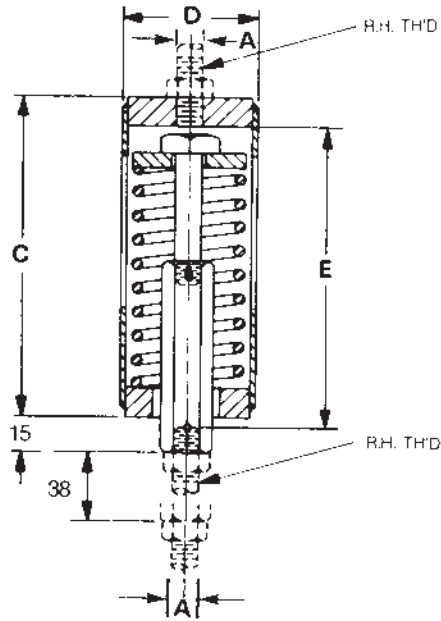


light - duty spring hanger (standard)
corrosion resistant type

model : LVS
C-LVS



FEATURES :

- All welded construction.
- Neat, sturdy appearance.
- Incorporates a convenient load coupling to facilitate proper adjustment during erection.

INSTALLATION : Designed for attachment to its supporting member by screwing a rod into the top cap of the hanger the full depth of the cap.

SERVICE : Recommended for light loads where vertical movement does not exceed 32mm.

ORDERING : Specify size of hanger, model name. If corrosion-resistant hanger is required, specify "Galvanized with neoprene coated spring" (for protection against severe weather conditions or moderate corrosive conditions) or "Completely neoprene coated" (for highly corrosive conditions).
ex) LVS-2.

loads • weights • dimensions(mm)

size no. max	■ max recom deflection	load, kg at max. recom deflection	deflection rate of hanger kg per mm	weight approx. kg each	A	C	D	rod take-out E
1	32	21.76	0.68	0.64	M10	105	48.6	105
2	32	38.72	1.21	0.73	M10	130	48.6	125
3	32	68.48	2.14	1.41	M12	132	60.5	122
4	32	122.24	3.82	2.04	M12	170	60.5	170

■ At maximum recommended deflection, spring can be compressed an additional 6 mm before becoming solid.

variable spring hanger



VSM



C-VSM

DESIGN FEATURES

- **Precompression**
Precompressing the spring into the hanger casing provides the following advantages :
 - (1) Saves up 50% in headroom by reducing the length of the hanger.
 - (2) Reduces then installed height of the overall hanger assembly.
 - (3) Prevents the spring supporting force from exceeding the normal safe limits of variation.
 - (4) Saves valuable erection time because spring is precompressed to within 13mm of the working range.
- **Calibration** : All UNISON spring hangers and supports are calibrated for accurate loading conditions.
- **Load indicator** is clearly seen in the slot, simplifying reading of the scale plate.
- **Cold set** at the factory upon request.
- **Spring and casing** are fabricated of steel and are rugged and compact.
- **Piston cap** serves as a centering device or guide maintaining spring alignment.
- **Casing** protects the spring from damage and weather conditions.

CORROSION RESISTANT

UNISON offers corrosion-resistant and weather resistant pre-engineered variable spring hangers to fill vital needs in the chemical and refinery industries as well as in modern outdoor power plant construction.

UNISON offers a choice :

- (1) For protection against severe weather conditions or moderate corrosive conditions, the parts of the hanger are Hot-Dip galvanized, except the spring which is neoprene coated and the load column for Type F which is electro-galvanized.
- (2) For highly corrosive conditions, all parts of the hanger, including the spring, are neoprene coated except the load column for Type F which is stainless steel.

ADVANTAGES OF NEOPRENE COATING

- Protects from a wide range of corrosives.
- Does not affect the flex life of the spring.
- Recommended for ambient temperatures up to 110°C.

SIZE RANGE

The UNISON pre-engineered Variable Spring Hanger in three series and seven types is offered in twenty-three sizes.

The hanger can be furnished to take loads from 23 Kg to 22,476 Kg.

RECOMMENDED SERVICE

Pipe hangers located at points that are subject to vertical thermal movement and for which a constant support hanger is not required (see "recommended service" for constant support hanger, page 39).

INSTALLATION

Securely attach hanger to the building.

Attach lower hanger rod and turn the load coupling until the load indicator is positioned at the desired setting indicated on the load scale plate.

ADJUSTMENT OF HANGER

Once installed in the line : the hanger should be adjusted until the load indicator moves to the blue sticker marked "C" (cold position). On inspection of the system, after a reasonable period of operation, the load indicator should be at the red sticker marked "H" (hot position).

If it is not, the hanger should be readjusted to the hot position. No other adjustment is necessary.

variable spring hanger

HOW TO DETERMINE SERIES

In choosing between the VSS, VSM and VSL variable spring hangers, it must first be determined that the calculated movement will fall within the working load range of the hanger.

The model VSS hanger has a maximum variation in supporting force per 12.7mm spring deflection of 21 percent of its rated capacity.

The model VSM hanger has a maximum variation of 10.5 percent, while the model VSL hanger has a maximum variation of only 5.25 percent.

It is clear, then, that the longer spring causes the least transfer of load, and that sheer ability to get the known movement within the spring hanger's working range is not the complete answer to the problem.

Rather, good engineering sense, combined with available space and reasonable economic considerations should ultimately determine which series of variable spring hangers should be used. Special series of variable spring hangers can be fabricated for unusual conditions such as Triple or Quadruple type series hangers.

HOW TO DETERMINE TYPE

The type of variable spring hanger to be used depend upon the physical characteristics required by the suspension problem; i.e., amount of head room, whether pipe is to be supported above the spring or below the spring, etc.

Consideration should be given to the seven standard types offered (see line cuts of types "A" through "G").

Special variable spring hangers can be fabricated for unusual conditions.

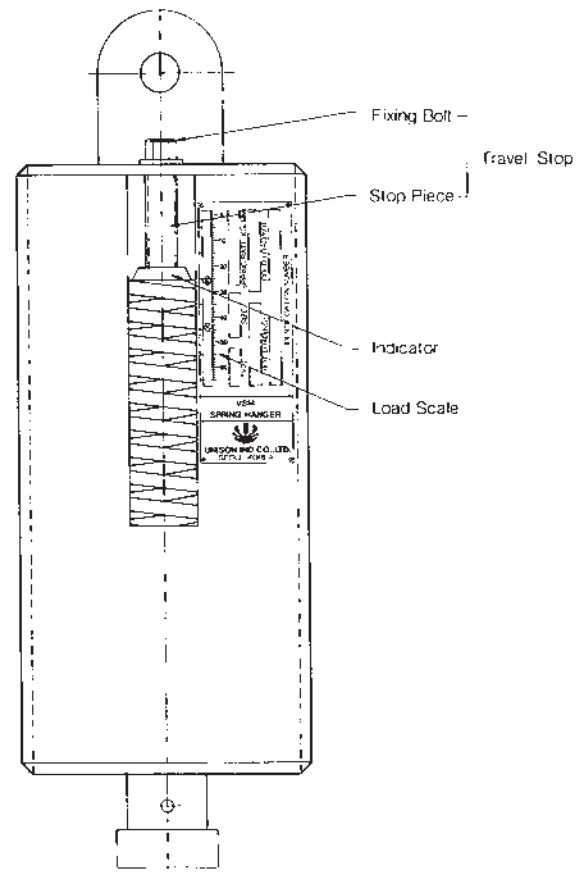
HOW TO DETERMINE SIZE

Complete sizing information is given above the hanger selection chart on page 10 and 11.

This information is applicable to sizing hangers of all series.

It will be noted on the hanger selection charts that the total spring deflection in the casing leaves a reserve above and below the recommended working load range.

TRAVEL STOP



The functional design of the pre-compressed variable spring hanger permits the incorporation of a two-piece travel stop that locks the hanger spring against upward or downward movement for temporary conditions of underload or overload.

The complete travel stop, the travel stop piece for cold set purpose and which may be employed during erection, hydrostatic test or chemical clean out.

The travel stop is painted as the same color with hanger body and is installed at the factory with a "red" caution tag attached calling attention that the device must be removed before the pipe line is put in service.

variable spring hanger

UNIVERSAL LOCKING DEVICES

It is not easy to reset a preset piece once removed.

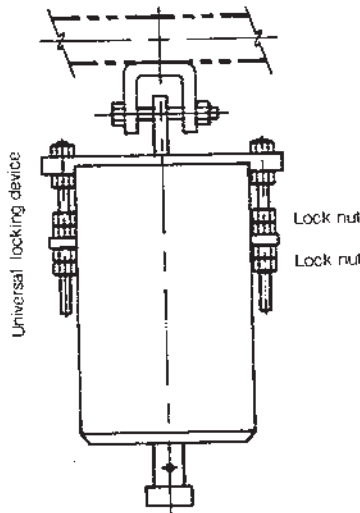
When it is required to be set and removed repeatedly, a Universal Locking Devices shown in below can be used.

By fastening its lock nuts, the hanger is locked at any travel position easily.

The devices are preset to the specified load same as preset pieces before they are shipped from the factory.

Lock nuts should not be unfastened until the hydrostatic proof test is completed.

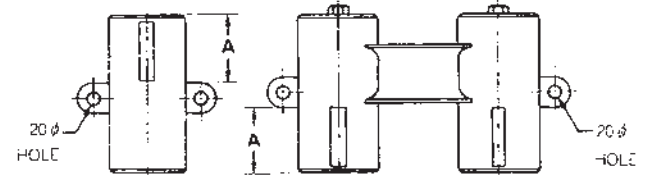
Universal Locking Devices are furnished by purchaser's special order.



ORDERING

- (1) Hanger model name.
- (2) Hanger type and size.
- (3) Desired supporting force in operating position.
- (4) Calculated amount and direction of pipe movement from installed to operating position.
- (5) Customer's identification number (if any).
- (6) When ordering Type "G", specify total load and load per spring plus center to center rod dimensions.
- (7) If required, specify with Universal Locking Devices.
- (8) Specify with lifting lug, if required.
- (9) When ordering corrosion resistant hanger, specify C-VSS, C-VSM or C-VSL "completely galvanized except neoprene coated spring" or "completely neoprene coated."

LIFTING LUGS



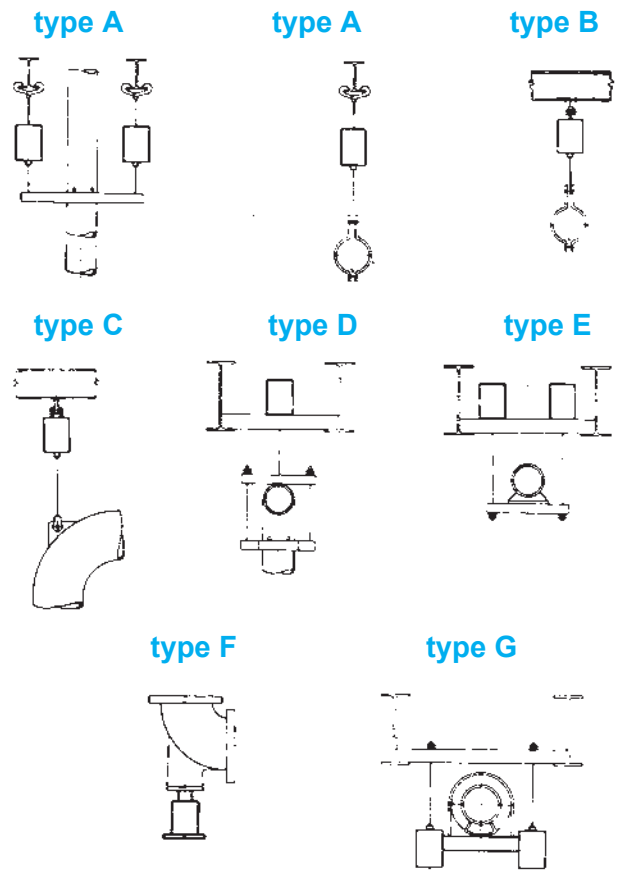
To help alleviate the problem of lifting large size spring hangers into position for installation, this product is available with lifting lugs (if requested) on sizes weighing 45kg or more.

dimension "A"(mm)

hanger size	model name		
	VSS	VSM	VSL
9 thru 11	115 [●]	150 [●]	235 [◆]
12 thru 14	115 [●]	150 [●]	235
15 thru 17	125 [●]	155	240
18 thru 20	135	170	255
21 thru 22	150	180	265

- Lifting lugs required on Type G only.
- ◆ Lifting lugs required on Types F and G only.

TYPICAL APPLICATIONS



variable spring hanger

HOW TO USE HANGER SELECTION TABLE

In order to choose a proper size hanger, it is necessary to know the actual load which the spring is to support and the amount and direction of the pipe line movement from the cold to the hot position. Find the actual load of the pipe in the load table. As it is desirable to support the actual weight of the pipe when the line is hot, the actual load is the hot load. To determine the cold load, read the spring scale, up or down, for the amount of expected movement. The chart must be read opposite from the direction of the pipe's movement.

The load arrived at is the cold load. If the cold load falls outside of the working load range of the hanger selected, relocate the actual or hot load in the adjacent column and find the cold load. When the hot and cold loads are both within the working range of a hanger, the size number of that hanger will be found at the top of the column. Should it be impossible to select a hanger in a particular series such that both loads occur within the working range, consideration should be given to a variable spring hanger with a wider working range or a constant support hanger.

LOAD TABLE in Kg : for selection of hanger size

working range (mm)			Hanger Size											deflection (mm)		
VSL	VSM	VSS	0	1	2	3	4	5	6	7	8	9	10	VSS	VSM	VSL
			20.4	28.5	36.6	48	64	86	114	152	204	271	353	0	0	0
			21.0	29.4	37.8	49	66	88	118	157	210	280	365			
			21.7	30.4	39.0	51	68	91	122	162	217	289	376		5	10
			22.4	31.3	40.3	52	70	94	125	167	224	298	388			
0	0	0	23.0	32.3	41.5	54	72	97	129	172	231	307	399	5	10	20
			23.7	33.2	42.7	55	74	100	133	177	237	316	411			
10	5		24.4	34.1	43.9	57	76	102	137	182	244	325	423		15	30
			25.1	35.1	45.1	58	78	105	140	187	251	334	434			
20	10	5	25.7	36.0	46.3	60	81	108	144	192	257	343	446	10	20	40
			26.4	36.9	47.5	62	83	111	148	197	264	352	458			
30	15		27.1	37.9	48.7	63	85	114	152	202	271	361	469		25	50
			27.7	38.8	49.9	65	87	116	155	207	277	370	481			
40	20	10	28.4	39.8	51.1	66	89	119	159	212	284	378	492	15	30	60
			29.1	40.7	52.3	68	91	122	163	217	291	387	504			
50	25		29.7	41.6	53.5	69	93	125	167	222	298	396	516		35	70
			30.4	42.6	54.7	71	95	128	170	227	304	405	527			
60	30	15	31.1	43.5	55.9	73	97	131	174	232	311	414	539	20	40	80
			31.8	44.4	57.1	74	99	133	178	237	318	423	550			
70	35		32.4	45.4	58.3	76	102	136	182	242	324	432	562		45	90
			33.1	46.3	59.5	77	104	139	185	247	331	441	574			
80	40	20	33.8	47.3	60.7	79	106	142	189	252	338	450	585	25	50	100
			34.4	48.2	61.9	80	108	145	193	257	344	459	597			
90	45		35.1	49.1	63.1	82	110	147	197	262	351	468	608		55	110
			35.8	50.1	64.4	83	112	150	200	267	358	477	620			
100	50	25	36.4	51.0	65.6	85	114	153	204	272	365	486	632	30	60	120
			37.1	51.9	66.8	87	116	156	208	277	371	495	643			
110	55		37.8	52.9	68.0	88	118	159	212	282	378	503	655		65	130
			38.5	53.8	69.2	90	120	161	215	287	385	512	667			
120	60	30	39.1	54.8	70.4	91	123	164	219	292	391	521	678	35	70	140
			39.8	55.7	71.6	93	125	167	223	297	398	530	690			
130	65		40.5	56.6	72.8	94	127	170	227	302	405	539	701		75	150
			41.1	57.6	74.0	96	129	173	230	307	411	548	713			
			41.8	58.5	75.2	98	131	176	234	312	418	557	725	40	80	160
			42.5	59.4	76.4	99	133	178	238	317	425	566	736			
			43.2	60.4	77.6	101	135	181	242	322	432	575	748		85	170
			spring rate (kg/mm)													
			0.536	0.750	0.964	1.250	1.679	2.250	3.00	4.00	5.36	7.14	9.29			
			0.268	0.375	0.482	0.625	0.839	1.125	1.50	2.00	2.68	3.57	4.64			
			0.134	0.188	0.241	0.313	0.420	0.563	0.75	1.00	1.34	1.79	2.32			

ORDER TO SIZE A SPRING, then:

1. Calculate the maximum allowable spring rate from the formula.

$$\text{SPRING RATE} = \frac{\text{VARIABILITY} \times \text{HOT LOAD}}{\text{MOVEMENT}}$$

2. Determine the size by finding the hot load in the hanger selection table.
3. Stay in that size column and choose the series with a spring rate equal or less than the value calculated above.
4. Calculate the cold load and check that both hot and cold loads fall within the working range.

$$\text{COLD LOAD} = \text{HOT LOAD} \pm \text{SPRING RATE} \times \text{MOVEMENT}$$

(+ : Moving Up, - : Moving Down)

5. Check the variability of selected spring is equal or less than the requirement.

A key criteria in selecting the size and series of a variable spring hanger is a factor known as variability. This is a measurement of the percentage change in supporting force between the hot and cold positions of a spring and is calculated from the formula :

$$\text{VARIABILITY} = \frac{\text{MOVEMENT} \times \text{SPRING RATE}}{\text{HOT LOAD}}$$

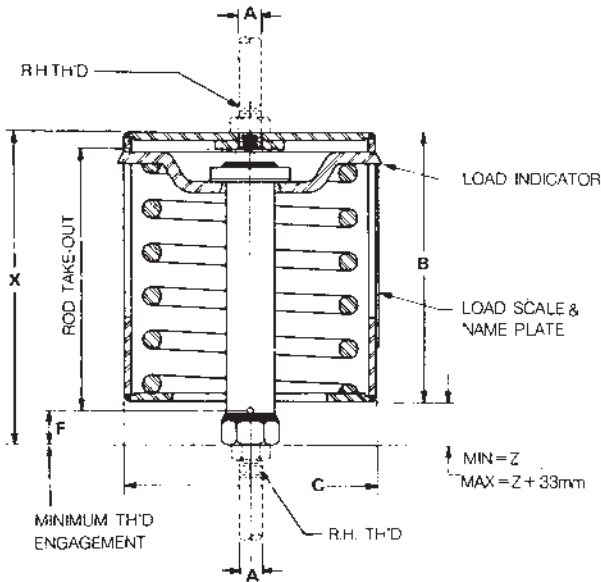
If an allowable variability is not specified, good practice would be to use 25% as specified by MSS-SP58.

6. If this condition is not met, move to adjacent size and rework. If load, movement, variability or available space prohibit the use of a variable spring hanger, the use of a constant support should be considered.

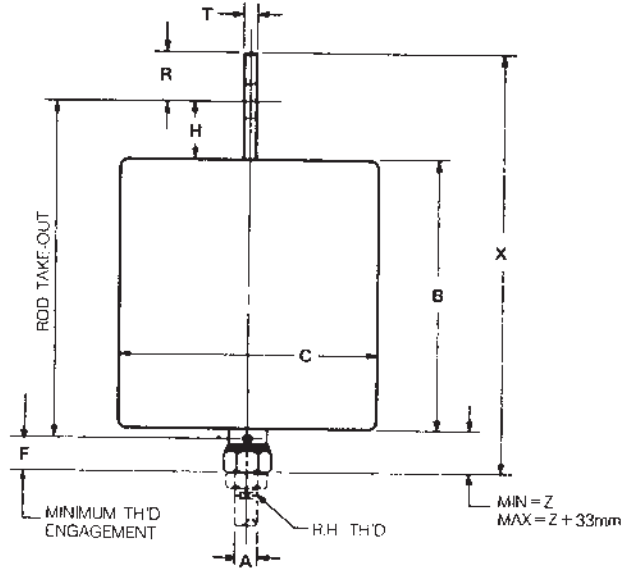
working range (mm)			Hanger Size											deflection (mm)			
			11	12	13	14	15	16	17	18	19	20	21				22
VSL	VSM	VSS												VSS	VSM	VSL	
			462	611	816	1085	1465	2035	2715	3610	4805	6379	8483	11313	0	0	0
			477	631	841	1121	1514	2102	2804	3729	4963	6589	8782	11685			
			492	651	867	1157	1562	2169	2893	3848	5121	6799	9041	12057		5	10
			507	671	895	1193	1610	2236	2982	3967	5279	7009	9320	12429			
0	0	0	522	691	922	1229	1659	2303	3072	4085	5437	7219	9599	12801	5	10	20
			537	711	948	1264	1707	2370	3161	4204	5595	7428	9878	13173			
10	5		552	731	975	1300	1755	2437	3250	4323	5753	7638	10157	13545	15	30	
			568	751	1002	1336	1803	2504	3339	4442	5911	7848	10436	13917			
20	10	5	583	771	1029	1371	1851	2571	3429	4560	6069	8058	10715	14290	10	20	40
			598	792	1055	1407	1899	2638	3518	4679	6227	8268	10994	14662			
30	15		613	812	1082	1443	1948	2705	3607	4798	6385	8478	11273	15034	25	50	
			628	832	1109	1478	1996	2772	3697	4917	6543	8687	11552	15406			
40	20	10	644	852	1136	1514	2044	2839	3786	5036	6701	8897	11831	15778	15	30	60
			659	872	1163	1550	2092	2906	3875	5154	6859	9107	12110	16150			
50	25		674	892	1189	1586	2141	2973	3964	5273	7017	9317	12389	16522	35	70	
			689	912	1216	1621	2189	3040	4054	5392	7176	9527	12668	16894			
60	30	15	704	932	1243	1657	2237	3107	4143	5511	7334	9737	12947	17267	20	40	80
			720	952	1270	1693	2285	3174	4232	5629	7492	9946	13226	17639			
70	35		735	972	1297	1728	2333	3241	4322	5748	7650	10156	13505	18011	45	90	
			750	992	1323	1764	2382	3308	4411	5867	7808	10366	13784	18383			
80	40	20	765	1013	1350	1800	2430	3375	4500	5986	7966	10576	14063	18755	25	50	100
			780	1033	1377	1836	2478	3442	4589	6104	8124	10786	14343	19127			
90	45		795	1053	1404	1871	2526	3509	4679	6223	8282	10996	14622	19499	55	110	
			810	1073	1431	1907	2574	3576	4768	6342	8440	11205	14901	19871			
100	50	25	826	1093	1457	1943	2623	3643	4857	6461	8598	11415	15180	20244	30	60	120
			841	1113	1484	1978	2671	3710	4947	6579	8756	11625	15459	20616			
110	55		856	1133	1511	2014	2719	3777	5036	6698	8914	11835	15738	20988	65	130	
			871	1153	1538	2050	2767	3844	5125	6817	9072	12045	16017	21360			
120	60	30	886	1173	1565	2086	2815	3911	5214	6936	9230	12255	16296	21732	35	70	140
			901	1193	1591	2121	2864	3978	5304	7054	9388	12464	16575	22104			
130	65		917	1213	1618	2157	2912	4045	5393	7173	9546	12674	16854	22476	75	150	
			932	1233	1645	2193	2960	4111	5482	7292	9704	12884	17133	22848			
			947	1254	1672	2228	3008	4178	5572	7411	9862	13094	17412	23221	40	80	160
			962	1274	1698	2264	3057	4245	5661	7530	10020	13304	17691	23593			
			977	1294	1725	2300	3105	4313	5750	7648	10178	13514	17970	23965	85	170	
spring rate (kg/mm)																	
			12.14	16.07	21.43	28.57	38.57	53.57	71.43	95.01	126.44	167.87	223.23	297.70			
			6.07	8.04	10.71	14.29	19.29	26.79	35.72	47.50	63.22	83.93	111.61	148.85			
			3.04	4.02	5.36	7.14	9.64	13.39	17.86	23.75	31.61	41.97	55.81	74.42			

spring hanger (short)
type -A and type -B

model : VSS-A
VSS-B



VSS-A



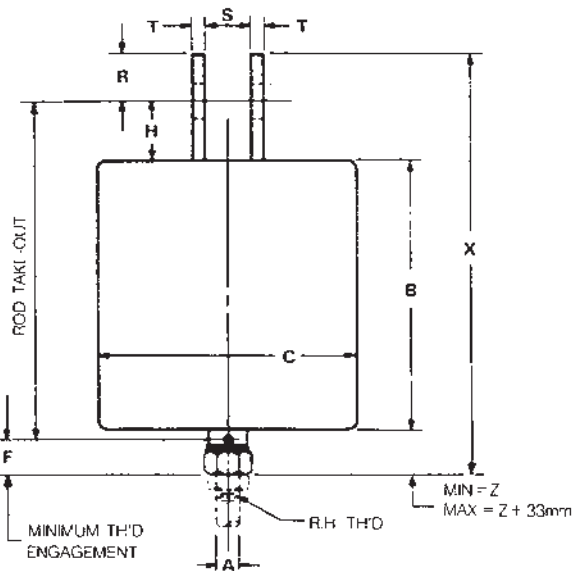
VSS-B

weights • dimensions(mm)

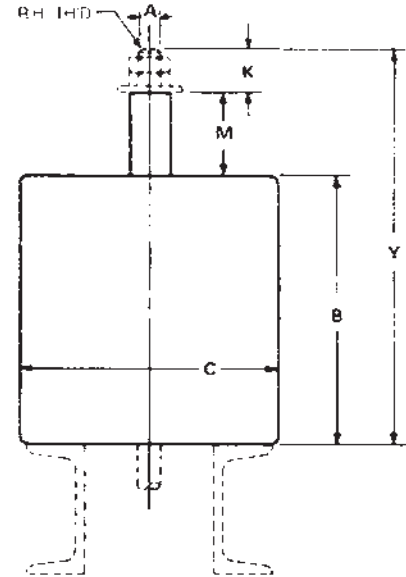
hanger size	A	recom. R.H. thread length	C	F	B	rod take-out		type B, C				
						type A	type B, C	lug hole size	H	R	S	T
0	M12	75	102	30	108	107	158	18	40	32	22	6
1	M12	75	102	30	113	112	163	18	40	32	22	6
2	M12	75	102	30	118	117	168	18	40	32	22	6
3	M12	75	140	30	118	117	168	18	40	32	22	6
4	M12	75	140	30	118	117	168	18	40	32	22	6
5	M12	75	140	30	118	117	168	18	40	32	22	6
6	M16	75	165	35	137	133	187	22	40	32	28	6
7	M16	75	165	35	137	133	187	22	40	32	28	6
8	M16	75	165	35	162	158	212	22	40	32	28	6
9	M20	100	216	45	162	160	217	26	40	32	32	9
10	M20	100	216	45	162	160	217	26	40	32	32	9
11	M20	100	216	45	177	175	237	26	40	32	32	9
12	M24	100	216	50	184	178	254	33	50	40	42	12
13	M24	100	216	50	200	194	270	33	50	40	42	12
14	M30	100	216	55	227	221	322	39	75	52	50	16
15	M30	125	216	55	245	235	340	39	75	52	50	16
16	M36	125	216	65	275	265	370	46	75	65	60	20
17	M42	150	216	70	310	296	405	52	75	65	68	20
18	M48	180	324	85	327	313	447	62	100	75	72	20
19	M56	180	324	85	367	347	502	70	115	75	80	20
20	M64	205	324	85	412	390	547	78	115	102	86	24
21	M72	230	324	95	438	412	573	86	115	102	92	24
22	M80	255	324	95	552	522	697	91	125	102	100	24

spring hanger (short)
type -C and type -D

model : VSS -C
VSS -D



VSS-C



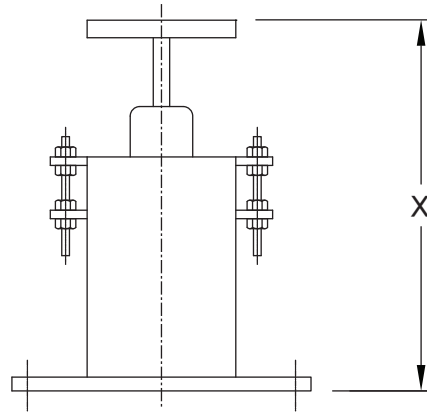
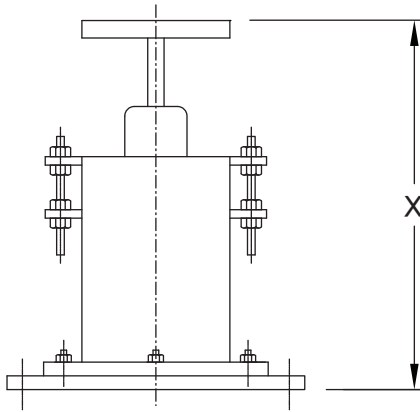
VSS-D

weights • dimensions(mm)

hanger size	weight(approx)kg each		type D			loaded length X			
	type A, B, C	type D	Y	K	M	type A		type B, C	
						min	max	min	max
0	2.27	1.81	188	35	45	148	181	220	253
1	2.72	2.27	193	35	45	153	186	225	258
2	3.18	2.72	198	35	45	158	191	230	263
3	4.08	3.63	198	35	45	158	191	230	263
4	4.54	4.08	198	35	45	158	191	230	263
5	4.99	4.54	198	35	45	158	191	230	263
6	7.71	7.26	222	40	45	182	215	254	287
7	9.07	8.62	222	40	45	182	215	254	287
8	9.53	9.07	247	40	45	207	240	279	312
9	20.87	19.05	252	45	45	222	255	294	327
10	23.59	21.77	252	45	45	222	255	294	327
11	20.41	18.60	267	45	45	237	270	309	342
12	21.77	19.50	285	60	45	249	282	339	372
13	26.76	24.04	301	60	45	265	298	355	388
14	28.12	24.95	340	75	45	297	330	424	457
15	33.57	29.48	361	75	45	315	348	442	475
16	39.92	34.93	406	90	45	355	388	495	528
17	48.08	41.28	452	105	45	395	428	535	568
18	103.87	88.91	483	115	45	427	460	602	635
19	116.12	97.98	532	130	45	467	500	657	690
20	145.15	123.38	586	140	45	512	545	729	762
21	168.29	140.16	631	160	45	548	581	765	798
22	208.66	181.89	751	170	45	662	695	889	922

spring hanger (universal locking device)
type-F

model : UC-VSS, U-VSS
UC-VSM, U-VSM
UC-VSL, U-VSL



(universal-corrosion type)

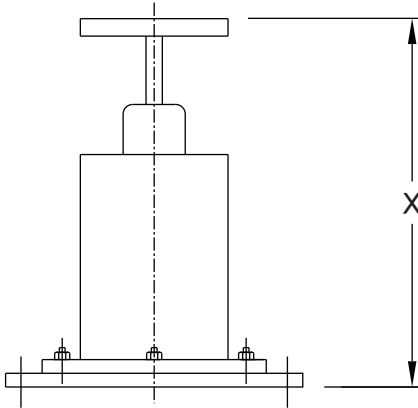
(universal-standard type)

install length. dimensions (mm)

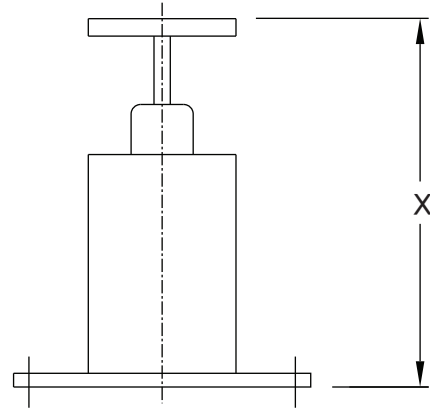
HANGER SIZE	UC-VSS & U-VSS load length X		UC-VSM & U-VSM load length X		UC-VSL & U-VSL load length X	
	Min.	Max.	Min.	Max.	Min.	Max.
0	212	242	277	337	446	566
1	217	247	277	337	446	566
2	217	247	297	357	486	606
3	222	252	297	357	486	606
4	222	252	307	367	506	626
5	222	252	307	367	506	626
6	257	287	347	407	563	683
7	257	287	347	407	563	683
8	282	312	387	447	643	763
9	301	331	402	462	648	768
10	301	331	406	466	656	776
11	326	356	417	477	668	788
12	332	362	437	497	705	825
13	354	384	482	542	786	906
14	374	404	509	569	840	960
15	384	414	515	575	852	972
16	436	466	581	641	966	1086
17	463	493	641	701	1086	1206
18	510	540	660	720	1077	1197
19	555	585	740	800	1222	1342
20	608	638	813	873	1352	1472
21	634	664	886	946	1484	1604
22	754	784	1092	1152	1884	2004

spring hanger (standard type)
type-F

model : C-VSS, VSS
C-VSM, VSM
C-VSL, VSL



(corrosion type)



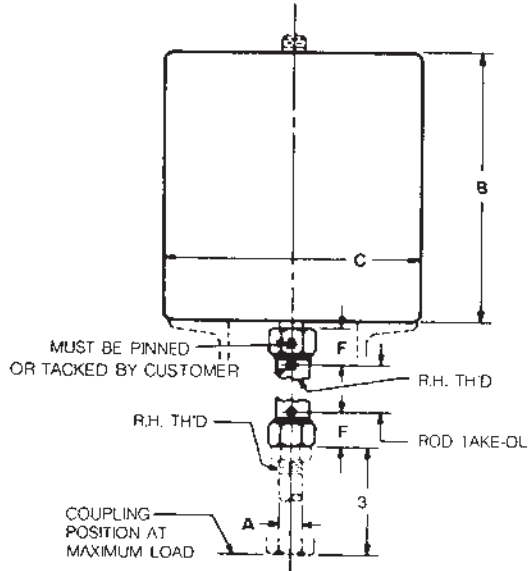
(standard type)

install length, dimensions (mm)

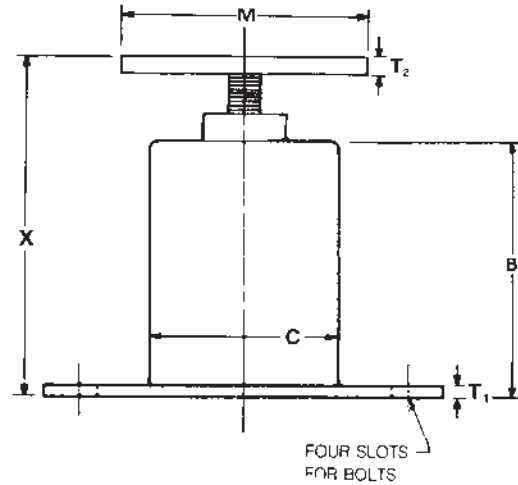
HANGER SIZE	C-VSS & VSS load length X		C-VSM & VSM load length X		C-VSL & VSL load length X	
	Min.	Max.	Min.	Max.	Min.	Max.
0	177	207	242	302	411	531
1	182	212	242	302	411	531
2	182	212	262	322	451	571
3	187	217	262	322	451	571
4	187	217	272	332	471	591
5	187	217	272	332	471	591
6	213	243	303	363	519	639
7	213	243	303	363	519	639
8	238	268	343	403	599	719
9	257	287	358	418	604	724
10	257	287	362	422	612	732
11	272	302	363	423	614	734
12	278	308	383	443	651	771
13	291	321	419	479	723	843
14	311	341	446	506	777	897
15	321	351	452	512	789	909
16	357	387	502	562	887	1007
17	384	414	562	622	1007	1127
18	431	461	581	641	998	1118
19	461	491	646	706	1128	1248
20	498	528	703	763	1242	1362
21	524	554	776	836	1374	1494
22	632	662	970	1030	1762	1882

spring hanger (short)
type -E and type -F

model : VSS-E
VSS-F



VSS-E



VSS-F

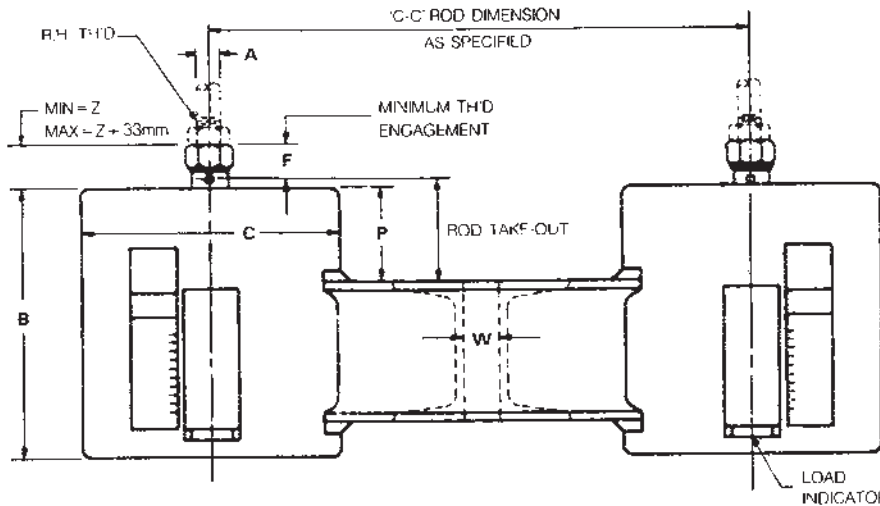
weights • dimensions(mm)

hanger size	A	recom. R.H. thread length	C	F	B		rod take-out	
					type E, G	type F	type E	type G
0	M12	75	102	25	108	108	75	30
1	M12	75	102	25	113	113	75	30
2	M12	75	102	25	118	113	75	30
3	M12	75	140	20	118	118	75	30
4	M12	75	140	20	118	118	75	30
5	M12	75	140	20	118	118	75	30
6	M16	75	165	25	137	134	75	55
7	M16	75	165	25	137	134	75	55
8	M16	75	165	25	162	159	75	55
9	M20	100	216	30	165	162	75	60
10	M20	100	216	30	165	162	75	60
11	M20	100	216	30	180	177	75	60
12	M24	100	216	30	183	183	75	50
13	M24	100	216	30	196	196	75	85
14	M30	100	216	30	220	220	75	85
15	M30	125	216	50	237	230	75	35
16	M36	125	216	50	267	262	75	35
17	M42	150	216	50	295	289	75	60
18	M48	180	324	80	319	319	300	25
19	M56	180	324	85	349	349	300	35
20	M64	205	324	85	386	386	300	35
21	M72	230	324	90	408	408	300	35
22	M80	255	324	95	516	516	300	85

spring hanger (short)
type -G

model : VSS -G

※ Based on use of model UB-SD U-Bolt in conjunction with type G support.



※type "G" variable spring maximum allowable 'C-C'

spring size	max 'c-c'(mm)	max pipe size
0- 2	610	300A (12B)
3- 5	760	400A (16B)
6- 8	915	500A (20B)
9-11	915	500A (20B)
12-13	915	500A (20B)
14	840	400A (16B)
15	915	500A (20B)
16-17	915	500A (20B)
18-19	1065	500A (20B)
20	1015	500A (20B)
21-22	1220	600A (24B)

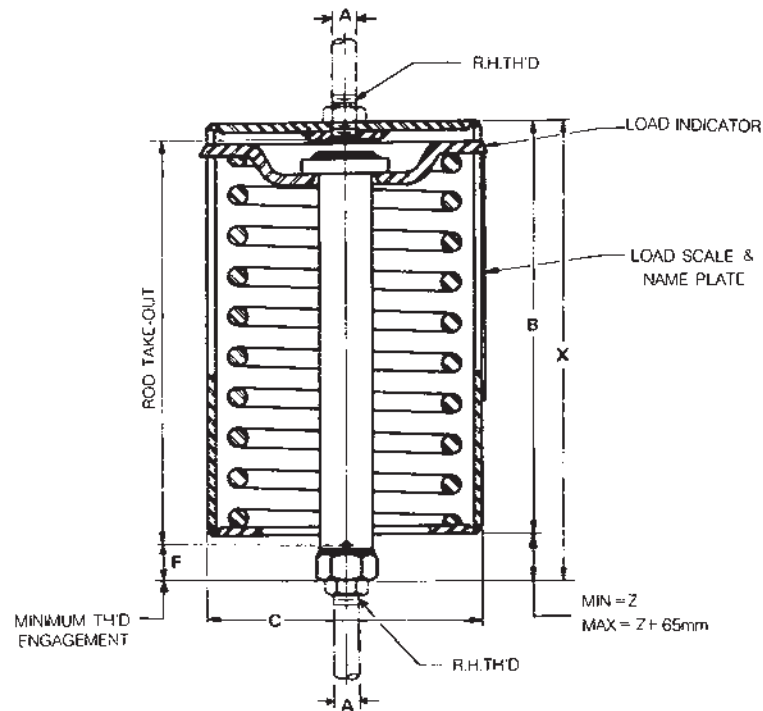
VSS-G

weights • dimensions(mm)

hanger size	weight(approx)kg, each			type F									type G	
	type E	type F	type G	bottom flange square	bottom flange bolt circle		bottom flange bolts	T ₁	M	T ₂	loaded length X		space between channel W	P
					min	max					min	max		
0	1.81	4.08	11.34	190	170	220	M16	6	90	6	177	207	15	25
1	2.27	4.08	11.34	190	170	220	M16	6	90	6	182	212	15	25
2	2.72	4.54	12.25	190	170	220	M16	6	90	6	182	212	15	25
3	3.63	5.44	13.15	190	170	220	M16	6	125	6	187	217	20	25
4	4.08	5.44	14.16	190	170	220	M16	6	125	6	187	217	20	25
5	4.54	5.98	14.52	190	170	220	M16	6	125	6	187	217	20	25
6	7.26	11.80	20.41	230	200	265	M20	9	155	9	213	243	25	50
7	8.62	12.70	23.13	230	200	265	M20	9	155	9	213	243	25	50
8	9.07	13.61	24.11	230	200	265	M20	9	155	9	238	268	25	50
9	19.50	28.12	47.62	305	305	370	M20	12	200	12	257	287	30	50
10	21.77	29.48	53.17	305	305	370	M20	12	200	12	257	287	30	50
11	18.60	27.67	45.84	305	305	370	M20	12	200	12	272	302	30	50
12	19.05	33.57	50.84	305	305	370	M20	12	200	12	278	308	40	40
13	24.04	31.75	60.78	305	305	370	M20	12	200	12	291	321	40	75
14	24.95	32.21	63.05	305	305	370	M20	12	200	12	311	341	40	75
15	29.48	34.93	77.11	305	305	370	M20	12	200	12	321	351	55	25
16	34.93	39.92	91.63	305	305	370	M20	12	200	16	357	387	55	25
17	41.28	45.81	107.76	305	305	370	M20	12	200	16	384	414	55	50
18	88.91	97.98	221.35	430	480	545	M20	16	250	24	431	461	60	15
19	97.98	100.25	244.41	430	480	545	M20	16	250	24	461	491	65	25
20	123.38	128.37	303.42	430	480	545	M20	16	250	24	498	528	75	25
21	140.16	129.73	375.13	430	480	545	M20	16	250	32	524	554	80	25
22	181.89	168.74	456.20	430	480	545	M20	16	250	32	632	662	85	75

spring hanger (medium) type -A

model : VSM - A



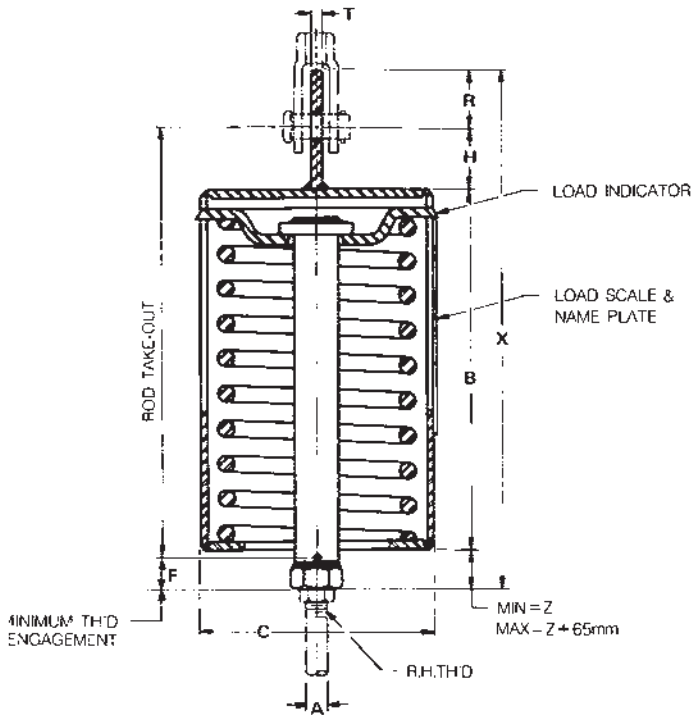
VSM-A

weights • dimensions(mm)

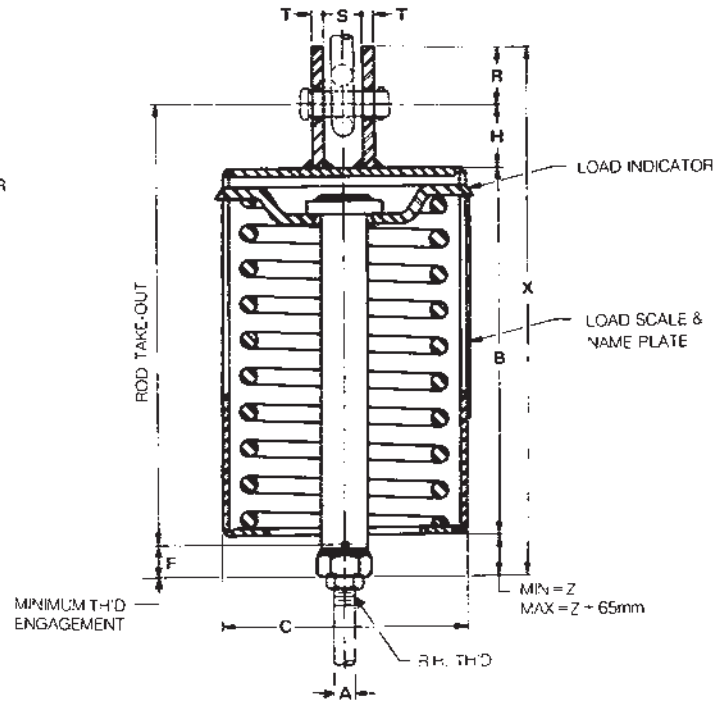
hanger size	weight (approx) each, kg	A	recom. R.H. thread length	B	C	rod take-out	F	loaded length X	
								min	max
0	3.18	M12	125	158	102	163	30	203	268
1	3.18	M12	125	158	102	163	30	203	268
2	3.63	M12	125	178	102	183	30	223	288
3	5.44	M12	125	178	140	183	30	223	288
4	5.90	M12	125	188	140	193	30	233	298
5	6.35	M12	125	188	140	193	30	233	298
6	10.43	M16	125	212	165	217	35	262	327
7	11.79	M16	125	212	165	217	35	262	327
8	12.70	M16	125	252	165	257	35	302	367
9	24.95	M20	150	248	216	268	45	313	378
10	27.67	M20	150	252	216	262	45	317	382
11	24.95	M20	150	253	216	263	45	318	383
12	27.67	M24	150	274	216	284	50	344	409
13	35.83	M24	180	313	216	323	50	383	448
14	37.65	M30	180	347	216	357	55	422	487
15	43.99	M30	180	361	216	371	55	436	501
16	53.97	M36	205	407	216	417	65	492	557
17	67.13	M42	205	475	216	485	70	565	630
18	136.00	M48	230	462	324	472	85	567	632
19	156.95	M56	230	537	324	547	85	642	707
20	204.12	M64	255	602	324	612	85	707	772
21	238.59	M72	255	675	324	685	95	790	865
22	306.18	M80	280	835	324	845	95	950	1015

spring hanger (medium)
type -B and type -C

model : VSM-B
VSM-C



VSM-B



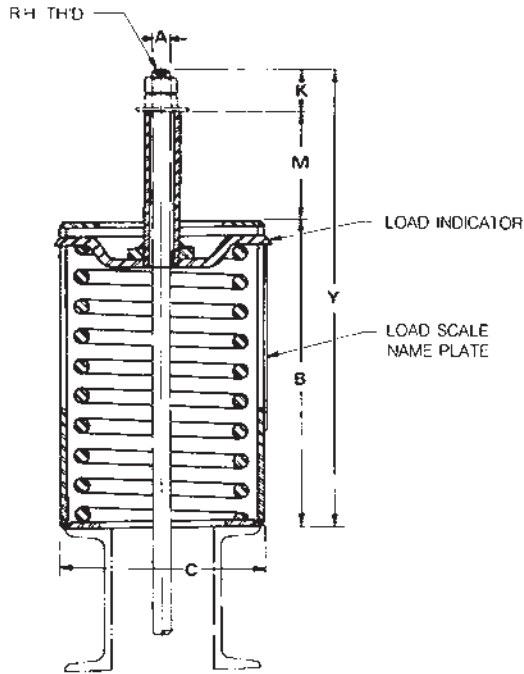
VSM-C

weights • dimensions(mm)

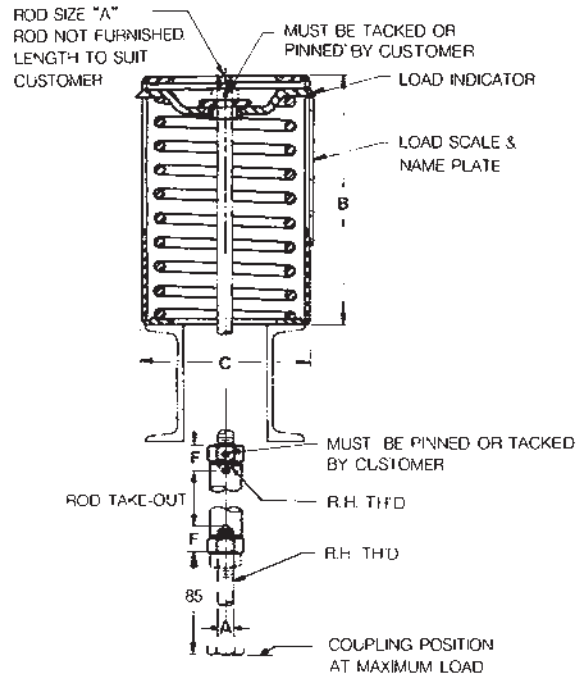
hanger size	weight (approx) each kg	A	R.H. thread length	lug hole size	B	C	F	H	rod take-out	R	S	T	loaded length X	
													min	max
0	3.18	M12	125	18	158	102	30	40	203	32	22	6	275	340
1	3.63	M12	125	18	158	102	30	40	203	32	22	6	275	340
2	4.08	M12	125	18	178	102	30	40	223	32	22	6	295	360
3	5.44	M12	125	18	178	140	30	40	223	32	22	6	295	360
4	6.35	M12	125	18	188	140	30	40	233	32	22	6	305	370
5	6.80	M12	125	18	188	140	30	40	233	32	22	6	305	370
6	10.89	M16	125	22	212	165	35	40	257	32	28	6	334	399
7	12.25	M16	125	22	212	165	35	40	257	32	28	6	334	399
8	13.15	M16	125	22	252	165	35	40	297	32	28	6	374	439
9	25.40	M20	150	26	248	216	45	40	298	32	32	9	385	450
10	28.12	M20	150	26	252	216	45	40	302	32	32	9	389	454
11	25.40	M20	150	26	253	216	45	40	303	32	32	9	390	455
12	27.67	M24	150	33	274	216	50	50	334	40	42	12	434	499
13	35.83	M24	180	33	313	216	50	50	373	40	42	12	473	538
14	38.10	M30	180	39	347	216	55	75	432	52	50	16	549	614
15	45.36	M30	180	39	361	216	55	75	446	52	50	16	563	628
16	56.25	M36	205	46	407	216	65	75	492	65	60	20	632	697
17	69.85	M42	205	52	475	216	70	75	560	65	68	20	705	770
18	136.53	M48	230	62	462	324	85	100	572	75	72	20	742	807
19	157.85	M56	230	70	537	324	85	115	662	75	80	20	832	897
20	206.84	M64	255	78	602	324	85	115	727	102	86	24	924	989
21	239.50	M72	255	86	675	324	95	115	800	102	92	24	1007	1072
22	310.26	M80	280	91	835	324	95	125	970	102	100	24	1177	1242

spring hanger (medium)
type-D and type-E

model : VSM-D
VSM-E



VSM-D



VSM-E

weights • dimensions(mm)

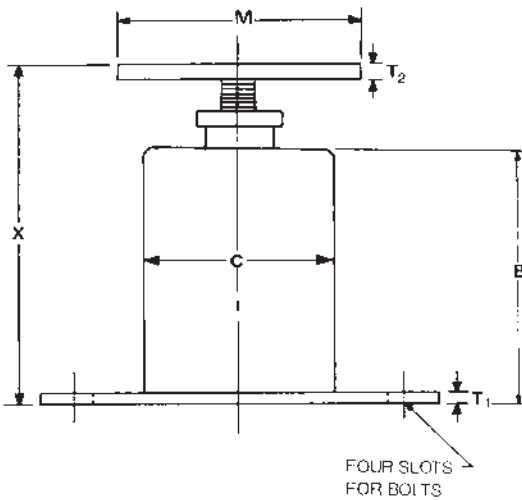
hanger size	A	recomm. R.H. thread length	casing diam C	F	B		rod take-out		type D		
					type D, E, G	type F	type E	type G	Y	K	M
0	M12	125	102	25	158	158	75	45	273	35	80
1	M12	125	102	25	158	158	75	45	273	35	80
2	M12	125	102	25	178	178	75	45	293	35	80
3	M12	125	140	25	178	178	75	55	293	35	80
4	M12	125	140	25	188	188	75	55	303	35	80
5	M12	125	140	25	188	188	75	55	303	35	80
6	M16	125	165	25	212	209	75	55	327	40	75
7	M16	125	165	25	212	209	75	55	327	40	75
8	M16	125	165	25	252	249	75	55	367	40	75
9	M20	150	216	30	248	248	75	85	368	45	75
10	M20	150	216	30	252	252	75	85	372	45	75
11	M20	150	216	30	253	253	75	85	373	45	75
12	M24	150	216	30	270	273	75	110	405	60	75
13	M24	180	216	30	309	309	75	110	444	60	75
14	M30	180	216	30	340	340	75	110	490	75	75
15	M30	180	216	50	357	346	75	110	507	75	75
16	M36	205	216	50	403	394	75	110	568	90	75
17	M42	205	216	50	467	454	75	110	647	105	75
18	M48	230	324	80	458	454	300	110	648	115	75
19	M56	230	324	85	527	519	300	110	732	130	75
20	M64	255	324	85	590	576	300	110	805	140	75
21	M72	255	324	90	663	645	300	110	898	160	75
22	M80	280	324	95	819	799	300	110	1064	170	75

spring hanger (medium)
type-F and type-G

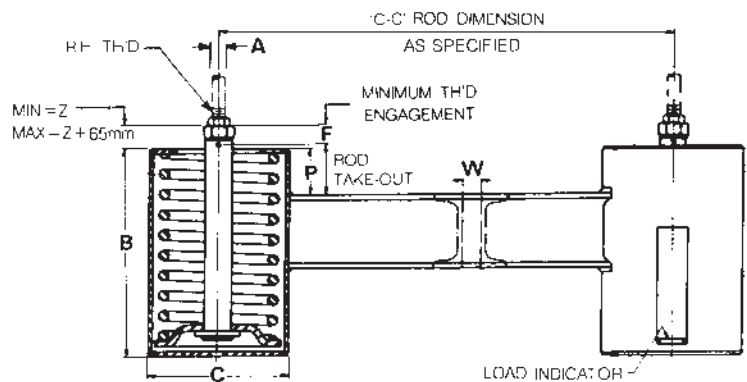
model : VSM-F
VSM-G

spring size	max 'c-c'(mm)	max pipe size
0-2	610	300A (12B)
3-5	760	400A (16B)
6-8	915	500A (20B)
9-11	915	500A (20B)
12-13	915	500A (20B)
14	840	400A (16B)
15	915	500A (20B)
16-17	915	500A (20B)
18-19	1065	500A (20B)
20	1015	500A (20B)
21-22	1220	600A (24B)

*type "G" variable spring maximum allowable 'C-C'



VSM-F



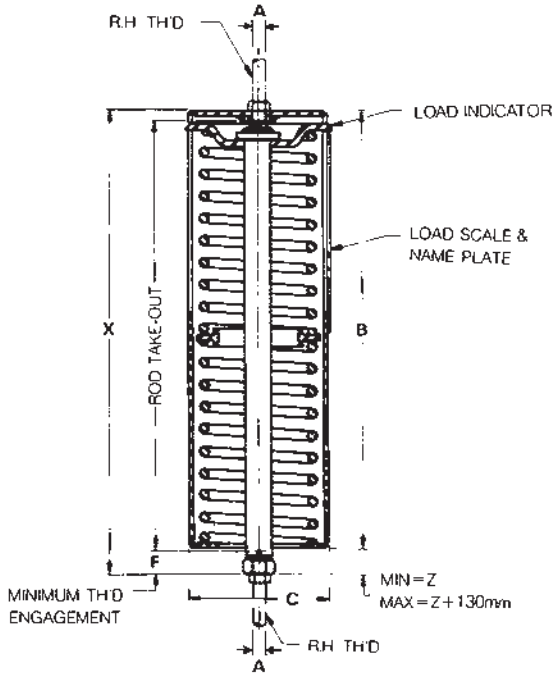
VSM-G

weights • dimensions(mm)

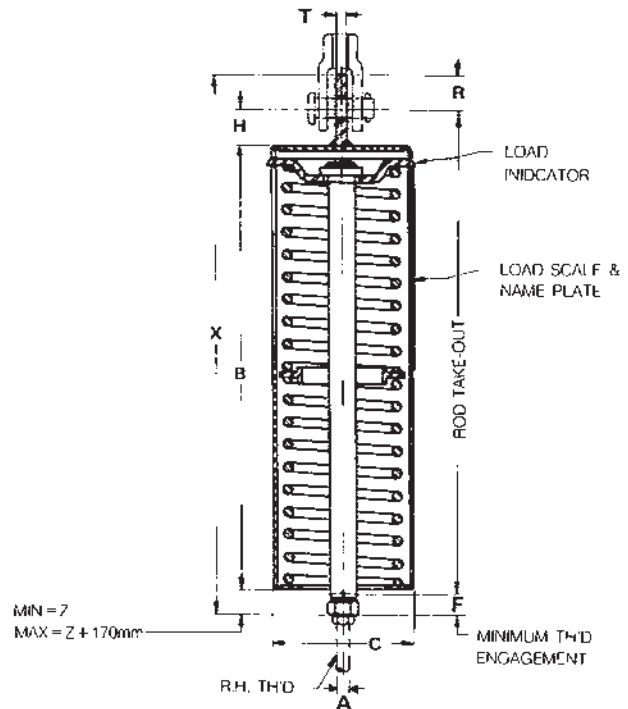
hanger size	weight(approx)kg. each			type F										type G	
	type D, E	type F	type G	bottom flange square	bottom flange bolt circle		bottom flange bolts	T ₁	diam M	T ₂	loaded length X		space between channel W	P	
					min	min					min	max			
0	2.72	5.90	12.70	190	170	220	M16	6	90	6	242	302	15	40	
1	3.18	5.90	13.15	190	170	220	M16	6	90	6	242	302	15	40	
2	3.63	6.35	13.61	190	170	220	M16	6	90	6	262	322	15	40	
3	4.99	9.53	16.78	190	170	220	M16	6	125	6	262	322	20	50	
4	5.44	10.43	17.24	190	170	220	M16	6	125	6	272	332	20	50	
5	6.35	10.89	17.69	190	170	220	M16	6	125	6	272	332	20	50	
6	9.98	16.78	25.86	230	200	265	M20	9	155	9	303	363	25	50	
7	11.34	19.50	28.58	230	200	265	M20	9	155	9	303	363	25	50	
8	11.79	19.96	30.39	230	200	265	M20	9	155	9	343	403	25	50	
9	23.13	36.74	55.79	305	305	370	M20	12	200	12	358	418	30	75	
10	26.31	39.92	62.14	305	305	370	M20	12	200	12	362	422	30	75	
11	23.13	36.29	56.70	305	305	370	M20	12	200	12	363	423	30	75	
12	25.40	38.56	62.14	305	305	370	M20	12	200	12	383	443	40	100	
13	33.11	47.63	79.38	305	305	370	M20	12	200	12	419	479	40	100	
14	34.93	49.44	83.00	305	305	370	M20	12	200	12	446	506	40	100	
15	39.92	52.62	100.70	305	305	370	M20	12	200	12	452	512	55	100	
16	48.54	61.69	122.47	305	305	370	M20	12	200	16	502	562	55	100	
17	60.33	72.12	147.87	305	305	370	M20	12	200	16	562	622	55	100	
18	118.84	141.98	285.77	430	480	545	M20	16	250	24	581	641	60	100	
19	136.08	158.76	327.95	430	480	545	M20	16	250	24	646	706	65	100	
20	167.83	200.04	423.21	430	480	545	M20	16	250	24	703	763	75	100	
21	206.39	211.38	515.74	430	480	545	M20	16	250	32	776	836	80	100	
22	229.07	283.05	651.37	430	480	545	M20	16	250	32	970	1030	85	100	

spring hanger (double)
type -A and type -B

model : VSL - A
VSL - B



VSL-A



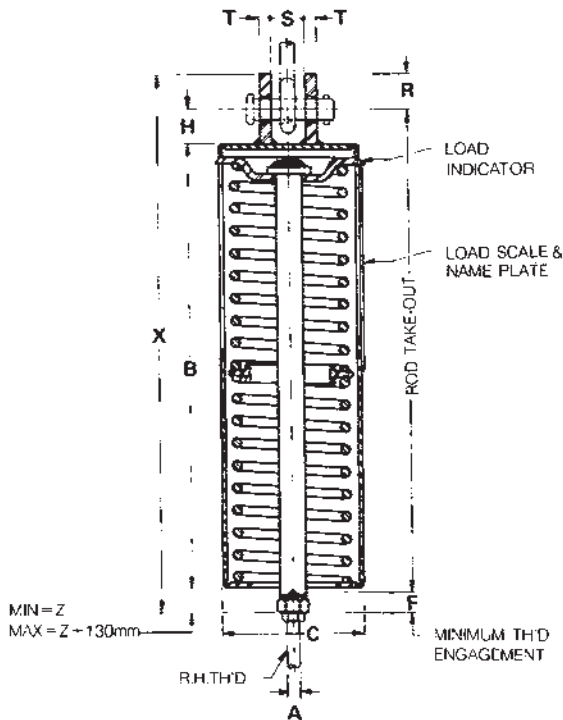
VSL-B

weights • dimensions(mm)

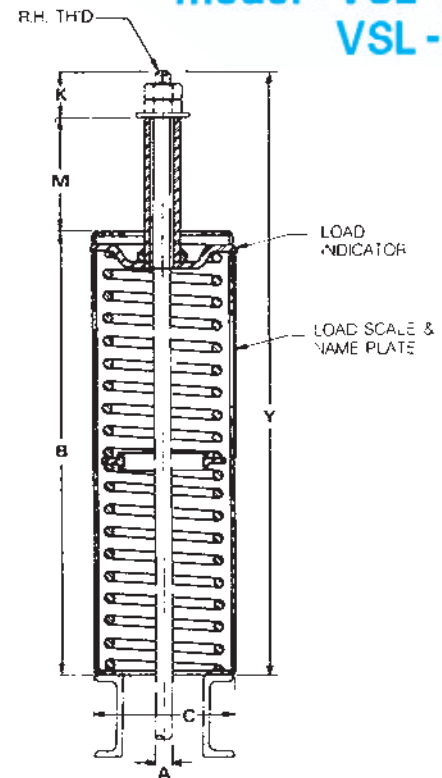
hanger size	A	recom. R.H. thread length	C	F	B	rod take-out		type B, C				
						type A	type B, C	lug hole size	H	R	S	T
0	M12	230	102	30	304	303	349	18	40	32	22	6
1	M12	230	102	30	304	303	349	18	40	32	22	6
2	M12	230	102	30	344	343	389	18	40	32	22	6
3	M12	230	140	30	344	343	389	18	40	32	22	6
4	M12	230	140	30	364	363	409	18	40	32	22	6
5	M12	230	140	30	364	363	409	18	40	32	22	6
6	M16	230	165	35	403	399	448	22	40	32	28	6
7	M16	230	165	35	403	399	448	22	40	32	28	6
8	M16	230	165	35	483	479	528	22	40	32	28	6
9	M20	230	216	45	469	467	519	26	40	32	32	9
10	M20	230	216	45	477	475	527	26	40	32	32	9
11	M20	255	216	45	479	477	529	26	40	32	32	9
12	M24	255	216	50	517	511	577	33	50	40	42	12
13	M24	255	216	50	592	586	652	33	50	40	42	12
14	M30	255	216	55	653	647	735	39	75	52	50	16
15	M30	255	216	55	673	663	758	39	75	52	50	16
16	M36	280	216	65	765	755	850	46	75	65	60	20
17	M42	305	216	70	893	879	978	52	75	65	68	20
18	M48	305	324	85	854	840	964	62	100	75	72	20
19	M56	330	324	85	994	1059	1119	70	115	75	80	20
20	M64	355	324	85	1116	1094	1241	78	115	102	86	24
21	M72	355	324	95	1248	1222	1373	86	115	102	92	24
22	M80	380	324	95	1562	1532	1697	91	125	102	100	24

spring hanger (double)
type -C and type -D

model : VSL -C
VSL -D



VSL-C



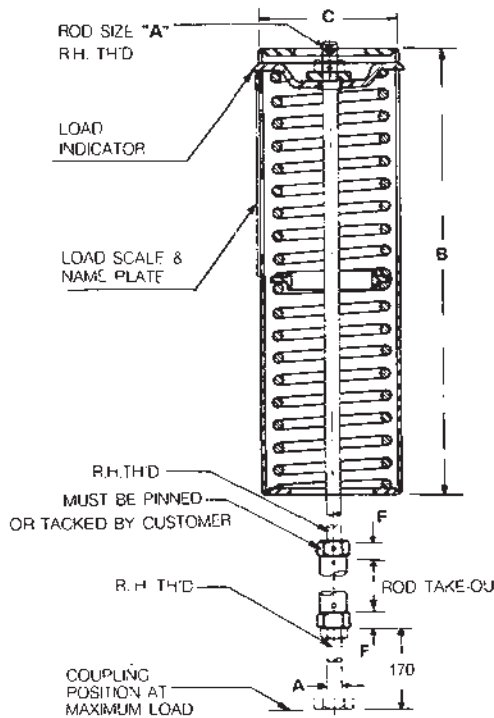
VSL-D

weights • dimensions(mm)

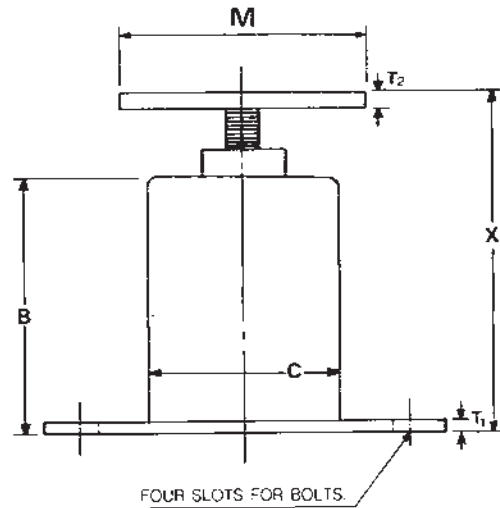
hanger size	weight(approx) kg. each		type D			loaded length X			
	type A, B, C	type D	Y	K	M	type A		type B, C	
						min	max	min	max
0	4.99	4.99	479	35	140	359	489	431	561
1	5.90	5.90	479	35	140	359	489	431	561
2	6.80	6.80	519	35	140	399	529	471	601
3	9.07	8.62	519	35	140	399	529	471	601
4	10.43	9.98	539	35	140	419	549	491	621
5	11.34	10.89	539	35	140	419	549	491	621
6	17.24	16.78	583	40	140	463	593	535	665
7	20.87	20.41	583	40	140	463	593	535	665
8	26.31	22.23	663	40	140	543	673	615	745
9	39.46	38.10	654	45	140	544	674	616	746
10	47.17	44.45	662	45	140	552	682	624	754
11	39.92	38.56	664	45	140	554	684	626	756
12	44.45	42.64	717	60	140	597	727	687	817
13	60.78	58.51	792	60	140	672	802	762	892
14	64.86	62.14	868	75	140	738	868	862	992
15	71.67	67.59	888	75	140	758	888	885	1015
16	92.53	85.28	995	90	140	860	990	1000	1130
17	117.48	105.69	1138	105	140	993	1123	1133	1263
18	218.64	202.76	1109	115	140	969	1099	1144	1274
19	258.55	234.96	1264	130	140	1109	1239	1299	1429
20	350.18	314.30	1396	140	140	1231	1361	1448	1578
21	412.78	369.68	1548	160	140	1373	1503	1590	1720
22	548.86	503.50	1872	170	140	1687	1817	1914	2044

spring hanger (double)
type -E and type -F

model : VSL-E
VSL-F



VSL-E



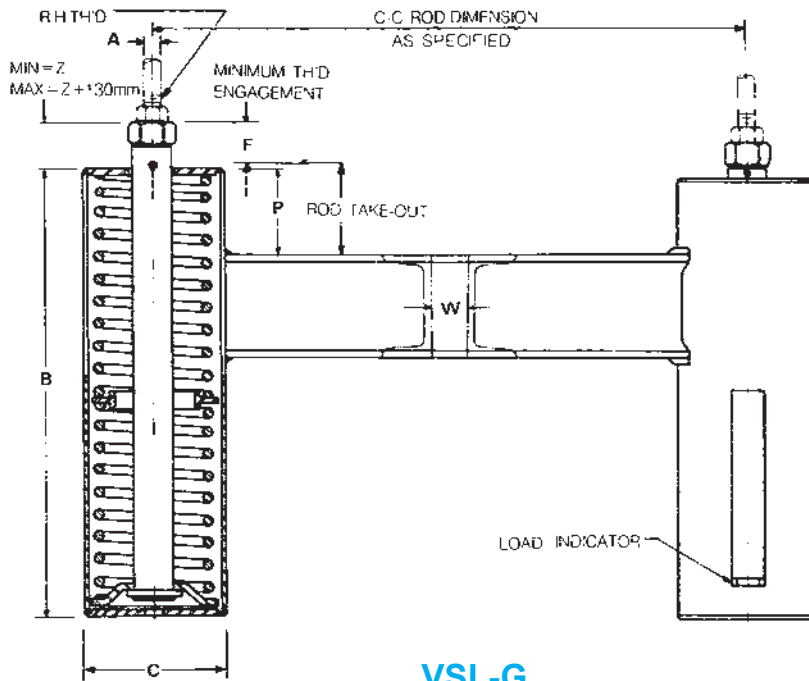
VSL-F

weights • dimensions(mm)

hanger size	A	recom. R.H. thread length	C	F	B		rod take-out	
					type E, G	type F	type E	type G
0	M12	230	102	25	304	302	75	45
1	M12	230	102	25	304	302	75	45
2	M12	230	102	25	344	342	75	45
3	M12	230	140	25	344	342	75	55
4	M12	230	140	25	364	362	75	55
5	M12	230	140	25	364	362	75	55
6	M16	230	165	25	403	400	75	55
7	M16	230	165	25	403	400	75	55
8	M16	230	165	25	483	480	75	55
9	M20	230	216	30	472	469	75	85
10	M20	230	216	30	480	477	75	85
11	M20	255	216	30	482	479	75	85
12	M24	255	216	30	516	516	75	110
13	M24	255	216	30	588	588	75	110
14	M30	255	216	30	646	646	75	110
15	M30	255	216	50	665	658	75	110
16	M36	280	216	50	757	752	75	110
17	M42	305	216	50	877	872	75	110
18	M48	305	324	80	846	846	300	110
19	M56	330	324	85	976	976	300	110
20	M64	355	324	85	1090	1090	300	110
21	M72	355	324	90	1218	1218	300	110
22	M80	380	324	95	1526	1526	300	110

spring hanger (double)
type -G

model : VSL -G



*type "G" variable spring maximum allowable 'C - C'

spring size	max 'c-c'(mm)	max pipe size
0-2	610	300A (12B)
3-5	760	400A (16B)
6-8	915	500A (20B)
9-11	915	500A (20B)
12-13	915	500A (20B)
14	840	400A (16B)
15	915	500A (20B)
16-17	915	500A (20B)
18-19	1065	500A (20B)
20	1015	500A (20B)
21-22	1220	600A (24B)

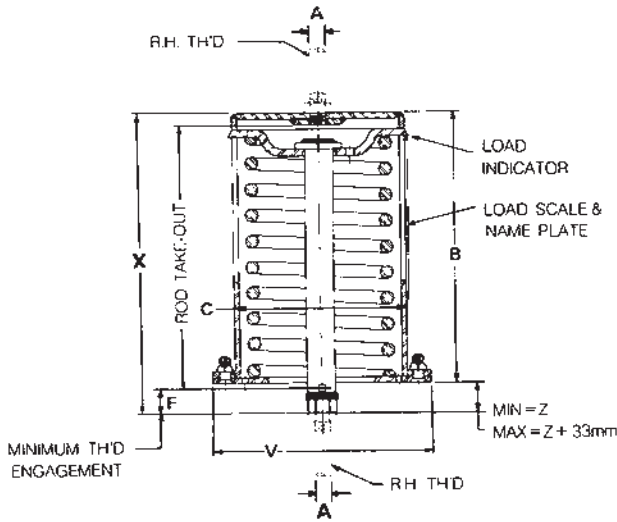
VSL-G

weights • dimensions(mm)

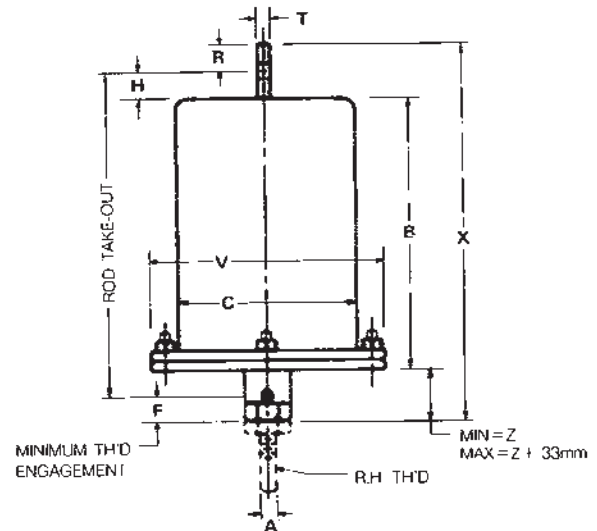
hanger size	weight(approx) each			type F										type G	
	type E	type F	type G	bottom flange square	bottom flange bolt circle		bottom flange bolts	T ₁	diam M	T ₂	loaded length X		space between channels W	P	
					min	max					min	max			
0	4.99	8.62	15.88	190	170	220	M16	6	90	6	411	531	15	40	
1	5.90	9.07	17.69	190	170	220	M16	6	90	6	411	531	15	40	
2	6.80	9.98	19.50	190	170	220	M16	6	90	6	451	571	15	40	
3	8.62	14.97	23.13	190	170	220	M16	6	125	6	451	571	20	50	
4	9.98	16.78	25.86	190	170	220	M16	6	125	6	471	591	20	50	
5	10.89	17.69	27.67	190	170	220	M16	6	125	6	471	591	20	50	
6	16.78	26.76	39.46	230	200	265	M20	9	155	9	519	639	25	50	
7	20.41	31.30	46.72	230	200	265	M20	9	155	9	519	639	25	50	
8	22.23	32.66	57.61	230	200	265	M20	9	155	9	599	719	25	50	
9	38.10	57.15	84.82	305	305	370	M20	12	200	12	604	724	30	75	
10	44.45	63.50	100.35	305	305	370	M20	12	200	12	612	732	30	75	
11	38.56	56.25	85.73	305	305	370	M20	12	200	12	614	734	30	75	
12	42.64	60.78	96.61	305	305	370	M20	12	200	12	651	771	40	100	
13	58.51	77.57	129.28	305	305	370	M20	12	200	12	723	843	40	100	
14	62.14	80.74	137.44	305	305	370	M20	12	200	12	777	901	40	100	
15	67.59	84.82	154.22	305	305	370	M20	12	200	12	789	897	55	100	
16	85.28	102.97	196.86	305	305	370	M20	12	200	16	887	1007	55	100	
17	105.69	123.83	246.76	305	305	370	M20	12	200	16	1007	1127	55	100	
18	202.76	235.87	451.79	430	480	545	M20	16	250	24	998	1118	60	100	
19	234.98	269.44	531.17	430	480	545	M20	16	250	24	1128	1248	65	100	
20	314.34	352.45	913.51	430	480	545	M20	16	250	24	1242	1362	75	100	
21	369.68	381.93	864.11	430	480	545	M20	16	250	32	1374	1494	80	100	
22	503.50	523.45	1131.72	430	480	545	M20	16	250	32	1762	1882	85	100	

spring hanger (corrosion-resistant)
short type - A and type - B

model : C-VSS-A
C-VSS-B



C-VSS-A



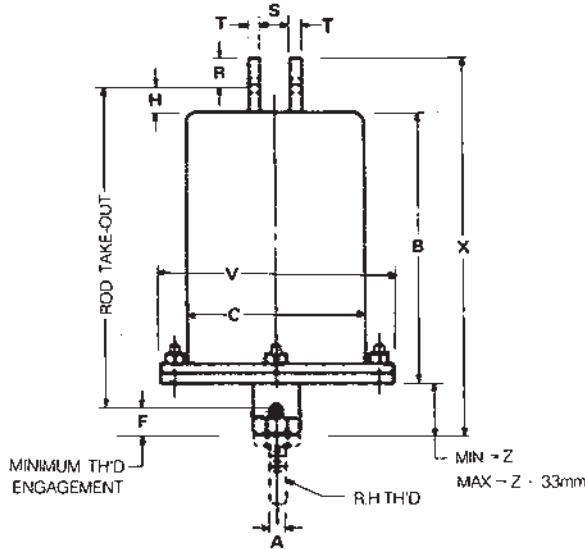
C-VSS-B

weights • dimensions(mm)

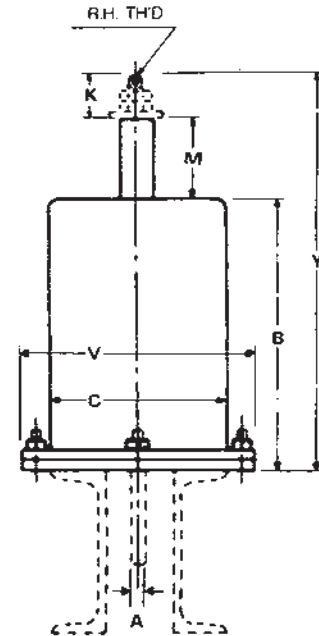
hanger size	A	recom. R.H. thread length	C	diam V	F	B	rod take-out		type B, C				
							type A	type B, C	lug hole size	H	R	S	T
0	M12	75	102	130	30	108	107	158	18	40	32	22	6
1	M12	75	102	130	30	113	112	163	18	40	32	22	6
2	M12	75	102	130	30	118	117	168	18	40	32	22	6
3	M12	75	140	175	30	118	117	168	18	40	32	22	6
4	M12	75	140	175	30	118	117	168	18	40	32	22	6
5	M12	75	140	175	30	118	117	168	18	40	32	22	6
6	M16	75	165	215	35	137	133	187	22	40	32	28	6
7	M16	75	165	215	35	137	133	187	22	40	32	28	6
8	M16	75	165	215	35	162	158	212	22	40	32	28	6
9	M20	100	216	275	45	162	160	217	26	40	32	32	9
10	M20	100	216	275	45	162	160	217	26	40	32	32	9
11	M20	100	216	275	45	177	175	237	26	40	32	32	9
12	M24	100	216	275	50	184	178	254	33	50	40	42	12
13	M24	100	216	275	50	200	194	270	33	50	40	42	12
14	M30	100	216	275	55	227	221	322	39	75	52	50	16
15	M30	125	216	290	55	245	235	340	39	75	52	50	16
16	M36	125	216	290	65	275	265	370	46	75	65	60	20
17	M42	150	216	290	70	310	296	405	52	75	65	68	20
18	M48	180	324	405	85	327	313	447	62	100	75	72	20
19	M56	180	324	405	85	367	347	502	70	115	75	80	20
20	M64	205	324	405	85	412	390	547	78	115	102	86	24
21	M72	230	324	405	95	438	412	573	86	115	102	92	24
22	M80	255	324	405	95	552	522	697	91	125	102	100	24

spring hanger (corrosion-resistant)
short type-C and type-D

model : C-VSS-C
C-VSS-D



C-VSS-C



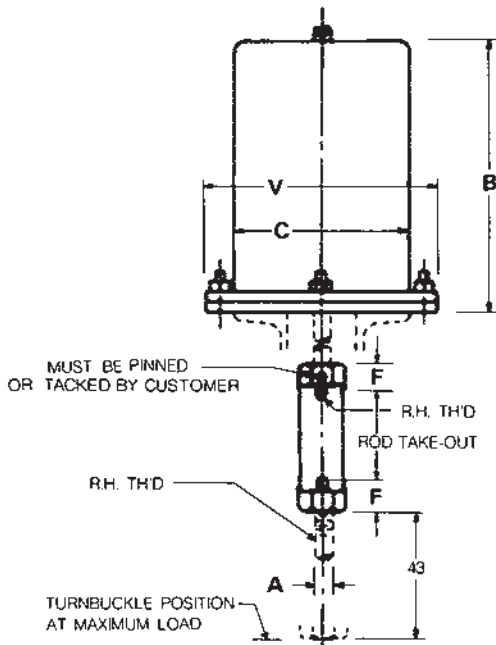
C-VSS-D

weights • dimensions(mm)

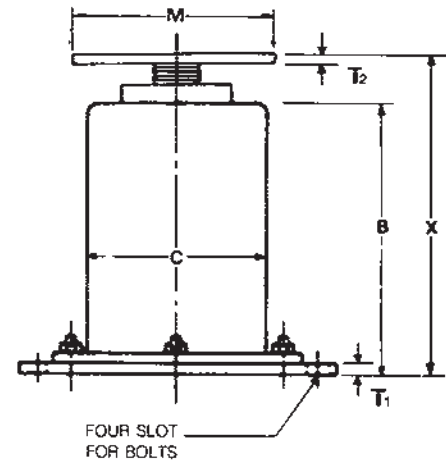
hanger size	weight(approx)kg each		type D			loaded length X			
	type A, B, C	type D	Y	K	M	type A		type B, C	
						min	max	min	max
0	2.72	2.27	188	35	45	148	181	220	253
1	3.18	2.72	193	35	45	153	186	225	258
2	3.63	3.18	198	35	45	158	191	230	263
3	4.99	4.54	198	35	45	158	191	230	263
4	5.44	4.99	198	35	45	158	191	230	263
5	5.90	5.44	198	35	45	158	191	230	263
6	9.07	8.62	222	40	45	182	215	254	287
7	10.43	9.98	222	40	45	182	215	254	287
8	10.89	10.43	247	40	45	207	240	279	312
9	25.40	23.59	252	45	45	222	255	294	327
10	28.12	26.31	252	45	45	222	255	294	327
11	24.95	23.13	267	45	45	237	270	309	342
12	26.31	24.04	285	60	45	249	282	339	372
13	31.30	28.58	301	60	45	265	298	355	388
14	32.66	24.95	340	75	45	297	330	424	457
15	39.92	35.83	361	75	45	315	348	442	475
16	46.27	41.28	406	90	45	355	388	495	528
17	54.43	47.63	452	105	45	395	428	535	568
18	117.48	102.51	483	115	45	427	460	602	635
19	129.73	111.59	532	130	45	467	500	657	690
20	158.76	136.99	586	140	45	512	545	729	762
21	181.89	153.77	631	160	45	548	581	765	798
22	222.26	195.50	751	170	45	662	695	889	922

spring hanger (corrosion-resistant)
short type-E and type-F

model : C-VSS-E
C-VSS-F



C-VSS-E



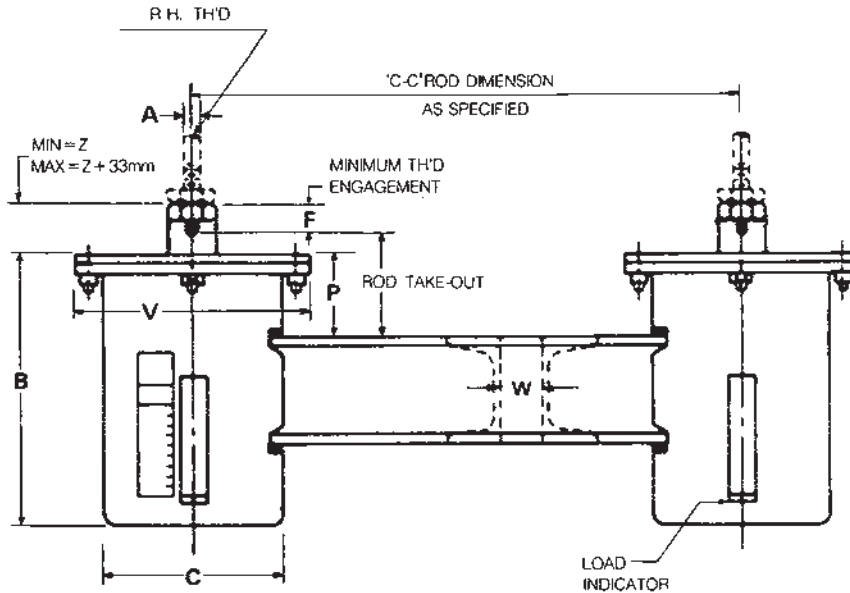
C-VSS-F

weights • dimensions(mm)

hanger size	A	recom. R.H. thread length	C	diam V	F	B		rod take-out	
						type E, G	type F	type E	type G
0	M12	75	102	130	30	108	108	75	30
1	M12	75	102	130	30	113	113	75	30
2	M12	75	102	130	30	118	113	75	30
3	M12	75	140	175	30	118	118	75	30
4	M12	75	140	175	30	118	118	75	30
5	M12	75	140	175	30	118	118	75	30
6	M16	75	165	215	35	137	134	75	55
7	M16	75	165	215	35	137	134	75	55
8	M16	75	165	215	35	162	159	75	55
9	M20	100	216	275	45	165	162	75	60
10	M20	100	216	275	45	165	162	75	60
11	M20	100	216	275	45	180	177	75	60
12	M24	100	216	275	50	183	183	75	50
13	M24	100	216	275	50	196	196	75	85
14	M30	100	216	275	55	220	220	75	85
15	M30	125	216	290	55	237	230	75	35
16	M36	125	216	290	65	267	262	75	35
17	M42	150	216	290	70	295	289	75	60
18	M48	180	324	405	120	319	319	300	25
19	M56	180	324	405	120	349	349	300	35
20	M64	205	324	405	120	386	386	300	35
21	M72	230	324	405	142	408	408	300	35
22	M80	255	324	405	142	516	516	300	85

spring hanger (corrosion-resistant)
short type-G

model : C-VSS-G



*type "G" variable spring maximum allowable 'C-C'

spring size	max 'c-c'(mm)	max pipe size
0-2	610	300A (12B)
3-5	760	400A (16B)
6-8	915	500A (20B)
9-11	915	500A (20B)
12-13	915	500A (20B)
14	840	400A (16B)
15	915	500A (20B)
16-17	915	500A (20B)
18-19	1065	500A (20B)
20	1015	500A (20B)
21-22	1220	600A (24B)

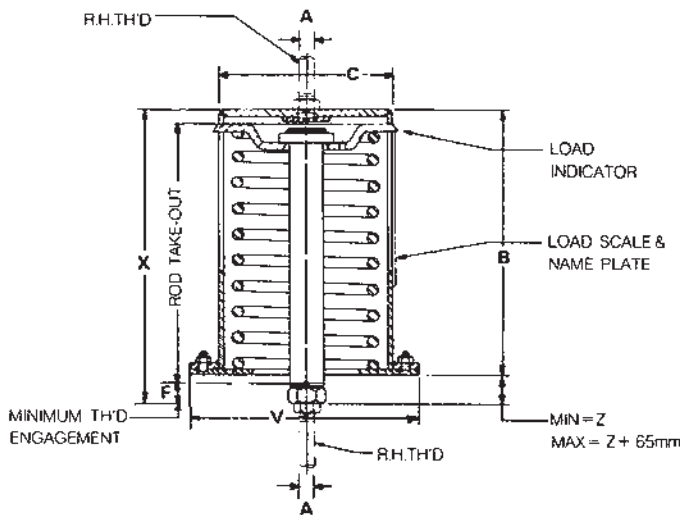
C-VSS-G

weights · dimensions(mm)

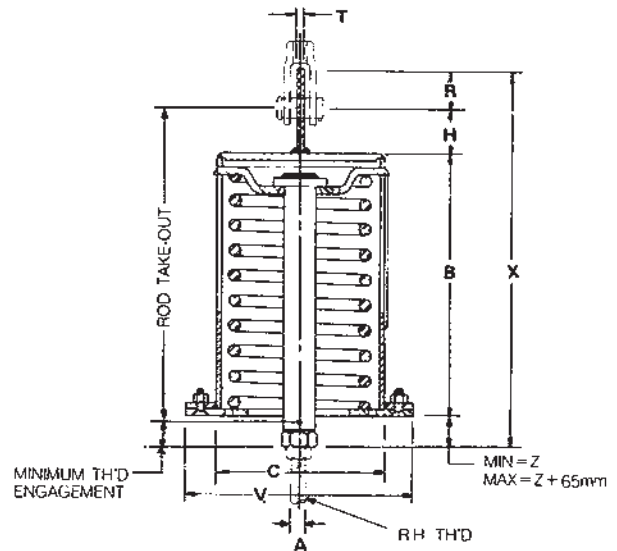
hanger size	weight(approx)kg each			type F								type G		
	type E	type F	type G	bottom flange square	bottom flange bolt circle		bottom flange bolt	T ₁	load flange diam M	T ₂	loaded length X		space between channel W	P
					min	max					min	max		
0	2.27	4.99	12.25	217	205	260	M16	6	90	6	177	207	15	25
1	2.72	4.99	13.15	217	205	260	M16	6	90	6	182	212	15	25
2	3.18	5.44	13.15	217	205	260	M16	6	90	6	182	212	15	25
3	4.54	8.62	14.97	244	245	300	M16	6	125	6	187	217	20	25
4	4.99	9.07	15.88	244	245	300	M16	6	125	6	187	217	20	25
5	5.44	9.53	16.33	244	245	300	M16	6	125	6	187	217	20	25
6	8.62	14.97	23.13	282	270	335	M20	9	155	9	213	243	25	50
7	9.98	15.88	25.86	282	270	335	M20	9	155	9	213	243	25	50
8	10.43	16.33	26.76	282	270	335	M20	9	155	9	238	268	25	50
9	23.59	35.38	56.70	327	322	385	M20	12	200	12	257	287	30	50
10	26.31	38.10	62.14	327	322	385	M20	12	200	12	257	287	30	50
11	23.13	34.47	54.89	327	322	385	M20	12	200	12	272	302	30	50
12	24.04	35.38	59.88	327	322	385	M20	12	200	12	278	308	40	40
13	28.58	36.74	69.85	327	328	395	M20	12	200	12	291	321	40	75
14	24.95	41.28	72.12	327	328	395	M20	12	200	12	311	341	40	75
15	35.83	45.36	89.81	327	335	400	M20	12	200	12	321	351	55	25
16	41.28	50.80	104.33	327	335	400	M20	12	200	16	357	387	55	25
17	47.63	57.15	120.66	327	335	400	M20	12	200	16	384	414	55	50
18	102.51	122.47	248.57	430	480	545	M20	16	250	24	431	461	60	15
19	111.59	124.74	271.71	430	480	545	M20	16	250	24	461	491	65	30
20	136.99	156.04	330.67	430	480	545	M20	16	250	24	498	528	75	30
21	153.77	157.85	402.34	450	494	560	M20	16	250	32	524	554	80	35
22	195.50	200.94	483.54	450	510	575	M20	16	250	32	632	662	85	85

spring hanger (corrosion-resistant)
medium type -A and type -B

model : C-VSM-A
C-VSM-B



C-VSM-A



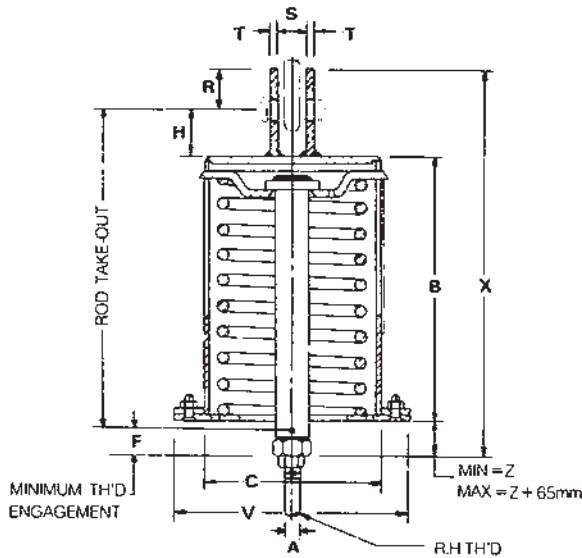
C-VSM-B

weights · dimensions(mm)

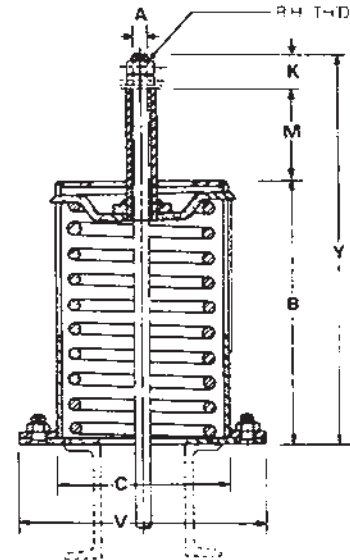
hanger size	A	recom. thread length	C	diam V	F	B	rod take-out		type B, C				
							type A	type B, C	lug hole size	H	R	S	thick-ness T
0	M12	125	102	130	30	158	163	203	18	40	32	22	6
1	M12	125	102	130	30	158	163	203	18	40	32	22	6
2	M12	125	102	130	30	178	183	223	18	40	32	22	6
3	M12	125	140	175	30	178	183	223	18	40	32	22	6
4	M12	125	140	175	30	188	193	233	18	40	32	22	6
5	M12	125	140	175	30	188	193	233	18	40	32	22	6
6	M16	125	165	215	35	212	217	257	22	40	32	28	6
7	M16	125	165	215	35	212	217	257	22	40	32	28	6
8	M16	125	165	215	35	252	257	297	22	40	32	28	6
9	M20	150	216	275	45	248	258	298	26	40	32	32	9
10	M20	150	216	275	45	252	262	302	26	40	32	32	9
11	M20	150	216	275	45	253	263	303	26	40	32	32	9
12	M24	150	216	275	50	274	284	334	33	50	40	42	12
13	M24	180	216	275	50	313	323	373	33	50	40	42	12
14	M30	180	216	275	55	347	357	432	39	75	52	50	16
15	M30	180	216	290	55	361	371	446	39	75	52	50	16
16	M36	205	216	290	65	407	417	492	46	75	65	60	20
17	M42	205	216	290	70	475	485	560	52	75	65	68	20
18	M48	230	324	405	85	462	472	572	62	100	75	72	20
19	M56	230	324	405	85	537	547	662	70	115	75	80	20
20	M64	255	324	405	85	602	612	727	78	115	102	86	24
21	M72	255	324	405	95	675	685	800	86	115	102	92	24
22	M80	280	324	405	95	835	845	970	91	125	102	100	24

spring hanger (corrosion-resistant)
medium type - C and type - D

model : C-VSM-C
C-VSM-D



C-VSM-C



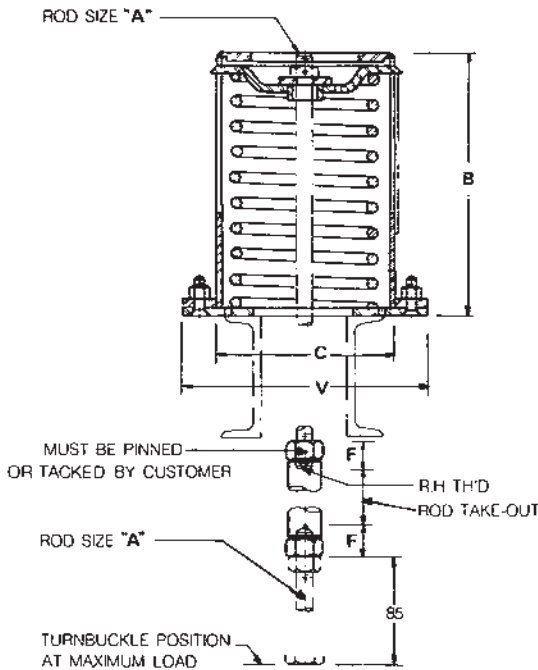
C-VSM-D

weights • dimensions(mm)

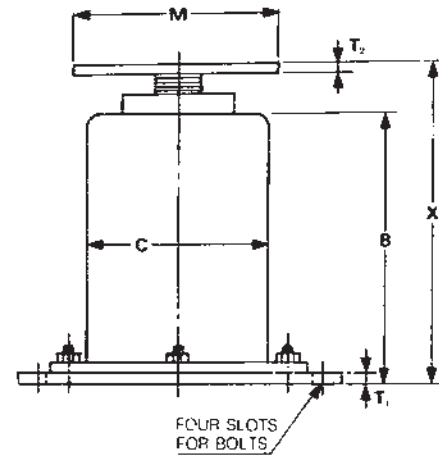
hanger size	weight (approx) kg each			type D			loaded length X			
	type A	type B, C	type D	Y	K	M	type A		type B, C	
							min	max	min	max
0	3.63	3.63	2.72	273	35	80	203	268	275	340
1	3.63	4.08	3.18	273	35	80	203	268	275	340
2	4.08	4.54	3.63	293	35	80	223	288	295	360
3	6.35	6.35	4.99	293	35	80	223	288	295	360
4	6.80	7.26	5.44	303	35	80	233	298	305	370
5	7.26	7.71	6.35	303	35	80	233	298	305	370
6	11.79	12.25	9.98	327	40	75	262	327	334	399
7	13.15	13.61	11.34	327	40	75	262	327	334	399
8	14.06	14.52	11.79	367	40	75	302	367	374	439
9	29.48	29.94	23.13	368	45	75	313	378	385	450
10	32.21	32.66	26.31	372	45	75	317	382	389	454
11	29.48	29.94	23.13	373	45	75	318	383	390	455
12	32.21	32.21	25.40	405	60	75	344	409	434	499
13	40.37	40.37	33.11	444	60	75	383	448	473	538
14	42.18	42.64	34.93	490	75	75	422	487	549	614
15	50.35	51.71	39.92	507	75	75	436	501	563	628
16	60.33	62.60	48.54	568	90	75	492	557	632	697
17	73.48	76.20	60.33	647	105	75	565	630	705	770
18	149.69	150.14	118.80	648	115	75	567	632	742	807
19	170.55	171.46	136.10	732	130	75	642	707	832	897
20	217.73	220.45	167.80	805	140	75	707	772	924	989
21	252.20	257.64	206.40	898	160	75	790	855	1007	1072
22	319.79	323.87	229.10	1064	170	75	950	1015	1177	1242

spring hanger (corrosion-resistant)
medium type -E and type -F

model : C-VSM-E
C-VSM-F



C-VSM-E



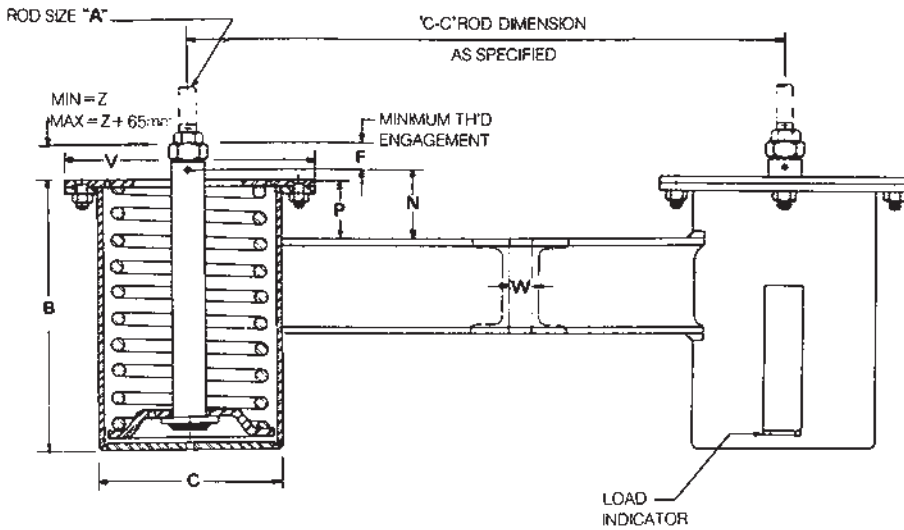
C-VSM-F

weights • dimensions(mm)

hanger size	A	recom. R.H. thread length	casing diam C	diam V	F	B		rod take-out	
						type E, G	type F	type E	type G
0	M12	125	102	130	25	158	158	75	45
1	M12	125	102	130	25	158	158	75	45
2	M12	125	102	130	25	178	178	75	45
3	M12	125	140	175	20	178	178	75	55
4	M12	125	140	175	20	188	188	75	55
5	M12	125	140	175	20	188	188	75	55
6	M16	125	165	215	25	212	209	75	55
7	M16	125	165	215	25	212	209	75	55
8	M16	125	165	215	25	252	249	75	55
9	M20	150	216	275	30	248	248	75	85
10	M20	150	216	275	30	252	252	75	85
11	M20	150	216	275	30	253	253	75	85
12	M24	150	216	275	30	270	273	75	110
13	M24	180	216	275	30	309	309	75	110
14	M30	180	216	275	30	340	340	75	110
15	M30	180	216	290	50	357	346	75	110
16	M36	205	216	290	50	403	394	75	110
17	M42	205	216	290	50	467	454	75	110
18	M48	230	324	405	80	458	454	300	110
19	M56	230	324	405	85	527	519	300	110
20	M64	255	324	405	85	590	576	300	110
21	M72	255	324	405	90	663	645	300	110
22	M80	280	324	405	95	819	799	300	110

spring hanger (corrosion-resistant)
medium type-G

model : C-VSM-G



*type "G" variable spring maximum allowable 'C-C'

spring size	max 'c-c'(mm)	max pipe size
0-2	610	300A (12B)
3-5	760	400A (16B)
6-8	915	500A (20B)
9-11	915	500A (20B)
12-13	915	500A (20B)
14	840	400A (16B)
15	915	500A (20B)
16-17	915	500A (20B)
18-19	1065	500A (20B)
20	1015	500A (20B)
21-22	1220	600A (24B)

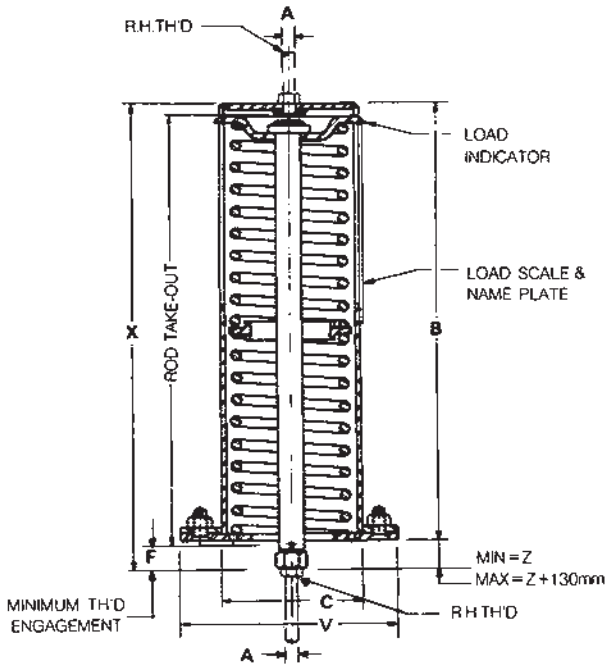
C-VSM-G

weights • dimensions(mm)

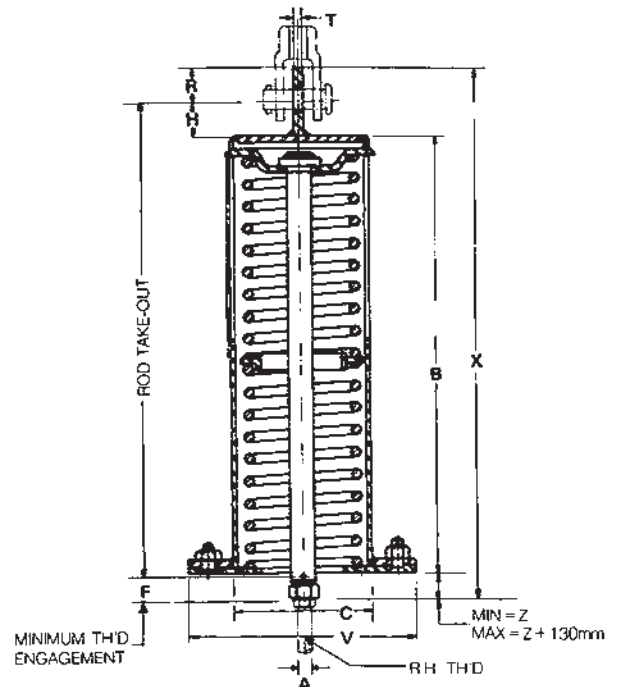
hanger size	weight (approx)kgs each			type F										type G	
	type E	type F	type G	bottom flange square	bottom flange bolts circle		bottom flange bolts	T ₁	diam M	T ₂	loaded length X		space between channels W	P	
					min	max					min	max			
0	2.72	6.36	13.61	217	205	260	M16	6	90	6	242	302	15	40	
1	3.18	6.36	14.06	217	205	260	M16	6	90	6	242	302	15	40	
2	3.63	6.80	14.52	217	205	260	M16	6	90	6	262	322	15	40	
3	4.99	10.43	18.60	244	245	300	M16	6	125	6	262	322	20	50	
4	5.44	11.34	19.05	244	245	300	M16	6	125	6	272	332	20	50	
5	6.35	11.79	19.50	244	245	300	M16	6	125	6	272	332	20	50	
6	9.98	18.14	28.58	282	270	335	M20	9	155	9	303	363	25	50	
7	11.34	20.87	31.30	282	270	335	M20	9	155	9	303	363	25	50	
8	11.79	21.32	33.11	282	270	335	M20	9	155	9	343	403	25	50	
9	23.13	41.28	64.86	327	322	385	M20	12	200	12	358	418	30	75	
10	26.31	44.45	71.22	327	322	385	M20	12	200	12	362	422	30	75	
11	23.13	40.82	65.77	327	322	385	M20	12	200	12	363	423	30	75	
12	25.40	43.09	71.22	327	322	385	M20	12	200	12	383	443	40	100	
13	33.11	52.16	88.45	327	328	395	M20	12	200	12	419	479	40	100	
14	34.93	53.98	92.08	327	328	395	M20	12	200	12	446	506	40	100	
15	39.92	58.97	113.40	327	335	400	M20	12	200	12	452	512	55	100	
16	48.54	68.04	135.17	327	335	400	M20	12	200	16	502	562	55	100	
17	60.33	78.47	160.57	327	335	400	M20	12	200	16	562	622	55	100	
18	118.80	155.58	312.98	430	480	545	M20	16	250	24	581	641	60	110	
19	131.10	172.37	355.17	430	480	545	M20	16	250	24	646	706	65	110	
20	167.80	213.65	450.43	430	480	545	M20	16	250	24	703	763	75	110	
21	206.40	224.99	542.96	450	494	560	M20	16	250	32	776	836	80	110	
22	229.10	296.65	678.59	450	510	575	M20	16	250	32	970	1030	85	110	

spring hanger (corrosion-resistant)
double type-A and type-B

model : C-VSL-A
C-VSL-B



C-VSL-A



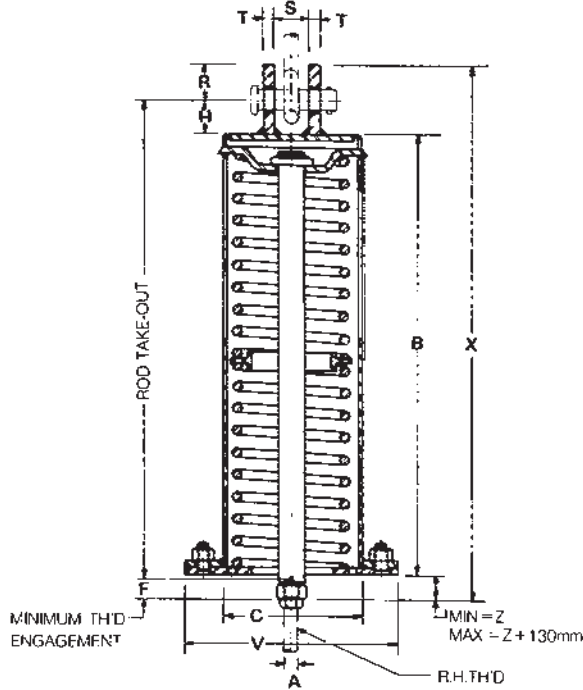
C-VSL-B

weights · dimensions(mm)

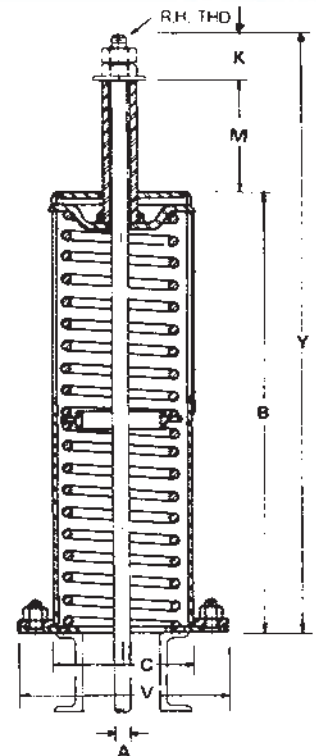
hanger size	A	recom thread length	C	diam V	F	B	rod take-out		type B, C				
							type A	type B, C	lug hole size	H	R	S	thickness T
0	M12	230	102	130	30	304	303	349	18	40	32	22	6
1	M12	230	102	130	30	304	303	349	18	40	32	22	6
2	M12	230	102	130	30	344	343	389	18	40	32	22	6
3	M12	230	140	175	30	344	343	389	18	40	32	22	6
4	M12	230	140	175	30	364	363	409	18	40	32	22	6
5	M12	230	140	175	30	364	363	409	18	40	32	22	6
6	M16	230	165	215	35	403	399	448	22	40	32	27	6
7	M16	230	165	215	35	403	399	448	22	40	32	27	6
8	M16	230	165	215	35	483	479	528	22	40	32	27	6
9	M20	230	216	275	45	469	467	519	26	40	32	32	9
10	M20	230	216	275	45	477	475	527	26	40	32	32	9
11	M20	255	216	275	45	479	477	529	26	40	32	32	9
12	M24	255	216	275	50	517	511	577	33	50	40	40	12
13	M24	255	216	275	50	592	586	652	33	50	40	40	12
14	M30	255	216	275	55	653	647	735	39	75	52	50	16
15	M30	255	216	290	55	673	663	758	39	75	52	50	16
16	M36	280	216	290	65	765	755	850	46	75	65	60	20
17	M42	305	216	290	70	893	879	978	52	75	65	67	20
18	M48	305	324	405	85	854	840	964	62	100	75	73	20
19	M56	330	324	405	85	994	1059	1119	70	115	75	80	20
20	M64	355	324	405	85	1116	1094	1241	78	115	102	85	24
21	M72	355	324	405	95	1248	1222	1373	86	115	102	92	24
22	M80	380	324	405	95	1562	1632	1697	91	125	102	98	24

spring hanger (corrosion-resistant)
double type -C and type -D

model : C-VSL-C
C-VSL-D



C-VSL-C



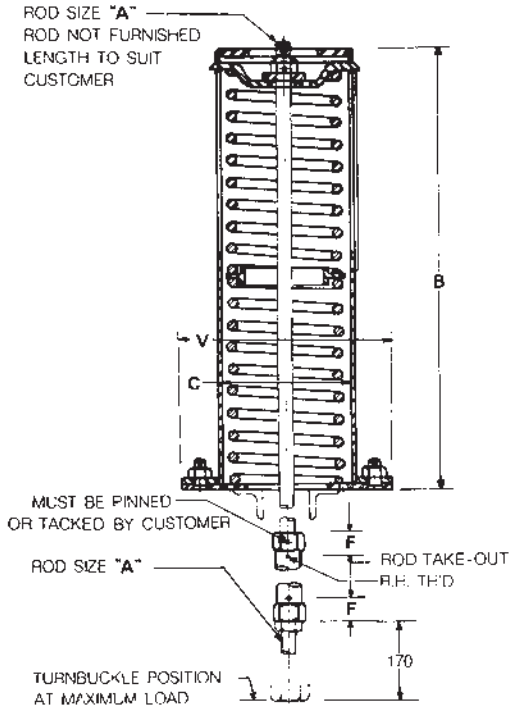
C-VSL-D

weights · dimensions(mm)

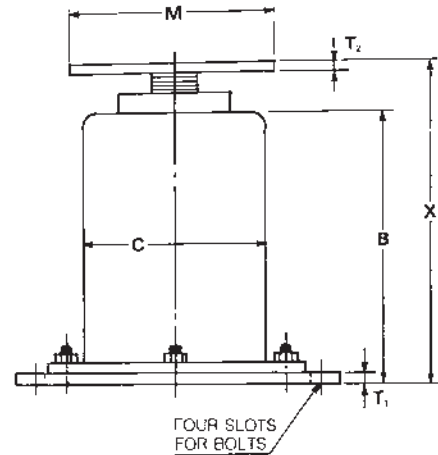
hanger size	weight(approx) kg		type D			loaded length X			
	type A, B, C	type D	Y	K	M	type A		type B, C	
						min	max	min	max
0	5.44	5.44	479	35	140	359	489	431	561
1	6.35	6.35	479	35	140	359	489	431	561
2	7.26	7.26	519	35	140	399	529	471	601
3	9.98	9.53	519	35	140	399	529	471	601
4	11.34	10.89	539	35	140	419	549	491	621
5	12.25	11.79	539	35	140	419	549	491	621
6	18.60	18.14	583	40	140	463	593	535	665
7	22.23	21.77	583	40	140	463	593	535	665
8	27.67	23.59	663	40	140	543	673	615	745
9	44.00	42.64	654	45	140	544	674	616	746
10	51.71	48.99	662	45	140	552	682	624	754
11	44.45	53.09	664	45	140	554	684	626	756
12	48.99	47.17	717	60	140	597	727	687	817
13	65.32	63.05	792	60	140	672	802	762	892
14	69.40	66.68	868	75	140	738	868	862	992
15	78.02	73.94	888	75	140	758	888	885	1015
16	98.88	91.63	995	90	140	860	990	1000	1130
17	123.83	112.04	1138	105	140	993	1123	1133	1263
18	232.24	216.37	1109	115	140	969	1099	1144	1274
19	272.16	248.57	1264	130	140	1109	1239	1299	1429
20	363.79	327.95	1396	140	140	1231	1361	1448	1578
21	426.38	383.29	1548	160	140	1373	1503	1590	1720
22	532.46	517.10	1872	170	140	1687	1817	1914	2044

spring hanger (corrosion-resistant)
double type-E and type-F

model : C-VSL-E
C-VSL-F



C-VSL-E



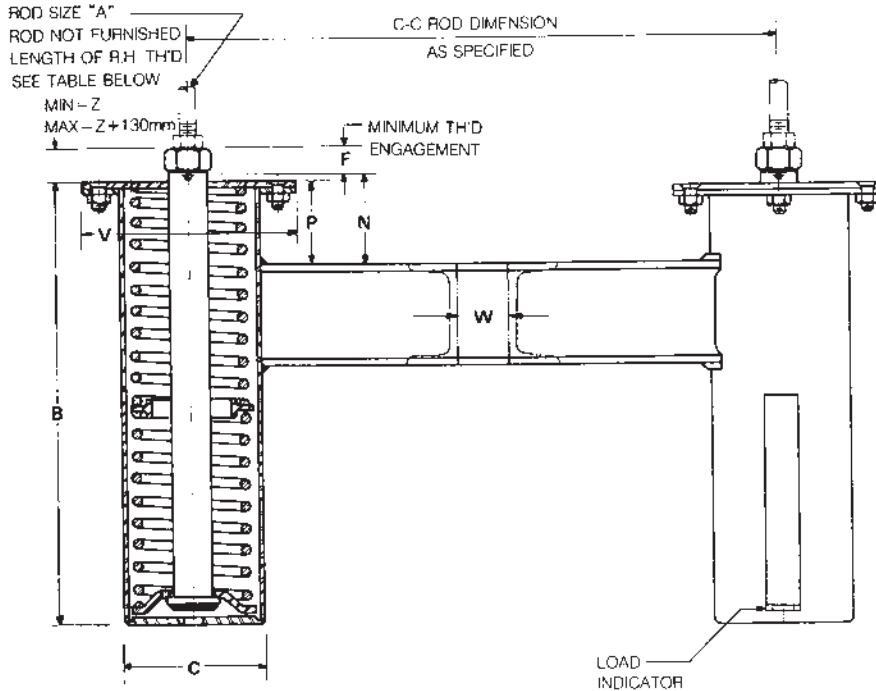
C-VSL-F

weights · dimensions(mm)

hanger size	A	recom. R.H. thread length	C	diam V	F	B		rod take-out	
						type E, G	type F	type E	type G
0	M12	230	102	130	25	304	302	75	45
1	M12	230	102	130	25	304	302	75	45
2	M12	230	102	130	25	344	342	75	45
3	M12	230	140	175	25	344	342	75	55
4	M12	230	140	175	25	364	362	75	55
5	M12	230	140	175	25	364	362	75	55
6	M16	230	165	215	25	403	400	75	55
7	M16	230	165	215	25	403	400	75	55
8	M16	230	165	215	25	483	480	75	55
9	M20	230	216	275	30	472	469	75	85
10	M20	230	216	275	30	480	477	75	85
11	M20	255	216	275	30	482	479	75	85
12	M24	255	216	275	30	516	516	75	110
13	M24	255	216	275	30	588	588	75	110
14	M30	255	216	275	30	646	646	75	110
15	M30	255	216	290	50	665	658	75	110
16	M36	280	216	290	50	757	752	75	110
17	M42	305	216	290	50	877	872	75	110
18	M48	305	324	405	80	846	846	300	110
19	M56	330	324	405	85	976	976	300	110
20	M64	355	324	405	85	1090	1090	300	110
21	M72	355	324	405	90	1218	1218	300	110
22	M80	380	324	405	95	1526	1526	300	110

spring hanger (corrosion-resistant)
double type-G

model : C-VSL-G



*type "G" variable spring maximum allowable 'C-C'

spring size	max 'c-c'(mm)	max pipe size
0-2	610	300A (12B)
3-5	760	400A (16B)
6-8	915	500A (20B)
9-11	915	500A (20B)
12-13	915	500A (20B)
14	840	400A (16B)
15	915	500A (20B)
16-17	915	500A (20B)
18-19	1065	500A (20B)
20	1015	500A (20B)
21-22	1220	600A (24B)

C-VSL-G

weights • dimensions(mm)

hanger size	weight(approx) kg			type F										type G	
	type E	type F	type G	bottom flange square	bottom flange bolt circle		bottom flange bolts	T ₁	diam M	T ₂	loaded length X		space between channels W	P	
					min	max					min	max			
0	5.44	9.07	16.78	217	205	260	M16	6	90	6	411	531	15	40	
1	6.35	9.53	18.60	217	205	260	M16	6	90	6	411	531	15	40	
2	7.26	10.43	20.41	217	205	260	M16	6	90	6	451	571	15	40	
3	9.53	15.88	24.95	244	245	300	M16	6	125	6	451	571	20	50	
4	10.89	17.69	27.67	244	245	300	M16	6	125	6	471	591	20	50	
5	11.79	18.60	29.48	244	245	300	M16	6	125	6	471	591	20	50	
6	18.14	28.12	42.18	282	270	335	M20	9	155	9	519	639	25	50	
7	21.77	32.66	49.44	282	270	335	M20	9	155	9	519	639	25	50	
8	23.59	34.02	60.33	282	270	335	M20	9	155	9	599	719	25	50	
9	42.64	61.69	93.90	327	322	385	M20	12	200	12	604	724	30	75	
10	48.99	68.04	109.32	327	322	385	M20	12	200	12	612	732	30	75	
11	43.09	60.78	94.80	327	322	385	M20	12	200	12	614	734	30	75	
12	47.17	65.32	101.15	327	322	385	M20	12	200	12	651	771	40	100	
13	63.05	82.10	138.35	327	328	395	M20	12	200	12	723	843	40	100	
14	66.68	85.28	146.51	327	328	395	M20	12	200	12	777	897	40	100	
15	73.94	91.17	166.92	327	335	400	M20	12	200	12	789	909	55	100	
16	91.63	109.32	209.56	327	335	400	M20	12	200	16	887	1007	55	100	
17	112.04	130.18	259.46	327	335	400	M20	12	200	16	1007	1127	55	100	
18	216.37	249.48	479.00	430	480	545	M20	16	250	24	998	1118	60	110	
19	248.57	283.05	558.38	430	480	545	M20	16	250	24	1128	1248	65	110	
20	327.95	366.06	740.73	430	480	545	M20	16	250	24	1242	1362	75	110	
21	383.29	395.53	891.30	450	494	560	M20	16	250	32	1374	1494	80	110	
22	517.10	537.06	1163.94	450	510	575	M20	16	250	32	1762	1882	85	110	