
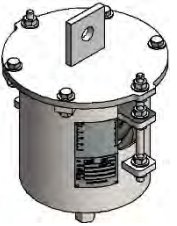
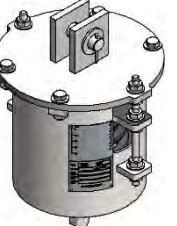


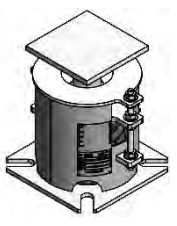
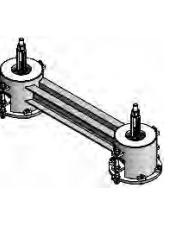
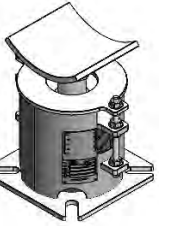
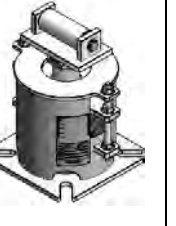
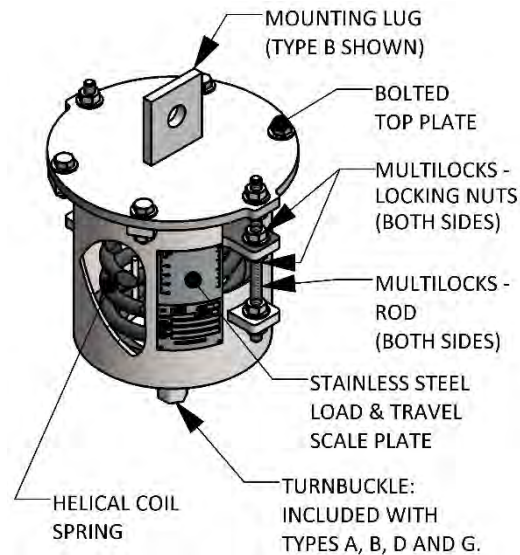


## 10. VARIABLE LOAD SPRING SUPPORTS – MULTILOCKS

VARIABLE LOAD SPRING SUPPORTS					
	Type A	Type B	Type C	Type D	
	Page 99	Page 99	Page 99	Page 99	
	TYPE				
PAGE					
VARIABLE LOAD SPRING SUPPORTS					
	Type E	Type F	Type G	Type H	Type K
	Page 99	Page 99	Page 99	Page 99	Page 99
	TYPE				
	PAGE				

**10.1 BVM35, BVM70, BVM140, BVM210 VARIABLE LOAD SPRING SUPPORTS – MULTILOCKS**



**GENERAL**

A Variable load spring support with Multilocks are used for supporting pipe work, vessels, columns and pipe connections to large tanks, which are subject to thermal movement and/or subsidence.

A Multilock replaces the standard locking device (Preset stops) with a threaded rod to allow the support to be locked at its current position. This means it can be locked when the support is at its Operating Load position. This can be useful when the support needs to be removed when the pipeline can't be shut down. These are available for all Sizes (0 to 22) in the range.

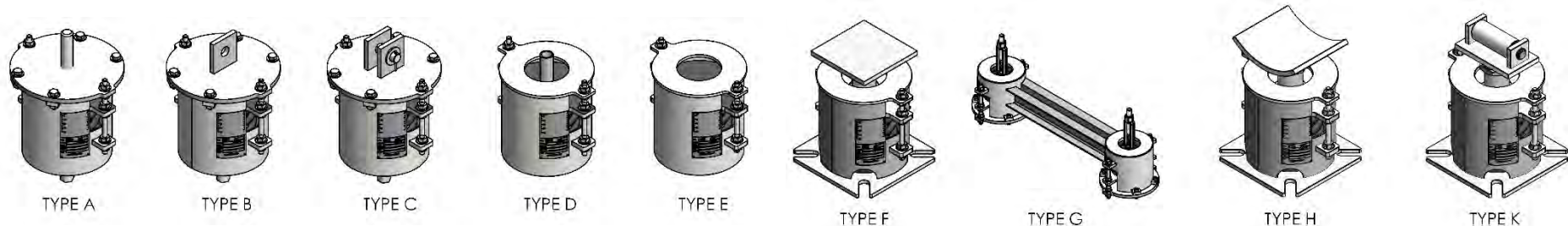
The diagram to the left shows the Multilock – Rods and Locking Nuts.

It is recommended to keep the Multilock – Rods and Locking nuts in good condition to allow for locking in the future.

All the same Types available in the Standard range (locking device: Preset Stops) are available in the Multilock Design.

**MULTILOCK DESIGN**

- All units can be easily locked in its current position by winding the locking nuts (4 off) up tight against the Pressure Plate resulting in a rigid support.
- All units are easily adjusted, Types A, B, C and G being supplied with a Turnbuckle built into the unit. Type F, H & K units use a threaded load tube with a guided load column.
- Carbon Steel construction with Stainless Steel Load and Travel scale plate.
- Ideally suited for highly corrosive environments such as Offshore and Refining installations. Standard design allows surface protection system on all internal and external surfaces limiting potential corrosion.
- Scale plate fitted with a Hot/Operating (Red) and Cold/ Preset (Blue) indicators.



## **BVM35, BVM70, BVM140, BVM210 VARIABLE LOAD SPRING SUPPORTS – MULTILOCKS (CONTINUED)**

### **MULTILOCK DESIGN**

- Compact design saving headroom, this is particularly important in Offshore applications where space is a premium.
- Load indicator visible from both sides of the unit.
- Spring pressure plate ensures the coil is always centred in the can.
- Every size has a reserve of travel at the upper and lower limits.
- Type F units supplied inclusive of load flange.
- Multilocks allow the support to be locked at its current position.
- Hydrostatic Test: The Multilock design allows for the support to be locked using the Multilock – locking nuts stop and allow up to twice the normal load to be applied during the test.
- Low maintenance design.
- Available on all Types and Sizes (0 to 22).

### **CORROSION PROTECTION**

- Standard finish is Hot Dip Galvanised to ASTM A153.
- For offshore or highly corrosive environments, the units are available in the Binder Paint System 1.
- Units are blast cleaned to AS1627 Part 4 Class 2.5, followed by a 3-coat epoxy paint system to 275-micron DFT. Final colour is Binder Blue. Other colours available.
- Helical spring coils are acrylic painted for Standard HDG units.
- Neoprene coated coils are available as an option.

### **OPTIONAL FEATURES**

- If the unit is to be subject to a hydrostatic test load, this should be nominated at the time of ordering and a factory fitted hydrostatic test stop will be installed. Hydrostatic test stop allows up to twice the normal load to be applied during the test.
- Lifting lugs may be fitted if requested at time of order.
- Client nominated corrosion protection systems are available, if required.
- Type F units can be provided with a low friction PTFE slide plate bonded on top of the load flange

### **SPECIFICATION**

- Binder Group Spring Supports conform to the requirements of the following international specifications:
  - MSS SP 58.
  - ASME B31.1
  - ASME B31.3
  - British Standard BS 3974 (for reference).

### **QUALITY ASSURANCE & QUALITY CONTROL**

- Binder Group maintains a quality system that conforms to Australian Standard AS/NZS ISO 9001.
- Inspection & Test Plans and Quality Plans are available for all orders if required. These should be nominated by the client at time of inquiry or order.
- Quality and Spring unit performance reports are available for all units manufactured and supplied by Binder Group.

### **WHEN ORDERING**

When ordering please nominate:

- Support model, size and type. Typically, BVM70-F-15. Then go to Page 104 to select the corresponding Part Number. If in doubt, a Quotation Request Form (FM220) can be completed and sent to our Sales Department for quoting. This form can be found at the end of this section.

### **INSTALLATION**

- Binders Sales Department can be contacted for a supply of Binders Installation, Operation and Maintenance Manual (IOM).

## BVM35, BVM70, BVM140, BVM210 VARIABLE LOAD SPRING SUPPORTS – MULTILOCKS (CONTINUED)

### TYPE SELECTION

The type of spring support to be used is normally determined by the physical characteristics of the structure to which the spring assembly will be attached, as shown by the typical applications.

### METHOD OF SELECTION

To select the correct spring hanger size, it is necessary to know the actual load which the spring is to support (inclusive of pipe weight, insulation, contents and ancillary equipment). Also, the magnitude and direction of the pipeline movement from the cold to the hot position. The cold load (preset load) is calculated by adding up movement) or subtracting (down movement) the product of the spring rate times the movement to the hot load, e.g.:

- Cold Load (MVT.UP) = Hot Load + (MVT. x Spring Rate).
- Cold Load (MVT.DN) = Hot Load - (MVT. x Spring Rate).

### USING THE SELECTION TABLE (EITHER N or kg)

4. Select the actual support load in the body of the table.
5. Check that the support travel can be accommodated within the recommended working range of the unit size selected by reading the table up or down, dependent on the pipe movement direction. It should be noted that the chart must be read opposite from the direction of the pipe movement.
6. If the movement can be accommodated, then by using 25% as the maximum load change cold to hot the travel series can be established.

$$\text{Variability (\% Load Change)} = \frac{\text{Movement x Spring Rate x 100}}{\text{Hot Load}}$$

EXAMPLE:-

Hot Load = 10789 N.  
Pipe Movement 20 mm down cold to hot.  
Maximum variation from cold to hot load = 25 %.

### USING THE NEWTONS SELECTION TABLE

Enter table at 10789 N. This is located in size 12 column. Since the pipe movement is down, move up the column for a distance of 20 mm. This travel is acceptable for all travel series, therefore unit size 12 is selected.

### CHECK VARIABILITY

$$\text{Variability (\% Load Change)} = \frac{\text{Movement x Spring Rate x 100}}{\text{Hot Load}}$$

From lower chart select spring rate for BV35,  
Size 12 = 157.6 N/mm

$$V = \frac{20 \times 157.6 \times 100}{10789} = 29.2 \%$$

This would NOT be recommended.

Now select spring rate for BV70, Size 12 = 78.8 N/mm

$$V = \frac{20 \times 78.8 \times 100}{10789} = 14.6 \%$$

This is acceptable.

UNIT SELECTED WOULD BE BVM70 SIZE 12  
Preset Load = Hot Load - (Movement x Spring Rate)  
Preset Load = 10789 - (20 x 78.8) = 9213 N  
Unit to be ordered would be BVM70 Size 12.  
Preset Load = 9213 N. Hot Load = 10789 N.

### CALCULATING THE ROD TAKE OUT FOR A HANGING TYPE SUPPORT

Having selected the support type, series and size, the next step is to calculate the rod take out. Note that the rod take-out dimension listed in the various tables is given for specific types, the dimension is always given at the minimum load position. To calculate the rod take-out for example BVM70-A-16 Preset Load = 33861 N

At the intersection of a horizontal line from size column to a vertical line down from column headed rod take out type A – we obtain a rod take out of 407mm. This is at the minimum load position. To this dimension we must add the amount of precompression from the minimum load position to the preset load position.

Return now to size selection table. Enter the body of the table where the load of 33861 N reads in the Size 16 column, moving horizontally to the left to read the amount of precompression required for a series BVM70 spring. In this example the precompression is 40 mm. The rod take-out = 407 + 40 = 447 mm. Other loads are treated in a similar manner. Intermediate precompression dimensions are obtained by linear interpolation.

### TO CALCULATE LOADED LENGTH 'X' FOR 'F' TYPE BASE MOUNTED SUPPORT

Having selected the support type, series and size, the next step is to calculate the loaded length. Note that the loaded length dimension listed in the various tables is given as minimum and maximum.

The maximum figure should be used for calculation purposes.

EXAMPLE:-

Calculate the loaded length for BVM140-F-10, preset load = 5414N.

At the intersection of a horizontal line from “hanger size” column to a vertical line down from column headed “Loaded Length X, Type Fmax.” - we obtain a height of 780mm. This is at the minimum load position. From this dimension, we must subtract the amount of precompression from the minimum load position to the preset load position. Refer now to size selection table and enter the body of the table where the load of 5414N reads in the size 10 column and moving horizontally to the left to read the amount of precompression required for a series BVM140 spring. In this example the precompression is 60mm. Therefore, the loaded length = 780-60 = 720mm. Other loads are treated in a similar manner. Intermediate precompression dimensions are obtained by linear interpolation.

### CAUTIONARY NOTE FOR BASE MOUNTED TYPE

BVM35 and BVM70 all sizes.

Lateral loads on Base Mounted Supports shall be limited to **25%** of the **maximum working load**. Where higher loads are envisaged, consideration shall be given to the fitting of P.T.F.E. slider pads or rollers (Type 'K').

BVM140 all sizes. Lateral loads on Base Mounted Supports shall be limited to **15%** of the **maximum working load**. Where higher loads are envisaged, consideration shall be given to the fitting of P.T.F.E. slider pads or rollers (Type 'K').

BINDER GROUP INDUSTRIAL PIPE SUPPORT CATALOGUE  
VARIABLE LOAD SPRING SUPPORTS

### 10.2 VARIABLE LOAD SPRING SUPPORTS – MULTILOCKS – SELECTION

**BVM - VARIABLE SUPPORT SELECTION TABLE**

Note: The BV and BVM Variable Support Selection Tables are the same.

Loads in Newtons. Travel in mm.

	BVM 210	BVM 140	BVM 70	BVM 35	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Over travel	30	20	10	5	196	292	375	468	652	873	1,161	1,548	2,073	2,764	3,293	4,698	6,218	8,291	11,054	14,923	20,726	27,635	36,799	48,869	64,987	86,359	115,171
					217	314	404	523	701	939	1,249	1,665	2,230	2,974	3,866	5,055	6,91	8,921	11,895	16,058	22,307	29,737	39,544	52,589	69,916	92,972	123,929
Min	6	4	2	1	222	329	423	547	734	983	1,308	1,744	2,335	3,114	4,048	5,293	7,006	9,341	12,455	16,814	23,353	31,138	41,457	55,069	73,209	97,305	129,768
					217	322	413	535	717	961	1,287	1,704	2,283	3,044	3,957	5,174	6,848	9,131	12,175	16,436	22,828	30,437	40,526	53,829	71,563	95,116	126,849
Working Load	12	8	4	2	233	344	441	572	767	1,025	1,367	1,822	2,440	3,254	4,230	5,532	7,321	9,762	13,015	17,571	24,404	32,539	43,321	57,549	76,501	101,683	135,607
					18	12	6	3	238	351	451	584	783	1,049	1,396	1,861	2,493	3,324	4,321	5,651	7,479	9,972	13,296	17,950	24,929	33,239	44,252
Recommended Working Range of Springs	24	16	8	4	243	359	460	596	800	1,071	1,428	1,901	2,545	3,394	4,432	5,770	7,636	10,182	13,578	18,327	24,455	33,940	45,184	60,029	79,974	106,061	141,445
					30	20	10	5	249	366	470	608	816	1,093	1,455	1,940	2,598	3,464	4,503	5,889	7,794	10,392	13,856	18,706	25,980	34,640	46,116
Over travel	30	20	10	5	254	373	479	621	833	1,115	1,484	1,979	2,651	3,534	4,594	6,008	7,952	10,602	14,136	19,084	26,505	35,341	47,047	62,508	83,086	110,439	147,284
					42	28	14	7	259	381	489	633	849	1,138	1,514	2,018	2,703	3,604	4,685	6,127	8,109	10,812	14,416	19,462	27,031	36,041	47,979
Working Load	48	32	16	8	264	388	498	645	866	1,160	1,543	2,058	2,756	3,674	4,776	6,246	8,267	11,022	14,697	19,840	27,556	36,742	48,911	64,586	86,378	114,818	153,123
					54	36	18	9	270	395	508	657	882	1,182	1,573	2,097	2,808	3,744	4,867	6,365	8,424	11,233	14,977	20,219	28,082	37,442	49,842
Recommended Working Range of Springs	60	40	20	10	275	403	517	670	899	1,204	1,602	2,136	2,861	3,814	4,959	6,484	8,582	11,533	15,257	20,597	28,607	38,143	50,774	67,468	89,671	119,196	158,926
					66	44	22	11	280	410	527	682	915	1,226	1,631	2,175	2,913	3,884	5,050	6,603	8,740	11,653	15,537	20,975	29,132	38,843	51,706
Working Load	72	48	24	12	285	417	536	694	931	1,248	1,661	2,214	2,966	3,954	5,141	6,722	8,977	11,863	15,817	21,354	29,658	39,544	52,638	69,948	92,963	123,574	164,800
					78	52	26	13	291	425	546	706	948	1,270	1,690	2,254	3,018	4,024	5,233	6,842	9,055	12,073	16,098	21,732	30,183	40,244	53,569
Recommended Working Range of Springs	84	56	28	14	296	432	555	715	964	1,292	1,720	2,293	3,071	4,094	5,323	6,961	9,213	12,283	16,378	22,110	30,708	40,945	54,501	72,428	96,256	127,952	170,639
					90	60	30	15	301	438	564	731	981	1,314	1,749	2,332	3,123	4,165	5,414	7,080	9,370	12,494	16,658	22,488	31,234	41,645	55,433
Working Load	96	64	32	16	306	446	574	743	997	1,338	1,779	2,371	3,176	4,235	5,535	7,199	9,528	12,704	16,938	22,867	31,759	42,346	56,364	74,907	99,548	132,330	176,478
					102	68	34	17	312	454	583	756	1,014	1,358	1,808	2,411	3,228	4,305	5,596	7,318	9,685	12,914	17,218	23,245	32,285	43,046	57,296
Recommended Working Range of Springs	108	72	36	18	317	462	593	768	1,030	1,380	1,837	2,450	3,281	4,375	5,687	7,437	9,843	13,124	17,499	23,623	32,810	43,747	58,228	77,387	102,840	136,708	182,317
					114	76	38	19	322	469	602	780	1,047	1,402	1,867	2,489	3,334	4,445	5,778	7,556	10,001	13,334	17,779	24,001	33,335	44,447	59,159
Working Load	120	80	40	20	327	476	612	792	1,063	1,424	1,896	2,528	3,386	4,515	5,869	7,675	10,158	13,544	18,059	24,380	33,861	45,148	60,091	79,867	106,133	141,087	188,155
					126	84	42	21	333	484	621	805	1,080	1,446	1,926	2,567	3,439	4,585	5,960	7,794	10,316	13,754	18,339	24,758	34,386	45,848	61,023
Recommended Working Range of Springs	132	88	44	22	338	491	631	817	1,096	1,469	1,955	2,607	3,491	4,655	6,051	7,913	10,473	13,965	18,619	25,136	34,812	46,549	61,954	82,347	109,425	145,465	193,994
					138	92	46	23	343	498	640	829	1,113	1,491	1,984	2,646	3,544	4,725	6,142	8,032	10,631	14,175	19,000	25,515	35,437	47,249	62,886
Working Load	144	96	48	24	348	506	650	841	1,129	1,511	2,014	2,685	3,596	4,795	6,233	8,151	10,789	14,385	19,180	25,893	35,962	47,950	63,818	84,827	112,717	149,846	199,833
					150	100	50	25	354	513	659	854	1,146	1,535	2,043	2,724	3,649	4,865	6,325	8,271	10,946	14,595	19,460	26,271	36,488	48,650	64,749
Recommended Working Range of Springs	156	104	52	26	359	520	668	866	1,162	1,557	2,073	2,764	3,701	4,935	6,416	8,390	11,104	14,805	19,740	26,649	37,013	49,351	65,881	87,306	116,010	154,221	205,671
					162	108	54	27	364	528	678	878	1,178	1,579	2,102	2,803	3,754	5,005	6,507	8,509	11,262	15,015	20,020	27,028	37,538	50,051	66,613
Working Load	168	112	56	28	370	535	687	890	1,195	1,601	2,132	2,842	3,806	5,075	6,598	8,628	11,419	15,228	20,301	27,406	38,064	50,752	67,544	89,786	119,302	158,599	211,510
					174	116	58	29	375	542	697	903	1,211	1,623	2,161	2,881	3,859	5,145	6,689	8,747	11,577	15,436	20,581	27,784	38,589	51,452	68,476
Recommended Working Range of Springs	180	120	60	30	380	550	706	915	1,228	1,645	2,190	2,921	3,911	5,215	6,780	8,966	11,734	15,648	20,861	28,162	39,115	52,153	69,408	92,266	122,595	162,977	217,349
					186	124	62	31	385	557	716	927	1,244	1,667	2,220	2,960	3,964	5,285	6,871	9,085	11,892	15,856	21,141	28,541	39,640	52,853	70,339
Working Load	192	128	64	32	391	564	725	939	1,261	1,689	2,249	3,000	4,017	5,355	6,962	9,104	12,050	16,066	21,422	28,919	40,165	53,554	71,771	94,746	125,887	167,356	223,188
					198	132	66	33	396	572	735	952	1,277	1,711	2,279	3,039	4,069	5,425	7,053	9,223	12,207	16,276	21,702	29,297	40,691	54,254	72,203
Recommended Working Range of Springs	204	136	68	34	401	579	744	964	1,294	1,733	2,308	3,077	4,122	5,495	7,144	9,342	12,365	16,486	21,982	29,676	41,216	54,955	72,134	97,226	129,179	171,734	229,026
					210	140	70	35	406	587	754	976	1,310	1,755	2,338	3,117	4,174	5,566	7,235	9,461	12,522	16,697	22,262	30,054	41,741	55,655	74,066
Over travel	30	20	10	5	412	594	763	968	1,327</																		

BINDER GROUP INDUSTRIAL PIPE SUPPORT CATALOGUE  
VARIABLE LOAD SPRING SUPPORTS

**10.3 VARIABLE LOAD SPRING SUPPORTS – MULTILOCKS – SELECTION**

**BVM - VARIABLE SUPPORT SELECTION TABLE**

Note: The BV and BVM Variable Support Selection Tables are the same.

Loads in kg. Travel in mm.

	BVM 210	BVM 140	BVM 70	BVM 35	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22					
Over travel	30	20	10	5	20.0	29.8	38.2	47.7	66.5	89.0	118.3	157.8	211.3	281.8	335.7	478.9	633.8	845.2	1,126.8	1,521.2	2,112.7	2,817.0	3,751.2	4,981.5	6,624.6	8,801.2	11,740.2					
					21.6	32.0	41.2	53.3	71.5	95.7	127.3	169.7	227.3	304.2	399.1	515.3	70.4	909.4	1,212.5	1,636.9	2,273.4	3,031.3	4,031.0	5,360.8	7,127.0	9,472.7	12,632.9					
Min	6	4	2	1	23.2	34.4	44.0	57.0	76.5	102.4	136.3	181.8	243.4	324.6	421.8	551.7	730.3	973.6	1,298.2	1,752.6	2,434.1	3,245.5	4,321.0	5,740.0	7,630.5	10,142.1	13,525.7					
					22.1	32.8	42.1	54.5	73.1	98.0	131.2	173.7	232.7	310.3	403.4	527.4	698.1	930.8	1,241.1	1,675.4	2,327.0	3,102.7	4,131.1	5,487.2	7,294.9	9,695.8	12,930.6					
Working	12	8	4	2	23.8	35.1	45.0	58.5	78.2	104.7	139.3	185.7	248.7	331.7	431.2	563.9	746.3	995.1	1,326.7	1,791.1	2,487.7	3,316.9	4,416.0	5,866.4	7,798.3	10,363.2	13,823.3					
					24.3	35.8	46.0	59.5	79.8	106.9	142.3	189.7	254.1	338.8	440.5	576.0	762.4	1,016.5	1,355.4	1,829.8	2,541.2	3,388.3	4,510.9	5,992.8	7,986.1	10,588.4	14,120.9					
Load	12	12	6	3	24.8	36.6	46.9	60.8	81.5	109.2	145.4	193.8	259.4	346.0	449.7	588.2	778.4	1,037.9	1,389.3	1,868.2	2,492.9	3,459.7	4,605.9	6,139.2	8,152.3	10,811.5	14,418.5					
					25.4	37.3	47.9	62.0	83.2	111.4	148.3	197.8	264.8	353.1	459.0	600.3	794.5	1,059.3	1,412.4	1,906.8	2,648.3	3,531.1	4,700.9	6,245.5	8,301.7	11,034.7	14,716.1					
Recommended Working Range of Springs	30	20	10	5	25.9	37.8	48.3	62.8	84.9	113.7	151.3	201.7	270.2	360.2	468.3	612.4	810.6	1,080.7	1,441.0	1,945.4	2,701.8	3,602.5	4,795.8	6,371.9	8,465.5	11,257.8	15,013.7					
					26.4	38.8	49.8	64.5	86.5	116.0	154.3	205.7	275.5	367.4	477.6	624.6	826.6	1,102.1	1,469.5	1,983.9	2,755.5	3,673.9	4,898.8	6,498.3	8,600.6	11,460.9	15,311.3					
					26.9	39.6	50.8	65.7	88.3	118.2	157.3	209.8	280.9	374.5	486.9	636.7	842.7	1,123.5	1,498.2	2,022.4	2,809.0	3,745.4	4,985.8	6,624.7	8,805.1	11,704.2	15,608.9					
					27.5	40.3	51.8	67.0	89.9	120.5	160.3	213.8	286.2	381.7	496.1	648.8	858.7	1,145.1	1,526.7	2,061.1	2,862.6	3,816.7	5,080.7	6,751.1	8,973.0	11,927.3	15,904.6					
					28.0	41.1	52.7	68.3	91.6	122.7	163.3	217.6	291.6	388.8	505.5	661.0	874.8	1,175.6	1,555.2	2,099.6	2,916.1	3,888.2	5,175.7	6,877.5	9,140.8	12,150.5	16,200.4					
					28.5	41.8	53.7	69.5	93.3	125.0	166.3	221.7	296.9	395.9	514.8	673.1	890.9	1,187.9	1,583.8	2,138.1	2,969.6	3,959.5	5,270.7	7,003.9	9,308.6	12,373.6	16,501.6					
					29.1	42.5	54.6	70.7	94.9	127.2	169.3	225.7	302.3	403.1	524.3	685.2	906.9	1,209.3	1,613.2	2,176.8	3,023.2	4,031.0	5,360.8	7,130.3	9,476.4	12,596.7	16,799.2					
					29.7	43.3	55.7	72.0	96.6	129.5	172.3	229.8	307.6	410.2	542.6	697.5	923.0	1,230.7	1,641.0	2,215.3	3,076.8	4,102.3	5,460.7	7,256.7	9,644.1	12,819.9	17,096.8					
					30.2	44.0	56.6	73.3	98.3	131.7	175.3	233.7	313.0	417.3	542.6	709.6	939.1	1,252.1	1,669.5	2,258.8	3,130.3	4,173.8	5,555.7	7,383.1	9,812.0	13,043.0	17,394.4					
					30.7	44.6	57.5	74.5	100.0	133.9	178.3	237.7	318.3	424.6	551.9	721.7	955.1	1,273.6	1,698.1	2,292.4	3,183.9	4,245.2	5,650.7	7,509.4	9,979.8	13,266.2	17,691.9					
					31.2	45.5	58.5	75.7	101.6	136.2	181.3	241.7	323.8	431.7	566.3	733.8	971.3	1,295.0	1,726.6	2,331.0	3,237.4	4,316.6	5,745.6	7,635.8	10,147.6	13,489.3	17,989.6					
					31.8	46.3	59.4	77.1	103.4	138.4	184.3	245.8	329.1	438.8	570.4	746.0	987.3	1,316.4	1,755.1	2,369.5	3,291.0	4,388.0	5,840.6	7,762.2	10,315.4	13,712.4	18,287.2					
					32.3	47.1	60.4	78.3	105.0	140.7	187.3	249.7	334.5	446.0	579.7	758.1	1,003.4	1,337.8	1,783.8	2,408.1	3,344.5	4,459.4	5,935.6	7,888.6	10,483.2	13,935.6	18,584.8					
					32.8	47.8	61.4	79.5	106.7	142.9	190.3	253.7	339.9	453.1	589.0	770.2	1,019.5	1,359.2	1,812.3	2,446.6	3,398.1	4,530.8	6,030.5	8,015.0	10,651.0	14,158.7	18,882.4					
					33.3	48.5	62.4	80.7	108.4	145.2	193.3	257.7	345.2	460.2	598.3	782.4	1,035.5	1,380.6	1,840.9	2,485.2	3,451.7	4,602.2	6,125.5	8,141.4	10,818.9	14,382.0	19,179.9					
					33.9	49.3	63.3	82.1	110.1	147.4	196.3	261.7	350.6	467.4	607.5	794.5	1,051.6	1,402.0	1,869.4	2,523.8	3,505.2	4,673.0	6,220.5	8,267.8	10,986.6	14,605.1	19,477.6					
					34.5	50.1	64.3	83.3	111.7	149.7	199.3	265.7	355.9	474.5	616.8	806.6	1,067.6	1,423.5	1,898.0	2,562.3	3,558.8	4,745.1	6,315.4	8,394.2	11,154.4	14,828.2	19,775.1					
					35.0	50.8	65.2	84.5	113.5	152.0	202.2	269.7	361.3	481.7	626.1	818.8	1,083.7	1,445.0	1,926.6	2,600.9	3,612.3	4,816.4	6,410.4	8,520.6	11,322.2	15,051.4	20,072.7					
					35.5	51.6	66.3	85.7	115.1	154.2	205.3	273.7	366.6	488.8	635.4	830.9	1,099.8	1,466.4	1,955.1	2,639.4	3,665.9	4,887.9	6,505.4	8,647.0	11,490.0	15,274.8	20,370.3					
					36.1	52.3	67.2	87.1	116.8	156.5	208.3	277.7	372.0	495.9	644.8	843.1	1,115.8	1,487.8	1,983.7	2,678.0	3,719.5	4,959.2	6,600.3	8,773.3	11,657.9	15,497.7	20,668.0					
					36.6	53.0	68.1	88.3	118.5	158.7	211.3	281.8	377.3	503.1	654.0	855.2	1,131.9	1,509.2	2,012.2	2,716.5	3,773.0	5,030.7	6,695.3	8,899.7	11,825.7	15,720.8	20,965.4					
					37.1	53.8	69.1	89.5	120.1	161.0	214.3	285.7	382.7	510.2	663.3	867.4	1,148.0	1,530.6	2,040.8	2,755.1	3,826.5	5,102.0	6,790.3	9,026.1	11,993.5	15,943.9	21,263.1					
					37.7	54.5	70.0	90.7	121.8	163.2	217.3	289.7	388.0	517.3	672.6	879.5	1,164.0	1,552.1	2,069.4	2,793.7	3,880.1	5,173.5	6,883.2	9,152.5	12,163.2	16,167.1	21,560.7					
					38.2	55.2	71.0	92.0	123.4	165.4	220.3	293.7	393.4	524.5	681.9	891.6	1,180.1	1,573.5	2,098.0	2,832.2	3,933.6	5,244.9	6,980.2	9,278.9	12,329.1	16,390.2	21,859.3					
38.7	56.1	72.0	93.3	125.2	167.7	223.2	297.8	398.7	531.6	691.1	903.8	1,196.1	1,594.9	2,126.5	2,870.7	3,987.3	5,316.3	7,075.2	9,405.3	12,496.9	16,613.4	22,155.9										
39.2	56.8	73.0	94.5	126.8	169.9	226.3	301.7	404.1	538.7	700.4	915.9	1,212.2	1,616.3	2,155.0	2,909.4	4,040.8	5,387.7	7,170.1	9,531.7	12,664.7	16,836.5	22,453.4										
39.9	57.5	73.9	95.7	128.5	172.2	229.3	305.8	409.5	545.9	709.7	928.0	1,228.3	1,637.7	2,183.7	2,947.9	4,094.3	5,459.1	7,265.1	9,658.1	12,832.5	17,059.7	22,751.1										
40.4	58.3	74.9	97.0	130.2	174.4	232.3	309.8	414.8	553.0	719.0	940.2	1,244.3	1,659.1	2,212.2	2,986.4	4,147.9	5,530.5	7,360.1	9,784.5	13,000.3	17,282.9	23,048.6										
40.9	59.0	75.8	98.3	131.9	176.7	235.4	313.7	420.2	560.1	728.2	952.3	1,260.4	1,680.5	2,240.8	3,025.1	4,201.4	5,601.9	7,453.1	9,910.9	13,168.1	17,506.0	23,346.2										
41.4	59.8	76.9	99.5	133.5	178.9	238.3	317.7	425.5	567.4	737.5	964.4	1,276.5	1,703.0	2,269.3	3,063.6	4,254.9	5,673.3	7,550.1	10,037.2	13,336.0	17,729.2	23,643.8										
Over travel	30	20	10	5	42.0	60.6	77.8	98.7	135.3	181.1	241.3	321.7	430.9	574.5	746.8	976.6	1,292.6	1,723.4	2,297.9	3,102.1	4,308.6	5,744.8	7,645.1	10,163.6	13,503.8	17,952.3	23,941.4					
					42.5	61.3	78.7	102.0	136.9	183.4	244.2	325.7	436.2	581.7	756.1	988.8	1,308.7	1,744.9	2,326.5	3,140.7	4,362.1	5,816.1	7,740.0	10,290.0	13,671.6	18,175.4	24,238.9					
					43.0	62.1	79.7	103.3	138.6	185.7	247.3	329.7	441.6	588.8	765.3	1,000.9	1,325.2	1,766.3	2,355.0	3,179.3	4,415.7	5,887.6	7,835.0	10,416.4	13,837.5	18,398.6	24,536.6					
					43.5	62.8	80.6	104.5	140.3	188.0	250.3	333.7	446.9	595.9	770.5	1,013.0	1,340.8	1,787.7	2,429.5	3,217.8	4,469.2	5,958.9	7,930.0	10,542.8	14,007.1	18,621.7						

**10.4 VARIABLE LOAD SPRING SUPPORTS – PART No. TABLE**

		Size																						
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Type A	BVM 35	715000	715001	715002	715003	715004	715005	715006	715007	715008	715009	715010	715011	715012	715013	715014	715015	715016	715017	715018	715019	715020	715021	715022
	BVM 70	725000	725001	725002	725003	725004	725005	725006	725007	725008	725009	725010	725011	725012	725013	725014	725015	725016	725017	725018	725019	725020	725021	725022
	BVM 140	735000	735001	735002	735003	735004	735005	735006	735007	735008	735009	735010	735011	735012	735013	735014	735015	735016	735017	735018	735019	735020	735021	735022
	BVM 210	745000	745001	745002	745003	745004	745005	745006	745007	745008	745009	745010	745011	745012	745013	745014	745015	745016	745017	745018	745019	745020	745021	745022
Type B	BVM 35	715100	715101	715102	715103	715104	715105	715106	715107	715108	715109	715110	715111	715112	715113	715114	715115	715116	715117	715118	715119	715120	715121	715122
	BVM 70	725100	725101	725102	725103	725104	725105	725106	725107	725108	725109	725110	725111	725112	725113	725114	725115	725116	725117	725118	725119	725120	725121	725122
	BVM 140	735100	735101	735102	735103	735104	735105	735106	735107	735108	735109	735110	735111	735112	735113	735114	735115	735116	735117	735118	735119	735120	735121	735122
	BVM 210	745100	745101	745102	745103	745104	745105	745106	745107	745108	745109	745110	745111	745112	745113	745114	745115	745116	745117	745118	745119	745120	745121	745122
Type C	BVM 35	715200	715201	715202	715203	715204	715205	715206	715207	715208	715209	715210	715211	715212	715213	715214	715215	715216	715217	715218	715219	715220	715221	715222
	BVM 70	725200	725201	725202	725203	725204	725205	725206	725207	725208	725209	725210	725211	725212	725213	725214	725215	725216	725217	725218	725219	725220	725221	725222
	BVM 140	735200	735201	735202	735203	735204	735205	735206	735207	735208	735209	735210	735211	735212	735213	735214	735215	735216	735217	735218	735219	735220	735221	735222
	BVM 210	745200	745201	745202	745203	745204	745205	745206	745207	745208	745209	745210	745211	745212	745213	745214	745215	745216	745217	745218	745219	745220	745221	745222
Type D	BVM 35	715300	715301	715302	715303	715304	715305	715306	715307	715308	715309	715310	715311	715312	715313	715314	715315	715316	715317	715318	715319	715320	715321	715322
	BVM 70	725300	725301	725302	725303	725304	725305	725306	725307	725308	725309	725310	725311	725312	725313	725314	725315	725316	725317	725318	725319	725320	725321	725322
	BVM 140	735300	735301	735302	735303	735304	735305	735306	735307	735308	735309	735310	735311	735312	735313	735314	735315	735316	735317	735318	735319	735320	735321	735322
	BVM 210	745300	745301	745302	745303	745304	745305	745306	745307	745308	745309	745310	745311	745312	745313	745314	745315	745316	745317	745318	745319	745320	745321	745322

Key:

Part No. = 6 Digits					
1st	2nd	3rd	4th	5th	6th
7	1	5	2	1	5

Product 7=Variable      Travel 1=BVM35      Type 50=A      Size 0 to 22

2=BVM70      51=B

3=BVM140      52=C

4=BVM210      53=D

54=F

55=G (up to 900mm)

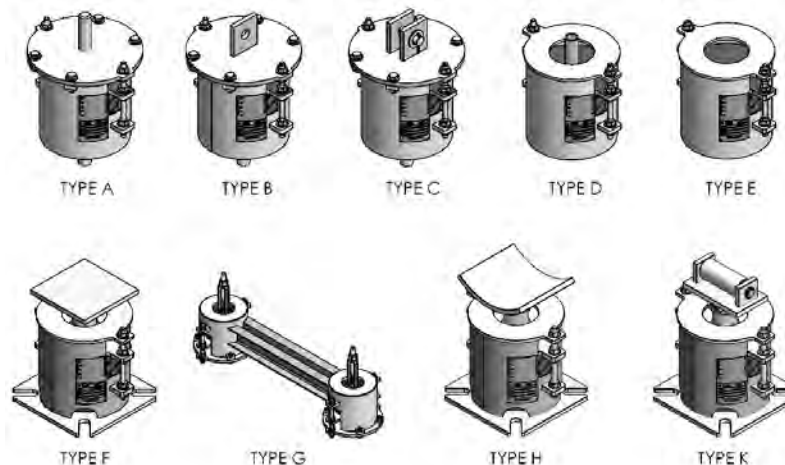
56=G1 (901mm-1300mm)

57=G2 (1301mm-1800mm)

58=H

59=K

60=E



**Notes:**

- 1. G Type units available in three width ranges.
- 2. Please supply rod centre dimension with order.
- 2. F Type units. Client to advise if a PTFE slide plate is required.

**Ordering Information**

Please select Part No. from table for required Variable Type and Size, and specify required surface finish.

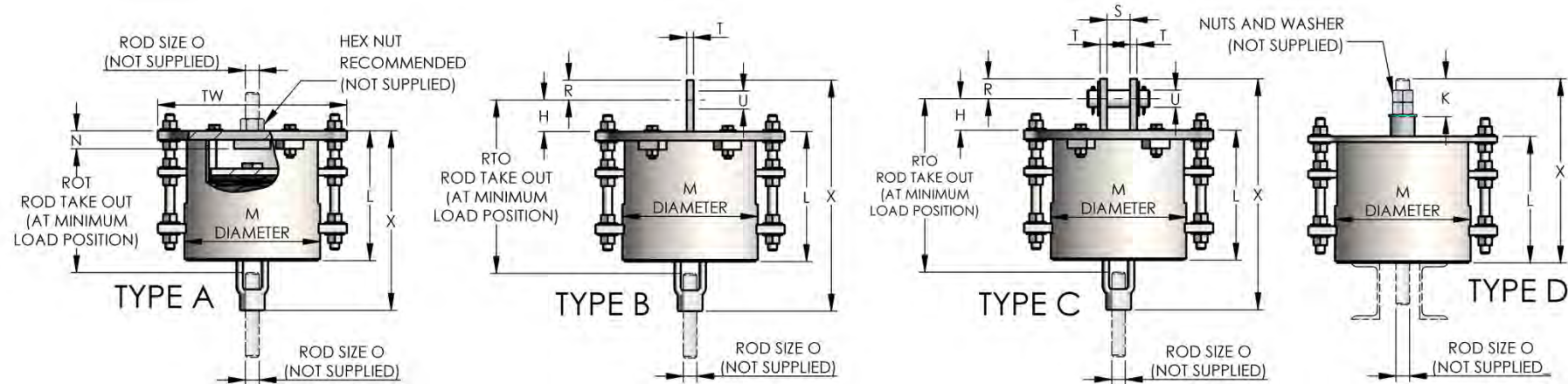
BINDER GROUP INDUSTRIAL PIPE SUPPORT CATALOGUE  
VARIABLE LOAD SPRING SUPPORTS

**VARIABLE LOAD SPRING SUPPORTS – PART No. TABLE (CONTINUED)**

		Size																						
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Type E	BVM 35	716000	716001	716002	716003	716004	716005	716006	716007	716008	716009	716010	716011	716012	716013	716014	716015	716016	716017	716018	716019	716020	716021	716022
	BVM 70	726000	726001	726002	726003	726004	726005	726006	726007	726008	726009	726010	726011	726012	726013	726014	726015	726016	726017	726018	726019	726020	726021	726022
	BVM 140	736000	736001	736002	736003	736004	736005	736006	736007	736008	736009	736010	736011	736012	736013	736014	736015	736016	736017	736018	736019	736020	736021	736022
	BVM 210	746000	746001	746002	746003	746004	746005	746006	746007	746008	746009	746010	746011	746012	746013	746014	746015	746016	746017	746018	746019	746020	746021	746022
Type F	BVM 35	715400	715401	715402	715403	715404	715405	715406	715407	715408	715409	715410	715411	715412	715413	715414	715415	715416	715417	715418	715419	715420	715421	715422
	BVM 70	725400	725401	725402	725403	725404	725405	725406	725407	725408	725409	725410	725411	725412	725413	725414	725415	725416	725417	725418	725419	725420	725421	725422
	BVM 140	735400	735401	735402	735403	735404	735405	735406	735407	735408	735409	735410	735411	735412	735413	735414	735415	735416	735417	735418	735419	735420	735421	735422
	BVM 210	745400	745401	745402	745403	745404	745405	745406	745407	745408	745409	745410	745411	745412	745413	745414	745415	745416	745417	745418	745419	745420	745421	745422
Type G = For rod centres upto 900mm / light duty beam																								
Type G	BVM 35	715500	715501	715502	715503	715504	715505	715506	715507	715508	715509	715510	715511	715512	715513	715514	715515	715516	715517	715518	715519	715520	715521	715522
	BVM 70	725500	725501	725502	725503	725504	725505	725506	725507	725508	725509	725510	725511	725512	725513	725514	725515	725516	725517	725518	725519	725520	725521	725522
	BVM 140	735500	735501	735502	735503	735504	735505	735506	735507	735508	735509	735510	735511	735512	735513	735514	735515	735516	735517	735518	735519	735520	735521	735522
	BVM 210	745500	745501	745502	745503	745504	745505	745506	745507	745508	745509	745510	745511	745512	745513	745514	745515	745516	745517	745518	745519	745520	745521	745522
Type G1 = For rod centres between 901mm and 1300mm / medium duty beam																								
Type G1	BVM 35	715600	715601	715602	715603	715604	715605	715606	715607	715608	715609	715610	715611	715612	715613	715614	715615	715616	715617	715618	715619	715620	715621	715622
	BVM 70	725600	725601	725602	725603	725604	725605	725606	725607	725608	725609	725610	725611	725612	725613	725614	725615	725616	725617	725618	725619	725620	725621	725622
	BVM 140	735600	735601	735602	735603	735604	735605	735606	735607	735608	735609	735610	735611	735612	735613	735614	735615	735616	735617	735618	735619	735620	735621	735622
	BVM 210	745600	745601	745602	745603	745604	745605	745606	745607	745608	745609	745610	745611	745612	745613	745614	745615	745616	745617	745618	745619	745620	745621	745622
Type G2 = For rod centres between 1301mm and 1800mm / heavy duty beam																								
Type G2	BVM 35	715700	715701	715702	715703	715704	715705	715706	715707	715708	715709	715710	715711	715712	715713	715714	715715	715716	715717	715718	715719	715720	715721	715722
	BVM 70	725700	725701	725702	725703	725704	725705	725706	725707	725708	725709	725710	725711	725712	725713	725714	725715	725716	725717	725718	725719	725720	725721	725722
	BVM 140	735700	735701	735702	735703	735704	735705	735706	735707	735708	735709	735710	735711	735712	735713	735714	735715	735716	735717	735718	735719	735720	735721	735722
	BVM 210	745700	745701	745702	745703	745704	745705	745706	745707	745708	745709	745710	745711	745712	745713	745714	745715	745716	745717	745718	745719	745720	745721	745722
Type H	BVM 35	715800	715801	715802	715803	715804	715805	715806	715807	715808	715809	715810	715811	715812	715813	715814	715815	715816	715817	715818	715819	715820	715821	715822
	BVM 70	725800	725801	725802	725803	725804	725805	725806	725807	725808	725809	725810	725811	725812	725813	725814	725815	725816	725817	725818	725819	725820	725821	725822
	BVM 140	735800	735801	735802	735803	735804	735805	735806	735807	735808	735809	735810	735811	735812	735813	735814	735815	735816	735817	735818	735819	735820	735821	735822
	BVM 210	745800	745801	745802	745803	745804	745805	745806	745807	745808	745809	745810	745811	745812	745813	745814	745815	745816	745817	745818	745819	745820	745821	745822
Type K	BVM 35	715900	715901	715902	715903	715904	715905	715906	715907	715908	715909	715910	715911	715912	715913	715914	715915	715916	715917	715918	715919	715920	715921	715922
	BVM 70	725900	725901	725902	725903	725904	725905	725906	725907	725908	725909	725910	725911	725912	725913	725914	725915	725916	725917	725918	725919	725920	725921	725922
	BVM 140	735900	735901	735902	735903	735904	735905	735906	735907	735908	735909	735910	735911	735912	735913	735914	735915	735916	735917	735918	735919	735920	735921	735922
	BVM 210	745900	745901	745902	745903	745904	745905	745906	745907	745908	745909	745910	745911	745912	745913	745914	745915	745916	745917	745918	745919	745920	745921	745922



**10.5 VARIABLE LOAD SPRING SUPPORTS – DIAGRAMS**

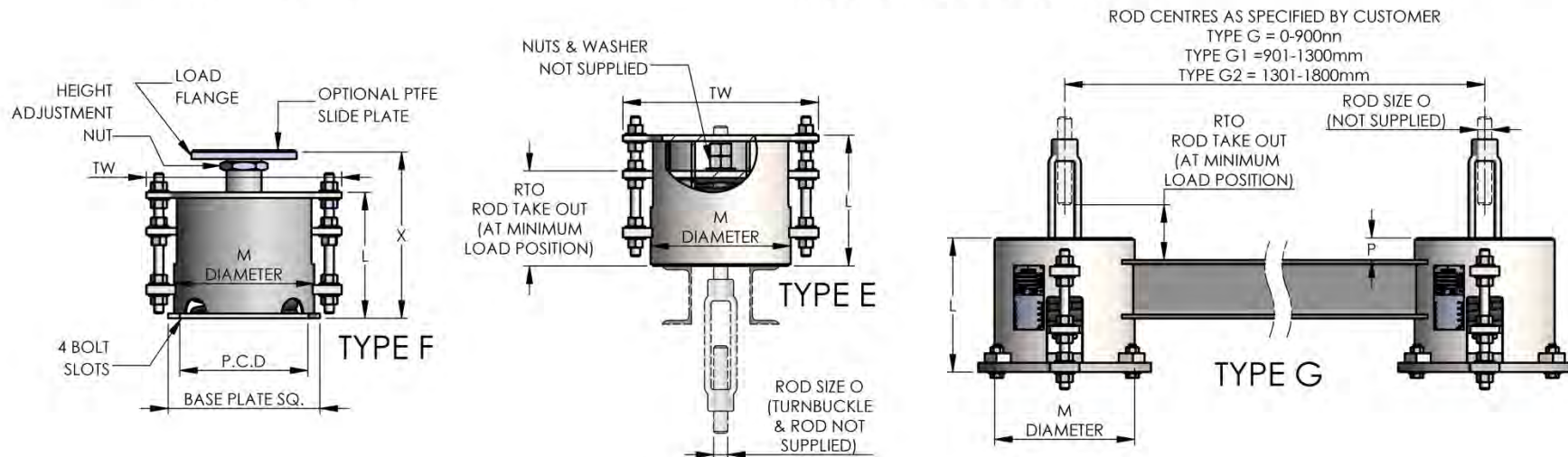


**GENERAL NOTES:**

- TYPE G: WORKING LOAD MUST BE HALVED TO SELECT THE CORRECT SIZE.
- ADD WEIGHT OF HANGER ASSEMBLY WHEN CALCULATING LOAD TO BE SUPPORTED.
- SITE ADJUSTMENT: TYPES A, B, C & G: +/-75mm (VIA TURNBUCKLE).
- TYPES F, H & K: +/-25mm (VIA HEIGHT ADJUSTMENT NUT).
- MANUFACTURE: SIZE 0 to 22 ARE ALL MANUFACTURED AS A TOTALLY WELDED UNIT.
- DIMENSION 'TW' IS TYPICAL FOR ALL TYPES.

**TYPE H & TYPE K**

REFER TO TYPE F DIMENSIONS  
 OR CONTACT BINDER GROUP  
 FOR ADDITIONAL INFORMATION.



### 10.6 BVM35 VARIABLE LOAD SPRING SUPPORT – TABLE OF DIMENSIONS

TABLE OF DIMENSIONS																									BVM35 (WITH MULTI-LOCK)																		
HANGER SIZE	ROD SIZE	CASING DIA	TOP PLATE WIDTH	CASING LENGTH 'L'			ROD TAKE OUT			THRD DEPTH TYPE A	TYPES B & C				TYPE F, H & K					TYPE G			LOADED LENGTH 'X'						WEIGHT Kg (Estimated)														
				TYPES			TYPES				DIMENSIONS				BASE FLANGE SQUARE	PCD BASE FLANGE	BASE FLANGE BOLTS	BASE FLANGE THICK	LOAD FLANGE SQUARE	LOAD FLANGE THICK	SPACE BETWEEN CHANNEL 'W'	P	BEAM SECTION			TYPE A & G		TYPE B & C		TYPE D		TYPE F		TYPES									
				A	B	C	D	E	F		A	B	C	G									U	H	R	S	T	900MM ROD CENTRES	1300MM ROD CENTRES	1800MM ROD CENTRES	MIN	MAX	MIN	MAX	MIN	MAX	K	MIN	MAX	A,B,C	D,E	F	G
				O	M	TW	A,B & C	D & G	F		A	B & C	G	N									U	H	R	S	T	900MM ROD CENTRES	1300MM ROD CENTRES	1800MM ROD CENTRES	MIN	MAX	MIN	MAX	MIN	MAX	K	MIN	MAX	A,B,C	D,E	F	G
0	M12	114	170	145	145	145	141	191	58	12	18	39	32	22	6	150	160	M16	6	130	6	16	25	75 PFC	75 PFC	75 PFC	248	283	319	354	169	204	24	192	227	5	4	6	16				
1	M12	114	170	152	152	152	141	191	51	12	18	39	32	22	6	150	160	M16	6	130	6	16	25	75 PFC	75 PFC	75 PFC	248	283	319	354	176	211	24	199	234	6	4	6	17				
2	M12	114	170	168	168	168	163	213	57	12	18	39	32	22	6	150	160	M16	6	130	6	16	25	75 PFC	75 PFC	75 PFC	270	305	341	376	192	227	24	215	250	6	5	7	18				
3	M12	160	215	155	155	155	150	200	57	12	18	39	32	22	6	200	197	M20	6	130	6	20	25	75 PFC	75 PFC	75 PFC	257	292	328	363	179	214	24	202	237	8	6	8	21				
4	M12	160	215	165	165	165	162	212	59	12	18	39	32	22	6	200	197	M20	6	130	6	20	25	75 PFC	75 PFC	75 PFC	269	304	340	375	189	224	24	212	247	8	6	8	20				
5	M12	160	215	175	175	175	167	217	55	12	18	39	32	22	6	200	197	M20	6	130	6	20	25	75 PFC	75 PFC	75 PFC	274	309	345	380	199	234	24	222	257	8	7	9	21				
6	M16	180	245	184	180	178	153	207	61	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	268	303	339	374	213	248	33	242	277	13	9	14	31				
7	M16	180	245	198	195	193	153	207	46	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	268	303	339	374	228	263	33	257	292	14	10	14	33				
8	M16	180	245	206	202	200	110	214	46	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	275	310	346	381	235	270	33	264	299	14	10	15	32				
9	M20	240	320	228	222	214	119	241	45	20	26	45	35	32	10	260	268	M20	8	180	12	32	51	75 PFC	75 PFC	100 PFC	299	334	379	414	261	296	39	270	305	27	21	25	60				
10	M20	240	320	241	235	227	104	226	17	20	26	45	35	32	10	260	268	M20	8	180	12	32	51	75 PFC	75 PFC	100 PFC	284	319	364	399	274	309	39	283	318	28	21	26	61				
11	M20	240	320	218	212	204	109	240	54	20	26	45	35	37	10	260	268	M20	8	180	12	32	51	75 PFC	75 PFC	100 PFC	298	333	378	413	251	286	39	297	332	28	21	26	60				
12	M24	240	335	230	224	216	115	261	39	32	32	56	35	41	12	260	268	M20	8	180	12	38	38	100 PFC	100 PFC	125 PFC	318	353	409	444	271	306	47	250	285	34	24	28	75				
13	M30	240	355	271	265	257	130	267	57	32	38	61	49	46	12	260	268	M20	8	180	12	38	76	100 PFC	100 PFC	125 PFC	342	377	452	487	323	358	57	336	371	39	28	40	85				
14	M30	240	355	277	271	263	145	302	66	32	38	61	49	46	12	260	268	M20	8	180	12	38	76	100 PFC	100 PFC	125 PFC	357	392	467	502	329	364	57	342	377	42	28	42	91				
15	M30	250	365	309	299	289	159	343	24	36	38	61	49	51	12	265	278	M20	10	200	16	45	25	150 PFC	150 PFC	200 PFC	398	433	508	543	386	391	57	372	407	57	41	57	124				
16	M36	250	385	351	341	331	172	390	31	36	46	85	49	60	20	265	278	M20	10	200	16	45	51	150 PFC	150 PFC	200 PFC	423	458	561	596	409	444	68	414	449	74	52	68	160				
17	M42	250	410	364	354	344	201	424	47	36	50	90	74	67	20	265	278	M20	10	200	16	45	51	150 PFC	150 PFC	200 PFC	474	509	638	673	429	464	75	427	462	85	56	73	182				

FOR SIZES 18 TO 22, PLEASE CONTACT BINDER GROUP

### 10.7 BVM70 VARIABLE LOAD SPRING SUPPORT – TABLE OF DIMENSIONS

TABLE OF DIMENSIONS																												BVM70 (WITH MULTI-LOCK)											
HANGER SIZE	ROD SIZE	CASING DIA	TOP PLATE WIDTH	CASING LENGTH 'L'						ROD TAKE OUT			THIRD DEPTH TYPE A	TYPES B & C					TYPE F, H & K					TYPE G				LOADED LENGTH 'X'								WEIGHT Kg (Estimated)			
				TYPES			TYPES			U	H	R		S	T	BASE FLANGE SQUARE	PCD BASE FLANGE	BASE FLANGE BOLTS	BASE FLANGE THICK	LOAD FLANGE SQUARE	LOAD FLANGE THICK	SPACE BETWEEN CHANNEL 'W'	P	BEAM SECTION			TYPE A & G		TYPE B & C		TYPE D		TYPE F		TYPES				
				A, B & C	D & G	F	A	B & C	G															900MM ROD CENTRES	1300MM ROD CENTRES	1800MM ROD CENTRES	MIN	MAX	MIN	MAX	MIN	MAX	K	MIN	MAX	A, B, C	D, E	F	G
				O	M	TW	A, B & C	D & G	F															A	B & C	G	N												
0	M12	114	170	197	197	197	174	224	52	12	18	39	32	22	6	150	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	281	351	352	422	221	291	24	244	314	6	5	7	19
1	M12	114	170	214	214	214	191	241	52	12	18	39	32	22	6	150	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	298	368	369	439	238	308	24	261	331	7	5	8	20
2	M12	114	170	233	233	233	208	258	50	12	18	39	32	22	6	150	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	315	385	386	456	257	327	24	280	350	7	6	8	20
3	M12	160	215	209	209	209	188	238	67	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	295	365	366	436	233	303	24	256	326	9	7	10	25
4	M12	160	215	225	225	225	196	246	59	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	303	373	374	444	249	319	24	272	342	9	7	10	26
5	M12	160	215	243	243	243	223	273	68	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	330	400	401	471	267	337	24	290	360	9	7	10	24
6	M16	180	245	251	247	245	218	272	59	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	333	403	404	474	280	350	33	309	379	15	11	16	35
7	M16	180	245	275	271	269	240	294	57	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	355	425	426	496	304	374	33	336	406	16	12	17	37
8	M16	180	245	287	283	281	250	304	55	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	365	435	436	506	316	386	33	345	415	18	14	19	41
9	M20	240	320	300	294	286	260	324	81	20	26	45	35	32	10	260	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	382	452	462	532	333	403	39	347	417	29	22	28	64
10	M20	240	320	332	326	318	295	359	84	20	26	45	35	32	10	260	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	417	487	497	567	365	435	39	425	495	31	24	29	67
11	M20	240	320	285	279	271	276	340	112	20	26	45	35	37	10	260	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	398	468	478	548	318	388	39	327	397	31	24	29	66
12	M24	240	335	305	299	291	227	314	81	32	32	56	35	41	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	371	441	462	532	346	416	47	347	417	38	28	33	80
13	M30	240	355	376	370	362	309	401	92	32	38	61	49	46	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	456	526	566	636	428	498	57	441	511	46	33	50	96
14	M30	240	355	379	373	365	314	406	94	32	38	61	49	46	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	461	531	571	641	431	501	57	444	514	50	36	53	105
15	M30	250	365	403	393	383	357	453	117	36	38	61	49	51	12	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	508	578	618	688	450	520	57	466	536	67	51	69	150
16	M36	250	385	472	462	452	407	527	98	36	46	85	49	60	20	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	564	634	698	768	530	600	68	535	605	88	66	86	189
17	M42	250	410	524	514	504	456	581	95	36	50	90	74	67	20	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	631	701	795	865	589	659	75	587	657	103	73	94	220

FOR SIZES 18 TO 22, PLEASE CONTACT BINDER GROUP

### 10.8 BVM140 VARIABLE LOAD SPRING SUPPORT – TABLE OF DIMENSIONS

TABLE OF DIMENSIONS																												BVM140 (WITH MULTI-LOCK)											
HANGER SIZE	ROD SIZE	CASING DIA	TOP PLATE WIDTH	CASING LENGTH 'L'			ROD TAKE OUT			THIRD DEPTH TYPE A	TYPES B & C					TYPE F, H & K					TYPE G			LOADED LENGTH 'X'						WEIGHT Kg (Estimated)									
				TYPES			TYPES				DIMENSIONS					BASE FLANGE SQUARE	PCD BASE FLANGE	BASE FLANGE BOLTS	BASE FLANGE THICK	LOAD FLANGE SQUARE	LOAD FLANGE THICK	SPACE BETWEEN CHANNEL 'W'	P	BEAM SECTION			TYPE A & G		TYPE B & C		TYPE D		TYPE F		TYPES				
				A, B & C	D & G	F	A	B & C	G		N	U	H	R	S									T	900MM ROD CENTRES	1300MM ROD CENTRES	1800MM ROD CENTRES	MIN	MAX	MIN	MAX	MIN	MAX	K	MIN	MAX	A, B, C	D, E	F
0	M12	114	170	351	351	351	323	373	48	12	18	39	32	22	6	150	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	430	570	501	641	375	515	24	403	543	9	7	10	26
1	M12	114	170	385	385	385	366	416	56	12	18	39	32	22	6	150	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	473	613	544	684	408	548	24	437	577	9	8	11	26
2	M12	114	170	423	423	423	403	453	55	12	18	39	32	22	6	150	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	510	650	581	721	447	587	24	475	615	11	9	13	31
3	M12	160	215	375	375	375	333	403	65	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	460	600	531	671	399	538	24	427	567	12	11	14	32
4	M12	160	215	407	407	407	390	440	70	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	497	637	568	708	431	571	24	459	599	12	11	14	31
5	M12	160	215	443	443	443	423	473	68	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	530	670	601	741	467	607	24	495	635	13	12	15	34
6	M16	180	245	447	443	441	416	470	62	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	531	671	602	742	476	616	33	510	650	21	17	22	49
7	M16	180	245	495	491	489	474	528	71	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	589	729	660	800	524	664	33	598	698	23	18	24	52
8	M16	180	245	519	515	513	484	538	57	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	599	739	670	810	548	688	33	582	722	27	23	28	61
9	M20	240	320	529	523	515	488	552	80	20	26	45	35	32	10	260	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	610	750	690	830	522	662	39	576	716	41	34	40	88
10	M20	240	320	593	587	579	555	619	84	20	26	45	35	32	10	260	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	677	817	757	897	626	766	39	640	780	44	36	44	94
11	M20	240	320	490	484	476	459	523	90	20	26	45	35	37	10	280	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	581	721	661	801	523	663	38	537	677	42	35	42	89
12	M24	240	335	526	520	512	441	528	74	32	32	56	35	41	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	585	725	676	816	567	707	47	573	713	52	42	49	111
13	M30	240	355	662	656	648	600	692	98	32	38	61	49	46	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	747	887	857	997	714	854	57	732	872	65	52	76	135
14	M30	240	355	668	662	654	609	701	100	32	38	61	49	46	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	756	896	866	1006	720	860	57	738	878	72	58	82	149
15	M30	250	365	693	683	673	636	732	106	36	38	61	49	51	12	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	787	927	897	1037	740	880	57	766	906	99	81	108	215
16	M36	250	385	821	811	801	760	860	102	36	46	65	49	60	20	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	917	1057	1051	1191	879	1019	68	894	1034	132	108	136	281
17	M42	250	410	925	915	905	873	998	111	36	50	90	74	67	20	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	1048	1188	1212	1352	990	1130	75	998	1138	155	121	151	329

FOR SIZES 18 TO 22, PLEASE CONTACT BINDER GROUP

### 10.9 BVM210 VARIABLE LOAD SPRING SUPPORT – TABLE OF DIMENSIONS

**TABLE OF DIMENSIONS**

**BVM210 (WITH MULTI-LOCK)**

HANGER SIZE	ROD SIZE	CASING DIA	TOP PLATE WIDTH	CASING LENGTH 'L'			ROD TAKE OUT			THRD DEPTH TYPE A	TYPES B & C					TYPE F, H & K					TYPE G			LOADED LENGTH 'X'								WEIGHT Kg (Estimated)												
				TYPES			TYPES				DIMENSIONS					BASE FLANGE SQUARE	PCD BASE FLANGE	BASE FLANGE BOLTS	BASE FLANGE THICK	LOAD FLANGE SQUARE	LOAD FLANGE THICK	SPACE BETWEEN CHANNEL 'W'	P	BEAM SECTION			TYPE A & G		TYPE B & C		TYPE D		TYPE F		TYPES									
				A	B	C	D	E	F		A	B	C	G	N									U	H	R	S	T	900MM ROD CENTRES	1300MM ROD CENTRES	1800MM ROD CENTRES	MIN	MAX	MIN	MAX	MIN	MAX	K	MIN	MAX	A, B, C	D, E	F	G
				O	M	TW	A, B & C	D & G	F		A	B & C	G	N	U									H	R	S	T	BASE FLANGE SQUARE	PCD BASE FLANGE	BASE FLANGE BOLTS	BASE FLANGE THICK	LOAD FLANGE SQUARE	LOAD FLANGE THICK	SPACE BETWEEN CHANNEL 'W'	P	900MM ROD CENTRES	1300MM ROD CENTRES	1800MM ROD CENTRES	MIN	MAX	MIN	MAX	MIN	MAX
0	M12	114	170	505	505	505	477	527	48	12	18	39	32	22	6	150	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	584	794	655	865	529	739	24	567	777	11	9	13	31					
1	M12	114	170	556	556	556	537	587	56	12	18	39	32	22	6	180	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	644	854	715	925	580	790	24	618	828	12	11	15	32					
2	M12	114	170	613	613	613	593	643	55	12	18	39	32	22	6	150	160	M16	6	130	6	16	38	75 PFC	75 PFC	75 PFC	700	910	771	981	637	847	24	675	885	14	13	17	36					
3	M12	160	215	541	541	541	519	569	65	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	626	836	697	907	565	775	24	603	813	16	14	18	39					
4	M12	160	215	589	589	589	572	622	70	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	679	889	750	960	613	823	24	651	861	16	14	19	40					
5	M12	160	215	643	643	643	623	673	68	12	18	39	32	22	6	200	197	M20	6	130	6	20	51	75 PFC	75 PFC	75 PFC	730	940	801	1011	667	877	24	705	915	18	16	20	44					
6	M16	180	245	643	639	637	612	666	62	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	727	937	798	1008	672	882	33	716	926	27	22	29	61					
7	M16	180	245	715	711	709	694	748	71	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	809	1019	880	1090	744	954	33	788	998	29	25	32	64					
8	M16	180	245	751	747	745	716	770	57	16	22	39	32	27	10	220	203	M20	8	150	10	25	51	75 PFC	75 PFC	75 PFC	831	1041	902	1112	780	990	33	824	1034	36	31	39	79					
9	M20	240	320	758	752	744	717	781	80	20	26	45	35	32	10	260	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	839	1049	919	1129	791	1001	38	815	1025	52	45	54	118					
10	M20	240	320	854	848	840	816	880	84	20	26	45	35	32	10	260	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	938	1148	1018	1228	887	1097	39	911	1121	57	49	58	121					
11	M20	240	320	695	689	681	664	728	90	20	26	45	35	37	10	260	268	M20	8	180	12	32	76	75 PFC	75 PFC	100 PFC	786	996	866	1076	728	938	39	752	962	54	47	56	116					
12	M24	240	335	747	741	733	701	768	113	32	32	56	35	41	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	845	1055	936	1146	788	998	47	804	1014	67	56	65	140					
13	M30	240	355	948	942	934	885	977	97	32	38	61	49	48	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	1032	1242	1142	1352	999	1209	57	1029	1239	85	70	103	175					
14	M30	240	355	957	951	943	900	992	102	32	38	61	49	46	12	260	268	M20	8	180	12	38	102	100 PFC	100 PFC	125 PFC	1047	1257	1157	1367	1008	1218	57	1038	1248	95	79	112	194					
15	M30	230	365	983	973	963	929	1025	109	36	38	61	49	51	12	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	1080	1290	1190	1400	1030	1240	57	1067	1277	130	112	147	277					
16	M36	250	385	1170	1160	1150	1110	1230	104	36	46	85	49	60	20	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	1267	1477	1401	1611	1228	1438	68	1254	1464	176	149	188	370					
17	M42	250	410	1326	1316	1306	1273	1398	110	36	50	90	74	67	20	265	278	M20	10	200	16	45	102	150 PFC	150 PFC	200 PFC	1448	1658	1612	1822	1391	1601	75	1410	1620	206	169	209	431					

FOR SIZES 18 TO 22, PLEASE CONTACT BINDER GROUP

**10.10 BV & BVM VARIABLE LOAD SPRING SUPPORTS – QUOTE REQUEST FORM (FM220)**

**CUSTOMER DETAILS**

Customer Name		Phone No.	
Project Reference		Email	
Contact			
BPG No. (Binder Use only)		Date	

**INFORMATION REQUIRED FOR QUOTATION ("COLD" means Non-operating, "HOT" means Operating)**

A Variable Effort Model, Type, Size and Finish e.g. 730202 HDG is required to be nominated by the Customer. OR the Customer shall nominate a Model, Type and Finish, and BINDER determine the size based on customers specific Load and Travel requirements :

Supply Cold Load and Travel – Hot load calculated (Travel is always Cold to Hot)

"COLD" \_\_\_\_\_ (kg) VERTICAL TRAVEL (Y) (mm) \_\_\_\_\_ Up \_\_\_\_\_ Down  
 LOAD or \_\_\_\_\_ (N) AXIAL (X) (mm) \_\_\_\_\_ +ve \_\_\_\_\_ -ve  
 or \_\_\_\_\_ (lbs) LATERAL (Z) (mm) \_\_\_\_\_ +ve \_\_\_\_\_ -ve

OR Supply Hot Load and Travel – Cold load calculated

"HOT" \_\_\_\_\_ (kg) VERTICAL TRAVEL (Y) (mm) \_\_\_\_\_ Up \_\_\_\_\_ Down  
 LOAD or \_\_\_\_\_ (N) AXIAL (X) (mm) \_\_\_\_\_ +ve \_\_\_\_\_ -ve  
 or \_\_\_\_\_ (lbs) LATERAL (Z) (mm) \_\_\_\_\_ +ve \_\_\_\_\_ -ve

**Locking Device: (All Types)**

A Preset stop is supplied with all Binder Variable Load Spring Supports "BV".

If a Multi-locking device is required (BVM), tick the below box.

Multi-locks (additional cost over standard design)

HYDROSTATIC TEST LOAD  YES / NO \_\_\_\_\_ (kg)

PTFE SLIDE  YES / NO Only available on F Type load flange. Load flange is square.

TO BE HOT INSTALLED  YES / NO Spring will be set to Hot Load, Travel will still be shown as Cold to Hot

Support Type (A, B, C, D, F ..etc) \_\_\_\_\_ PREFERRED SPRING RATE \_\_\_\_\_ N/mm \_\_\_\_\_ kg/mm

**SURFACE FINISH (Select Required Finishes)**

**Variable Unit (Casing, Turnbuckle etc)**

HDG (Standard)  
 Paint – Binder System 1  
 Blast and Prime  
 Client paint spec: \_\_\_\_\_  
 Top Coat Color: \_\_\_\_\_

**Spring Coil**

Acrylic Paint (Standard)  
 Neoprene Coated  
 Plastic Coated

**Threaded Load Tube on F, H and K Types (Painting not available)**

HDG  
 Zinc Plated  
 Other (Please specify): \_\_\_\_\_

**INFORMATION REQUIRED FOR VARIABLE EFFORT SUPPORT 'HANGER ASSEMBLY'**

**Envelope for Hanger Assembly**

• Bottom of Support Steel Elevation 1: \_\_\_\_\_ mm  
 • Pipe Centreline Elevation 2: \_\_\_\_\_ mm Or Length of Drop Rod: \_\_\_\_\_ mm  
 Pipe Size: \_\_\_\_\_ NB Clamp Finish \_\_\_\_\_ (HDG/Paint/Mill)  
 Pipe Operating Temp: \_\_\_\_\_ °C Hanger Components Finish \_\_\_\_\_ (HDG/Mill)  
 Insulation Thickness: \_\_\_\_\_ mm Locknuts are usually supplied 1 per forging

**NOTE : Variable Effort Supports cannot be completed without load and travel data. Binder needs to factory preset the support to match the client's supporting load (Preset load). Without this load data the client is likely to have difficulty in installing the spring support.**