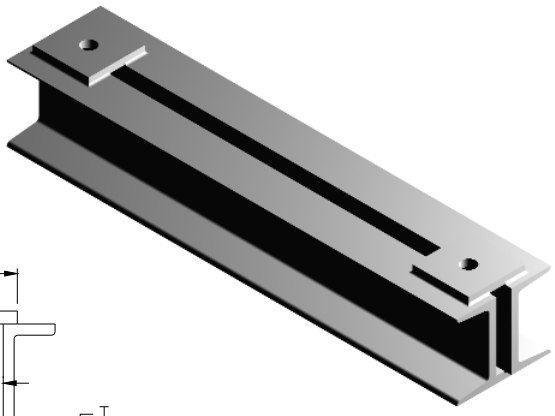
MAXIMUM LOAD: 3,000 lbs.
MATERIAL: Carbon Steel.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: Recommended for the support of loads up to 3,000 lbs.
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 33)
HOW TO SIZE: Determine size by dimensions 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.

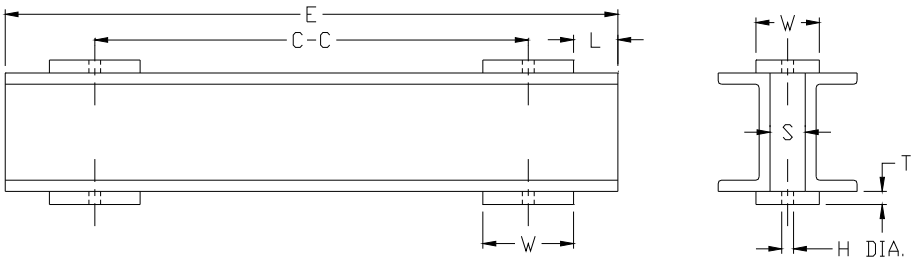
Load (lbs) • Weight (lbs) • Dimensions (inches)

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

Rod Diameter	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4
H Hole	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4
S	9/16	11/16	13/16	15/16	1 11/16	1 3/8	1 5/8	1 7/8	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	4 1/4
W	3	3	3	4	4	4	5	5	5	5	6	6	6	6	6	7	7
T	1/4	1/4	3/8	3/8	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
L	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2	1/2	1/2	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

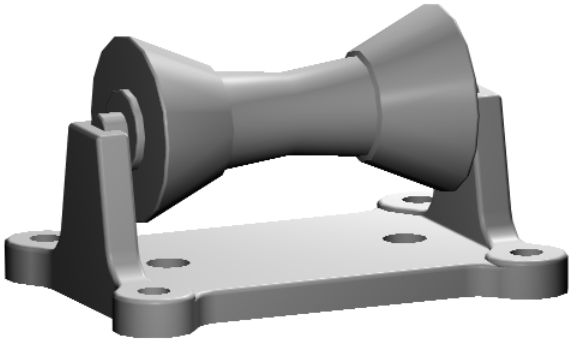
NOTES:

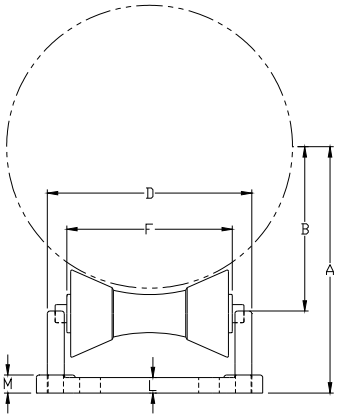
Section 5

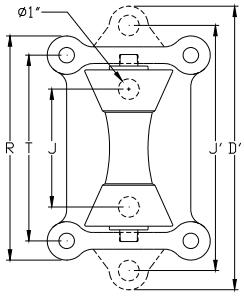
Table of Contents
Pipe Rolls

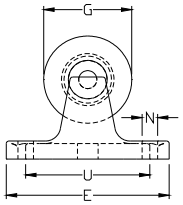
PART# 500

Pipe Roll
Pipe Stand









SIZE RANGE: 2″ to 42″ inch pipe.
MATERIAL: Cast iron roll and stand.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: For support of pipe where longitudinal movement resulting from expansion and contraction may take place but vertical adjustment is unnecessary.
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.
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 44)
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).

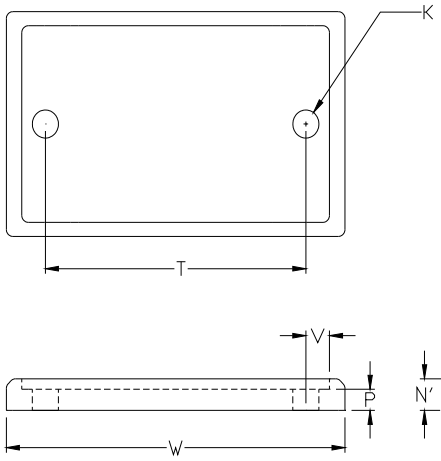
Load (lbs) • Weight (lbs) • Dimensions (inches)

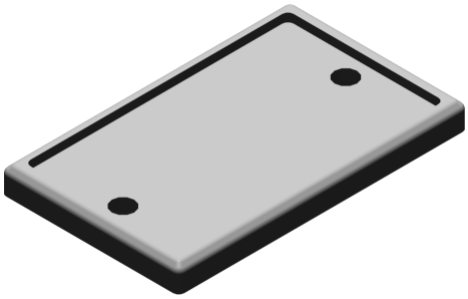
Pipe Size	2-3 1/2	4-6	8-10	12-14	16-20	24	30	36-42
Maximum Load	390	950	2100	3075	4980	6100	7500	12000
Weight	6.4	8.9	15.3	28.1	39.7	49.6	99.3	152

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	7 3/4	-	6 5/8	6	3 1/4	4	-	3/4	7/8	5/8	8 5/8	7	5
10	9 13/16	6 3/8													
12	11 3/8	7 1/2	9 7/8		7 7/8	8	4	5 3/4		3/4	7/8	3/4	10 15/16	9 1/16	6
14	12	8 1/8													
16	13 5/8	9 3/8	11 1/4		8 5/8	9	4 1/2	6 3/4		7/8	1	13/16	12 3/8	10 1/4	6 1/2
18	14 5/8	10 3/8													
20	15 5/8	11 3/8													
24	17 3/4	13 3/8	12 1/2		8 5/8	10	4 7/16	7 1/2		1	1 1/8	13/16	13 1/2	11 3/8	
30	21 7/8	16 3/4	15 3/4		10 3/4	12 1/2	5 1/2	10		1 1/4	1 1/2	1 1/16	17	14 1/4	8
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





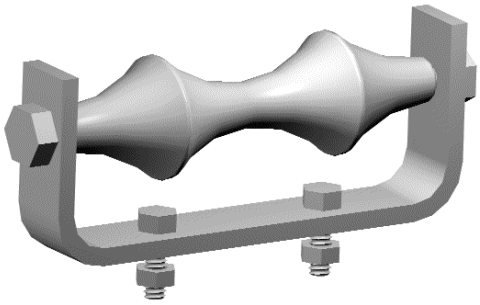
SIZE RANGE: 2″ to 42″ inch pipe.
MATERIAL: Cast iron plate.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: (When used with Part #500) For support of pipe lines where longitudinal movement resulting from expansion and contraction may take place and where vertical and lateral 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.

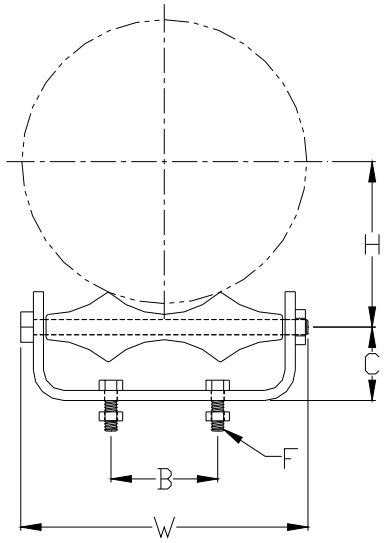
Load (lbs) • Weight (lbs) • Dimensions (inches)

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				4 11/16		8 ⅛
6									
8	2100	32.1	6 ¾		1 ⅛	13/16	7		10 ⅝
10									
12	3075	51.2	8			¾	9 1/16		13
14									
16	4980	71.3	8 ⅝		1 ¼	⅞	10 1/4	1 3/16	14 ⅝
18									
20									
24	6100	87			1 ⅜	1	11 3/8		15 ¾
30	7500	166.2	10 ½		1 ⅝	1 ¼	14 1/4	1⅜	19 ¼
36	12000	304	11	1 ⅛	2	1 ½	17	2¼	23
42									

PART# 535

Pipe Roll
Roller chair





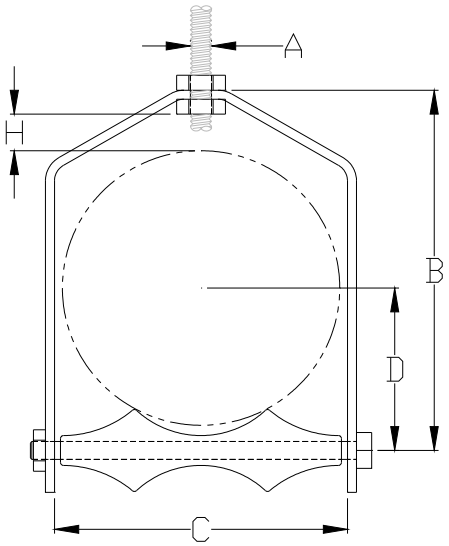
SIZE RANGE: 2″ to 30″ inch pipe.
MATERIAL: Cast iron roll, Carbon Steel chair, roll rod, bolts and hex nuts.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: For support of pipe where longitudinal movement due to expansion and contraction may occur, but where no vertical 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.

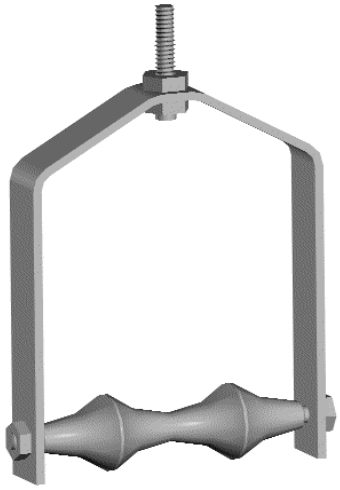
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	Maximum Load	Weight	W	B	C	F	H
2	600	1.1	4	1 ¼	1 ½	⅜ x 1 ½	1 ⅝
2 ½	660	1.4	4 ⅞		1 ⅝		1 15/16
3	700	1.6	5 ⅜	2	1 ¾		2 ¼
3 ½	750	2.6	6 ⅛		2 1/16		2 9/16
4		2.9	6 ⅝		2 5/16	½ x 1 ½	2 13/16
5		3..9	7⅞	3	2½		3 7/16
6	1070	5.9	9 ¼	3 ⅛	2 ¾		4
8	1350	9.0	11 ⅝	3 ⅜	3	⅝ x 1 ½	5 ⅛
10	1730	13.8	14 ⅛	5 ¼	3 ⅝	⅝ x 2	6 ⅜
12	2400	18.9	16 ⅛	5 ½	4 ⅛		7 7/16
14	3130	28.07	18 ¾	6 ½	4 11/16	¾ x 2	8 ⅜
16	3970	34.93	21	8 ¼	5 ⅜	¾ x 2 ½	9 ⅜
18	4200	44.35	23 ⅛	9 ¼	6		10 7/16
20	4550	56.34	24 ⅝	10 ¼	6 ½		11 ⅝
24	6160	87.52	29 ⅜	12 ¼	7 ⅞	⅞ x 3 ½	14
30	7290	151.25	34 13/16	15 ⅜	8 ¾		17 7/16

Pipe Roll
Adjustable Steel Yoke Pipe Roll

PART# 536





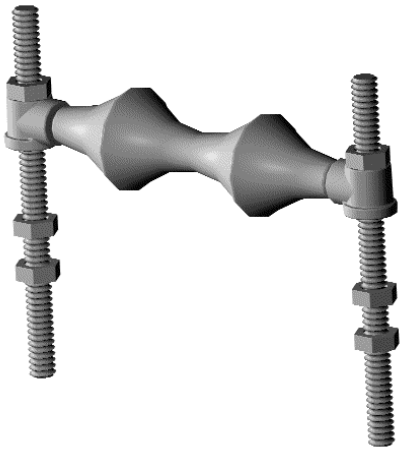
SIZE RANGE: 2 1/2″ to 24″ inch pipe.
MATERIAL: Cast iron roll, carbon steel yoke, roll rod, bolts and hex nuts.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: For suspension of pipe from a single rod where horizontal movement due to expansion and contraction may occur.
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.

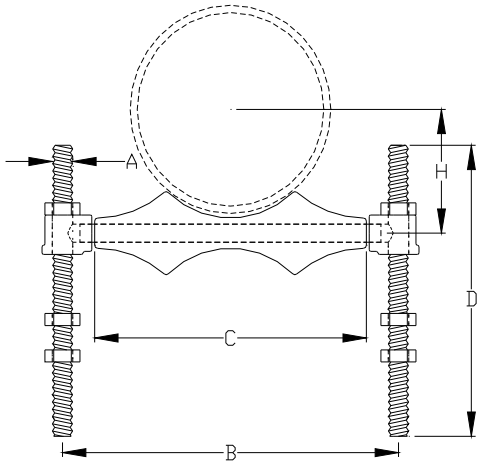
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	Maximum Load	Weight	Rod Size A	B	C	D	Rod take-out	H
2 ½	225	1.7	½	5 ¾	3 1/4	1 15/16	2 7/8	1 11/16
3	310	2.2		6 ⅜	3 7/8	2 1/4	3 1/8	1 5/8
3 ½	390	2.5		7	4 3/8	2 9/16	3 1/2	1 11/16
4	475	3.2	⅝	7 9/16	4 15/16	2 13/16	3 5/8	1 5/8
5	685	6.3	⅝	5 1/8	6	3 7/16	4 1/2	1 15/16
6	780	9.3	¾	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	⅞	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 ¼	26	20 1/2	11 5/8	12 1/4	2 1/2
24	1800	119.3	1 ½	32 5/16	24 5/8	13 15/16	15 3/4	4 3/8

PART# 540

Pipe Roll
Adjustable Pipe Roll Support





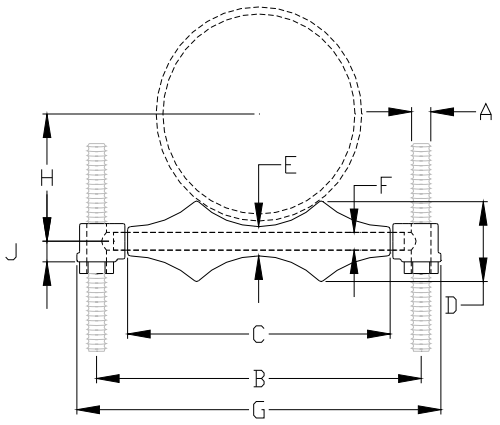
SIZE RANGE: 1″ to 30″ inch pipe.
MATERIAL: Cast iron roll and sockets, Carbon Steel roll rod, continuous thread rods and hex nuts.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: For support of pipe where horizontal movement due to expansion and contraction may occur and 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
saddle are needed.

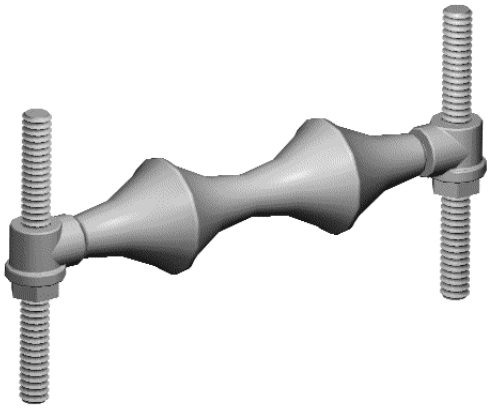
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	Weight	Rod Size A	B	C	D	H
1	1.1	3/8	3	1 1/2	12	1 1/16
1 ¼	1.2		3 3/8	1 7/8		1 1/4
1 ½	1.2		3 5/8	2 1/8		1 3/8
2	1.3		4 1/8	2 5/8		1 5/8
2 ½	2.3	½	4 ⅞	3 1/8		1 15/16
3	2.4		5 ½	3 ¾		2 1/4
3 ½	2.7		6 1/8	4 1/4		2 9/16
4	3.8	⅝	6 ¾	4 ¾		2 13/16
5	4.7		8 1/16	5 13/16		3 7/16
6	7.6	¾	9 9/16	6 7/8		4
8	11		11 15/16	8 7/8		5 1/8
10	13.7	⅞	14 1/16	11		6 3/8
12	19.4		15 13/16	12 1/2		7 7/16
14	31.2	1	17 ¾	14 1/4		8 3/8
16	42.5		19 ¾	16 1/4	18	9 7/16
18	46.6		21 7/8	18 1/4		10 1/2
20	66.2	1 ¼	24 1/4	20 1/4		11 5/8
24	102.5	1 ½	28 5/8	24 1/4	24	14
30	186.8		35 1/2	30 1/4		17 7/16

Pipe Roll
Single Pipe Roll Support

PART# 545





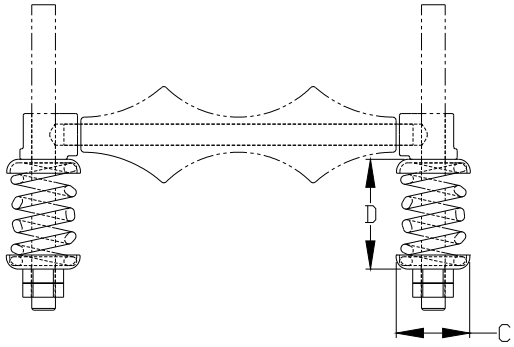
SIZE RANGE: 1″ to 30″ inch pipe.
MATERIAL: Cast iron roll and sockets, carbon steel roll rod, continuous thread rods and hex nuts.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: For suspension of pipe where longitudinal movement due to expansion and contraction may occur.
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	¾	3/8	4 1/8	9/16	1 1/16
1 ¼	.48			3 3/8	1 7/8	1 1/16			4 ½		1 1/4
1 ½	.51			3 5/8	2 1/8	1 1/8			4 ¾		1 3/8
2	.57			4 1/8	2 5/8	1 3/16			5 ¼		1 5/8
2 ½	1.0	660	½	4 ⅞	3 1/8	1 3/8	⅞	½	6 ¼	11/16	1 15/16
3	1.1	700		5 ½	3 ¾	1 7/16			6 7/8		2 1/4
3 ½	1.4	750		6 1/8	4 1/4	1 5/8	1		7 ½	¾	2 9/16
4	1.7		⅝	6 ¾	4 ¾	1 3/4			8 ¼		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	¾	9 9/16	6 7/8	2 5/16	1 1/4	¾	11 7/16	1	4
8	7.2	1350		11 15/16	8 7/8	2 13/16	1 1/2	⅞	14 1/16	1 1/8	5 1/8
10	9.5	1730	⅞	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 ¾	14 1/4	4 5/8	2 1/2	1 1/8	20 1/8	1 3/8	8 3/8
16	31.9	3970		19 ¾	16 1/4	5	2 5/8	1 ¼	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 ½		10 1/2
20	47.0	4550	1 ¼	24 1/4	20 1/4	6	3		27 ¼	1 5/8	11 5/8
24	76.3	6160	1 ½	28 5/8	24 1/4	7 3/16	3 5/8	1 ½	32 1/8	1 3/4	14
30	129.9	7290		35 1/2	30 1/4	8 15/16	4 ½	1 ¾	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
APPLICATIONS: 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.

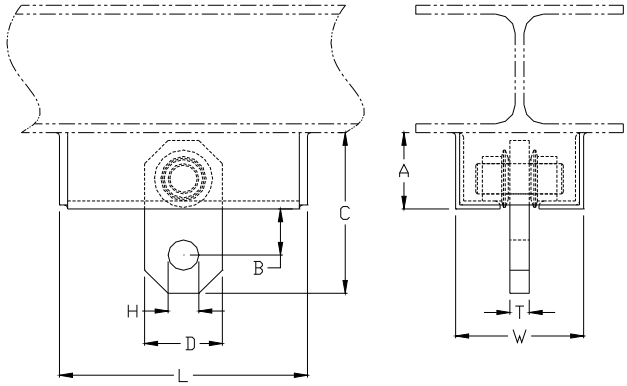
Load (lbs) • Weight (lbs) • Dimensions (inches)

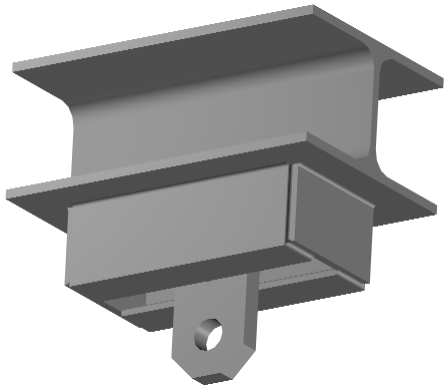
Spring Number	Max Spring Deflection	Load at Max Deflection	Weight	C	D	Retainer's Center Hole Diameter	▪ Maximum Rod Size	Min Rod Size
1	1 1/4	535	4.5	2 21/32	6 7/16	7/16	3/4	3/8
2		1500	14.0	4 1/8	6 1/16	9/16		1/2
3		3000	22.0		9 1/16	15/16	1 1/2	7/8

▪ Can be drilled to maximum 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

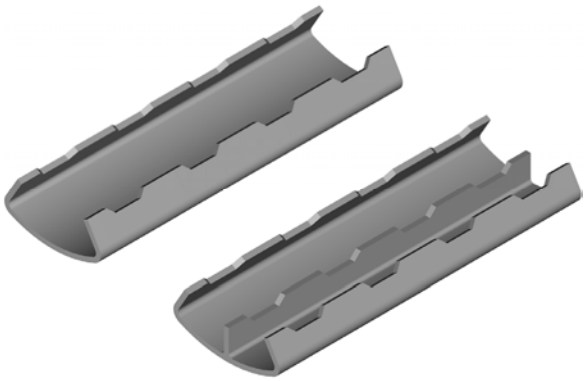
NOTES:

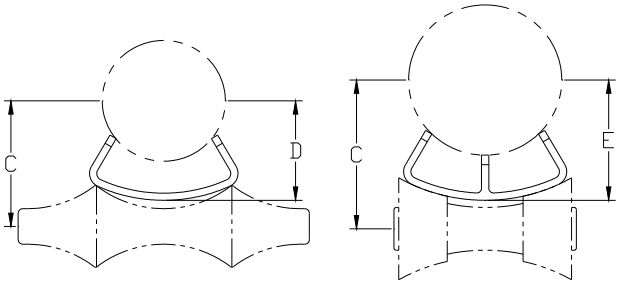
Section 6

Table of Contents
Saddles And Supports

PART# 600-606A

Pipe Saddle
Protection Saddle





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
APPLICATIONS: 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)
ORDERING: Specify part number, name and finish.

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 3/4	2 3/4	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 1/4	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		1 15/16	2 ½	2 7/16	2 9/16
	601		2.1	3 ½	5		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 3/4	4 3/8	4 3/8	4 3/8
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 1/4	3 1/4	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 1/2

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 3/8	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 1/4	4 1/4	4 9/16
	603		3.6	6	8		4 1/16	4 3/4	4 13/16	4 3/4
	604		4.5	8			4 9/16	5 3/8	5 3/8	5 1/4
2 ½	600	1200	1.7	3 ½	5	2-3 ½	2 11/16	3 1/4	3 1/4	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 1/2	4 5/8	4 1/2
	603		4.1	8			4 1/4	5 1/8	5 1/8	5
	604		4.5		10		4 7/8	5 5/8	5 3/4	5 1/2
3	600	1200	1.9	4	5	2-3 ½	2 15/16	3 1/2	3 1/2	3 9/16
	601		2.8	5	6	4-6	3 5/8	4 5/16	4 5/16	4 1/4
	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 1/2	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 1/2
	602		3.6	8			4 5/16	5 1/8	5 1/8	5
	603		4.5		10	8-10	4 11/16	5 5/8	5 5/8	5 11/16
	604		4.9	10			5 3/8	6 5/16	6 5/16	6 3/8
4	600	1200	2.3	5	6	4-6	3 9/16	4 1/4	4 1/4	4 3/16
	601		3.2	6	8		4 1/16	4 7/8	4 7/8	4 3/4
	602		3.6	8			4 9/16	5 3/8	5 3/8	5 1/4
	603		4.5		10	8-10	5	5 15/16	5 15/16	6
	604		4.9	10			5 5/8	6 9/16	6 9/16	6 5/8
	605		6.1		12	12-14	6 1/2	7 5/8	7 5/8	7 9/16
	605A	7200	11.6							
	606A		15.7	14	16		8 1/8	9 5/8	9 1/2	9 5/16

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	12			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	7200	12.9				7 5/8	9 1/8		8 13/16
	606A		16.3	16	18	16-20	9 1/8	10 5/8	10 9/16	10 7/16
8	601	1800	5.8	10	12	8-10	6	7 1/16	7 1/16	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	7200	16.9					10 1/16		
	606A		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	-	12 3/8
	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	11140	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	11 9/16
	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	11140	30.1		-		12 7/16	14 5/16	-	13 7/8
	606A		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	24	-		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	13370	44.8		-		14 3/8	17 3/16	-	16 1/8
	606A		52.1		-		16 1/8	18 15/16	-	17 7/8

PART# 600-606A

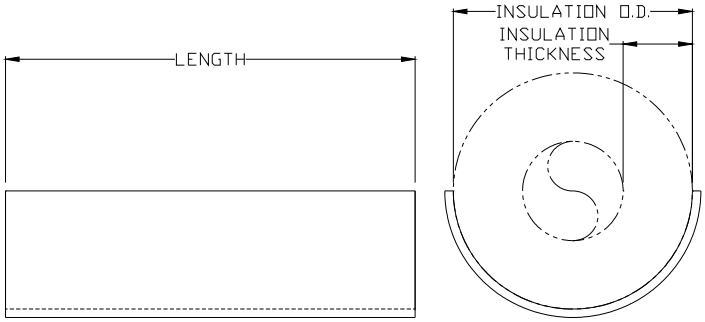
Pipe Saddle
Protection Saddle

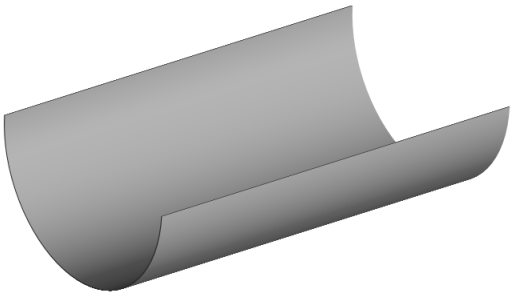
Weights (lbs) • Loads (lbs) • Dimensions (inches)

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 coated to customer specifications
APPLICATIONS: 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)

<table>
<tr><th rowspan="3">Pipe Size</th><th colspan="5">Insulation Thickness</th><th colspan="5">Insulation Thickness</th></tr>
<tr><th>1/2</th><th>3/4</th><th>1</th><th>1 1/2</th><th>2</th><th>1/2</th><th>3/4</th><th>1</th><th>1 1/2</th><th>2</th></tr>
<tr><th colspan="5">Shield Size</th><th colspan="5">Size of Part# 380 or Part# 381</th></tr>
<tr><td>½</td><td rowspan="2">1A</td><td>1A</td><td>-</td><td>-</td><td>-</td><td rowspan="2">2</td><td>2</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>¾</td><td rowspan="2">2A</td><td rowspan="2">3A</td><td>4A</td><td>6A</td><td rowspan="2">2 ½</td><td rowspan="2">3</td><td>3 ½</td><td rowspan="2">5</td></tr>
<tr><td>1</td><td>5A</td><td rowspan="2">7A</td><td rowspan="2">4</td></tr>
<tr><td>1 ¼</td><td rowspan="2">2A</td><td rowspan="2">3A</td><td rowspan="2">4A</td><td rowspan="2">6A</td><td rowspan="2">2 ½</td><td rowspan="2">3</td><td rowspan="2">3 ½</td><td rowspan="3">5</td></tr>
<tr><td>1 ½</td><td rowspan="2">8A</td><td rowspan="2">6</td></tr>
<tr><td>2</td><td>3A</td><td>4A</td><td>5A</td><td>7A</td><td>3</td><td>3 ½</td><td>4</td></tr>
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<tr><td>3</td><td>5A</td><td>6A</td><td>7A</td><td>4</td><td>5</td></tr>
<tr><td>3 ½</td><td>-</td><td>-</td><td rowspan="2">8A</td><td rowspan="2">9A</td><td rowspan="2">10A</td><td>-</td><td>-</td><td rowspan="2">6</td><td rowspan="3">8</td></tr>
<tr><td>4</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>5</td><td>-</td><td>-</td><td>9B</td><td>10B</td><td>11B</td><td>-</td><td>-</td><td rowspan="2">8</td><td rowspan="2">10</td></tr>
<tr><td>6</td><td>-</td><td>-</td><td>10B</td><td>11B</td><td>12B</td><td>-</td><td>-</td><td>10</td></tr>
<tr><td>8</td><td>-</td><td>-</td><td>12B</td><td>13C</td><td>14C</td><td>-</td><td>-</td><td>10</td><td>12</td><td>12</td></tr>
<tr><td>10</td><td>-</td><td>-</td><td>14C</td><td>15C</td><td>16C</td><td>-</td><td>-</td><td>12</td><td>14</td><td>16</td></tr>
<tr><td>12</td><td>-</td><td>-</td><td>16C</td><td>17C</td><td>18C</td><td>-</td><td>-</td><td rowspan="2">16</td><td>16</td><td rowspan="2">18</td></tr>
<tr><td>14</td><td>-</td><td>-</td><td>17C</td><td>18C</td><td>19C</td><td>-</td><td>-</td><td>18</td></tr>
<tr><td>16</td><td>-</td><td>-</td><td>19C</td><td>20C</td><td>21C</td><td>-</td><td>-</td><td>18</td><td>20</td><td>20</td></tr>
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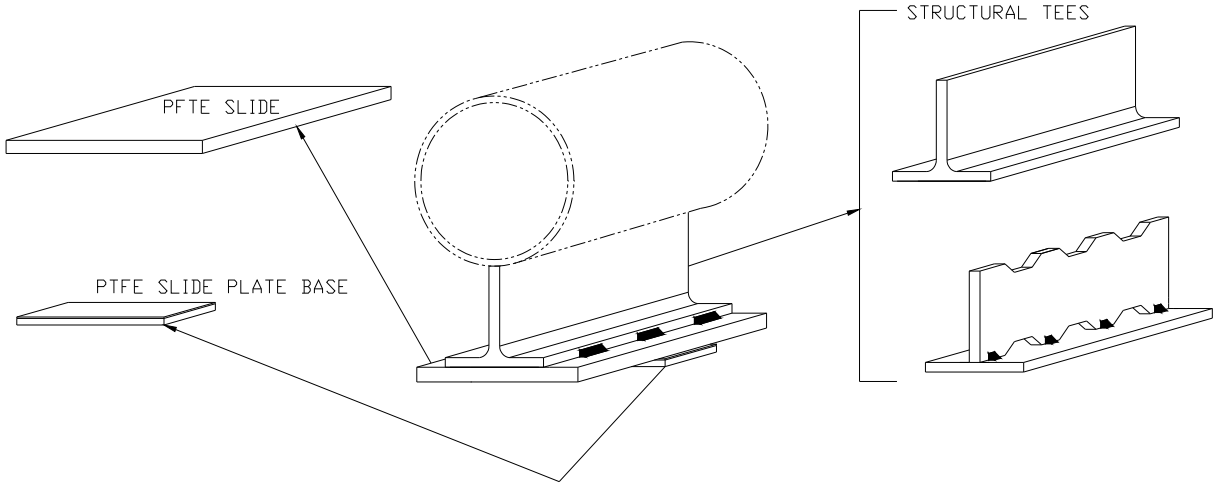
<tr><td>24</td><td>-</td><td>-</td><td>26C</td><td>27C</td><td>28C</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>

PART# 630

Pipe Slide
Pipe Slide Assembly

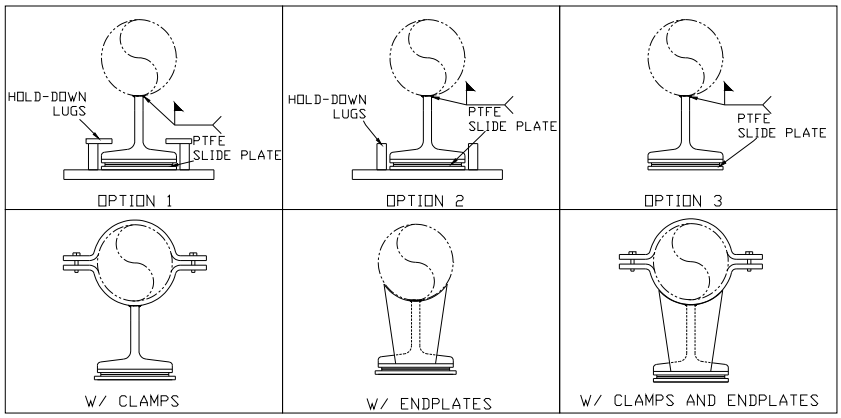


SIZE RANGE: Any size pipe within reasonable loads.
MAX TEMPERATURE: 750°F
TEMPERATURE RANGE AT PTFE: -20°F TO 400°F
MATERIAL: Rib can be carbon steel, stainless steel, or alloy depending on requirements, PTFE bonded slide plates with carbon steel, stainless steel or alloy steel base.
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: 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.

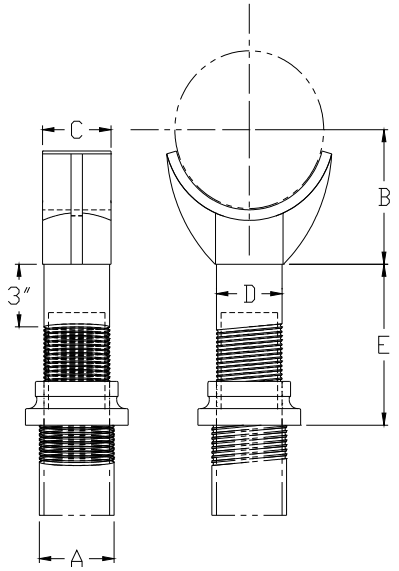
AVAILABLE OPTIONS:
· Increased travels
· Increased ″H″ or ″T″ section heights
· Clamps
· Base plates with mounting holes
· End plates

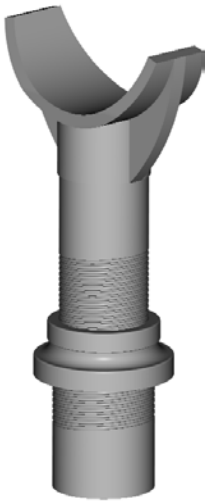
ASSEMBLIES: The pipe slide assemblies can be ordered with any of the shown ribs, structural tee or fabricated tee. Also, these can be ordered in any combination of options 1-3.



Pipe Supports
Adjustable Pipe Saddle

PART# 650





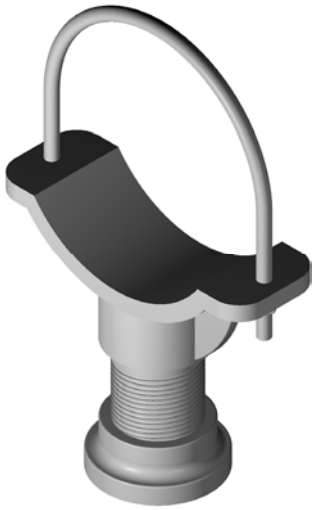
SIZE RANGE: 2 1/2″ to 36″ inches.
MATERIAL: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: Stanchion type support where vertical adjustment of stationary pipe is required.
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 38)
INSTALLATION: 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.

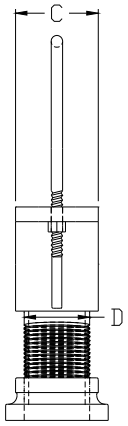
Load (lbs) • Weight (lbs) • Dimensions (inches)

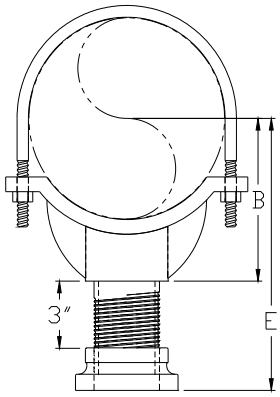
Pipe Size	Weight	A	B	C	D	E	
						Minimum	Maximum
2 ½	9.0	2 ½	3 ½	3	1 ½	8	13
3	9.2		3 3/4			8 1/4	13 1/4
3 ½	9.4		4			8 ½	13 ½
4	15.0	3	4 1/4	3 5/8	2 ½	9 1/4	14
5	16.7		4 7/8			10	14 3/4
6	17.7		5 1/2			10 ½	15 1/4
8	20.2		6 7/8			11 3/4	16 ½
10	25.2		8 1/2			13 ½	18 1/4
12	29.0		9 15/16			15	19 3/4
14	40.2	4	10 15/16	4 5/8	3	16 1/4	20 3/4
16	53.2		12 3/8			17 3/4	22 1/4
18	70.8	6	13 7/8		3 ½	19 ½	24
20	104.8		15 3/8	6 3/4		21	25 ½
24	137.0		17 15/16		4	23 3/4	28 1/4
30	170.0		21 5/16			27	31 ½
32	181.0		22 1/2	8 3/4		28 1/4	32 3/4
36	249.0		24 1/2			30 1/4	34 3/4

PART# 660

Pipe Supports
Pipe Saddle Support







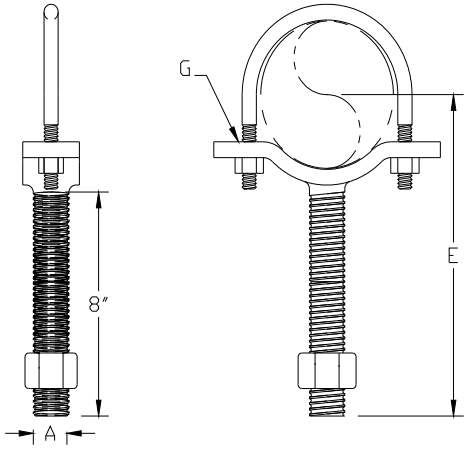
SIZE RANGE: 4″ to 36″ inches.
MATERIAL: Carbon Steel
FINISH: Black, Galvanized, or coated to customers specifications
APPLICATIONS: Stanchion type support where vertical adjustment of stationary pipe is needed.
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 37)
INSTALLATION: 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		15 13/16	20 5/16
16	42.2	11 1/2			16 13/16	21 5/16
18	60.0	13 1/2		3 ½	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 with U-Bolt

PART# 662



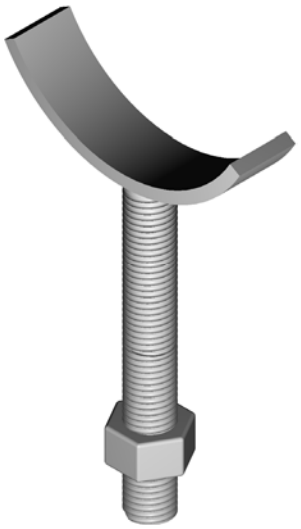
SIZE RANGE: 2″ to 12″ inches.
MATERIAL: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: Stanchion type support where vertical adjustment and stability of stationary pipe is required.
ORDERING: Specify part number, name, finish and pipe size to be supported.

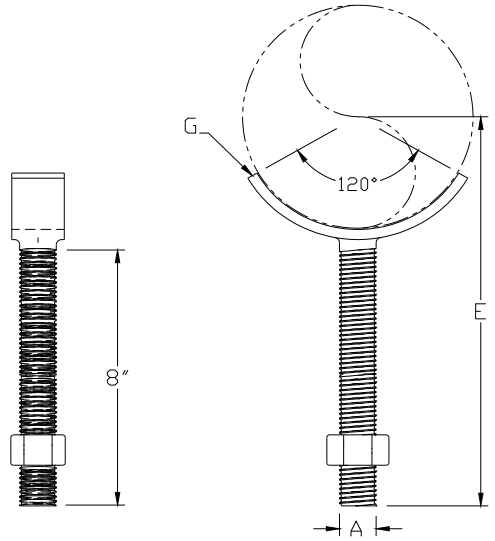
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	Weight	A	C	E	G
2	1.2	5/8	2 11/16	9 7/16	1/4 x 1
2 ½	1.4		3 5/16	9 11/16	
3	1.6		3 15/16	10	
3 ½	2.6		4 7/16	10 1/4	
4	3.0	7/8	5 1/4	10 ½	1/4 x 1 1/4
5	3.2		6 1/8	11	
6	4.9	1	7 1/4	11 11/16	3/8 x 1 1/2
8	6.2		9 3/8	12 11/16	
10	10.5	1 1/4	11 ½	13 7/8	1/2 x 2
12	11.8		13 ½	14 7/8	

PART# 664

Pipe Supports
Adjustable Pipe Saddle Support





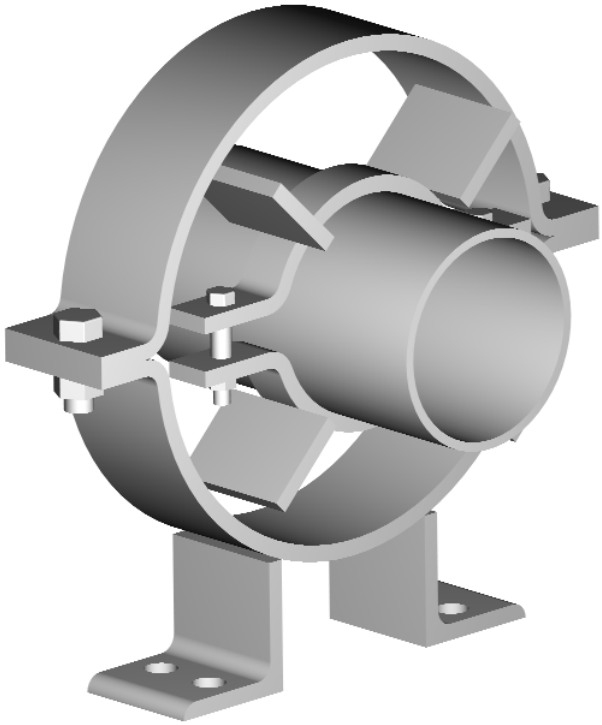
SIZE RANGE: 2″ to 12″ inches.
MATERIAL: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: Stanchion type support where vertical adjustment of stationary pipe is needed.
ORDERING: Specify part name, number, finish and pipe size to be supported.

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

Pipe Size	Weight	A	E	G
2	1.0	5/8	9 7/16	1/4 x 1
2 ½	1.4		9 11/16	
3	1.6		10	
3 ½	2.6		10 1/4	
4	3.0	7/8	10 ½	1/4 x 1 1/4
5	3.2		11	
6	4.9	1	11 11/16	3/8 x 1 1/2
8	6.2		12 11/16	
10	10.5	1 1/4	13 7/8	1/2 x 2
12	11.8		14 7/8	

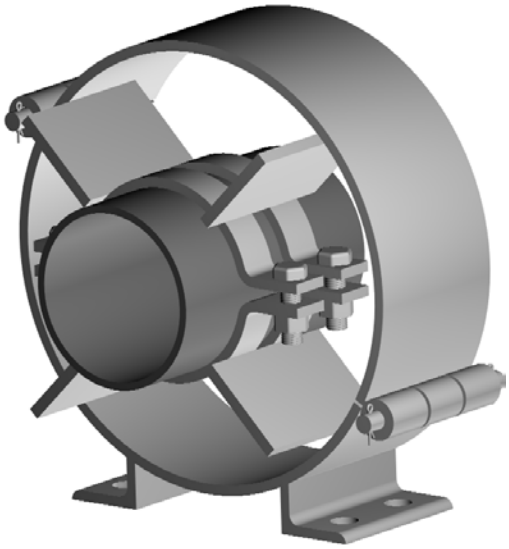
Pipe Guides
Pipe Alignment Guide:
Medium Duty

PART# 680



Pipe Guides
Pipe Alignment Guide:
Heavy Duty

PART# 690



SIZE RANGE: 1″- 24″ inch pipe with 1″- 4″ inches of insulation.
MATERIAL: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: For maintaining alignment of piping through its axial expansion and contraction cycles.
ORDERING: Specify finish, pipe size and insulation thickness.

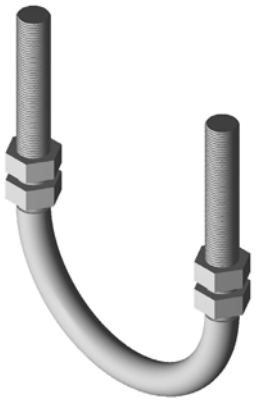
NOTES:

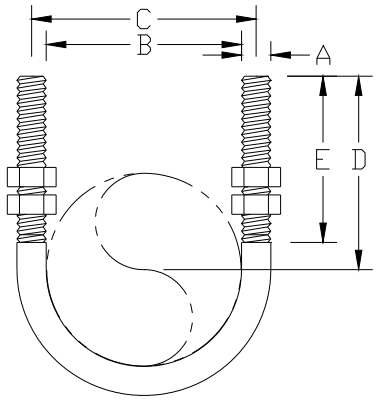
Section 7

Table of Contents
U-bolts and Straps

PART# 700

U-Bolt
Standard U-Bolt





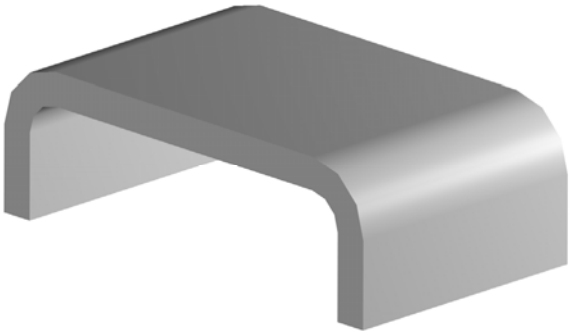
SIZE RANGE: 1/2″ to 36″ inch pipe.
MATERIAL: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: For support or guide of heavy loads.
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 24).
ORDERING: Specify part name, number, rod size and pipe size to be supported.

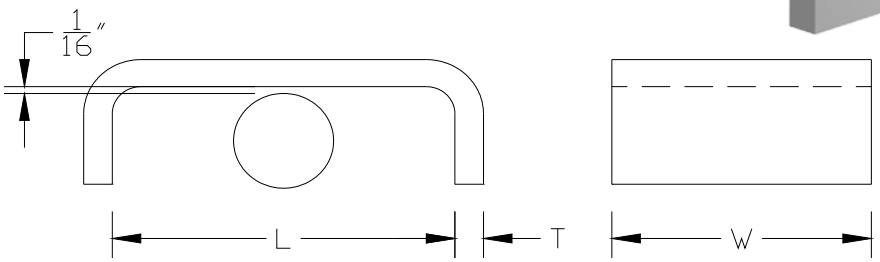
Load (lbs) • Weight (lbs) • Dimensions (inches)

Pipe Size	Rod Size	Weight	B	C	D	E
½	⅜ - ¼	.11	15/16	1 3/16	2 ¾	2 1/8
¾		.12	1 1/8	1 3/8		
1		.12	1 3/8	1 5/8		
1 1/4	⅜	.28	1 11/16	2 1/16	2 7/8	
1 ½		.30	2	2 3/8	3	2 ½
2		.33	2 7/16	2 13/16	3 1/4	
2 ½	½	.73	2 15/16	3 7/16	3 ¾	3
3		.78	3 9/16	4 1/16	4	
3 ½		.84	4 1/16	4 9/16	4 1/4	
4		.90	4 9/16	5 1/16	4 ½	
5		1.0	5 5/8	6 1/8	5	
6	⅝	2.0	6 ¾	7 3/8	6 1/8	3 ¾
8		2.3	8 ¾	9 3/8	7 1/8	
10	¾	4.9	10 7/8	11 5/8	8 3/8	4
12	⅞	7.7	12 7/8	13 ¾	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 Strap

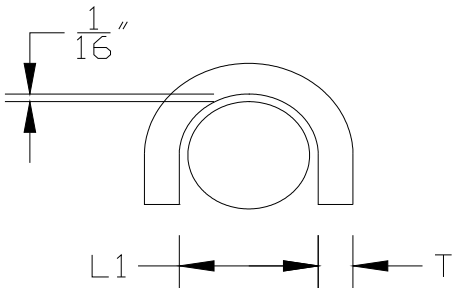
PART# 711

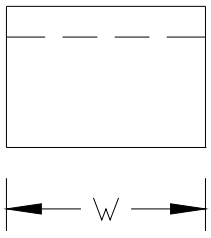


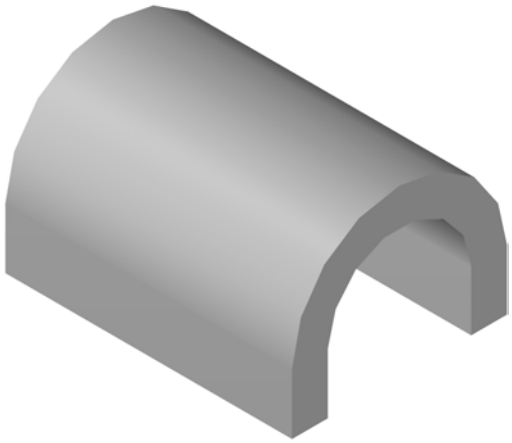


Pipe Saddle
Protection Saddle

PART# 712







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

Pipe Size	L	L1	T	W
½	3	1	1/4	2
¾	3 ½	1 3/16		
1	4	1 7/16		
1 1/4	4 ½	1 ¾	3/8	3
1 ½	5	2		
2	5 ½	2 ½		
2 ½	6	3	½	4
3	6 ½	3 9/16		
4	7 ½	4 9/16		
6	9 ¾	6 ¾		6

SIZE: 1/2″ to 6″ inches.
MATERIAL: Carbon Steel
FINISH: Black, Galvanized, or coated to customer specifications
APPLICATIONS: For restraint of pipe.
ORDERING: Specify part number, name, finish.

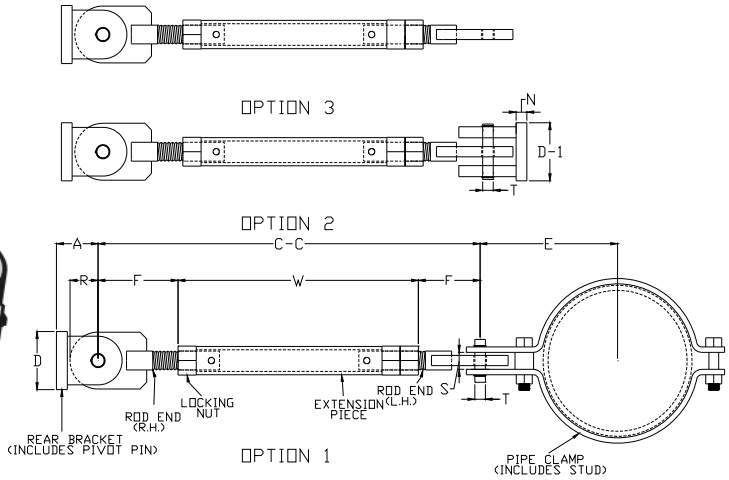
NOTES:

Section 8

Table of Contents
Sway Struts & Sway Braces

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.

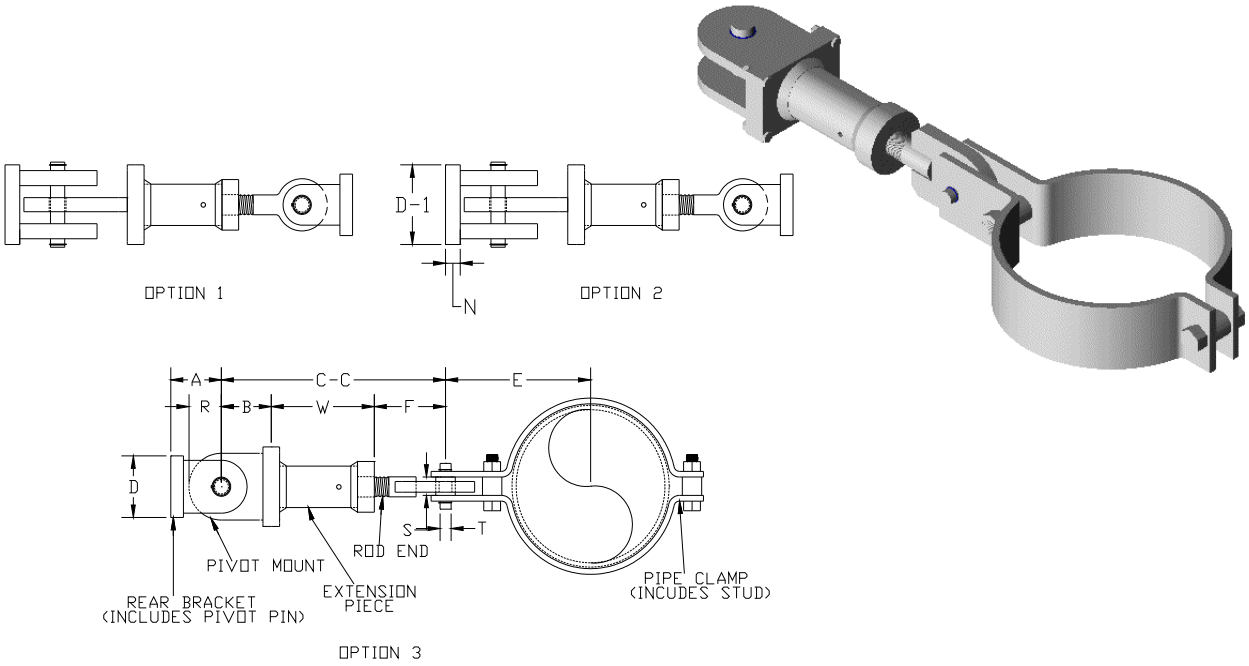
ORDERING: Specify assembly size, part number, name, option number, normal pipe or special O.D. and ″W″ dimensions. Alloy pipe clamps are available as a special order. The rear bracket assembly may be ordered separately. For restraint parallel to the pipe axis using two sway strut assemblies, a riser 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	3/4	1	3 7/16	2	1 1/4	1/4	5/8	5/8	0.374 0.372	60	16 1/2	53 1/8	9 5/8	3 7/16	3/16	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		96	14 7/16	3 11/16
C	4500	2	1								0.749 0.747	120		111 1/8	10 1/8					
1	8000		1 1/4		4 13/16		2 7/8	3/4			0.999 0.997		21	110 3/8	11 3/8	4 13/16	5/16		16 1/2	4 1/8
2	11630	2 1/2	1 1/2		5						0.999 0.997		21 3/8	110		5			16 7/8	4 1/4
3	15700		1 3/4	3	7 3/4	3	3 3/16	3/4	1 1/2	1 11/16	1.249 1.247		22 7/8	108 1/2		5 3/4			18 3/8	5
4	20700	3	2		6						1.249 1.247		25	108	13	6	3/8		20 1/2	5 1/4
5	27200		2 1/4	4	7 3/4	6 1/8	4 1/4	1 1/4	2 1/2	2	1.499 1.497		26 1/2	106 1/2		6 3/4			22	6
6	33500	4	2 1/2	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		7 5/8			23 3/4	6 7/8
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	15	8 3/4	5/8		28	8
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	3/4		34 3/4	10 1/4

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.

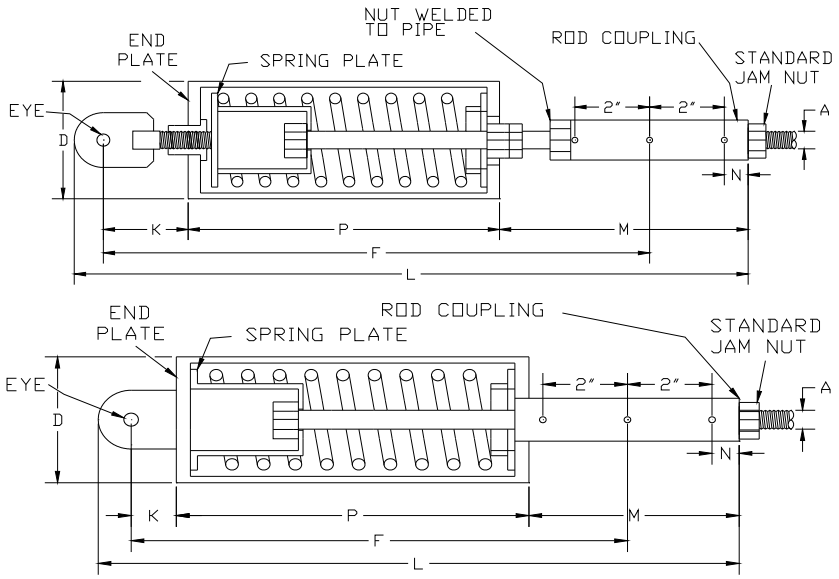
ORDERING: Specify assembly size, part number, name, O.D. or option number, if other than standard, and load. Ex: Size A-1, Part# 802 Mini Sway Strut 10 3/4 O.D. pipe, 650 lb. load. Alloy pipe clamps are available as a special order. For restraint parallel to the pipe axis using two sway strut assemblies, a riser clamp is available. If a riser clamp is required, contact your 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	650	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	4500	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	8000	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 7/8	6 7/16	3 3/16	6 7/16									
	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, leading; guiding or restraining the movement of pipe resulting from thermal expansion and bracing a pipe line against sway.
SPECIFICATIONS: Fulfils 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″ travel in either direction.
- Accurate neutral adjustment assured.

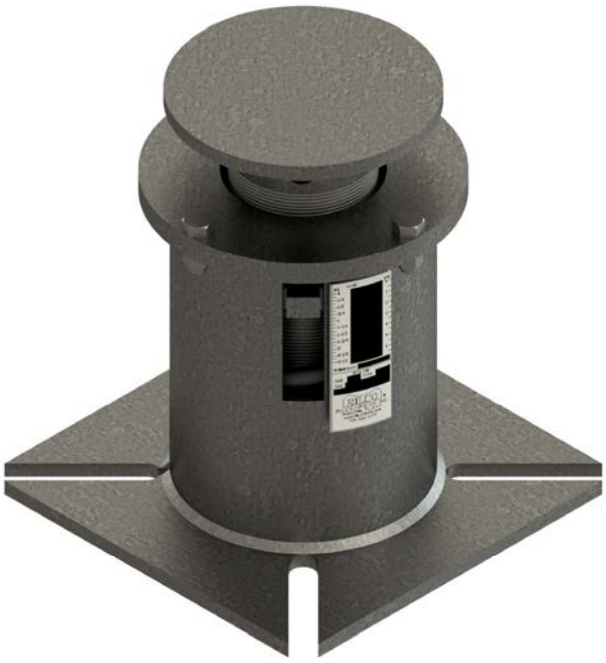
APPROVALS: Complies with Manufacturers Standardization Society SP-69 (Type 50)
ORDERING: Specify part number, name, sway brace size and finish. The RILCO Part# 830 and Part# 831 consists of the sway brace only.

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

Sway Brace Size	Pipe Size	Preload And Spring Scale	Max Force	Wt	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		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	6 - 30	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:

RVS-268, TYPE F



RVS-268, TYPE G

12700 Tanner Road Houston, Texas USA 77041 Phone No: (713) 466-4777 Fax No: (713) 466-6547 www rilco.com

Section 9

Table of Contents
Variable Springs

VARIABLE SPRINGS

Variable springs are used to support piping which is subject to thermal expansion and other factors which cause the pipe support point to move. They are called "Variable" because the force exerted by the "spring" varies through their range of travel. As the supported pipe moves upward, the force exerted by the "spring" decreases. Conversely, during downward travel, the force of the "spring" increases.

RECOMMENDED SERVICE

Generally used to support piping where thermal movements cause the system position and dimensions to change. Also commonly used where the transfer of an uncontrolled load can cause damage to the equipment. A "Variable" spring may not necessarily be recommended in all the above applications, however. As an example, when the variability surpasses 25%, a "Constant" support should be used. Contact your RILCO "Support Team" member for a catalog and information on our "Constant Support" products.

SPECIFICATIONS

All of the RILCO spring units are designed to meet or exceed the requirements of the ASME Code for Pressure Piping, ASME B31.1, B31.3, and MSS SP -58.

STANDARD DESIGN FEATURES

- Load indicators are visible in the travel slots and the loading is easy to read.
- All springs are protected from weather conditions and damage by the spring casing.
- Closure plate operates as a centering unit and a guide sustaining spring alignment.
- Every size has reserve travel (over travel) at both higher and lower boundaries of the operating range of the spring.
- Springs are calibrated for accurate loading.
- Spring and casing are fabricated from steel making them compact and rugged.
- Cold set at the factory to exacting customer requirements.
- The spring coil is epoxy powder-coated to provide protection to the coil, while the unit is hot-dipped galvanized per ASTM A153 protecting the unit from corrosive and climatic conditions.

OPTIONAL DESIGN FEATURES

- "Limit stops" installed in order to accurately limit spring movement.
- Lifting lugs-available on all sizes.
- Optional casing and component finishes.
- Available fabricated entirely from stainless steel, including coil.
- Adjustable Travel Stops available upon request on spring sizes 15 and larger.

INSTALLATION AND ADJUSTMENT

A set of installation instructions can be included with each shipment or contact your RILCO "Support Team" for a copy.

Adjustments are made by rotating the rod coupling, turnbuckle, or load column supplied with the spring.

WHEN ORDERING
Please specify the following:

1. Figure: RVS-82, 268, 98, Triple or Quadruple

2. Size: 0-22 for all figures, RSV-268 also available in 000 and 00

3. Type: A, ***B**, ***C**, D, E, F, or G

4. Movement and direction of movement: From cold (installed) to hot (operating) position

5. Cold Load: Installed position

6. Hot Load: Operating position

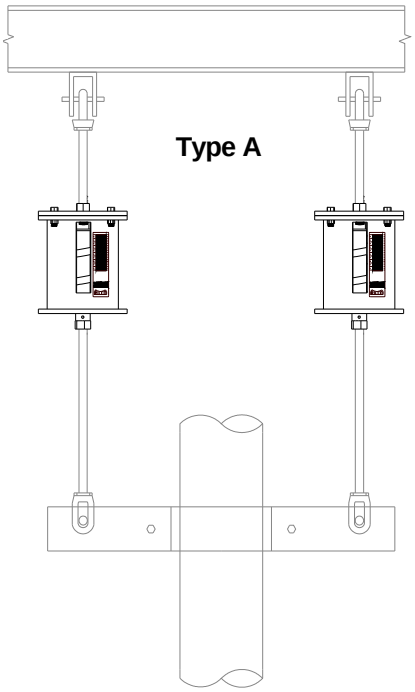
7. Customer hanger identification: Typically the mark number.

8. Rod Spacing: Required **"Type G"** only.
If the dimension exceeds our recommended maximum shown in the table, contact your **RILCO** "Support Team" member for ordering assistance.

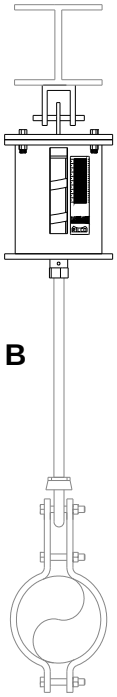
9. Type Finish: Standard galvanized or customer specified

10. Special Features: Limit stops, Load column guide (Type F), Lifting lugs, or other special features need to be specified at time of inquiry.

***Connection pins to the structure are not included with the type B or C units and must be ordered separately.** Please refer to the **RILCO** Hardware Catalog for connection options.

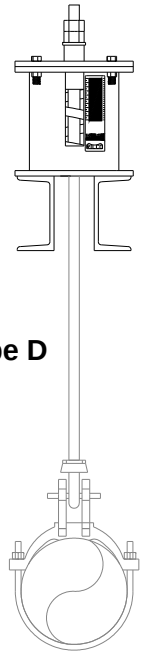


Type A

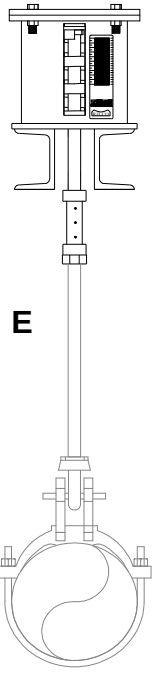


Type B

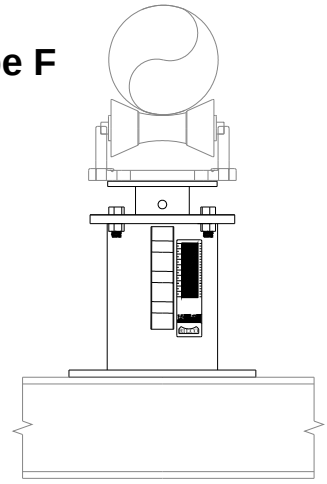
Type C



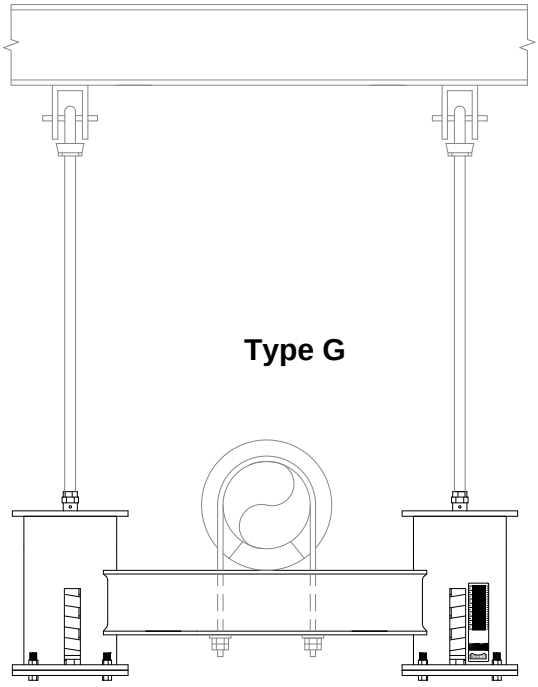
Type D



Type E



Type F



Type G

DETERMINING THE TYPE

The type of "Variable Spring" hanger to be utilized depends upon several variables. Those include the physical characteristics of the hanger attachment, whether it will be supported above or below the spring and the potential of interference from other components.

The "Variable Spring" hangers illustrated above, Types "A" through "G" represent the seven standard types available. They are described as follows:

- Type A - Unit is attached to the supporting member by a vertical rod threaded into the top of the case.
- Type B - The unit has a single lug for attachment to the structure to permit connection with a bolt or pin to a clevis or welded beam attachment. For use where headroom is limited.
- Type C - The unit has two lugs welded to the top of the casing to permit connection with a bolt or pin through a single lug attachment on the structure. Also designed for limited headroom applications.
- Type D - Designed for use where the variable spring is positioned above the supporting structure and the spring adjustment is made from the top.
- Type E - Also designed for use where the variable spring is positioned above the supporting structure, but the spring adjustment must be made from below the structure on which the case is supported.
- Type F - Designed to support piping from below. Used to support pipe from the floor or where support from overhead is not practical.
- Type G - For use where headroom is limited or an obstruction prohibits the use of a single rod type Variable Spring.

LOAD SELECTION PROCEDURE - ENGLISH UNITS

Variability is the key principle in selecting the figure and size of a variable spring support. Variability is determined by calculating the change in percentage of the supporting force of a variable spring between the hot (operating) and cold (installed) loads using the following formula:

$$\text{Variability} = \frac{\text{Movement} \times \text{Spring rate}}{\text{Hot (operating) load}}$$

If the variability is in question, a lower variability is more desirable. The lower variability does not transfer as much stress to the adjacent equipment at the cold (installed) position than a spring with higher variability. To comply with requirements of MSS SP-58 specifications, variability should not exceed 25%. If the design conditions cause the variability to exceed the recommended maximum, RILCO strongly suggests the use of one of our Constant Supports instead of a variable.

SPRING HANGER FIGURE AND SIZE SELECTION

Once hot (operating) or cold (installed) load and travel have been determined in order to select the correct Spring Hanger Figure and size selection:

1. Select a spring figure (RVS-82, 268, etc.) with a working range which will accommodate the travel.

2. Find a spring size where the load is approximately in the middle of the working range loads.

3. Calculate the missing load (either Hot or Cold) by using the following formulas:

Hot (operating) load = Cold (installed) load - (Travel x Spring rate)

or

Cold (installed) load = Hot (operating) load + (Travel x Spring rate)

4. Verify that both loads are within the working range, preferably equidistance from the center of the load chart.

Variable Spring Load Chart (lbs)

	Working Range (in)					Size											
	RVS-					RVS-268		RVS-82, 268, 98, Triple & Quadruple Spring									
	Quadruple	Triple	98	268	82	000	00	0	1	2	3	4	5	6	7	8	9
►						7	19	43	63	81	105	141	186	252	336	450	600 ◄
Overtravel ►						7	20	44	66	84	109	147	197	263	350	469	625 ◄
►	2	1-1/2	1	1/2	1/4	8	22	46	68	88	114	153	206	273	364	488	650 ◄
►						9	24	48	71	91	118	159	213	284	378	506	675
	0	0	0	0	0	10	26	50	74	95	123	165	221	294	392	525	700
						11	28	52	76	98	127	170	228	305	406	544	725
						12	30	54	79	101	131	176	236	315	420	563	750
						12	31	56	81	105	136	182	244	326	434	581	775
	2	1-1/2	1	1/2	1/4	14	34	58	84	108	140	188	252	336	448	600	800
						14	35	59	87	111	144	194	260	347	462	619	825
						15	38	61	89	115	149	200	268	357	476	638	850
						16	40	63	92	118	153	206	276	368	490	656	875
	4	3	2	1	1/2	17	41	65	95	122	158	212	284	378	504	675	900
						18	43	67	97	125	162	217	291	389	518	694	925
						19	45	69	100	128	166	223	299	399	532	713	950
						20	47	71	102	132	171	229	307	410	546	731	975
	6	4-1/2	3	1-1/2	3/4	21	49	73	105	135	175	235	315	420	560	750	1000
						21	50	74	108	138	179	241	323	431	574	769	1025
						22	53	76	110	142	184	247	331	441	588	788	1050
						23	55	78	113	145	188	253	339	452	602	806	1075
	8	6	4	2	1	24	56	80	116	149	193	258	347	462	616	825	1100
						25	58	82	118	152	197	264	354	473	630	844	1125
						26	60	84	121	155	201	270	362	483	644	863	1150
						27	62	86	123	159	206	276	370	494	658	881	1175
	10	7-1/2	5	2-1/2	1-1/4	28	64	88	126	162	210	282	378	504	672	900	1200
►						28	66	89	129	165	214	288	386	515	686	919	1225 ◄
Overtravel ►						29	68	91	131	169	219	294	394	525	700	938	1250 ◄
►	2	1-1/2	1	1/2	1/4	30	70	93	134	172	223	300	402	536	714	956	1275 ◄
►						31	72	95	137	176	228	306	410	546	728	975	1300 ◄
						Spring Rate (lbs/In)											
					82	-	-	30	42	54	70	94	126	168	224	300	400
				268		7	15	15	21	27	35	47	63	84	112	150	200
			98			-	-	7	10	13	17	23	31	42	56	75	100
		TRIPLE				-	-	5	7	9	12	16	21	28	37	50	67
	QUADRIPLE					-	-	4	5	7	9	12	16	21	28	38	50

5. If the loads are at either extreme, select a new spring size and re-calculate the missing load until both the loads are satisfactory.

6. Calculate the variability, which should not exceed 25%.

When Hot (operating) and Cold (installed) loads are known:

1. Select a spring size where both loads are ideally equidistance from the center of the load chart.

2. Calculate the movement with the following formula:

$$\text{Movement} = \frac{\text{Cold (installed) load - Hot (operating) load}}{\text{Spring rate}}$$

3. Select a Spring figure (RVS-82, 268 etc.) which will give a variability lower than 25%.

NOTE: The lower the variability the better the result.

Your RILCO "Support Team" is always available to assist you with these calculations or to recommend product choices.

Variable Spring Load Chart (lbs)

Size													Working Range (in)				
RVS-82, 268, 98, Triple & Quadruple Spring													RVS-				
10	11	12	13	14	15	16	17	18	19	20	21	22	82	268	98	Triple	Quad
► 780	1020	1350	1800	2400	3240	4500	6000	7990	10610	14100	18750	25005					◄
► 813	1063	1406	1875	2500	3375	4688	6250	8322	11053	14588	19531	26047					◄ Overtravel
► 845	1105	1463	1950	2600	3510	4875	6500	8655	11495	15275	20313	27089	1/4	1/2	1	1-1/2	2 ◄
► 878	1148	1519	2025	2700	3645	5063	6750	8987	11938	15863	21094	28313					◄
910	1190	1575	2100	2800	3780	5250	7000	9320	12380	16450	21875	29173	**0**	**0**	**0**	**0**	**0**
943	1233	1631	2175	2900	3915	5438	7250	9652	12823	17038	22656	30215					
975	1275	1688	2250	3000	4050	5625	7500	9985	13265	17625	23438	31256					
1008	1318	1744	2325	3100	4185	5813	7750	10317	13708	18213	24219	32298					
1040	1360	1800	2400	3200	4320	6000	8000	10650	14150	18800	25000	3340	**1/4**	**1/2**	**1**	**1-1/2**	**2**
1073	1403	1865	2475	3300	4455	6188	8250	10982	14592	19388	25781	34382					
1105	1445	1913	2550	3400	4590	6375	8500	11315	15035	19975	26563	35424					
1138	1488	1969	2625	3500	4725	6563	8750	11647	15477	20563	27344	36466					
1170	1530	2025	2700	3600	4860	6750	9000	11980	15920	21150	28125	37508	**1/2**	**1**	**2**	**3**	**4**
1203	1573	2081	2775	3700	4995	6938	9250	12312	16362	21738	28906	38549					
1235	1615	2138	2850	3800	5130	7125	9500	12645	16805	22325	29688	39591					
1268	1658	2194	2925	3900	5265	7313	9750	12977	17247	22913	30469	40633					
1300	1700	2250	3000	4000	5400	7500	10000	13310	17690	23500	31250	41675	**3/4**	**1-1/2**	**3**	**4-1/2**	**6**
1333	1743	2306	3075	4100	5535	7688	10250	13642	18132	24088	32031	42717					
1365	1785	2363	3150	4200	5670	7875	10500	13975	18575	24675	32813	43759					
1398	1828	2419	3225	4300	5805	8063	10750	14307	19017	25263	33594	44801					
1430	1870	2475	3300	4400	5940	8250	11000	14640	19460	25850	34375	45843	**1**	**2**	**4**	**6**	**8**
1463	1913	2531	3375	4500	6075	8438	11250	14972	19902	26438	35156	46885					
1495	1955	2588	3450	4600	6210	8625	11500	15305	20345	27025	35938	47926					
1528	1998	2644	3525	4700	6345	8813	11750	15637	20787	27613	36719	48968					
1560	2040	2700	3600	4800	6480	9000	12000	15970	21230	28200	37500	50010	**1-1/4**	**2-1/2**	**5**	**7-1/2**	**10**
► 1593	2083	2756	3675	4900	6615	9188	12250	16302	21672	28788	38281	51052					◄
► 1625	2125	2813	3750	5000	6750	9375	12500	16635	22115	29375	39063	52094					◄ Overtravel
► 1658	2168	2869	3825	5100	6885	9563	12750	16967	22557	29963	39844	53136	**1/4**	**1/2**	**1**	**1-1/2**	**2** ◄
► 1690	2210	2925	3900	5200	7020	9750	13000	17300	23000	30550	40625	54178					◄
Spring Rate (lbs/In)													**82**				
520	680	900	1200	1600	2160	3000	4000	5200	7080	9400	12500	16670					
260	340	450	600	800	1080	1500	2000	2660	3540	4700	6250	8335	**268**				
130	170	225	300	400	540	750	1000	1330	1770	2350	3125	4167	**98**				
87	113	150	200	267	360	500	667	887	1180	1567	2083	2778	**TRIPLE**				
65	85	113	150	200	270	375	500	665	885	1175	1563	2084	**QUADRUPLE**				

LOAD SELECTION PROCEDURE - METRIC UNITS

Variability is the key principle in selecting the figure and size of a variable spring support. Variability is determined by calculating the change in percentage of the supporting force of a variable spring between the hot (operating) and cold (installed) loads using the following formula:

$$\text{Variability} = \frac{\text{Movement} \times \text{Spring Rate}}{\text{Hot (operating) load}}$$

If the variability is in question, a lower variability is more desirable. The lower variability does not transfer as much stress to the adjacent equipment at the cold (installed) position than a spring with higher variability. To comply with requirements of MSS SP-58 specifications, variability should not exceed 25%. If the design conditions cause the variability to exceed the recommended maximum, RILCO strongly suggests the use of one of our Constant Supports instead of a variable.

SPRING HANGER FIGURE AND SIZE SELECTION

Once hot (operating) or cold (installed) load and travel have been determined in order to select the correct Spring Hanger Figure and size selection:

1. Select a spring figure (RVS-82, 268, etc.) with a working range which will accommodate the travel.
2. Find a spring size where the load is approximately in the middle of the working range loads.
3. Calculate the missing load (either Hot or Cold) by using the following formulas:

Hot (operating) load = Cold (installed) load - (Travel x Spring rate)

or

Cold (installed) load = Hot (operating) load + (Travel x Spring rate)

4. Verify that both loads are within the working range, preferably equidistance from the center of the load chart.

Variable Spring Load Chart (kN)

Working Range (mm) RVS-					Size: RVS-268		Size: RVS- 82, 268, 98, Triple & Quadruple Spring									
Quadruple	Triple	98	268	82	000	00	0	1	2	3	4	5	6	7	8	9
					0.03	0.08	0.19	0.28	0.36	0.47	0.63	0.83	1.12	1.50	2.00	2.67
Overtravel					0.03	0.09	0.20	0.29	0.37	0.49	0.65	0.88	1.17	1.56	2.09	2.78
51	38	25	12	6	0.04	0.10	0.20	0.30	0.39	0.51	0.68	0.92	1.21	1.62	2.17	2.89
					0.04	0.11	0.21	0.32	0.40	0.53	0.71	0.95	1.26	1.68	2.25	3.00
0	0	0	0	0	0.04	0.12	0.22	0.33	0.42	0.55	0.73	0.98	1.31	1.74	2.34	3.12
					0.05	0.12	0.23	0.34	0.44	0.57	0.76	1.01	1.36	1.81	2.42	3.23
					0.05	0.13	0.24	0.35	0.45	0.58	0.78	1.05	1.40	1.87	2.51	3.34
					0.05	0.14	0.25	0.36	0.47	0.61	0.81	1.09	1.45	1.93	2.59	3.45
51	38	25	12	6	0.06	0.15	0.26	0.37	0.48	0.62	0.84	1.12	1.50	1.99	2.67	3.56
					0.06	0.16	0.26	0.39	0.49	0.64	0.86	1.16	1.54	2.06	2.75	3.67
					0.07	0.17	0.27	0.40	0.51	0.66	0.89	1.19	1.59	2.12	2.84	3.78
					0.07	0.18	0.28	0.41	0.53	0.68	0.92	1.23	1.64	2.18	2.92	3.89
102	76	51	25	12	0.08	0.18	0.29	0.42	0.54	0.70	0.94	1.26	1.68	2.24	3.00	4.01
					0.08	0.19	0.30	0.43	0.56	0.72	0.97	1.29	1.73	2.31	3.09	4.12
					0.08	0.20	0.31	0.45	0.57	0.74	0.99	1.33	1.78	2.37	3.17	4.23
					0.09	0.21	0.32	0.45	0.59	0.76	1.02	1.37	1.82	2.43	3.25	4.34
152	114	76	38	19	0.09	0.22	0.32	0.47	0.60	0.78	1.05	1.40	1.87	2.49	3.34	4.45
					0.09	0.22	0.33	0.48	0.61	0.80	1.07	1.44	1.92	2.55	3.42	4.56
					0.10	0.24	0.34	0.49	0.63	0.82	1.10	1.47	1.96	2.62	3.51	4.67
					0.10	0.24	0.35	0.50	0.65	0.84	1.13	1.51	2.01	2.68	3.59	4.78
203	152	102	51	25	0.11	0.25	0.36	0.52	0.66	0.86	1.15	1.54	2.06	2.74	3.67	4.90
					0.11	0.26	0.36	0.53	0.68	0.88	1.17	1.58	2.10	2.80	3.76	5.01
					0.12	0.27	0.37	0.54	0.69	0.89	1.20	1.61	2.15	2.87	3.84	5.12
					0.12	0.28	0.38	0.55	0.71	0.92	1.23	1.65	2.20	2.93	3.92	5.23
254	190	127	64	32	0.12	0.28	0.39	0.56	0.72	0.93	1.25	1.68	2.24	2.99	4.01	5.34
					0.12	0.29	0.40	0.57	0.73	0.95	1.28	1.72	2.29	3.05	4.09	5.45
Overtravel					0.13	0.30	0.40	0.58	0.75	0.97	1.31	1.75	2.34	3.12	4.17	5.56
51	38	25	12	6	0.13	0.31	0.41	0.60	0.77	0.99	1.34	1.79	2.39	3.18	4.25	5.67
					0.14	0.32	0.42	0.61	0.78	1.01	1.36	1.82	2.43	3.24	4.34	5.79
					Spring Rate (kN/mm)											
				82	-	-	0.13	0.19	0.24	0.31	0.42	0.56	0.75	1.00	1.34	1.78
			268		0.03	0.07	0.07	0.09	0.12	0.16	0.21	0.28	0.37	0.50	0.67	0.89
		98			-	-	0.03	0.04	0.06	0.08	0.10	0.14	0.19	0.25	0.33	0.45
	Triple				-	-	0.02	0.03	0.04	0.05	0.07	0.09	0.12	0.16	0.22	0.30
QUADRIPLE					-	-	0.02	0.02	0.03	0.04	0.05	0.07	0.09	0.12	0.17	0.22

5. If the loads are at either extreme, select a new spring size and re-calculate the missing load until both the loads are satisfactory.

6. Calculate the variability, which should not exceed 25%.

When Hot (operating) and Cold (installed) loads are known:

1. Select a spring size where both loads are ideally equidistance from the center of the load chart.

2. Calculate the movement with the following formula:

$$\text{Movement} = \frac{\text{Cold (installed) load - Hot (operating) load}}{\text{Spring Rate}}$$

3. Select a Spring figure (RVS-82, 268 etc.) which will give a variability lower than 25%.

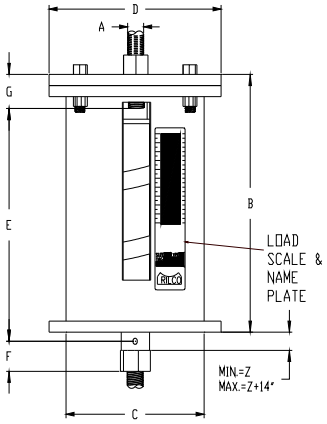
NOTE: The lower the variability the better the result.

Your RILCO "Support Team" is always available to assist you with these calculations or to recommend product choices.

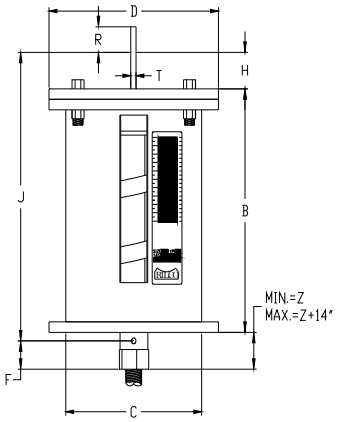
Variable Spring Load Chart (kN)

Size													Working Range (mm)				
RVS-82, 268, 98, Triple & Quadruple Spring													RVS-				
10	11	12	13	14	15	16	17	18	19	20	21	22	82	268	98	Triple	Quad
► 3.47	4.54	6.01	8.01	10.68	14.42	20.03	26.70	35.56	47.21	62.75	83.44	111.27					◄
► 3.62	4.73	6.26	8.34	11.13	15.02	20.86	27.81	37.03	49.19	64.92	86.91	115.91	6	12	25	38	51 ◄ Overtravel
► 3.76	4.92	6.51	8.68	11.57	15.62	21.69	28.93	38.51	51.15	67.97	90.39	120.55					◄
► 3.91	5.11	6.76	9.01	12.02	16.22	22.53	30.04	39.99	53.12	70.59	93.87	125.99					◄
4.05	5.30	7.01	9.35	12.46	16.82	23.36	31.15	41.47	55.09	73.20	97.34	129.82	**0**	**0**	**0**	**0**	**0**
4.20	5.49	7.26	9.68	12.91	17.42	24.20	32.26	42.95	57.06	75.82	100.82	134.46					
4.34	5.67	7.51	10.01	13.35	18.02	25.03	33.38	44.43	59.03	78.43	104.30	139.09					
4.49	5.87	7.76	10.35	13.80	18.62	25.87	34.49	45.91	61.00	81.05	107.77	143.73					
4.63	6.05	8.01	10.68	14.24	19.22	26.70	35.60	47.39	62.97	83.66	111.25	148.36	**6**	**12**	**25**	**38**	**51**
4.77	6.24	8.30	11.01	14.69	19.82	27.54	36.71	48.87	64.93	86.28	114.73	153.00					
4.92	6.43	8.51	11.35	15.13	20.43	28.37	37.83	50.35	66.91	88.89	118.21	157.64					
5.06	6.62	8.76	11.68	15.58	21.03	29.21	38.94	51.83	68.87	91.51	121.68	162.27					
5.21	6.81	9.01	12.02	16.02	21.63	30.04	40.05	53.31	70.84	94.12	125.16	166.91	**1/2**	**1**	**2**	**3**	**4**
5.35	7.00	9.26	12.35	16.47	22.23	30.87	41.16	54.79	72.81	968.93	128.63	171.54					
5.50	7.19	9.51	12.68	16.91	22.83	31.71	42.28	56.27	74.78	99.35	132.11	176.18					
5.64	7.38	9.76	13.02	17.36	23.43	32.54	43.39	57.75	76.75	101.96	135.59	180.82					
5.79	7.57	10.01	13.35	17.80	24.03	33.38	44.50	59.23	78.72	104.58	139.06	185.45	**19**	**38**	**76**	**114**	**152**
5.93	7.76	10.26	13.68	18.25	24.63	34.21	45.61	60.71	80.69	107.19	142.54	190.09					
6.07	7.94	10.52	14.02	18.69	25.23	35.04	46.73	62.19	82.66	109.80	146.02	194.73					
6.22	8.13	10.76	14.35	19.14	25.83	35.88	47.84	63.67	84.63	112.42	149.49	199.36					
6.36	8.32	11.01	14.69	19.58	26.43	36.71	48.95	65.15	86.60	115.03	152.97	204.00	**25**	**51**	**102**	**152**	**203**
6.51	8.51	11.26	15.02	20.03	27.03	37.55	50.06	66.63	88.56	117.65	156.44	208.64					
6.65	8.70	11.52	15.35	20.47	27.63	38.38	51.18	68.11	90.54	120.26	159.92	213.27					
6.80	8.89	11.77	15.69	20.92	28.24	39.22	52.29	69.58	92.50	122.88	163.40	217.91					
6.94	9.08	12.02	16.02	21.36	28.84	40.05	53.40	71.07	94.47	125.49	166.88	222.54	**32**	**64**	**127**	**190**	**254**
► 7.09	9.27	12.26	16.35	21.81	29.44	40.89	54.51	72.54	96.44	128.11	170.35	227.18					◄
► 7.23	9.46	12.52	16.69	22.25	30.04	41.72	55.63	74.03	98.41	130.72	173.83	231.82	**6**	**12**	**25**	**38**	**51** ◄ Overtravel
► 7.38	9.65	12.77	17.02	22.70	30.64	42.56	56.74	75.50	100.38	133.34	177.31	236.46					◄
► 7.52	9.83	13.02	17.36	23.14	31.24	43.39	57.85	76.99	102.35	135.95	180.78	241.09					◄
Spring Rate (kN/mm)																	
2.31	3.03	4.01	5.34	7.12	9.61	13.35	17.80	23.14	31.51	41.83	55.63	74.18	**82**				
1.16	1.51	2.00	2.67	3.56	4.81	6.68	8.90	11.84	15.75	20.92	27.81	37.09		**268**			
0.58	0.76	1.00	1.34	1.78	2.40	3.34	4.45	5.92	7.88	10.46	13.91	18.54			**98**		
0.39	0.50	0.67	0.89	1.19	1.60	2.23	2.97	3.95	5.25	6.97	9.27	12.36				**TRIPLE**	
0.29	0.38	0.50	0.67	0.89	1.20	1.67	2.23	2.96	3.94	5.23	6.96	9.27					**QUADRUPLE**

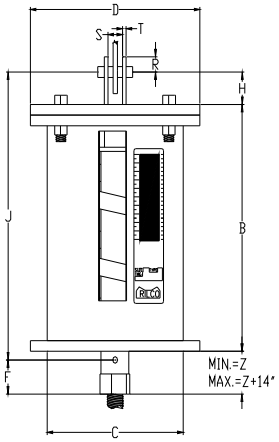
Part # RVS-268



TYPE A



TYPE B



TYPE C

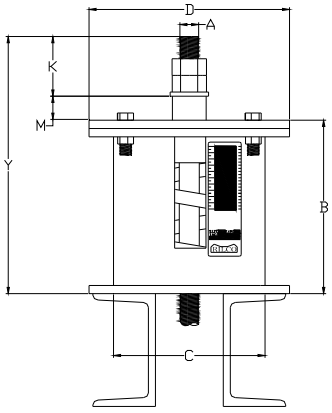
The RILCO RVS-268 is the spring upon which all the other RILCO RVS spring designs are based. The compact design enables this spring to work in a wide range of applications. The interchangeability of parts between spring figures also allows these units to be the most cost effective means of providing support to piping systems and other vertical displacement applications.

The RVS-268 provides a recommended maximum of 2-1/2″ of movement, with a wide range of load carrying capability. On applications which require only a minimal amount of movement or are spaced restricted, the RVS-82 springs might better suit the designers' needs. Refer to the RVS-98, triple, or quadruple for instances which call for increased travel.

Weights (lbs) * Dimensions (inches)

Hanger Size	Rod Size "A"	R.H. Thread Length	Casing		Flange Dia. "D"	Min Thread Engage "F"	"Z"	Rod Take Out By Type				Type A	Types B, C					Type D		
			Length "B"	Dia. "C"				A "E"	B,C "J"	E "Q"	G "N"	Thread Depth "G"	Lug Hole Size	Pin Height "H"	"R"	Clevis Opening "S"	Thk. "T"	Rod Length "Y"	Nut Allow. "K"	Hgt Spacer "M"
000	1/2	5	5-5/8	4	5-1/8	15/16	13/16	5-1/16	7	6	1-3/8	7/16	11/16	1-1/2	1-1/4	7/8	1/4	10	1-1/4	3-1/8
00	1/2	5	7-9/16	4	5-1/8	15/16	1-3/16	7-3/8	9-1/2	6	1-3/4	7/16	11/16	1-1/2	1-1/4	7/8	1/4	11-3/4	1-1/4	3-1/8
0	1/2	5	6-11/16	4	5-1/8	15/16	3/4	6-1/16	8	6	1-5/16	7/16	11/16	1-1/2	1-1/4	7/8	1/4	11-1/16	1-1/4	3-18
1	1/2	5	7-9/16	4	5-1/8	15/16	3/4	6-15/16	8-7/8	6	1-5/16	7/16	11/16	1-1/2	1-1/4	7/8	1/4	11-15/16	1-1/4	3-1/8
2	1/2	5	8-5/16	4	5-1/8	15/16	1	7-15/16	9-7/8	6	1-9/16	7/16	11/16	1-1/2	1-1/4	7/8	1/4	12-11/16	1-1/4	3-1/8
3	1/2	5	7-15/16	5-9/16	6-15/16	15/16	1	7-9/16	9-1/2	6	2-1/16	7/16	11/16	1-1/2	1-1/4	7/8	1/4	11-11/16	1-1/4	3-1/8
4	1/2	5	7-15/16	5-9/16	6-15/16	15/16	1-3/8	7-15/16	9-7/8	6	2-7/16	7/16	11/16	1-1/2	1-1/4	7/8	1/4	12-5/16	1-1/4	3-1/8
5	1/2	5	8-5/8	5-9/16	6-15/16	15/16	11/16	7-15/16	9-7/8	6	1-3/4	7/16	11/16	1-1/2	1-1/4	7/8	1/4	13	1-1/4	3-1/8
6	5/8	5	8-13/16	6-5/8	8-3/8	15/16	9/16	7-13/16	9-15/16	6	1-5/8	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	13-5/16	1-1/2	3
7	5/8	5	10	6-5/8	8-3/8	15/16	5/8	9-1/16	11-3/16	6	1-11/16	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	14-1/4	1-1/2	3
8	5/8	5	10	6-5/8	8-3/8	15/16	5/8	9-1/16	11-3/16	6	1-11/16	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	14-3/4	1-1/2	3
9	3/4	6	10-7/16	8-5/8	10-3/4	1-1/4	3/4	8-15/16	11-7/16	6	2-1/2	1	15/16	1-1/2	1-1/4	1-1/4	3/8	15-5/8	1-3/4	3
10	3/4	6	12-1/8	8-5/8	10-3/4	1-1/4	1-1/2	11-3/8	13-7/8	6	3-1/4	1	15/16	1-1/2	1-1/4	1-1/4	3/8	16-7/8	1-3/4	3
11	3/4	6	10-7/16	8-5/8	10-3/4	1-1/4	1-11/16	9-7/8	12-3/8	6	3-7/16	1	15/16	1-1/2	1-1/4	1-1/4	3/8	14-11/16	1-3/4	3
12	1	6	10-7/16	8-5/8	10-3/4	1-1/4	1-1/16	9-1/2	12-1/2	6	3-13/16	1	1-1/4	2	1-1/2	1-5/8	1/2	15-13/16	2-1/4	3
13	1	7	13-1/8	8-5/8	10-3/4	1-1/4	1/2	11-3/8	14-3/8	6	3-1/4	1	1/14	2	1-1/2	1-5/8	1/2	18-3/8	2-1/4	3
14	1-1/4	7	13-1/4	8-5/8	10-3/4	1-1/4	3/8	11-3/8	15-3/8	6	3-1/8	1	1-1/2	3	2	2	5/8	19-1/4	3	3
15	1-1/4	7	13-1/4	8-5/8	10-3/4	1-1/4	3/8	11-3/8	15-3/8	6	3-15/16	1	1-1/2	3	2	2	5/8	19-3/4	3	3
16	1-1/2	8	16-1/16	8-5/8	11-3/8	1-15/16	2-1/16	14-13/16	19-3/16	6	4-1/8	1-3/8	1-3/4	3	2-1/2	2-3/8	3/4	22-9/16	3-1/2	3
17	1-3/4	8	18-1/8	8-5/8	11-3/8	1-15/16	1-15/16	16-3/4	21-1/8	6	4	1-3/8	2	3	2-1/2	2-5/8	3/4	25-1/8	4	3
18	2	9	18-1/4	12-3/4	15-7/8	2-3/4	2-9/16	16	22-1/8	6	4	2-1/4	2-3/8	4	3	2-7/8	3/4	25-11/16	4-9/16	3
19	2-1/4	9	20-1/2	12-3/4	15-7/8	2-3/4	2-11/16	18-3/8	25	6	4-1/8	2-1/4	2-5/8	4-1/2	3	3-1/8	3/4	28-3/8	5	3
20	2-1/2	10	23-3/4	12-3/4	15-7/8	2-3/4	2-11/16	21-5/8	28-1/4	6	4-1/8	2-1/4	2-7/8	4-1/2	4	3-3/8	1	32-3/16	5-9/16	3
21	2-3/4	10	27-5/16	12-3/4	16-7/8	3-5/8	3-11/16	23-7/8	31-1/8	7	4-5/16	2-3/4	3-1/8	4-1/2	4	3-5/8	1	35-9/16	6-1/4	3
22	3	11	33-3/8	12-3/4	16-7/8	3-5/8	3-3/4	29-3/4	37-3/4	7	4-3/8	3	3-3/8	5	4	3-7/8	1	42	6-5/8	3

Part # RVS-268



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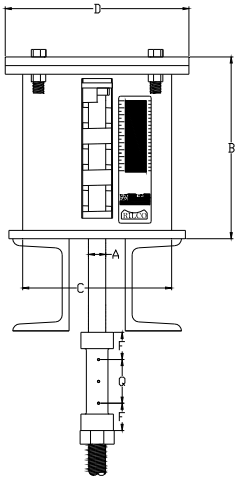

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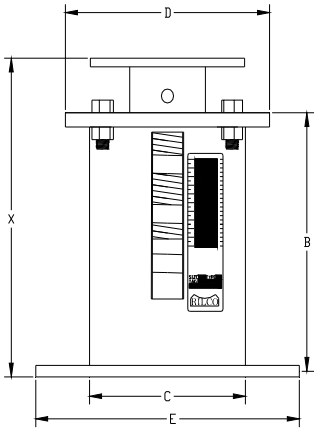

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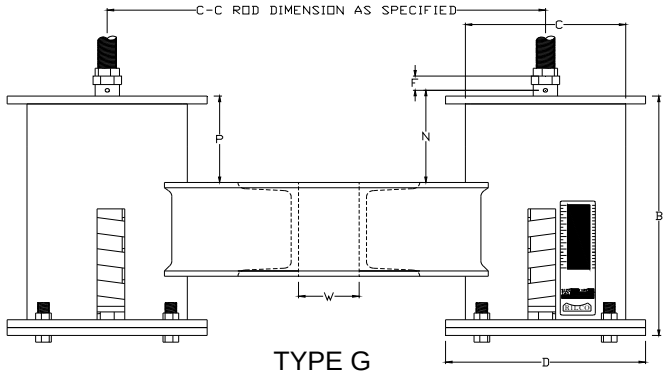
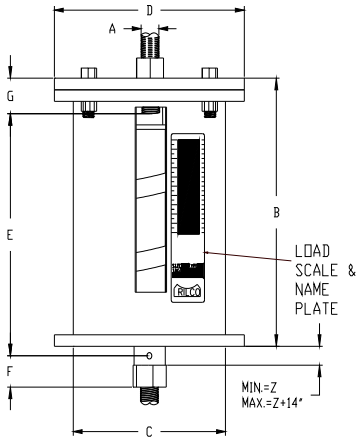


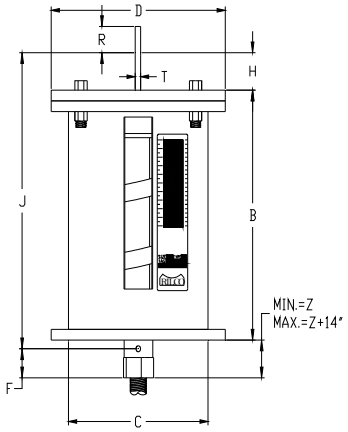
TYPE G

Weights (lbs) * Dimensions (inches)																			
Hanger Size	Type F									Type G				Weight					
	E' Bottom Flange			Bottom Flange		Load Col. Dia.	Load Flange		Length X		Channel Size	Max C-C	Space Between Channels-W	P	Type				
	Size Sq.	Bolt Circle					Dia.	Thick							A	B,C	D,E	F	G
		Min	Max	Bolts	Thick				Min	Max									
000	7-1/2	7	8-3/4	5/8	1/4	1.900	3-7/8	3/16	7-3/8	9-3/8	C3 x 4.1	24	5/8	1-1/2	5	5	5	11	24
00	7-1/2	7	8-3/4	5/8	1/4	1.900	3-7/8	3/16	9-5/16	11-5/16	C3 x 4.1	24	5/8	1-1/2	6	6	6	12	26
0	7-1/2	7	8-3/4	5/8	1/4	1.900	3-7/8	3/16	8-7/16	10-11/16	C3 x 4.1	24	5/8	1-1/2	8	8	6	12	30
1	7-1/2	7	8-3/4	5/8	1/4	1.900	3-7/8	3/16	9-5/16	11-9/16	C3 x 4.1	24	5/8	1-1/2	8	9	7	14	31
2	7-1/2	7	8-3/4	5/8	14	1.900	3-7/8	3/16	10-1/16	12-5/16	C3 x 4.1	24	5/8	1-1/2	9	10	8	15	32
3	7-1/2	7-3/4	8-3/4	3/4	1/4	2.875	5-3/4	3/16	9-3/8	11-3/4	C3 x 4.1	30	3/4	2	14	14	11	23	41
4	7-1/2	7-3/4	8-3/4	3/4	1/4	2.875	5-3/4	3/16	9-3/4	11-15/16	C3 x 4.1	30	3/4	2	15	16	12	25	42
5	7-1/2	7-3/4	8-3/4	3/4	1/4	2.875	5-3/4	3/16	10-7/16	12-11/16	C3 x 4.1	30	3/4	2	16	17	14	26	43
6	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	10-11/16	12-3/4	C3 x 4.1	36	1	2	26	27	22	40	63
7	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	11-5/8	13-15/16	C3 x 4.1	36	1	2	29	30	25	46	69
8	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	11-15/16	14-1/8	C3 x 4.1	36	1	2	31	32	26	47	73
9	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	12-7/16	14-5/8	C4 x 5.4	36	1-1/4	3	65	66	51	91	143
10	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	13-5/8	16-5/16	C4 x 5.4	36	1-1/4	3	71	72	58	98	157
11	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	11-7/16	14-5/8	C4 x 5,4	36	1-1/4	3	65	66	51	90	145
12	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	12-1/4	14-5/8	C5 x 6.7	36	1-1/2	4	71	71	56	95	157
13	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	14-3/4	17-5/16	C5 x 6.7	36	1-1/2	4	89	89	73	115	195
14	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	15-1/4	17-5/16	C5 x 6.7	33	1-1/2	4	93	94	77	119	203
15	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	15-1/8	17-5/16	C6 x 10.5	36	1-1/2	4	111	114	88	130	250
16	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	17-5/8	20-7/16	C8 x 11.5	36	2-1/8	4	133	138	107	150	298
17	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	19-3/4	22-1/2	C8 x 11.5	36	2-1/8	4	162	168	133	173	354
18	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	19-3/8	21-9/16	C12 x 20.7	42	2-3/8	4	330	331	262	343	690
19	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	21-5/8	23-13/16	C12 x 20.7	42	2-5/8	4	376	378	300	380	783
20	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	25-1/2	27-1/2	C12 x 20.7	40	2-7/8	4	480	486	370	471	993
21	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	27-13/16	31-15/16	C15 x 33.9	48	3-1/8	4	556	568	455	496	1197
22	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	33-7/8	38	C15 x 33.9	48	3-3/8	4	705	714	505	654	1496

Part # RVS-82



TYPE A



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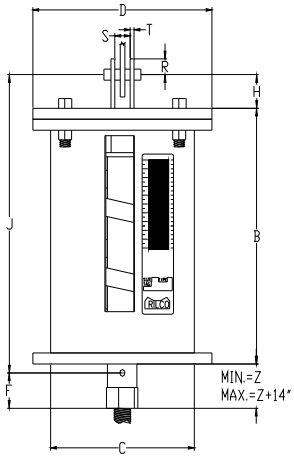


TYPE C

RILCO Variable Short Spring Hanger, the RVS-82,
has all of the features of our RVS-268 and is designed to same exacting specifications.

The RVS-82 is best utilized in confined areas where thermal movement of the piping is relatively small.

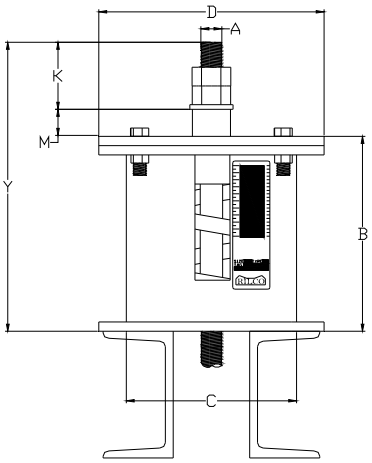
The RVS-82 hanger is offered in seven basic types which are displayed on this an the following page.

The Variable Selection Chart for sizing and instructions are found at the beginning of this section.

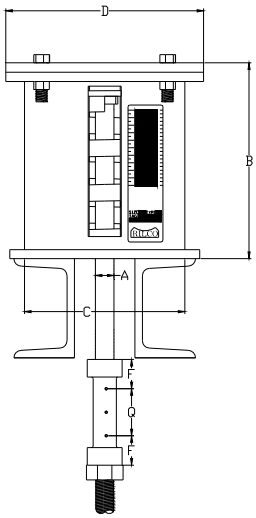
Weights (lbs) * Dimensions (inches)

Hanger Size	Rod Size "A"	R.H. Thread Length	Casing		Flange Dia. "D"	Min Thread Engage "F"	"Z"	Rod Take Out By Type				Type A	Types B, C					Type D		
			Length "B"	Dia. "C"				A "E"	B,C "J"	E "Q"	G "N"	Thread Depth "G"	Lug Hole Size	Pin Hgt "H"	"R"	Clevis Opening "S"	Thk. "T"	Rod Length "Y"	Nut Allow. "K"	Hgt Spacer "M"
0	1/2	3	4-3/4	4	5-1/8	15/16	15/16	4-5/16	6-1/4	2-1/8	1	7/16	11/16	1-1/2	1-1/4	7/8	1/4	7-1/2	1-1/4	1-3/4
1	1/2	3	4-3/4	4	5-1/8	15/16	11/16	4-1/16	6	2-1/8	3/4	7/16	11/16	1-1/2	1-1/4	7/8	1/4	7-3/4	1-1/4	1-3/4
2	1/2	3	5-3/8	4	5-1/8	15/16	1-1/16	5-1/16	7	2-1/8	1-1/8	7/16	11/16	1-1/2	1-1/4	7/8	1/4	8-3/8	1-1/4	1-3/4
3	1/2	3	5-1/4	5-9/16	6-15/16	15/16	9/16	4-7/16	6-3/8	2-1/8	5/8	7/16	11/16	1-1/2	1-1/4	7/8	1/4	7-7/8	1-1/4	1-3/4
4	1/2	3	5-1/4	5-9/16	6-15/16	15/16	1-3/16	5-1/16	7	2-1/8	1-1/4	7/16	11/16	1-1/2	1-1/4	7/8	1/4	8-1/4	1-1/4	1-3/4
5	1/2	3	5-3/8	5-9/16	6-15/16	15/16	1-1/16	5-1/16	7	2-1/8	1-1/8	7/16	11/16	1-1/2	1-1/4	7/8	1/4	8-5/8	1-1/4	1-3/4
6	5/8	3	5-13/16	6-5/8	8-3/8	15/16	13/16	5-1/16	7-3/16	2-1/8	1-7/8	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	9-1/16	1-1/2	1-3/4
7	5/8	3	6-11/16	6-5/8	8-3/8	15/16	1-1/16	6-3/16	8-5/16	2-1/8	2-1/8	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	9-11/16	1-1/2	1-3/4
8	5/8	3	6-11/16	6-5/8	8-3/8	15/16	13/16	5-15/16	8-1/16	2-1/8	1-7/8	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	9-15/16	1-1/2	1-3/4
9	3/4	4	7-1/4	8-5/8	10-3/4	1-1/4	1-1/8	6-1/8	8-5/8	2	1-7/8	1	15/16	1-1/2	1-1/4	1-1/4	3/8	11-1/4	1-3/4	1-3/4
10	3/4	4	8-1/4	8-5/8	10-3/4	1-1/4	1-3/8	7-3/8	9-7/8	2	2-1/8	1	15/16	1-1/2	1-1/4	1-1/4	3/8	11-3/4	1-3/4	1-3/4
11	3/4	4	7-1/4	8-5/8	10-3/4	1-1/4	1-3/16	6-3/16	8-11/16	2	1-15/16	1	15/16	1-1/2	1-1/4	1-1/4	3/8	10-7/16	1-3/4	1-3/4
12	1	4	7-1/4	8-5/8	10-3/4	1-1/4	7/8	6-3/16	8-11/16	2	1-1/8	1	1-1/4	2	1-1/2	1-5/8	1/2	11-1/4	2-1/4	1-3/4
13	1	4	8-3/4	8-5/8	10-3/4	1-1/4	1	7-3/8	10-3/8	2	2-3/4	1	1/14	2	1-1/2	1-5/8	1/2	12-5/8	2-1/4	1-3/4
14	1-1/4	4	8-7/8	8-5/8	10-3/4	1-1/4	3/4	7-3/8	11-3/8	2	2-1/2	1	1-1/2	3	2	2	5/8	13-5/8	3	1-3/4
15	1-1/4	4	8-7/8	8-5/8	10-3/4	1-1/4	3/4	7-3/8	11-3/8	2	2-1/2	1	1-1/2	3	2	2	5/8	14-1/8	3	1-3/4
16	1-1/2	5	10-5/8	8-5/8	11-3/8	1-15/16	2	9-5/16	13-11/16	6	1-1/16	1-3/8	1-3/4	3	2-1/2	2-3/8	3/4	15-7/8	3-1/2	1-3/4
17	1-3/4	6	11-7/8	8-5/8	11-3/8	1-15/16	2	10-9/16	14-15/16	6	2-1/16	1-3/8	2	3	2-1/2	2-5/8	3/4	17-5/8	4	1-3/4
18	2	7	13	12-3/4	15-7/8	2-3/4	2-1/2	10-11/16	16-13/16	6	7/16	2-1/4	2-3/8	4	3	2-7/8	3/4	19-3/16	4-9/16	1-3/4
19	2-1/4	7	14	12-3/4	15-7/8	2-3/4	2-9/16	11-3/4	18-3/8	6	1	2-1/4	2-5/8	4-1/2	3	3-1/8	3/4	20-5/8	5	1-3/4
20	2-1/2	8	16-1/8	12-3/4	15-7/8	2-3/4	2-11/16	14	20-5/8	6	1-1/8	2-1/4	2-7/8	4-1/2	4	3-3/8	1	23-5/16	5-9/16	1-3/4
21	2-3/4	9	18	12-3/4	16-7/8	3-5/8	2-3/4	13-5/8	20-7/8	7	3/8	2-3/4	3-1/8	4-1/2	4	3-5/8	1	25	6-1/4	1-1/4
22	3	10	22-1/4	12-3/4	16-7/8	3-5/8	2-3/4	17-5/8	25-3/8	7	2-3/8	3	3-3/8	5	4	3-7/8	1	29-5/8	6-5/8	1-1/4

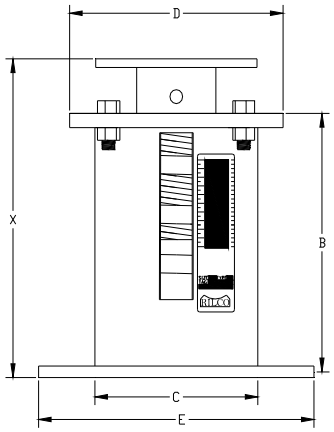
Part # RVS-82



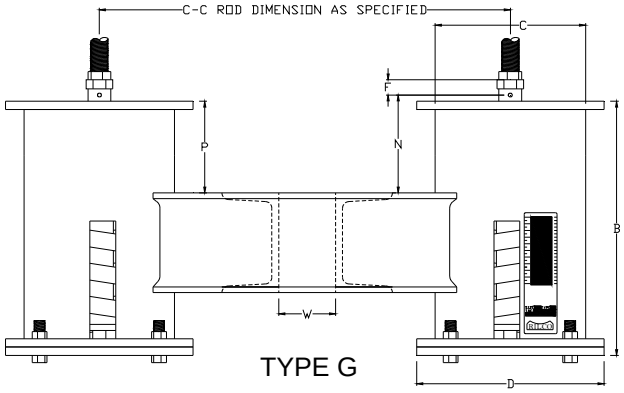
TYPE D



TYPE E



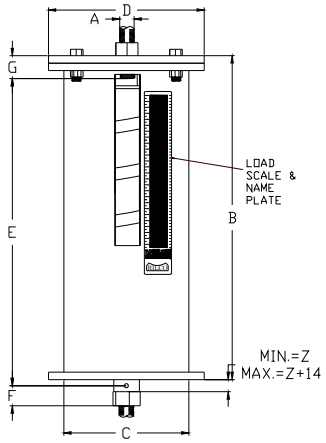
TYPE F



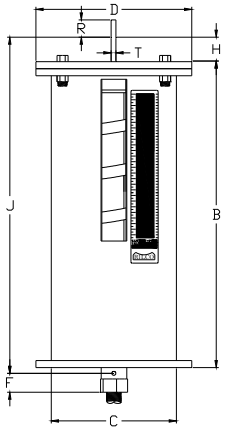
TYPE G

Weights (lbs) * Dimensions (inches)																		
Hanger Size	Type F									Type G				Weight				
	E' Bottom Flange			Bottom Flange		Load Col. Dia.	Load Flange		Length X		Channel Size	Max C-C	Space Between Channels-W	P	Type			
	Size Sq.	Bolt Circle																
		Min	Max	Bolts	Thick		Dia.	Thick	Min	Max					A,B,C	D,E	F	G
0	7-1/2	7	8-3/4	5/8	1/4	1.900	3-7/8	3/16	6-3/8	7	C3 x 4.1	24	5/8	3/4	6	5	11	27
1	7-1/2	7	8-3/4	5/8	1/4	1.900	3-7/8	3/16	6-1/2	7-1/8	C3 x 4.1	24	5/8	3/4	7	6	11	29
2	7-1/2	7	8-3/4	5/8	14	1.900	3-7/8	3/16	7-1/8	7-3/4	C3 x 4.1	24	5/8	3/4	8	7	12	29
3	7-1/2	7-3/4	8-3/4	3/4	1/4	2.875	5-3/4	3/16	6-3/4	7-9/16	C3 x 4.1	30	3/4	3/4	11	10	10	33
4	7-1/2	7-3/4	8-3/4	3/4	1/4	2.875	5-3/4	3/16	7-1/16	7-5/8	C3 x 4.1	30	3/4	3/4	12	11	20	35
5	7-1/2	7-3/4	8-3/4	3/4	1/4	2.875	5-3/4	3/16	7-3/16	8	C3 x 4.1	30	3/4	3/4	13	12	21	36
6	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	7-9/16	8-1/4	C3 x 4.1	36	1	3/4	20	193	33	51
7	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	8-3/16	9-1/8	C3 x 4.1	36	1	3/4	23	22	35	57
8	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	8-7/16	9-1/8	C3 x 4.1	36	1	3/4	24	23	36	59
9	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	9-1/16	10-7/16	C4 x 5.4	36	1-1/4	1	56	52	78	125
10	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	9-9/16	11-7/16	C4 x 5.4	36	1-1/4	1	62	58	84	137
11	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	8-1/4	10-7/16	C4 x 5,4	36	1-1/4	1	55	51	76	121
12	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	8-13/16	10-7/16	C5 x 6.7	36	1-1/2	1	58	53	78	132
13	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	10-3/16	11-15/16	C5 x 6.7	36	1-1/2	1	69	63	81	154
14	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	10-11/16	12-1/16	C5 x 6.7	33	1-1/2	1	72	55	91	159
15	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	10-9/16	12-1/16	C6 x 10.5	36	1-1/2	1	88	79	100	198
16	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	12-1/16	14-1/8	C8 x 11.5	36	2-1/8	1	102	91	112	230
17	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	13-5/16	15-3/8	C8 x 11.5	36	2-1/8	1	120	105	126	266
18	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	13-15/16	16-9/16	-	-	-	-	259	226	270	-
19	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	14-15/16	17-9/16	-	-	-	-	286	246	275	-
20	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	17-11/16	19-11/16	-	-	-	-	350	302	344	-
21	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	18-5/16	21-5/8	-	-	-	-	401	339	348	-
22	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	22-9/16	25-7/8	-	-	-	-	490	431	443	-

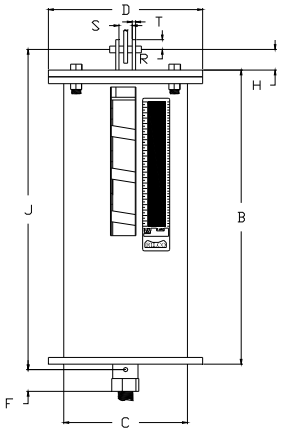
Part # RVS-98



TYPE A



TYPE B



TYPE C

RILCO Variable Double Spring Hanger, the RVS-98, has all of the features of the RVS-268 features and is designed to the same exacting specifications.

Each unit consists of two springs arranged in series within a single casing and a centering guide to assure the permanent alignment of the spring assembly.

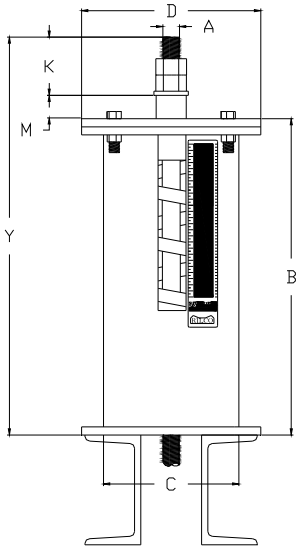
The RVS-98 hanger is offered in seven basic types as shown on this and the following page.

The Variable Selection Chart for sizing and instructions are found at the beginning of this section.

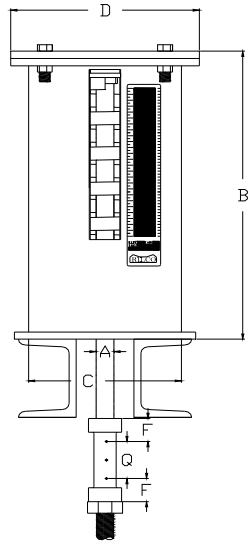
Weights (lbs) * Dimensions (inches)

Hanger Size	Rod Size "A"	R.H. Thread Length	Casing		Flange Dia. "D"	Min Thread Engage "F"	"Z"	Rod Take Out By Type				Type A	Types B, C					Type D		
			Length "B"	Dia. "C"				A "E"	B,C "J"	E "Q"	G "N"	Thread Depth "G"	Lug Hole Size	Pin Hgt "H"	"R"	Clevis Opening "S"	Thk. "T"	Rod Length "Y"	Nut Allow. "K"	Hgt Spacer "M"
0	1/2	9	12-5/8	4	5-1/8	15/16	15/16	12-3/16	14-1/8	9	1-1/2	7/16	11/16	1-1/2	1-1/4	7/8	1/4	19-3/8	1-1/4	5-1/2
1	1/2	9	14-3/8	4	5-1/8	15/16	11/16	13-15/16	15-7/8	9	1-1/2	7/16	11/16	1-1/2	1-1/4	7/8	1/4	21-1/8	1-1/4	5-1/2
2	1/2	9	15-7/8	4	5-1/8	15/16	1-1/16	15-3/16	17-1/8	9	1-1/4	7/16	11/16	1-1/2	1-1/4	7/8	1/4	22-1/2	1-1/4	5-1/2
3	1/2	9	14	5-9/16	6-15/16	15/16	9/16	13-7/16	15-3/8	9	1-7/8	7/16	11/16	1-1/2	1-1/4	7/8	1/4	20-3/4	1-1/4	5-1/2
4	1/2	9	15-1/4	5-9/16	6-15/16	15/16	1-3/16	15-3/16	17-1/8	9	2-3/8	7/16	11/16	1-1/2	1-1/4	7/8	1/4	22	1-1/4	5-1/2
5	1/2	9	16-5/8	5-9/16	6-15/16	15/16	1-1/16	15-15/16	17-7/8	9	1-3/4	7/16	11/16	1-1/2	1-1/4	7/8	1/4	22-3/8	1-1/4	5-1/2
6	5/8	9	16-11/16	6-5/8	8-3/8	15/16	13/16	15-15/16	18-1/16	9	1-7/8	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	23-11/16	1-1/2	5-1/2
7	5/8	9	18-5/8	6-5/8	8-3/8	15/16	1-1/16	18-3/16	20-5/16	9	2-3/16	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	25-5/8	1-1/2	5-1/2
8	5/8	9	19-9/16	6-5/8	8-3/8	15/16	13/16	18-11/16	20-13/16	9	1-3/4	5/8	13/16	1-1/2	1-1/4	1-1/16	1/4	26-9/16	1-1/2	5-1/2
9	3/4	9	20-3/16	8-5/8	10-3/4	1-1/4	1-1/8	18-7/8	21-3/8	9	2-11/16	1	15/16	1-1/2	1-1/4	1-1/4	3/8	27-7/16	1-3/4	5-1/2
10	3/4	9	22-5/8	8-5/8	10-3/4	1-1/4	1-3/8	21-3/8	23-7/8	9	2-3/4	1	15/16	1-1/2	1-1/4	1-1/4	3/8	29-7/8	1-3/4	5-1/2
11	3/4	10	18-1/4	8-5/8	10-3/4	1-1/4	1-3/16	16-7/8	19-3/8	12	2-5/8	1	15/16	1-1/2	1-1/4	1-1/4	3/8	25-1/2	1-3/4	5-1/2
12	1	10	19-1/2	8-5/8	10-3/4	1-1/4	7/8	17-7/8	20-7/8	12	3-3/8	1	1-1/4	2	1-1/2	1-5/8	1/2	27-1/4	2-1/4	5-1/2
13	1	10	24-3/4	8-5/8	10-3/4	1-1/4	1	23-1/4	26-1/4	12	3-1/2	1	1/14	2	1-1/2	1-5/8	1/2	32-3/8	2-1/4	5-1/2
14	1-1/4	10	24-7/8	8-5/8	10-3/4	1-1/4	3/4	22-1/8	27-1/8	12	3-1/4	1	1-1/2	3	2	2	5/8	33-3/8	3	5-1/2
15	1-1/4	10	24-7/8	8-5/8	10-3/4	1-1/4	3/4	23-1/8	27-1/8	12	3-1/4	1	1-1/2	3	2	2	5/8	33-3/4	3	5-1/2
16	1-1/2	11	29-7/8	8-5/8	11-3/8	1-15/16	2	28-9/16	32-15/16	7	4-1/16	1-3/8	1-3/4	3	2-1/2	2-3/8	3/4	38-7/8	3-1/2	5-1/2
17	1-3/4	12	34	8-5/8	11-3/8	1-15/16	2	32-13/16	37-3/16	7	4-3/16	1-3/8	2	3	2-1/2	2-5/8	3/4	43-1/2	4	5-1/2
18	2	12	33-1/4	12-3/4	15-7/8	2-3/4	2-1/2	31-1/8	37-3/16	7	4-1/8	2-1/4	2-3/8	4	3	2-7/8	3/4	43-3/16	4-9/16	5-1/2
19	2-1/4	13	37-3/4	12-3/4	15-7/8	2-3/4	2-9/16	35-1/2	42-1/8	7	4	2-1/4	2-5/8	4-1/2	3	3-1/8	3/4	48-1/8	5	5-1/2
20	2-1/2	14	44-1/4	12-3/4	15-7/8	2-3/4	2-11/16	42-1/8	48-3/4	7	4-1/8	2-1/4	2-7/8	4-1/2	4	3-3/8	1	55-3/16	5-9/16	5-1/2
21	2-3/4	14	49-7/8	12-3/4	16-7/8	3-5/8	2-3/4	5-7/16	52-11/16	7	3-5/16	2-3/4	3-1/8	4-1/2	4	3-5/8	1	50-5/8	6-1/4	5-1/2
22	3	15	62	12-3/4	16-7/8	3-5/8	2-3/4	58-1/8	66-1/8	7	4-1/8	3	3-3/8	5	4	3-7/8	1	73-1/8	6-5/8	5-1/2

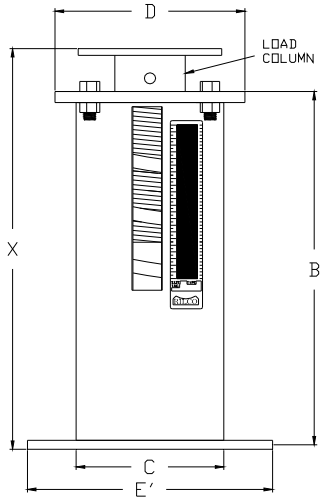
Part # RVS-98



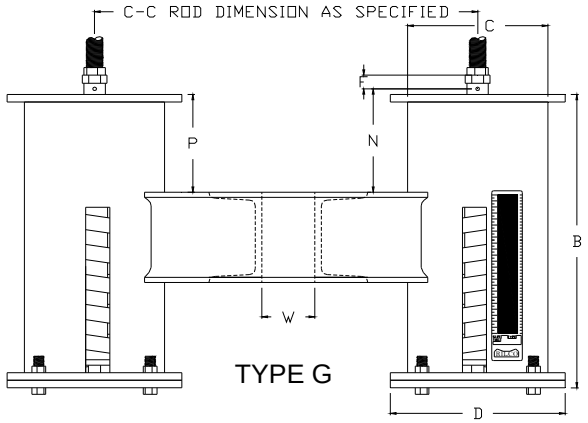
TYPE D



TYPE E



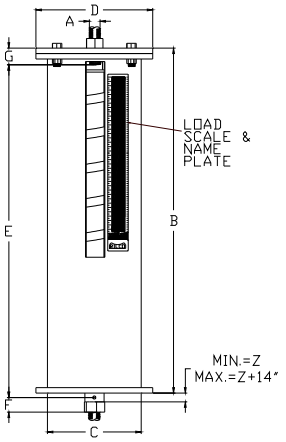
TYPE F



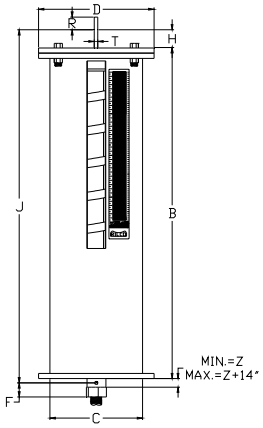
TYPE G

Weights (lbs) * Dimensions (inches)																		
Hanger Size	Type F									Type G				Weight				
	E' Bottom Flange			Bottom Flange		Load Col. Dia.	Load Flange		Length X		Channel Size	Max C-C	Space Between Channels-W	P	Type			
	Size Sq.	Bolt Circle													A,B,C	D,E	F	G
		Min	Max	Bolts	Thick		Dia.	Thick	Min	Max								
0	7-1/2	7	8-3/4	5/8	1/4	1.90	3-7/8	3/16	14-1/2	16-3/4	C3 x 4.1	24	5/8	1-1/2	12	12	20	37
1	7-1/2	7	8-3/4	5/8	1/4	1.90	3-7/8	3/16	16-1/4	18-1/2	C3 x 4.1	24	5/8	1-1/2	14	14	21	41
2	7-1/2	7	8-3/4	5/8	14	1.90	3-7/8	3/16	17-3/4	20	C3 x 4.1	24	5/8	1-1/2	16	16	23	45
3	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	16-5/16	18-11/16	C3 x 4.1	30	3/4	2	22	21	35	55
4	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	17-1/16	19-1/4	C3 x 4.1	30	3/4	2	25	24	39	61
5	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	18-7/16	20-11/16	C3 x 4.1	30	3/4		27	26	41	65
6	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	18-5/8	20-11/16	C3 x 4.1	36	1	2	41	40	62	93
7	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	20-1/2	22-13/16	C3 x 4.1	36	1	2	49	48	72	109
8	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	21-1/8	23-5/16	C3 x 4.1	36	1		61	52	75	133
9	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	21-1/2	23-11/16	C4 x 5.4	36	1-1/4	3	97	94	136	207
10	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	23-7/8	26-9/16	C4 x 5.4	36	1-1/4	3	114	108	150	241
11	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	19-1/2	22-11/16	C4 x 5,4	36	1-1/4	3	96	95	134	209
12	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	21-1/8	23-1/2	C5 x 6.7	36	1-1/2	4	108	104	144	223
13	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	26-1/8	28-11/16	C5 x 6.7	36	1-1/2	4	144	139	181	305
14	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	27-1/8	29-3/16	C5 x 6.7	33	1-1/2	4	153	147	188	323
15	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	26	28-3/16	C6 x 10.5	36	1-1/2	4	172	163	201	368
16	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	31	33-13/16	C8 x 11.5	36	2-1/8	4	218	202	241	462
17	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	35	37-3/4	C8 x 11.5	36	2-1/8	4	273	247	287	572
18	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	34-1/8	36-5/16	C12 x 20.7	42	2-3/8	4	512	477	550	1056
19	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	38-1/8	40-5/16	C12 x 20.7	42	2-3/8	4	600	548	624	1231
20	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	45-7/8	47-7/8	C12 x 20.7	40	2-3/8	4	802	723	807	1633
21	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	50-1/16	54-3/16	C15 x 33.9	48	3-1/8	4	940	845	872	1965
22	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	62-1/8	66-5/16	C15 x 33.9	48	3-3/8	4	1240	1140	1184	2566

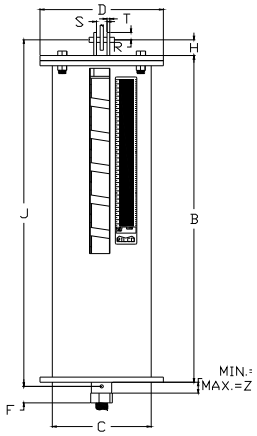
Part # RVS-Triple Spring



TYPE A



TYPE B



TYPE C

RILCO "Variable Triple Spring Hanger" has all of the features of our RSV-268 and is designed to the same exacting specifications.

Each basic unit consists of three springs arranged in series within a single casing and a centering guide to assure the permanent alignment of the spring assembly.

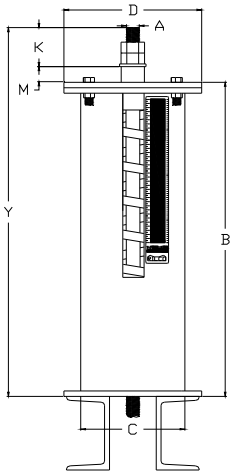
This hanger is offered in the seven basic types shown on this and the following page.

The Variable Selection Chart for sizing instructions are found at the beginning of this section.

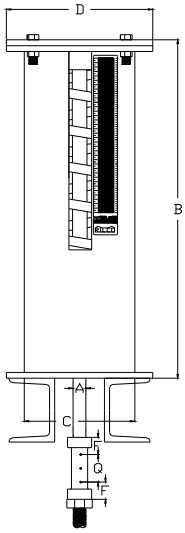
Weights (lbs) * Dimensions (inches)

Hanger Size	Type F								Type G			Weight			
	E' Bottom Flange			Bottom Flange		Load Col. Dia.	Load Flange		Channel Size	Max C-C	Space Between Channels-W	Type			
	Size Sq.	Bolt Circle		Bolts	Thick		Dia.	Thick				A,B,C	D,E	F	G
		Min	Max												
0	7-1/2	7	8-3/4	5/8	1/4	1.90	3-7/8	3/16	C3 x 4.1	24	5/8	17	17	29	53
1	7-1/2	7	8-3/4	5/8	1/4	1.90	3-7/8	3/16	C3 x 4.1	24	5/8	20	20	30	59
2	7-1/2	7	8-3/4	5/8	14	1.90	3-7/8	3/16	C3 x 4.1	24	5/8	23	23	33	65
3	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	C3 x 4.1	30	3/4	30	29	50	77
4	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	C3 x 4.1	30	3/4	35	33	56	86
5	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	C3 x 4.1	30	3/4	38	36	59	92
6	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	C3 x 4.1	36	1	57	56	89	131
7	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	C3 x 4.1	36	1	69	68	104	155
8	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	C3 x 4.1	36	1	87	74	108	191
9	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C4 x 5.4	36	1-1/4	131	126	189	281
10	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C4 x 5.4	36	1-1/4	156	147	210	332
11	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C4 x 5,4	36	1-1/4	132	128	186	284
12	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C5 x 6.7	36	1-1/2	147	141	201	320
13	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C5 x 6.7	36	1-1/2	201	194	257	428
14	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C5 x 6.7	33	1-1/2	215	206	267	455
15	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C6 x 10.5	36	1-1/2	237	224	281	513
16	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	C8 x 11.5	36	2-1/8	306	282	341	651
17	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	C8 x 11.5	36	2-1/8	389	350	410	816
18	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	C12 x 20.7	42	2-3/8	723	671	780	1494
19	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	C12 x 20.7	42	2-3/8	855	777	891	1757
20	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	C12 x 20.7	40	2-3/8	1158	1040	1166	2360
21	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	C15 x 33.9	48	3-1/8	1365	1223	1263	2858
22	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	C15 x 33.9	48	3-3/8	1815	1665	1731	3759

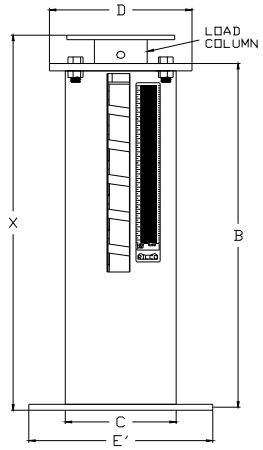
Part # RVS-Triple Spring



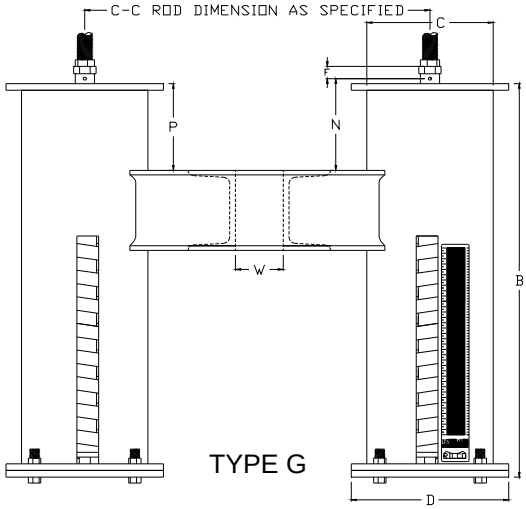
TYPE D



TYPE E



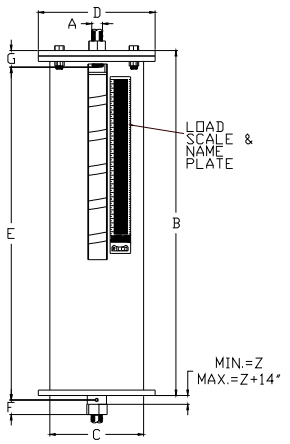
TYPE F



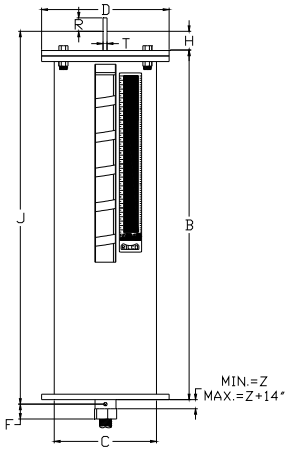
TYPE G

Weights (lbs) * Dimensions (inches)																	
Hanger Size	Rod Size "A"	R.H. Thread Length	Casing		Min Thread Engage "F"	"Z"	Rod Take Out By Type					Type A	Type D		TYPE F		TYPE G
			Length "B"	Dia. "C"			A	B,C	D	E	G	Thread Depth "G"	"K"	"M"	Loaded Length Dim X		Rod Length "P"
							"E"	"J"	"Y"	"Q"	"N"				Min	Max	
0	1/2	12	19-1/8	4	15/16	15/16	19-1/8	20-5/8	28-1/8	11-1/8	1-1/2	7/16	1-1/4	7-3/4	20-9/16	22-13/16	1-1/2
1	1/2	12	21-3/4	4	15/16	11/16	21-3/4	23-1/4	30-3/4	11-1/8	1-1/2	7/16	1-1/4	7-3/4	23-3/16	25-7/16	1-1/2
2	1/2	12	24	4	15/16	1-1/16	24	25-1/2	33	11-1/8	1-1/2	7/16	1-1/4	7-3/4	25-7/16	27-11/16	1-1/2
3	1/2	12	21-3/16	5-9/16	15/16	9/16	21-3/16	22-11/16	30-3/16	11-1/8	2	7/16	1-1/4	7-3/4	23-1/4	25-5/8	2
4	1/2	12	23-1/16	5-9/16	15/16	1-3/16	23-1/16	24-9/16	32-1/16	11-1/8	2	7/16	1-1/4	7-3/4	24-3/8	26-9/16	2
5	1/2	12	25-1/8	5-9/16	15/16	1-1/16	25-1/8	26-5/8	34-1/8	11-1/8	2	7/16	1-1/4	7-3/4	26-7/16	28-11/16	2
6	5/8	12	25	6-5/8	15/16	13/16	25	26-1/2	34-3/16	11-1/8	2	5/8	1-1/2	7-11/16	26-9/16	28-5/8	2
7	5/8	13	27-15/16	6-5/8	15/16	1-1/16	27-15/16	29-7/16	37-1/8	11-1/8	2	5/8	1-1/2	7-11/16	29-3/8	31-11/16	2
8	5/8	13	29-5/16	6-5/8	15/16	13/16	29-5/16	30-13/16	38-1/2	11-1/8	2	5/8	1-1/2	7-11/16	30-5/16	32-1/2	2
9	3/4	13	29-9/16	8-5/8	1-1/4	1-1/8	29-9/16	31-1/16	38-7/8	11-1/2	3	1	1-3/4	7-9/16	30-9/16	32-3/4	3
10	3/4	13	33-1/4	8-5/8	1-1/4	1-3/8	33-1/4	34-3/4	42-9/16	11-1/2	3	1	1-3/4	7-9/16	34-1/8	36-13/16	3
11	3/4	13	26-11/16	8-5/8	1-1/4	1-3/16	26-11/16	28-3/16	36	11-1/2	3	1	2	7-9/16	27-9/16	30-3/4	3
12	1	13	28-9/16	8-5/8	1-1/4	7/8	28-9/16	30-9/16	38-3/8	11-1/2	3-7/8	1	2-1/4	7-9/16	30	32-3/8	4
13	1	14	36-1/4	8-5/8	1-1/4	1	36-1/4	38-1/4	46-1/16	11-1/2	3-7/8	1	2-1/2	7-9/16	37-1/2	40-1/16	4
14	1-1/4	14	36-3/4	8-5/8	1-1/4	3/4	36-3/4	39-5/8	47-5/16	11-1/2	4	1	2-1/2	7-9/16	39	41-1/16	4
15	1-1/4	14	36-5/8	8-5/8	1-1/4	3/4	36-5/8	39-1/2	47-3/16	10-9/16	4	1	3	7-9/16	36-7/8	39-1/16	4
16	1-1/2	15	44-1/16	8-5/8	1-15/16	2	44-1/16	47-1/16	54-5/8	11-1/16	4	1-3/8	3-1/2	7-1/16	44-3/8	47-3/16	4
17	1-3/4	15	50-1/4	8-5/8	1-15/16	2	50-1/4	53-1/4	61-5/16	11-9/16	4	1-3/8	4	7-1/16	50-1/4	53	4
18	2	16	49-1/8	12-3/4	2-3/4	2-1/2	49-1/8	53-1/8	60-11/16	10-7/8	4	2-1/4	4-9/16	7	48-7/8	51-1/16	4
19	2-1/4	16	55-7/8	12-3/4	2-3/4	2-9/16	55-7/8	60-3/8	67-7/8	11-7/16	4	2-1/4	5	7	54-5/8	56-11/16	4
20	2-1/2	17	65-5/8	12-3/4	2-3/4	2-11/16	65-5/8	70-1/8	78-3/16	11-15/16	4	2-1/4	5-9/16	7	66-1/4	68-1/4	4
21	2-3/4	17	73-5/16	12-3/4	3-5/8	2-3/4	73-5/16	76-13/16	87-7/8	11	4	2-3/4	6-1/4	9-5/16	72-5/16	76-7/16	4
22	3	18	91-1/2	12-3/4	3-5/8	2-3/4	91-1/2	95-1/2	106-7/16	11-1/2	4	3	6-5/8	9-5/16	90-1/2	94-5/8	4

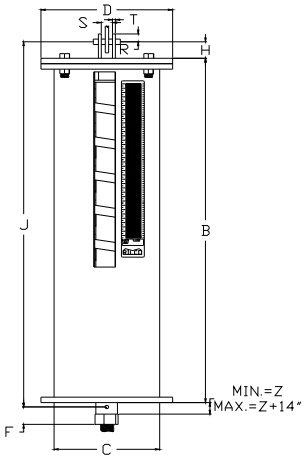
Part # RVS-Quadruple Spring



TYPE A



TYPE B



TYPE C

RILCO "Variable Quadruple Spring Hanger" has all of the RVS-268 features of our RVS-268 and is designed to the same exacting specifications.

Each basic unit consists of four springs arranged in series within a single casing and a centering guide to assure the permanent alignment of the spring assembly.

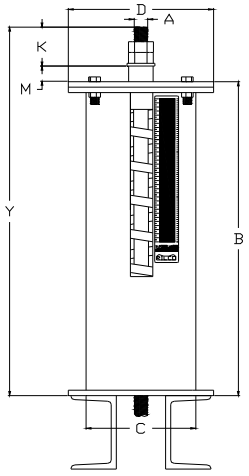
This hanger is offered in the seven basic types as shown on this and the following page.

The Variable Selection Chart for sizing and instructions are found at the beginning of this section.

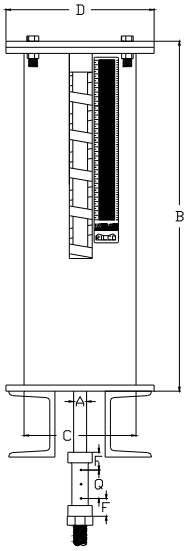
Weights (lbs) * Dimensions (inches)

Hanger Size	Type F								Type G			Weight			
	E' Bottom Flange			Bottom Flange		Load Col. Dia.	Load Flange		Channel Size	Max C-C	Space Between Channels-W	Type			
	Size Sq.	Bolt Circle													
		Min	Max	Bolts	Thick		Dia.	Thick				A,B,C	D,E	F	G
0	7-1/2	7	8-3/4	5/8	1/4	1.90	3-7/8	3/16	C3 x 4.1	24	5/8	22	22	38	70
1	7-1/2	7	8-3/4	5/8	1/4	1.90	3-7/8	3/16	C3 x 4.1	24	5/8	26	26	40	78
2	7-1/2	7	8-3/4	5/8	14	1.90	3-7/8	3/16	C3 x 4.1	24	5/8	30	30	44	86
3	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	C3 x 4.1	30	3/4	40	38	66	102
4	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	C3 x 4.1	30	3/4	46	44	74	114
5	7-1/2	7-3/4	8-3/4	3/4	1/4	2.88	5-3/4	3/16	C3 x 4.1	30	3/4	50	48	78	122
6	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	C3 x 4.1	36	1	76	74	118	174
7	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	C3 x 4.1	36	1	92	90	138	206
8	9	8	10-7/8	3/4	3/8	3.50	6-3/8	1/4	C3 x 4.1	36	1	116	98	144	254
9	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C4 x 5.4	36	1-1/4	174	168	252	374
10	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C4 x 5.4	36	1-1/4	208	196	280	442
11	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C4 x 5,4	36	1-1/4	176	170	248	378
12	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C5 x 6.7	36	1-1/2	196	188	268	426
13	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C5 x 6.7	36	1-1/2	268	258	342	570
14	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C5 x 6.7	33	1-1/2	286	274	356	606
15	13-1/4	10-9/16	16-1/2	3/4	1/2	4.50	8-3/8	1/2	C6 x 10.5	36	1-1/2	316	398	374	684
16	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	C8 x 11.5	36	2-1/8	408	376	454	868
17	13-1/4	10-9/16	16-1/2	3/4	1/2	2.00	8-3/8	1/2	C8 x 11.5	36	2-1/8	518	466	546	1088
18	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	C12 x 20.7	42	2-3/8	964	894	1040	1992
19	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	C12 x 20.7	42	2-3/8	1140	1036	1188	2342
20	17-1/4	15-3/4	22	3/4	5/8	2.50	12-1/2	1/2	C12 x 20.7	40	2-3/8	1544	1386	1554	3140
21	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	C15 x 33.9	48	3-1/8	1820	1630	1684	3810
22	17-1/4	15-3/4	22	3/4	5/8	3.00	12-1/2	1/2	C15 x 33.9	48	3-3/8	2420	2220	2308	5012

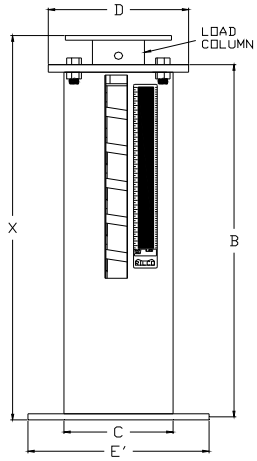
Part # RVS-Quadruple Spring



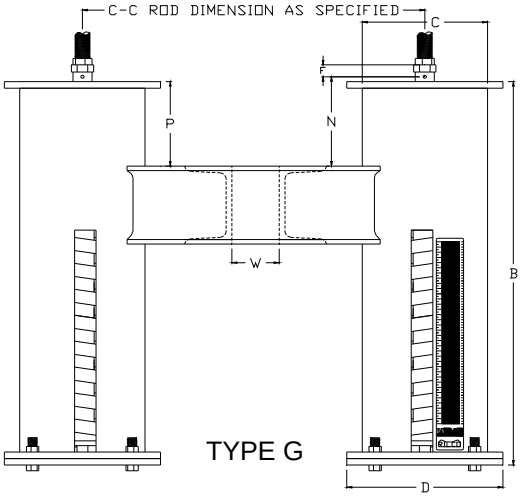
TYPE D



TYPE E

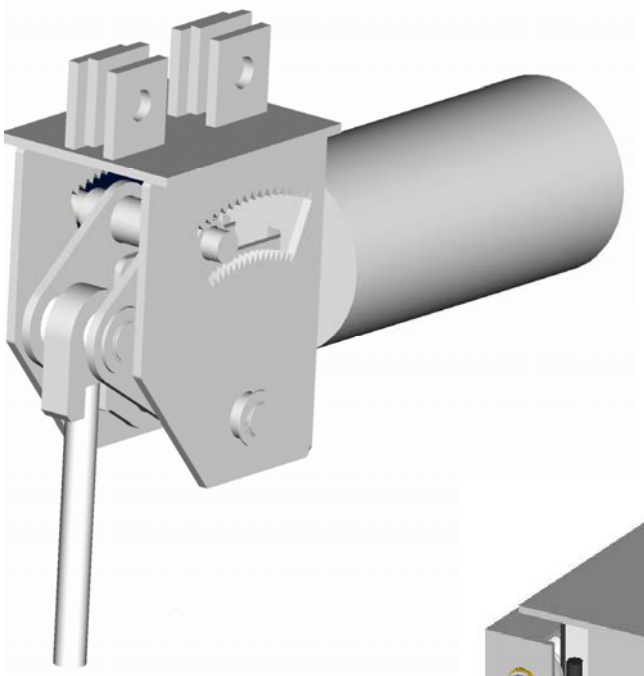


TYPE F

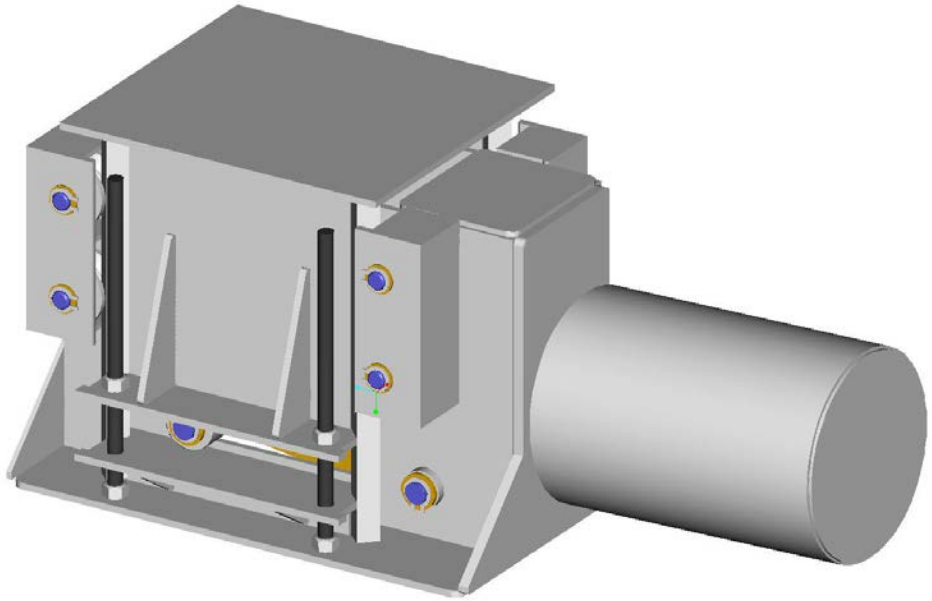


TYPE G

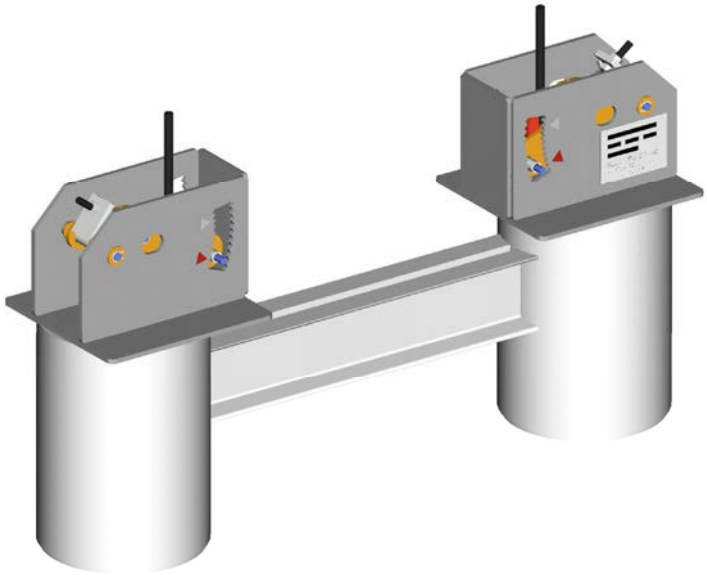
Weights (lbs) * Dimensions (inches)																	
Hanger Size	Rod Size "A"	R.H. Thread Length	Casing		Min Thread Engage "F"	"Z"	Rod Take Out By Type					Type A	Type D		TYPE F		TYPE G
			Length "B"	Dia. "C"			A	B,C	D	E	G	Thread Depth "G"	"K"	"M"	Loaded Length Dim X		Rod Length "P"
							"E"	"J"	"Y"	"Q"	"N"				Min	Max	
0	1/2	16	25-1/8	4	15/16	15/16	25-1/8	26-5/8	37-1/8	15-1/8	1-1/2	7/16	1-1/4	7-3/4	26-5/8	28-7/8	1-1/2
1	1/2	16	28-5/8	4	15/16	11/16	28-5/8	30-1/8	40-5/8	15-1/8	1-1/2	7/16	1-1/4	7-3/4	30-1/8	32-3/8	1-1/2
2	1/2	16	31-5/8	4	15/16	1-1/16	31-5/8	33-1/8	43-5/8	15-1/8	1-1/2	7/16	1-1/4	7-3/4	33-1/8	35-3/8	1-1/2
3	1/2	16	27-7/8	5-9/16	15/16	9/16	27-7/8	29-3/8	39-7/8	15-1/8	2	7/16	1-1/4	7-3/4	30-3/16	32-9/16	2
4	1/2	16	30-3/8	5-9/16	15/16	1-3/16	30-3/8	31-7/8	42-3/8	15-1/8	2	7/16	1-1/4	7-3/4	31-11/16	33-7/8	2
5	1/2	16	33-1/8	5-9/16	15/16	1-1/16	33-1/8	34-5/8	45-1/8	15-1/8	2	7/16	1-1/4	7-3/4	34-7/16	36-11/16	2
6	5/8	16	32-15/16	6-5/8	15/16	13/16	32-15/16	34-7/16	45-1/8	15-1/8	2	5/8	1-1/2	7-11/16	34-1/2	36-9/16	2
7	5/8	16	36-7/8	6-5/8	15/16	1-1/16	36-7/8	38-3/8	49-1/16	15-1/8	2	5/8	1-1/2	7-11/16	38-1/4	40-9/16	2
8	5/8	16	38-11/16	6-5/8	15/16	13/16	38-11/16	40-3/16	50-7/8	15-1/8	2	5/8	1-1/2	7-11/16	39-1/2	41-11/16	2
9	3/4	16	38-13/16	8-5/8	1-1/4	1-1/8	38-13/16	40-5/16	51-1/8	15-1/2	3	1	1-3/4	7-9/16	39-5/8	41-11/16	3
10	3/4	16	43-3/4	8-5/8	1-1/4	1-3/8	43-3/4	45-1/4	56-1/16	15-1/2	3	1	1-3/4	7-9/16	44-3/8	47-1/16	3
11	3/4	17	35	8-5/8	1-1/4	1-3/16	35	36-1/2	47-5/16	15-1/2	3	1	2	7-9/16	35-5/8	38-11/16	3
12	1	17	37-1/2	8-5/8	1-1/4	7/8	37-1/2	39-1/2	50-5/16	15-1/2	3-7/8	1	2-1/4	7-9/16	38-7/8	41-1/4	4
13	1	17	47-3/4	8-5/8	1-1/4	1	47-3/4	49-3/4	60-9/16	15-1/2	3-7/8	1	2-1/2	7-9/16	48-7/8	51-7/16	4
14	1-1/4	17	48-3/8	8-5/8	1-1/4	3/4	48-3/8	51-1/4	61-15/16	15-1/2	3-7/8	1	2-1/2	7-9/16	50-7/8	52-15/16	4
15	1-1/4	18	48-1/8	8-5/8	1-1/4	3/4	48-1/8	51	61-15/16	15-1/2	4	1	3	7-9/16	47-3/4	49-15/16	4
16	1-1/2	18	57-7/8	8-5/8	1-15/16	2	57-7/8	60-7/8	71-7/16	15-1/16	4	1-3/8	3-1/2	7-1/16	57-3/4	60-9/16	4
17	1-3/4	19	66-1/8	8-5/8	1-15/16	2	66-1/8	69-1/8	80-3/16	15-9/16	4	1-3/8	4	7-1/16	65-1/2	68-1/4	4
18	2	19	64-1/8	12-3/4	2-3/4	2-1/2	64-1/8	68-1/8	78-11/16	14-7/8	4	2-1/4	4-9/16	7	63-5/8	65-11/16	4
19	2-1/4	20	73-1/8	12-3/4	2-3/4	2-9/16	73-1/8	77-5/8	88-1/8	15-7/16	4	2-1/4	5	7	71-1/8	73-5/16	4
20	2-1/2	20	86-1/8	12-3/4	2-3/4	2-11/16	86-1/8	90-5/8	101-11/16	15-15/16	4	2-1/4	5-9/16	7	86-5/8	88-5/8	4
21	2-3/4	21	95-7/8	12-3/4	3-5/8	2-3/4	95-7/8	99-3/8	113-7/16	15	4	2-3/4	6-1/4	9-5/16	94-9/16	98-11/16	4
22	3	21	120-1/8	12-3/4	3-5/8	2-3/4	120-1/8	124-1/8	138-7/16	15-1/2	4	3	6-5/8	9-5/16	118-11/16	122-15/16	4



Horizontal Constant



Upthrust Constant



Vertical Constant

Section 10

Table of Contents
Constant Supports

CONSTANT SUPPORTS

Constant springs are used to support piping whose movements and/or loading conditions cause too great a variability or too high of a loading condition for a variable spring. A perfect constant support will exert the same lifting effort as the pipe moves either up or down.

The geometric design of the constant support ensures a constant amount of force exerted throughout the entire range of travel. The force is made constant by a counterbalancing spring assembly. This counterbalancing spring assembly is made up of a spring coil(s) and a set of levers.

As the levers move from the higher to the lower position, or vice versa, a turning moment about the main pivot is created that is both equal and opposite to the turning moment of the load and the load moment arms. As the lever moves from the higher to the lower position, the load spring is compressed and the ensuing increased force causes the turning moment to be created. It is the opposite for the lever moving from the lower to the higher position. When the load spring is relaxed and the ensuing decreased force causes the turning moment to be created.

The formula F x A = R x B, can be used to illustrate this concept.

F = Spring Force

A = Length of the Moment Arm from the Spring Rod to the Main Pivot.

R = Supporting Force (pipe load)

B = Length of the Moment Arm of the Supporting Force to the Main Pivot.

SPECIFICATIONS

All of the constant support units are designed to meet the requirements of the ASME Code for Pressure Piping, ASME B31.1, B31.3, and MSS SP-58.

STANDARD DESIGN FEATURES

-High load and travel capabilities
-Each hanger is calibrated independently to the customer's specific load prior to shipment
-Designed to provide a more condensed and versatile unit
-Load is adjustable +/- 10% from the "as shipped" load
-Permanently installed rivets represent hot (red) and cold (white) positions
-Hot-dip galvanized finish per ASTM A153 protects the unit from corrosive and climactic conditions. The spring is powder-coated to provide additional protection for the coil.
-The spring cover prevents foreign objects from restricting the action of the coil spring while providing a clean functional appearance.
-Full range of travel, including over-travel stop placement enables blocking of the constant in nearly any position of the travel.
-Stainless steel shafts used in all locations subject to movement, ensures the unit will not seize due to corrosion

OPTIONAL DESIGN FEATURES

-Lifting lugs are available for all sizes

-Optional finishes ranging from zinc-rich primer to powder-coating for casing and components

- Units fabricated entirely from stainless steel, including the coil are available by Special Order

LIMIT AND TRAVEL STOPS

RILCO constant supports have built-in upper and lower limit stops to restrict the travel, avoiding damage to the support. The ends of the travel arc are specifically located to act as the limit stops when the movement causes the stop shaft the contact them.

The travel stops are painted RED "toothed" on both sides with a hole in the center, in order to allow placement in multiple locations along the travel arc. The stops are placed on the stop shaft and retained with either clips or cotter pins. The stops are to (MUST) be removed prior to the line being put into service. Reference the installation instructions for the proper sequencing of events prior to retainer removal.

SELECTION OF TYPE AND FIGURE

The selection of a particular type and figure will be determined by the supporting steel and space conflicts with the surrounding objects.

The figure RCS-81H is a horizontal arrangement which requires less headroom, but increased room horizontally. The RCS-80V is a vertical arrangement which requires more headroom, but less space horizontally.

Types A, B, C, D, E and G are available in the RCS-80V and 81H series.

Type F is available only in the RCS-81H series.

Special constant support configurations can be designed for unique applications.

SELECTION OF SUPPORT SIZE

RILCO manufactures constant supports in sizes with travels ranging from 1-1/2″ to 21″ and with loads from 25 to 87,500 pounds.

Proper selection requires that the total load; including pipe thermal loads, working fluid, and hanger hardware, as well as the actual travel, or vertical movement of the pipe at the support location, be known. Please refer the accompanying constant support size chart to select a size which will accommodate both the load and the total travel. The total travel is designed to allow for differences between the calculated travel and the actual travel. The total travel is determined by adding 1″ or 20% of the actual travel, whichever is greater, to the calculated actual travel.

INSTALLATION AND ADJUSTMENT

A set of installation instructions can be included with each order, or contact RILCO for a copy.

Adjustment of the RILCO "Constant Support" should only be done after consulting your RILCO "Support Team" for the proper procedure and limitations.

Constant Sizing Table

RILCO

Hanger Size No.	Total Travel (in.)														
	1 ½	2	2 ½	3	3 ½	4	4 ½	5	5 ½	6	6 ½	7	7 ½	8	8 ½
	Loads (lbs.)														
1	144	108	86	72	62	54	48	43	39	36	33	31	29	27	
1	173	130	104	87	74	65	58	52	47	43	40	37	35	33	
2	204	153	122	102	87	77	68	61	56	51	47	44	41	38	
3	233	175	140	117	100	88	78	70	64	58	54	50	47	44	
4	280	210	168	140	120	105	93	84	76	70	65	60	56	53	
5	327	245	196	163	140	123	109	98	89	82	75	70	65	61	
6	373	280	224	187	160	140	124	112	102	93	86	80	75	70	
7	451	338	270	225	193	169	150	135	123	113	104	97	90	85	
8	527	395	316	263	226	198	176	158	144	132	122	113	105	99	
9	600	450	360	300	257	225	200	180	164	150	138	129	120	113	
10	727	545	436	363	311	273	242	218	198	182	168	156	145	136	
11	851	638	510	425	365	319	284	255	232	213	196	182	170	160	
12	977	733	586	489	419	367	326	293	267	244	226	209	195	183	
13	1177	883	706	589	505	442	392	353	321	294	272	252	235	221	
14	1373	1030	824	687	589	515	458	412	375	343	317	294	275	258	
15	1573	1180	944	787	674	590	524	472	429	393	363	337	315	295	
16	1893	1420	1136	947	811	710	631	568	516	473	437	406	379	355	
17	2217	1663	1330	1109	950	832	739	665	605	554	512	475	443	416	
18	2540	1905	1524	1270	1089	953	847	762	693	634	586	544	508	476	
19		2025	1620	1350	1157	1013	900	810	736	675	623	579	540	506	448 476
20		2145	1716	1430	1226	1073	953	858	780	715	660	613	572	536	505
21		2335	1868	1557	1334	1168	1038	934	849	778	718	667	623	584	549
22		2525	2020	1683	1443	1263	1122	1010	918	842	777	721	673	631	594
23		2710	2168	1807	1549	1355	1204	1080	985	903	834	775	723	678	638
24		2910	2328	1940	1663	1455	1293	1164	1058	970	895	831	776	728	685
25		3110	2488	2073	1777	1555	1382	1244	1131	1037	957	889	829	778	732
26		3310	2648	2207	1891	1655	1471	1324	1204	1103	1018	946	883	828	779
27		3630	2904	2420	2074	1815	1613	1452	1320	1210	1117	1037	968	908	854
28		3950	3160	2633	2257	1975	1756	1580	1436	1317	1215	1129	1053	988	929
29		4270	3416	2847	2440	2135	1898	1708	1553	1423	1314	1220	1139	1068	1005
30		4535	3628	3023	2591	2268	2016	1814	1649	1512	1395	1296	1209	1134	1067
31		4795	3836	3197	2740	2398	2131	1918	1744	1598	1475	1370	1279	1199	1128
32		5060	4048	3373	2891	2530	2249	2024	1840	1687	1557	1446	1349	1265	1191
33		5295	4236	3530	3026	2648	2353	2118	1925	1765	1629	1513	1412	1324	1246
34		5525	4420	3683	3157	2763	2456	2210	2009	1842	1700	1579	1473	1381	1300
35			4696	3913	3354	2935	2609	2348	2135	1957	1806	1677	1565	1468	1381
36			4968	4140	3549	3105	2760	2484	2258	2070	1911	1774	1656	1553	1461
37			5240	4367	3743	3275	2911	2620	2382	2183	2015	1871	1747	1638	1541
38			5616	4680	4011	3510	3120	2808	2553	2340	2160	2006	1872	1755	1652
39			5988	4990	4277	3743	3327	2994	2722	2495	2303	2139	1996	1871	1761
40			6360	5300	4543	3975	3533	3180	2891	2650	2446	2271	2120	1988	1871
41			6976	5813	4983	4360	3876	3488	3171	2907	2683	2491	2325	2180	2052
42			7588	6323	5420	4743	4216	3794	3449	3162	2919	2710	2529	2371	2232
43			8200	6833	5857	5125	4556	4100	3727	2417	3154	2929	2733	2563	2412
44			8724	7270	6231	5453	4847	4362	3965	3635	3355	3116	2908	2726	2566
45			9284	7737	6631	5803	5158	4642	4220	3868	3571	3316	3095	2901	2731
46			9760	8133	6971	6100	5422	4880	4436	4067	3754	3486	3253	3050	2871
47			10376	8647	7411	6485	5764	5188	4716	4323	3991	3706	3459	3243	3052
48			10988	9157	7848	6868	6104	5495	4995	4578	4226	3924	3663	3434	3232
49			11600	9667	8286	7250	6444	5800	5273	4833	4462	4143	3867	3625	3412
50				10367	8886	7775	6911	6220	5655	5183	4785	4443	4147	3888	3659
51				11067	9486	8300	7378	6640	6036	5533	5108	4743	4427	4150	3906
52				11847	10154	8885	7898	7108	6462	5923	5468	5077	4739	4443	4181
53				12623	10820	9468	8416	7574	6886	6311	5826	5410	5049	4734	4455
54				13400	11486	10050	8933	8040	7309	6700	6185	5743	5360	5025	4730
55				14713	12611	11035	9809	8828	8026	7356	6791	6306	5885	5518	5193
56				16023	13734	12018	10682	9614	8740	8011	7396	6867	6409	6009	5655
57				17333	14857	13000	11555	10400	9455	8666	8000	7429	6933	6500	6118
58				18423	15791	13818	12282	11054	10049	9211	8503	7896	7369	6809	6506
59				19510	16723	14633	13007	11706	10642	9755	9005	8362	7804	7316	6886
60				20600	17657	15450	13733	12360	11236	10300	9508	8829	8240	7725	7271
61				21890	18763	16418	14593	13134	11940	10945	10103	9382	8756	8209	7726
62				23176	19665	17383	15451	13906	12642	11588	10697	9933	9270	8691	8180
63				24463	20968	18348	16309	14678	13344	12231	11291	10840	9785	9174	8634
"B (avg. in.)	$1\frac{3}{8}$	$1\frac{7}{8}$	$2\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{4}$	$3\frac{5}{8}$	$4\frac{1}{8}$	$4\frac{5}{8}$	$5\frac{1}{8}$	$5\frac{1}{2}$	6	$6\frac{1}{2}$	$6\frac{7}{8}$	$7\frac{3}{8}$	$7\frac{7}{8}$

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Constant Sizing Table

Hanger Size No.	Total Travel (in.)														
	9	9 ½	10	10 ½	11	11 ½	12	12 ½	13	13 ½	14	14 ½	15	15 ½	16
	Loads (lbs.)														
1															
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19	423	401	381												
	450	426	405												
20	477	452	429												
21	519	492	467												
22	561	532	505												
23	602	571	542												
24	647	613	582												
25	691	655	622												
26	736	697	662												
27	807	764	726												
28	878	832	790												
29	949	899	854												
30	1008	955	907												
31	1066	1009	959												
32	1124	1065	1012												
33	1177	1115	1059												
34	1228	1163	1105												
35	1304	1236	1174	1053	1005	962	922	885	851	819	790				
				1118	1067	1021	978	939	903	870	838				
36	1380	1307	1242	1183	1129	1080	1035	994	955	920	887				
37	1456	1379	1310	1248	1191	1139	1092	1048	1008	970	936				
38	1560	1478	1404	1337	1276	1221	1170	1123	1080	1040	1003				
39	1663	1576	1497	1426	1361	1302	1247	1198	1151	1109	1069				
40	1767	1674	1590	1514	1445	1383	1325	1272	1223	1178	1136				
41	1938	1836	1744	1661	1585	1516	1453	1395	1341	1292	1246				
42	2108	1997	1897	1807	1724	1649	1581	1518	1459	1405	1355				
43	2278	2158	2050	1952	1863	1782	1708	1640	1577	1518	1464				
44	2423	2296	2181	2077	1983	1896	1817	1745	1678	1615	1558				
45	2579	2443	2321	2210	2110	2018	1934	1857	1785	1719	1658				
46	2711	2568	2440	2324	2218	2122	2033	1952	1877	1807	1743				
47	2882	2730	2594	2470	2358	2255	2162	2075	1995	1921	1853				
48	3052	2891	2747	2616	2497	2389	2289	2198	2113	2035	1962				
49	3222	3053	2900	2762	2636	2522	2417	2320	2231	2148	2071				
50	3456	3274	3110	2962	2827	2704	2592	2488	2392	2304	2221	2001	1934	1871	1813
												2145	2073	2006	1944
51	3689	3495	3320	3162	3018	2887	2767	2656	2554	2459	2371	2289	2213	2142	2075
52	3949	3741	3554	3384	3231	3090	2962	2843	2734	2632	2538	2451	2369	2293	2221
53	4208	3986	3787	3606	3442	3293	3156	3030	2913	2805	2705	2612	2524	2443	2367
54	4467	4231	4020	3828	3654	3495	3350	3216	3092	2978	2871	2772	2680	2593	2513
55	4904	4646	4414	4203	4012	3838	3678	3531	3395	3269	3152	3044	2942	2847	2759
56	5341	5060	4807	4518	4370	4180	4006	3846	3698	3561	3433	3315	3204	3101	3004
57	5778	5474	5200	4952	4727	4521	4333	4160	4000	3852	3714	3586	3466	3355	3250
58	6141	6818	5527	5263	5024	4806	4606	4422	4251	4094	3947	3811	3684	3565	3454
59	6503	6161	5853	5574	5320	5089	4877	4682	4502	4335	4180	4036	3902	3776	3658
60	6867	6505	6180	5885	5618	5374	5150	4944	4754	4578	4414	4262	4120	3987	3863
61	7297	6912	6567	6254	5969	5710	5472	5254	5051	4864	4690	4529	4378	4236	4104
62	7725	7319	6953	6621	6320	6046	5794	5562	5348	5150	4965	4795	4635	4485	4346
63	8154	7725	7339	6989	6671	6381	6116	5871	5645	5436	5242	5061	4892	4734	4587
"B (avg. in.)	$8^1/4$	$8^3/4$	$9^1/4$	$9^5/8$	$10^1/8$	$10^5/8$	11	$11^1/2$	12	$12^3/8$	$12^7/8$	$13^3/8$	$13^7/8$	$14^1/4$	$14^3/4$

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Constant Sizing Table

RILCO

Hanger Size No.	Total Travel (in.)																
	4	4 ½	5	5 ½	6	6 ½	7	7 ½	8	8 ½	9	9 ½	10	10 ½	11	11 ½	12
	Loads (lbs.)																
64	19225	17089	15380	13982	12816	11831	10986	10253	9613	9047	8544	8094	7690	7323	6990	6686	6408
65	20100	17866	16080	14618	13400	12370	11486	10720	10050	9459	8933	8463	8040	7657	7308	6991	6700
66	22068	19615	17654	16049	14711	13580	12610	11769	11034	10385	9808	9291	8827	8406	8024	7675	7356
67	24033	21362	19226	17478	16021	14790	13733	12817	12016	11310	10681	10119	9613	9154	8738	8359	8011
68	26000	23111	20800	18909	17333	16000	14857	13866	13000	12236	11555	10947	10400	9904	9454	9043	8666
69	27635	24564	22108	20089	18423	17007	15792	14738	13818	13005	12282	11635	11054	10527	10048	9611	9211
70	29268	26015	23414	21286	19511	18011	16725	15609	14632	13773	13008	12323	11707	11149	10642	10179	9755
71	30900	27466	24720	22473	20599	19016	17657	16480	15450	14542	13733	13010	12360	11770	11235	10747	10300
72	32835	29186	26268	23880	21889	20207	18763	17512	16418	15452	14593	13825	13134	12508	11939	11420	10945
73	34768	30904	27814	25286	23177	21396	19868	18542	17384	16362	15452	14639	13907	13244	12641	12092	11589
74	36700	32622	29360	26691	24466	22585	20972	19573	18350	17271	16311	15452	14680	13980	13344	12764	12233
75	38800	34489	31040	28218	25866	23878	22172	20693	19400	18259	17244	16336	15520	14780	14108	13495	12933
76	40900	36355	32720	29746	27266	25170	23372	21813	20450	19248	18178	17221	16360	15580	14871	14225	13633
77	43000	38222	34400	31273	28666	26462	24572	22933	21500	20236	19111	18105	17200	16380	15635	14955	14333
78	45335	40297	36268	32971	30222	27899	25906	24178	22668	21335	20149	19088	18134	17269	16484	15768	15111
79	47668	42371	38134	34668	31779	29335	27239	25422	23834	22432	21185	20070	19067	18158	17332	16579	15889
80	50000	44444	40000	36364	33332	30770	28572	26666	25000	23530	22222	21052	20000	19046	18180	17390	16666
81	52500	46666	42000	38182	35000	32309	30000	27999	26250	24707	23333	22105	21000	19998	19089	18260	17500
82	55000	48888	44000	40000	36665	33847	31429	29333	27500	25883	24444	23157	22000	20951	20000	19129	18333
83	57500	51111	46000	41819	38332	35386	32858	30666	28750	27060	25555	24210	23000	21903	20907	20000	19166
84			49200	44728	40998	37847	35144	32799	30750	28942	27333	25894	24600	23427	22361	21390	20500
85			52400	47637	43665	40309	37429	34932	32750	30824	29111	27578	26200	24950	23816	22781	21832
86			55400	50364	46165	42616	39572	36932	34625	32589	30777	29157	27700	26379	25179	24085	23082
87			58400	53091	48665	44924	41715	38932	36500	34354	32444	30736	29200	27807	26543	25389	24332
88			61400	55819	51165	47232	43858	40932	38375	36119	34111	32315	30700	29236	27906	26694	25582
89			66000	60000	54998	50771	47144	43999	41250	38825	36666	34736	33000	31426	29997	28694	27500
90					61331	56617	52572	49065	46000	43295	40888	38736	36800	35045	33451	31998	30665
91					67164	62002	57573	53732	50375	47413	44777	42420	40300	38378	36633	35041	33582
92					73500	67848	63001	58799	55125	51884	49000	46420	44100	41996	40087	38345	36749
93					80830	74617	69287	64665	60625	57060	53888	51051	48500	46187	44087	42171	40415
94					87500	81540	75716	70665	66250	62355	58888	55788	53000	50472	48177	46084	44165
95							78930	73665	69063	65002	61388	58156	55250	52615	50222	48040	46040
96							82145	76665	71875	67649	63888	60525	57500	54757	52268	50000	47915
97							85360	79665	74688	70296	66388	62893	59750	56900	54313	51953	49790
98							87500	82665	77500	72943	68888	65261	62000	59043	56358	53909	51665
99								85998	80625	75884	71666	67893	64500	61423	58631	56083	53748
100								87500	83750	78826	74444	70524	67000	63804	60903	58257	55831
101									86875	81767	77221	73156	69500	66185	63176	60430	57914
102									87500	84708	80000	75787	72000	68566	65448	62604	60000
103										87500	83610	79210	75250	71661	68402	65430	62706
104											87221	82629	78500	74756	71357	68256	65414
105											87500	86050	81750	77851	74311	71082	68122
106												87500	85000	80946	77265	73908	70831
107													87500	84469	80628	77125	73914
108														87500	83992	80342	77000
109															87446	83646	80163
110															87500	86950	83330
"B" dim Sizes 64 to 83	$3\frac{5}{8}$	$4\frac{1}{8}$	$4\frac{5}{8}$	$5\frac{1}{8}$	$5\frac{1}{2}$	6	$6\frac{1}{2}$	$6\frac{7}{8}$	$7\frac{3}{8}$	$7\frac{7}{8}$	$8\frac{1}{4}$	$8\frac{3}{4}$	$9\frac{1}{4}$	$9\frac{5}{8}$	$10\frac{1}{8}$	$10\frac{5}{8}$	11
"B" dim Sizes 84 to 110	-	-	$4\frac{3}{16}$	$4\frac{9}{16}$	5	$5\frac{3}{8}$	$5\frac{13}{16}$	$6\frac{1}{4}$	$6\frac{5}{8}$	$7\frac{1}{16}$	$7\frac{1}{2}$	$7\frac{7}{8}$	$8\frac{5}{16}$	$8\frac{3}{4}$	$9\frac{1}{8}$	$9\frac{9}{16}$	10

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Constant Sizing Table

Hanger Size No.	Total Travel (in.)															
	12 ½	13	13 ½	14	14 ½	15	15 ½	16	16 1/2	17	17 1/2	18	18 1/2	19	19 1/2	20
	Loads (lbs.)															
64	6152	5915	5696	5492	5303	5126	4961	4806								
65	6432	6184	5955	5742	5544	5359	5187	5025								
66	7062	6790	6538	6304	6087	5884	5694	5517								
67	7690	7394	7120	6966	6629	6408	6201	6008								
68	8320	8000	7703	7428	7172	6933	6709	6500								
69	8843	8503	8188	7895	7623	7369	7131	6909								
70	9366	9005	8671	8361	8073	7804	7552	7317								
71	9888	9507	9155	8828	8523	8239	7973	7725								
72	10507	10103	9728	9380	9057	8755	8473	8209								
73	11126	10697	10301	9932	9590	9270	8971	8692								
74	11744	11292	10873	10484	10123	9786	9470	9175								
75	12416	11938	11496	11084	10703	10346	10012	9700								
76	13088	12584	12118	11684	11282	10906	10554	10225								
77	13760	13230	12740	12284	11861	11466	11096	10750								
78	14507	13949	13432	12951	12505	12088	11698	11334								
79	15254	14666	14123	13618	13149	12710	12300	11917								
80	16000	15384	14814	14284	13792	13332	12902	12500								
81	16800	16153	15555	14998	14482	14000	13547	13125								
82	17600	16922	16295	15712	15171	14665	14192	13750								
83	18400	17692	17036	16427	18561	15332	14837	14375								
84	19680	18922	18221	17569	16964	16398	15869	15375								
85	20960	20153	19406	18712	18068	17465	16902	16375								
86	22160	21307	20517	19783	19102	18465	17869	17313								
87	23360	22461	21628	20855	20136	19465	18837	18250								
88	24560	23614	22739	21926	21171	20465	19805	19188								
89	26400	25384	24443	23569	22757	21998	21288	20626								
90	29440	28307	27258	26283	25377	24531	23740	23000								
91	32240	31000	29850	28782	27791	26864	25998	25188								
92	35280	33922	32665	31496	30411	29397	28449	27563								
93	38800	37306	35924	34639	33446	32330	31287	30313								
94	42400	40768	39257	37583	36549	35330	34190	33125								
95	44200	42498	40924	39460	38100	36830	35642	34531	32119 33482	31175 32498	30285 31570	29442 30691	28647 29863	27894 29078	27179 28332	26500 27625
96	46000	44230	42590	41067	39652	38330	37093	35938	34845	33822	32856	31941	31080	30262	29486	28750
97	47800	45960	44257	42673	41204	39829	39545	37444	36209	35145	34141	33191	32295	31446	30640	29875
98	49600	47690	45923	44280	42755	41329	40000	38750	37572	36468	35427	34441	33511	32631	31794	31000
99	51600	49613	47775	46066	44479	42996	41609	40313	39087	37939	36855	35830	34862	33946	33076	32250
100	53600	51536	49627	47851	46203	44662	43221	41875	40602	39409	38284	37219	36214	35262	34358	33500
101	55600	53459	51479	49637	47927	46329	44834	43438	42117	40880	39712	38607	37565	36578	35640	34750
102	57600	56382	53330	51422	49651	47995	46447	45000	43632	42350	41141	39996	38916	37894	36922	36000
103	60200	57882	55738	53744	51892	50162	48544	47031	45602	44262	42998	41801	40673	39604	38588	37625
104	62800	60382	58145	56065	54134	52328	50640	49063	47571	46174	44855	43607	42429	41315	40255	39250
105	65400	62882	60552	58386	56375	54495	52737	51094	49541	48085	46712	45412	44186	43025	41921	40875
106	68000	65382	62960	60707	58616	56661	54834	53125	51510	50000	48569	47218	45943	44736	43588	42500
107	70960	68228	65700	63350	61168	59127	57220	55438	53752	52173	50683	49273	47942	46683	45485	44350
108	73920	71074	68441	65992	63719	61594	59607	57750	55994	54350	52797	51328	49942	48630	47383	46200
109	76960	74000	71225	68706	66340	64127	62059	60125	58297	56585	54969	53439	52000	50630	49331	48100
110	80000	76920	74070	71420	68960	66660	64510	62500	60600	58820	57140	55550	54050	52630	51280	50000
"B" dim Sizes 64 to 83	$11\frac{1}{2}$	12	$12\frac{3}{8}$	$12\frac{7}{8}$	$13\frac{3}{8}$	$13\frac{7}{8}$	$14\frac{1}{4}$	$14\frac{3}{4}$	-	-	-	-	-	-	-	-
"B" dim Sizes 84 to 110	$10\frac{3}{8}$	$10\frac{13}{16}$	$11\frac{3}{16}$	$11\frac{5}{8}$	$12\frac{1}{16}$	$12\frac{1}{2}$	$12\frac{7}{8}$	$13\frac{5}{16}$	$13\frac{11}{16}$	$14\frac{1}{8}$	$14\frac{9}{16}$	$14\frac{15}{16}$	$15\frac{3}{8}$	$15\frac{3}{4}$	$16\frac{3}{16}$	$16\frac{5}{8}$

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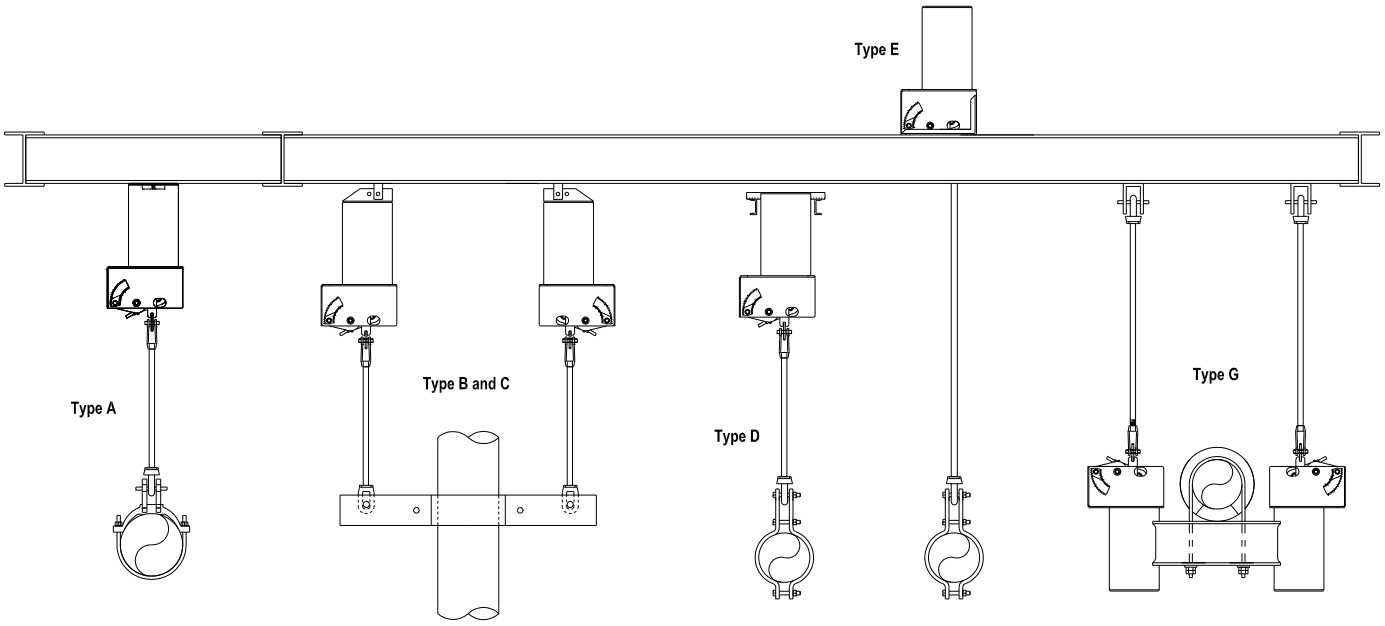
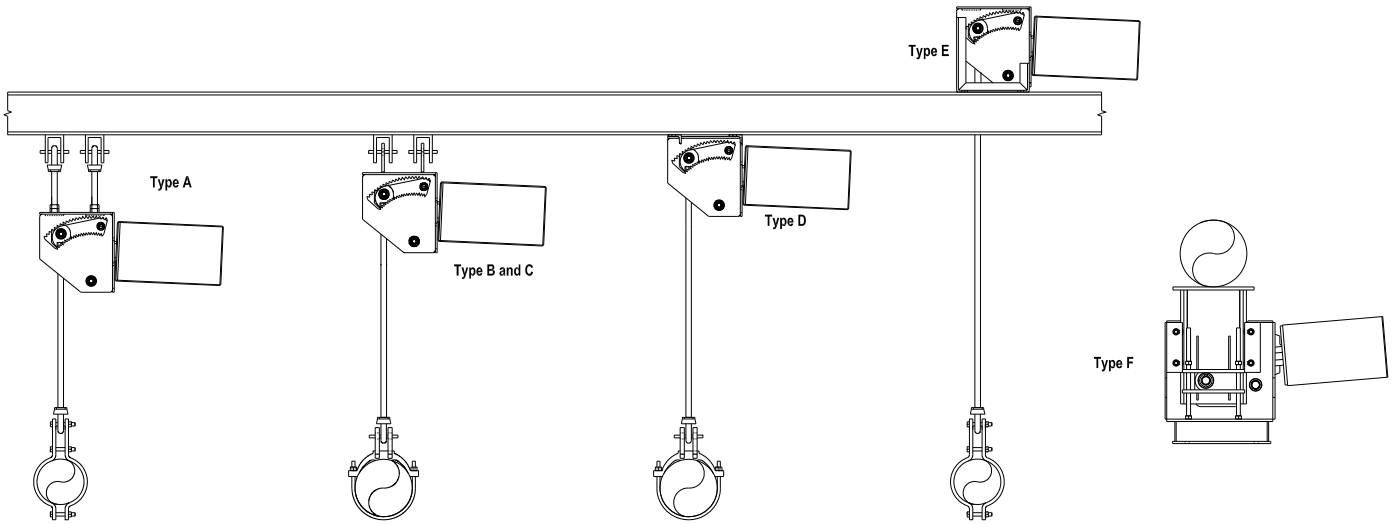
NOTES:

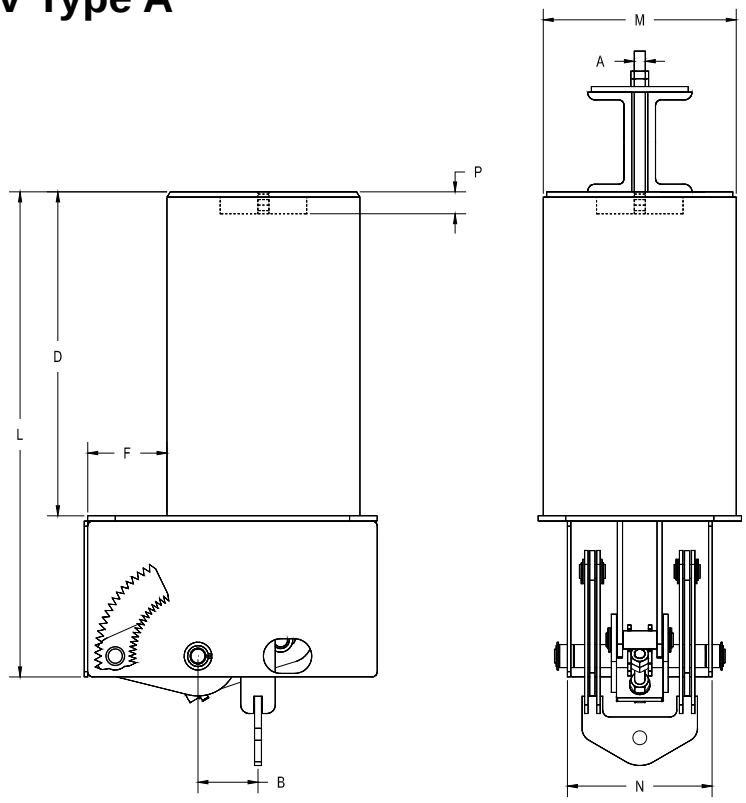
RCS-80V (Vertical)



RCS-81H (Horizontal)



RCS-80V Type A



The RCS-80V "TYPE A" is specially fabricated for mounting on a supporting member by means of attaching a rod into the tapped hole in the constant support's top cap. A distance equal to the "P" dimension plus 3/8". Available in most types of finishes.

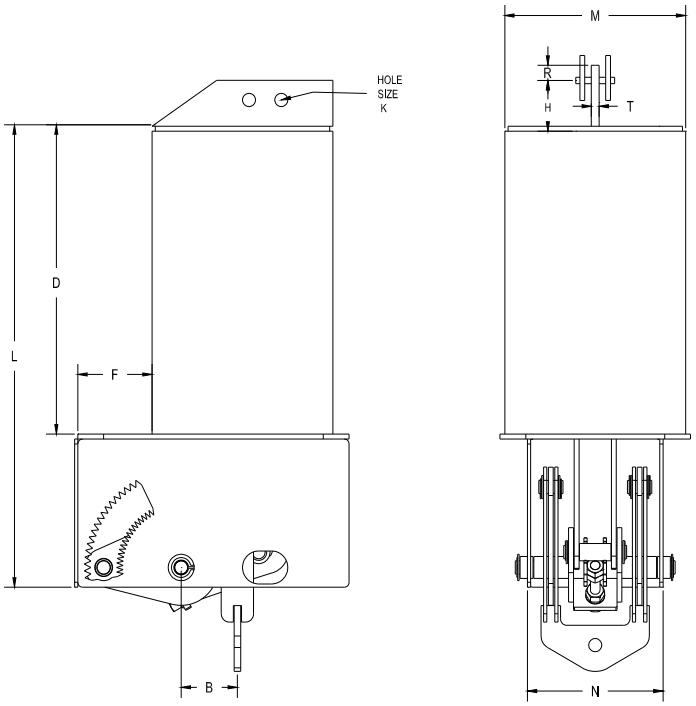
Hanger Sizes	L	D	F		I	M	N	P	Q	Total Travel (in.)	Factors	A-rod (max.)
10-18	18 7/8	8 7/8	2		-	8 5/8	6 7/16	7/8	1 3/8	≤ 5	16 15/16	3/4
										>5 1/2	19 1/4	
19-34	28 1/2	16	2 1/8		-	12 3/4	8 9/16	1 1/8	1 5/8	≤ 5	27 15/16	1 1/4
										>5 1/2	30 1/16	
35-49	32 3/4	18 1/4	4 3/4		-	14	9 13/16	1 1/2	2 1/2	≤ 6	32 3/8	1 3/4
										>6 1/2	37	
50-63	46 7/8	28 1/8	8 5/16		-	18	11 1/4	2	3	≤ 11	46 1/2	2 1/4
										>11 1/2	51 3/4	
64-74	67 1/2	44 1/4	1 3/16		25 3/8	22 3/16	11	2 1/2	-	≤10 1/2	77 5/8	2 3/4
										>11	77 3/4	
75-83	69 1/2	46 1/4	1 1/2		25 3/8	27 3/16	11	3	-	≤10 1/2	78 3/16	3 1/4
										>11	78 5/16	
84-110	See Page #22											

"Type A" - Rod Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000
A-Rod size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4*

* 3 3/4″ is furnished with 8 UN series thread.

RCS-80V Type B



The RCS-80V "TYPE B" is manufactured with one lug to accommodate attachment to the building structure and allowing for the use of various types of attachments. (Example: RILCO Part# 100, or Part# 290.) Available in most types of finishes.

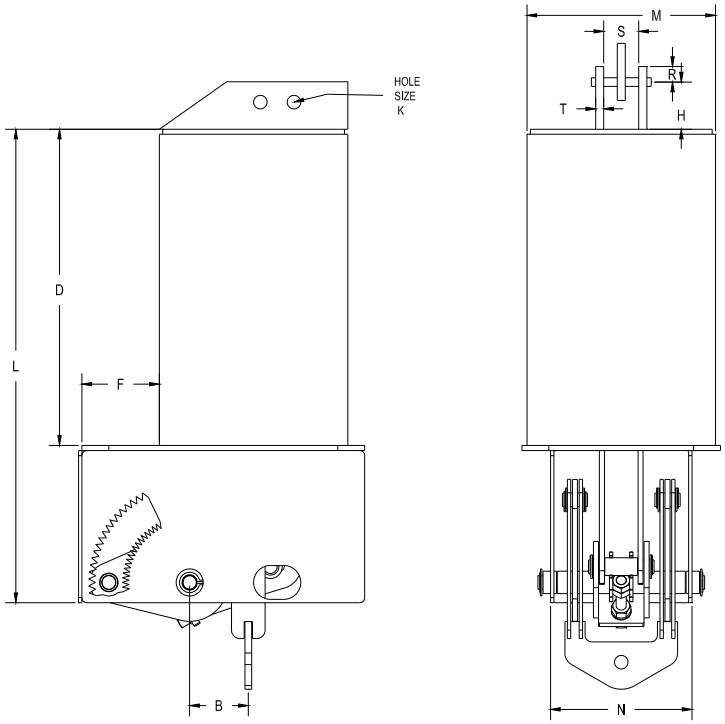
Hanger Sizes	L	D	F		H	I	M	N	Q	R	T	Total Travel (in.)	Factors	A (max.)
10-18	18 7/8	8 7/8	2		1 1/2	-	8 5/8	6 7/16	1 3/8	1.5	3/8	≤ 5	19 5/16	3/4
												>5 1/2	21 5/8	
19-34	28 1/2	16	2 1/8		2	-	12 3/4	8 9/16	1 5/8	1.5	5/8	≤ 5	31 1/16	1 1/4
												>5 1/2	33 3/16	
35-49	32 3/4	18 1/4	4 3/4		3	-	14	9 13/16	2 1/2	-	3/4	≤ 6	36 7/8	1 3/4
												>6 1/2	41 1/2	
50-63	46 7/8	28 1/8	8 5/16		4	-	18	11 1/4	3	-	1	≤ 11	52 1/2	2 1/4
												>11 1/2	57 3/4	
64-74	60 1/2	37 1/4	1 3/16		4 1/2	25 3/8	22 3/16	11	-	3	2	≤10 1/2	77 1/4	2 3/4
												> 11	77 3/8	
75-83	61 1/4	38	1 1/2		3 5/8	25 3/8	27 3/16	11	-	3.75	2 1/2	≤10 1/2	77 15/16	3 1/4
												> 11	78 1/16	
84-110	See Page #22													

A-Rod Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000
A-Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4*
K-Hole	11/16	13/16	15/16	1 1/4	1 1/2	1 3/4	2	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8

* 3 3/4" is furnished with 8 UN series thread.

RCS-80V Type C



The RCS-80V "TYPE C" is manufactured using two(2) lugs to accommodate attachment to the building structure and allowing for the use of various types of attachments. (Example: RILCO Part# 220). Available in most types of finishes.

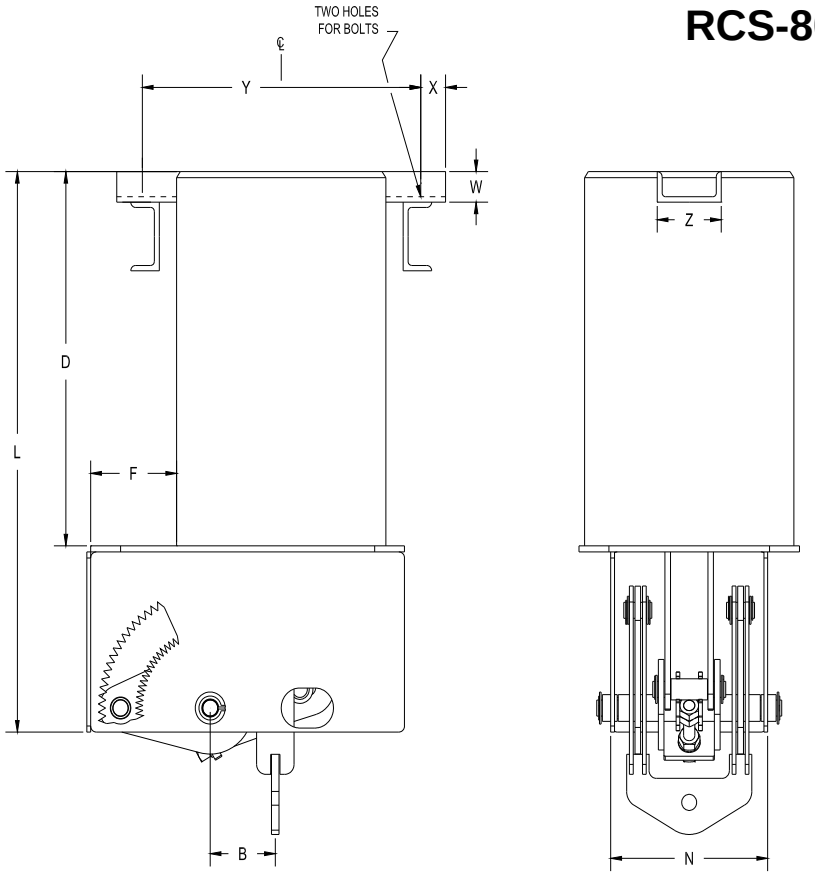
Hanger Sizes	L	D	F		H	I	M	N	Q	R	T	Total Travel (in.)	Factors	A (max.)
10-18	18 7/8	8 7/8	2		1 1/2	-	8 5/8	6 7/16	1 3/8	1.5	3/8	≤ 5	19 5/16	3/4
												>5 1/2	21 5/8	
19-34	28 1/2	16	2 1/8		2	-	12 3/4	8 9/16	1 5/8	1.5	5/8	≤ 5	31 1/16	1 1/4
												>5 1/2	33 3/16	
35-49	32 3/4	18 1/4	4 3/4		3	-	14	9 13/16	2 1/2	-	3/4	≤ 6	36 7/8	1 3/4
												>6 1/2	41 1/2	
50-63	46 7/8	28 1/8	8 5/16		4	-	18	11 1/4	3	-	1	≤ 11	52 1/2	2 1/4
												>11 1/2	57 3/4	
64-74	60	36 3/4	1 3/16		5	25 3/8	22 3/16	11	3	3	1/2	≤10 1/2	77 1/4	2 3/4
												> 11	77 3/8	
75-83	60 1/2	37 1/4	1 1/2		4 1/2	25 3/8	27 3/16	11	3	3.75	1	≤10 1/2	77 15/16	3 1/4*
												> 11	78 1/16	
84-110	See Page #22													

A-rod Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000
A-Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4*
K-Hole	11/16	13/16	15/16	1 1/4	1 1/2	1 3/4	2	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8
S	7/8	1 1/16	1 1/4	1 5/8	2	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8

* 3 3/4" is furnished with 8 UN series thread.

RCS-80V Type D



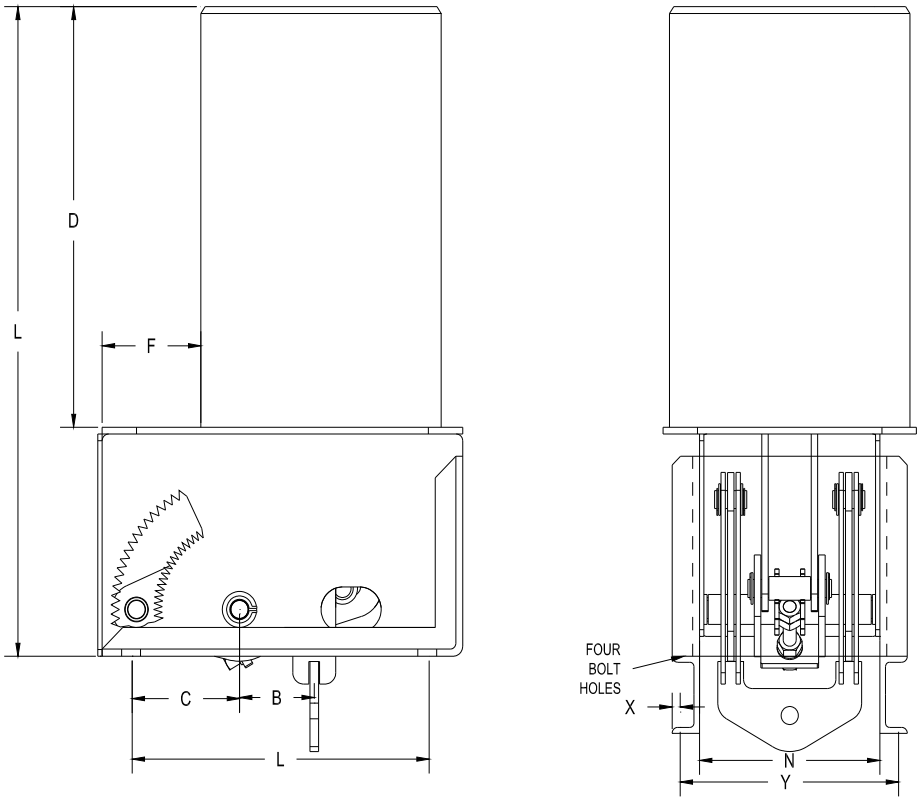
The RCS-80V "TYPE D" is designed to lay on top of the beams or structural steel rather than attaching to the structures like the other "Constant Supports". Available in most types of finishes.

Hanger Sizes	L	D	F		M	N	Q	P	W	X	Y	Z	Bracket Hole Dia	Total Travel (in.)	Factors	A (max.)
10-18	18 7/8	8 7/8	2		8 5/8	6 7/8	1 3/8	4 15/16	2 3/8	1 1/2	10 3/4	3	3/4	≤ 5	15 1/2	3/4
														>5 1/2	17 3/16	
19-34	28 1/2	16	2 1/8		12 3/4	8 9/16	1 5/8	12 1/2	2 3/8	1 1/2	14 7/8	3	7/8	≤ 5	26 11/16	1 1/4
														>5 1/2	28 13/16	
35-49	32 3/4	18 1/4	4 3/4		14	9 13/16	2 1/2	13 1/4	2 5/8	2	16 3/4	4	1 1/8	≤ 6	31 1/4	1 3/4
														>6 1/2	35 7/8	
50-63	46 7/8	28 1/8	8 5/16		18	11 1/4	3	24 1/2	2 7/8	3	21	6	1 3/8	≤ 11	45 9/16	2 1/4
														>11 1/2	50 7/8	
64-74	Available Fig. 81-H only.															
84-110	Not Available															

A-rod Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6001 9400	9401 13400	13401 18300	18301 24700
A-Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4

RCS-80V Type E



The RCS-80V “TYPE E” is the same as the RCS 80-V “TYPE D” except the “TYPE E” is designed with two (2) brackets that comprise its frame thereby allowing it to rest on the top flange of the structural member. Available in most types of finishes.

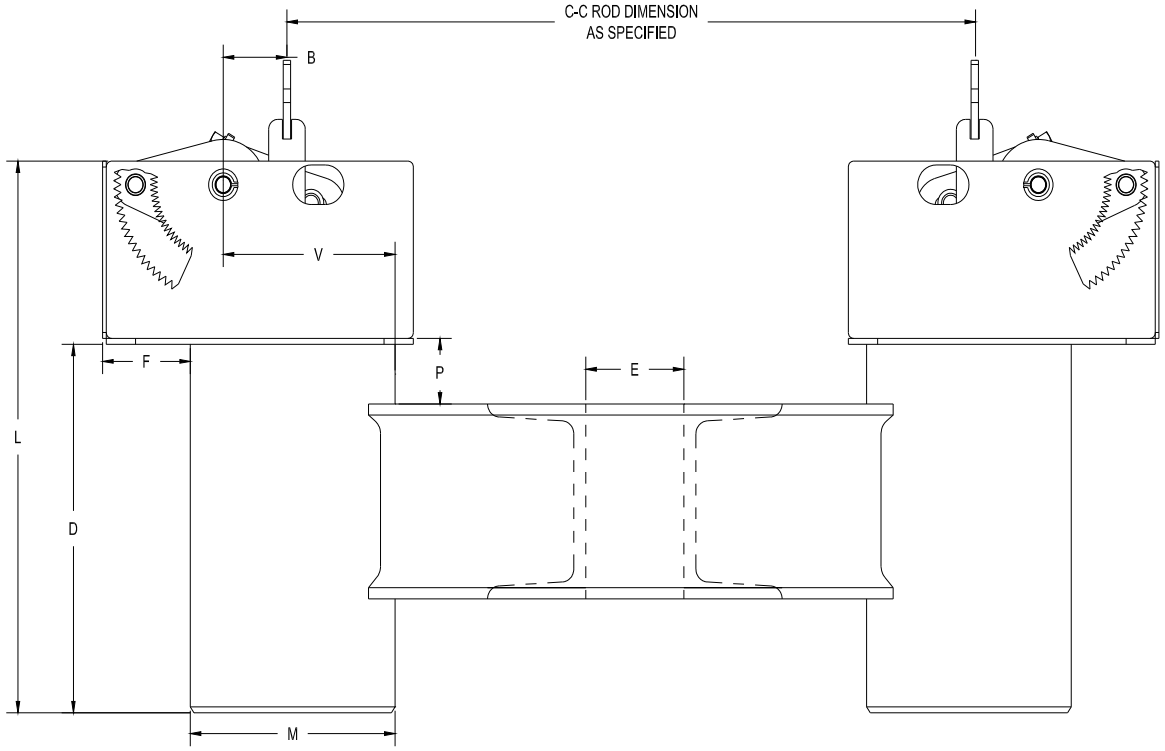
Hanger Sizes	L	C	D	F		I	L	M	X	Y	N	Q	Angle Size	Total Travel (in.)	Factors	A (max.)
10-18	18 7/8	1 1/2	8 7/8	2		-	4 5/16	8 5/8	5/8	8 15/16	6 7/16	1 3/8	1.5 x 1.5 x 1/4	≤ 5	1 7/16	3/4
														>5 1/2	3 3/4	
19-34	28 1/2	13/16	16	2 1/8		-	6 11/16	12 3/4	5/8	11 3/16	8 9/16	1 5/8	1.5 x 1.5 x 1/4	≤ 5	2 13/16	1 1/4
														>5 1/2	4 15/16	
35-49	32 3/4	1 7/8	18 1/4	4 3/4		-	8 5/16	14	13/16	13 5/16	9 13/16	2 1/2	2 x 2 x 3/8	≤ 6	2 1/2	1 3/4
														>6 1/2	7 1/8	
50-63	46 7/8	3 3/4	28 1/8	8 5/16		-	12 13/16	18	1 5/16	14 11/16	11 1/4	3	3 x 3 x 3/8	≤ 11	1 5/8	2 1/4
														>11 1/2	7	
64-74	62	3/8	35 3/4	3/8		25 3/8	15 3/4	22 3/16	1 9/16	14 15/16	11	3	3.5 x 3.5 x 1/2	≤10 1/2	9 1/8	2 3/4
														> 11	9 1/4	
75-83	62 1/2	5 1/4	35 3/4	1 1/2		25 3/8	25 5/8	27 3/16	1 3/4	15 1/2	11	3	4 x 4 x 3/8	≤10 1/2	8 3/4	3 1/4
														> 11	8 7/8	
84-110	Not Available															

A-Rod Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000
A Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4

* 3 3/4” is furnished with 8 UN series thread.

RCS-80V Type G



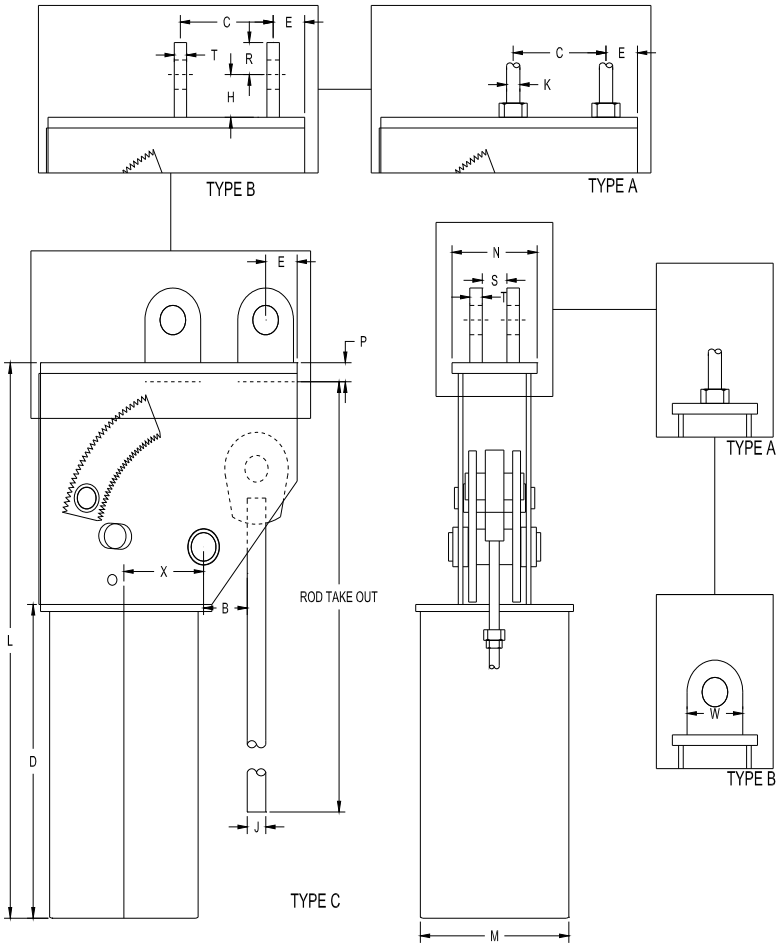
The RCS-80V “TYPE G” is manufactured using opposing constants and a pair of channels welded back to back, to form a trapeze assembly. This RILCO system is designed for use when a pipe is not to be centered on the constant support so that one spring of the trapeze carries a heavier load than the other. Available in most types of finishes.

Hanger Sizes	L	D	E	F		M	N	P	Q	V	Y	Channel	C-C	Total Travel (in.)	Factors	A (max.)
10-18	18 7/8	8 7/8	1	2		8 5/8	6 7/8	2 9/16	3 1/2	5 13/16	4	4@ 5.4	30	≤ 5	11 11/16	3/4
														>5 1/2	14	
19-34	28 1/2	16	1 1/4	2 1/8		12 3/4	8 9/16	3 9/16	4	9	6 1/8	6 @ 10.5	42	≤ 5	16 13/16	1 1/4
														>5 1/2	18 3/4	
35-49	32 3/4	18 1/4	1 1/2	4 3/4		14	9 13/16	3 7/16	5 1/2	10 3/4	8	10 @ 15.3	48	≤ 6	19 1/4	1 3/4
														>6 1/2	23 7/8	
50-63	46 7/8	28 1/8	2 1/8	8 5/16		18	11 1/4	4	6 1/2	14 3/4	10 15/16	12 @ 20.7	48	≤ 11	24 5/8	2 1/4
														>11 1/2	30	
64-110	Not Available															

A-Rod Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700
A Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4

RCS-80V Type A, B and C

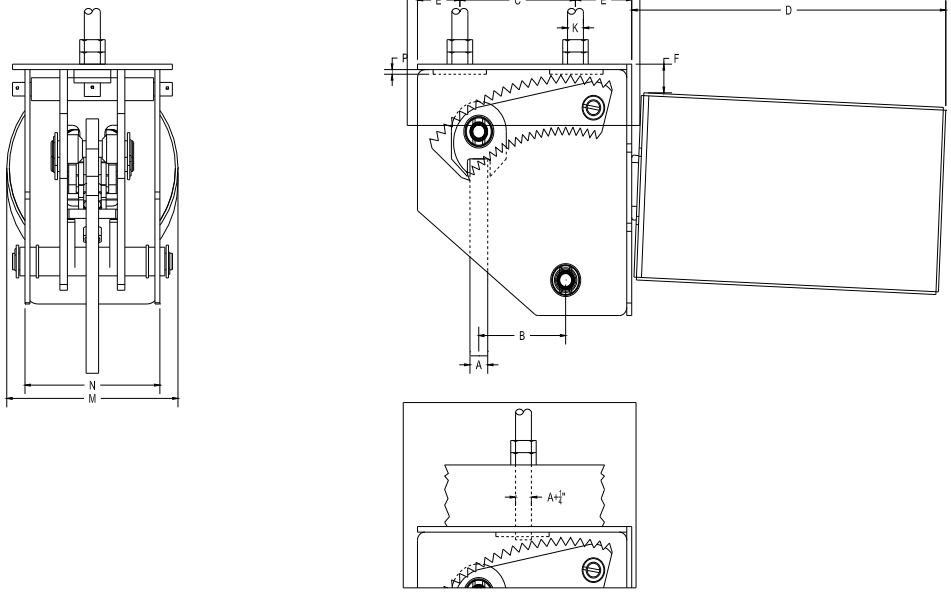


Hanger Sizes	L	C		D	E			H	M	N	P	X	Total Travel (in.)	Factors		A (max.)
		A & B	C		A & B	C								A	B &C	
84-94	78 3/4	16	15	49 3/4	4	4 1/2		6	24	10 1/2	3	12	≤ 9 1/2	45 3/4	54 3/4	3 3/4
													>10	55 1/2	64 1/2	
95-110	100	24	23	64	4	4 1/2		6	24	11 1/2	3 1/2	13 1/2	≤14	56 1/2	66	3 3/4
													>14 1/2	65 3/8	74 7/8	

Load (lbs)	14376 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000	58001 69000	69001 87500
A & K Rods	2	2 1/4	2 1/2	2 3/4	3	3 1/4*	3 1/2*	3 3/4*
K-Hole	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8
R	3	3	4	4	4	4 1/2	4 1/2	4 1/2
S	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8	4 3/8	4 5/8
T (Type B)	3/4	3/4	1	1	1	1	1 1/2	1 3/4
T (Type C)							1 1/4	1 1/4
W	6	6	8	8	8	9	9	1

* 3 1/4 and larger are furnished with 8 UN series thread

RCS-81H Type A



The RCS-81H "TYPE A" is specially designed for mounting on a supporting member by means of attaching two (2) rods into the tapped holes in the constant support's top cap. A distance equal to the "P" dimension plus 3/8". Available in most types of finishes.

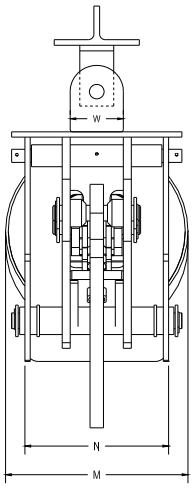
Hanger Sizes	D	E	F		M	N	P	Total Travel (in.)	L	C	Factors	A (max.)
1 - 9	8 7/16	1	7/8		6 1/8	4 1/8	13/16	≤ 4	13 15/16	6	12 3/4	1/2
								>4 1/2	17 15/16	10	15 5/16	
10 - 18	8 7/16	1	1/2		8 5/16	6 7/16	11/16	≤ 5	18 7/16	8	10 7/8	3/4
								>5 1/2	21 7/16	11	13 1/4	
19 - 34	14 7/16	1 1/4	5/8		12 7/16	8 9/16	1 1/8	≤ 5	26 15/16	10	16 3/4	1 1/4
								>5 1/2	31 1/16	14 1/8	18 7/8	
35 - 49	17 7/16	1 3/4	11/16		13 3/4	9 13/16	1 3/8	≤ 6	31 9/16	11	21 1/8	1 3/4
								>6 1/2	39 9/16	19	25 3/4	
50 - 63	26 3/16	1 11/16	15/16		17 11/16	11 1/4	1 3/4	≤8	45 9/16	16	24 15/16	2 1/4
								8 1/2 to 11	53 9/16	24	24 15/16	
								>11 1/2	53 9/16	24	30 14	
64 - 74	35 3/4	3	3 1/4		22 3/16	11	3 7/16	≤10 1/2	57 1/2	15 3/4	34 7/16	2 3/4
								>11	63	21 1/4	34 9/16	
75 - 83	35 3/4	3 1/4	3 5/8		27 3/16	11	4 1/4	≤10 1/2	57 1/2	15 1/4	36 1/2	3 1/4
								>11	63	20 3/4	36 5/8	
84-110	See Page #29											

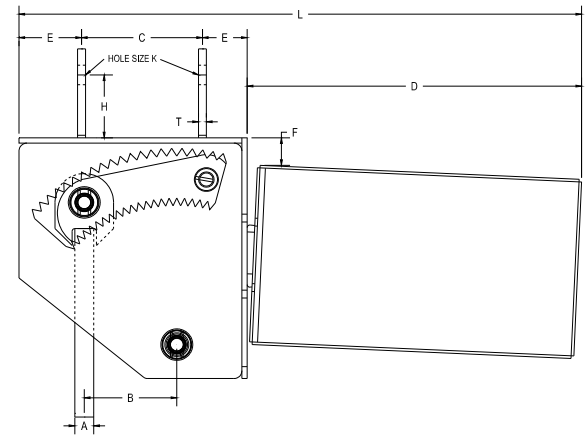
"A"-Rod and "K" -Hole Selection Chart

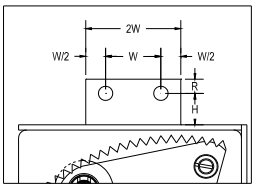
Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000
A Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4*

* 3 1/4 and larger are furnished with 8 UN series thread

RCS-81H Type B







The RCS-81H "TYPE B" manufactured with two (2) lugs to accommodate attachment to the building structure and allowing for the use of various types of attachments. (Example: RILCO Part# 100, or Part# 290). Available in most types of finishes.

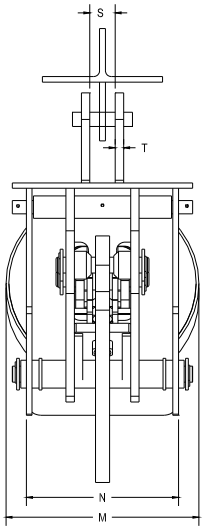
Hanger Sizes	D	E	F		H	M	N	Total Travel (in.)	L	C	Factors	A (max.)
1 - 9	8 7/16	1 1/4	7/8		1 1/2	6 1/8	4 1/8	≤ 4	13 15/16	5 1/2	14 5/8	1/2
								>4 1/2	17 15/16	9 1/2	17 3/16	
10 - 18	8 7/16	1 1/4	1/2		1 1/2	8 5/16	6 7/16	≤ 5	18 7/16	7 1/2	13 1/16	3/4
								>5 1/2	21 7/16	10 1/2	15 7/16	
19 - 34	14 7/16	1 3/8	5/8		2	12 7/16	8 9/16	≤ 5	26 15/16	9 3/4	19 7/8	1 1/4
								>5 1/2	31 1/16	13 7/8	22	
35 - 49	17 7/16	2	11/16		3	13 3/4	9 13/16	≤ 6	31 9/16	10 1/2	25 5/8	1 3/4
								>6 1/2	39 9/16	18 1/2	30 1/8	
50 - 63	26 3/16	3	15/16		4	17 3/8	11 1/4	≤8	45 9/16	13 3/8	30 11/16	2 1/4
								8 1/2 to 11	53 9/16	21 3/8	30 11/16	
								>11 1/2	53 9/16	21 3/8	36	
64 - 74	35 3/4	3 1/4	3 1/4		4 1/2	22 3/16	11	≤10 1/2	57 1/2	15 3/4	42 3/8	2 3/4
								>11	63	20 3/4	42 1/2	
75 - 83	35 3/4	3 1/2	3 5/8		5	27 3/16	11	≤10 1/2	57 1/2	15 3/4	45 3/4	3 1/4**
								>11	63	20 1/4	45 7/8	
84-110	See Page #29											

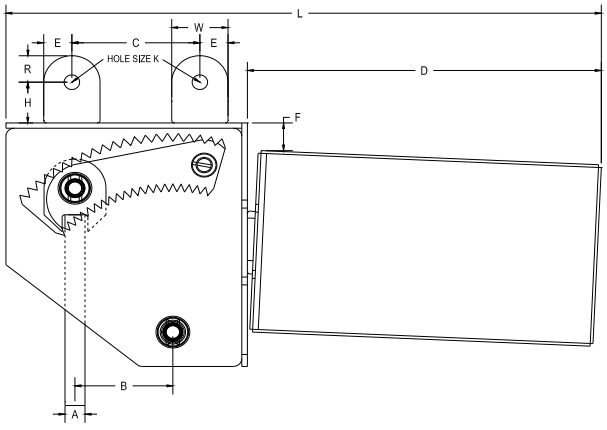
A-Rod and K-Hole Selection Chart

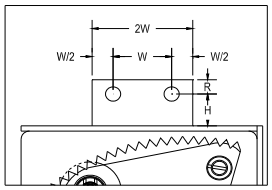
Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000
A Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4**
K-Hole Size	11/16	13/16	15/16	1 1/4	1 1/2	1 3/4	2	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8
R	1 1/4	1 1/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	4	4	4	4 1/2
T	1/4*	1/4*	3/8	1/2	5/8	3/4	3/4	3/4	3/4	1	1	1	1
W	2 1/2	2 1/2	2 1/2	3	4	5	5	6	6	8	8	8	9

* 3/8 for single rod suspension ** 3 1/4 inch is furnished with 8 UN series thread.

RCS-81H Type C







The RCS-81H "TYPE C" manufactured using two (2) lugs to accommodate attachment to the building structure also allowing for the use of various types of attachments. (Example: RILCO Part# 220). Available in most types of finishes.

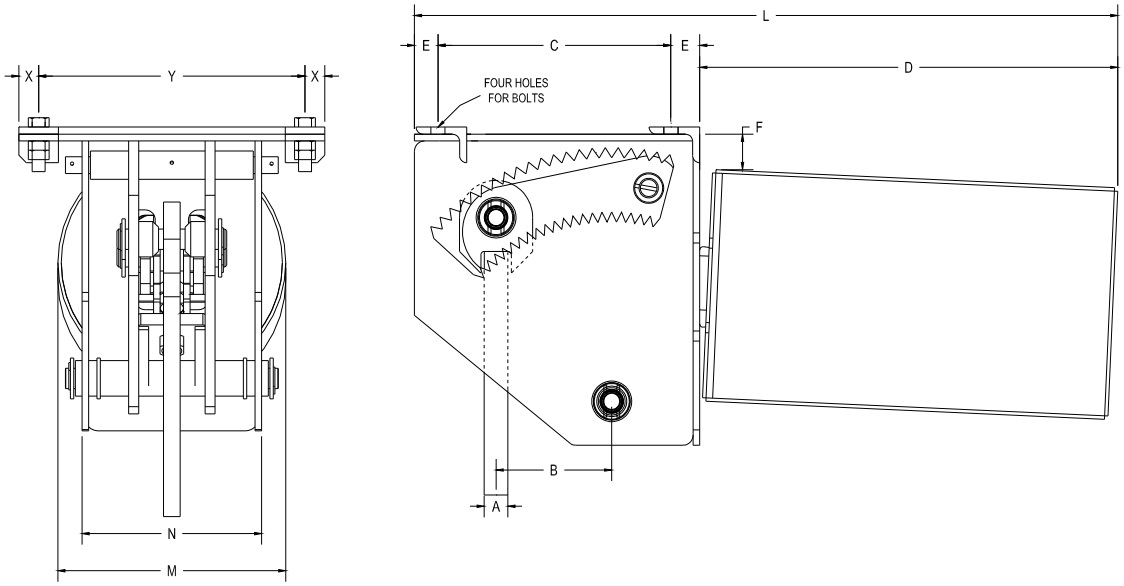
Hanger Sizes	D	E	F		H	M	N	Total Travel (in.)	L	C	Factors	A (max.)
1 - 9	8 7/16	1 1/4	7/8		1 1/2	6 1/8	4 1/8	≤ 4	13 15/16	5 1/2	14 5/8	1/2
								>4 1/2	17 15/16	9 1/2	17 3/16	
10 - 18	8 7/16	1 1/4	1/2		1 1/2	8 5/16	6 7/16	≤ 5	18 7/16	7 1/2	13 1/16	3/4
								>5 1/2	21 7/16	10 1/2	15 7/16	
19 - 34	14 7/16	2	5/8		2	12 7/16	8 9/16	≤ 5	26 15/16	8 1/2	19 7/8	1 1/4
								>5 1/2	31 1/16	12 5/8	22	
35 - 49	17 7/16	2 1/2	11/16		3	13 3/4	9 13/16	≤ 6	31 9/16	9 1/2	25 5/8	1 3/4
								>6 1/2	39 9/16	17 1/2	30 1/8	
50 - 63	26 3/16	3	15/16		4	17 11/16	11 1/4	≤8	45 9/16	13 3/8	30 11/16	2 1/4
								8 1/2 to 11	53 9/16	21 3/8	30 11/16	
								>11 1/2	53 9/16	21 3/8	36	
64 - 74	35 3/4	4	3 1/4		4 1/2	22 3/16	11	≤10 1/2	57 1/2	13 3/4	42 3/8	2 3/4
								>11	63	19 1/4	42 1/2	
75 - 83	35 3/4	4 1/2	3 5/8		5	27 3/16	11	≤10 1/2	57 1/2	12 3/4	45 3/4	3 1/4
								>11	63	18 1/4	45 7/8	
84-110	See Page #29											

"A"-Rod and "K"-Hole Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000
A Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4**
K-Hole Size	11/16	13/16	15/16	1 1/4	1 1/2	1 3/4	2	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8
R	1 1/4	1 1/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	4	4	4	4 1/2
S	7/8	1 1/16	1 1/4	1 5/8	2	2 3/8	2 5/8	2 7/8	3 1/8	3 5/8	3 5/8	3 7/8	4 1/8
T	1/4*	1/4*	3/8	1/2	5/8	3/4	3/4		3/4	1	1	1	1
W	2 1/2	2 1/2	2 1/2	3	4	5	5	6	6	8	8	8	9

* 3/8 for single rod suspension ** 3 1/4 inch is furnished with 8 UN series thread.

RCS-81H Type D



The RCS-81H "TYPE D" designed to be attached directly under the steel support member. Available in most types of finishes.

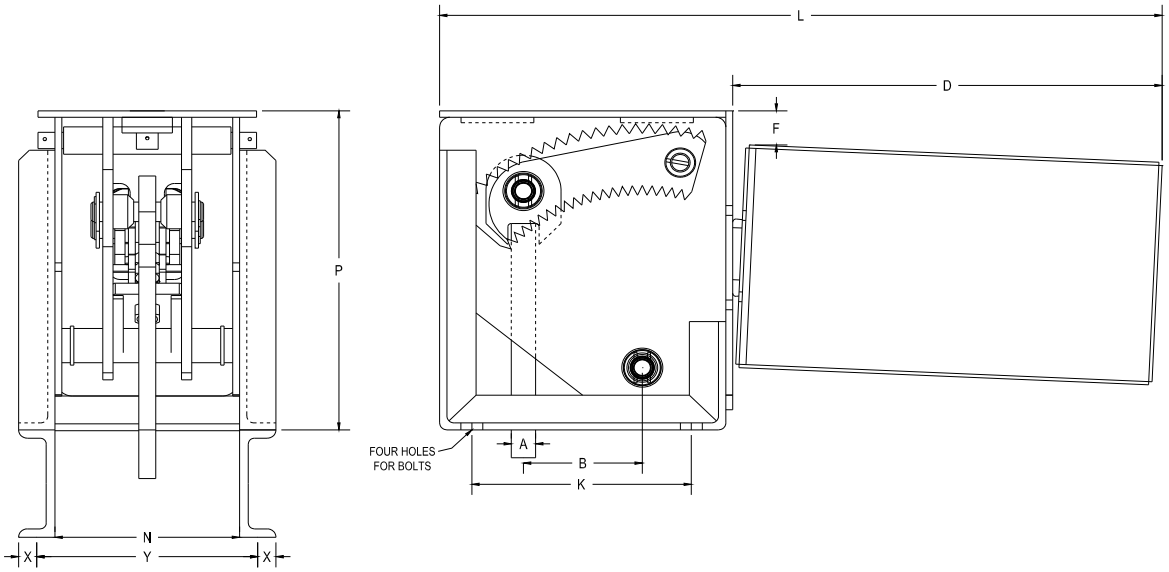
Hanger Sizes	D	E	F		M	N	X	Y	Angle Size	Total Travel (in.)	L	C	Factors	A (max.)
1 - 9	5 15/16	1	7/8		6 1/8	4 1/8	3/4	5 5/8	2 x 2 x 1/4	≤ 4	13 15/16	6	13 3/8	1/2
										>4 1/2	17 15/16	10	15 15/16	
10 - 18	8 7/16	3 1/4	1/2		8 5/16	6 7/16	7/8	8 1/16	1.5 x 1.5 x 1/4	≤ 5	18 7/16	3 1/2	11 13/16	3/4
										>5 1/2	20 15/16	6	14 3/16	
19 - 34	14 7/16	1 1/2	5/8		12 7/16	8 9/16	1 1/8	11 5/16	3 x 3.5 x 1/4	≤ 5	26 15/16	9 1/2	17 3/4	1 1/4
										>5 1/2	31 1/16	13 5/8	19 7/8	
35 - 49	17 1/16	2	11/16		13 3/4	9 13/16	1 3/8	13	3 x 4 x 3/8	≤ 6	31 9/16	10 1/2	20 13/16	1 3/4
										>6 1/2	39 9/16	18 1/2	25 7/16	
50 - 63	26 3/16	2	15/16		17 11/16	11 1/4	1 5/8	14 5/8	4 x 4 x 3/8	≤8	45 9/16	15 3/8	27 1/16	2 1/4
										8 1/2 to 11	53 9/16	23 3/8	27 1/16	
										>11 1/2	53 9/16	23 3/8	32 3/8	
64 - 74	35 3/4	3	3 1/4		22 3/16	11	2	15	4 x 6 x 1/2	≤10 1/2	57 1/2	15 3/4	38 3/8	2 3/4
										>11	63	21 1/4	38 1/2	
75 - 83	35 3/4	3	3 5/8		27 3/16	11	2	15	4 x 6 x 1/2	≤10 1/2	57 1/2	15 3/4	41 1/4	3 1/4
										>11	63	21 1/4	41 3/8	
84-110	Not Available													

"A"-Rod Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000	
A Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4*	

* 3 1/4" is furnished with 8 UN series thread.

RCS-81H Type E



The RCS-81H "TYPE E" is similar to "TYPE D" except that the "TYPE E" is designed using two (2) brackets welded to the support casing forming a frame which allows the unit to be attached to the top of the structural support. Available in most types of finishes.

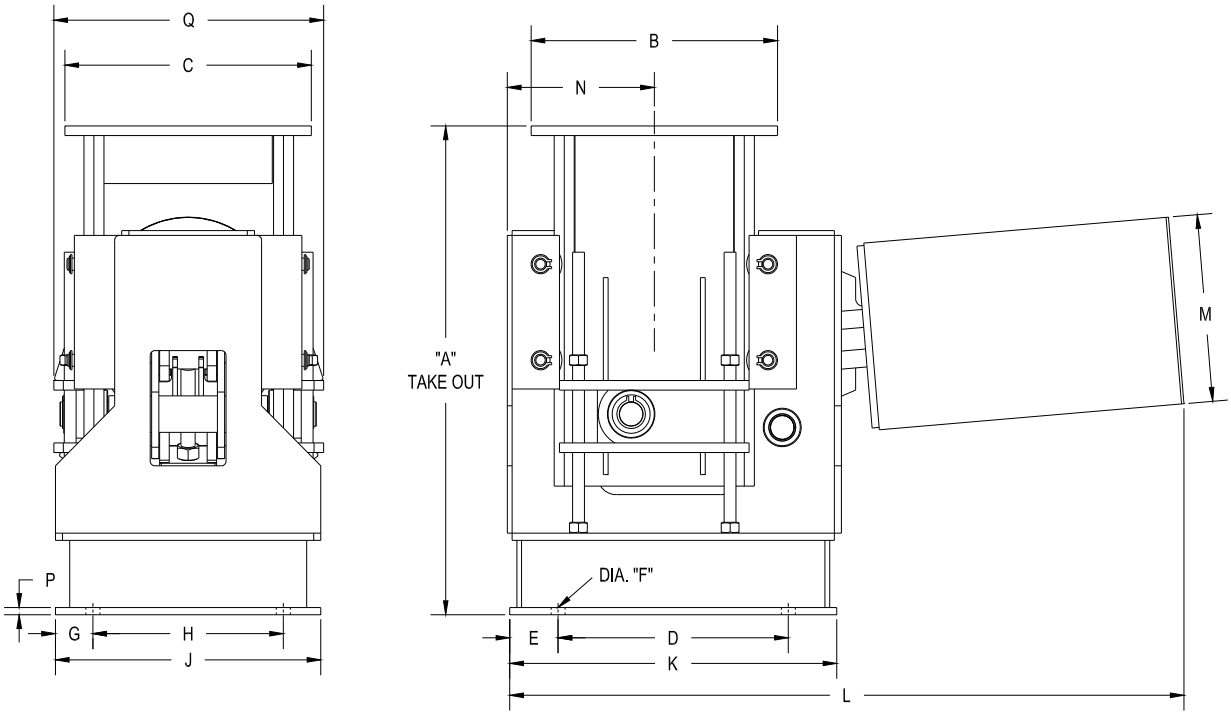
Hanger Sizes	D	F		M	N	P	X	Y	Angle Size	Bracket Hole Dia.	Total Travel (in.)	L	K	Fac-tors	A (max.)
1 - 9	5 15/16	7/8		6 1/8	4 1/8	8 1/16	5/8	5 15/16	1.5 x 1.5 x 1/4	9/16	≤ 4	13 15/16	6	5 1/8	1/2
											>4 1/2	17 15/16	10	49 3/16	
10 - 18	8 7/16	1/2		8 5/16	6 7/16	9 7/8	5/8	8 15/16	1.5 x 1.5 x 1/4	3/4	≤ 5	18 7/16	7 1/2	1 3/4	3/4
											>5 1/2	21 7/16	7 1/2	4 1/16	
19 - 34	14 7/16	5/8		12 7/16	8 9/16	14 1/8	5/8	11 3/16	1.5 x 1.5 x 1/4	3/4	≤ 5	26 15/16	10	3 3/8	1 1/4
											>5 1/2	31 1/16	10	5 1/2	
35 - 49	17 1/16	11/16		13 3/4	9 13/16	15 1/2	13/16	13 5/16	2 x 2 x 3/8	7/8	≤ 6	31 9/16	11 5/8	4 7/8	1 3/4
											>6 1/2	39 9/16	11 5/8	9 1/2	
50 - 63	26 3/16	15/16		17 11/16	11 1/4	19 3/4	1 5/16	14 11/16	3 x 3 x 3/8	1 3/8	≤8	45 9/16	15 3/8	6 7/8	2 1/4
											8 1/2 to 11	53 9/16	23 3/8	6 7/8	
											>11 1/2	53 9/16	23 3/8	12 1/4	
64 - 74	35 3/4	3 1/4		22 3/16	11	26 7/8	1 9/16	14 15/16	3.5 x 3.5 x 3/8	1 5/8	≤10 1/2	53 1/2	17 1/2	11 1/8	2 3/4
											>11	63	23	11 1/4	
75 - 83	35 3/4	3 5/8		27 3/16	11	31 7/8	1 9/16	14 15/16	3.5 x 3.5 x 3/8	1 5/8	≤10 1/2	57 1/2	17 1/2	9	3 1/4
											>11	63	23	9 1/8	
84-110	Not Available														

"A"-Rod Selection Chart

Loads (lbs)	0 800	801 1500	1501 2540	2541 4000	4001 6100	6101 9400	9401 13400	13401 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000
A Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4

** 3 1/4" is furnished with 8 UN series thread.

RCS-81H Type F Upthrust



The RCS-81H “TYPE F UPTHRUST” is specifically designed to support pipes or equipment from below and is supplied with a base to anchor it to the floor. Available in most types of finishes.

* For down travel:
Take-out= “A”+ (1/2) actual travel

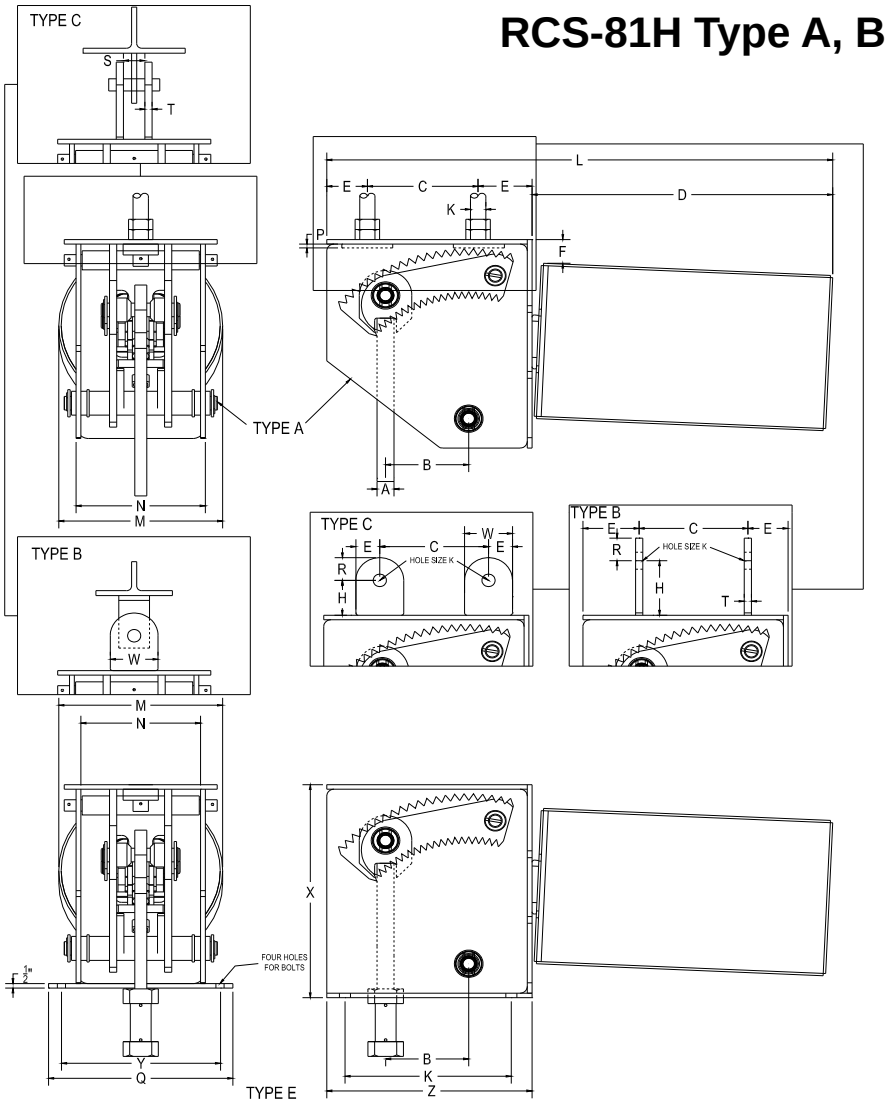
For up travel:
Take-out=“A”- (1/2) actual travel

Take-Out Factor "A"				
T.T.	Sizes			
	10 - 18	19 - 34	35 - 49	50 - 63
2	16 1/8	23 1/8	-	-
2.5			25 3/4	-
3				28 1/2
3.5				
4	19 7/8			
4.5				
5				
5.5		27 1/2		
6				
6.5	-		31 5/8	
7	-			34
7.5	-			
8	-			
8.5	-	-		
9	-	-		
9.5	-	-		
10	-	-		

*For down Travel: Take-Out = “A” + (1/2) Actual Travel
For Up Travel: Take-Out = “A” - (1/2) Actual Travel

Hanger Sizes	Total Travel TT	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
10 - 18	2 - 6	See Take Out	10 7/8	11 7/8	9	2 1/2	3/4	2	8	12	14	22 7/16	8 1/4	5	1/2	13 7/8
19 - 34	2 - 8		13 3/4	13 3/4	13	2 1/8	3/4	2	10	14	17 1/4	31 5/8	12 1/2	8	5/8	16 3/8
35 - 49	2.5 - 10		17 7/8	16 1/4	17	2	7/8	2	13	17	21	38 1/4	13 5/8	8	3/4	19 3/4
50 - 63	3 - 10		21 5/8	19 1/4	16 1/2	4 5/8	7/8	3 5/8	11 3/4	19	25 3/4	52	17 3/8	10	3/4	23 1/4

RCS-81H Type A, B, C and E



Hanger Sizes	L	C		D	E		F		H	K	M	N	P	Q	X	Y	Z	Total Travel (in.)	Factors			A max
		A & B	C		A & B	C													A	B & C	E	
84 - 94	76 3/4	28	27 1/2	49 3/4	4	4 1/2	1 1/8		6	21	24	10 1/2	3	16	34	13	27	≤ 9 1/2	45 3/4	54 3/4	21 5/8	3 3/4
																		>10	55 1/2	64 1/2	31 3/8	
95 - 110	100	49	48 1/2	64	4	4 1/2	1 3/8		6	30	24	11 1/2	3 1/2	17	37	14 1/2	36	≤ 14	56 1/2	66	17 5/8	3 3/4
																		>14 1/2	65 3/8	74 7/8	26 5/8	

Load (lbs)	14376 18300	18301 24700	24701 31000	31001 39000	39001 48000	48001 58000	58001 69000	69001 87500
A & K Rods	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4
K-Hole	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8
R	3	3	4	4	4	4 1/2	4 1/2	4 1/2
S	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8	4 3/8	4 5/8
T (Type B)	3/4	3/4	1	1	1	1	1 1/2	1 3/4
T (Type C)	3/4	3/4	1	1	1	1	1 1/4	1 1/4
W	6	6	8	8	8	9	9	9

Weight Chart

Hanger Sizes	FIG 80-V			FIG 81-H			
	Types A, B, C, D, & E		Type G■	Types A, B, C, D, & E		Type F	
	Net	Shipping	net	Net	Shipping	Net	Shipping
1 - 3	-	-	-	18	20	-	-
4 - 6	-	-	-	21	23	-	-
7 - 9	-	-	-	23	25	-	-
10 - 12	62	67	160	52	57	174	179
13 - 15	65	70	166	55	60	177	182
16 - 18	70	75	176	60	65	182	187
19 - 20	163	171	371	150	158	415	423
21 - 23	165	173	375	152	160	417	425
24 - 26	172	180	389	159	167	424	432
27 - 29	180	188	405	167	175	432	440
30 - 32	187	195	419	174	182	439	447
33 - 34	195	203	435	182	190	447	455
35 - 37	300	312	676	280	292	640	652
38 - 40	315	327	706	295	307	655	667
41 - 43	332	344	740	312	325	672	684
44 - 46	343	355	762	323	335	683	695
47 - 49	360	372	796	340	362	700	712
50 - 51	601	661	1278	511	571	1181	1241
52 - 54	626	686	1328	536	596	1206	1266
55 - 57	665	725	1406	575	635	1245	1305
58 - 60	706	766	1488	616	676	1286	1346
61 - 63	745	805	1566	655	715	1325	1385
64 - 65	1468	1568	-	1225	1325	-	
66 - 68	1568	1668	-	1325	1425	-	
69 - 71	1653	1753	-	1410	1510	-	
72 - 74	1753	1853	-	1520	1620	-	
75 - 77	2360	2460	-	1970	2070	-	
78 - 80	2430	2530	-	2020	2120	-	
81 - 83	2570	2670	-	2180	2280	-	
84 - 85	2725	2845	-	2310	2430	-	
86 - 88	2870	2990	-	2455	2575	-	
89 - 90	3070	3190	-	2655	2775	-	
91 - 92	3155	3275	-	2740	2860	-	
93 - 94	3255	3375	-	2840	2960	-	
95 - 98	4350	4500	-	3925	4075	-	
99 - 102	4675	4825	-	4250	4400	-	
103 - 106	5300	5450	-	4875	5025	-	
107 - 110	5800	5950	-	5350	5500	-	

■ **Based on 3'-0" C-C rod dimension and 8" total travel**

12700 Tanner Road Houston, Texas USA 77041 Phone No: (713) 466-4777 Fax No: (713) 466-6547 www rilco.com

SECTION 1

SECTION 2

SECTION 3

SECTION 4

SECTION 5

SECTION 6

SECTION 7

SECTION 8

SECTION 9

SECTION 10

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

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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 supersedes 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 SUBJECTED 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 nonconformance. 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.

NOTES:

Rilco's global headquarters, in Houston, Texas, is currently situated on over 400,000 square feet of manufacturing and office space. This new state of the art facility is 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 Tanner Road includes:

Press Brakes
Two - 700 Ton Capacity Sixteen Foot

Ironworkers
One - 100 Ton Capacity 6' x 6' x 1/2" angle
One - 100 Ton Capacity 12' x 1-1/2" flat bar

Shears
Two - 10' x 1/2"

Rolls
Two - 5' x 1/2"
Two - 4' x 1/4"
One - 4' x 1-1/2"

Plasma Burners
Three - 12' x 40'

Saw Cutters
Four - Capable of cutting up to 24" wide beams

Punch Press
One - 80 Ton Capacity

Overhead Cranes
Five - 10 Ton Capacity
Two - 15 Ton Capacity

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

Rilco Manufacturing Company, Inc.

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