



CONSTANT EFFORT SUPPORTS



CONSTANT EFFORT SUPPORTS

GENERAL DESCRIPTION

The C&P USA Constant Effort Support incorporates the latest design concepts to produce a Support which provides an essentially constant supporting effort throughout the total travel of the unit. The robust and simple construction of the well-proven C&P design using a bell-crank lever has been enhanced to include universal locking of the load arm.

With a cylindrical spring housing of substantial construction, and several support configurations to suit the position relative to steelwork and available space, the unit can be installed in many arrangements. The spring housing prevents the ingress of foreign bodies such as construction debris, thus reducing the danger of damage or restriction of the unit's function.

SUPPORT CONFIGURATIONS



Horizontal (e.g. ICA50 L)



Vertical (e.g. ICA51 T)



Vertical Base-Mounted
(ICA51 Y)



Vertical Inverted
(e.g. ICA52 Y)



Vertical Inverted
Base-Mounted
(ICA52 X)



Tandem (ICA52 G)



Horizontal
Base-Mounted
(ICA53)



Horizontal
Compression
Seat (ICA54)



Vertical
Compression
Seat (ICA55)

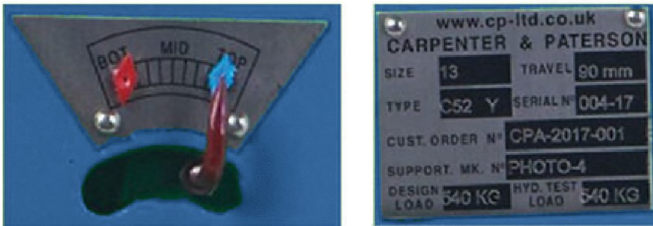
STANDARD DESIGN FEATURES

The standard range of Constant Effort Supports are constructed to accommodate loads between 18 and 74000 lbs with a standard range of travels between 1 9/16" and 2' 0".

Constant Effort Supports are manufactured having maximum deviation of +/-5% of the specified load.

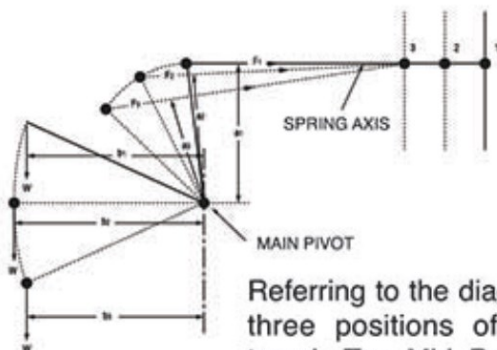
Universal Locking of the load arm is provided as standard.

Upper and lower travel stops are incorporated in all units to prevent excessive overtravel. All Supports are fitted with a clearly visible grade 316 stainless travel scale and name plate (see images below).



The Constant Effort Support is based on a simple mechanical principle:

In order to produce a constant supporting effort, the load moment about the main pivot must be counterbalanced by an equal spring moment throughout the travel range.



Referring to the diagram, take three positions of the load travel - Top, Mid, Bottom - and equate the moments of these points about the Main Pivot.

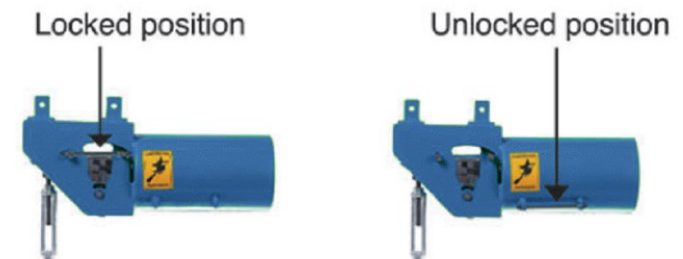
$$\begin{aligned} F_1 a_1 &= W b_1 \\ F_2 a_2 &= W b_2 \\ F_3 a_3 &= W b_3 \\ \frac{F_1 a_1}{b_1} &= \frac{F_2 a_2}{b_2} = \frac{F_3 a_3}{b_3} = W \end{aligned}$$

Maintenance-free PTFE dry bearings are used on all pivoting points, and are totally enclosed (See Maintenance Instructions).

Supports are supplied with hot-dip galvanized finish as standard. Spring coils are supplied plastic-coated as standard. Screw Threads are UNC.

UNIVERSAL LOCKING & INSTALLATION

The universal locking mechanism allows the load arm to be locked in any position for the purpose of hydrostatic test, maintenance and decommissioning. The locking is done at the load arm so that excessive loadings are not transferred to the spring tension rod and spring coil. The threaded rods, which are used for universal locking, are removed once the Support has been installed and are stowed on the side of the spring housing.



All Constant Effort Supports are supplied set at the specified loading and locked in the travel position to accommodate the specified movements. Supports should be installed, and not unlocked until after completion of pipework insulation work and any acid cleaning or hydrostatic test. The Supports are only to be unlocked when the weight of the pipework matches the operating loading. This will ensure that undesirable pipework deflections do not occur as a result of load imbalance e.g. due to weight of water. The standard support designs are capable of carrying loadings of twice the operating load when the supports are locked. The universal locking mechanism enables the supports to be re-locked in any travel position, and hydrostatic testing can be done with the Supports locked in the new position.

CONSTANT EFFORT SUPPORTS

SELECTION

Constant Effort Supports can easily be selected and detailed using our Witch-Hanger program.



Using Witch-Hanger, you can create detailed 2D drawings and full-size 3D images of pipe support assemblies.

To select a Constant Effort Support manually from the catalog, proceed as follows:

First calculate the load and travel that the Support is to accommodate, including weight of pipe, insulation, contents and ancillary support hardware.

It is good practice to add overtravel to the vertical design movement of the pipe.

Recommended Overtravel:

For pipe movements up to 5" : 1"

For pipe movements > 5" : 20% of design movement This should then be rounded up to the next standard travel amount as shown on the selection table on Pages 6 & 7.

To determine the correct size of Constant Effort Support, refer to the selection table and select a Support size to accommodate the calculated load and the total travel. It should be noted that the travel given in the table is the total travel, this being the maximum vertical travel that the unit will accommodate.

When selecting Vertical Constant Effort Supports (Fig. ICA51 only), these should only be selected from the right hand side of the heavy line.

Example:

Actual Load 4000 lbs

Actual Vertical Movement 3 1/2"

Total Travel $3 \frac{1}{2}" + 1" = 4 \frac{1}{2}"$, and choose next standard travel from selection table = $4 \frac{3}{4}"$

From Selection Table

Locate Column for $4 \frac{3}{4}"$ Travel, and look down the column until a load is found which is greater than or equal to 4000 lbs. This reads 4339 lbs.

Then look horizontally along this row to find the Support size in the first column.

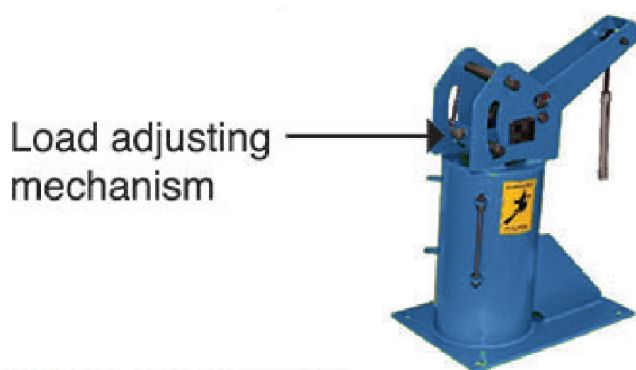
In this example, Support is Size 28.

Staying on the same row in the selection table look to the right and see whether any other loadings also exceed the required load. Here moving one column to the right gives a load of 4006 lbs which exceeds the required load of 4000 lbs. Look at the top of this column to find the actual total travel for the support. This is $5 \frac{1}{8}"$. So selected support is Size 28 with $5 \frac{1}{8}"$ total travel.

Note: For Base-Mounted Constant Effort Supports, Types ICA54 and ICA55, the maximum allowable lateral load is limited to 15% of the vertical load.

LOAD ADJUSTMENT

The Supports are delivered preset to the customer's load and travel requirements. It is sometimes necessary to adjust the preset load due to minor variations in actual site conditions. A simple operation of turning the load adjustment screw in the appropriate direction to increase or decrease the load is all that is necessary (see image below). The amount of adjustment is shown on the adjacent scale, which is calibrated in 2% divisions. The maximum adjustment is +/-20% of the operating load.



SPECIAL RANGE

Special Constant Effort Supports can be designed for higher loadings or travels than are covered by the standard range. Supports can be designed for hydrostatic test load more than twice the operating load. Supports can be supplied with special paint finish or manufactured from corrosion-resistant materials.

ORDERING

When ordering, please specify:-

Number required

Figure No. e.g. ICA50

Support Size

Mounting Type e.g. Type L

Operating Load

Hydrostatic Test Load (if applicable)

Actual Travel and Direction (up or down)

Total Travel

Rod Size and Thread Form if not standard

Finish if not standard

SPECIFICATIONS

C&P USA Constant Effort Supports meet the requirements of the following:-

- U.S. Manufacturers Standardization Society MSS SP-58
- U.S. Manufacturers Standardization Society MSS SP-69
- The ASME Code for Power Piping ASME B31.1
- The ASME Code for Process Piping ASME B31.3
- European Union Pressure Equipment Directive 97/23/EC
- EN 13480 Part 3 Metallic Industrial Piping
- BS1726-1 Cylindrical Helical Springs made from Round Wire and Bar - Part 1: Compression Springs
- EN 13906 Cylindrical Helical Springs made from round wire and bar - Calculation and Design - Part 1: Compression Springs

HANGER ROD AND PIN SIZES

Size Designation		1	2	3	4	6	7	9	10	11	12	13	14	15	16	17
Rod Size / Nominal Pin Size	in	3/8"	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 1/2"	4"
	mm	10	12	16	20	24	30	36	42	48	56	64	72	80	90	100

All items are compatible with C&P USA's ancillary components
Threads UNC

CONSTANT EFFORT SUPPORTS

CONSTANT EFFORT SUPPORT SELECTION TABLE

LOADS IN LBS

Constant Support Size	TOTAL TRAVEL in																												
	1 9/16"	1 15/16"	2 3/8"	2 3/4"	3 1/8"	3 9/16"	3 15/16"	4 5/16"	4 3/4"	5 1/8"	5 1/2"	5 7/8"	6 5/16"	6 11/16"	7 1/16"	7 1/2"	7 7/8"	8 1/4"	8 11/16"	9 1/16"	9 7/16"	9 13/16"	10 1/4"	10 5/8"	11 0/1"	11 7/16"	11 13/16"	1'-0 3/16"	1'-0 5/8"
Min Load	132	106	88	76	66	59	53	48	44	41	38	35	33	31	29	28	26	25	24	23	22	21	20	20	19	18	18		
1	176	141	118	101	88	78	71	64	59	54	50	47	44	41	39	37	35	34	32	31	29	28	27	26	25	24	24		
2	220	176	147	126	110	98	88	80	73	68	63	59	55	52	49	46	44	42	40	38	37	35	34	33	31	30	29		
3	276	220	184	157	138	122	110	100	92	85	79	73	69	65	61	58	55	52	50	48	46	44	42	41	39	38	37		
4	353	282	235	202	176	157	141	128	118	109	101	94	88	83	78	74	71	67	64	61	59	56	54	52	50	49	47		
5	452	362	301	258	226	201	181	164	151	139	129	121	113	106	100	95	90	86	82	79	75	72	70	67	65	62	60		
6	573	459	382	328	287	255	229	208	191	176	164	153	143	135	127	121	115	109	104	100	96	92	88	85	82	79	76		
7	728	582	485	416	364	323	291	265	243	224	208	194	182	171	162	153	146	139	132	127	121	116	112	108	104	100	97	94	91
8	926	741	617	529	463	412	370	337	309	285	265	247	231	218	206	195	185	176	168	161	154	148	142	137	132	128	123	119	116
9	1179	944	786	674	590	524	472	429	393	363	337	315	295	278	262	248	236	225	214	205	197	189	181	175	168	163	157	152	147
10	1499	1199	999	857	750	666	600	545	500	461	428	400	375	353	333	316	300	286	273	261	250	240	231	222	214	207	200	193	187
11	1907	1526	1271	1090	953	848	763	693	636	587	545	509	477	449	424	401	381	363	347	332	318	305	293	283	272	263	254	246	238
12	2414	1931	1609	1379	1207	1073	966	878	805	743	690	644	604	568	536	508	483	460	439	420	402	386	371	358	345	333	322	311	302
13			1815	1556	1361	1210	1089	990	908	838	778	726	681	641	605	573	545	519	495	474	454	436	419	403	389	376	363	351	340
14			2043	1751	1532	1362	1226	1114	1021	943	876	817	766	721	681	645	613	584	557	533	511	490	471	454	438	423	409	395	383
15			2293	1965	1720	1529	1376	1251	1146	1058	983	917	860	809	764	724	688	655	625	598	573	550	529	510	491	474	459	444	430
16			2543	2179	1907	1695	1526	1387	1271	1174	1090	1017	953	897	848	803	763	726	693	663	636	610	587	565	545	526	509	492	477
17			2800	2400	2100	1867	1680	1527	1400	1292	1200	1120	1050	988	933	884	840	800	764	730	700	672	646	622	600	579	560	542	525
18			3182	2727	2386	2121	1909	1736	1591	1469	1364	1273	1193	1123	1061	1005	955	909	868	830	795	764	734	707	682	658	636	616	597
19			3616	3099	2712	2410	2169	1972	1808	1669	1550	1446	1356	1276	1205	1142	1085	1033	986	943	904	868	834	803	775	748	723	700	678
20			3939	3376	2954	2626	2363	2148	1969	1818	1688	1576	1477	1390	1313	1244	1182	1125	1074	1028	985	945	909	875	844	815	788	762	739
21			4284	3672	3213	2856	2571	2337	2142	1977	1836	1714	1607	1512	1428	1353	1285	1224	1168	1118	1071	1028	989	952	918	886	857	829	803
22			4681	4012	3511	3121	2809	2553	2341	2161	2006	1872	1755	1652	1560	1478	1404	1337	1277	1221	1170	1123	1080	1040	1003	969	936	906	878
23			5100	4371	3825	3400	3060	2782	2550	2354	2186	2040	1912	1800	1700	1611	1530	1457	1391	1330	1275	1224	1177	1133	1093	1055	1020	987	956
24			5548	4756	4161	3699	3329	3026	2774	2561	2378	2219	2081	1958	1849	1752	1664	1585	1513	1447	1387	1332	1280	1233	1189	1148	1110	1074	1040
25			6099	5228	4575	4066	3660	3327	3050	2815	2614	2440	2287	2153	2033	1926	1830	1743	1663	1591	1525	1464	1408	1355	1307	1262	1220	1181	1144
26			6731	5770	5049	4488	4039	3672	3366	3107	2885	2693	2524	2376	2244	2126	2019	1923	1836	1756	1683	1616	1553	1496	1442	1393	1346	1303	1262
27				6570	5748	5110	4599	4181	3832	3538	3285	3066	2874	2705	2555	2420	2299	2190	2090	1999	1916	1840	1769	1703	1642	1586	1533	1483	1437
28				7439	6509	5786	5207	4734	4339	4006	3719	3472	3255	3063	2893	2741	2604	2480	2367	2264	2170	2083	2003	1929	1860	1796	1736	1680	1627
29				8126	7110	6320	5688	5171	4740	4375	4063	3792	3555	3346	3160	2994	2844	2709	2585	2473	2370	2275	2188	2107	2031	1961	1896	1835	1777
30				8856	7749	6888	6199	5636	5166	4769	4428	4133	3875	3647	3444	3263	3100	2952	2818	2695	2583	2480	2384	2296	2214	2138	2066	2000	1937
31				9650	8444	7505	6755	6141	5629	5196	4825	4503	4222	3973	3753	3555	3377	3217	3070	2937	2815	2702	2598	2502	2412	2329	2252	2179	2111
32				10525	9210	8186	7368	6698	6140	5668	5263	4912	4605	4334	4093	3878	3684	3508	3349	3203	3070	2947	2834	2729	2631	2541	2456	2377	2302
33				12050	10543	9372	8435	7668	7029	6488	6025	5623	5272	4962	4686	4439	4217	4017	3834	3667	3514	3374	3244	3124	3012	2909	2812	2721	2636
34					10357	9321	8474	7768	7170	6658	6214	5826	5483	5178	4906	4661	4439	4237	4053	3884	3728	3585	3452	3329	3214	3107	3007	2913	
35					11346	10212	9283	8510	7855	7294	6808	6382	6007	5673	5375	5106	4863	4642	4440	4255	4085	3928	3782	3647	3521	3404	3294	3191	
36					12899	11609	10554	9675	8930	8292	7740	7256	6829	6450	6110	5805	5528	5277	5048	4837	4644	4465	4300	4146	4003	3870	3745	3628	
37					14678	13210	12009	11008	10162	9436	8807	8256	7771	7339	6953	6605	6290	6005	5743	5504	5284	5081	4893	4718	4555	4403	4261	4128	
38					16000	14400	13091	12																					

CONSTANT EFFORT SUPPORT SELECTION TABLE

LOADS IN LBS

Constant Support Size	TOTAL TRAVEL in																												
	1'-1"	1'-1 3/8"	1'-1 3/4"	1'-2 3/16"	1'-2 9/16"	1'-2 15/16"	1'-3 3/8"	1'-3 3/4"	1'-4 1/8"	1'-4 9/16"	1'-4 15/16"	1'-5 5/16"	1'-5 11/16"	1'-6 1/8"	1'-6 1/2"	1'-6 7/8"	1'-7 5/16"	1'-7 11/16"	1'-8 1/16"	1'-8 1/2"	1'-8 7/8"	1'-9 1/4"	1'-9 5/8"	1'-10 1/16"	1'-10 7/16"	1'-10 13/16"	1'-11 1/4"	1'-11 5/8"	2'-0"
Min Load																													
1																													
2																													
3																													
4																													
5																													
6																													
7	88	86	83	81	79	77	75	73	71	69																			
8	112	109	106	103	100	97	95	93	90	88																			
9	143	139	135	131	128	124	121	118	115	112																			
10	182	176	171	167	162	158	154	150	146	143																			
11	231	224	218	212	206	201	196	191	186	182																			
12	293	284	276	268	261	254	248	241	236	230																			
13	330	320	311	303	294	287	279	272	266	259																			
14	371	361	350	340	331	323	314	306	299	292																			
15	417	405	393	382	372	362	353	344	336	328																			
16	462	449	436	424	412	401	391	381	372	363																			
17	509	494	480	467	454	442	431	420	410	400																			
18	579	562	545	530	516	502	490	477	466	455																			
19	657	638	620	603	586	571	556	542	529	517	504	493	482	472	462	452	443	434											
20	716	695	675	656	639	622	606	591	576	563	550	537	525	514	503	492	482	473											
21	779	756	734	714	695	676	659	643	627	612	598	584	571	559	547	536	525	514											
22	851	826	802	780	759	739	720	702	685	669	653	638	624	611	598	585	573	562											
23	927	900	874	850	827	805	785	765	746	729	712	695	680	665	651	637	624	612											
24	1009	979	951	925	900	876	854	832	812	793	774	757	740	724	708	694	679	666											
25	1109	1076	1046	1017	989	963	938	915	893	871	851	832	813	796	779	762	747	732											
26	1224	1188	1154	1122	1092	1063	1036	1010	985	962	939	918	898	878	859	841	824	808											
27	1394	1353	1314	1277	1243	1210	1179	1150	1122	1095	1069	1045	1022	1000	978	958	939	920											
28	1578	1532	1488	1446	1407	1370	1335	1302	1270	1240	1211	1183	1157	1132	1108	1085	1063	1041											
29	1724	1673	1625	1580	1537	1497	1458	1422	1387	1354	1323	1293	1264	1236	1210	1185	1161	1138											
30	1879	1823	1771	1722	1675	1631	1590	1550	1512	1476	1442	1409	1378	1348	1319	1292	1265	1240											
31	2047	1987	1930	1876	1826	1778	1732	1689	1648	1608	1571	1535	1501	1468	1437	1407	1379	1351											
32	2233	2167	2105	2047	1991	1939	1889	1842	1797	1754	1713	1674	1637	1602	1568	1535	1504	1474											
33	2556	2481	2410	2343	2280	2220	2163	2109	2057	2008	1962	1917	1874	1834	1795	1757	1721	1687											
34	2825	2741	2663	2589	2519	2453	2390	2330	2273	2219	2168	2118	2071	2026	1983	1942	1902	1864	1828	1793	1759	1726	1695	1664	1635	1607	1580	1554	1528
35	3094	3003	2918	2837	2760	2687	2618	2553	2491	2431	2375	2321	2269	2220	2173	2127	2084	2042	2002	1964	1927	1891	1857	1824	1792	1761	1731	1702	1674
36	3518	3415	3317	3225	3138	3055	2977	2902	2832	2764	2700	2639	2580	2524	2470	2419	2369	2322	2276	2233	2190	2150	2111	2073	2037	2002	1968	1935	1903
37	4003	3885	3774	3669	3570	3476	3387	3302	3222	3145	3072	3002	2936	2872	2811	2752	2696	2642	2590	2540	2492	2446	2402	2359	2318	2278	2239	2202	2166
38	4364	4235	4114	4000	3892	3790	3692	3600	3512	3429	3349	3273	3200	3131	3064	3000	2939	2880	2824	2769	2717	2667	2618	2572	2526	2483	2441	2400	2361
39	4757	4617	4485	4360	4242	4131	4025	3924	3828	3737	3650	3567	3488	3412	3340	3270	3203	3139	3078	3019	2962	2907	2854	2803	2754	2706	2660	2616	2573
40	5188	5036	4892	4756	4627	4506	4390	4280	4176	4076	3982	3891	3805	3722	3643	3567	3494	3424	3357	3292	3230	3171	3113	3057	3004	2952	2902	2853	2807
41	5649	5483	5326	5178	5038	4906	4780	4661	4547	4439	4335	4237	4143	4053	3966	3884	3805	3728	3655	3585	3517	3452	3389	3329	3271	3214	3160	3107	3056
42	6189	6007	5835	5673	5520	5375	5237	5106	4981	4863	4750	4642	4539	4440	4345	4255	4168	4085	4005	3928	3853	3782	3713	3647	3583	3521	3462	3404	3348
43	7035	6828	6633	6448	6274	6109	5952	5804	5662	5527	5399	5276	5159	5047	4939	4836	4738	4643	4552	4464	4380	4299	4221	4145	4073	4002	3935	3869	3806
44	8005	7769	7547	7338	7139	6951	6773	6604	6443	6289	6143	6004	5870	5743	5620	5503	5391	5283	5180	5080	4984	4892	4803	4717	4634	4554	4477	4403	4330
45	8729	8472	8230	8001	7785	7580	7386	7201	7026	6858	6699	6547	6401	6262	6129	6001	5879	5761	5648	5539	5435	5334	5237	5144	5054	4966	4882	4801	4722
46	9513																												

HANGER ROD SIZE DESIGNATIONS (SIZE C)

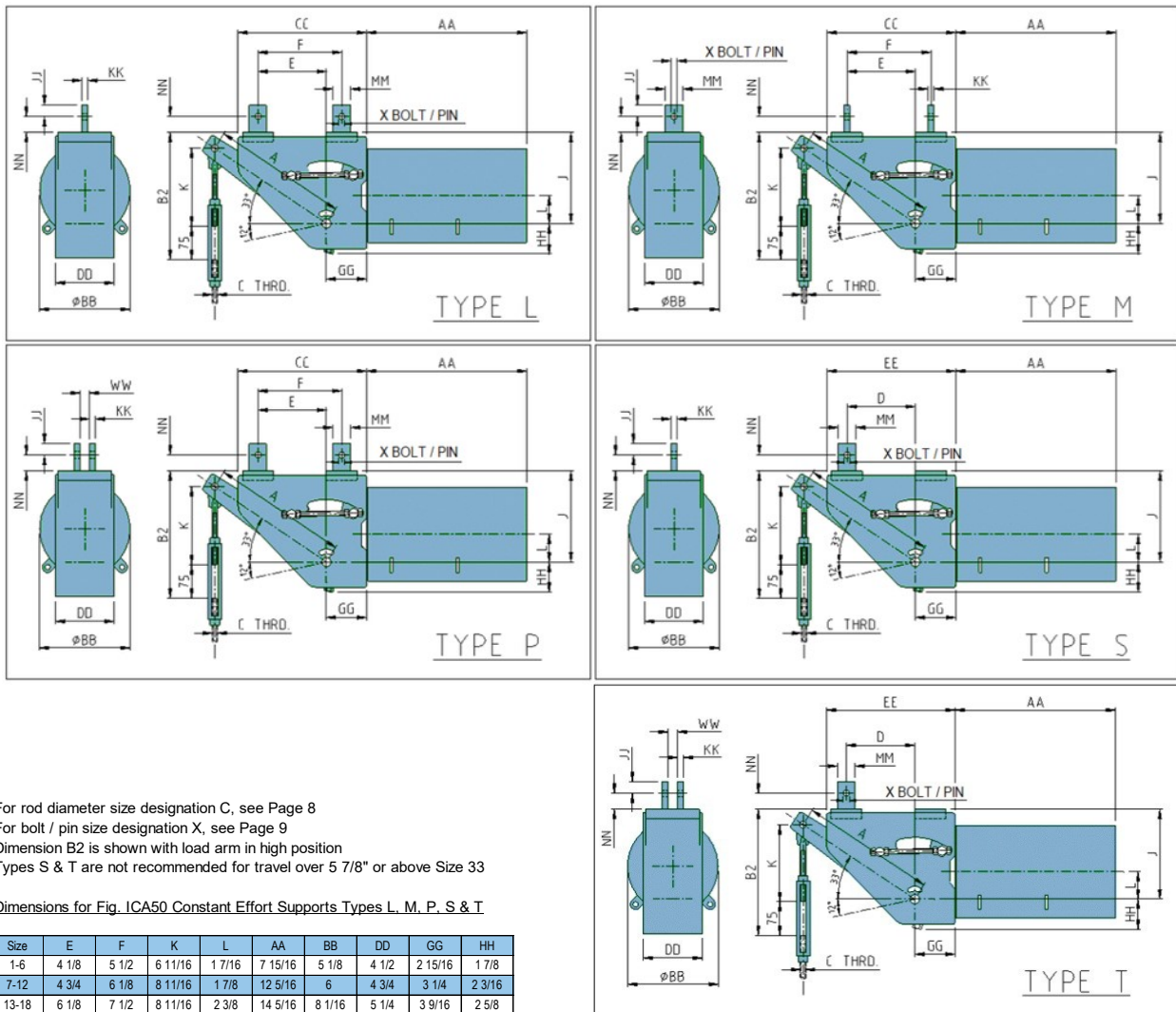
For actual sizes, refer to Page 5. Thread Form UNC

TOP SUSPENSION SIZE DESIGNATIONS (DIAMETER X) BOLT, PIN OR ROD

[illegible]

CONSTANT EFFORT SUPPORTS

Constant Effort Supports Fig. ICA50 Types L, M, P, S & T



For rod diameter size designation C, see Page 8

For bolt / pin size designation X, see Page 9

Dimension B2 is shown with load arm in high position

Types S & T are not recommended for travel over 5 7/8" or above Size 33

Dimensions for Fig. ICA50 Constant Effort Supports Types L, M, P, S & T

Size	E	F	K	L	AA	BB	DD	GG	HH
1-6	4 1/8	5 1/2	6 11/16	1 7/16	7 15/16	5 1/8	4 1/2	2 15/16	1 7/8
7-12	4 3/4	6 1/8	8 11/16	1 7/8	12 5/16	6	4 3/4	3 1/4	2 3/16
13-18	6 1/8	7 1/2	8 11/16	2 3/8	14 5/16	8 1/16	5 1/4	3 9/16	2 5/8
19-26	7 1/2	9 7/16	10 1/4	2 13/16	18 5/16	9 3/4	5 7/8	4 5/8	2 11/16
27-33	9 1/4	11 13/16	10 1/4	3 1/2	25 3/16	11 7/16	7 1/8	5 13/16	3 11/16
34-39	11 7/16	14 3/8	11 13/16	4 1/4	29 15/16	14 1/16	8 7/8	6 5/8	4 7/16
40-47	14	17 15/16	13 3/8	6 1/8	40 3/8	18 3/16	11 1/16	8 9/16	5 3/8
48-58	13 3/8	18 7/8	15 3/4	7 7/8	44 3/8	22 9/16	13 3/16	11 1/8	7 3/16
59-66	14 15/16	22 1/16	15 3/4	8 7/8	69 3/8	24 5/8	17 1/2	12	8 7/16

Dimensions of Suspension Lugs

Size	2	3	4	6	7	9	10	11	12	13	14	15	16
Ø Hole	9/16	11/16	7/8	1	1 1/4	1 1/2	1 3/4	2	2 3/8	2 11/16	3	3 5/16	3 11/16
JJ	1	1	1 3/16	1 9/16	1 3/4	2 3/8	2 3/4	3 1/8	3 9/16	3 15/16	4 5/16	5 1/8	5 1/2
KK	1/4	1/4	3/8	3/8	1/2	9/16	9/16	13/16	13/16	13/16	1	1	1 3/16
MM	1 9/16	1 15/16	1 15/16	2 3/4	3 1/8	3 15/16	4 3/4	5 1/8	5 7/8	6 11/16	7 1/16	8 11/16	8 11/16
NN	1 3/8	1 9/16	1 3/4	2 3/4	2 3/8	2 15/16	3 9/16	3 15/16	4 1/8	4 1/2	4 15/16	5 11/16	6 5/16
WW	1 3/16	1 3/16	1 3/8	1 9/16	1 15/16	2 15/16	2 3/4	2 15/16	3 3/8	3 9/16	3 15/16	4 5/16	4 3/4

Dimensions J, CC & EE

Size	Travel 1 9/16 - 5 1/2			Travel 5 7/8 - 8 11/16			Travel 9 1/16 - 11 13/16			Travel 12 3/16 - 14 3/16			Travel 14 9/16 - 16 9/16			Travel 16 15/16 - 19 11/16			Travel 20 1/16 - 24		
	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE
1-6	5 1/2	7 13/16	9 3/16	7 1/2	7 13/16	9 3/16	9 13/16	7 13/16	-	-	-	-	-	-	-	-	-	-	-	-	-
7-12	6 11/16	9 1/8	10 5/16	7 5/8	9 1/8	10 11/16	9 13/16	9 1/8	-	11 9/16	9 1/8	-	13 1/4	9 1/8	-	-	-	-	-	-	-
13-18	7 13/16	11 7/16	11 7/16	7 13/16	11 7/16	11 7/16	10	11 1/8	-	11 11/16	11 1/8	-	13 7/16	11 1/8	-	-	-	-	-	-	-
19-26	9 5/8	13 11/16	13 11/16	9 5/8	13 11/16	13 11/16	10 3/8	13 11/16	-	11 7/8	13 11/16	-	13 9/16	13 11/16	-	15 7/8	13 11/16	-	-	-	-
27-33	12 1/16	17 3/16	17 3/16	12 1/16	17 3/16	17 3/16	12 1/16	17 3/16	-	12 1/16	17 3/16	-	13 11/16	17 3/16	-	15 15/16	17 3/16	-	-	-	-
34-39	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	16 5/16	20 1/2	-	19 7/16	20 1/2	-
40-47	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	20 1/16	24 13/16	-
48-58	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-
59-66	-	-	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-

Weights lbs

Size	Approx Weight	Size	Approx Weight	Size	Approx Weight
1-4	29	27-28	273	45-47	1210
5-6	29	29-31	298	48-49	1590
7-9	44	32-33	328	50-52	1760
10-12	49	34-35	507	53-55	1870
13-16	79	36-37	551	56-58	2470
17-18	88	38-39	595	59-62	4120
19-22	141	40-42	970	63-66	4610
23-26	157	43-44	1080		

Constant Effort Supports Fig. ICA50 Types L, M, P, S & T

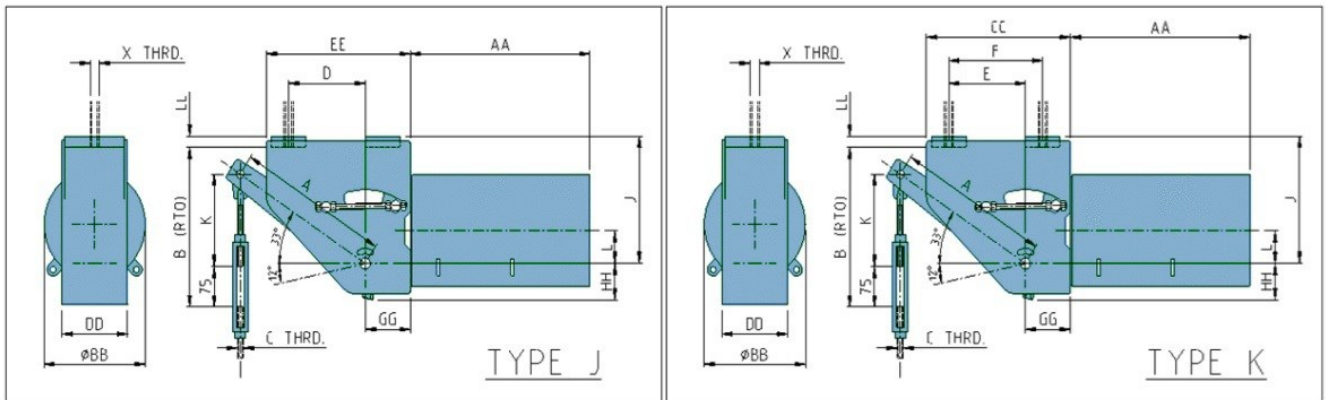


ICA50 Type L

=>	1-6				7-12				13-18				19-26				27-33				34-39				40-47				48-58				59-66			
A	B2	LL	D	B2	LL	D	B2	LL	D	B2	LL	D	B2	LL	D	B2	LL	D	B	LL	B2	LL	B2	LL	B2	LL	B2	LL	B2	LL						
2 1/8	14	9/16	1 3/4	17 3/16	13/16																															
2 5/8	13 3/4	9/16	2 3/16	16 7/8	13/16																															
3 1/8	13 7/16	9/16	2 9/16	16 9/16	13/16	2 11/16	17 11/16	13/16	2 11/16	21 1/8	1 3/16	2 11/16																								
3 11/16	13 1/8	9/16	2 15/16	16 5/16	13/16	3 1/8	17 3/8	13/16	3 1/8	20 13/16	1 3/16	3 1/8	23 1/4	1 9/16	3 1/16																					
4 3/16	12 7/8	9/16	3 3/8	16	13/16	3 9/16	17 1/8	13/16	3 9/16	20 9/16	1 3/16	3 9/16	23	1 9/16	3 7/16																					
4 3/4	12 5/8	9/16	3 3/4	15 3/4	13/16	4	16 7/8	13/16	4	20 1/4	1 3/16	4	22 11/16	1 9/16	3 7/8	26 3/8	1 9/16																			
5 1/4	12 5/16	9/16	4 1/8	15 1/2	13/16	4 7/16	16 9/16	13/16	4 7/16	20	1 3/16	4 3/8	22 7/16	1 9/16	4 5/16	26 1/8	1 9/16																			
5 13/16	12	9/16	4 7/16	15 3/16	13/16	4 13/16	16 1/4	13/16	4 13/16	19 11/16	1 3/16	4 13/16	22 1/8	1 9/16	4 3/4	25 13/16	1 9/16	31 1/2	1 15/16	39 9/16	3 1/8															
6 5/16	11 3/4	9/16	4 13/16	14 7/8	13/16	5 1/4	16	13/16	5 1/4	19 7/16	1 3/16	5 1/4	21 7/8	1 9/16	5 1/8	25 1/2	1 9/16	31 1/4	1 15/16	39 5/16	3 1/8															
6 13/16	11 7/16	9/16	5 3/16	14 5/8	13/16	5 11/16	15 11/16	13/16	5 11/16	19 1/8	1 3/16	5 5/8	21 9/16	1 9/16	5 9/16	25 1/4	1 9/16	30 15/16	1 15/16	39	3 1/8															
7 3/8	11 1/8	9/16	5 1/2	14 5/16	13/16	6 1/16	15 3/8	13/16	6 1/16	18 13/16	1 3/16	6 1/16	21 1/4	1 9/16	5 15/16	24 15/16	1 9/16	30 5/8	1 15/16	38 11/16	3 1/8															
7 7/8	12 7/8	9/16	5 7/8	14 15/16	13/16	6 7/16	15 1/8	13/16	6 1/2	18 9/16	1 3/16	6 7/16	21	1 3/16	6 5/16	24 5/8	1 9/16	30 3/8	1 15/16	38 7/16	3 1/8	41 15/16	3 1/8													
8 3/8	12 5/8	9/16		14 5/8	13/16		14 13/16	13/16		18 1/4	1 3/16		20 11/16	1 3/16		24 3/8	1 9/16	30 1/16	1 15/16	38 1/8	3 1/8	41 11/16	3 1/8													
8 7/8	12 5/16	9/16		14 3/8	13/16		14 9/16	13/16		18	1 3/16		20 7/16	1 3/16		24 1/8	1 9/16	29 13/16	1 15/16	37 7/8	3 1/8	41 7/16	3 1/8													
9 7/16	12	9/16		14 1/16	13/16		14 1/4	13/16		17 11/16	1 3/16		20 1/8	1 3/16		23 3/4	1 9/16	29 1/2	1 15/16	37 9/16	3 1/8	41 1/8	3 1/8													
9 15/16	11 3/4	9/16		13 3/4	13/16		14	13/16		17 3/8	1 3/16		19 13/16	1 3/16		23 1/2	1 9/16	29 3/16	1 15/16	37 5/16	3 1/8	40 13/16	3 1/8													
10 1/2	11 7/16	9/16		13 1/2	13/16		13 11/16	13/16		17 1/8	1 3/16		19 9/16	1 3/16		23 1/4	1 9/16	28 15/16	1 15/16	37	3 1/8	40 9/16	3 1/8													
11	11 3/16	9/16		13 1/4	13/16		13 7/16	13/16		16 7/8	1 3/16		19 5/16	1 3/16		22 15/16	1 9/16	28 11/16	1 15/16	36 3/4	3 1/8	40 1/4	3 1/8													
11 9/16	10 7/8	9/16		12 15/16	13/16		13 1/8	13/16		16 9/16	1 3/16		19	1 3/16		22 5/8	1 9/16	28 3/8	1 15/16	36 7/16	3 1/8	39 15/16	3 1/8													
12 1/16	12 7/8	9/16		14 7/8	13/16		15 1/16	13/16		16 15/16	1 3/16		18 11/16	1 3/16		22 3/8	1 9/16	28 1/16	1 9/16	36 1/8	2 3/8	39 11/16	3 1/8													
12 9/16	12 5/8	9/16		14 5/8	13/16		14 3/4	13/16		16 11/16	1 3/16		18 7/16	1 3/16		22 1/16	1 9/16	27 13/16	1 9/16	35 7/8	2 3/8	39 7/16	3 1/8													
13 1/8	12 5/16	9/16		14 5/16	13/16		14 1/2	13/16		16 7/16	1 3/16		18 1/8	1 3/16		21 13/16	1 9/16	27 1/2	1 9/16	35 9/16	2 3/8	39 1/8	3 1/8													
13 5/8	12 1/16	9/16		14 1/16	13/16		14 3/16	13/16		16 1/8	1 3/16		17 7/8	1 3/16		21 9/16	1 9/16	27 1/4	1 9/16	35 5/16	2 3/8	38 7/8	3 1/8													
14 1/8	11 3/4	9/16		13 3/4	13/16		13 7/8	13/16		15 13/16	1 3/16		17 9/16	1 3/16		21 1/4	1 9/16	26 15/16	1 9/16	35	2 3/8	38 9/16	3 1/8													
14 11/16	11 7/16	9/16		13 7/16	13/16		13 5/8	13/16		15 9/16	1 3/16		17 5/16	1 3/16		20 15/16	1 9/16	26 5/8	1 9/16	34 3/4	2 3/8	38 1/4	3 1/8													
15 3/16	11 3/16	9/16		13 3/16	13/16		13 3/8	13/16		15 1/4	1 3/16		17	1 3/16		20 11/16	1 9/16	26 3/8	1 9/16	34 7/16	2 3/8	38	3 1/8													
15 11/16	10 7/8	9/16		12 15/16	13/16		13 1/16	13/16		15	1 3/16		16 3/4	1 3/16		20 3/8	1 9/16	26 1/8	1 9/16	34 3/16	2 3/8	37 11/16	3 1/8													
16 1/4				14 3/8	13/16		14 1/2	13/16		16 1/4	1 3/16		16 7/16	1 3/16		20 1/8	1 9/16	25 13/16	1 9/16	33 7/8	1 15/16	37 7/16	3 1/8													
16 3/4				14 1/16	13/16		14 3/16	13/16		15 7/8	1 3/16		16 1/8	1 3/16		19 13/16	1 9/16	25 1/2	1 9/16	33 9/16	1 15/16	37 1/8	3 1/8													
17 5/16				13 3/4	13/16		13 7/8	13/16		15 5/8	1 3/16		15 7/8	1 3/16		19 1/2	1 9/16	25 1/4	1 9/16	33 5/16	1 15/16	36 7/8	3 1/8													
17 13/16				13 1/2	13/16		13 5/8	13/16		15 3/8	1 3/16		15 9/16	1 3/16		19 1/4	1 9/16	24 15/16	1 9/16	33 1/16	1 15/16	36 9/16	3 1/8													
18 3/8				13 3/16	13/16		13 5/16	13/16		15 1/16	1 3/16		15 1/4	1 3/16		18 15/16	1 9/16	24 5/8	1 9/16	32 11/16	1 15/16	36 1/4	3 1/8													
18 7/8				12 15/16	13/16		13 1/16	13/16		14 3/4	1 3/16		15	1 3/16		18 11/16	1 9/16	24 3/8	1 9/16	32 7/16	1 15/16	36	3 1/8													
19 3/8				14 5/16	13/16		14 1/2	13/16		16 1/4	1 3/16		16 5/16	1 3/16		18 3/8	1 9/16	24 1/8	1 9/16	32 3/16	1 15/16	35 11/16	2 3/8													
19 7/8				14 1/16	13/16		14 3/16	13/16		15 15/16	1 3/16		16 1/16	1 3/16		18 1/8	1 9/16	23 13/16	1 9/16	31 7/8	1 15/16	35 7/16	2 3/8													
20 7/16				13 3/4	13/16		13 7/8	13/16		15 5/8	1 3/16		15 3/4	1 3/16		17 13/16	1 9/16	23 1/2	1 9/16	31 9/16	1 15/16	35 1/8	2 3/8													
20 15/16				13 7/16	13/16		13 5/8	13/16		15 3/8	1 3/16		15 1/2	1 3/16		17 1/2	1 9/16	23 1/4	1 9/16	31 5/16	1 15/16	34 13/16	2 3/8													
21 7/16				13 3/16	13/16		13 3/8	13/16		15 1/16	1 3/16		15 3/16	1 3/16		17 1/4	1 9/16	22 15/16	1 9/16	31	1 15/16	34 9/16	2 3/8													
22				12 15/16	13/16		13 1/16	13/16		14 13/16	1 3/16		14 15/16	1 3/16		16 15/16	1 9/16	22 11/16	1 9/16	30 3/4	1 15/16	34 5/16	2 3/8													
22 1/2										16 3/4	1 3/16		16 7/8	1 3/16		18 3/4	1 9/16	22 3/8	1 9/16	30 7/16	1 15/16	34	2 3/8													
23 1/16										16 1/2	1 3/16		16 9/16	1 3/16		18 1/2	1 9/16	22 1/16	1 9/16	30 3/16	1 15/16	33 11/16	2 3/8													
23 9/16										16 1/4	1 3/16		16 5/16	1 3/16		18 1/4	1 9/16	21 13/16	1 9/16	29 7/8	1 15/16	33 7/16	2 3/8													
24 1/8										15 15/16	1 3/16		16	1 3/16		17 15/16	1 9/16	21 9/16	1 9/16	29 5/8	1 15/16	33 1/8	2 3/8													
24 5/8										15 11/16	1 3/16		15 3/4	1 3/16		17 11/16	1 9/16	21 1/4	1 9/16	29 5/16	1 15/16	32 7/8	2 3/8													
25 1/8									</																											

CONSTANT EFFORT SUPPORTS

Constant Effort Supports Fig. ICA50 Types J & K



For rod diameter size designation C, see Page 8

For top connection size designation X, see Page 9

Rod Take Out (B) is shown with load arm in high position

Type J is not recommended for travel over 5 7/8" or above Size 33

Dimensions for Fig. ICA50 Constant Effort Supports Types J & K

Size	E	F	K	L	AA	BB	DD	GG	HH
1-6	4 1/8	5 1/2	6 11/16	1 7/16	7 15/16	5 1/8	4 1/2	2 15/16	1 7/8
7-12	4 3/4	6 1/8	8 11/16	1 7/8	12 5/16	6	4 3/4	3 1/4	2 3/16
13-18	6 1/8	7 1/2	8 11/16	2 3/8	14 5/16	8 1/16	5 1/4	3 9/16	2 5/8
19-26	7 1/2	9 7/16	10 1/4	2 13/16	18 5/16	9 3/4	5 7/8	4 5/8	2 11/16
27-33	9 1/4	11 13/16	10 1/4	3 1/2	25 3/16	11 7/16	7 1/8	5 13/16	3 11/16
34-39	11 7/16	14 3/8	11 13/16	4 1/4	29 15/16	14 1/16	8 7/8	6 5/8	4 7/16
40-47	14	17 15/16	13 3/8	6 1/8	40 3/8	18 3/16	11 1/16	8 9/16	5 3/8
48-58	13 3/8	18 7/8	15 3/4	7 7/8	44 3/8	22 9/16	13 3/16	11 1/8	7 3/16
59-66	14 15/16	22 1/16	15 3/4	8 7/8	69 3/8	24 5/8	17 1/2	12	8 7/16

Dimensions J, CC & EE

Size	Travel 1 9/16 - 5 1/2			Travel 5 7/8 - 8 11/16			Travel 9 1/16 - 11 13/16			Travel 12 3/16 - 14 3/16			Travel 14 9/16 - 16 9/16			Travel 16 15/16 - 19 11/16			Travel 20 1/16 - 24		
	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE
1-6	5 1/2	7 13/16	9 3/16	7 1/2	7 13/16	9 3/16	9 13/16	7 13/16	-	-	-	-	-	-	-	-	-	-	-	-	-
7-12	6 11/16	9 1/8	10 5/16	7 5/8	9 1/8	10 11/16	9 13/16	9 1/8	-	11 9/16	9 1/8	-	13 1/4	9 1/8	-	-	-	-	-	-	-
13-18	7 13/16	11 7/16	11 7/16	7 13/16	11 7/16	11 7/16	10	11 1/8	-	11 11/16	11 1/8	-	13 7/16	11 1/8	-	-	-	-	-	-	-
19-26	9 5/8	13 11/16	13 11/16	9 5/8	13 11/16	13 11/16	10 3/8	13 11/16	-	11 7/8	13 11/16	-	13 9/16	13 11/16	-	15 7/8	13 11/16	-	-	-	-
27-33	12 1/16	17 3/16	17 3/16	12 1/16	17 3/16	17 3/16	12 1/16	17 3/16	-	12 1/16	17 3/16	-	13 11/16	17 3/16	-	15 15/16	17 3/16	-	-	-	-
34-39	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	16 5/16	20 1/2	-	19 7/16	20 1/2	-
40-47	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	20 1/16	24 13/16	-
48-58	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-
59-66	-	-	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-

Weights lbs

Size	Approx Weight
1-4	29
5-6	29
7-9	44
10-12	49
13-16	79
17-18	88
19-22	141
23-26	157

Size	Approx Weight
27-28	273
29-31	298
32-33	328
34-35	507
36-37	551
38-39	595
40-42	970
43-44	1080

Size	Approx Weight
45-47	1210
48-49	1590
50-52	1760
53-55	1870
56-58	2470
59-62	4120
63-66	4610

Constant Effort Supports Fig. ICA50 Types J & K

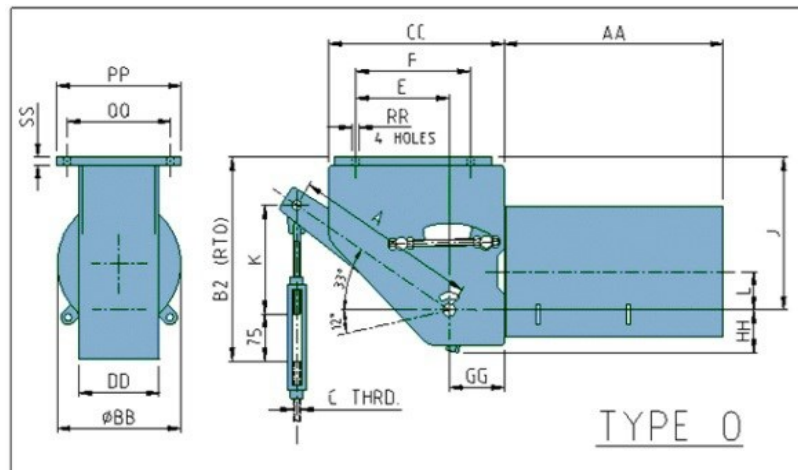


ICA50 Type K

Size	=>	1-6				7-12				13-18				19-26				27-33				34-39				40-47				48-58				59-66			
Travel	A	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	B	LL	B	LL	B	LL	B	LL	B	LL						
19/16	2 1/8	13 7/16	9/16	1 3/4	16 3/8	13/16																															
1 15/16	2 5/8	13 1/8	9/16	2 3/16	16 1/8	13/16																															
2 3/8	3 1/8	12 13/16	9/16	2 9/16	15 13/16	13/16	2 11/16	16 7/8	13/16	2 11/16	19 15/16	1 3/16	2 11/16																								
2 3/4	3 11/16	12 9/16	9/16	2 15/16	15 1/2	13/16	3 1/8	16 5/8	13/16	3 1/8	19 5/8	1 3/16	3 1/8	21 11/16	1 9/16	3 1/16																					
3 1/8	4 3/16	12 5/16	9/16	3 3/8	15 1/4	13/16	3 9/16	16 5/16	13/16	3 9/16	19 3/8	1 3/16	3 9/16	21 7/16	1 9/16	3 7/16																					
3 9/16	4 3/4	12	9/16	3 3/4	14 15/16	13/16	4	16 1/16	13/16	4	19 1/8	1 3/16	4	21 1/8	1 9/16	3 7/8	24 13/16	1 9/16																			
3 15/16	5 1/4	11 3/4	9/16	4 1/8	14 11/16	13/16	4 7/16	15 13/16	13/16	4 7/16	18 13/16	1 3/16	4 3/8	20 7/8	1 9/16	4 5/16	24 1/2	1 9/16																			
4 5/16	5 13/16	11 7/16	9/16	4 7/16	14 3/8	13/16	4 13/16	15 1/2	13/16	4 13/16	18 1/2	1 3/16	4 13/16	20 9/16	1 9/16	4 3/4	24 3/16	1 9/16	29 1/2	1 15/16	36 7/16	3 1/8															
4 3/4	6 5/16	11 1/8	9/16	4 13/16	14 1/8	13/16	5 1/4	15 3/16	13/16	5 1/4	18 1/4	1 3/16	5 1/4	20 1/4	1 9/16	5 1/8	23 15/16	1 9/16	29 1/4	1 15/16	36 1/8	3 1/8															
5 1/8	6 13/16	10 7/8	9/16	5 3/16	13 13/16	13/16	5 11/16	14 15/16	13/16	5 11/16	17 15/16	1 3/16	5 5/8	20	1 9/16	5 9/16	23 1/8	1 9/16	29	1 15/16	36 7/8	3 1/8															
5 1/2	7 3/8	10 9/16	9/16	5 1/2	13 1/2	13/16	6 1/16	14 5/8	13/16	6 1/16	17 5/8	1 3/16	6 1/16	19 11/16	1 9/16	5 15/16	23 3/8	1 9/16	28 11/16	1 15/16	35 9/16	3 1/8															
5 7/8	7 7/8	12 5/16	9/16	5 7/8	14 1/8	13/16	6 7/16	14 5/16	13/16	6 1/2	17 3/8	1 3/16	6 7/16	19 13/16	1 3/16	6 5/16	23 1/16	1 9/16	28 3/8	1 15/16	35 1/4	3 1/8	38 13/16	3 1/8													
6 5/16	8 3/8	12	9/16		13 7/8	13/16		14 1/16	13/16		17 1/16	1 3/16		19 1/2	1 3/16		22 13/16	1 9/16	28 1/8	1 15/16	35	3 1/8	38 9/16	3 1/8													
6 11/16	8 7/8	11 3/4	9/16		13 9/16	13/16		13 3/4	13/16		16 13/16	1 3/16		19 1/4	1 3/16		22 1/2	1 9/16	27 13/16	1 15/16	34 3/4	3 1/8	38 1/4	3 1/8													
7 1/16	9 7/16	11 7/16	9/16		13 1/4	13/16		13 7/16	13/16		16 1/2	1 3/16		18 15/16	1 3/16		22 3/16	1 9/16	27 1/2	1 15/16	34 7/8	3 1/8	37 15/16	3 1/8													
7 1/2	9 15/16	11 1/8	9/16		13	13/16		13 3/16	13/16		16 1/4	1 3/16		18 11/16	1 3/16		21 15/16	1 9/16	27 1/4	1 15/16	34 1/16	3 1/8	37 11/16	3 1/8													
7 7/8	10 1/2	10 7/8	9/16		12 11/16	13/16		12 15/16	13/16		15 15/16	1 3/16		18 3/8	1 3/16		21 5/8	1 9/16	26 15/16	1 15/16	33 7/8	3 1/8	37 3/8	3 1/8													
8 1/4	11	10 9/16	9/16		12 7/16	13/16		12 5/8	13/16		15 11/16	1 3/16		18 1/8	1 3/16		21 3/8	1 9/16	26 11/16	1 15/16	33 9/16	3 1/8	37 1/8	3 1/8													
8 11/16	11 9/16	10 1/4	9/16		12 1/8	13/16		12 5/16	13/16		15 3/8	1 3/16		17 13/16	1 3/16		21 1/16	1 9/16	26 3/8	1 15/16	33 1/4	3 1/8	36 13/16	3 1/8													
9 1/16	12 1/16	12 5/16	9/16		14 1/8	13/16		14 1/4	13/16		16 3/16	1 3/16		17 1/2	1 3/16		20 13/16	1 9/16	26 1/2	1 9/16	33 3/4	2 3/8	36 9/16	3 1/8													
9 7/16	12 9/16	12	9/16		13 13/16	13/16		14	13/16		15 7/8	1 3/16		17 1/4	1 3/16		20 1/2	1 9/16	26 1/4	1 9/16	33 1/2	2 3/8	36 1/4	3 1/8													
9 13/16	13 1/8	11 3/4	9/16		13 9/16	13/16		13 11/16	13/16		15 5/8	1 3/16		16 15/16	1 3/16		20 1/4	1 9/16	25 15/16	1 9/16	33 1/4	2 3/8	36	3 1/8													
10 1/4	13 5/8	11 7/16	9/16		13 1/4	13/16		13 7/16	13/16		15 3/8	1 3/16		16 11/16	1 3/16		19 15/16	1 9/16	25 11/16	1 9/16	32 15/16	2 3/8	35 11/16	3 1/8													
10 5/8	14 1/8	11 1/8	9/16		12 15/16	13/16		13 1/8	13/16		15 1/16	1 3/16		16 3/8	1 3/16		19 5/8	1 9/16	25 3/8	1 9/16	32 5/8	2 3/8	35 3/8	3 1/8													
11	14 11/16	10 7/8	9/16		12 11/16	13/16		12 13/16	13/16		14 3/4	1 3/16		16 1/8	1 3/16		19 3/8	1 9/16	25 13/16	1 9/16	32 3/8	2 3/8	35 1/8	3 1/8													
11 7/16	15 3/16	10 9/16	9/16		12 3/8	13/16		12 9/16	13/16		14 1/2	1 3/16		15 13/16	1 3/16		19 1/8	1 9/16	24 3/16	1 9/16	32 1/16	2 3/8	34 13/16	3 1/8													
11 13/16	15 11/16	10 5/16	9/16		12 1/8	13/16		12 5/16	13/16		14 3/16	1 3/16		15 9/16	1 3/16		18 13/16	1 9/16	24 1/2	1 9/16	31 13/16	2 3/8	34 9/16	3 1/8													
12 3/16	16 1/4				13 9/16	13/16		13 11/16	13/16		15 7/16	1 3/16		15 1/4	1 3/16		18 9/16	1 9/16	24 1/4	1 9/16	31 15/16	1 15/16	34 5/16	3 1/8													
12 5/8	16 3/4				13 1/4	13/16		13 3/8	13/16		15 1/8	1 3/16		14 15/16	1 3/16		18 1/4	1 9/16	23 15/16	1 9/16	31 5/8	1 15/16	34	3 1/8													
13	17 5/16				13	13/16		13 1/8	13/16		14 13/16	1 3/16		14 11/16	1 3/16		17 15/16	1 9/16	23 11/16	1 9/16	31 5/16	1 15/16	33 11/16	3 1/8													
13 3/8	17 13/16				12 11/16	13/16		12 13/16	13/16		14 9/16	1 3/16		14 7/16	1 3/16		17 11/16	1 9/16	23 3/8	1 9/16	31 1/16	1 15/16	33 7/16	3 1/8													
13 3/4	18 3/8				12 3/8	13/16		12 1/2	13/16		14 1/4	1 3/16		14 1/8	1 3/16		17 3/8	1 9/16	23 1/16	1 9/16	30 3/4	1 15/16	33 1/8	3 1/8													
14 3/16	18 7/8				12 1/8	13/16		12 1/4	13/16		14	1 3/16		13 13/16	1 3/16		17 1/16	1 9/16	22 13/16	1 9/16	30 1/2	1 15/16	32 13/16	3 1/8													
14 9/16	19 3/8				13 9/16	13/16		13 11/16	13/16		15 7/16	1 3/16		15 3/16	1 3/16		16 13/16	1 9/16	22 1/2	1 9/16	30 3/16	1 15/16	33 3/8	2 3/8													
14 15/16	19 7/8				13 1/4	13/16		13 7/16	13/16		15 3/16	1 3/16		14 7/8	1 3/16		16 9/16	1 9/16	22 1/4	1 9/16	29 15/16	1 15/16	33 1/4	2 3/8													
15 3/8	20 7/16				12 15/16	13/16		13 1/8	13/16		14 13/16	1 3/16		14 9/16	1 3/16		16 1/4	1 9/16	21 15/16	1 9/16	29 5/8	1 15/16	32 3/4	2 3/8													
15 3/4	20 15/16				12 11/16	13/16		12 13/16	13/16		14 9/16	1 3/16		14 5/16	1 3/16		15 15/16	1 9/16	21 5/8	1 9/16	29 5/16	1 15/16	32 1/2	2 3/8													
16 1/8	21 7/16				12 3/8	13/16		12 9/16	13/16		14 5/16	1 3/16		14	1 3/16		15 11/16	1 9/16	21 3/8	1 9/16	29 1/16	1 15/16	32 1/16	2 3/8													
16 9/16	22				12 1/8	13/16		12 5/16	13/16		14	1 3/16		13 3/4	1 3/16		15 3/8	1 9/16	21 1/8	1 9/16	28 3/4	1 15/16	31 15/16	2 3/8													
16 15/16	22 1/2										16	1 3/16		15 11/16	1 3/16		17 13/16	1 9/16	20 13/16	1 9/16	28 7/16	1 15/16	31 5/8	2 3/8													
17 5/16	23 1/16										15 11/16	1 3/16		15 3/8	1 3/16		16 15/16	1 9/16	20 1/2	1 9/16	28 3/16	1 15/16	31 5/16	2 3/8													
17 11/16	23 9/16										15 7/16	1 3/16		15 1/8	1 3/16		16 5/8	1 9/16	20 1/4	1 9/16	27 15/16	1 15/16	31 1/16	2 3/8													
18 1/8	24 1/8										15 3/16	1 3/16		14 13/16	1 3/16		16 3/8	1 9/16	19 15/16	1 9/16	27 5/8	1 15/16	30 13/16	2 3/8													
18 1/2	24 5/8										14 7/8	1 3/16		14 9/16	1 3/16		16 1/8	1 9/16	19 11/16	1 9/16	27 3/8	1 15/16	30 1/2	2 3/8													
18 7/8	25 1/8										14 5/8	1 3/16		14 5/16	1 3/16		15 13/16	1 9/16	19 7/16	1 9/16	27 1/16	1 15/16	30 1/4	2 3/8													
19 5/16	25 11/16										14 5/16	1 3/16		14	1 3/16		15 1/2	1 9/16	19 1/8	1 9/16	26 3/4	1 15/16	29 15/16	2 3/8													
19 11/16	26 3/16										14	1 3/16		13 11/16	1 3/16		15 1/4	1 9/16	18 13/16	1 9/16	26 1/2	1 15															

CONSTANT EFFORT SUPPORTS

Constant Effort Supports Fig. ICA50 Type O



For rod diameter size designation C, see Page 8

Rod Take Out (B2) is shown with load arm in high position

Type J is not recommended for travel over 5 7/8" or above Size 33

Dimensions for Fig. ICA50 Constant Effort Supports Type O

Size	E	F	K	L	AA	BB	DD	GG	HH	PP	QQ	RR	SS
1-6	4 1/8	5 1/2	6 11/16	1 7/16	7 15/16	5 1/8	4 1/2	2 15/16	1 7/8	8 7/16	6 1/2	9/16	1/4
7-12	4 3/4	6 1/8	8 11/16	1 7/8	12 5/16	6	4 3/4	3 1/4	2 3/16	9 1/16	7 1/16	11/16	1/4
13-18	6 1/8	7 1/2	8 11/16	2 3/8	14 5/16	8 1/16	5 1/4	3 9/16	2 5/8	10 1/16	8 1/16	7/8	5/16
19-26	7 1/2	9 7/16	10 1/4	2 13/16	18 5/16	9 3/4	5 7/8	4 5/8	2 11/16	10 5/8	8 11/16	7/8	5/16
27-33	9 1/4	11 13/16	10 1/4	3 1/2	25 3/16	11 7/16	7 1/8	5 13/16	3 11/16	12 5/8	10 7/16	7/8	3/8
34-39	11 7/16	14 3/8	11 13/16	4 1/4	29 15/16	14 1/16	8 7/8	6 5/8	4 7/16	16 3/4	13 3/16	1 1/16	3/8
40-47	14	17 15/16	13 3/8	6 1/8	40 3/8	18 3/16	11 1/16	8 9/16	5 3/8	18 7/8	15 9/16	1 5/16	9/16
48-58	13 3/8	18 7/8	15 3/4	7 7/8	44 3/8	22 9/16	13 3/16	11 1/8	7 3/16	29 5/16	20 1/2	1 3/4	13/16
59-66	14 15/16	22 1/16	15 3/4	8 7/8	69 3/8	24 5/8	17 1/2	12	8 7/16	33 11/16	26 15/16	2	1

Dimensions J, CC & EE

Size	Travel 1 9/16 - 5 1/2			Travel 5 7/8 - 8 11/16			Travel 9 1/16 - 11 13/16			Travel 12 3/16 - 14 3/16			Travel 14 9/16 - 16 9/16			Travel 16 15/16 - 19 11/16			Travel 20 1/16 - 24		
	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE	J	CC	EE
1-6	5 1/2	7 13/16	9 3/16	7 1/2	7 13/16	9 3/16	9 13/16	7 13/16	-	-	-	-	-	-	-	-	-	-	-	-	-
7-12	6 11/16	9 1/8	10 5/16	7 5/8	9 1/8	10 11/16	9 13/16	9 1/8	-	11 9/16	9 1/8	-	13 1/4	9 1/8	-	-	-	-	-	-	-
13-18	7 13/16	11 7/16	11 7/16	7 13/16	11 7/16	11 7/16	10	11 1/8	-	11 11/16	11 1/8	-	13 7/16	11 1/8	-	-	-	-	-	-	-
19-26	9 5/8	13 11/16	13 11/16	9 5/8	13 11/16	13 11/16	10 3/8	13 11/16	-	11 7/8	13 11/16	-	13 9/16	13 11/16	-	15 7/8	13 11/16	-	-	-	-
27-33	12 1/16	17 3/16	17 3/16	12 1/16	17 3/16	17 3/16	12 1/16	17 3/16	-	12 1/16	17 3/16	-	13 11/16	17 3/16	-	15 15/16	17 3/16	-	-	-	-
34-39	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	14 3/16	20 1/2	-	16 5/16	20 1/2	-	19 7/16	20 1/2	-
40-47	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	18 5/16	24 13/16	-	20 1/16	24 13/16	-
48-58	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-	24	28 3/8	-
59-66	-	-	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-	27 9/16	30 7/8	-

Weights lbs

Size	Approx Weight
1-4	29
5-6	29
7-9	44
10-12	49
13-16	79
17-18	88
19-22	141
23-26	157

Size	Approx Weight
27-28	273
29-31	298
32-33	328
34-35	507
36-37	551
38-39	595
40-42	970
43-44	1080

Size	Approx Weight
45-47	1210
48-49	1590
50-52	1760
53-55	1870
56-58	2470
59-62	4120
63-66	4610

Constant Effort Supports Fig. ICA50 Type O

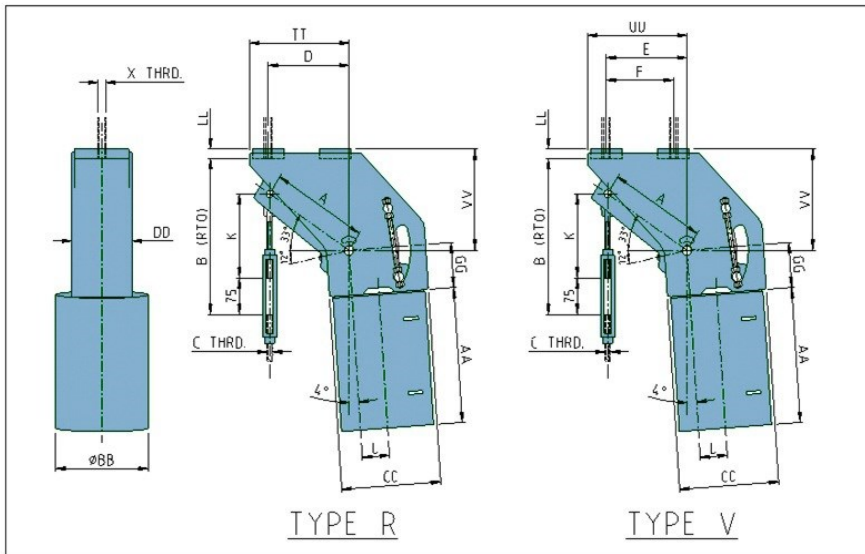


ICA50 Type O

Size	⇒	1-6	7-12	13-18	19-26	27-33	34-39	40-47	48-58	59-66
Travel	A	B2	B2	B2	B2	B2	B2	B2	B2	B2
1 9/16	2 1/8	14	17 3/16							
1 15/16	2 5/8	13 3/4	16 7/8							
2 3/8	3 1/8	13 7/16	16 9/16	17 11/16	21 1/8					
2 3/4	3 11/16	13 1/8	16 5/16	17 3/8	20 13/16	23 1/4				
3 1/8	4 3/16	12 7/8	16	17 1/8	20 9/16	23				
3 9/16	4 3/4	12 5/8	15 3/4	16 7/8	20 1/4	22 11/16	26 3/8			
3 15/16	5 1/4	12 5/16	15 1/2	16 9/16	20	22 7/16	26 1/8			
4 5/16	5 13/16	12	15 3/16	16 1/4	19 11/16	22 1/8	25 13/16	31 1/2	39 9/16	
4 3/4	6 5/16	11 3/4	14 7/8	16	19 7/16	21 7/8	25 1/2	31 1/4	39 5/16	
5 1/8	6 13/16	11 7/16	14 5/8	15 11/16	19 1/8	21 9/16	25 1/4	30 15/16	39	
5 1/2	7 3/8	11 1/8	14 5/16	15 3/8	18 13/16	21 1/4	24 15/16	30 5/8	38 11/16	
5 7/8	7 7/8	12 7/8	14 15/16	15 1/8	18 9/16	21	24 5/8	30 3/8	38 7/16	41 15/16
6 5/16	8 3/8	12 5/8	14 5/8	14 13/16	18 1/4	20 11/16	24 3/8	30 1/16	38 1/8	41 11/16
6 11/16	8 7/8	12 5/16	14 3/8	14 9/16	18	20 7/16	24 1/8	29 13/16	37 7/8	41 7/16
7 1/16	9 7/16	12	14 1/16	14 1/4	17 11/16	20 1/8	23 3/4	29 1/2	37 9/16	41 1/8
7 1/2	9 15/16	11 3/4	13 3/4	14	17 3/8	19 13/16	23 1/2	29 3/16	37 5/16	40 13/16
7 7/8	10 1/2	11 7/16	13 1/2	13 11/16	17 1/8	19 9/16	23 1/4	28 15/16	37	40 9/16
8 1/4	11	11 3/16	13 1/4	13 7/16	16 7/8	19 5/16	22 15/16	28 11/16	36 3/4	40 1/4
8 11/16	11 9/16	10 7/8	12 15/16	13 1/8	16 9/16	19	22 5/8	28 3/8	36 7/16	39 15/16
9 1/16	12 1/16	12 7/8	14 7/8	15 1/16	16 15/16	18 11/16	22 3/8	28 1/16	36 1/8	39 11/16
9 7/16	12 9/16	12 5/8	14 5/8	14 3/4	16 11/16	18 7/16	22 1/16	27 13/16	35 7/8	39 7/16
9 13/16	13 1/8	12 5/16	14 5/16	14 1/2	16 7/16	18 1/8	21 13/16	27 1/2	35 9/16	39 1/8
10 1/4	13 5/8	12 1/16	14 1/16	14 3/16	16 1/8	17 7/8	21 9/16	27 1/4	35 5/16	38 7/8
10 5/8	14 1/8	11 3/4	13 3/4	13 7/8	15 13/16	17 9/16	21 1/4	26 15/16	35	38 9/16
11	14 11/16	11 7/16	13 7/16	13 5/8	15 9/16	17 5/16	20 15/16	26 5/8	34 3/4	38 1/4
11 7/16	15 3/16	11 3/16	13 3/16	13 3/8	15 1/4	17	20 11/16	26 3/8	34 7/16	38
11 13/16	15 11/16	10 7/8	12 15/16	13 1/16	15	16 3/4	20 3/8	26 1/8	34 3/16	37 11/16
12 3/16	16 1/4		14 3/8	14 1/2	16 1/4	16 7/16	20 1/8	25 13/16	33 7/8	37 7/16
12 5/8	16 3/4		14 1/16	14 3/16	15 7/8	16 1/8	19 13/16	25 1/2	33 9/16	37 1/8
13	17 5/16		13 3/4	13 7/8	15 5/8	15 7/8	19 1/2	25 1/4	33 5/16	36 7/8
13 3/8	17 13/16		13 1/2	13 5/8	15 3/8	15 9/16	19 1/4	24 15/16	33 1/16	36 9/16
13 3/4	18 3/8		13 3/16	13 5/16	15 1/16	15 1/4	18 15/16	24 5/8	32 11/16	36 1/4
14 3/16	18 7/8		12 15/16	13 1/16	14 3/4	15	18 11/16	24 3/8	32 7/16	36
14 9/16	19 3/8		14 5/16	14 1/2	16 1/4	16 5/16	18 3/8	24 1/8	32 3/16	35 11/16
14 15/16	19 7/8		14 1/16	14 3/16	15 15/16	16 1/16	18 1/8	23 13/16	31 7/8	35 7/16
15 3/8	20 7/16		13 3/4	13 7/8	15 5/8	15 3/4	17 13/16	23 1/2	31 9/16	35 1/8
15 3/4	20 15/16		13 7/16	13 5/8	15 3/8	15 1/2	17 1/2	23 1/4	31 5/16	34 13/16
16 1/8	21 7/16		13 3/16	13 3/8	15 1/16	15 3/16	17 1/4	22 15/16	31	34 9/16
16 9/16	22		12 15/16	13 1/16	14 13/16	14 15/16	16 15/16	22 11/16	30 3/4	34 5/16
16 15/16	22 1/2				16 3/4	16 7/8	18 3/4	22 3/8	30 7/16	34
17 5/16	23 1/16				16 1/2	16 9/16	18 1/2	22 1/16	30 3/16	33 11/16
17 11/16	23 9/16				16 1/4	16 5/16	18 1/4	21 13/16	29 7/8	33 7/16
18 1/8	24 1/8				15 15/16	16	17 15/16	21 9/16	29 5/8	33 1/8
18 1/2	24 5/8				15 11/16	15 3/4	17 11/16	21 1/4	29 5/16	32 7/8
18 7/8	25 1/8				15 3/8	15 1/2	17 3/8	21	29 1/16	32 5/8
19 5/16	25 11/16				15 1/16	15 3/16	17 1/16	20 11/16	28 3/4	32 5/16
19 11/16	26 3/16				14 13/16	14 7/8	16 13/16	20 3/8	28 7/16	32
20 1/16	26 11/16						19 11/16	21 7/8	28 3/16	31 3/4
20 1/2	27 3/16						19 7/16	21 5/8	27 15/16	31 7/16
20 7/8	27 3/4						19 1/8	21 5/16	27 5/8	31 1/8
21 1/4	28 1/4						18 13/16	21	27 5/16	30 7/8
21 5/8	28 3/4						18 9/16	20 3/4	27 1/16	30 9/16
22 1/16	29 5/16						18 1/4	20 7/16	26 3/4	30 1/4
22 7/16	29 13/16						17 15/16	20 3/16	26 7/16	30
22 13/16	30 3/8						17 11/16	19 7/8	26 3/16	29 3/4
23 1/4	30 7/8						17 3/8	19 9/16	25 7/8	29 7/16
23 5/8	31 7/16						17 1/16	19 5/16	25 9/16	29 1/8
24	31 15/16						16 13/16	19	25 5/16	28 7/8

CONSTANT EFFORT SUPPORTS

Constant Effort Supports Fig. ICA51 Types R & V



ICA51 Type R

For rod diameter size designation C, see Page 8

For top connection size designation X, see Page 9

Rod Take Out (B) is shown with load arm in high position

Type R is not recommended for travel over 5 7/8" or above Size 33

Dimensions for Fig. ICA51 Constant Effort Supports Types R & V

Size	E	F	K	L	AA	BB	CC	DD	GG
1-6	5 7/8	5 1/8	6 11/16	1 7/16	7 15/16	5 1/8	6 5/16	4 1/2	2 15/16
7-12	6 1/8	4 15/16	8 11/16	1 7/8	12 5/16	6	7 11/16	4 3/4	3 1/4
13-18	8 7/8	7 11/16	8 11/16	2 3/8	14 5/16	8 1/16	8 11/16	5 1/4	3 9/16
19-26	10 1/4	8 11/16	10 1/4	2 13/16	18 5/16	9 3/4	10 3/8	5 7/8	4 5/8
27-33	11 1/4	9 7/16	10 1/4	3 1/2	25 3/16	11 7/16	12 5/8	7 1/8	5 13/16
34-39	15 3/4	14	11 13/16	4 1/4	29 15/16	14 1/16	14 15/16	8 7/8	6 5/8
40-47	16 15/16	14 9/16	13 3/8	6 1/8	40 3/8	18 3/16	19 11/16	11 1/16	8 9/16
48-58	18 1/8	14 3/8	15 3/4	7 7/8	44 3/8	22 9/16	23 5/8	13 3/16	11 5/8
59-66	16 15/16	19 11/16	15 3/4	8 7/8	69 3/8	24 5/8	27 9/16	17 1/2	12

Yoke Table

Size	Yoke Arrangement is used on these Travels	Width W
1-6	1 15/16	3 1/4
7-12	2 3/8	3 7/16
13-18	not used	-
19-26	not used	-
27-33	3 15/16	5 3/8
34-39	4 3/4 to 5 1/8	6 7/8
40-47	6 5/16 to 6 11/16	8 3/8
48-58	6 5/16 to 8 11/16	10 11/16
59-66	7 1/2 to 9 1/16	14 1/16

Dimensions TT, UU & VV

Size	Travel 1 9/16 - 5 1/2			Travel 5 7/8 - 8 11/16			Travel 9 1/16 - 11 13/16			Travel 12 3/16 - 14 3/16			Travel 14 9/16 - 16 9/16			Travel 16 15/16 - 19 11/16			Travel 20 1/16 - 24		
	TT	UU	VV	TT	UU	VV	TT	UU	VV	TT	UU	VV	TT	UU	VV	TT	UU	VV	TT	UU	VV
1-6	6 1/2	6 1/2	5 13/16	8 7/8	6 1/2	7 1/2	-	6 1/2	9 13/16	-	-	-	-	-	-	-	-	-	-	-	-
7-12	6 7/8	6 7/8	6 1/4	10 3/16	6 7/8	8 7/16	-	6 7/8	9 13/16	-	6 7/8	11 9/16	-	6 7/8	13 1/4	-	-	-	-	-	-
13-18	10 1/2	10 1/2	9	10 1/2	10 1/2	9	-	9 13/16	10	-	9 13/16	11 11/16	-	9 13/16	13 7/16	-	-	-	-	-	-
19-26	11 7/16	11 7/16	9 3/16	11 7/16	11 7/16	9 3/16	13 9/16	11 7/16	11 1/8	-	11 7/16	11 7/8	-	11 7/16	13 9/16	-	11 7/16	15 7/8	-	-	-
27-33	12 9/16	12 9/16	9 13/16	12 9/16	12 9/16	9 13/16	14 3/16	12 9/16	12 1/16	14 3/16	12 9/16	12 1/16	-	12 9/16	13 11/16	-	12 9/16	15 15/16	-	-	-
34-39	17 5/16	17 5/16	12 13/16	17 5/16	17 5/16	12 13/16	17 5/16	17 5/16	12 13/16	17 5/16	17 5/16	14 3/4	19 11/16	17 5/16	16 5/16	23 1/4	17 5/16	18 1/2	-	17 5/16	19 7/16
40-47	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	20 1/16
48-58	-	21 7/16	18 9/16	-	21 7/16	18 9/16	-	21 7/16	18 9/16	-	21 7/16	18 9/16	-	21 7/16	18 9/16	-	21 7/16	19 5/16	-	21 7/16	21 7/8
59-66	-	-	-	-	20 1/4	21 7/16	-	20 1/4	21 7/16	-	20 1/4	21 7/16	-	20 1/4	21 7/16	-	20 1/4	21 7/16	-	20 1/4	21 7/16

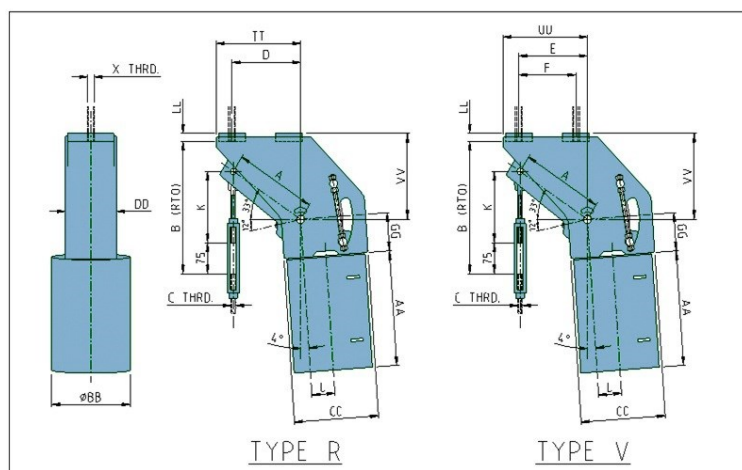
Weights, Types R & V lbs

Size	Approx Weight
1-4	31
5-6	31
7-9	46
10-12	51
13-16	84
17-18	93
19-22	152
23-26	168

Size	Approx Weight
27-28	273
29-31	298
32-33	331
34-35	529
36-37	551
38-39	617
40-42	1010
43-44	1120

Size	Approx Weight
45-47	1260
48-49	1610
50-52	1790
53-55	1900
56-58	2490
59-62	4120
63-66	4610

Constant Effort Supports Fig. ICA51 Types R & V

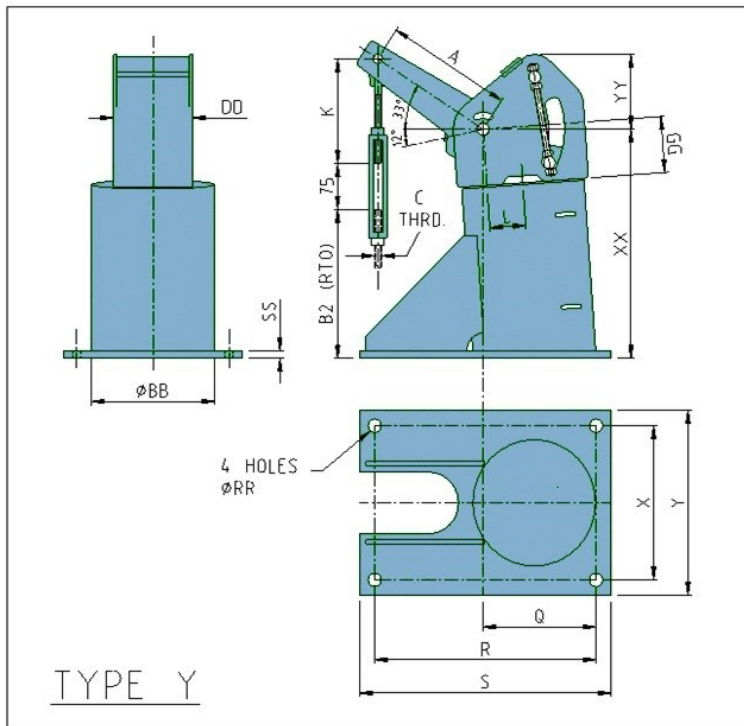


ICA51 Type R

Size	=>	1-6				7-12				13-18				19-26				27-33				34-39				40-47				48-58				59-66			
Travel	A	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D	B	LL	D			
1 15/16	2 5/8	13 7/16	9/16	2 1/4																																	
2 3/8	3 1/8	13 1/8	9/16	2 11/16	15 5/16	13/16	2 3/4																														
2 3/4	3 11/16	12 7/8	9/16	3 1/16	15 1/16	13/16	3 1/4																														
3 1/8	4 3/16	12 5/8	9/16	3 7/16	14 3/4	13/16	3 11/16	17 1/2	13/16	3 11/16																											
3 9/16	4 3/4	12 5/16	9/16	3 7/8	14 1/2	13/16	4 1/8	17 1/4	13/16	4 1/8	18 5/8	1 3/16	4 1/8																								
3 15/16	5 1/4	12 1/16	9/16	4 1/4	14 3/16	13/16	4 1/2	16 15/16	13/16	4 1/2	18 3/8	1 3/16	4 9/16	18 5/8	1 9/16	4 1/2																					
4 5/16	5 13/16	11 3/4	9/16	4 5/8	13 7/8	13/16	4 15/16	16 5/8	13/16	5	18 1/16	1 3/16	5	18 5/16	1 9/16	5																					
4 3/4	6 5/16	11 7/16	9/16	5	13 5/8	13/16	5 3/8	16 3/8	13/16	5 3/8	17 3/4	1 3/16	5 7/16	18 1/16	1 9/16	5 7/16	22 9/16	1 9/16																			
5 1/8	6 13/16	11 3/16	9/16	5 3/8	13 3/8	13/16	5 13/16	16 1/8	13/16	5 13/16	17 1/2	1 3/16	5 7/8	17 3/4	1 9/16	5 7/8	22 5/16	1 9/16																			
5 1/2	7 3/8	10 7/8	9/16	5 11/16	13 1/16	13/16	6 1/4	15 13/16	13/16	6 1/4	17 3/16	1 3/16	6 5/16	17 7/16	1 9/16	6 5/16	21 15/16	1 9/16																			
5 7/8	7 7/8	12 5/16	9/16	6	15	13/16	6 5/8	15 1/2	13/16	6 11/16	16 7/8	1 3/16	6 11/16	17 9/16	1 3/16	6 11/16	21 11/16	1 9/16																			
6 5/16	8 3/8	12	9/16		14 3/4	13/16		15 1/4	13/16		16 5/8	1 3/16		17 5/16	1 3/16		21 7/16	1 9/16	26 3/4	1 15/16	29 1/2	3 1/8															
6 11/16	8 7/8	11 3/4	9/16		14 7/16			14 15/16	13/16		16 5/16	1 3/16		17	1 3/16		21 1/8	1 9/16	26 7/16	1 15/16	29 1/4	3 1/8															
7 1/16	9 7/16	11 7/16	9/16		14 1/8			14 5/8	13/16		16	1 3/16		16 11/16	1 3/16		20 13/16	1 9/16	26 1/8	1 15/16	28 15/16	3 1/8															
7 1/2	9 15/16	11 1/8	9/16		13 7/8			14 3/8	13/16		15 3/4	1 3/16		16 7/16	1 3/16		20 9/16	1 9/16	25 7/8	1 15/16	28 11/16	3 1/8	31 9/16	3 1/8													
7 7/8	10 1/2	10 7/8	9/16		13 9/16			14 1/8	13/16		15 1/2	1 3/16		16 1/8	1 3/16		20 1/4	1 9/16	25 9/16	1 15/16	28 3/8	3 1/8	31 1/4	3 1/8													
8 1/4	11	10 9/16	9/16		13 5/16			13 13/16	13/16		15 3/16	1 3/16		15 7/8	1 3/16		20	1 9/16	25 5/16	1 15/16	28 1/8	3 1/8	31	3 1/8													
8 11/16	11 9/16	10 1/4	9/16		13			13 1/2	13/16		14 7/8	1 3/16		15 9/16	1 3/16		19 11/16	1 9/16	25	1 15/16	27 13/16	3 1/8	30 11/16	3 1/8													
9 1/16	12 1/16	12 5/16	9/16		14 1/8			14 1/4	13/16		16 15/16	1 3/16		17 1/2	1 3/16		19 7/16	1 9/16	25 1/8	1 9/16	28 5/16	2 3/8	30 3/8	3 1/8													
9 7/16	12 9/16	12	9/16		13 13/16			14	13/16		16 11/16	1 3/16		17 1/4	1 3/16		19 1/8	1 9/16	24 13/16	1 9/16	28 1/16	2 3/8	30 1/8	3 1/8													
9 13/16	13 1/8	11 3/4	9/16		13 9/16			13 11/16	13/16		16 7/16	1 3/16		16 15/16	1 3/16		18 7/8	1 9/16	24 9/16	1 9/16	27 3/4	2 3/8	29 13/16	3 1/8													
10 1/4	13 5/8	11 7/16	9/16		13 1/4			13 7/16	13/16		16 1/8	1 3/16		16 11/16	1 3/16		18 9/16	1 9/16	24 5/16	1 9/16	27 1/2	2 3/8	29 9/16	3 1/8													
10 5/8	14 1/8	11 1/8	9/16		12 15/16			13 1/8	13/16		15 13/16	1 3/16		16 3/8	1 3/16		18 1/4	1 9/16	24	1 9/16	27 3/16	2 3/8	29 1/4	3 1/8													
11	14 11/16	10 7/8	9/16		12 11/16			12 13/16	13/16		15 9/16	1 3/16		16 1/8	1 3/16		18	1 9/16	23 11/16	1 9/16	26 7/8	2 3/8	29	3 1/8													
11 7/16	15 3/16	10 9/16	9/16		12 3/8			12 9/16	13/16		15 1/4	1 3/16		15 13/16	1 3/16		17 11/16	1 9/16	23 7/16	1 9/16	26 5/8	2 3/8	28 11/16	3 1/8													
11 13/16	15 11/16	10 5/16	9/16		12 1/8			12 5/16	13/16		15	1 3/16		15 9/16	1 3/16		17 7/16	1 9/16	23 1/8	1 9/16	26 5/16	2 3/8	28 7/16	3 1/8													
12 3/16	16 1/4				13 9/16			13 11/16	13/16		15 7/16	1 3/16		15 1/4	1 3/16		19 1/8	1 9/16	22 7/8	1 9/16	26 7/16	1 15/16	28 1/8	3 1/8													
12 5/8	16 3/4				13 1/4			13 3/8	13/16		15 1/8	1 3/16		14 15/16	1 3/16		18 13/16	1 9/16	22 9/16	1 9/16	26 1/8	1 15/16	27 13/16	3 1/8													
13	17 5/16				13			13 1/8	13/16		14 13/16	1 3/16		14 11/16	1 3/16		18 9/16	1 9/16	22 5/16	1 9/16	25 7/8	1 15/16	27 9/16	3 1/8													
13 3/8	17 13/16				12 11/16			12 13/16	13/16		14 9/16	1 3/16		14 7/16	1 3/16		18 1/4	1 9/16	22	1 9/16	25 9/16	1 15/16	27 5/16	3 1/8													
13 3/4	18 3/8				12 3/8			12 1/2	13/16		14 1/4	1 3/16		14 1/8	1 3/16		17 15/16	1 9/16	21 11/16	1 9/16	25 1/4	1 15/16	26 15/16	3 1/8													
14 3/16	18 7/8				12 1/8			12 1/4	13/16		14	1 3/16		13 13/16	1 3/16		17 11/16	1 9/16	21 7/16	1 9/16	25	1 15/16	26 11/16	3 1/8													
14 9/16	19 3/8				13 9/16			13 11/16	13/16		15 7/16	1 3/16		15 3/16	1 3/16		19	1 9/16	21 1/8	1 9/16	24 3/4	1 15/16	27 3/16	2 3/8													
14 15/16	19 7/8				13 1/4			13 7/16	13/16		15 3/16	1 3/16		14 7/8	1 3/16		18 11/16	1 9/16	20 7/8	1 9/16	24 7/16	1 15/16	26 15/16	2 3/8													
15 3/8	20 7/16				12 15/16			13 1/8	13/16		14 13/16	1 3/16		14 9/16	1 3/16		18 3/8	1 9/16	20 9/16	1 9/16	24 1/8	1 15/16	26 5/8	2 3/8													
15 3/4	20 15/16				12 11/16			12 13/16	13/16		14 9/16	1 3/16		14 5/16	1 3/16		18 1/8	1 9/16	20 1/4	1 9/16	23 7/8	1 15/16	26 5/16	2 3/8													
16 1/8	21 7/16				12 3/8			12 9/16	13/16		14 5/16	1 3/16		14	1 3/16		17 13/16	1 9/16	20	1 9/16	23 9/16	1 15/16	26 1/16	2 3/8													
16 9/16	22				12 1/8			12 5/16	13/16		14	1 3/16		13 3/4	1 3/16		17 9/16	1 9/16	19 3/4	1 9/16	23 5/16	1 15/16	25 13/16	2 3/8													
16 15/16	22 1/2										16	1 3/16		15 11/16	1 3/16		19 7/16	1 9/16	19 7/16	1 9/16	23 3/4	1 15/16	25 1/2	2 3/8													
17 5/16	23 1/16										15 11/16	1 3/16		15 3/8	1 3/16		19 1/8	1 9/16	19 1/8	1 9/16	23 7/16	1 15/16	25 3/16	2 3/8													
17 11/16	23 9/16										15 7/16	1 3/16		15 1/8	1 3/16		18 7/8	1 9/16	18 7/8	1 9/16	23 3/16	1 15/16	24 15/16	2 3/8													
18 1/8	24 1/8										15 3/16	1 3/16		14 13/16	1 3/16		18 9/16	1 9/16	18 9/16	1 9/16	22 15/16	1 15/16	24 5/8	2 3/8													

CONSTANT EFFORT SUPPORTS

Constant Effort Supports Fig. ICA51 Type Y



ICA51 Type Y

For rod diameter size designation C, see Page 8

Rod Take Out (B2) is shown with load arm in high position

Type R is not recommended for travel over 5 7/8" or above Size 33

Dimensions for Fig. ICA51 Constant Effort Supports Type Y

Size	K	L	AA	BB	CC	DD	GG	Q	R	S	X	Y	RR	SS	XX	YY
1-6	6 11/16	1 7/16	7 15/16	5 1/8	6 5/16	4 1/2	2 15/16	4 3/4	7 7/8	9 7/16	6 11/16	8 1/4	9/16	1/4	11	4
7-12	8 11/16	1 7/8	12 5/16	6	7 11/16	4 3/4	3 1/4	6 1/8	11	13	7 7/8	9 13/16	11/16	1/4	15 3/8	4 11/16
13-18	8 11/16	2 3/8	14 5/16	8 1/16	8 11/16	5 1/4	3 9/16	7 11/16	14 9/16	16 9/16	9 13/16	11 13/16	7/8	5/16	18	4 3/4
19-26	10 1/4	2 13/16	18 5/16	9 3/4	10 3/8	5 7/8	4 5/8	9 1/4	16 5/16	18 7/8	11 13/16	14 3/8	7/8	5/16	23 1/16	6
27-33	10 1/4	3 1/2	25 3/16	11 7/16	12 5/8	7 1/8	5 13/16	11 7/16	21 7/16	24 7/16	13 3/4	16 3/4	7/8	3/8	31 1/16	6 3/4
34-39	11 13/16	4 1/4	29 15/16	14 1/16	14 15/16	8 7/8	6 5/8	14	22 13/16	26 3/4	15 3/4	19 11/16	1 1/16	3/8	36 1/2	8 11/16
40-47	13 3/8	6 1/8	40 3/8	18 3/16	19 11/16	11 1/16	8 9/16	18 11/16	31 7/8	35 13/16	22 1/16	26	1 5/16	9/16	49	11 9/16
48-58	15 3/4	7 7/8	44 3/8	22 9/16	23 5/8	13 3/16	11 5/8	23 1/4	37 13/16	42 15/16	22 1/16	27 3/16	1 3/4	13/16	56 1/8	13 11/16

Weights, Type Y lbs

Size	Approx Weight
1-4	26
5-6	29
7-9	46
10-12	51
13-16	82
17-18	90
19-22	141
23-26	157

Size	Approx Weight
27-28	262
29-31	289
32-33	320
34-35	507
36-37	551
38-39	595
40-42	1010
43-44	1120

Size	Approx Weight
45-47	1260
48-49	1590
50-52	1760
53-55	1870
56-58	2470

Yoke Table

Size	Yoke Arrangement is used on these Travels	Width W
1-6	1 15/16	3 1/4
7-12	2 3/8	3 7/16
13-18	not used	-
19-26	not used	-
27-33	3 15/16	5 3/8
34-39	4 3/4 to 5 1/8	6 7/8
40-47	6 5/16 to 6 11/16	8 3/8
48-58	6 5/16 to 8 11/16	10 11/16

CONSTANT EFFORT SUPPORTS

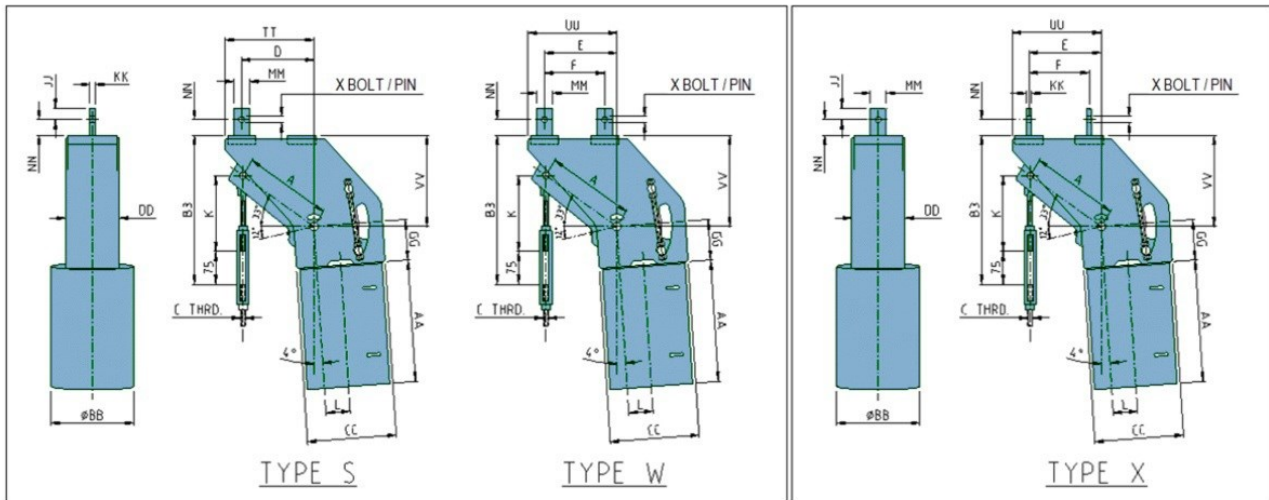
Constant Effort Supports Fig. ICA51 Type Y



ICA51 Type Y

Size	=>	1-6	7-12	13-18	19-26	27-33	34-39	40-47	48-58
Travel	A	B2	B2	B2	B2	B2	B2	B2	B2
1 15/16	2 5/8	2 3/4							
2 3/8	3 1/8	3 1/16	5 1/2						
2 3/4	3 11/16	3 3/8	5 3/4						
3 1/8	4 3/16	3 5/8	6	8 11/16					
3 9/16	4 3/4	3 7/8	6 5/16	8 15/16	12 3/8				
3 15/16	5 1/4	4 3/16	6 9/16	9 3/16	12 11/16	20 11/16			
4 5/16	5 13/16	4 1/2	6 7/8	9 1/2	13	21			
4 3/4	6 5/16	4 3/4	7 3/16	9 13/16	13 1/4	21 5/16	25 3/16		
5 1/8	6 13/16	5 1/16	7 7/16	10 1/16	13 9/16	21 9/16	25 7/16		
5 1/2	7 3/8	5 3/8	7 3/4	10 3/8	13 7/8	21 7/8	25 3/4		
5 7/8	7 7/8	5 5/8	8 1/16	10 11/16	14 1/8	22 3/16	26		
6 5/16	8 3/8	5 7/8	8 5/16	10 15/16	14 7/16	22 7/16	26 5/16	37 3/16	42
6 11/16	8 7/8	6 3/16	8 9/16	11 1/4	14 11/16	22 11/16	26 9/16	37 1/2	42 5/16
7 1/16	9 7/16	6 1/2	8 7/8	11 9/16	15	23 1/16	26 7/8	37 13/16	42 5/8
7 1/2	9 15/16	6 3/4	9 3/16	11 13/16	15 1/4	23 5/16	27 3/16	38 1/16	42 7/8
7 7/8	10 1/2	7 1/16	9 7/16	12 1/16	15 9/16	23 9/16	27 7/16	38 3/8	43 1/8
8 1/4	11	7 5/16	9 3/4	12 3/8	15 13/16	23 7/8	27 11/16	38 5/8	43 7/16
8 11/16	11 9/16	7 5/8	10 1/16	12 11/16	16 1/8	24 3/16	28 1/16	38 15/16	43 3/4
9 1/16	12 1/16	7 15/16	10 5/16	12 15/16	16 7/16	24 7/16	28 5/16	39 3/16	44
9 7/16	12 9/16	8 3/16	10 9/16	13 1/4	16 11/16	24 3/4	28 9/16	39 1/2	44 5/16
9 13/16	13 1/8	8 7/16	10 7/8	13 1/2	16 15/16	25	28 7/8	39 3/4	44 9/16
10 1/4	13 5/8	8 3/4	11 1/8	13 3/4	17 1/4	25 1/4	29 1/8	40 1/16	44 13/16
10 5/8	14 1/8	9 1/16	11 7/16	14 1/8	17 9/16	25 9/16	29 7/16	40 3/8	45 3/16
11	14 11/16	9 5/16	11 3/4	14 3/8	17 13/16	25 7/8	29 3/4	40 5/8	45 7/16
11 7/16	15 3/16	9 5/8	12	14 5/8	18 1/8	26 1/8	30	40 7/8	45 11/16
11 13/16	15 11/16	9 7/8	12 5/16	14 15/16	18 3/8	26 7/16	30 1/4	41 3/16	46
12 3/16	16 1/4		12 9/16	15 3/16	18 11/16	26 11/16	30 9/16	41 7/16	46 1/4
12 5/8	16 3/4		12 7/8	15 1/2	19	27	30 7/8	41 3/4	46 9/16
13	17 5/16		13 1/8	15 13/16	19 1/4	27 5/16	31 1/8	42 1/16	46 7/8
13 3/8	17 13/16		13 7/16	16 1/16	19 1/2	27 9/16	31 7/16	42 5/16	47 1/8
13 3/4	18 3/8		13 3/4	16 3/8	19 13/16	27 7/8	31 3/4	42 5/8	47 7/16
14 3/16	18 7/8		14	16 5/8	20 1/8	28 1/8	32	42 15/16	47 11/16
14 9/16	19 3/8		14 5/16	16 15/16	20 3/8	28 7/16	32 5/16	43 3/16	48
14 15/16	19 7/8		14 9/16	17 3/16	20 11/16	28 11/16	32 9/16	43 7/16	48 1/4
15 3/8	20 7/16		14 7/8	17 1/2	21	29	32 7/8	43 3/4	48 9/16
15 3/4	20 15/16		15 3/16	17 13/16	21 1/4	29 5/16	33 1/8	44 1/16	48 7/8
16 1/8	21 7/16		15 7/16	18 1/16	21 9/16	29 9/16	33 7/16	44 5/16	49 1/8
16 9/16	22		15 11/16	18 3/8	21 13/16	29 13/16	33 11/16	44 5/8	49 7/16
16 15/16	22 1/2			18 11/16	22 1/8	30 3/16	34	44 15/16	49 3/4
17 5/16	23 1/16			18 15/16	22 3/8	30 7/16	34 5/16	45 3/16	50
17 11/16	23 9/16			19 3/16	22 11/16	30 11/16	34 9/16	45 1/2	50 1/4
18 1/8	24 1/8			19 1/2	22 15/16	31	34 13/16	45 3/4	50 9/16
18 1/2	24 5/8			19 3/4	23 1/4	31 1/4	35 1/8	46	50 13/16
18 7/8	25 1/8			20 1/16	23 1/2	31 9/16	35 3/8	46 5/16	51 1/8
19 5/16	25 11/16			20 3/8	23 13/16	31 7/8	35 11/16	46 5/8	51 7/16
19 11/16	26 3/16			20 5/8	24 1/8	32 1/8	36	46 7/8	51 11/16
20 1/16	26 11/16						36 1/4	47 3/16	51 15/16
20 1/2	27 3/16						36 9/16	47 7/16	52 1/4
20 7/8	27 3/4						36 7/8	47 3/4	52 9/16
21 1/4	28 1/4						37 1/8	48 1/16	52 13/16
21 5/8	28 3/4						37 3/8	48 5/16	53 1/8
22 1/16	29 5/16						37 11/16	48 5/8	53 7/16
22 7/16	29 13/16						38	48 7/8	53 11/16
22 13/16	30 3/8						38 1/4	49 3/16	54
23 1/4	30 7/8						38 9/16	49 1/2	54 5/16
23 5/8	31 7/16						38 7/8	49 3/4	54 9/16
24	31 15/16						39 1/8	50 1/16	54 13/16

Constant Effort Supports Fig. ICA51 Types S, T, U, W, X & Z



For rod diameter size designation C, see Page 8
 For bolt / pin size designation X, see Page 9
 Dimension B3 is shown with load arm in high position

Dimensions for Fig. ICA51 Constant Effort Supports Types S, T, U, W, X & Z

Size	E	F	K	L	AA	BB	CC	DD	GG	PP	QQ	RR	SS
1-6	5 7/8	5 1/8	6 11/16	1 7/16	7 15/16	5 1/8	6 5/16	4 1/2	2 15/16	8 7/16	6 1/2	9/16	1/4
7-12	6 1/8	4 15/16	8 11/16	1 7/8	12 5/16	6	7 11/16	4 3/4	3 1/4	9 1/16	7 1/16	11/16	1/4
13-18	8 7/8	7 11/16	8 11/16	2 3/8	14 5/16	8 1/16	8 11/16	5 1/4	3 9/16	10 1/16	8 1/16	7/8	5/16
19-26	10 1/4	8 11/16	10 1/4	2 13/16	18 5/16	9 3/4	10 3/8	5 7/8	4 5/8	10 5/8	8 11/16	7/8	5/16
27-33	11 1/4	9 7/16	10 1/4	3 1/2	25 3/16	11 7/16	12 5/8	7 1/8	5 13/16	12 5/8	10 7/16	7/8	3/8
34-39	15 3/4	14	11 13/16	4 1/4	29 15/16	14 1/16	14 15/16	8 7/8	6 5/8	16 3/4	13 3/16	1 1/16	3/8
40-47	16 15/16	14 9/16	13 3/8	6 1/8	40 3/8	18 3/16	19 11/16	11 1/16	8 9/16	18 7/8	15 9/16	1 5/16	9/16
48-58	18 1/8	14 3/8	15 3/4	7 7/8	44 3/8	22 9/16	23 5/8	13 3/16	11 5/8	29 5/16	20 1/2	1 3/4	13/16
59-66	16 15/16	19 11/16	15 3/4	8 7/8	69 3/8	24 5/8	27 9/16	17 1/2	12	33 11/16	26 15/16	2	1

Maximum Recommended Travels for Types S & T

Size	Max. Travel
1-6	7 1/2
7-12	7 1/2
13-18	8 1/4
19-26	11 7/16
27-33	11 13/16
34-39	19 11/16
40-47	Not recommended
48-58	Not recommended
59-66	Not recommended

Dimensions of Suspension Lugs

Size	2	3	4	6	7	9	10	11	12	13	14	15	16
Ø Hole	9/16	11/16	7/8	1	1 1/4	1 1/2	1 3/4	2	2 3/8	2 11/16	3	3 5/16	3 11/16
JJ	1	1	1 3/16	1 9/16	1 3/4	2 3/8	2 3/4	3 1/8	3 9/16	3 15/16	4 5/16	5 1/8	5 1/2
KK	1/4	1/4	3/8	3/8	1/2	9/16	9/16	13/16	13/16	13/16	1	1	1 3/16
MM	1 9/16	1 15/16	1 15/16	2 3/4	3 1/8	3 15/16	4 3/4	5 1/8	5 7/8	6 11/16	7 1/16	8 11/16	8 11/16
NN	1 3/8	1 9/16	1 3/4	2 3/8	2 3/8	2 15/16	3 9/16	3 15/16	4 1/8	4 1/2	4 15/16	5 11/16	6 5/16
WW	1 3/16	1 3/16	1 3/8	1 9/16	1 15/16	2 9/16	2 3/4	2 15/16	3 3/8	3 9/16	3 15/16	4 5/16	4 3/4

Dimensions TT, UU & VV

Size	Travel 1 9/16 - 5 1/2			Travel 5 7/8 - 8 11/16			Travel 9 1/16 - 11 13/16			Travel 12 3/16 - 14 3/16			Travel 14 9/16 - 16 9/16			Travel 16 15/16 - 19 11/16			Travel 20 1/16 - 24		
	TT	UU	VV	TT	UU	VV	TT	UU	VV	TT	UU	VV	TT	UU	VV	TT	UU	VV	TT	UU	VV
1-6	6 1/2	6 1/2	5 13/16	8 7/8	6 1/2	7 1/2	-	6 1/2	9 13/16	-	-	-	-	-	-	-	-	-	-	-	-
7-12	6 7/8	6 7/8	6 1/4	10 3/16	6 7/8	8 7/16	-	6 7/8	9 13/16	-	6 7/8	11 9/16	-	6 7/8	13 1/4	-	-	-	-	-	-
13-18	10 1/2	10 1/2	9	10 1/2	10 1/2	9	-	9 13/16	10	-	9 13/16	11 11/16	-	9 13/16	13 7/16	-	-	-	-	-	-
19-26	11 7/16	11 7/16	9 3/16	11 7/16	11 7/16	9 3/16	13 9/16	11 7/16	11 1/8	-	11 7/16	11 7/8	-	11 7/16	13 9/16	-	11 7/16	15 7/8	-	-	-
27-33	12 9/16	12 9/16	9 13/16	12 9/16	12 9/16	9 13/16	14 3/16	12 9/16	12 1/16	14 3/16	12 9/16	12 1/16	-	12 9/16	13 11/16	-	12 9/16	15 15/16	-	-	-
34-39	17 5/16	17 5/16	12 13/16	17 5/16	17 5/16	12 13/16	17 5/16	17 5/16	12 13/16	17 5/16	17 5/16	14 3/4	19 11/16	17 5/16	16 5/16	23 1/4	17 5/16	18 1/2	-	17 5/16	19 7/16
40-47	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	16 15/16	-	19 3/8	20 1/16
48-58	-	21 7/16	18 9/16	-	21 7/16	18 9/16	-	21 7/16	18 9/16	-	21 7/16	18 9/16	-	21 7/16	18 9/16	-	21 7/16	19 5/16	-	21 7/16	21 7/8
59-66	-	-	-	-	20 1/4	21 7/16	-	20 1/4	21 7/16	-	20 1/4	21 7/16	-	20 1/4	21 7/16	-	20 1/4	21 7/16	-	20 1/4	21 7/16

Weights lbs

Size	Approx Weight
1-4	31
5-6	31
7-9	46
10-12	51
13-16	84
17-18	93
19-22	152
23-26	168

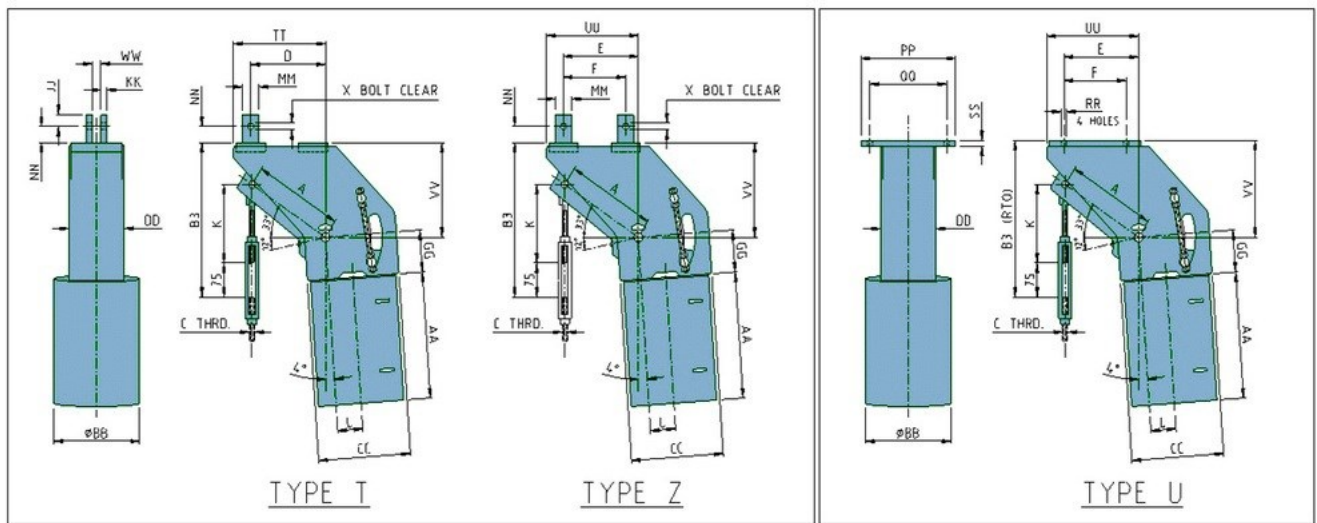
Size	Approx Weight
27-28	273
29-31	298
32-33	331
34-35	529
36-37	551
38-39	617
40-42	1010
43-44	1120

Size	Approx Weight
45-47	1260
48-49	1610
50-52	1790
53-55	1900
56-58	2490
59-62	4120
63-66	4610

Yoke Table

Size	Yoke Arrangement is used on these Travels	Width W
1-6	1 15/16	3 1/4
7-12	2 3/8	3 7/16
13-18	not used	-
19-26	not used	-
27-33	3 15/16	5 3/8
34-39	4 3/4 to 5 1/8	6 7/8
40-47	6 5/16 to 6 11/16	8 3/8
48-58	6 5/16 to 8 11/16	10 11/16
59-66	7 1/2 to 9 1/16	14 1/16

Constant Effort Supports Fig. ICA51 Types S, T, U, W, X & Z

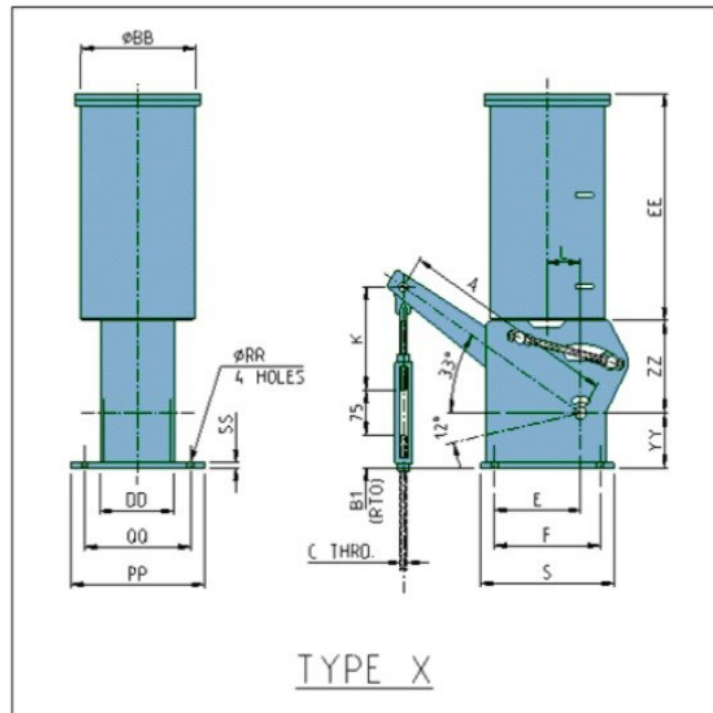


Size	=>	1-6		7-12		13-18		19-26		27-33		34-39		40-47	48-58	59-66
Travel	A	B3	D	B3	D	B3	D	B3	D	B3	D	B3	D	B3	B3	B3
1 15/16	2 5/8	14 1/16	2 1/4													
2 3/8	3 1/8	13 3/4	2 11/16	16 1/8	2 3/4											
2 3/4	3 11/16	13 7/16	3 1/16	15 13/16	3 1/4											
3 1/8	4 3/16	13 3/16	3 7/16	15 9/16	3 11/16	18 5/16	3 11/16									
3 9/16	4 3/4	12 15/16	3 7/8	15 1/4	4 1/8	18 1/16	4 1/8	19 13/16	4 1/8							
3 15/16	5 1/4	12 5/8	4 1/4	15	4 1/2	17 3/4	4 1/2	19 1/2	4 9/16	20 3/16	4 1/2					
4 5/16	5 13/16	12 5/16	4 5/8	14 11/16	4 15/16	17 7/16	5	19 3/16	5	19 7/8	5					
4 3/4	6 5/16	12 1/16	5	14 7/16	5 3/8	17 3/16	5 3/8	18 15/16	5 7/16	19 5/8	5 7/16	24 1/8	5 3/8			
5 1/8	6 13/16	11 3/4	5 3/8	14 1/8	5 13/16	16 7/8	5 13/16	18 11/16	5 7/8	19 5/16	5 7/8	23 7/8	5 13/16			
5 1/2	7 3/8	11 7/16	5 11/16	13 13/16	6 1/4	16 9/16	6 1/4	18 3/8	6 5/16	19	6 5/16	23 9/16	6 1/4			
5 7/8	7 7/8	12 7/8	6	15 13/16	6 5/8	16 5/16	6 11/16	18 1/16	6 11/16	18 3/4	6 11/16	23 1/4	6 5/8			
6 5/16	8 3/8	12 5/8	6 3/8	15 1/2	7 1/16	16	7 1/16	17 13/16	7 1/8	18 7/16	7 1/8	23	7 1/16	28 11/16	32 11/16	
6 11/16	8 7/8	12 5/16	6 11/16	15 1/4	7 7/16	15 3/4	7 1/2	17 1/2	7 9/16	18 3/16	7 9/16	22 11/16	7 1/2	28 7/16	32 3/8	
7 1/16	9 7/16	12	7 1/16	14 15/16	7 13/16	15 7/16	7 15/16	17 3/16	7 15/16	17 7/8	7 15/16	22 3/8	7 15/16	28 1/8	32 1/16	
7 1/2	9 15/16	11 3/4	7 3/8	14 5/8	8 1/4	15 3/16	8 5/16	16 15/16	8 3/8	17 5/8	8 3/8	22 1/8	8 3/8	27 13/16	31 13/16	34 11/16
7 7/8	10 1/2	11 7/16		14 3/8		14 7/8	8 3/4	16 5/8	8 3/4	17 5/16	8 13/16	21 7/8	8 3/4	27 9/16	31 9/16	34 7/16
8 1/4	11	11 3/16		14 1/8		14 5/8	9 1/8	16 3/8	9 3/16	17 1/16	9 3/16	21 9/16	9 1/8	27 5/16	31 1/4	34 1/8
8 11/16	11 9/16	10 7/8		13 3/4		14 5/16		16 1/16	9 5/8	16 3/4	9 5/8	21 1/4	9 9/16	26 15/16	30 15/16	33 13/16
9 1/16	12 1/16	12 7/8		14 7/8		15 1/16		17 3/4	10	18 11/16	10 1/16	21	9 15/16	26 11/16	30 11/16	33 9/16
9 7/16	12 9/16	12 5/8		14 5/8		14 3/4		17 1/2	10 3/8	18 7/16	10 7/16	20 11/16	10 3/8	26 7/16	30 3/8	33 1/4
9 13/16	13 1/8	12 5/16		14 5/16		14 1/2		17 13/16	10 13/16	18 1/8	10 13/16	20 7/16	10 3/4	26 1/8	30 1/8	33
10 1/4	13 5/8	12 1/16		14 1/16		14 3/16		16 15/16	11 3/16	17 7/8	11 1/4	20 3/16	11 1/8	25 7/8	29 13/16	32 11/16
10 5/8	14 1/8	11 3/4		13 3/4		13 7/8		16 5/8	11 9/16	17 9/16	11 5/8	19 13/16	11 9/16	25 9/16	29 1/2	32 3/8
11	14 11/16	11 7/16		13 7/16		13 5/8		16 5/16	11 15/16	17 5/16	12	19 9/16	11 15/16	25 1/4	29 1/4	32 1/8
11 7/16	15 3/16	11 3/16		13 3/16		13 3/8		16 1/16	12 3/8	17	12 3/8	19 5/16	12 5/16	25	29	31 7/8
11 13/16	15 11/16	10 7/8		12 15/16		13 1/16		15 13/16		16 3/4	12 13/16	19	12 11/16	24 3/4	28 11/16	31 9/16
12 3/16	16 1/4			14 3/8		14 1/2		16 1/4		16 7/16		20 11/16	13 1/16	24 7/16	28 7/16	31 5/16
12 5/8	16 3/4			14 1/16		14 3/16		15 7/8		16 1/8		20 3/8	13 7/16	24 1/8	28 1/8	31
13	17 5/16			13 3/4		13 7/8		15 5/8		15 7/8		20 1/8	13 13/16	23 7/8	27 13/16	30 11/16
13 3/8	17 13/16			13 1/2		13 5/8		15 3/8		15 9/16		19 13/16	14 3/16	23 9/16	27 9/16	30 7/16
13 3/4	18 3/8			13 3/16		13 5/16		15 1/16		15 1/4		19 1/2	14 9/16	23 1/4	27 1/4	30 1/8
14 3/16	18 7/8			12 15/16		13 1/16		14 3/4		15		19 1/4	14 15/16	23	26 15/16	29 13/16
14 9/16	19 3/8			14 5/16		14 1/2		16 1/4		16 5/16		20 9/16	15 5/16	22 11/16	26 11/16	29 9/16
14 15/16	19 7/8			14 1/16		14 3/16		15 15/16		16 1/16		20 1/4	15 11/16	22 7/16	26 7/16	29 5/16
15 3/8	20 7/16			13 3/4		13 7/8		15 5/8		15 3/4		19 15/16	16 1/16	22 1/8	26 1/8	29
15 3/4	20 15/16			13 7/16		13 5/8		15 3/8		15 1/2		19 11/16	16 7/16	21 7/8	25 13/16	28 11/16
16 1/8	21 7/16			13 3/16		13 3/8		15 1/16		15 3/16		19 7/16	16 3/4	21 9/16	25 9/16	28 7/16
16 9/16	22			12 15/16		13 1/16		14 13/16		14 15/16		19 1/8	17 1/8	21 5/16	25 1/4	28 1/8
16 15/16	22 1/2							16 3/4		16 7/8		21	17 1/2	21	25 11/16	27 13/16
17 5/16	23 1/16							16 1/2		16 9/16		20 11/16	17 13/16	20 11/16	25 7/16	27 9/16
17 11/16	23 9/16							16 1/4		16 5/16		20 7/16	18 3/16	20 7/16	25 3/16	27 5/16
18 1/8	24 1/8							15 15/16		16		20 3/16	18 9/16	20 3/16	24 7/8	27
18 1/2	24 5/8							15 11/16		15 3/4		19 7/8	18 7/8	19 7/8	24 5/8	26 3/4
18 7/8	25 1/8							15 3/8		15 1/2		19 5/8	19 3/16	19 5/8	24 5/16	26 7/16
19 5/16	25 11/16							15 1/16		15 3/16		19 5/16	19 9/16	19 5/16	24	26 1/8
19 11/16	26 3/16							14 13/16		14 7/8		19	19 15/16	19	23 3/4	25 7/8
20 1/16	26 11/16											19 11/16		21 7/8	26 1/16	25 9/16
20 1/2	27 3/16											19 7/16		21 5/8	25 13/16	25 5/16
20 7/8	27 3/4											19 1/8		21 5/16	25 1/2	25
21 1/4	28 1/4											18 13/16		21	25 3/16	24 3/4
21 5/8	28 3/4											18 9/16		20 3/4	24 15/16	24 7/16
22 1/16	29 5/16											18 1/4		20 7/16	24 5/8	24 1/8
22 7/16	29 13/16											17 15/16		20 3/16	24 5/16	23 7/8
22 13/16	30 3/8											17 11/16		19 7/8	24 1/16	23 9/16
23 1/4	30 7/8											17 3/8		19 9/16	23 3/4	23 1/4
23 5/8	31 7/16											17 1/16		19 5/16	23 7/16	23
24	31 15/16											16 13/16		19	23 3/16	22 11/16



ICA51 Type S

Constant Effort Supports Fig. ICA52 Type X



For rod diameter size designation C, see Page 8
Rod Take Out (B1) is shown with load arm in high position

Dimensions for Fig. ICA52 Constant Effort Supports Type X

Size	E	F	S	K	L	BB	DD	EE	PP	QQ	RR	SS	ZZ
1-6	4 1/8	5 1/2	7 1/16	6 11/16	1 7/16	5 1/8	4 1/2	8 3/16	8 7/16	6 1/2	9/16	1/4	4 5/16
7-12	4 3/4	6 1/8	8 1/16	8 11/16	1 7/8	6	4 3/4	12 1/2	9 1/16	7 1/16	11/16	1/4	4 7/8
13-18	6 1/8	7 1/2	9 7/16	8 11/16	2 3/8	8 1/16	5 1/4	14 1/2	10 1/16	8 1/16	7/8	5/16	6
19-26	7 1/2	9 7/16	12	10 1/4	2 13/16	9 3/4	5 7/8	18 9/16	10 5/8	8 11/16	7/8	5/16	7 3/8
27-33	9 1/4	11 13/16	14 3/4	10 1/4	3 1/2	11 7/16	7 1/8	25 3/8	12 5/8	10 7/16	7/8	3/8	9
34-39	11 7/16	14 3/8	18 5/16	11 13/16	4 1/4	14 1/16	8 7/8	30 1/8	16 3/4	13 3/16	1 1/16	3/8	10 3/16
40-47	14	17 15/16	24	13 3/8	6 1/8	18 3/16	11 1/16	40 9/16	18 7/8	15 9/16	1 5/16	9/16	13 5/16
48-58	13 3/8	18 7/8	24	15 3/4	7 7/8	22 9/16	13 3/16	44 13/16	29 5/16	20 1/2	1 3/4	13/16	17 1/16
59-66	14 15/16	22 1/16	27 15/16	15 3/4	8 7/8	24 5/8	17 1/2	69 3/4	33 11/16	26 15/16	2	1	18 11/16

Dimension YY

Size	Travel 1 9/16 to 5 1/2	Travel 5 7/8 to 8 11/16	Travel 9 1/16 to 11 13/16	Travel 12 3/16 to 14 3/16	Travel 14 9/16 to 16 9/16	Travel 16 15/16 to 19 11/16	Travel 20 1/16 to 24
	YY	YY	YY	YY	YY	YY	YY
1-6	2 9/16	3 1/4	4 1/8	-	-	-	-
7-12	3 5/16	3 5/16	4 3/16	4 13/16	5 1/2	-	-
13-18	3 9/16	3 9/16	4 5/16	5	5 5/8	-	-
19-26	4 11/16	4 11/16	4 11/16	5 3/16	5 13/16	6 3/4	-
27-33	5 1/4	5 1/4	5 1/4	5 1/4	5 7/8	6 3/4	-
34-39	6 3/16	6 3/16	6 3/16	6 3/16	6 3/16	7 1/16	8 1/4
40-47	7 5/8	7 5/8	7 5/8	7 5/8	7 5/8	7 5/8	8 7/8
48-58	9 1/4	9 1/4	9 1/4	9 1/4	9 1/4	9 1/4	9 1/4
59-66	-	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16	11 13/16

Yoke Table

Size	Yoke Arrangement is used on these Travels	Width W
1-6	1 9/16 to 4 5/16	3 11/16
7-12	1 9/16 to 4 1/8	3 7/8
13-18	2 3/8 to 5 7/8	4 5/16
19-26	2 3/4 to 7 1/16	4 13/16
27-33	3 1/8 to 8 11/16	6
34-39	3 15/16 to 10 1/4	7 1/2
40-47	4 3/4 to 13 3/4	9 1/8
48-58	5 7/8 to 17 5/16	11 5/16
59-66	7 1/16 to 22 7/16	15 1/16

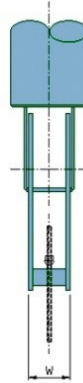
Weights, Type X lbs

Size	Approx Weight	Size	Approx Weight	Size	Approx Weight
1-4	29	27-28	254	45-47	1170
5-6	31	29-31	278	48-49	1520
7-9	44	32-33	309	50-52	1700
10-12	49	34-35	485	53-55	1830
13-16	79	36-37	529	56-58	2430
17-18	88	38-39	573	59-62	3990
19-22	139	40-42	926	63-66	4480
23-26	154	43-44	1040		

Constant Effort Supports Fig. ICA52 Type X



YOKE ARRANGEMENT
FOR SHORT TRAVELS.
- SEE TABLE

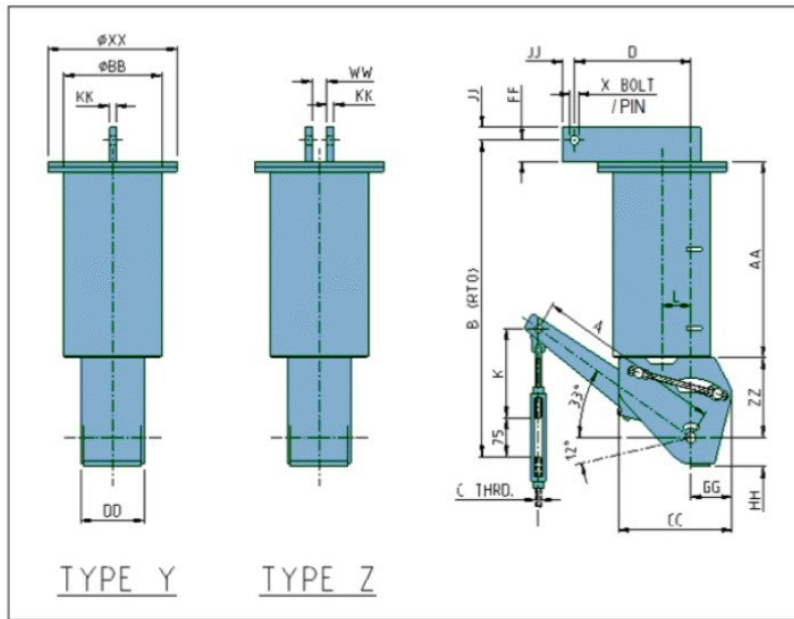


ICA52 Type X

Size	=>	1-6	7-12	13-18	19-26	27-33	34-39	40-47	48-58	59-66
Travel	A	B1	B1	B1	B1	B1	B1	B1	B1	B1
1 9/16	2 1/8	-4 3/16	-7 3/16							
1 15/16	2 5/8	-3 7/8	-6 7/8							
2 3/8	3 1/8	-3 9/16	-6 9/16	-6 5/16						
2 3/4	3 11/16	-3 5/16	-6 5/16	-6 1/16	-6 1/2					
3 1/8	4 3/16	-3 1/16	-6	-5 13/16	-6 1/4	-5 5/8				
3 9/16	4 3/4	-2 3/4	-5 3/4	-5 1/2	-5 15/16	-5 3/8				
3 15/16	5 1/4	-2 1/2	-5 1/2	-5 1/4	-5 11/16	-5 1/16	-5 3/4			
4 5/16	5 13/16	-2 3/16	-5 3/16	-4 15/16	-5 3/8	-4 3/4	-5 7/16			
4 3/4	6 5/16	-1 7/8	-4 7/8	-4 5/8	-5 1/16	-4 1/2	-5 3/16	-5 1/4		
5 1/8	6 13/16	-1 5/8	-4 5/8	-4 3/8	-4 13/16	-4 3/16	-4 7/8	-5		
5 1/2	7 3/8	-1 5/16	-4 5/16	-4 1/16	-4 1/2	-3 7/8	-4 9/16	-4 11/16		
5 7/8	7 7/8	-1	-4	-3 3/4	-4 3/16	-3 5/8	-4 5/16	-4 7/16	-5 3/16	
6 5/16	8 3/8	-3/4	-3 3/4	-3 1/2	-3 15/16	-3 3/8	-4	-4 1/8	-4 7/8	
6 11/16	8 7/8	-1/2	-3 7/16	-3 1/4	-3 11/16	-3 1/16	-3 3/4	-3 7/8	-4 5/8	
7 1/16	9 7/16	-3/16	-3 1/8	-2 15/16	-3 3/8	-2 3/4	-3 7/16	-3 9/16	-4 5/16	-1 3/4
7 1/2	9 15/16	1/8	-2 7/8	-2 5/8	-3 1/16	-2 1/2	-3 1/8	-3 1/4	-4	-1 7/16
7 7/8	10 1/2	3/8	-2 5/8	-2 3/8	-2 13/16	-2 3/16	-2 7/8	-3	-3 3/4	-1 3/16
8 1/4	11	11/16	-2 5/16	-2 1/16	-2 1/2	-1 15/16	-2 5/8	-2 11/16	-3 7/16	-7/8
8 11/16	11 9/16	1	-2	-1 3/4	-2 3/16	-1 5/8	-2 5/16	-2 3/8	-3 1/8	-9/16
9 1/16	12 1/16	1 1/4	-7/8	-11/16	-1 15/16	-1 5/16	-2	-2 1/8	-2 7/8	-5/16
9 7/16	12 9/16	1 9/16	-9/16	-7/16	-1 5/8	-1 1/16	-1 3/4	-1 7/8	-2 5/8	-1/16
9 13/16	13 1/8	1 13/16	-5/16	-3/16	-1 3/8	-13/16	-1 7/16	-1 9/16	-2 5/16	1/4
10 1/4	13 5/8	2 1/16	-1/16	1/8	-1 1/8	-1/2	-1 3/16	-1 5/16	-2 1/16	1/2
10 5/8	14 1/8	2 3/8	1/4	7/16	-13/16	-3/16	-7/8	-1	-1 3/4	13/16
11	14 11/16	2 11/16	9/16	11/16	-1/2	1/16	-9/16	-11/16	-1 7/16	1 1/8
11 7/16	15 3/16	2 15/16	13/16	1	-1/4	3/8	-5/16	-7/16	-1 3/16	1 3/8
11 13/16	15 11/16	3 1/4	1 1/8	1 1/4	1/16	5/8	-1/16	-3/16	-7/8	1 5/8
12 3/16	16 1/4		2 1/16	2 3/16	13/16	7/8	1/4	1/8	-5/8	1 15/16
12 5/8	16 3/4		2 3/8	2 1/2	1 1/8	1 1/4	9/16	7/16	-5/16	2 1/4
13	17 5/16		2 5/8	2 13/16	1 7/16	1 1/2	13/16	11/16	-1/16	2 1/2
13 3/8	17 13/16		2 15/16	3 1/16	1 11/16	1 3/4	1 1/8	1	1/4	2 13/16
13 3/4	18 3/8		3 1/4	3 3/8	2	2 1/16	1 7/16	1 5/16	9/16	3 1/8
14 3/16	18 7/8		3 1/2	3 11/16	2 5/16	2 3/8	1 11/16	1 9/16	13/16	3 3/8
14 9/16	19 3/8		4 7/16	4 9/16	3 3/16	3 1/4	1 15/16	1 7/8	1 1/8	3 11/16
14 15/16	19 7/8		4 11/16	4 13/16	3 7/16	3 1/2	2 1/4	2 1/8	1 3/8	3 15/16
15 3/8	20 7/16		5	5 3/16	3 3/4	3 13/16	2 9/16	2 7/16	1 11/16	4 1/4
15 3/4	20 15/16		5 1/4	5 7/16	4 1/16	4 1/8	2 13/16	2 11/16	1 15/16	4 1/2
16 1/8	21 7/16		5 9/16	5 11/16	4 5/16	4 3/8	3 1/8	3	2 1/4	4 13/16
16 9/16	22		5 13/16	6	4 5/8	4 5/8	3 3/8	3 1/4	2 1/2	5 1/16
16 15/16	22 1/2				5 13/16	5 7/8	4 9/16	3 9/16	2 13/16	5 3/8
17 5/16	23 1/16				6 1/8	6 1/8	4 13/16	3 7/8	3 1/8	5 11/16
17 11/16	23 9/16				6 3/8	6 7/16	5 1/8	4 1/8	3 3/8	5 15/16
18 1/8	24 1/8				6 5/8	6 11/16	5 3/8	4 7/16	3 11/16	6 1/4
18 1/2	24 5/8				6 15/16	6 15/16	5 11/16	4 11/16	3 15/16	6 1/2
18 7/8	25 1/8				7 3/16	7 1/4	5 15/16	4 15/16	4 3/16	6 3/4
19 5/16	25 11/16				7 1/2	7 9/16	6 1/4	5 1/4	4 1/2	7 1/16
19 11/16	26 3/16				7 13/16	7 13/16	6 9/16	5 9/16	4 13/16	7 3/8
20 1/16	26 11/16						8 1/16	7 1/16	5 1/16	7 5/8
20 1/2	27 3/16						8 5/16	7 5/16	5 3/8	7 15/16
20 7/8	27 3/4						8 5/8	7 5/8	5 11/16	8 1/4
21 1/4	28 1/4						8 7/8	7 15/16	5 15/16	8 1/2
21 5/8	28 3/4						9 3/16	8 3/16	6 1/4	8 3/4
22 1/16	29 5/16						9 1/2	8 1/2	6 9/16	9 1/8
22 7/16	29 13/16						9 3/4	8 3/4	6 13/16	9 3/8
22 13/16	30 3/8						10 1/16	9 1/16	7 1/16	9 5/8
23 1/4	30 7/8						10 3/8	9 3/8	7 3/8	9 15/16
23 5/8	31 7/16						10 5/8	9 5/8	7 11/16	10 1/4
24	31 15/16						10 7/8	9 15/16	7 15/16	10 1/2

CONSTANT EFFORT SUPPORTS

Constant Effort Supports Fig. ICA52 Types Y & Z



For rod diameter size designation C, see Page 8
 For bolt / pin size designation X, see Page 9
 Rod Take Out (B) is shown with load arm in high position

Dimensions for Fig. ICA52 Constant Effort Supports Types Y & Z

Size	E	F	S	K	L	AA	CC	BB	XX	DD	FF	GG	HH	KK
1-6	4 1/8	5 1/2	7 1/16	6 11/16	1 7/16	8 3/16	6 7/8	5 1/8	7 5/16	4 1/2	1 9/16	2 15/16	1 5/16	3/8
7-12	4 3/4	6 1/8	8 1/16	8 11/16	1 7/8	12 5/8	7 15/16	6	8 3/16	4 3/4	1 3/4	3 1/16	1 7/16	1/2
13-18	6 1/8	7 1/2	9 7/16	8 11/16	2 3/8	14 11/16	9 5/16	8 1/16	10 11/16	5 1/4	1 15/16	3 3/8	2 3/16	1/2
19-26	7 1/2	9 7/16	12	10 1/4	2 13/16	18 3/4	10 9/16	9 3/4	13 1/4	5 7/8	2 9/16	3 15/16	2 3/8	13/16
27-33	9 1/4	11 13/16	14 3/4	10 1/4	3 1/2	25 3/4	12 3/4	11 7/16	14 15/16	7 1/8	2 15/16	4 9/16	2 15/16	1
34-39	11 7/16	14 3/8	18 5/16	11 13/16	4 1/4	30 11/16	14 7/8	14 1/16	17 1/2	8 7/8	3 9/16	4 15/16	3 3/4	1
40-47	14	17 15/16	24	13 3/8	6 1/8	41 1/8	20 11/16	18 3/16	22 1/2	11 1/16	4 1/8	6 7/8	4 3/16	1 3/16
48-58	13 3/8	18 7/8	24	15 3/4	7 7/8	46	26 3/8	22 9/16	27 11/16	13 3/16	5 11/16	9 1/8	5 7/16	1 9/16
59-66	14 15/16	22 1/16	27 15/16	15 3/4	8 7/8	71 5/16	28 1/16	24 5/8	30 13/16	17 1/2	6 5/16	9 1/8	6 1/2	1 9/16

Dimensions of Suspension Plates

Size	2	3	4	6	7	9	10	11	12	13	14	15	16
Ø Hole	9/16	11/16	7/8	1	1 1/4	1 1/2	1 3/4	2	2 3/8	2 11/16	3	3 5/16	3 11/16
JJ	1	1	1 3/16	1 9/16	1 3/4	2 3/8	2 3/4	3 1/8	3 9/16	3 15/16	4 5/16	5 1/8	5 1/2
WW	1 3/16	1 3/16	1 3/8	1 9/16	1 15/16	2 9/16	2 3/4	2 15/16	3 3/8	3 9/16	3 15/16	4 5/16	4 3/4

Yoke Table

Size	Yoke Arrangement is used on these Travels	Width W
1-6	1 9/16 to 4 5/16	3 11/16
7-12	1 9/16 to 4 1/8	3 7/8
13-18	2 3/8 to 5 7/8	4 5/16
19-26	2 3/4 to 7 1/16	4 13/16
27-33	3 1/8 to 8 11/16	6
34-39	3 15/16 to 10 1/4	7 1/2
40-47	4 3/4 to 13 3/4	9 1/8
48-58	5 7/8 to 17 5/16	11 5/16
59-66	7 1/16 to 22 7/16	15 1/16

Maximum Recommended Travels for Types Y & Z

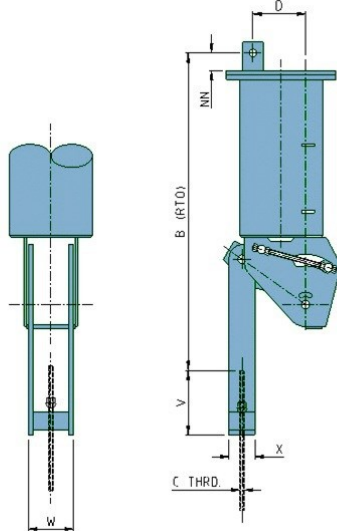
Size	Max Recommended Travel
1-6	9 13/16
7-12	11 13/16
13-18	14 3/16
19-26	16 9/16
27-33	16 9/16
34-39	19 11/16

Weights, Type Y & Z lbs

Size	Approx Weight	Size	Approx Weight	Size	Approx Weight
1-4	26	27-28	249	45-47	1170
5-6	26	29-31	273	48-49	1540
7-9	42	32-33	304	50-52	1720
10-12	46	34-35	485	53-55	1830
13-16	79	36-37	529	56-58	2430
17-18	86	38-39	573	59-62	4010
19-22	141	40-42	926	63-66	4500
23-26	157	43-44	1040		

Constant Effort Supports Fig. ICA52 Types Y & Z

YOKE ARRANGEMENT
FOR SHORT TRAVELS.
- SEE TABLE

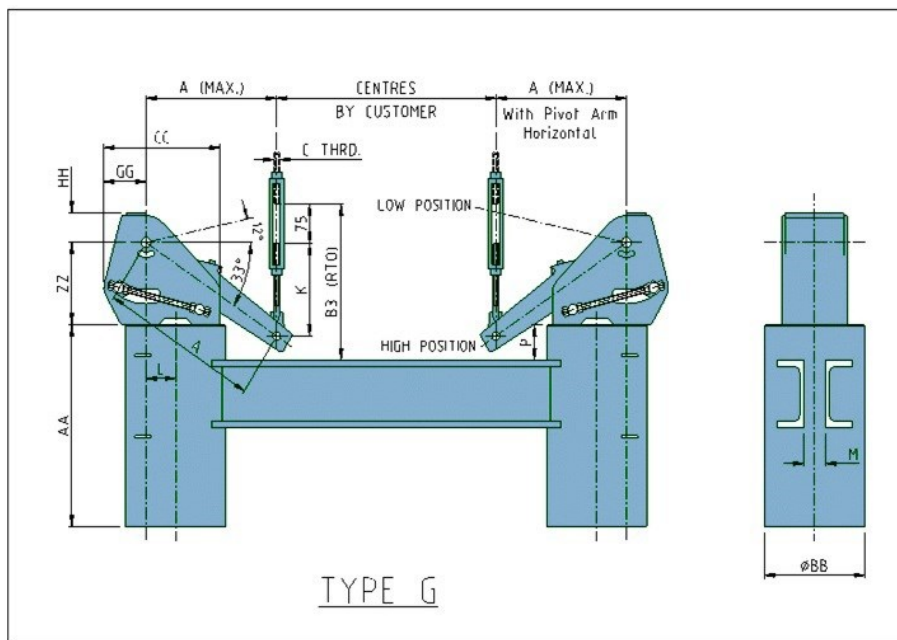


ICA52
Type Y



Size	=>	1-6		7-12		13-18		19-26		27-33		34-39		40-47		48-58		59-66	
Travel	A	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D
1 9/16	2 1/8	22 5/8	1 7/8	29 3/4	1 15/16														
1 15/16	2 5/8	22 5/8	2 3/8	29 7/16	2 3/8														
2 3/8	3 1/8	22	2 13/16	29 1/8	2 7/8	32 1/2	2 7/8												
2 3/4	3 11/16	21 3/4	3 1/4	28 7/8	3 5/16	32 1/4	3 3/8	39 15/16	3 3/8										
3 1/8	4 3/16	21 7/16	3 11/16	28 9/16	3 3/4	31 15/16	3 13/16	39 5/8	3 13/16	48 9/16	3 13/16								
3 9/16	4 3/4	21 3/16	4 1/16	28 5/16	4 3/16	31 11/16	4 1/4	39 3/8	4 5/16	48 5/16	4 5/16								
3 15/16	5 1/4	20 7/8	4 1/2	28 1/16	4 11/16	31 7/16	4 3/4	39 1/8	4 3/4	48 1/16	4 3/4	56 5/16	4 3/4						
4 5/16	5 13/16	20 9/16	4 7/8	27 11/16	5 1/8	31 1/8	5 3/16	38 3/4	5 3/16	47 11/16	5 1/4	56	5 1/4						
4 3/4	6 5/16	20 5/16	5 1/4	27 7/16	5 9/16	30 13/16	5 9/16	38 1/2	5 5/8	47 7/16	5 11/16	55 11/16	5 11/16	71 1/2	5 13/16				
5 1/8	6 13/16	20 1/16	5 11/16	27 3/16	6	30 9/16	6 1/16	38 1/4	6 1/8	47 3/16	6 1/8	55 7/16	6 1/8	71 1/4	6 1/4				
5 1/2	7 3/8	19 3/4	6	26 7/8	6 7/16	30 1/4	6 1/2	37 15/16	6 9/16	46 7/8	6 9/16	55 1/8	6 5/8	70 7/8	6 11/16				
5 7/8	7 7/8	19 7/16	6 7/16	26 9/16	6 7/8	29 15/16	6 15/16	37 5/8	6 15/16	46 9/16	7	54 13/16	7 1/16	70 5/8	7 1/8	83 1/8	7 3/16		
6 5/16	8 3/8	19 3/16	6 3/4	26 5/16	7 5/16	29 11/16	7 3/8	37 3/8	7 3/8	46 5/16	7 1/2	54 9/16	7 1/2	70 3/8	7 5/8	82 7/8	7 11/16		
6 11/16	8 7/8	18 7/8	7 1/8	26	7 11/16	29 7/16	7 13/16	37 1/16	7 13/16	46	7 15/16	54 5/16	7 15/16	70 1/16	8 1/16	82 5/8	8 1/8		
7 1/16	9 7/16	18 9/16	7 1/2	25 11/16	8 1/8	29 1/8	8 3/16	36 3/4	8 1/4	45 11/16	8 3/8	54	8 3/8	69 3/4	8 1/2	82 5/16	8 9/16	109 7/8	8 5/8
7 1/2	9 15/16	18 5/16	7 13/16	25 7/16	8 9/16	28 13/16	8 5/8	36 1/2	8 11/16	45 7/16	8 3/4	53 11/16	8 13/16	69 1/2	8 15/16	82	9 1/16	109 5/8	9 1/8
7 7/8	10 1/2	18 1/16	8 1/8	25 3/16	9	28 9/16	9 1/16	36 1/4	9 1/8	45 3/16	9 3/16	53 7/16	9 1/4	69 3/16	9 3/8	81 3/4	9 1/2	109 5/16	9 1/2
8 1/4	11	17 3/4	8 7/16	24 7/8	9 3/8	28 1/4	9 7/16	35 15/16	9 9/16	44 7/8	9 5/8	53 1/8	9 11/16	68 15/16	9 13/16	81 7/16	9 15/16	109 1/16	9 15/16
8 11/16	11 9/16	17 7/16	8 13/16	24 9/16	9 3/4	27 15/16	9 7/8	35 5/8	9 15/16	44 9/16	10 1/16	52 13/16	10 1/8	68 5/8	10 1/4	81 1/8	10 3/8	108 3/4	10 3/8
9 1/16	12 1/16	17 3/16	9 1/8	24 5/16	10 3/16	27 11/16	10 1/4	35 3/8	10 3/8	44 5/16	10 1/2	52 9/16	10 9/16	68 3/8	10 11/16	80 7/8	10 13/16	108 7/16	10 13/16
9 7/16	12 9/16	16 7/8	9 7/16	24	10 9/16	27 3/8	10 11/16	35 1/16	10 13/16	44	10 7/8	52 5/16	10 15/16	68 1/16	11 1/8	80 9/16	11 1/4	108 3/16	11 1/4
9 13/16	13 1/8	16 5/8	9 3/4	23 3/4	10 15/16	27 1/8	11 1/16	34 13/16	11 1/4	43 3/4	11 5/16	52	11 3/8	67 13/16	11 9/16	80 5/16	11 11/16	107 15/16	11 11/16
10 1/4	13 5/8	16 5/16		23 7/16	11 5/16	26 7/8	11 1/2	34 1/2	11 5/8	43 7/16	11 3/4	51 3/4	11 3/4	67 1/2	11 15/16	80 1/16	12 1/8	107 5/8	12 1/8
10 5/8	14 1/8	16		23 1/8	11 3/4	26 9/16	11 7/8	34 3/16	12 1/16	43 1/8	12 3/16	51 7/16	12 3/16	67 3/16	12 3/8	79 3/4	12 9/16	107 5/16	12 1/2
11	14 11/16	15 3/4		22 7/8	12 1/8	26 1/4	12 5/16	33 15/16	12 7/16	42 7/8	12 9/16	51 1/8	12 5/8	66 15/16	12 13/16	79 7/16	13	107 1/16	12 15/16
11 7/16	15 3/16	15 1/2		22 5/8	12 1/2	26	12 5/8	33 11/16	12 13/16	42 5/8	13	50 7/8	13 1/16	66 5/8	13 1/4	79 3/16	13 7/16	106 3/4	13 3/8
11 13/16	15 11/16	15 3/16		22 5/16	12 7/8	25 11/16	13 1/16	33 3/8	13 1/4	42 5/16	13 3/8	50 9/16	13 7/16	66 3/8	13 11/16	78 7/8	13 7/8	106 1/2	13 3/4
12 3/16	16 1/4			22 1/16		25 7/16	13 7/16	33 1/8	13 5/8	42 1/16	13 3/4	50 5/16	13 13/16	66 1/8	14 1/16	78 5/8	14 1/4	106 1/4	14 3/16
12 5/8	16 3/4			21 3/4		25 1/8	13 13/16	32 13/16	14	41 3/4	14 3/16	50	14 1/4	65 13/16	14 1/2	78 5/16	14 11/16	105 7/8	14 5/8
13	17 5/16			21 7/16		24 13/16	14 3/16	32 1/2	14 7/16	41 7/16	14 5/8	49 3/4	14 5/8	65 1/2	14 7/8	78 1/16	15 1/8	105 5/8	15
13 3/8	17 13/16			21 3/16		24 9/16	14 9/16	32 1/4	14 13/16	41 3/16	15	49 7/16	15 1/16	65 1/4	15 5/16	77 3/4	15 1/2	105 3/8	15 3/8
13 3/4	18 3/8			20 7/8		24 1/4	14 15/16	31 15/16	15 3/16	40 7/8	15 3/8	49 1/8	15 7/16	64 15/16	15 11/16	77 7/16	15 15/16	105 1/16	15 13/16
14 3/16	18 7/8			20 9/16		24	15 1/4	31 5/8	15 9/16	40 9/16	15 3/4	48 7/8	15 13/16	64 5/8	16 1/8	77 3/16	16 5/16	104 3/4	16 3/16
14 9/16	19 3/8			20 5/16		23 11/16		31 3/8	15 15/16	40 5/16	16 1/8	48 9/16	16 1/4	64 3/8	16 1/2	76 7/8	16 3/4	104 1/2	16 9/16
14 15/16	19 7/8			20 1/16		23 7/16		31 1/8	16 5/16	40 1/16	16 9/16	48 5/16	16 9/16	64 1/8	16 7/8	76 5/8	17 3/16	104 3/16	16 15/16
15 3/8	20 7/16			19 3/4		23 1/8		30 13/16	16 11/16	39 3/4	16 15/16	48	16 15/16	63 3/4	17 5/16	76 5/16	17 9/16	103 7/8	17 3/8
15 3/4	20 15/16			19 7/16		22 13/16		30 1/2	17 1/16	39 7/16	17 5/16	47 11/16	17 3/8	63 1/2	17 11/16	76	17 15/16	103 5/8	17 3/4
16 1/8	21 7/16			19 3/16		22 9/16		30 1/4	17 7/16	39 3/16	17 11/16	47 7/16	17 11/16	63 1/4	18 1/16	75 3/4	18 3/8	103 3/8	18 1/8
16 9/16	22			18 7/8		22 5/16		29 15/16	17 13/16	38 7/8	18 1/16	47 3/16	18 1/8	62 15/16	18 7/16	75 1/2	18 3/4	103 1/16	18 1/2
16 15/16	22 1/2							29 5/8		38 9/16		46 7/8	18 7/16	62 5/8	18 7/8	75 3/16	19 3/16	102 3/4	18 7/8
17 5/16	23 1/16							29 3/8		38 5/16		46 9/16	18 7/8	62 3/8	19 1/4	74 7/8	19 9/16	102 1/2	19 1/4
17 11/16	23 9/16							29 1/8		38 1/16		46 5/16	19 3/16	62 1/16	19 5/8	74 5/8	19 15/16	102 3/16	19 5/8
18 1/8	24 1/8							28 13/16		37 3/4		46	19 5/8	61 13/16	20	74 5/16	20 3/8	101 15/16	20
18 1/2	24 5/8							28 9/16		37 1/2		45 3/4	19 15/16	61 9/16	20 3/8	74 1/16	20 3/4	101 5/8	20 3/8
18 7/8	25 1/8							28 1/4		37 3/16		45 1/2	20 5/16	61 1/4	20 3/4	73 3/4	21 1/8	101 3/8	20 3/4
19 5/16	25 11/16							27 15/16		36 7/8		45 3/16	20 11/16	60 15/16	21 1/8	73 7/16	21 1/2	101 1/16	21 1/8
19 11/16	26 3/16							27 11/16		36 5/8		44 7/8	21	60 11/16	21 1/2	73 3/16	21 7/8	100 13/16	21 7/16
20 1/16	26 11/16											44 5/8	21 7/8	72 15/16	22 5/16	72 5/16	100 1/2	121 13/16	
20 1/2	27 3/16											44 5/16		60 1/8	22 1/4	72 5/8	22 5/8	100 1/4	22 3/16
20 7/8	27 3/4											44		59 13/16	22 5/8	72 5/16	23 1/16	99 15/16	22 1/2
21 1/4	28 1/4											43 3/4		59 1/2	23	72 1/16	23 3/8	99 5/8	22 7/8
21 5/8	28 3/4											43 7/16		59 1/4	23 3/8	71 3/4	23 3/4	99 3/8	23 1/4
22 1/16	29 5/16											43 1/8		58 15/16	23 11/16	71 7/16	24 1/8	99 1/16	23 9/16
22 7/16	29 13/16											42 7/8		58 11/16	24 1/16	71 3/16	24 1/2	98 3/4	23 7/8
22 13/16	30 3/8											42 5/8		58 3/8	24 7/16	70 7/8	24 7/8	98 1/2	24 1/4
23 1/4	30 7/8											42 5/16		58 1/16	24 3/4	70 9/16	25 1/4	98 3/16	24 5/8
23 5/8	31 7/16											42		57 13/16	25 1/8	70 5/16	25 5/8	97 15/16	24 15/16
24	31 15/16											41 3/4		57 1/2	25 1/2	70 1/16	26	97 5/8	25 1/4

Constant Effort Supports Fig. ICA52 Type G



For rod diameter size designation C, see Page 8
Rod Take Out (B3) is shown with load arm in high position

Dimensions for Fig. ICA52 Constant Effort Supports Type G

Size	K	L	M	AA	CC	BB	DD	GG	HH	ZZ
1-6	6 11/16	1 7/16	1 1/16	7 15/16	6 7/8	5 1/8	4 1/2	2 15/16	1 5/16	4 5/16
7-12	8 11/16	1 7/8	1 3/16	12 5/16	7 15/16	6	4 3/4	3 1/16	1 7/16	4 7/8
13-18	8 11/16	2 3/8	1 3/16	14 5/16	9 5/16	8 1/16	5 1/4	3 3/8	2 3/16	6
19-26	10 1/4	2 13/16	1 5/8	18 5/16	10 9/16	9 3/4	5 7/8	3 15/16	2 3/8	7 3/8
27-33	10 1/4	3 1/2	1 15/16	25 3/16	12 3/4	11 7/16	7 1/8	4 9/16	2 15/16	9
34-39	11 13/16	4 1/4	2 3/16	29 7/8	14 7/8	14 1/16	8 7/8	4 15/16	3 3/4	10 3/16
40-47	13 3/8	6 1/8	2 9/16	40 3/8	20 11/16	18 3/16	11 1/16	6 7/8	4 3/16	13 5/16
48-58	15 3/4	7 7/8	2 9/16	44 7/16	26 3/8	22 9/16	13 3/16	9 1/8	5 7/16	17 1/16
59-66	15 3/4	8 7/8	2 3/4	69 3/8	28 1/16	24 5/8	17 1/2	9 1/8	6 1/2	18 11/16

Maximum Recommended Travels for Type G

Size	Max Travel
1-6	9 13/16
7-12	11 13/16
13-18	14 3/16
19-26	16 9/16
27-33	16 9/16
34-39	19 11/16

Dimension P

Size	Travel 1 9/16 to 5 1/2	Travel 5 7/8 to 8 11/16	Travel 9 1/16 to 11 13/16	Travel 12 3/16 to 14 3/16	Travel 14 9/16 to 16 9/16	Travel 16 15/16 to 19 11/16	Travel 20 1/16 to 24
	P	P	P	P	P	P	P
1-6	1 9/16	3 3/8	4 1/8	-	-	-	-
7-12	1 9/16	2 3/4	5 1/8	-	-	-	-
13-18	1 9/16	1 15/16	4 1/8	5 7/8	-	-	-
19-26	1 9/16	1 9/16	3 1/8	4 1/2	6 5/16	-	-
27-33	1 9/16	1 9/16	1 9/16	3 1/8	4 3/4	7 1/16	-
34-39	1 9/16	1 9/16	1 9/16	2 3/8	3 15/16	6 5/16	-
40-47	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	3 3/4	6 7/8
48-58	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	4 15/16
59-66	-	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4

Yoke Table

Size	Yoke Arrangement is used on these Travels	Width W
1-6	1 9/16 to 4 5/16	3 11/16
7-12	1 9/16 to 4 1/8	3 7/8
13-18	2 3/8 to 5 7/8	4 5/16
19-26	2 3/4 to 7 1/16	4 13/16
27-33	3 1/8 to 8 11/16	6
34-39	3 15/16 to 10 1/4	7 1/2
40-47	4 3/4 to 13 3/4	9 1/8
48-58	5 7/8 to 17 5/16	11 5/16
59-66	7 1/16 to 22 7/16	15 1/16

Weights (excluding beam), Type G lbs

Size	Approx Weight	Size	Approx Weight	Size	Approx Weight
1-4	44	27-28	432	45-47	2090
5-6	46	29-31	485	48-49	2510
7-9	68	32-33	551	50-52	2890
10-12	77	34-35	838	53-55	3110
13-16	130	36-37	904	56-58	4300
17-18	146	38-39	992	59-62	7120
19-22	231	40-42	1610	63-66	8110
23-26	262	43-44	1830		

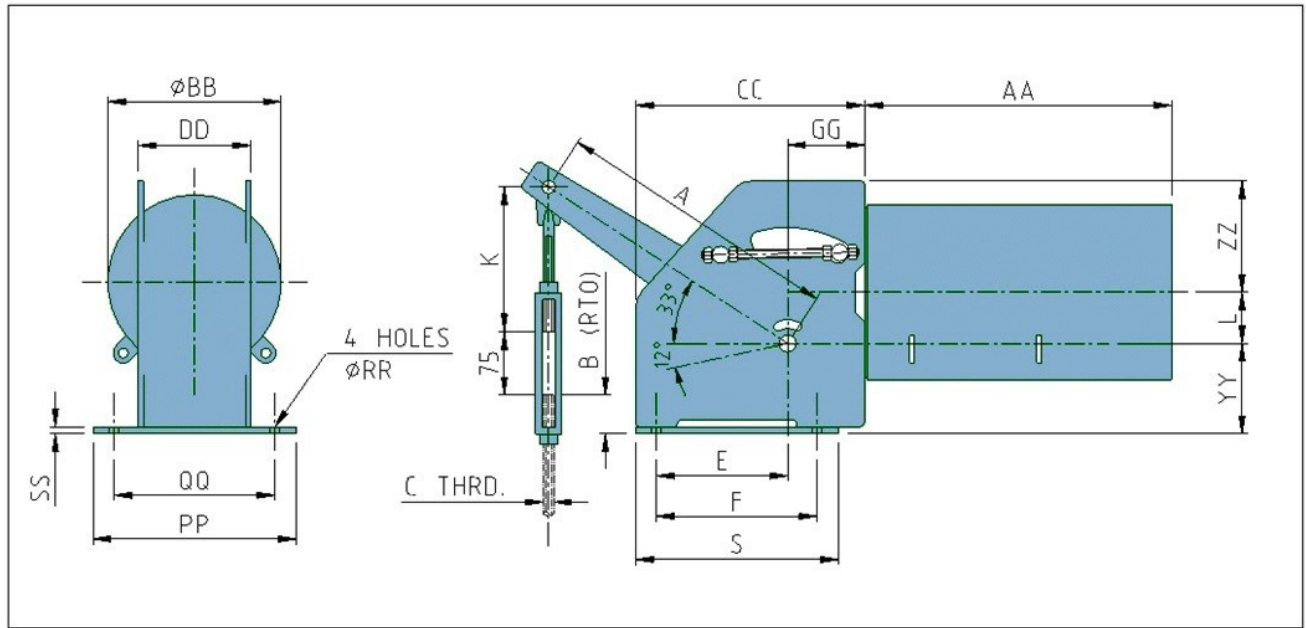
Constant Effort Supports Fig. ICA52 Type G



ICA52 Type G

Size	=>	1-6	7-12	13-18	19-26	27-33	34-39	40-47	48-58	59-66
Travel	A	B3	B3	B3	B3	B3	B3	B3	B3	B3
1 9/16	2 1/8	14 7/16	16 15/16							
1 15/16	2 5/8	14 1/8	16 5/8							
2 3/8	3 1/8	13 13/16	16 5/16	17 7/16						
2 3/4	3 11/16	13 9/16	16 1/16	17 3/16	20 3/16					
3 1/8	4 3/16	13 1/4	15 13/16	16 7/8	19 7/8	21 7/16				
3 9/16	4 3/4	13	15 1/2	16 5/8	19 5/8	21 3/16				
3 15/16	5 1/4	12 11/16	15 1/4	16 5/16	19 5/16	20 7/8	23 11/16			
4 5/16	5 13/16	12 3/8	14 15/16	16	19	20 9/16	23 3/8			
4 3/4	6 5/16	12 1/8	14 5/8	15 3/4	18 3/4	20 5/16	23 1/16	29		
5 1/8	6 13/16	11 7/8	14 3/8	15 1/2	18 7/16	20 1/16	22 13/16	28 11/16		
5 1/2	7 3/8	11 9/16	14 1/16	15 3/16	18 1/8	19 3/4	22 1/2	28 3/8		
5 7/8	7 7/8	13 1/16	14 15/16	15 1/4	17 7/8	19 7/16	22 3/16	28 1/8	34 3/16	
6 5/16	8 3/8	12 3/4	14 11/16	15	17 5/8	19 3/16	21 15/16	27 13/16	33 15/16	
6 11/16	8 7/8	12 1/2	14 7/16	14 3/4	17 5/16	18 7/8	21 5/8	27 9/16	33 11/16	
7 1/16	9 7/16	12 3/16	14 1/8	14 7/16	17	18 9/16	21 5/16	27 1/4	33 3/8	35
7 1/2	9 15/16	11 7/8	13 13/16	14 1/8	16 3/4	18 5/16	21 1/16	26 15/16	33 1/16	34 3/4
7 7/8	10 1/2	11 5/8	13 9/16	13 7/8	16 7/16	18 1/16	20 13/16	26 11/16	32 13/16	34 7/16
8 1/4	11	11 5/16	13 1/4	13 9/16	16 3/16	17 3/4	20 1/2	26 7/16	32 1/2	34 3/16
8 11/16	11 9/16	11	12 15/16	13 1/4	15 7/8	17 7/16	20 3/16	26 1/8	32 3/16	33 7/8
9 1/16	12 1/16	11 9/16	15 1/16	15 3/16	17 3/16	17 3/16	19 15/16	25 13/16	31 15/16	33 9/16
9 7/16	12 9/16	11 1/4	14 3/4	14 7/8	16 7/8	16 7/8	19 5/8	25 9/16	31 5/8	33 5/16
9 13/16	13 1/8	11	14 1/2	14 5/8	16 5/8	16 5/8	19 3/8	25 1/4	31 3/8	33 1/16
10 1/4	13 5/8		14 3/16	14 5/16	16 5/16	16 5/16	19 1/8	25	31 1/8	32 3/4
10 5/8	14 1/8		13 7/8	14	16	16	18 3/4	24 11/16	30 13/16	32 7/16
11	14 11/16		13 5/8	13 3/4	15 3/4	15 3/4	18 1/2	24 7/16	30 1/2	32 3/16
11 7/16	15 3/16		13 3/8	13 7/16	15 1/2	15 1/2	18 1/4	24 1/8	30 1/4	31 7/8
11 13/16	15 11/16		13 1/16	13 3/16	15 3/16	15 3/16	17 15/16	23 7/8	29 15/16	31 5/8
12 3/16	16 1/4		14 11/16	16 5/16	16 1/2	16 1/2	18 7/16	23 9/16	29 11/16	31 5/16
12 5/8	16 3/4		14 3/8	16	16 3/16	18 1/8	23 1/4	29 3/8	31	
13	17 5/16		14 1/8	15 11/16	15 7/8	17 7/8	23	29 1/8	30 3/4	
13 3/8	17 13/16		13 13/16	15 7/16	15 5/8	17 5/8	22 11/16	28 13/16	30 1/2	
13 3/4	18 3/8		13 1/2	15 1/8	15 5/16	17 5/16	22 3/8	28 1/2	30 3/16	
14 3/16	18 7/8		13 1/4	14 13/16	15 1/16	17	22 1/8	28 1/4	29 7/8	
14 9/16	19 3/8			16 5/16	16 5/16	18 5/16	21 7/8	27 15/16	29 5/8	
14 15/16	19 7/8			16 1/16	16 1/16	18 1/16	21 9/16	27 11/16	29 5/16	
15 3/8	20 7/16			15 3/4	15 3/4	17 11/16	21 1/4	27 3/8	29	
15 3/4	20 15/16			15 1/2	15 1/2	17 7/16	21	27 1/16	28 3/4	
16 1/8	21 7/16			15 3/16	15 3/16	17 3/16	20 11/16	26 13/16	28 7/16	
16 9/16	22			14 15/16	14 15/16	16 7/8	20 7/16	26 9/16	28 3/16	
16 15/16	22 1/2					18 15/16	21 1/8	26 1/4	27 7/8	
17 5/16	23 1/16					18 11/16	20 13/16	25 15/16	27 5/8	
17 11/16	23 9/16					18 3/8	20 9/16	25 11/16	27 5/16	
18 1/8	24 1/8					18 1/8	20 1/4	25 3/8	27 1/16	
18 1/2	24 5/8					17 13/16	20	25 1/8	26 3/4	
18 7/8	25 1/8					17 9/16	19 3/4	24 13/16	26 1/2	
19 5/16	25 11/16					17 1/4	19 7/16	24 1/2	26 3/16	
19 11/16	26 3/16					16 15/16	19 1/8	24 1/4	25 7/8	
20 1/16	26 11/16						22	26 1/8	25 5/8	
20 1/2	27 3/16						21 3/4	25 7/8	25 3/8	
20 7/8	27 3/4						21 7/16	25 9/16	25 1/16	
21 1/4	28 1/4						21 1/8	25 1/4	24 3/4	
21 5/8	28 3/4						20 7/8	25	24 1/2	
22 1/16	29 5/16						20 9/16	24 11/16	24 3/16	
22 7/16	29 13/16						20 1/4	24 7/16	23 7/8	
22 13/16	30 3/8						20	24 1/8	23 5/8	
23 1/4	30 7/8						19 11/16	23 13/16	23 5/16	
23 5/8	31 7/16						19 7/16	23 9/16	23 1/16	
24	31 15/16						19 1/8	23 1/4	22 3/4	

Constant Effort Supports Fig. ICA53



For rod diameter size designation C, see Page 8
Rod Take Out (B) is shown with load arm in high position

Dimensions for Fig. ICA53 Constant Effort Supports

Size	E	F	S	K	L	AA	BB	CC	DD	GG	PP	QQ	RR	SS	ZZ
1-6	4 1/8	5 1/2	7 1/16	6 11/16	1 7/16	7 15/16	5 1/8	7 13/16	4 1/2	2 15/16	8 7/16	6 1/2	9/16	1/4	4 7/8
7-12	4 3/4	6 1/8	8 1/16	8 11/16	1 7/8	12 5/16	6	8 15/16	4 3/4	3 1/4	9 1/16	7 1/16	11/16	1/4	5 7/8
13-18	6 1/8	7 1/2	9 7/16	8 11/16	2 3/8	14 5/16	8 1/16	10 11/16	5 1/4	3 9/16	10 1/16	8 1/16	7/8	5/16	7 1/2
19-26	7 1/2	9 7/16	12	10 1/4	2 13/16	18 5/16	9 3/4	13 7/16	5 7/8	4 5/8	10 5/8	8 11/16	7/8	5/16	9
27-33	9 1/4	11 13/16	14 3/4	10 1/4	3 1/2	25 3/16	11 7/16	16 9/16	7 1/8	5 13/16	12 5/8	10 7/16	7/8	3/8	11 3/16
34-39	11 7/16	14 3/8	18 5/16	11 13/16	4 1/4	29 15/16	14 1/16	20	8 7/8	6 5/8	16 3/4	13 3/16	1 1/16	3/8	13 7/8
40-47	14	17 15/16	24	13 3/8	6 1/8	40 3/8	18 3/16	25 5/8	11 1/16	8 9/16	18 7/8	15 9/16	1 5/16	9/16	17
48-58	13 3/8	18 7/8	24	15 3/4	7 7/8	44 3/8	22 9/16	27 1/16	13 3/16	11 1/8	29 5/16	20 1/2	1 3/4	13/16	20 1/2
59-66	14 15/16	22 1/16	27 15/16	15 3/4	8 7/8	69 3/8	24 5/8	29 15/16	17 1/2	12	33 11/16	26 15/16	2	1	23 1/16

Dimension YY

Size	Travel 19 1/16 to 5 1/2	Travel 5 7/8 to 8 11/16	Travel 9 1/16 to 11 13/16	Travel 12 3/16 to 14 3/16	Travel 14 9/16 to 16 9/16	Travel 16 15/16 to 19 11/16	Travel 20 1/16 to 24
	YY	YY	YY	YY	YY	YY	YY
1-6	2 7/16	3 1/4	4 1/8	-	-	-	-
7-12	2 7/8	3 5/16	4 3/16	4 13/16	5 1/2	-	-
13-18	3 1/2	3 1/2	4 5/16	5	5 5/8	-	-
19-26	4 1/8	4 1/8	4 11/16	5 3/16	5 13/16	6 3/4	-
27-33	5 1/4	5 1/4	5 1/4	5 1/4	5 7/8	6 3/4	-
34-39	6 3/16	6 3/16	6 3/16	6 3/16	6 3/16	7 1/16	8 1/4
40-47	7 5/8	7 5/8	7 5/8	7 5/8	7 5/8	7 5/8	8 7/8
48-58	8 5/16	8 5/16	8 5/16	8 5/16	8 5/16	8 5/16	9 1/4
59-66	-	9 7/16	9 7/16	9 7/16	9 7/16	9 7/16	10

Weights lbs

Size	Approx Weight	Size	Approx Weight	Size	Approx Weight
1-4	26	27-28	256	45-47	1190
5-6	29	29-31	280	48-49	1500
7-9	42	32-33	311	50-52	1680
10-12	46	34-35	485	53-55	1790
13-16	77	36-37	529	56-58	2380
17-18	86	38-39	573	59-62	4010
19-22	137	40-42	948	63-66	4520
23-26	152	43-44	1060		

Constant Effort Supports Fig. ICA53

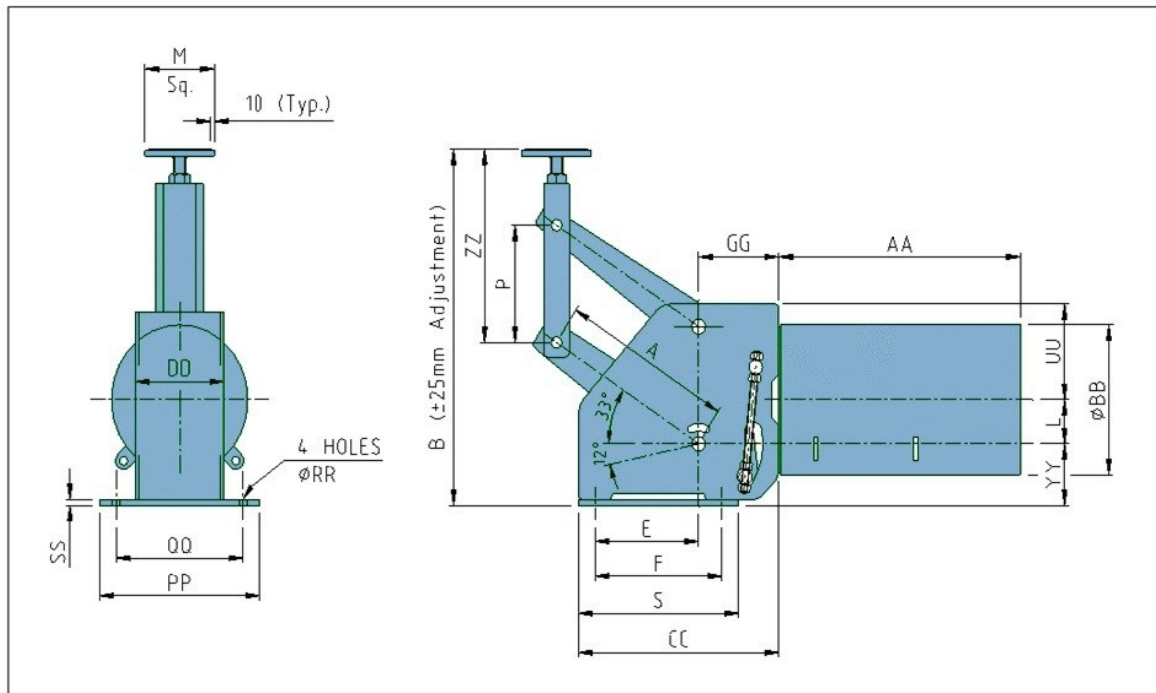


ICA53

Size	=>	1-6	7-12	13-18	19-26	27-33	34-39	40-47	48-58	59-66
Travel	A	B	B	B	B	B	B	B	B	B
1 9/16	2 1/8	-6 1/16	-7 5/8							
1 15/16	2 5/8	-5 13/16	-7 5/16							
2 3/8	3 1/8	-5 1/2	-7	-6 3/8	-7 3/8					
2 3/4	3 11/16	-5 3/16	-6 3/4	-6 1/8	-7 1/16	-5 7/8				
3 1/8	4 3/16	-4 15/16	-6 7/16	-5 13/16	-6 13/16	-5 5/8				
3 9/16	4 3/4	-4 5/8	-6 3/16	-5 9/16	-6 9/16	-5 3/8	-6			
3 15/16	5 1/4	-4 3/8	-5 7/8	-5 1/4	-6 1/4	-5 1/16	-5 3/4			
4 5/16	5 13/16	-4 1/16	-5 9/16	-4 15/16	-5 15/16	-4 3/4	-5 7/16	-5 9/16	-7 1/4	
4 3/4	6 5/16	-3 3/4	-5 5/16	-4 11/16	-5 11/16	-4 1/2	-5 3/16	-5 1/4	-6 15/16	
5 1/8	6 13/16	-3 1/2	-5 1/16	-4 7/16	-5 3/8	-4 3/16	-4 7/8	-5	-6 11/16	
5 1/2	7 3/8	-3 3/16	-4 3/4	-4 1/8	-5 1/16	-3 7/8	-4 9/16	-4 11/16	-6 3/8	
5 7/8	7 7/8	-2 1/8	-4	-3 13/16	-4 13/16	-3 5/8	-4 5/16	-4 7/16	-6 1/8	-4 15/16
6 5/16	8 3/8	-1 7/8	-3 3/4	-3 9/16	-4 1/2	-3 3/8	-4	-4 1/8	-5 13/16	-4 11/16
6 11/16	8 7/8	-1 9/16	-3 7/16	-3 1/4	-4 1/4	-3 1/16	-3 3/4	-3 7/8	-5 9/16	-4 7/16
7 1/16	9 7/16	-1 1/4	-3 1/8	-2 15/16	-3 15/16	-2 3/4	-3 7/16	-3 9/16	-5 1/4	-4 1/8
7 1/2	9 15/16	-1	-2 7/8	-2 11/16	-3 11/16	-2 1/2	-3 1/8	-3 1/4	-4 15/16	-3 13/16
7 7/8	10 1/2	-11/16	-2 5/8	-2 3/8	-3 3/8	-2 3/16	-2 7/8	-3	-4 11/16	-3 9/16
8 1/4	11	-7/16	-2 5/16	-2 1/8	-3 1/8	-1 15/16	-2 5/8	-2 11/16	-4 7/16	-3 1/4
8 11/16	11 9/16	-1/8	-2	-1 13/16	-2 13/16	-1 5/8	-2 5/16	-2 3/8	-4 1/8	-2 15/16
9 1/16	12 1/16	1	-7/8	-11/16	-1 15/16	-1 5/16	-2	-2 1/8	-3 13/16	-2 11/16
9 7/16	12 9/16	1 5/16	-9/16	-7/16	-1 5/8	-1 1/16	-1 3/4	-1 7/8	-3 9/16	-2 3/8
9 13/16	13 1/8	1 9/16	-5/16	-3/16	-1 3/8	-13/16	-1 7/16	-1 9/16	-3 1/4	-2 1/8
10 1/4	13 5/8	1 7/8	-1/16	1/8	-1 1/8	-1/2	-1 3/16	-1 5/16	-3	-1 7/8
10 5/8	14 1/8	2 3/16	1/4	7/16	-13/16	-3/16	-7/8	-1	-2 11/16	-1 9/16
11	14 11/16	2 7/16	9/16	11/16	-1/2	1/16	-9/16	-11/16	-2 3/8	-1 1/4
11 7/16	15 3/16	2 11/16	13/16	1	-1/4	3/8	-5/16	-7/16	-2 1/8	-1
11 13/16	15 11/16	3	1 1/8	1 1/4	1/16	5/8	-1/16	-3/16	-1 7/8	-11/16
12 3/16	16 1/4		2 1/16	2 3/16	13/16	7/8	1/4	1/8	-1 9/16	-7/16
12 5/8	16 3/4		2 3/8	2 1/2	1 1/8	1 1/4	9/16	7/16	-1 1/4	-1/8
13	17 5/16		2 5/8	2 13/16	1 7/16	1 1/2	13/16	11/16	-1	3/16
13 3/8	17 13/16		2 15/16	3 1/16	1 11/16	1 3/4	1 1/8	1	-11/16	7/16
13 3/4	18 3/8		3 1/4	3 3/8	2	2 1/16	1 7/16	1 5/16	-3/8	3/4
14 3/16	18 7/8		3 1/2	3 11/16	2 5/16	2 3/8	1 11/16	1 9/16	-1/8	1
14 9/16	19 3/8		4 7/16	4 9/16	3 3/16	3 1/4	1 15/16	1 7/8	3/16	1 5/16
14 15/16	19 7/8		4 11/16	4 13/16	3 7/16	3 1/2	2 1/4	2 1/8	7/16	1 9/16
15 3/8	20 7/16		5	5 3/16	3 3/4	3 13/16	2 9/16	2 7/16	3/4	1 7/8
15 3/4	20 15/16		5 1/4	5 7/16	4 1/16	4 1/8	2 13/16	2 11/16	1	2 3/16
16 1/8	21 7/16		5 9/16	5 11/16	4 5/16	4 3/8	3 1/8	3	1 5/16	2 7/16
16 9/16	22		5 13/16	6	4 5/8	4 5/8	3 3/8	3 1/4	1 9/16	2 11/16
16 15/16	22 1/2				5 13/16	5 7/8	4 9/16	3 9/16	1 7/8	3 1/16
17 5/16	23 1/16				6 1/8	6 1/8	4 13/16	3 7/8	2 3/16	3 5/16
17 11/16	23 9/16				6 3/8	6 7/16	5 1/8	4 1/8	2 7/16	3 9/16
18 1/8	24 1/8				6 5/8	6 11/16	5 3/8	4 7/16	2 11/16	3 7/8
18 1/2	24 5/8				6 15/16	6 15/16	5 11/16	4 11/16	3	4 1/8
18 7/8	25 1/8				7 3/16	7 1/4	5 15/16	4 15/16	3 1/4	4 7/16
19 5/16	25 11/16				7 1/2	7 9/16	6 1/4	5 1/4	3 9/16	4 3/4
19 11/16	26 3/16				7 13/16	7 13/16	6 9/16	5 9/16	3 7/8	5
20 1/16	26 11/16						8 1/16	7 1/16	5 1/16	5 13/16
20 1/2	27 3/16						8 5/16	7 5/16	5 3/8	6 1/8
20 7/8	27 3/4						8 5/8	7 5/8	5 11/16	6 7/16
21 1/4	28 1/4						8 7/8	7 15/16	5 15/16	6 11/16
21 5/8	28 3/4						9 3/16	8 3/16	6 1/4	6 15/16
22 1/16	29 5/16						9 1/2	8 1/2	6 9/16	7 5/16
22 7/16	29 13/16						9 3/4	8 3/4	6 13/16	7 9/16
22 13/16	30 3/8						10 1/16	9 1/16	7 1/16	7 13/16
23 1/4	30 7/8						10 3/8	9 3/8	7 3/8	8 1/8
23 5/8	31 7/16						10 5/8	9 5/8	7 11/16	8 7/16

CONSTANT EFFORT SUPPORTS

Constant Effort Supports Fig. ICA54



Height B is shown with load arm in high position

Dimensions for Fig. ICA54 Constant Effort Supports

Size	E	F	S	L	P	AA	BB	CC	DD	GG	PP	QQ	RR	SS	UU
1-6	4 1/8	5 1/2	7 1/16	1 7/16	4 1/4	7 15/16	5 1/8	8 7/16	4 1/2	3 1/2	8 7/16	6 1/2	9/16	1/4	3 7/16
7-12	4 3/4	6 1/8	8 1/16	1 7/8	5 3/16	12 5/16	6	9 7/16	4 3/4	3 3/4	9 1/16	7 1/16	11/16	1/4	4
13-18	6 1/8	7 1/2	9 7/16	2 3/8	6 5/16	14 5/16	8 1/16	11 13/16	5 1/4	4 3/4	10 1/16	8 1/16	7/8	5/16	5 3/16
19-26	7 1/2	9 7/16	12	2 13/16	7 1/2	18 5/16	9 3/4	13 7/8	5 7/8	5 1/8	10 5/8	8 11/16	7/8	5/16	6 3/16
27-33	9 1/4	11 13/16	14 3/4	3 1/2	9 1/2	25 3/16	11 7/16	17 7/16	7 1/8	6 11/16	12 5/8	10 7/16	7/8	3/8	7 11/16
34-39	11 7/16	14 3/8	18 5/16	4 1/4	11 1/2	29 15/16	14 1/16	21 1/4	8 7/8	7 7/8	16 3/4	13 3/16	1 1/16	3/8	9 5/8
40-47	14	17 15/16	24	6 1/8	15 1/16	40 3/8	18 3/16	28 1/16	11 1/16	11	18 7/8	15 9/16	1 5/16	9/16	11 1/2
48-58	13 3/8	18 7/8	24	7 7/8	18 1/8	44 3/8	22 9/16	30 1/8	13 3/16	14 3/16	29 5/16	20 1/2	1 3/4	13/16	13
59-66	14 15/16	22 1/16	27 15/16	8 7/8	22 5/8	69 3/8	24 5/8	32 7/8	17 1/2	14 15/16	33 11/16	26 15/16	2	1	18 1/8

Dimensions M, YY & ZZ

Size	Travel 1 9/16 - 5 1/2			Travel 5 7/8 - 8 11/16			Travel 9 1/16 - 11 13/16			Travel 12 3/16 - 14 3/16			Travel 14 9/16 - 16 9/16			Travel 16 15/16 - 19 11/16			Travel 20 1/16 - 24		
	M	YY	ZZ	M	YY	ZZ	M	YY	ZZ	M	YY	ZZ	M	YY	ZZ	M	YY	ZZ	M	YY	ZZ
1-6	3 1/8	3 1/4	10 7/16	3 1/8	3 1/4	10 7/16	3 1/8	4 1/8	10 7/16	-	-	-	-	-	-	-	-	-	-	-	-
7-12	3 15/16	2 7/8	12 5/16	3 1/8	3 5/16	12 1/16	3 1/8	4 3/16	12 1/16	3 1/8	4 13/16	12 1/16	3 1/8	5 1/2	12 1/16	-	-	-	-	-	-
13-18	4 3/4	3 1/2	13 7/8	3 15/16	3 1/2	13 3/4	3 15/16	4 5/16	13 3/4	3 1/8	5	13 9/16	3 1/8	5 5/8	13 9/16	-	-	-	-	-	-
19-26	6 5/16	4 1/8	16 1/16	3 15/16	4 1/8	15 9/16	3 15/16	4 11/16	15 9/16	3 15/16	5 3/16	15 9/16	3 15/16	5 13/16	15 9/16	3 15/16	6 3/4	15 9/16	-	-	-
27-33	6 5/16	5 1/4	18 1/4	4 3/4	5 1/4	17 7/8	4 3/4	5 1/4	17 7/8	3 15/16	5 1/4	17 3/4	3 15/16	5 7/8	17 3/4	3 15/16	6 3/4	17 3/4	-	-	-
34-39	7 7/8	6 3/16	21 1/4	6 5/16	6 3/16	20 7/8	6 5/16	6 3/16	20 7/8	4 3/4	6 3/16	20 1/2	4 3/4	6 3/16	20 1/2	4 3/4	7 1/16	20 1/2	4 3/4	8 1/4	20 1/2
40-47	10 1/4	7 5/8	26 3/4	10 1/4	7 5/8	26 3/4	7 7/8	7 5/8	26	6 5/16	7 5/8	25 9/16	6 5/16	7 5/8	25 9/16	6 5/16	7 5/8	25 9/16	6 5/16	8 7/8	25 9/16
48-58	14 3/16	9 1/2	31 15/16	12 3/16	9 1/2	31 9/16	10 1/4	9 1/2	31 1/16	10 1/4	9 1/2	31 1/16	7 7/8	9 1/2	30 5/16	7 7/8	9 1/2	30 5/16	7 7/8	9 1/2	30 5/16
59-66	-	-	-	14 3/16	11	37 1/16	12 3/16	11	36 5/8	10 1/4	11	36 1/8	10 1/4	11	36 1/8	10 1/4	11	36 1/8	10 1/4	11	36 1/8

Weights lbs

Size	Approx Weight
1-4	31
5-6	33
7-9	49
10-12	53
13-16	93
17-18	99
19-22	154
23-26	170

Size	Approx Weight
27-28	284
29-31	311
32-33	342
34-35	551
36-37	573
38-39	617
40-42	1010
43-44	1120

Size	Approx Weight
45-47	1280
48-49	1650
50-52	1830
53-55	1960
56-58	2560
59-62	4410
63-66	4890

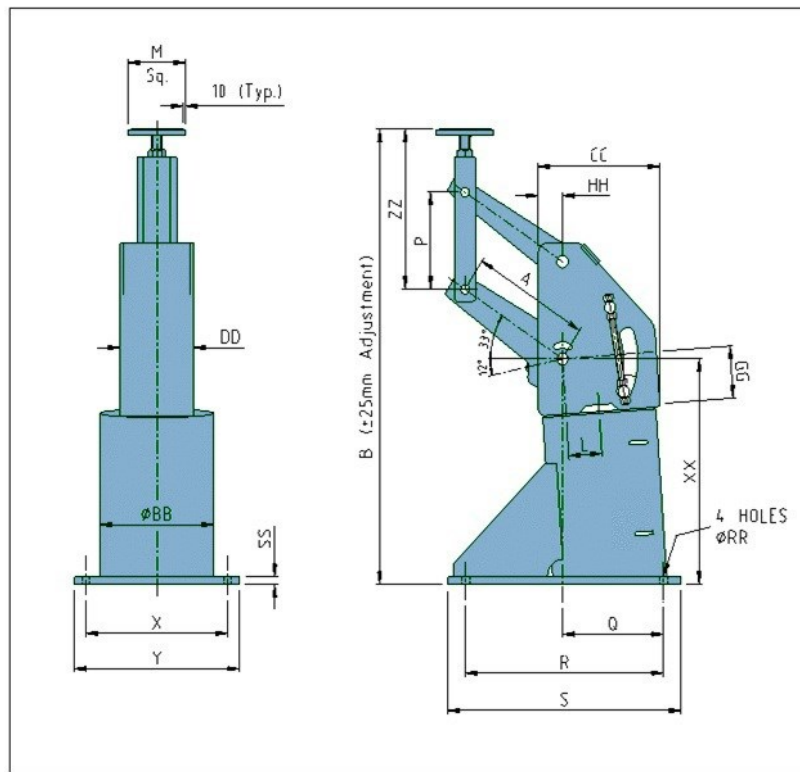
Constant Effort Supports Fig. ICA54



ICA54

Size	=>	1-6	7-12	13-18	19-26	27-33	34-39	40-47	48-58	59-66
Travel	A	B	B	B	B	B	B	B	B	B
1 9/16	2 1/8	14 13/16	16 5/16							
1 15/16	2 5/8	15 1/16	16 5/8							
2 3/8	3 1/8	15 3/8	16 15/16	19 1/8	21 7/8					
2 3/4	3 11/16	15 11/16	17 3/16	19 7/16	22 3/16	25 9/16				
3 1/8	4 3/16	15 15/16	17 1/2	19 11/16	22 7/16	25 13/16				
3 9/16	4 3/4	16 1/4	17 3/4	19 15/16	22 11/16	26 1/8	30			
3 15/16	5 1/4	16 1/2	18 1/16	20 1/4	23	26 3/8	30 1/4			
4 5/16	5 13/16	16 13/16	18 3/8	20 9/16	23 5/16	26 11/16	30 9/16	37 1/2	44 5/8	
4 3/4	6 5/16	17 1/16	18 5/8	20 13/16	23 9/16	26 15/16	30 7/8	37 13/16	44 7/8	
5 1/8	6 13/16	17 3/8	18 7/8	21 1/8	23 7/8	27 1/4	31 1/8	38 1/16	45 3/16	
5 1/2	7 3/8	17 11/16	19 3/16	21 7/16	24 3/16	27 9/16	31 7/16	38 3/8	45 1/2	
5 7/8	7 7/8	17 15/16	19 11/16	21 9/16	23 15/16	27 7/16	31 5/16	38 11/16	45 5/16	52 3/8
6 5/16	8 3/8	18 1/4	19 15/16	21 7/8	24 3/16	27 11/16	31 5/8	38 15/16	45 9/16	52 5/8
6 11/16	8 7/8	18 1/2	20 1/4	22 1/8	24 1/2	28	31 7/8	39 3/16	45 7/8	52 15/16
7 1/16	9 7/16	18 13/16	20 9/16	22 7/16	24 13/16	28 5/16	32 3/16	39 1/2	46 3/16	53 1/4
7 1/2	9 15/16	19 1/8	20 13/16	22 11/16	25 1/16	28 9/16	32 1/2	39 13/16	46 7/16	53 1/2
7 7/8	10 1/2	19 3/8	21 1/8	23	25 3/8	28 7/8	32 3/4	40 1/16	46 3/4	53 3/4
8 1/4	11	19 5/8	21 3/8	23 1/4	25 5/8	29 1/8	33 1/16	40 3/8	47	54 1/16
8 11/16	11 9/16	19 15/16	21 11/16	23 9/16	25 15/16	29 7/16	33 3/8	40 11/16	47 5/16	54 3/8
9 1/16	12 1/16	21 1/8	22 13/16	24 11/16	26 13/16	29 3/4	33 5/8	40 3/16	47 1/8	54 3/16
9 7/16	12 9/16	21 3/8	23 1/8	24 15/16	27 1/16	30	33 7/8	40 1/2	47 3/8	54 1/2
9 13/16	13 1/8	21 5/8	23 3/8	25 1/4	27 3/8	30 1/4	34 3/16	40 3/4	47 11/16	54 3/4
10 1/4	13 5/8	21 15/16	23 11/16	25 1/2	27 5/8	30 9/16	34 7/16	41	47 15/16	55 1/16
10 5/8	14 1/8	22 1/4	24	25 13/16	27 15/16	30 7/8	34 3/4	41 5/16	48 1/4	55 3/8
11	14 11/16	22 1/2	24 1/4	26 1/8	28 1/4	31 1/8	35 1/16	41 5/8	48 9/16	55 5/8
11 7/16	15 3/16	22 13/16	24 1/2	26 3/8	28 1/2	31 7/16	35 5/16	41 7/8	48 13/16	56 7/8
11 13/16	15 11/16	23 1/16	24 13/16	26 5/8	28 3/4	31 11/16	35 9/16	42 3/16	49 1/8	56 3/16
12 3/16	16 1/4		25 3/4	27 3/8	29 9/16	31 7/8	35 1/2	42 1/16	49 3/8	56
12 5/8	16 3/4		26 1/16	27 11/16	29 7/8	32 3/16	35 13/16	42 3/8	49 11/16	56 5/16
13	17 5/16		26 5/16	27 15/16	30 3/16	32 7/16	36 1/16	42 5/8	49 15/16	56 9/16
13 3/8	17 13/16		26 5/8	28 1/4	30 7/16	32 11/16	36 5/16	42 15/16	50 1/4	56 7/8
13 3/4	18 3/8		26 15/16	28 9/16	30 3/4	33 1/16	36 5/8	43 1/4	50 9/16	57 3/16
14 3/16	18 7/8		27 3/16	28 13/16	31	33 5/16	36 15/16	43 1/2	50 13/16	57 7/16
14 9/16	19 3/8		28 1/8	29 3/4	31 15/16	34 3/16	37 3/16	43 3/4	50 3/8	57 11/16
14 15/16	19 7/8		28 3/8	30	32 3/16	34 7/16	37 1/2	44 1/16	50 5/8	58
15 3/8	20 7/16		28 11/16	30 5/16	32 1/2	34 3/4	37 13/16	44 3/8	50 15/16	58 5/16
15 3/4	20 15/16		29	30 9/16	32 13/16	35 1/16	38 1/16	44 5/8	51 1/4	58 9/16
16 1/8	21 7/16		29 1/4	30 7/8	33 1/16	35 5/16	38 3/8	44 15/16	51 1/2	58 7/8
16 9/16	22		29 1/2	31 1/8	33 3/8	35 9/16	38 5/8	45 3/16	51 3/4	59 1/8
16 15/16	22 1/2									
17 5/16	23 1/16									
17 11/16	23 9/16									
18 1/8	24 1/8									
18 1/2	24 5/8									
18 7/8	25 1/8									
19 5/16	25 11/16									
19 11/16	26 3/16									
20 1/16	26 11/16									
20 1/2	27 3/16									
20 7/8	27 3/4									
21 1/4	28 1/4									
21 5/8	28 3/4									
22 1/16	29 5/16									
22 7/16	29 13/16									
22 13/16	30 3/8									
23 1/4	30 7/8									
23 5/8	31 7/16									
24	31 15/16									

Constant Effort Supports Fig. ICA55



Height B is shown with load arm in high position

Dimensions for Fig. ICA55 Constant Effort Supports

Size	Q	R	S	X	Y	RR	SS	L	P	BB	CC	DD	GG	HH	XX
1-6	4 3/4	7 7/8	9 7/16	6 11/16	8 1/4	9/16	1/4	1 7/16	4	5 1/8	6 1/4	4 1/2	2 15/16	1 9/16	11
7-12	6 1/8	11	13	7 7/8	9 13/16	11/16	1/4	1 7/8	4 3/4	6	7 11/16	4 3/4	3 1/4	1 3/4	15 3/8
13-18	7 11/16	14 9/16	16 9/16	9 13/16	11 13/16	7/8	5/16	2 3/8	6 5/16	8 1/16	8 5/8	5 1/4	3 9/16	1 3/4	18
19-26	9 1/4	16 5/16	18 7/8	11 13/16	14 3/8	7/8	5/16	2 13/16	7 1/2	9 3/4	10 3/8	5 7/8	4 5/8	2 1/16	23 1/16
27-33	11 7/16	21 7/16	24 7/16	13 3/4	16 3/4	7/8	3/8	3 1/2	9 1/2	11 7/16	12 9/16	7 1/8	5 13/16	2 3/8	31 1/16
34-39	14	22 13/16	26 3/4	15 3/4	19 11/16	1 1/16	3/8	4 1/4	11 1/2	14 1/16	14 15/16	8 7/8	6 5/8	2 3/4	36 1/2
40-47	18 11/16	31 7/8	35 13/16	22 1/16	26	1 5/16	9/16	6 1/8	15 5/16	18 3/16	19 5/8	11 1/16	8 9/16	3 1/8	49
48-58	23 1/4	37 13/16	42 15/16	22 1/16	27 3/16	1 3/4	13/16	7 7/8	19 11/16	22 9/16	25 5/16	13 3/16	11 5/8	4 15/16	56 1/8

Dimensions M & ZZ

Size	Travel 1 9/16 to 5 1/2		Travel 5 7/8 to 8 11/16		Travel 9 1/16 to 11 13/16		Travel 12 3/16 to 14 3/16		Travel 14 9/16 to 16 9/16		Travel 16 15/16 to 19 11/16		Travel 20 1/16 to 24	
	M	ZZ	M	ZZ	M	ZZ	M	ZZ	M	ZZ	M	ZZ	M	ZZ
1-6	3 1/8	10 3/16	3 1/8	10 3/16	3 1/8	10 3/16	-	-	-	-	-	-	-	-
7-12	3 15/16	11 15/16	3 1/8	11 11/16	3 1/8	11 11/16	3 1/8	11 11/16	3 1/8	11 11/16	-	-	-	-
13-18	4 3/4	13 7/8	3 15/16	13 3/4	3 15/16	13 3/4	3 1/8	13 9/16	3 1/8	13 9/16	-	-	-	-
19-26	6 5/16	16 1/16	3 15/16	15 9/16	3 15/16	15 9/16	3 15/16	15 9/16	3 15/16	15 9/16	3 15/16	15 9/16	-	-
27-33	6 5/16	18 1/4	4 3/4	17 7/8	4 3/4	17 7/8	3 15/16	17 3/4	3 15/16	17 3/4	3 15/16	17 3/4	-	-
34-39	7 7/8	21 1/4	6 5/16	20 7/8	6 5/16	20 7/8	4 3/4	20 1/2	4 3/4	20 1/2	4 3/4	20 1/2	4 3/4	20 1/2
40-47	10 1/4	27	10 1/4	27	7 7/8	26 1/4	6 5/16	25 7/8	6 5/16	25 7/8	6 5/16	25 7/8	6 5/16	25 7/8
48-58	14 3/16	33 9/16	12 3/16	33 1/8	10 1/4	32 5/8	10 1/4	32 5/8	7 7/8	31 7/8	7 7/8	31 7/8	7 7/8	31 7/8

Weights lbs

Size	Approx Weight
1-4	31
5-6	33
7-9	51
10-12	57
13-16	97
17-18	106
19-22	163
23-26	179

Size	Approx Weight
27-28	300
29-31	324
32-33	355
34-35	573
36-37	617
38-39	661
40-42	1100
43-44	1210

Size	Approx Weight
45-47	1340
48-49	1760
50-52	1940
53-55	2050
56-58	2650

Constant Effort Supports Fig. ICA55

ICA55



Size	=>	1-6	7-12	13-18	19-26	27-33	34-39	40-47	48-58
Travel	A	B	B	B	B	B	B	B	B
1 9/16	2 1/8	22 5/16	28 7/16						
1 15/16	2 5/8	22 5/8	28 11/16						
2 3/8	3 1/8	22 15/16	29	33 5/8	40 13/16				
2 3/4	3 11/16	23 3/16	29 5/16	33 7/8	41 1/8	51 5/16			
3 1/8	4 3/16	23 7/16	29 9/16	34 3/16	41 3/8	51 5/8			
3 9/16	4 3/4	23 3/4	29 13/16	34 7/16	41 5/8	51 7/8	60 5/16		
3 15/16	5 1/4	24	30 1/8	34 3/4	41 15/16	52 3/16	60 9/16		
4 5/16	5 13/16	24 5/16	30 7/16	35 1/16	42 1/4	52 1/2	60 7/8	79 1/8	92 13/16
4 3/4	6 5/16	24 5/8	30 11/16	35 5/16	42 1/2	52 3/4	61 3/16	79 7/16	93 1/8
5 1/8	6 13/16	24 7/8	31	35 9/16	42 13/16	53 1/16	61 7/16	79 11/16	93 3/8
5 1/2	7 3/8	25 3/16	31 5/16	35 7/8	43 1/8	53 3/8	61 3/4	80	93 11/16
5 7/8	7 7/8	25 1/2	31 5/16	36 1/16	42 7/8	53 1/4	61 5/8	80 1/4	93 9/16
6 5/16	8 3/8	25 3/4	31 5/8	36 5/16	43 1/8	53 1/2	61 15/16	80 9/16	93 13/16
6 11/16	8 7/8	26	31 7/8	36 5/8	43 7/16	53 3/4	62 3/16	80 13/16	94 1/8
7 1/16	9 7/16	26 5/16	32 3/16	36 15/16	43 3/4	54 1/8	62 1/2	81 1/8	94 7/16
7 1/2	9 15/16	26 5/8	32 1/2	37 3/16	44	54 3/8	62 13/16	81 7/16	94 11/16
7 7/8	10 1/2	26 7/8	32 3/4	37 1/2	44 5/16	54 5/8	63 1/16	81 11/16	94 15/16
8 1/4	11	27 3/16	33 1/16	37 3/4	44 9/16	54 15/16	63 3/8	81 15/16	95 1/4
8 11/16	11 9/16	27 1/2	33 3/8	38 1/16	44 7/8	55 1/4	63 11/16	82 5/16	95 9/16
9 1/16	12 1/16	27 3/4	33 5/8	38 3/8	45 3/16	55 1/2	63 15/16	81 13/16	95 3/8
9 7/16	12 9/16	28 1/16	33 7/8	38 5/8	45 7/16	55 13/16	64 3/16	82 1/16	95 5/8
9 13/16	13 1/8	28 5/16	34 3/16	38 7/8	45 11/16	56 1/16	64 1/2	82 3/8	95 7/8
10 1/4	13 5/8	28 9/16	34 7/16	39 3/16	46	56 5/16	64 3/4	82 5/8	96 3/16
10 5/8	14 1/8	28 7/8	34 3/4	39 1/2	46 5/16	56 5/8	65 1/16	82 15/16	96 1/2
11	14 11/16	29 3/16	35 1/16	39 3/4	46 9/16	56 15/16	65 3/8	83 1/4	96 3/4
11 7/16	15 3/16	29 7/16	35 5/16	40 1/16	46 7/8	57 3/16	65 5/8	83 1/2	97 1/16
11 13/16	15 11/16	29 3/4	35 9/16	40 5/16	47 1/8	57 1/2	65 7/8	83 3/4	97 5/16
12 3/16	16 1/4		35 7/8	40 3/8	47 3/8	57 5/8	65 13/16	83 11/16	97 5/8
12 5/8	16 3/4		36 3/16	40 11/16	47 11/16	57 15/16	66 1/8	84	97 15/16
13	17 5/16		36 7/16	40 15/16	48	58 1/4	66 3/8	84 1/4	98 3/16
13 3/8	17 13/16		36 3/4	41 1/4	48 1/4	58 1/2	66 5/8	84 1/2	98 7/16
13 3/4	18 3/8		37 1/16	41 9/16	48 9/16	58 13/16	66 15/16	84 13/16	98 3/4
14 3/16	18 7/8		37 5/16	41 13/16	48 7/8	59 1/8	67 1/4	85 1/8	99 1/16
14 9/16	19 3/8		37 5/8	42 1/16	49 1/8	59 3/8	67 1/2	85 3/8	98 9/16
14 15/16	19 7/8		37 7/8	42 3/8	49 7/16	59 5/8	67 13/16	85 11/16	98 7/8
15 3/8	20 7/16		38 3/16	42 11/16	49 3/4	59 15/16	68 1/8	86	99 3/16
15 3/4	20 15/16		38 7/16	42 15/16	50	60 1/4	68 3/8	86 1/4	99 7/16
16 1/8	21 7/16		38 3/4	43 1/4	50 1/4	60 1/2	68 11/16	86 9/16	99 3/4
16 9/16	22		39	43 1/2	50 9/16	60 13/16	68 15/16	86 13/16	100
16 15/16	22 1/2				50 7/8	61 1/8	69 1/4	87 1/8	100 5/16
17 5/16	23 1/16				51 1/8	61 3/8	69 1/2	87 3/8	100 9/16
17 11/16	23 9/16				51 7/16	61 5/8	69 13/16	87 11/16	100 7/8
18 1/8	24 1/8				51 11/16	61 15/16	70 1/16	87 15/16	101 1/8
18 1/2	24 5/8				51 15/16	62 3/16	70 3/8	88 1/4	101 7/16
18 7/8	25 1/8				52 1/4	62 1/2	70 5/8	88 1/2	101 11/16
19 5/16	25 11/16				52 9/16	62 13/16	70 15/16	88 13/16	102
19 11/16	26 3/16				52 13/16	63 1/16	71 1/4	89 1/8	102 5/16
20 1/16	26 11/16						71 1/2	89 3/8	102 9/16
20 1/2	27 3/16						71 3/4	89 5/8	102 13/16
20 7/8	27 3/4						72 1/16	89 15/16	103 1/8
21 1/4	28 1/4						72 3/8	90 1/4	103 7/16
21 5/8	28 3/4						72 5/8	90 1/2	103 11/16
22 1/16	29 5/16						72 15/16	90 13/16	104
22 7/16	29 13/16						73 1/4	91 1/8	104 5/16
22 13/16	30 3/8						73 1/2	91 3/8	104 9/16
23 1/4	30 7/8						73 13/16	91 11/16	104 7/8
23 5/8	31 7/16						74 1/8	91 15/16	105 3/16
24	31 15/16						74 3/8	92 1/4	105 7/16



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