



# **CONSTANT SUPPORTS**

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## 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  $F \times A = R \times B$ , 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

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
20		2145	1716	1430	1226	1073	953	858	780	715	660	613	572	536	476
21		2335	1868	1557	1334	1168	1038	934	849	778	718	667	623	584	505
22		2525	2020	1683	1443	1263	1122	1010	918	842	777	721	673	631	549
23		2710	2168	1807	1549	1355	1204	1080	985	903	834	775	723	678	594
24		2910	2328	1940	1663	1455	1293	1164	1058	970	895	831	776	728	638
25		3110	2488	2073	1777	1555	1382	1244	1131	1037	957	889	829	778	685
26		3310	2648	2207	1891	1655	1471	1324	1204	1103	1018	946	883	828	732
27		3630	2904	2420	2074	1815	1613	1452	1320	1210	1117	1037	968	908	779
28		3950	3160	2633	2257	1975	1756	1580	1436	1317	1215	1129	1053	988	854
29		4270	3416	2847	2440	2135	1898	1708	1553	1423	1314	1220	1139	1068	929
30		4535	3628	3023	2591	2268	2016	1814	1649	1512	1395	1296	1209	1134	1005
31		4795	3836	3197	2740	2398	2131	1918	1744	1598	1475	1370	1279	1199	1067
32		5060	4048	3373	2891	2530	2249	2024	1840	1687	1557	1446	1349	1265	1128
33		5295	4236	3530	3026	2648	2353	2118	1925	1765	1629	1513	1412	1324	1191
34		5525	4420	3683	3157	2763	2456	2210	2009	1842	1700	1579	1473	1381	1246
35			4696	3913	3354	2935	2609	2348	2135	1957	1806	1677	1565	1468	1300
36			4968	4140	3549	3105	2760	2484	2258	2070	1911	1774	1656	1553	1381
37			5240	4367	3743	3275	2911	2620	2382	2183	2015	1871	1747	1638	1461
38			5616	4680	4011	3510	3120	2808	2553	2340	2160	2006	1872	1755	1541
39			5988	4990	4277	3743	3327	2994	2722	2495	2303	2139	1996	1871	1652
40			6360	5300	4543	3975	3533	3180	2891	2650	2446	2271	2120	1988	1761
41			6976	5813	4983	4360	3876	3488	3171	2907	2683	2491	2325	2180	1988
42			7588	6323	5420	4743	4216	3794	3449	3162	2919	2710	2529	2371	2052
43			8200	6833	5857	5125	4556	4100	3727	3417	3154	2929	2733	2563	2232
44			8724	7270	6231	5453	4847	4362	3965	3635	3355	3116	2908	2726	2412
45			9284	7737	6631	5803	5158	4642	4220	3868	3571	3316	3095	2901	2566
46			9760	8133	6971	6100	5422	4880	4436	4067	3754	3486	3253	3050	2731
47			10376	8647	7411	6485	5764	5188	4716	4323	3991	3706	3459	3243	2871
48			10988	9157	7848	6868	6104	5495	4995	4578	4226	3924	3663	3434	3052
49			11600	9667	8286	7250	6444	5800	5273	4833	4462	4143	3867	3625	3232
50				10367	8886	7775	6911	6220	5655	5183	4785	4443	4147	3888	3412
51				11067	9486	8300	7378	6640	6036	5533	5108	4743	4427	4150	3659
52				11847	10154	8885	7898	7108	6462	5923	5468	5077	4739	4443	3906
53				12623	10820	9468	8416	7574	6886	6311	5826	5410	5049	4734	4181
54				13400	11486	10050	8933	8040	7309	6700	6185	5743	5360	5025	4455
55				14713	12611	11035	9809	8828	8026	7356	6791	6306	5885	5518	4730
56				16023	13734	12018	10682	9614	8740	8011	7396	6867	6409	6009	5193
57				17333	14857	13000	11555	10400	9455	8666	8000	7429	6933	6500	5655
58				18423	15791	13818	12282	11054	10049	9211	8503	7896	7369	6809	6118
59				19510	16723	14633	13007	11706	10642	9755	9005	8362	7804	7316	6506
60				20600	17657	15450	13733	12360	11236	10300	9508	8829	8240	7725	6886
61				21890	18763	16418	14593	13134	11940	10945	10103	9382	8756	8209	7271
62				23176	19665	17383	15451	13906	12642	11588	10697	9933	9270	8691	7726
63				24463	20968	18348	16309	14678	13344	12231	11291	10840	9785	9174	8180
"B (avg. in.)"	1 3/8	1 1/8	2 1/4	2 3/4	3 1/4	3 5/8	4 1/8	4 5/8	5 1/8	5 1/2	6	6 1/2	6 3/8	7 1/8	7 1/8



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 ¼	8 ¼	9 ¼	9 ⅝	10 ⅞	10 ⅝	11	11 ½	12	12 ⅞	12 ⅞	13 ⅞	13 ⅞	14 ¼	14 ¾

# Constant Sizing Table

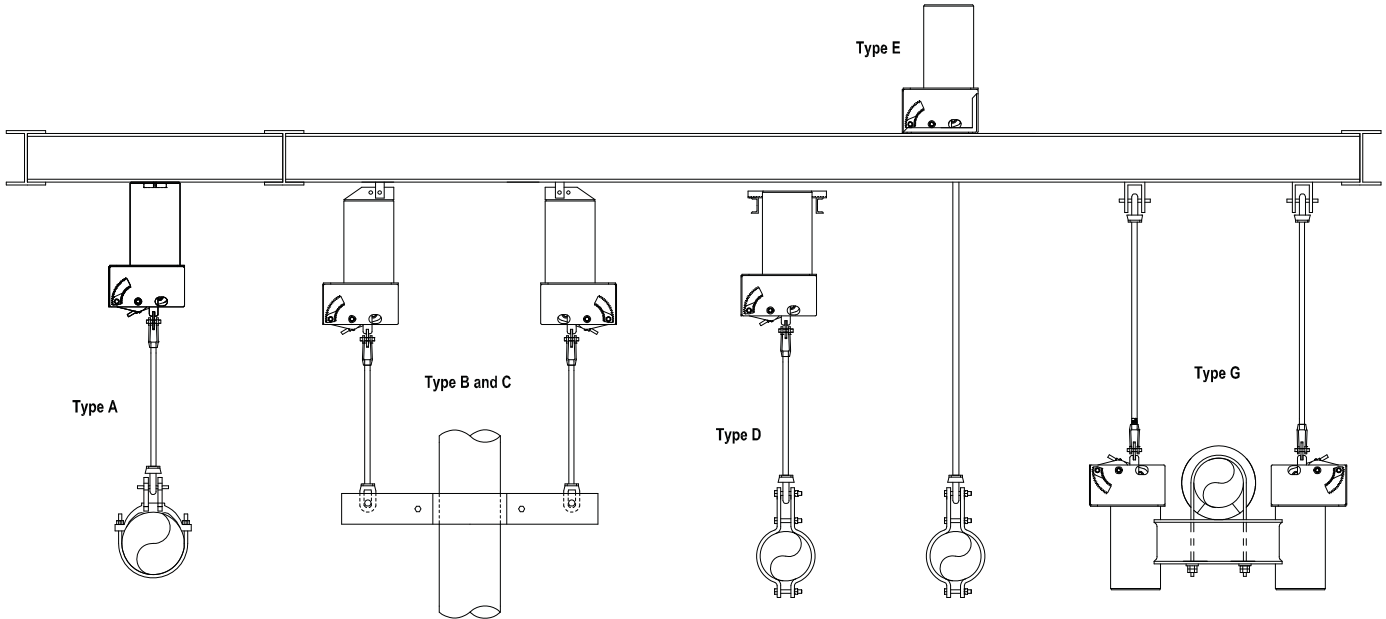
Hanger Size No.	Total Travel (in.)																
	4	4 ½	5	5 ½	6	6 ½	7	7 ½	8	8 ½	9	9 ½	10	10 ½	11	11 ½	12
	Loads (lbs.)																
64	19225	17089	15380	13982	12816	11831	10986	10253	9613	9047	8544	8094	7690	7323	6990	6686	6408
65	20100	17866	16080	14618	13400	12370	11486	10720	10050	9459	8933	8463	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 <sup>5</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	6	6 <sup>1</sup> / <sub>2</sub>	6 <sup>7</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>4</sub>	9 <sup>5</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>8</sub>	10 <sup>5</sup> / <sub>8</sub>	11
"B" dim Sizes 84 to 110	-	-	4 <sup>3</sup> / <sub>16</sub>	4 <sup>9</sup> / <sub>16</sub>	5	5 <sup>3</sup> / <sub>8</sub>	5 <sup>13</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>4</sub>	6 <sup>5</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>2</sub>	7 <sup>7</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>8</sub>	9 <sup>9</sup> / <sub>16</sub>	10



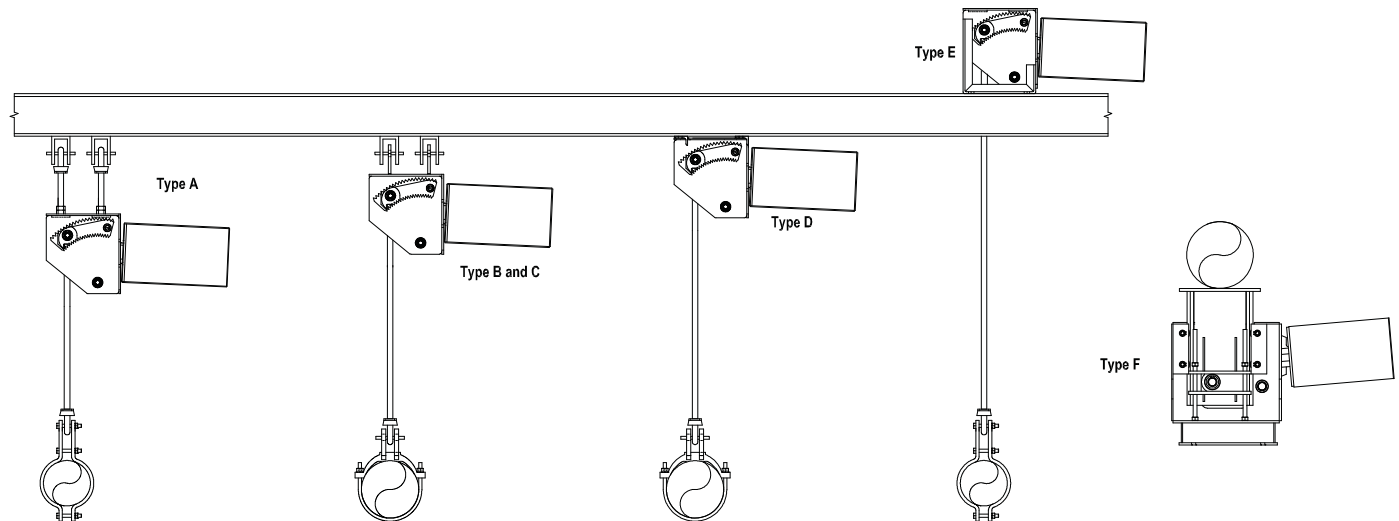


Hanger Size No.	Total Travel (in.)															
	12 1/2	13	13 1/2	14	14 1/2	15	15 1/2	16	16 1/2	17	17 1/2	18	18 1/2	19	19 1/2	20
	Loads (lbs.)															
64	6152	5915	5696	5492	5303	5126	4961	4806								
65	6432	6184	5955	5742	5544	5359	5187	5025								
66	7062	6790	6538	6304	6087	5884	5694	5517								
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	15861	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	31175	30285	29442	28647	27894	27179	26500
96	46000	44230	42590	41067	39652	38330	37093	35938	33482	32498	31570	30691	29863	29078	28332	27625
97	47800	45960	44257	42673	41204	39829	39545	37444	34845	33822	32856	31941	31080	30262	29486	28750
98	49600	47690	45923	44280	42755	41329	40000	38750	36209	35145	34141	33191	32295	31446	30640	29875
99	51600	49613	47775	46066	44479	42996	41609	40313	37572	36468	35427	34441	33511	32631	31794	31000
100	53600	51536	49627	47851	46203	44662	43221	41875	39087	37939	36855	35830	34862	33946	33076	32250
101	55600	53459	51479	49637	47927	46329	44834	43438	40602	39409	38284	37219	36214	35262	34358	33500
102	57600	56382	53330	51422	49651	47995	46447	45000	42117	40880	39712	38607	37565	36578	35640	34750
103	60200	57882	55738	53744	51892	50162	48544	47031	44217	42998	41801	40673	39604	38588	37625	
104	62800	60382	58145	56065	54134	52328	50640	49063	45602	44262	42998	41801	40673	39604	38588	37625
105	65400	62882	60552	58386	56375	54495	52737	51094	47571	46174	44855	43607	42429	41315	40255	39250
106	68000	65382	62960	60707	58616	56661	54834	53125	49541	48085	46712	45412	44186	43025	41921	40875
107	70960	68228	65700	63350	61168	59127	57220	55438	51733	50273	48923	47942	46683	45485	44350	
108	73920	71074	68441	65992	63719	61594	59607	57750	54050	52594	51328	49942	48630	47383	46200	
109	76960	74000	71225	68706	66340	64127	62059	60125	56425	54969	53439	52000	50630	49331	48100	
110	80000	76920	74070	71420	68960	66660	64510	62500	58800	57140	55550	54050	52630	51280	50000	
"B" dim Sizes 64 to 83	11 1/2	12	12 3/8	12 7/8	13 3/8	13 7/8	14 1/4	14 3/4	-	-	-	-	-	-	-	-
"B" dim Sizes 84 to 110	10 3/8	10 13/16	11 3/16	11 5/8	12 1/16	12 1/2	12 7/8	13 5/16	13 11/16	14 1/8	14 9/16	14 15/16	15 3/8	15 3/4	16 3/16	16 5/8

RCS-80V (Vertical)

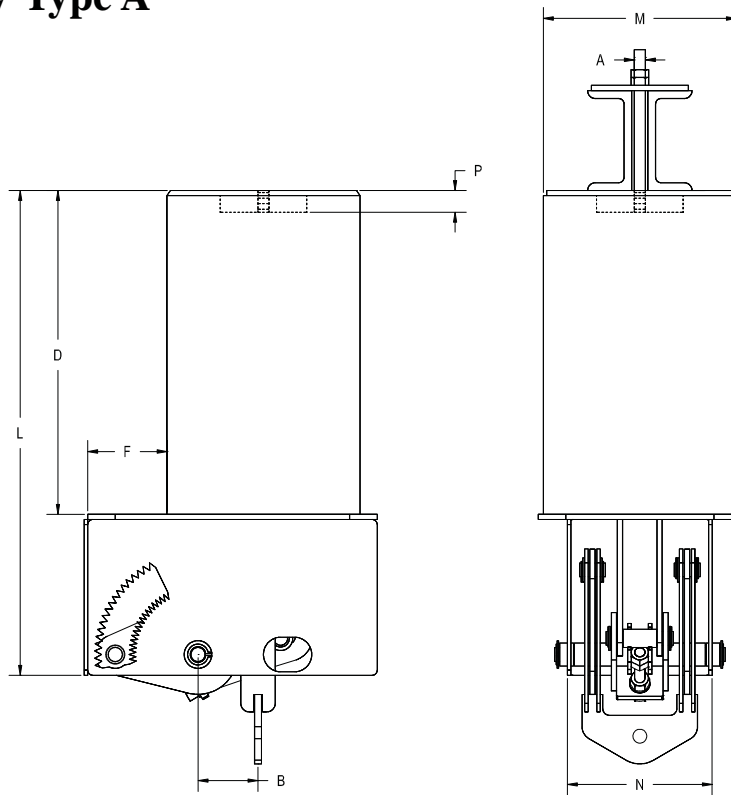


RCS-81H (Horizontal)





### 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	

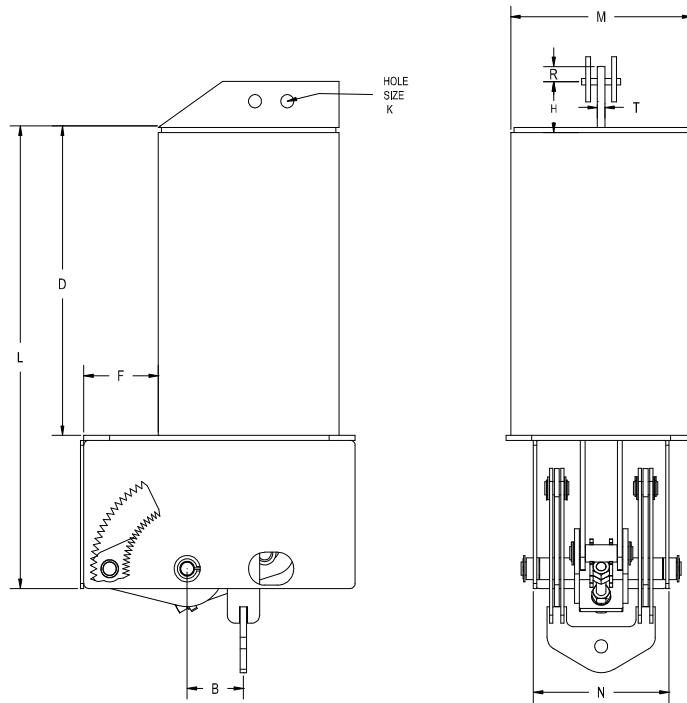
84-110 See Page #22

"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	

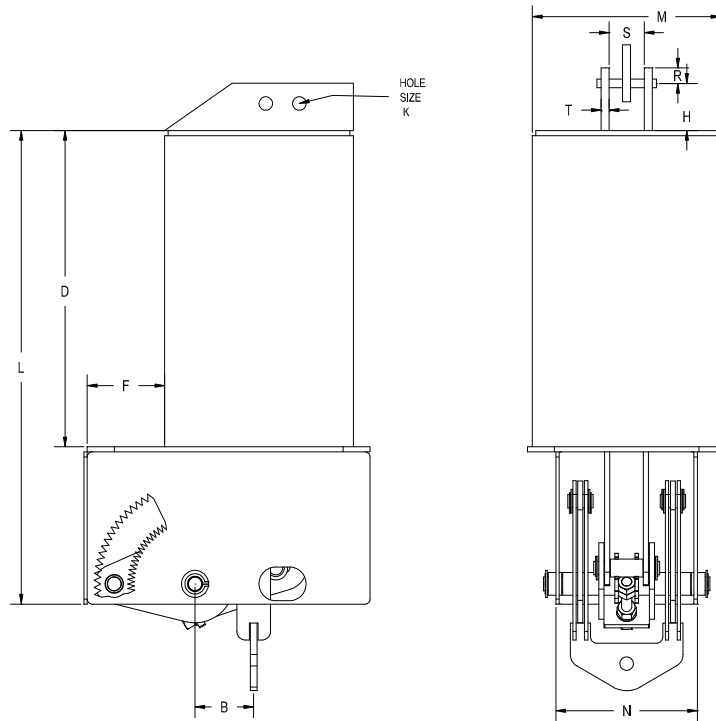
84-110 See Page #22

**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	

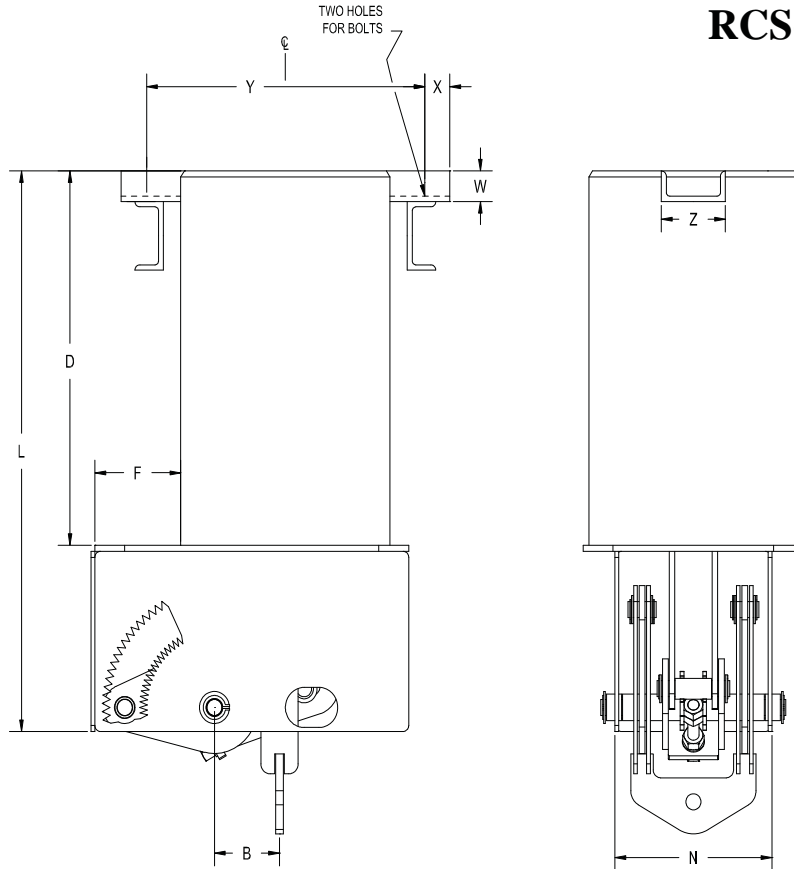
84-110 See Page #22

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.

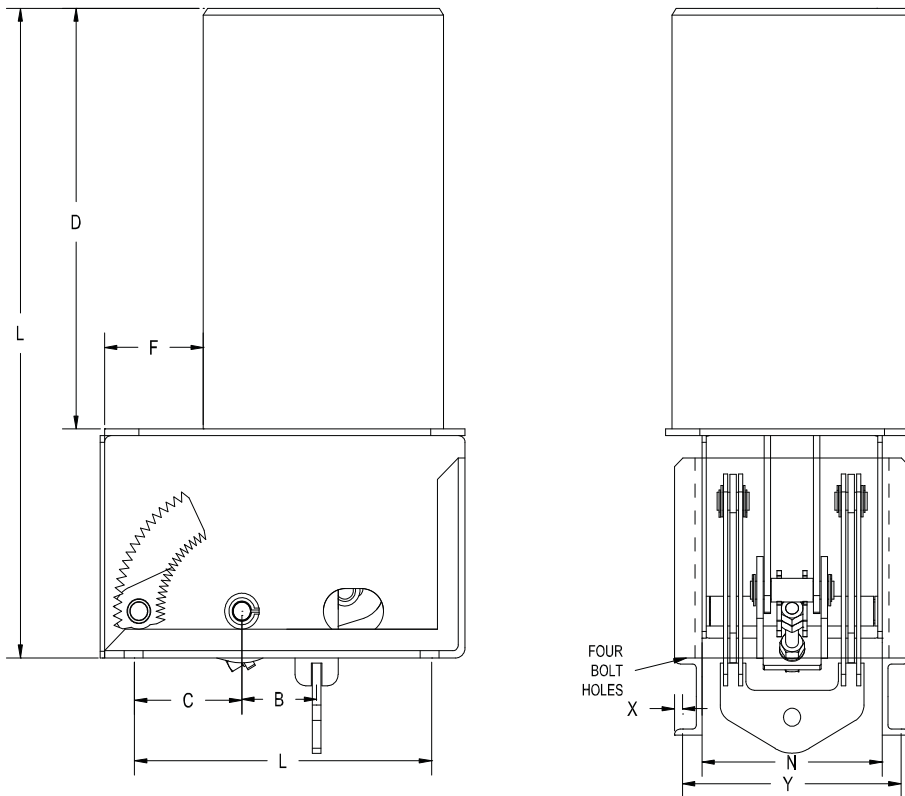
**RCS-80V Type D**



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.

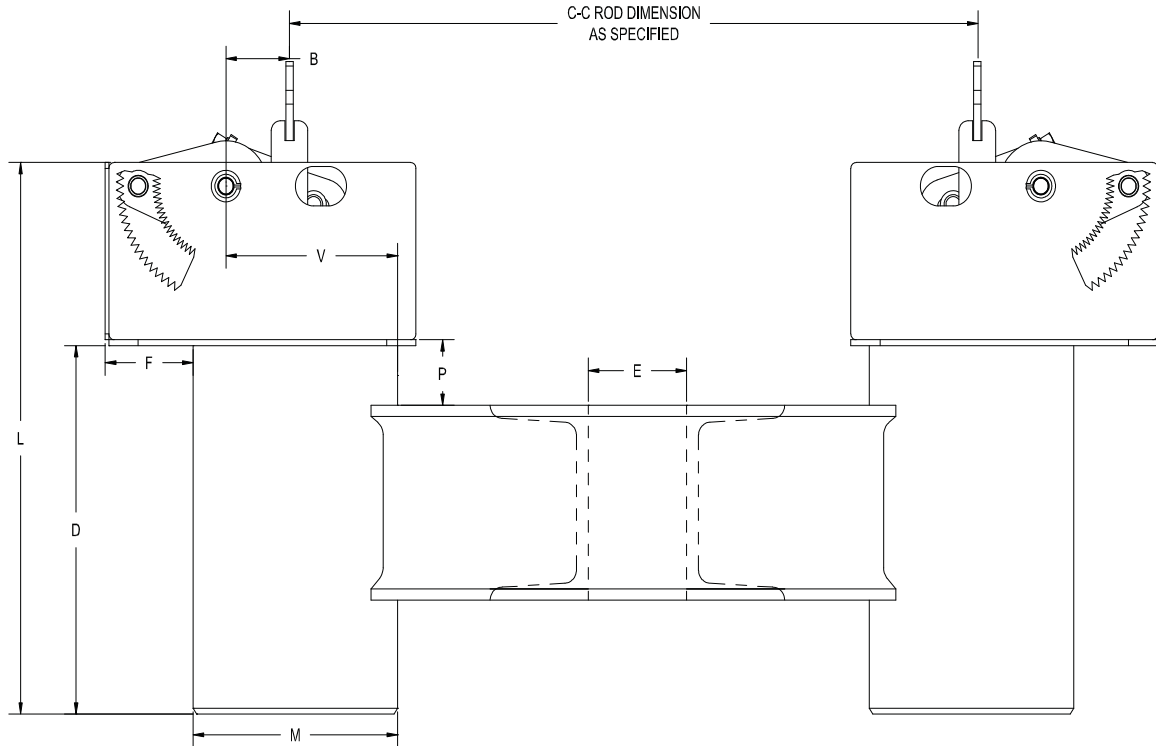
Hanger Sizes	L	C	D	F	I	L	M	X	Y	N	Q	Angle Size	Total Travel (in.)	Factors	A (max.)
10-18	18 7/8	1 1/2	8 7/8	2	-	4 5/16	8 5/8	5/8	8 15/16	6 7/16	1 3/8	1.5 x 1.5 x 1/4	≤ 5	1 7/16	3/4
													>5 1/2	3 3/4	
19-34	28 1/2	13/16	16	2 1/8	-	6 11/16	12 3/4	5/8	11 3/16	8 9/16	1 5/8	1.5 x 1.5 x 1/4	≤ 5	2 13/16	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.

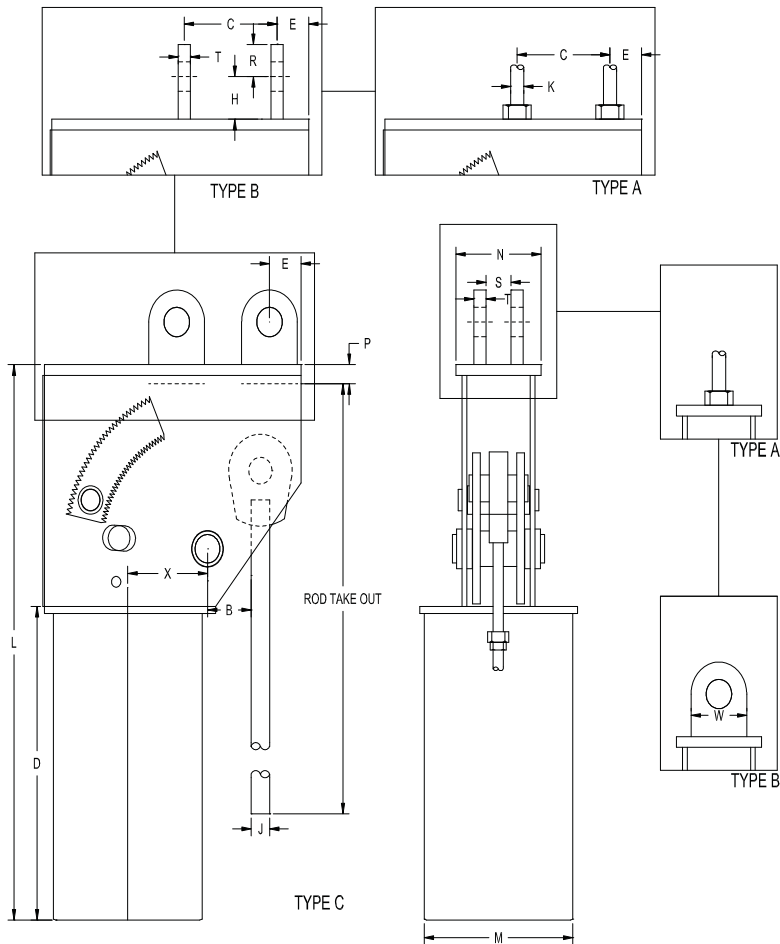
Hanger Sizes	L	D	E	F	M	N	P	Q	V	Y	Channel	C-C	Total Travel (in.)	Factors	A (max.)
10-18	18 7/8	8 7/8	1	2	8 5/8	6 7/8	2 9/16	3 1/2	5 13/16	4	4 @ 5.4	30	≤ 5	11 11/16	3/4
													>5 1/2	14	
19-34	28 1/2	16	1 1/4	2 1/8	12 3/4	8 9/16	3 9/16	4	9	6 1/8	6 @ 10.5	42	≤ 5	16 13/16	1 1/4
													>5 1/2	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

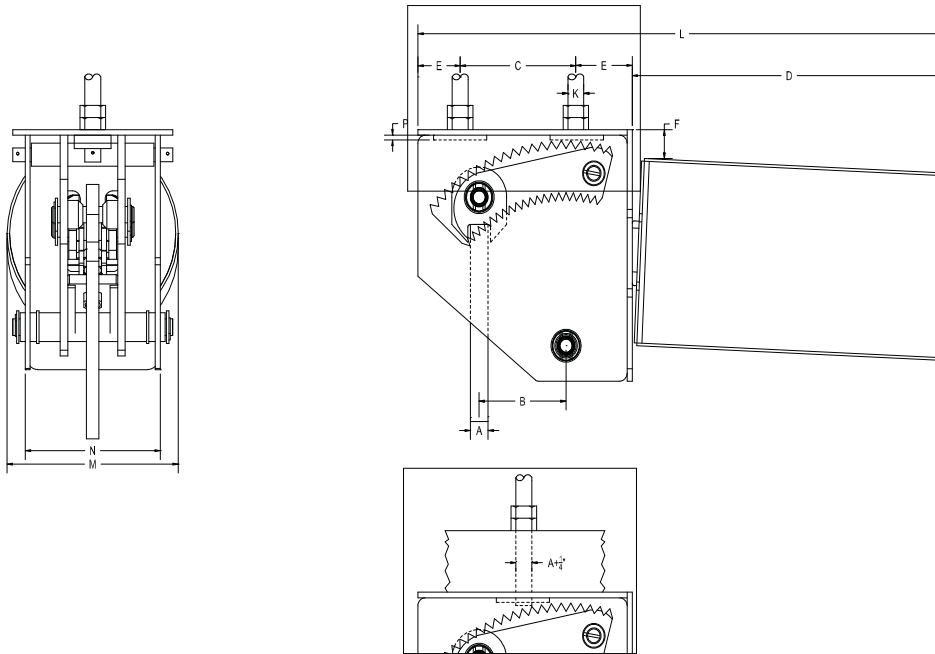


Hanger Sizes	L	C		D	E		H	M	N	P	X	Total Travel (in.)	Factors		A (max.)
		A & B	C		A & B	C							A	B & C	
84-94	78 3/4	16	15	49 3/4	4	4 1/2	6	24	10 1/2	3	12	≤ 9 1/2	45 3/4	54 3/4	3 3/4
												>10	55 1/2	64 1/2	
95-110	100	24	23	64	4	4 1/2	6	24	11 1/2	3 1/2	13 1/2	≤14	56 1/2	66	3 3/4
												>14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

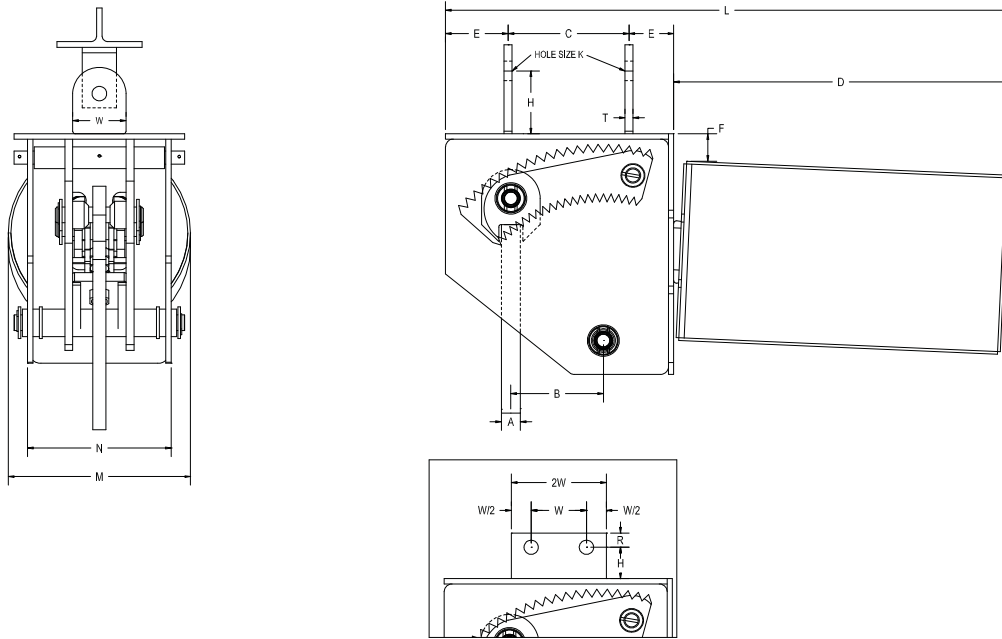
Hanger Sizes	D	E	F	M	N	P	Total Travel (in.)	L	C	Factors	A (max.)
1 - 9	8 7/16	1	7/8	6 1/8	4 1/8	13/16	≤ 4	13 15/16	6	12 3/4	1/2
							>4 1/2	17 15/16	10	15 5/16	
10 - 18	8 7/16	1	1/2	8 5/16	6 7/16	11/16	≤ 5	18 7/16	8	10 7/8	3/4
							>5 1/2	21 7/16	11	13 1/4	
19 - 34	14 7/16	1 1/4	5/8	12 7/16	8 9/16	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 1/4	
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.

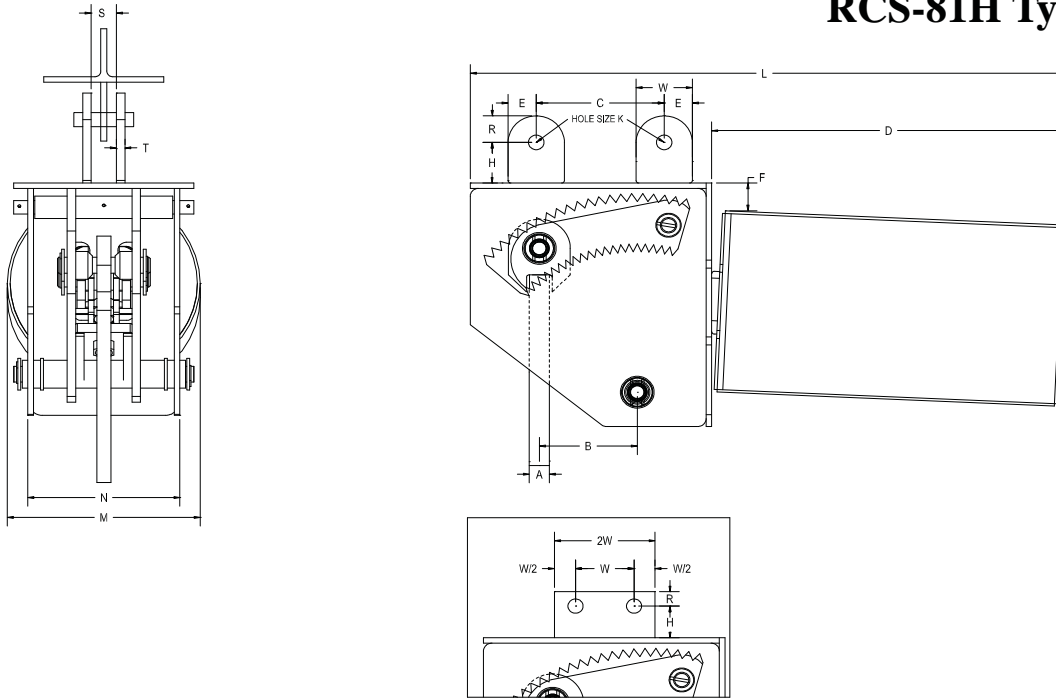
Hanger Sizes	D	E	F	H	M	N	Total Travel (in.)	L	C	Factors	A (max.)
1 - 9	8 7/16	1 1/4	7/8	1 1/2	6 1/8	4 1/8	≤ 4	13 15/16	5 1/2	14 5/8	1/2
							>4 1/2	17 15/16	9 1/2	17 3/16	
10 - 18	8 7/16	1 1/4	1/2	1 1/2	8 5/16	6 7/16	≤ 5	18 7/16	7 1/2	13 1/16	3/4
							>5 1/2	21 7/16	10 1/2	15 7/16	
19 - 34	14 7/16	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.

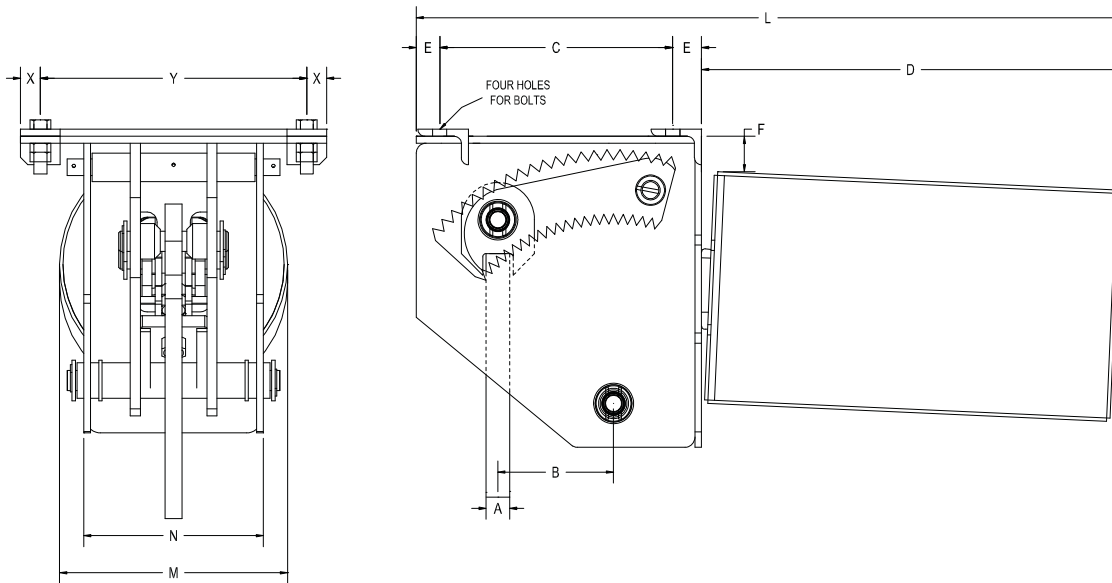
Hanger Sizes	D	E	F	H	M	N	Total Travel (in.)	L	C	Factors	A (max.)
1 - 9	8 7/16	1 1/4	7/8	1 1/2	6 1/8	4 1/8	≤ 4	13 15/16	5 1/2	14 5/8	1/2
							>4 1/2	17 15/16	9 1/2	17 3/16	
10 - 18	8 7/16	1 1/4	1/2	1 1/2	8 5/16	6 7/16	≤ 5	18 7/16	7 1/2	13 1/16	3/4
							>5 1/2	21 7/16	10 1/2	15 7/16	
19 - 34	14 7/16	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
<b>A Rod Size</b>	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**
<b>K-Hole Size</b>	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
<b>R</b>	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
<b>S</b>	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
<b>T</b>	1/4*	1/4*	3/8	1/2	5/8	3/4	3/4		3/4	1	1	1	1
<b>W</b>	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.

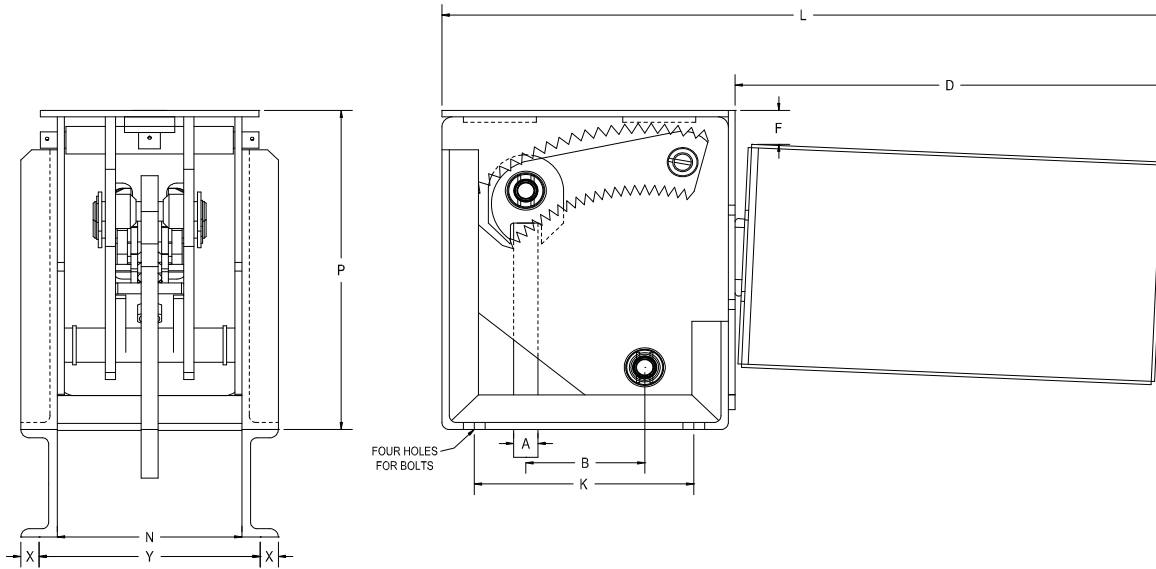
Hanger Sizes	D	E	F	M	N	X	Y	Angle Size	Total Travel (in.)	L	C	Factors	A (max.)
1 - 9	5 15/16	1	7/8	6 1/8	4 1/8	3/4	5 5/8	2 x 2 x 1/4	≤ 4	13 15/16	6	13 3/8	1/2
									>4 1/2	17 15/16	10	15 15/16	
10 - 18	8 7/16	3 1/4	1/2	8 5/16	6 7/16	7/8	8 1/16	1.5 x 1.5 x 1/4	≤ 5	18 7/16	3 1/2	11 13/16	3/4
									>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	Factors	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													

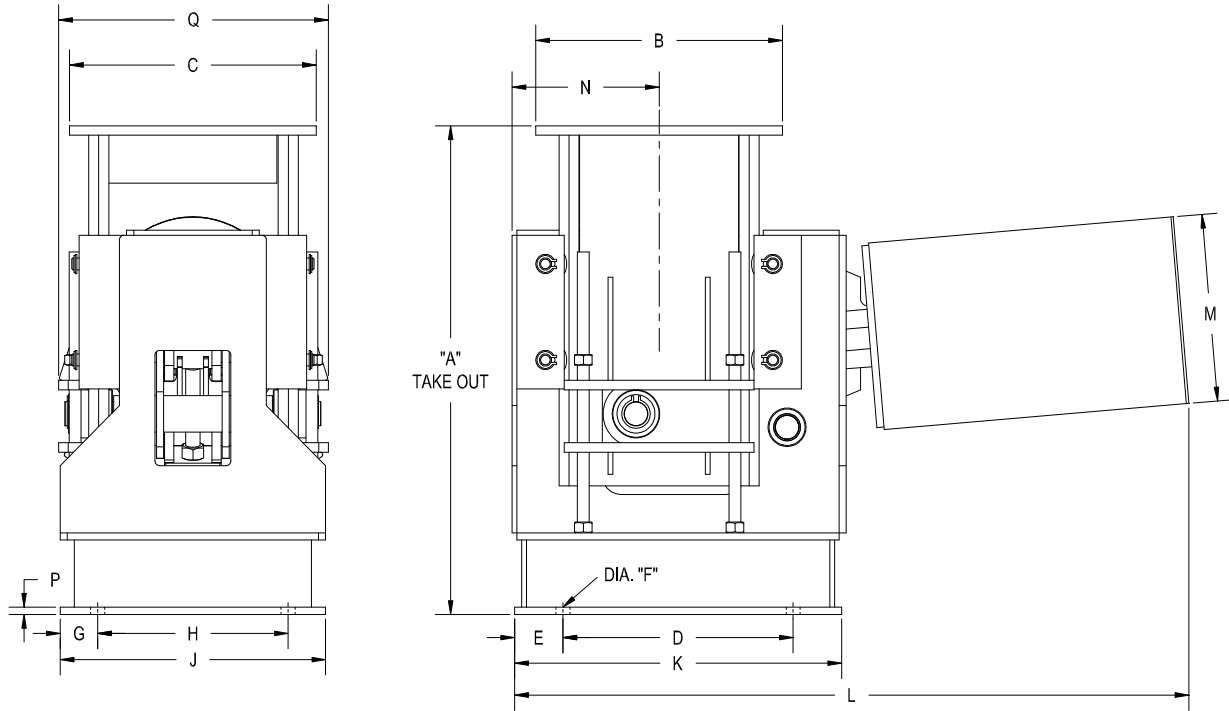
**"A"-Rod Selection Chart**

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 UPTHURST" 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

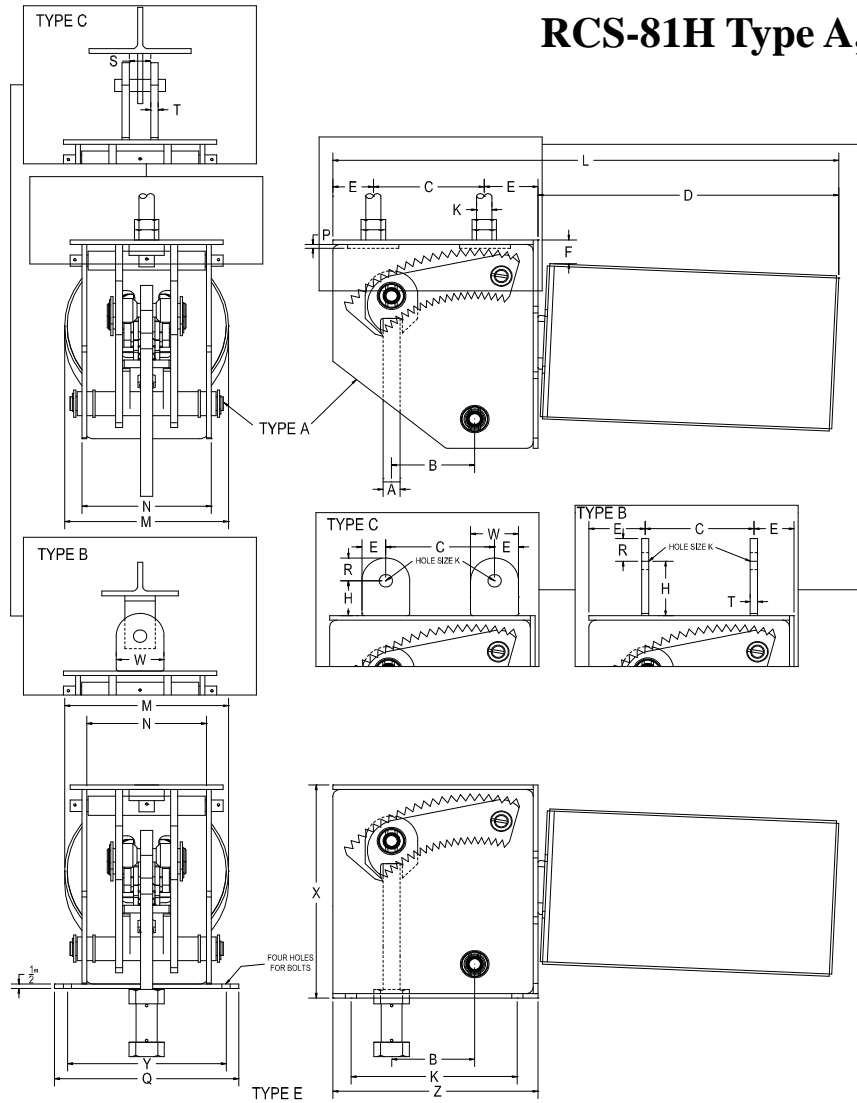
For up travel:  
 Take-out= "A" - (1/2) actual travel

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