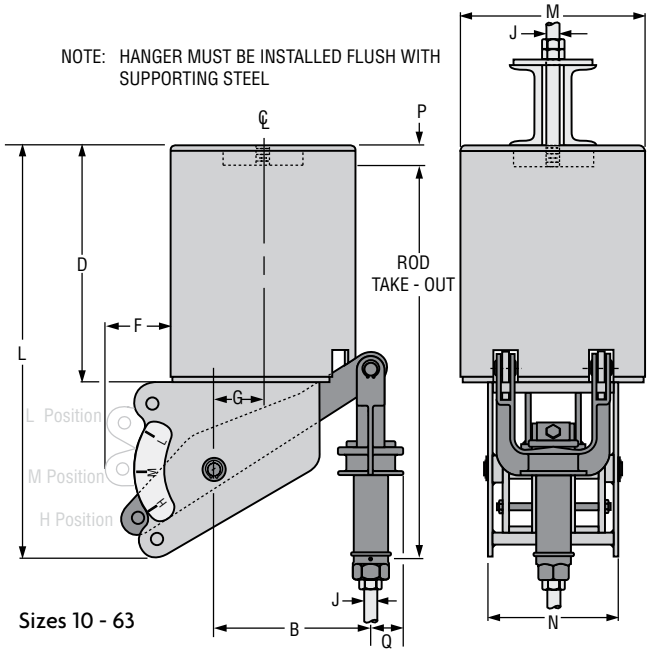
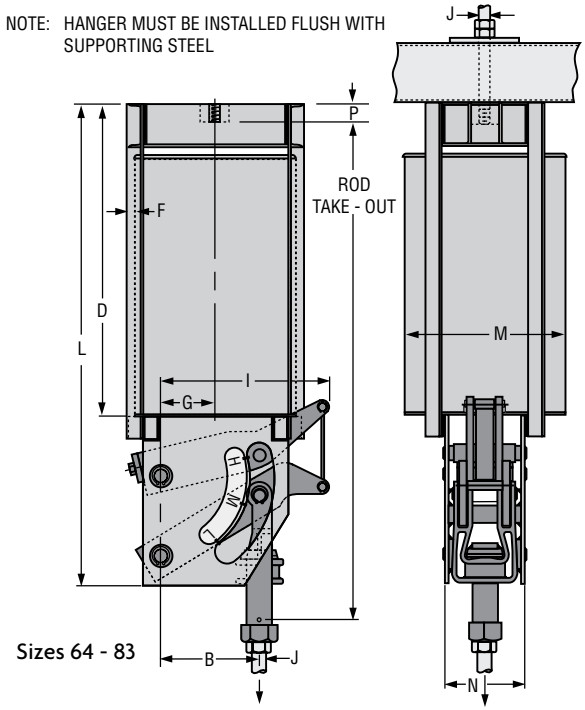
Fig. 80-V Type A

Model R





Type A of the figure 80-V vertical design model R Constant Support Hanger is designed for attachment to its supporting member by screwing a rod into a tapped hole in the top cap of hanger a distance equal to the "P" dimension plus 3/8". Sight holes are provided near the top of the casing to allow visible inspection for correct thread engagement of upper hanger rod.

Notes: See load travel tables, page 184 through 187 for "B" dimension. For weights see page 203. Location of travel indicator and contour of side plate may vary from that shown.

FIG. 80-V, TYPE A: DIMENSIONS (IN)

Hanger Sizes	L	D	F	G	I	Dia. M	N	P	Q	Total Travel TT	Factors	J-rod Min Thd Length	J-rod Rod Dia. Min	J-rod Rod Dia. Max
1 - 9	Available in Fig. 81-H only													
10 - 18	18 7/8	8 7/8	2	1 1/2	•	8 5/8	6 7/16	7/8	1 3/8	5 or less	16 15/16	1 3/4 + TT	1/2	3/4
										5 1/2 or more	19 1/4			
19 - 34	28 1/2	16	2 1/8	2 5/8	•	12 3/4	8 9/16	1 1/8	1 5/8	5 or less	27 15/16	2 3/8 + TT	1/2	1 1/4
										5 1/2 or more	30 1/16			
35 - 49	32 3/4	18 1/4	4 3/4	3 3/4	•	14	9 13/16	1 1/2	2 1/2	6 or less	32 3/8	3 1/4 + TT	1/2	1 3/4
										6 1/2 or more	37			
50 - 63	46 7/8	28 1/8	8 5/16	5 7/8	•	18	11 1/4	2	3	11 or less	46 1/2	4 1/4 + TT	3/4	2 1/4
										11 1/2 or more	51 3/4			
64 - 74	67 1/2	44 1/4	1 3/16	7 1/2	25 3/8	22 3/16	11	2 1/2	–	10 1/2 or less	77 5/8	5 3/4 + TT	1 1/4	2 3/4
										11 or more	77 3/4			
75 - 83	69 1/2	46 1/4	1 1/2	7 1/2	25 3/8	27 3/16	11	3	–	10 1/2 or less	78 3/16	5 3/4 + TT	1 1/2	3 1/4
										11 or more	78 5/16			
84-110	See page 195													

Rod take-out = (factor) - (TT / 2), for lever in high position.
• "I" dimension for sizes 10 through 63 equals "B" + "Q" Note: See the size selection chart (page 184 through 187) for the "B" dimension.

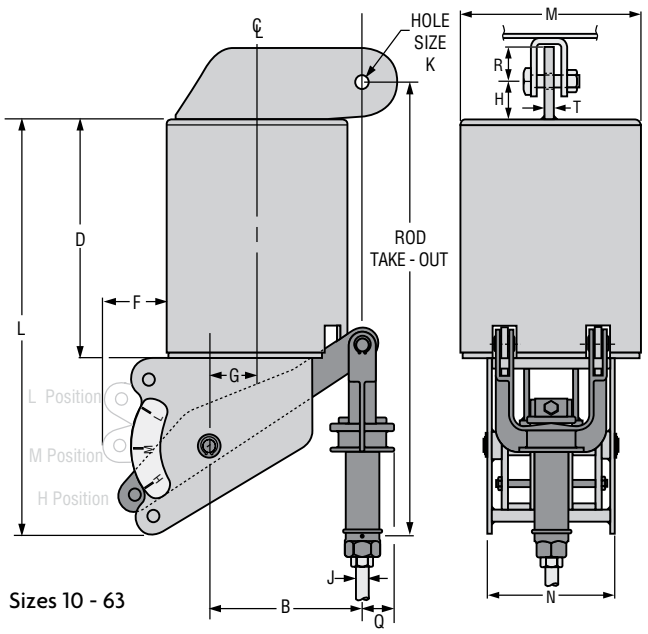
J-ROD SELECTION CHART

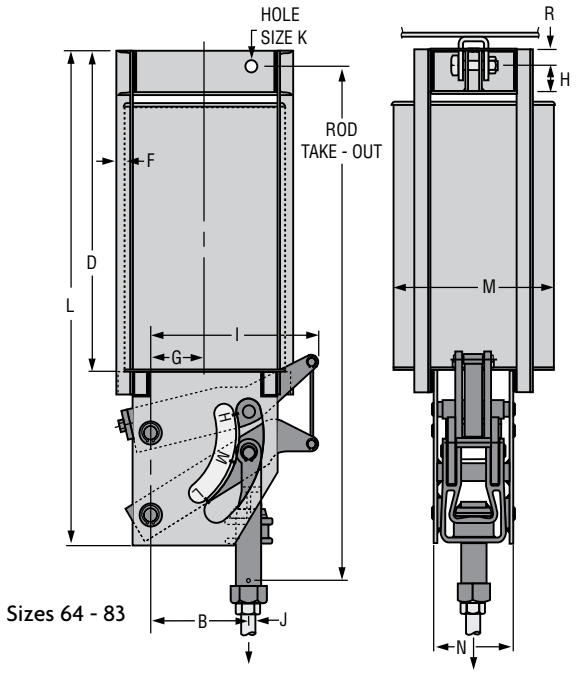
Load (lbs)	0 800	801 1,500	1,501 2,540	2,541 4,000	4,001 6,100	6,101 9,400	9,401 13,400	13,401 18,300	18,301 24,700	24,701 31,000	31,001 39,000	39,001 48,000	48,001 58,000
J Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4*

* 3 1/4 is furnished with 4 UNC series thread.

Fig. 80-V Type B

Model R





Type B is furnished with a single lug for attachment to the building structure. The lug permits use of a figure 66* welded beam attachment, a figure 299 clevis or a pair of angles for attachment where headroom is limited.

Notes: See load travel tables, page 184 through 187 for "B" dimension. For weights see page 203. Location of travel indicator and contour of side plate may vary from that shown.

FIG. 80-V, TYPE B: DIMENSIONS (IN)

Hanger Size	L	D	F	G	H	I	Dia. M	N	Q	R	T	Total Travel TT	Factors	J-rod Min Thd Length	J-rod Rod Dia. Min	J-rod Rod Dia. Max
1-9	Available in Fig. 81-H only															
10-18	18⅞	8⅞	2	1½	1½	•	8⅝	6⁷⁄₁₆	1⅜	1½	⅜	5 or less	19⁵⁄₁₆	1¾ + TT	½	¾
												5½ or more	21⅝			
19-34	28½	16	2⅛	2⅝	2	•	12¾	8⁹⁄₁₆	1⅝	1½	⅝	5 or less	31¹⁄₁₆	2⅜ + TT	½	1¼
												5½ or more	33³⁄₁₆			
35-49	32¾	18¼	4¾	3¾	3	•	14	9¹³⁄₁₆	2½	1¼ K-hole & smaller, 1½ 1⅜ K-hole and larger, 2	¾	6 or less	36⅞	3¼ + TT	½	1¾
												6½ or more	41½			
50-63	46⅞	28⅛	8⁵⁄₁₆	5⅞	4	•	18	11¼	3	¹⁵⁄₁₆ K-hole, 1½ 1⅛ thru 1½ K-hole, 2 1¾ K-hole and larger, 3	1	11 or less	52½	4¼ + TT	¾	2¼
												11½ or more	57¾			
64-74	68	37¼	1³⁄₁₆	7½	4½	25⅜	22³⁄₁₆	11	3¼	1½ K-hole, 2 1¾ K-hole and larger, 3	2	10½ or less	77¼	5¾ + TT	1¼	2¾
												11 or more	77⅜			
75-83	69½	38	1½	7½	3⅝	25⅜	27³⁄₁₆	11		3¾	2½	10½ or less	77¹⁵⁄₁₆	5¾ + TT	1½	3¼
												11 or more	78¹⁄₁₆			
84-110	See page 195															

Rod take-out = (factor) - (TT / 2), for lever in high position. • "I" dimension for sizes10 through 63 equals "B" + "Q"
* For constant support sizes 50-63 and 64-74 where 1¼" rod is required, check the "R" dimensions versus the Fig. 66 welded beam attachment dimensions for compatibility.
Note: See the size selection chart (page 184 through 187) for the "B" dimension. K hole center line location is determined by the formula of "B - G = K Center Line".

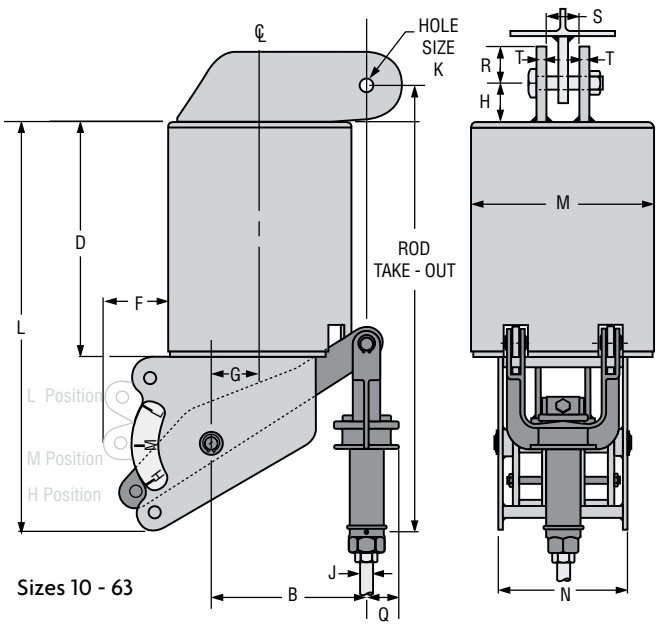
J-ROD SELECTION CHART

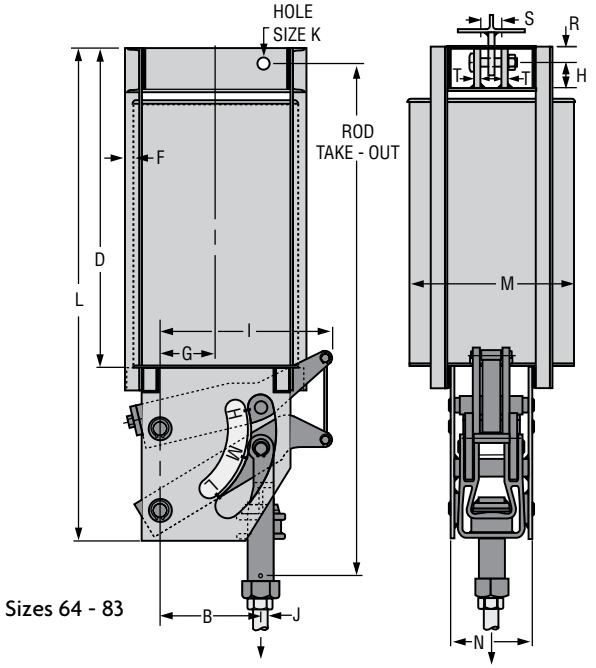
Load (lbs)	0 800	801 1,500	1,501 2,540	2,541 4,000	4,001 6,100	6,101 9,400	9,401 13,400	13,401 18,300	18,301 24,700	24,701 31,000	31,001 39,000	39,001 48,000	48,001 58,000
J-Rod Size	½	⅝	¾	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼*
K-Hole	¹¹⁄₁₆	¹³⁄₁₆	¹⁵⁄₁₆	1¼	1½	1¾	2	2⅜	2⅝	2⅞	3⅛	3⅜	3⅝

* 3¼" is furnished with 4 UNC series thread.

Fig. 80-V Type C

Model R





Type C is furnished with a pair of lugs for attachment to the building structure. These lugs permit the use of an eye rod or a single plate for attachment where headroom is limited.

Notes: See load travel tables, page 184 through 187 for "B" dimension. For weights see page 203. Location of travel indicator and contour of side plate may vary from that shown.

FIG. 80-V, TYPE C: DIMENSIONS (IN)

Hanger Size	L	D	F	G	H	I	Dia. M	N	Q	R	T	Total Travel TT	Factors	J-rod Min Thd Length	J-rod Rod Dia. Min	J-rod Rod Dia. Max
1-9	Available in Fig. 81-H only															
10-18	18 7/8	8 7/8	2	1 1/2	1 1/2	•	8 5/8	6 7/16	1 3/8	1 1/2	3/8	5 or less	19 5/16	1 3/4 +TT	1/2	3/4
												5 1/2 or more	21 5/8			
19-34	28 1/2	16	2 1/8	2 5/8	2	•	12 3/4	8 9/16	1 5/8	1 1/2	5/8	5 or less	31 1/16	2 3/8 + TT	1/2	1 1/4
												5 1/2 or more	33 3/16			
35-49	32 3/4	18 1/4	4 3/4	3 3/4	3	•	14	9 13/16	2 1/2	1 1/4 K-hole & smaller, 1 1/2 1 3/8 K-hole and larger, 2	3/4	6 or less	36 7/8	3 1/4 + TT	1/2	1 3/4
												6 1/2 or more	41 1/2			
50-63	46 7/8	28 1/8	8 5/16	5 7/8	4	•	18	11 1/4	3	15/16 K-hole, 1 1/2 1 1/8 thru 1 3/8 K-hole, 2 1 1/2 K-hole and larger, 3	1	11 or less	52 1/2	4 1/4 + TT	3/4	2 1/4
												11 1/2 or more	57 3/4			
64-74	68	36 3/4	1 3/16	7 1/2	5	25 3/8	22 3/16	11	3 1/4	3	1/2	10 1/2 or less	77 1/4	5 3/4 + TT	1 1/4	2 3/4
												11 or more	77 3/8			
75-83	69 1/2	37 1/4	1 1/2	7 1/2	6 1/4	25 3/8	27 3/16	11	3 1/4	3 3/4	1	10 1/2 or less	77 15/16	5 3/4 + TT	1 1/2	3 1/4*
												11 or more	78 1/16			
84-110	See page 195															

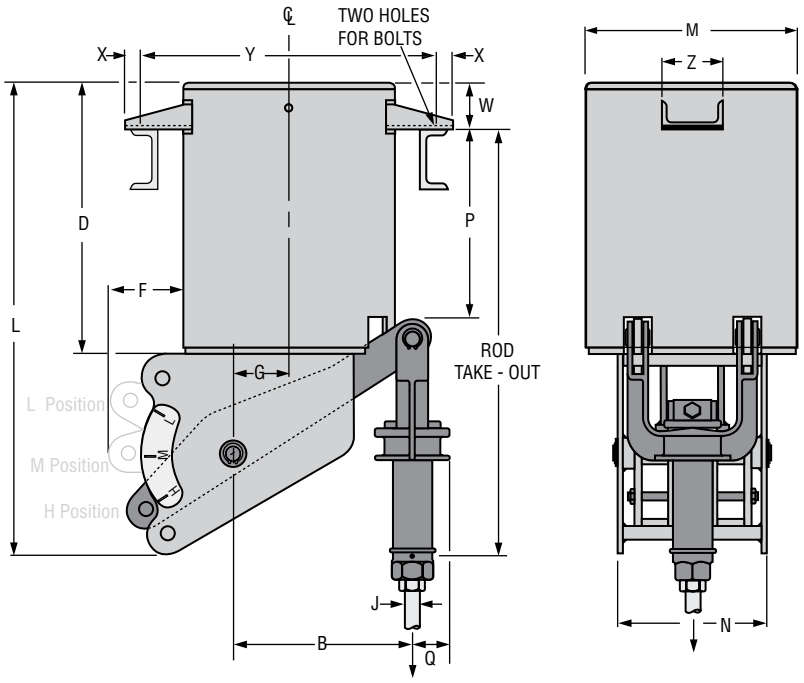
Rod take-out = (factor) - (TT / 2), for lever in high position. • "I" dimension for sizes 10 through 63 equals "B" + "Q"
Note: See the size selection chart (page 184 through 187) for the "B" dimension. K hole center line location is determined by the formula of "B - G = K Center Line".

Load (lbs)	0 800	801 1,500	1,501 2,540	2,541 4,000	4,001 6,100	6,101 9,400	9,401 13,400	13,401 18,300	18,301 24,700	24,701 31,000	31,001 39,000	39,001 48,000	48,001 58,000
J-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
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 1/4" is furnished with 4 UNC series thread.

Fig. 80-V Type D

Model R



Type D rests on top of structural steel while most of the Constant Support itself hangs between or below the supporting beams. The depth of the beam is limited by the "P" dimension. Dimension "P" can be varied on special order, however, "P" dimension shown is maximum for the hanger.

Notes: See load travel tables, page 184 through 187 for "B" dimension. For weights see page 203. Location of travel indicator and contour of side plate may vary from that shown.

FIG. 80-V: DIMENSIONS (IN)

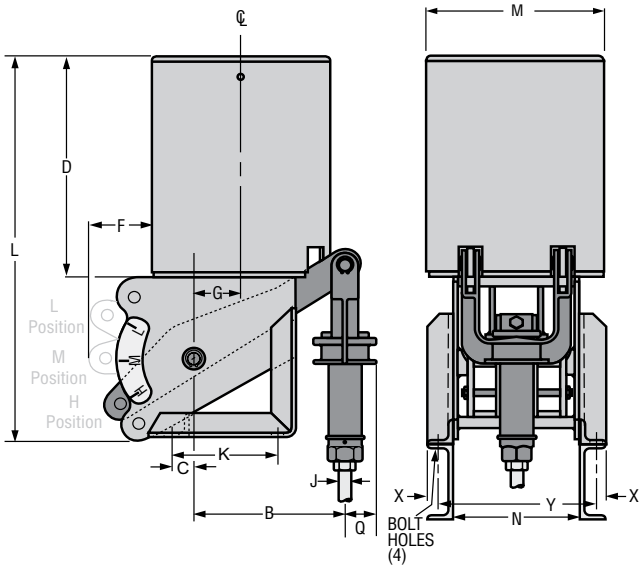
Hanger Sizes	L	D	F	G	Dia. M	N	Q	P	W	X	Y	Z	Bracket Hole Dia.	Total Travel TT	Factors	J-Rod Min Thd Length	J-Rod Min Dia.	J-Rod Max Dia.
1-9	Available in Fig. 81-H only																	
10-18	18⅞	8⅞	2	1½	8⅝	6 7/16	1⅜	4 15/16	2⅜	1½	10¾	3	¾	5 or less	15½	1¾ + TT	½	¾
														5½ or more	17 3/16			
19-34	28½	16	2⅛	2⅝	12¾	8 9/16	1⅝	12½	2⅜	1½	14⅞	3	⅞	5 or less	26 11/16	2⅜ + TT	½	1¼
														5½ or more	28 13/16			
35-49	32¾	18¼	4¾	3¾	14	9 13/16	2½	13¼	2⅝	2	16¾	4	1⅛	6 or less	31¼	3¼ + TT	½	1¾
														6½ or more	35⅞			
50-63	46⅞	28⅛	8 5/16	5⅞	18	11¼	3	24½	2⅞	3	21	6	1⅜	11 or less	45 9/16	4¼ + TT	¾	2¼
														11½ or more	50⅞			
64-83	Available in Fig. 81-H only.																	
84-110	Not Available																	

*Rod take-out = (factor) - (TT / 2), for lever in high position. • "I" dimension for sizes 10 through 63 equals "B" + "Q"
Note: See the size selection chart (page 184 through 187) for the "B" dimension.

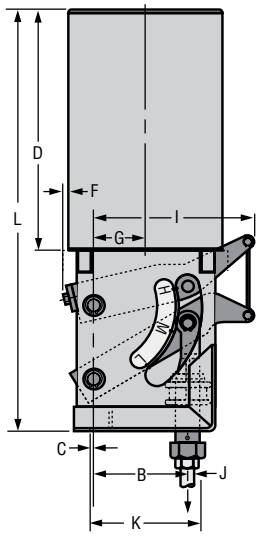
Load (lbs)	0 800	801 1,500	1,501 2,540	2,541 4,000	4,001 6,100	6,101 9,400	9,401 13,400	13,401 18,300	18,301 24,700
J Rod Size	½	⅝	¾	1	1¼	1½	1¾	2	2¼

Fig. 80-V Type E

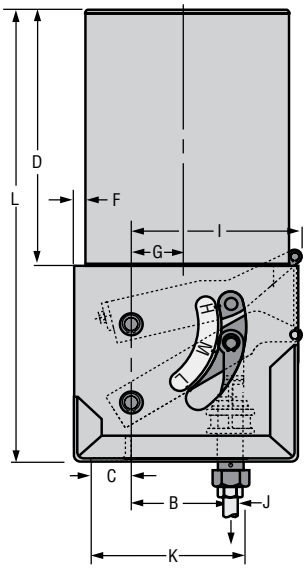
Model R



Sizes 1 - 63



Sizes 64 - 74



Sizes 75 - 83

Type E rests on top flange of structural steel and the constant support itself is entirely above the supporting beams. If the rod takeout does not exceed the depth of the supporting steel and the rod coupling must extend below the steel, specify the depth of the supporting steel. Increase the rod take-out by the depth of the steel.

Notes: See load travel tables, page 184 through 187 for "B" dimension. For weights see page 205. Location of travel indicator and contour of side plate may vary from that shown.

FIG. 80-V, TYPE E: DIMENSIONS (IN)

Hanger Size	L	C	D	F	G	I	K	Dia. M	X	Y	N	Q	Angle Size	Bracket Hole Dia.	Total Travel TT	Factors	J-Rod Min Thd Length	J-Rod Rod Dia Min	J-Rod Rod Dia Max
1-9	Available in Fig. 81-H Only																		
10-18	18 7/8	1 1/2	8 7/8	2	1 1/2	•	4 5/16	8 5/8	5/8	8 15/16	6 7/16	1 3/8	1 1/2 x 2 x 1/4	3/4	5 or less	1 7/16	1 3/4 + TT	1/2	3/4
															5 1/2 or more	3 3/4			
19-34	28 1/2	13/16	16	2 1/8	2 5/8	•	6 11/16	12 3/4	5/8	11 3/16	8 9/16	1 5/8	1 1/2 x 2 1/2 x 1/4	3/4	5 or less	2 13/16	2 3/8 + TT	1/2	1 1/4
															5 1/2 or more	4 15/16			
35-49	32 3/4	1 7/8	18 1/4	4 3/4	3 3/4	•	8 5/16	14	13/16	13 5/16	9 13/16	2 1/2	3 x 2 x 3/8	7/8	6 or less	2 1/2	3 1/4 + TT	1/2	1 3/4
															6 1/2 or more	7 1/8			
50-63	46 7/8	3 3/4	28 1/8	8 5/16	5 7/8	•	12 13/16	18	1 5/16	14 11/16	11 1/4	3	3 x 3 x 3/8	1 3/8	11 or less	1 5/8	4 1/4 + TT	3/4	2 1/4
															11 1/2 or more	7			
64-74	62	3/8	35 3/4	3/8	7 1/2	25 3/8	15 3/4	22 3/16	1 9/16	14 15/16	11	3	3 1/2 x 3 1/2 x 1/2	1 5/8	10 1/2 or less	9 1/8	5 3/4 + TT	1 1/4	2 3/4
															11 or more	9 1/4			
75-83	62 1/2	5 1/4	35 3/4	1 1/2	7 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	1 5/8	10 1/2 or less	8 3/4	5 3/4 + TT	1 1/2	3 1/4
														1 5/8	11 or more	8 7/8			
84-110	Not Available																		

Rod take-out = (factor) - (TT / 2), for lever in high position. Rod take-out is measured from the bottom of the supporting angles to the center of the load coupling site hole.
• "I" dimension for sizes 10 through 63 equals "B" + "Q" Note: See the size selection chart (page 184 through 187) for the "B" dimension.

J-ROD SELECTION CHART

Load (lbs)	0 800	801 1,500	1,501 2,540	2,541 4,000	4,001 6,100	6,101 9,400	9,401 13,400	13,401 18,300	18,301 24,700	24,701 31,000	31,001 39,000	39,001 48,000	48,001 58,000
J 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 4 UNC series thread.

Fig. 80-V Type F

Model R

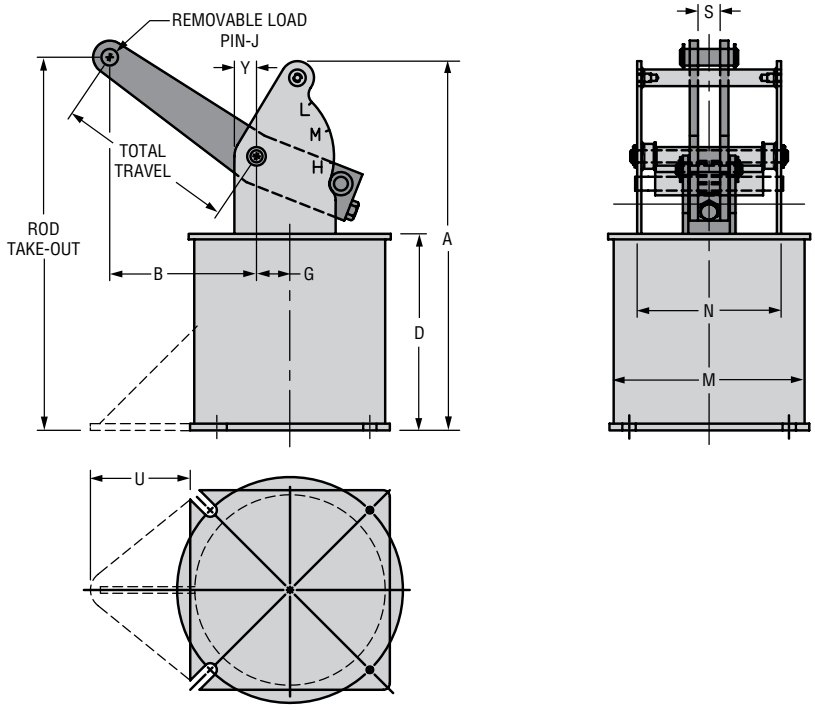


FIG. 80-V, TYPE F: TOTAL TRAVEL (IN)		
Hanger Size	**Total Travel**	**U**
10-18	1½ - 4½ 5 - 8	– 5
19-34	2 - 6½ 7 - 10	– 7¼
35-49	2½ - 6 6½ - 9 9½ - 14	– 7 11½
50-63	3 - 6½ 7 - 10 10½ - 16	– 8½ 14

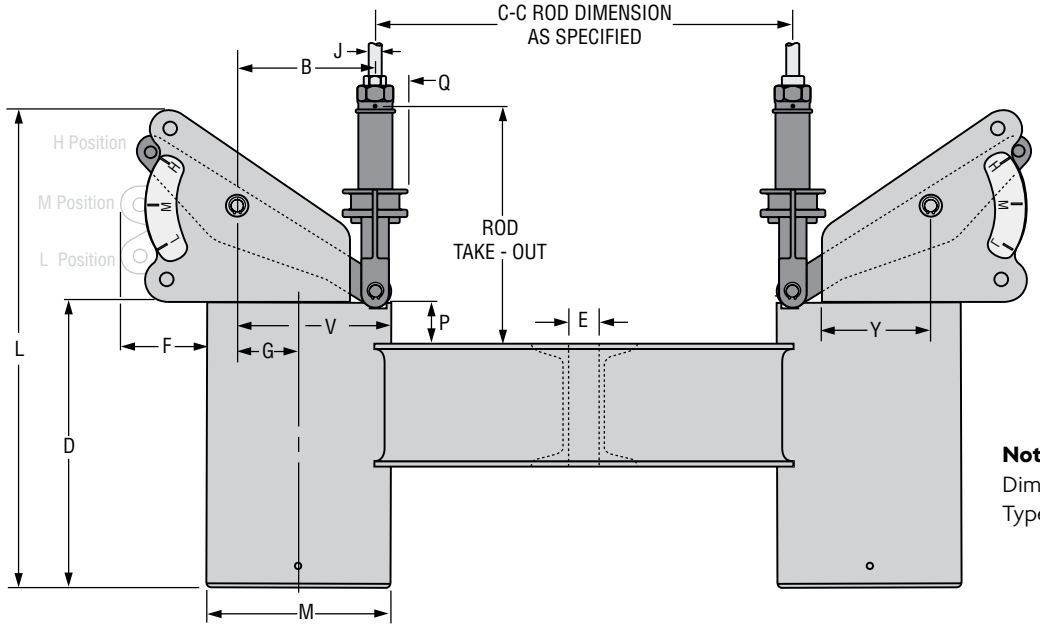
Type F is for support of piping or equipment from below. It has a base flange for fastening to the floor or to beams. The load arm is furnished with a removable load pin. The intermediate strut which runs from the load arm to the piping is not furnished and must be ordered separately, designed to the specific requirement.

Note: See load travel table for "B" dimension.

FIG. 80-V, TYPE F: DIMENSIONS (IN)														
Hanger Size	**A**	**D**	**G**	**M**	**N**	**S**	**Y**	**Bottom Flange Square**	**Bottom Flange Bolt Circle**	**Flange Hole and Slot Dia.**	**Flange Thickness**	**Factor**	**Total Travel**	**J Dia.**
1-9	Not Available													
10-18	16⅝	8¾	1½	8⅝	6¼	1	1	9	10	7/16	¼	12⅝	5½ or less	¾
													6 or more	½
19-34	25⅜	14 11/16	2⅝	12¾	8⅜	1 5/16	1	13¼	15	⅝	⅜	20⅛	4 or less	1⅛
													4½ or more	⅞
35-49	32⅝	18½	3 11/16	14	9 15/16	2¼	1½	14½	17	⅞	⅝	25½	7 or less	1½
													7½ or more	1⅛
50-63	48¾	28⅝	5⅞	18	11¼	2¼	1⅝	18½	21	1⅛	¾	38½	8 or less	2
													8½ or more	1½
64-110	Not Available													

Fig. 80-V Type G

Model R



Note: For orientation of "N" Dimension, see Fig. 80-V Type D on page 191.

Type G is a complete trapeze assembly. The hanger consists of two vertical type Constant Support units plus a pair of channels, back-to-back, welded at each end to the hanger casing.

In sizing a Type G hanger, it must be remembered that each standard spring unit carries one-half of the total pipe load. Furthermore, the weights of the hanger itself must be considered as part of the overall load. Therefore, using one-half the total pipe load, select the required hanger size from the Load Travel Table and add one-half the weight of the size hanger selected to one-half the total pipe load. If the load now exceeds the maximum load at the required total travel for the hanger size selected, it is necessary to go to the next larger hanger. If the pipe line is designed so as not to be centered on the channel, one spring of the trapeze will carry a heavier load than the other and care must be taken in sizing the individual hanger units. The center-to-center rod dimension must be specified when ordering. The minimum C-C dimension can be determined as follows:

B plus Q › Y: (O.D. of pipe covering) + 2Q.

B plus Q ‹ Y: (O.D. of pipe covering) + 2 (Y - B).

Note: If U-bolt is used to fasten pipe to channels, C-C of U-bolt tangents plus one washer plate width cannot be greater than C-C of the hanger rods minus 2 (V minus B). See load travel tables, page 184 through 187 for "B" dimension.

For weights see page 203. Location of travel indicator and contour of side plate may vary from that shown.

FIG. 80-V, TYPE G: DIMENSIONS (IN)

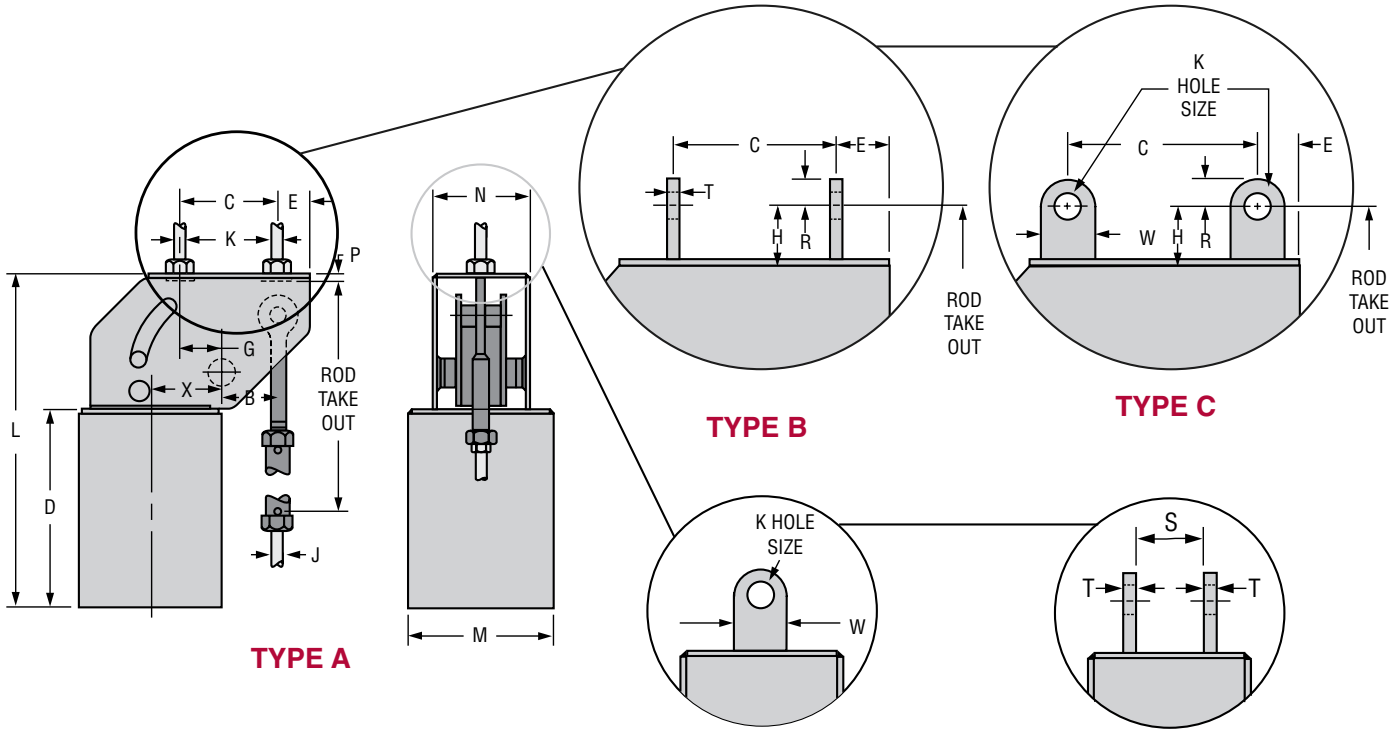
Hanger Size	L	D	E	F	G	Dia M	N	P	Q	V	Y	Channel Size (lbs/ft)	C - C	Total Travel TT	Factors	J-Rod Min Thread Length	J-Rod Min Rod. Dia.	J-Rod Max Rod Dia.
1-9	Not available																	
10-18	18 7/8	8 7/8	1	2	1 1/2	8 5/8	6 7/16	2 9/16	1 3/8	5 13/16	6 5/8	4 @ 5.4	30	5 or less	11 11/16	1 3/4 + TT	1/2	3/4
														5 1/2 or more	14			
19-34	28 1/2	16	1 1/4	2 1/8	2 5/8	12 3/4	8 9/16	3 9/16	1 5/8	9	9 5/8	6 @ 10.5	42	5 or less	16 13/16	2 3/8 + TT	1/2	1 1/4
														5 1/2 or more	18 3/4			
35-49	32 3/4	18 1/4	1 1/2	4 3/4	3 3/4	14	9 13/16	3 7/16	2 1/2	10 3/4	11 3/16	10 @ 15.3	48	6 or less	19 1/4	3 1/4 + TT	1/2	1 3/4
														6 1/2 or more	23 7/8			
50-63	46 7/8	28 1/8	2 1/8	8 5/16	5 7/8	18	11 1/4	4	3	14 3/4	10 15/16	12 @ 20.7	48	11 or less	24 5/8	4 1/4 + TT	3/4	2 1/4
														11 1/2 or more	30			
64-110	Not available																	

Rod take-out = (factor) - (TT / 2), for lever in high position.
Note: See the size selection chart (see page 184 through 187) for the "B" dimension.

Load (lbs)	0 800	801 1,500	1,501 2,540	2,541 4,000	4,001 6,100	6,101 9,400	9,401 13,400	13,401 18,300	18,301 24,700
J Rod Size	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4

Fig. 80-V Types A, B and C

Model R, Sizes 84 to 110



Note: "B" Dimensions is a function of total travel ("G" + "B" should not be assumed as equal to "C" Dimension)

Types A, B, and C sizes 84 through 110, for large loads and long travels, provide for basically the same methods of upper attachment as sizes 10 to 83 shown Type A on page 188, Type B page 190 and Type C see page 191.

Notes: See load travel tables, page 184 through 187 for "B" dimension. For weights see page 203.

FIG. 80-V, TYPES A,B,C SIZES 84 TO 110: DIMENSIONS (IN)

Hanger Sizes	L	C		D	E		G		H	M	N	P	X	Total Travel TT	Factor		J - Rod		
		Type A & B	Type C		Type A & B	Type C	Type A & B	Type C							Type A	Type B & C	Min Thread Length	Rod Dia. Min	Rod Dia. Max
84-94	78¾	16	15	49¾	4	4½	1½	1	6	24	10½	3	12	9½ or less	45¾	54¾	10	2	3¾
														10 or more	55½	64½	13		
95-110	100	24	23	64	4	4½	7½	7	6	24	11½	3½	13½	14 or less	51⅛	60⅝	12	2½	3¾
														14½ or more	60⅛	69⅝	15		

*Rod take-out = (factor) - (.75 x TT), for Lever in high position
Note: See the size selection chart (page 184 through 187) for the "B" dimension.

Load (lbs)	14,376 18,300	18,301 24,700	24,701 31,000	31,001 39,000	39,001 48,000	48,001 58,000	58,001 69,000	69,001 87,500
J & K-Rods	2	2¼	2½	2¾	3	3¼*	3½*	3¾*
K-Hole	2⅜	2⅝	2⅞	3⅛	3⅜	3⅝	3⅞	4⅛
R	3	3	4	4	4	4½	4½	4½
S	2⅞	3⅛	3⅜	3⅝	3⅞	4⅛	4⅜	4⅝
T (Type B)	¾	¾	1	1	1	1	1½	1¾
T (Type C)							1¼	1¼
W	6	6	8	8	8	9	9	9

*3¼ and larger is furnished with 4 UNC series thread.