

Fig. 177

Adjustable Pipe Roll Support

Size Range: 1" through 30"

Material: Cast iron roll and sockets; steel roll rod, continuous thread rods and hex nuts

Finish: Plain

Service: For support of pipe where horizontal movement due to expansion and contraction will occur and where vertical adjustment up to 6" may be necessary.

Maximum Temperature: 450° F at roller.

Approvals: Complies with Federal Specification A-A-1192A (Type 41) WW-H-171-E (Type 42) and MSS-SP-69 (Type 41).

Installation: Normally used directly above steel beams, brackets, angles, etc.

How to size:

- (1) If roll is to support bare pipe, select the size directly from nominal pipe size (see below).
- (2) If used with pipe covering protection saddle, see page PH-108 for size of pipe roll.
- (3) If roll is to support covered pipe, the O.D. of the covering should not be greater than the O.D. of the pipe for which the roll was designed.

Ordering: Specify size of roll, figure number and name. Be certain to order oversized rolls when insulation and protection saddles makes this necessary.

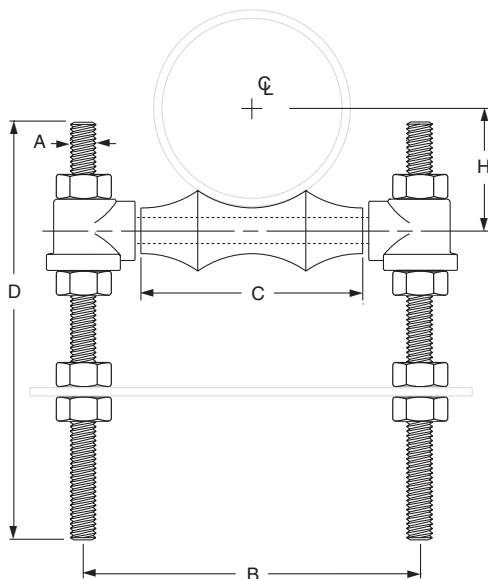


Fig. 177: Weight (lbs) • Dimensions (in)

Pipe Size	Weight	A	B	C	D	H
1	1.1	3/8	3	1 1/2	12	1 1/16
1 1/4	1.2		3 3/8	1 7/8		1 1/4
1 1/2	1.2		3 5/8	2 1/8		1 3/8
2	1.3	4 1/8	2 5/8	1 5/8		
2 1/2	2.3	1/2	4 7/8	3 1/8		1 15/16
3	2.4		5 1/2	3 3/4		2 1/4
3 1/2	2.7	5/8	6 1/8	4 1/4		2 9/16
4	3.8		6 3/4	4 3/4		2 13/16
5	4.7		8 1/16	5 13/16		3 7/16
6	7.6	3/4	9 9/16	6 7/8		4
8	11.0		11 15/16	8 7/8		5 1/8
10	13.7	7/8	14 1/16	11		6 3/8
12	19.4		15 13/16	12 1/2	7 7/16	
14	31.2	1	17 3/4	14 1/4	8 3/8	
16	42.5		19 3/4	16 1/4	9 7/16	
18	46.6		21 7/8	18 1/4	10 1/2	
20	66.2	1 1/4	24 1/4	20 1/4	18	11 5/8
24	102.5	1 1/2	28 5/8	24 1/4		14
30	186.8		35 1/2	30 1/4		17 7/16

Fig. 171: Pipe Roll

Single Pipe Roll

Size Range: 1" through 30"

Material: Cast iron roll and sockets, steel roll rod

Finish: Plain or Galvanized

Service: For suspension of pipe from two rods where longitudinal 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).

Adjustment: Adjustable socket permits vertical adjustment at the roll.

Maximum Temperature: 450° F at roller

How to size:

- (1) If the roll is to support non-insulated pipe, select the size directly from nominal pipe size (column 1) in table below.
- (2) If used with pipe covering protection saddle, see page PH-108 for size of pipe roll.

Features:

- Provides for vertical adjustment; nut at bottom of hanger rod fits into the socket preventing loosening or turning due to vibration.
- Pipe roll is designed for two point surface contact with pipe or saddle.

Ordering:

- Specify pipe roll size.
- Order should include figure number, name and finish in all cases. Hanger rods and nuts to be ordered separately.
- Be certain to order oversized rolls when insulation and protection saddles makes this necessary.

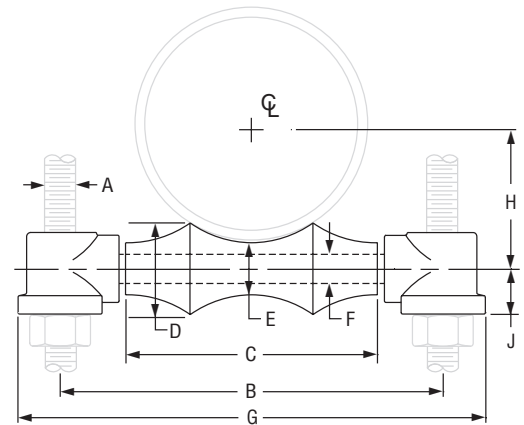


Fig. 171: Loads (lbs) • Weight (lbs) • Dimensions (in)

Pipe Size	Max O.D. Covering	Rod Size A	Max Load	Weight	G	B	C	D	E	F	H	J
1	2	3/8	600	0.45	4 1/8	3	1 1/2	1	3/4	3/8	1 1/16	9/16
1 1/4	2 1/2			0.48	4 1/2	3 3/8	1 7/8	1 1/16			1 1/4	
1 1/2	2 3/4			0.51	4 3/4	3 5/8	2 1/8	1 1/8			1 3/8	
2	3 1/4			0.57	5 1/4	4 1/8	2 5/8	1 3/16			1 5/8	
2 1/2	3 3/4	1/2	660	1.00	6 1/4	4 7/8	3 1/8	1 3/8	7/8	1/2	1 15/16	1 1/16
3	4 1/2		700	1.10	6 7/8	5 1/2	3 3/4	1 7/16			2 1/4	
3 1/2	5	5/8	750	1.40	7 1/2	6 1/8	4 1/4	1 5/8	1	1/2	2 9/16	3/4
4	5 1/2			1.70	8 1/4	6 7/8	4 3/4	1 3/4			2 13/16	
5	7			2.60	9 11/16	8 1/16	5 13/16	2			1 1/8	
6	8 1/4	3/4	1,070	4.50	11 7/16	9 9/16	6 7/8	2 5/16	1 1/4	3/4	4	1
8	10 1/2		1,350	7.20	14 1/16	11 15/16	8 7/8	2 13/16	1 1/2	7/8	5 1/8	1 1/8
10	12 3/4	7/8	1,730	9.50	16 3/16	14 1/16	11	3 3/8	1 3/4		6 3/8	
12	14 3/4		2,400	15.90	17 15/16	15 13/16	12 1/2	3 7/8	2	1	7 7/16	1 1/4
14	16 1/4	1	3,130	24.30	20 1/8	17 3/4	14 1/4	4 5/8	2 1/2	1 1/8	8 3/8	1 3/8
16	18		3,970	31.90	22 1/8	19 3/4	16 1/4	5	2 5/8	1 1/4	9 7/16	1 1/2
18	20 1/4		4,200	35.50	24 1/2	21 3/4	18 1/4	5 7/16	2 3/4		10 1/2	
20	22 1/2	1 1/4	4,550	47.00	27 1/4	24 1/4	20 1/4	6	3	1 1/2	11 5/8	1 5/8
24	26 1/2	1 1/2	6,160	76.30	32 1/8	28 7/8	24 1/4	7 3/16	3 5/8		14	1 3/4
30	32 1/2		7,290	129.90	39	35 1/2	30 1/4	8 15/16	4 1/2	1 3/4	17 7/16	2 7/16

DI/CI Roll Sizing	
DI/CI Pipe Size	Fig. 171 Roller Size
3	4
4	5
6	6
8	8
10	10
12	14
14	16
16	18
18	20
20	24
24	30
30	No Recom.

Pipe Roll

Fig. 178

Spring Cushion Hanger

Material: Spring cushion hanger Fig. 178 consists of a set of two springs and four cast iron retainers only.

Finish: Plain (retainers), Painted (springs)

Service: Generally used with Fig. 171 single pipe roll as shown in above photo. Recommended for installations where formal load and movement calculations are not required, or calculated movement does not exceed 1/4"

Maximum Temperature: 450° F at roller

Approvals: Complies with Federal Specification A-A-1192A (Type 49) *WW-H-171-E (Type 50)* and MSS-SP-69 (Type 49).

Ordering: Specify figure number, name and rod size. If used with Fig. 171 single pipe roll, pipe roll must be ordered separately.
The retainers are cased to the dimensions as shown, but center hole can be drilled or reamed larger to satisfy the hanger rod required.

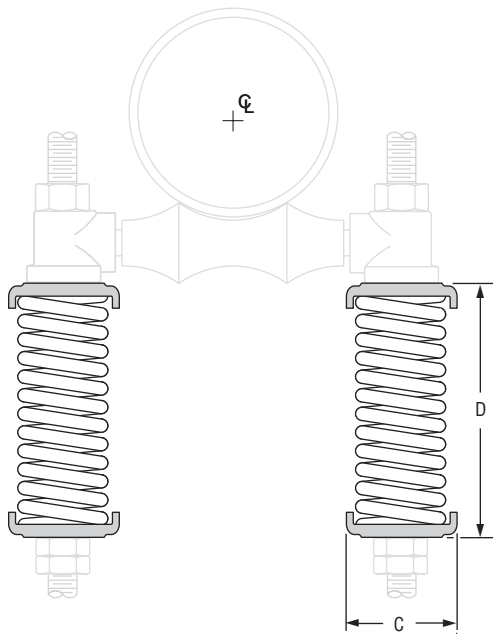


Fig. 178: Loads (lbs) • Weight (lbs) • Dimensions (in)

Spring No.	Max Spring Deflection *	Load at Max Deflection ■	Deflection Rate of Hanger (lbs / inch)	Weight	C	D	Core Hole Dia.	For Rod Size	Max Rod Size ** A
1	1 1/4	535	428	4.5	2 21/32	6 7/16	7/16	3/8	3/4
2		1,500	1,200	14.0	4 1/8	6 1/16	9/16	1/2	
3		3,000	2,400	22.0	4 1/8	9 1/16	15/16	7/8	

* At maximum recommended deflection, spring can be compressed an additional 1/4" before becoming solid.

■ Maximum capacity of double spring hanger.

** Can be drilled to max. rod size.

Fig. 181

Adjustable Steel Yoke Pipe Roll

Size Range: 2½" through 24"

Material: Cast iron roll; carbon steel yoke, roll rod and hex nuts

Finish: Plain or Galvanized

Service: For suspension of pipe from a single rod where horizontal movement may occur because of expansion or contraction.

Maximum Temperature: 450° F at roller

Approvals: Complies with Federal Specification A-A-1192A (Type 43) WW-H-171-E (Type 44) and MSS-SP-69 (Type 43).

How to size: If the roll is to support bare pipe, select the size directly from nominal pipe size (see below). If used with pipe covering protection saddle, see page PH-108 for size of pipe roll to be used.

Ordering: Specify pipe roll size, figure number, name and finish. Be certain to order oversized rolls when insulation and protection saddles are required.

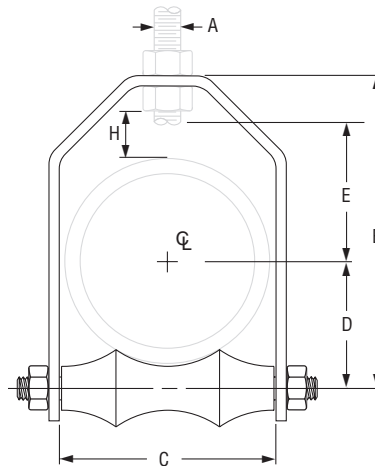


Fig. 181: Loads (lbs) • Weight (lbs) • Dimensions (in)

Pipe Size	Max O.D. of Covering	Max Load	Weight	Rod Size A	B	C	D	Rod Take Out - E	H
2½	3	225	1.7	½	5¾	3¼	1½ ¹⁵ / ₁₆	2 ⁷ / ₈	1 ¹¹ / ₁₆
3	3 ⁵ / ₈	310	2.2		6 ³ / ₈	3 ⁷ / ₈	2¼	3 ¹ / ₈	1 ⁵ / ₈
3½	4 ¹ / ₈	390	2.5		7	4 ³ / ₈	2 ⁹ / ₁₆	3½	1 ¹¹ / ₁₆
4	4 ¹¹ / ₁₆	475	3.2	5/8	7 ⁹ / ₁₆	4 ¹⁵ / ₁₆	2 ¹³ / ₁₆	3 ⁵ / ₈	1 ⁵ / ₈
5	5¾	685	6.3		9 ¹ / ₈	6	3 ⁷ / ₁₆	4½	1 ¹⁵ / ₁₆
6	6 ⁷ / ₈	780	9.3	¾	10 ⁵ / ₁₆	7 ¹ / ₈	4	5	1 ⁷ / ₈
8	9		14.5		12 ¹¹ / ₁₆	9¼	5 ¹ / ₈	6 ¹ / ₈	2
10	11	965	18.8	7/8	15 ¹ / ₁₆	11¼	6 ³ / ₈	7¼	2 ¹ / ₁₆
12	13	1,200	27.7		17 ⁷ / ₁₆	13¼	7 ⁷ / ₁₆	8 ³ / ₈	2¼
14	14¼		39.1	1	18 ⁷ / ₈	14½	8 ³ / ₈	8¾	2
16	16¼		49.1		20 ¹³ / ₁₆	16½	9 ³ / ₈	9 ¹¹ / ₁₆	1 ¹⁵ / ₁₆
18	18¼	1,400	57.8	1¼	23 ³ / ₄	18½	10 ⁷ / ₁₆	11 ⁷ / ₁₆	2 ¹³ / ₁₆
20	20¼	1,600	75.9		26	20½	11 ⁵ / ₈	12¼	2½
24	24¼	1,800	119.3	1½	32 ⁵ / ₁₆	24 ⁵ / ₈	13 ¹⁵ / ₁₆	15¾	4 ³ / ₈

DI/CI Roll Sizing	
DI/CI Pipe Size	Fig. 181 Roller Size
3	4
4	5
6	6
8	8
10	10
12	14
14	16
16	18
18	20
20	24

Fig. 175

Roller Chair

Size Range: 2" through 30" pipe

Material: Cast iron roll, steel chair, roll rod, bolts and hex nuts

Finish: Plain or Galvanized

Maximum Temperature: 450° F at roller

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

Approvals: Complies with Federal Specification A-A-1192A (Type 44) *WW-H-171-E (Type 45)* and MSS-SP-69 (Type 44).

Installation: Two bolts and nuts provide anchorage to floor or top of steel beam or bracket or chair may be welded to supporting steel.

How to size:

- (1) If roll is to support bare pipe, select the size directly from nominal pipe size (see below).
- (2) If used with pipe covering protection saddle, see page PH-108 for size of pipe roll.
- (3) If roll is to support covered pipe, the O.D. of the covering should not be greater than the O.D. of the pipe for which the roll was designed.

Ordering: Specify size of roll, figure number, name and finish. Be certain to order oversized rolls when insulation and protection saddles are required.

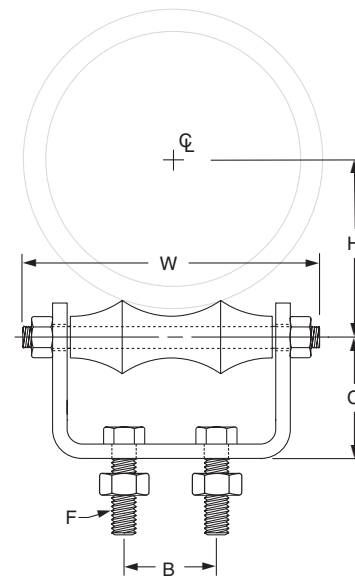


Fig. 175: Loads (lbs) • Weight (lbs) • Dimensions (in)

Pipe Size	Max Load	Weight	W	B	C	F	H
2	600	1.1	4	1 1/4	1 1/2	3/8 x 1 1/2	1 5/8
2 1/2	660	1.4	4 7/8		1 5/8		1 15/16
3	700	1.6	5 3/8	2	1 3/4		2 1/4
3 1/2	750	2.6	6 1/8		2 1/16	2 9/16	
4		2.9	6 5/8	3	2 5/16	2 13/16	
5		3.7	7 7/8		2 1/2	3 7/16	
6	1,070	5.9	9 1/4	3 1/8	2 3/4	1/2 x 1 1/2	4
8	1,350	9.0	11 5/8	3 3/8	3		5/8 x 1 1/2
10	1,730	13.8	14 1/8	5 1/4	3 5/8	5/8 x 2	6 3/8
12	2,400	18.9	16 1/8	5 1/2	4 1/8		7 7/16
14	3,130	28.07	18 3/4	6 1/2	4 11/16	3/4 x 2	8 3/8
16	3,970	34.93	21	8 1/4	5 3/8		9 3/8
18	4,200	44.35	23 1/8	9 1/4	6	3/4 x 2 1/2	10 7/16
20	4,550	56.34	24 5/8	10 1/4	6 1/2		11 5/8
24	6,160	87.52	29 3/8	12 1/4	7 7/8	7/8 x 3 1/2	14
30	7,290	151.25	34 13/16	15 3/8	8 3/4		17 7/16

Fig. 277: With Cast Iron Base Plate

Pipe Roll and Base Plate

Fig. 277S: With Steel Base Plate

Size Range: 2" through 24"

Material: Cast iron roll and plate

Finish: Plain or Galvanized

Service: For support of pipe where small longitudinal movement due to expansion and contraction may occur and where no vertical adjustment is required.

Maximum Temperature: 450° F at roller

Approvals: Complies with Federal Specification A-A-1192A (Type 45) WW-H-171-E (Type 46) and MSS-SP-69 (Type 45).

Installation: Consist of sitting the unit in place. Weight of pipe and material hold unit in place.

How to size:

- (1) If roll is to support bare pipe, select the size directly from nominal pipe size (see below).
- (2) If used with pipe covering protection saddle, see page PH-108 for size of pipe roll.

Features: An economical, practical means of supporting pipe with limited horizontal movement due to expansion and contraction.

Ordering: Specify pipe roll size, figure number, name and finish. Be certain to order oversized rolls when insulation and protection saddles are required

Note: Fabricated carbon steel base plates for extended travel are available upon request.

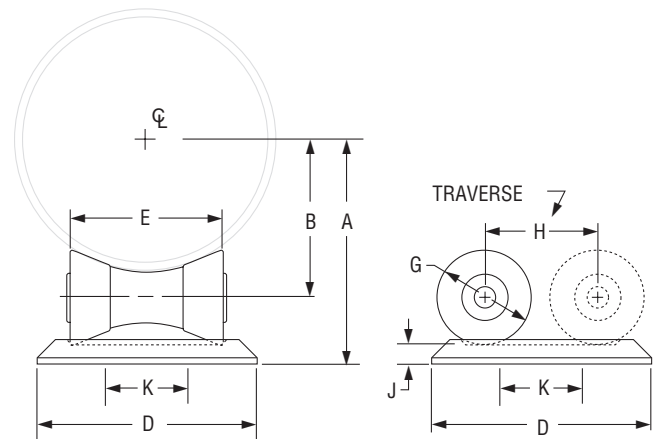


Fig. 277, Fig. 277S: Loads (lbs) • Weight (lbs) • Dimensions (in)

Pipe Size	Max Load	Weight		A	B	D	E	G	H	J	K
		Fig. 277	Fig. 277S								
2	390	4.0	3.3	3 1/4	1 3/4	4 3/4	2 5/8	1 7/8	1 3/4	1/2	
2 1/2				3 1/2	2 1/8						
3				3 13/16	2 3/8						
3 1/2				4 1/16	2 5/8						
4	950	5.6	4.5	4 5/16	2 3/4	5 3/4	3 5/8	2 1/16	2 5/8	1/2	1 1/2
5				4 15/16	3 3/8						
6				5 1/2	4						
8	2,100	15.3	10.9	7 9/16	5 1/4	8 1/4	5 5/8	3 1/4	4	1 1/16	2 1/2
10				8 11/16	6 3/8						
12	3,075	27.9	19.4	10 1/4	7 1/2	10 3/4	7 5/8	4	5 5/8	3/4	4
14				10 7/8	8 1/8						
16	4,980	43.7	31	12 3/8	9 3/8	12	8 1/2	4 1/2	6 3/8	7/8	5
18				13 1/2	10 3/8						
20				14 1/2	11 3/8						
24	6,100	51.5	37	16 5/8	13 3/8	13 1/4	9 1/2	4 7/16	7 5/8	1	5 3/4

DI/CI Roll Sizing	
DI/CI Pipe Size	Fig. 277 Roller Size
3	4
4	5
6	6
8	8
10	10
12	14
14	16
16	18
18	20
20	24

Fig. 271: Complete

Pipe Roll Stand

Size Range: 2" through 42"

Material: Cast iron roll and stand

Finish: Plain or Galvanized

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

Maximum Temperature: 450° F at roller.

Approvals: Complies with Federal Specification A-A-1192A (Type 44) WW-H-171-E (Type 45) and MSS-SP-69 (Type 44).

Installation:

- (1) Two cored holes for anchorage bolts are provided on all sizes for fastening stands to welded steel brackets, structural supports, piers, floors, etc.
- (2) In addition, cored holes "N" at the four corners of the stand are provided for anchorage purposes.
- (3) The two cored holes on sizes 2 to 6" are on outside of stand (see dotted lines and dimension J').
- (4) On all other sizes, the holes are inside of uprights (see dimension J).

How to size:

- If roll is to support bare pipe, select the size directly from nominal pipe size (see below).
- If used with pipe covering protection saddle, see page PH-108 for size of pipe roll.

Ordering: Specify pipe roll size, figure number, name and finish. Be certain to order oversized rolls when insulation and protection saddle are required.

Note: Standard line of carbon steel base plates available.

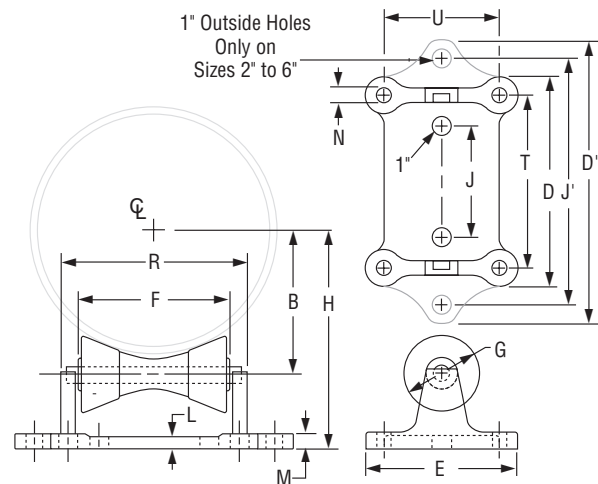


Fig. 271: Weight (lbs) • Loads (lbs) • Dimensions (in)

Pipe Size	Max Load	Weight	H	B	D	D'	E	F	G	J	J'	L	M	N	R	T	U
2	390	6.4	3 1/2	1 3/8	-	8 3/8	5 3/8	2 3/4	1 7/8	-	6 3/8	9/16	11/16	1/2	4	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	950	8.9	4 13/16	2 3/4	-	9 7/8	5 5/8	3 3/4	2 1/16	-	7 7/8	3/4	7/8	5/8	7 3/4	4 1 1/16	4 1/4
5			5 7/16	3 3/8	-												
6			6 1/16	4	-												
8	2,100	15.3	8 11/16	5 1/4	8 5/8	-	6 5/8	6	3 1/4	4	-	3/4	7/8	5/8	7 3/4	7	5
10			9 13/16	6 3/8	-												
12	3,075	28.1	11 3/8	7 1/2	10 15/16	-	7 7/8	8	4	5 3/4	-	3/4	7/8	3/4	9 7/8	9 1/16	6
14			12	8 1/8	6	-											
16			13 5/8	9 3/8	-												
18	4,980	39.7	14 5/8	10 3/8	12 3/8	-	8 5/8	9	4 1/2	6 3/4	-	7/8	1	13/16	11 1/4	10 1/4	6 1/2
20			15 5/8	11 3/8	-												
24			17 3/4	13 3/8	13 1/2	-											
30	7,500	99.3	21 7/8	16 3/4	17	-	10 3/4	12 1/2	5 1/2	10	-	1 1/4	1 1/2	1 1/16	15 3/4	14 1/4	8
36	12,000	152.0	25 3/4	20	20	-	12	15	6 3/8	12	-	1 1/2	1 3/4	1 5/16	18 3/4	17	9
42			28 7/8	20 1/8	-												

DI/CI Roll Sizing	
DI/CI Pipe Size	Fig. 271 Roller Size
3	4
4	5
6	6
8	8
10	10
12	14
14	16
16	18
18	20
20	24
24	30
30	N/A

**Fig. 274: With Base Plate; Fig. 275: W/O Base Plate
Fig. 274P: With Steel Base Plate**

Adjustable Pipe Roll Stand

Size Range: 2" through 42"

Material: Cast iron base plate, stand roll; steel adjusting screws

Finish: Plain or Galvanized

Service: For support of pipe lines where longitudinal movement due to expansion and contraction may occur and where vertical and lateral adjustment during installation may be required.

Maximum Temperature: 450° F at roller

Approvals: Complies with Federal Specification A-A-1192A (Type 46) WW-H-171-E (Type 47) and MSS-SP-69 (Type 46).

Installation: Base plate is provided with two holes for anchorage to floor, pier, structural support and similar constructions, as well as to welded steel brackets Fig. 195 page PH-66 and Fig. 199, page PH-67. Adjustable pipe roll stand *without base plate*, Fig. 275, can be used for supporting tunnel piping, etc., by resting ends of adjusting screws on structural steel angles, channels, etc.

Adjustment: Vertical adjustment is obtained by use of the four adjusting screws located on corners of stand. Lateral adjustment is secured by stand sliding on each of adjusting screws.

How to size:

- (1) If roll is to support bare pipe, select the size directly from nominal pipe size (see below).
- (2) If used with pipe covering protection saddle, see page PH-108 for size of pipe roll.

Ordering: Specify pipe roll size, figure number, name and finish. For further dimensions of stand, see Fig. 271, page PH-118. Be certain to order oversized rolls when insulation and protection saddles are required.

Note: Standard line of carbon steel base plates available.

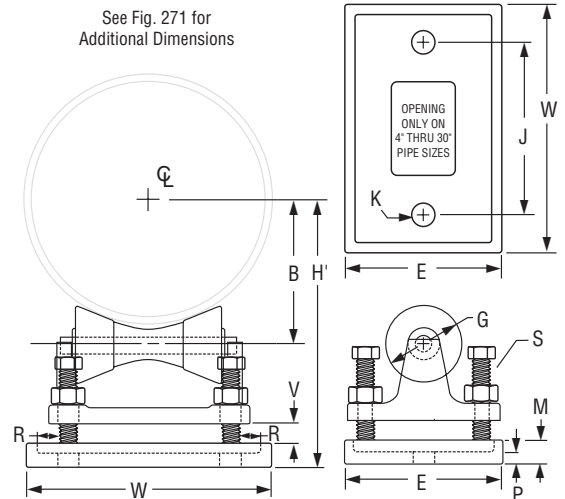


Fig. 274, 275, 274P: Dimensions (in)

Pipe Size	Max Load	Weight			H' Min	H' Max	E	J	K	V Max	M	P	R	S	W
		Fig. 274	Fig. 275	Fig. 274P											
2	390	15.2	7.8	15.3	5 1/8	5 3/8	5 1/2	3 7/8		7/8					6 7/8
2 1/2					5 3/8	5 5/8									
3					5 3/4	6									
3 1/2					6	6 1/4									
4	950	19.3	10.3	19.3	6 1/2	7	5 3/4	5 1/8		1 1/8			1	3/4	8 1/8
5					7	7 1/2									
6					7 5/8	8 1/8									
8					10 3/8	11 5/8									
10	2,100	32.1	18.1	32.1	11 1/2	12 3/4	6 3/4	7 3/8	1	1 3/4	1 1/8	13/16			10 5/8
12					13	14 1/4									
14					13 5/8	14 7/8									
16					15 1/4	16 5/8									
18	4,980	71.3	45.3	71.3	16 3/8	17 3/4	8 5/8	11 1/8		1 7/8	1 1/4	7/8	13/16	1	14 5/8
20					17 3/8	18 3/4									
24					19 5/8	21									
30					24	26 3/4									
36	12,000	304.0	176.0	304.0	28 3/8	31 3/4	10 1/2	15 3/4		3 1/4	1 5/8	1 1/4	1 3/8	1 1/4	19 1/4
42					31 1/2	34 7/8									

DI/CI Roll Sizing	
DI/CI Pipe Size	Fig. 274 Roller Size
3	4
4	5
6	6
8	8
10	10
12	14
14	16
16	18
18	20
20	24
24	30
30	N/A

Pipe Roll