

# Pressure & Flame Protection



**Bailey**

**716 High Lift Safety Valves**

## DEFINITIONS

### Set Pressure

The pressure measured at the valve inlet at which a safety relief valve should commence to lift under service conditions.

### Overpressure

The pressure increase above set pressure at the valve inlet at which the discharge capacity is attained. Usually expressed as a percentage of set pressure.

### Accumulation

The pressure increase over a maximum safe working pressure of the vessel or system when the safety relief valve is discharging at its rated capacity is called accumulation. The term refers to the vessel or system to be protected and not to the valve. Accumulation is the same as over-pressure when the valve is set at the design pressure of the vessel.

### Re-Seat Pressure

The pressure measured at the valve inlet at which the safety relief valve closes.

### Blow-Down

The difference between the set pressure and the re-seating pressure expressed as a percentage of the set pressure or as a pressure difference.

### Simmer

The pressure zone between the valve set pressure and the popping pressure. In this pressure zone the valve is only slightly open and therefore discharging a small percentage of its rated capacity.

### Popping Pressure

The pressure at which the valve disc rapidly moves from a slightly open (simmer) position to a practically full open position.

### Superimposed Back Pressure

Pressure higher than atmosphere in the safety relief valve outlet. This may result from discharge into the common disposal system of other safety relief valves or devices, or as a result of a specific design requirement. Back pressure can be either constant or variable depending on the operating conditions.

### Built Up Back Pressure

The pressure existing at the outlet of a safety relief valve caused by flow through the valve into the disposal system.

### Differential Set Pressure

This is the difference between the set pressure and the constant superimposed back pressure. It is applicable only when a conventional type safety relief valve is used to discharge against constant superimposed back pressure. (It is the pressure at which the safety valve is set at on the test bench without back pressure.)

### Cold Differential Set Pressure

The pressure at which a safety relief valve, intended for high temperature service, is set on a test rig using a test fluid at ambient temperature. The cold differential test pressure will be higher than the set pressure, in order to compensate for the effect of elevated temperature on the valve.

### Valve Lift

The actual travel of the valve disc away from the seat when the valve is relieving.

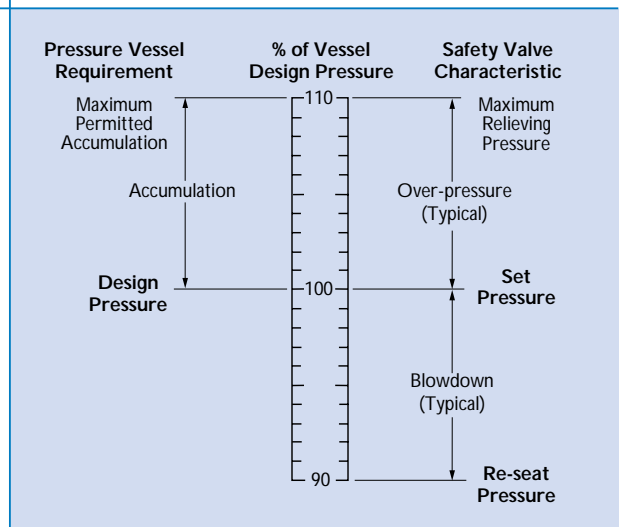
### Discharge Capacity

Actual rate of discharge of service media, which can be expressed in mass flow or volumetric terms.

### Equivalent Capacity

Calculated mass or volumetric flow rate of the valve of a given test fluid. The fluids commonly used for test purposes are steam, air and water.

## PRESSURE TERM RELATIONSHIP



Note: System operating pressure must always be less than the re-seat pressure.

# 716 Safety Relief Valve



## DESIGN

The 716 Safety Relief Valve combines a top guided, unobstructed seat bore with full lift capability to provide maximum discharge capability.

Positive reseating is achieved with freely pivoting EPDM discs for gas, hot water and other liquid duties up to 150°C. Optional Aflas soft seats increase the range to 200°C. Precision lapped stainless steel trim gives positive re-seating for steam duty at higher temperatures. Fitted with a test lever for inline safety checking, or alternatively with a sealed dome for service conditions requiring a pressure tight seal on the discharge side, eg. liquid service.

## TECHNICAL SPECIFICATION

### Approvals

BS6759 Pt 1, 2, & 3  
PED certified Category IV

### Materials

Body - Bronze (-29 to 220°C)  
- Stainless Steel (-29 to 260°C)  
- Cast Iron (0 to 220°C)  
Trim - St. St. / EPDM (-29 to 150°C)  
- St. St. / Aflas (-29 to 200°C)  
- St. St. (-29 to 260°C)

### Size Range

Size	Orifice mm <sup>2</sup>	Min (Barg) Pressure	Max Pressure (Barg)		
			CI & SS All media	Bronze Gas & liquid	Bronze Steam & hot water
DN15 (1/2")	109	0.35	12.5	32	22
DN20 (3/4")	314	0.35	12.5	24.5	22
DN25 (1")	415	0.35	12.5	20.5	20
DN32 (1 1/4")	660	0.35	12.5	18	18
DN40 (1 1/2")	1075	0.35	12.5	18	18
DN50 (2")	1662	0.35	12.5	18	18

### Performance

	Kdr	Over pressure	Blow down
Steam	0.7	5%	15%*
Hot water	0.7	5%	15%*
Air / Gas	0.7	10%	10%*
Liquid	0.46	10%	20%†

\*or 0.3 Barg min for 0.6 Barg min

### Maximum Back Pressure

Barg	5.5
Constant	80%
Built-up	10%
Variable	0%

(Total % must not exceed Barg shown)

### Connections

Screwed In x Screwed Out (not CI)  
Flanged In x Screwed Out (not CI)  
Flanged In x Flanged Out (CI only)

### Construction

Top Guided / Full Lift

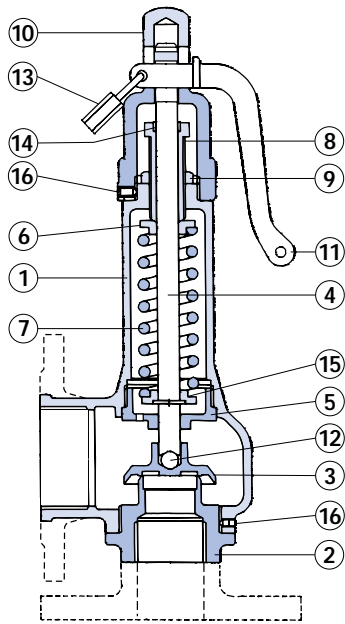
### Cap Options

Open lever  
Pressure tight dome

### Sizing

Refer to Capacity Charts

## PARTS



ITEM	PART	MATERIAL		
		Cast Iron	St.St.	Bronze
1	Body	Cast Iron	St.St	Bronze
2	Seat	St.St	St.St	Bronze
3*	Disc	Various	Various	Various
4	Spindle	Brass	St.St	Brass
5	Guide	Bronze	Nickel alloy	Bronze
6	Top Spring Cap	Brass	St.St	Brass
7*	Spring	Chrome vanadium	St.St	Chrome vanadium
8	Adjusting Screw	Brass	St.St	Brass
9	Lock Nut	Brass	St.St	Brass
10†	Dome	Nylon	St.St	Nylon
11	Lever	Bronze	N/A	Brass
12*	Ball	St.St	Monel	St.St
13	Padlock	Brass	N/A	Brass
14	Bush	PTFE	PTFE	PTFE
15	Bottom Spring Cap	Brass	St.St	Brass
16	Pinning Screw	Steel	St.St	Brass

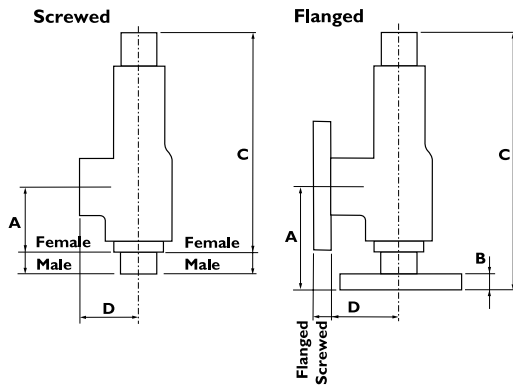
Note:

\* Recommended spares.

† Synthetic dome should not be adjacent to external heat sources.

Flange options: BS10 Table E, F and H, BS4504, PN16/25 and ANSI 150.

## DIMENSIONS



Valve Type	Valve Size	Inlet	Outlet	A	B	'C' Dome	'C' Lever	D	Weight (kg)
Male x Female	DN15	1/2"	3/4"	58	-	173	192.5	40	1.0
	DN20	3/4"	1 1/4"	63	-	229	252	55	1.6
	DN25	1"	1 1/2"	70	-	257	280	60	2.1
	DN32	1 1/4"	2"	80	-	318.5	351	70	4.0
	DN40	1 1/2"	2 1/2"	91	-	366.5	405.5	81	7.0
	DN50	2"	3"	110	-	414.5	456.5	96	10.0
Female x Female	DN15	1/2"	3/4"	40	-	158	178	40	1.0
	DN20	3/4"	1 1/4"	44	-	209	232	55	1.6
	DN25	1"	1 1/2"	48	-	235	258	60	2.1
	DN32	1 1/4"	2"	58	-	295	328	70	4.0
	DN40	1 1/2"	2 1/2"	67	-	340	380	81	7.0
	DN50	2"	3"	80	-	382	424	96	10.0
Flange x Female	DN20	3/4"	1 1/4"	75	10	242	265	55	2.5
	DN25	1"	1 1/2"	75	11	261	284	60	3.2
	DN32	1 1/4"	2"	95	12.7	332	365	70	5.7
	DN40	1 1/2"	2 1/2"	105	12.7	379	418	81	9.0
	DN50	2"	3"	120	12.7	422	464	96	12.5
Flange x Flange	DN25	1"	1 1/2"	105	11	293	316	100	6.6
	DN32	1 1/4"	2"	115	12.7	353	386	110	10.4
	DN40	1 1/2"	2 1/2"	140	12.7	415	454	115	15.6
	DN50	2"	3"	150	12.7	454	496	120	21.4

All dimensions in mm

## FIGURE NUMBERING

716

CODE	TRIM	BODY	CONNECTIONS	CAP
AS BS	St. Steel Aflas	St. Steel	Screwed in and out (Inlet available Male or Female)	D Pressure tight dome
ES VS SS	EPDM Aflas St. Steel	Bronze		
AF BF	St. Steel Aflas	St. Steel	Flanged in screwed out	L Open lever
EF VF SF	EPDM Aflas St. Steel	Bronze		
CF DF FF	EPDM Aflas St Steel	Cast Iron		

## AIR CAPACITY CHART (l/s) @ 0.3 Barg or 10% overpressure\* and 15°C

Set Pressure (Barg)	Valve Type 707 BS EN ISO 4126 Pt 1 (BS6759 Pt 1:2:3)						Valve Type 716 (BS6759 Pt2)						
	DN15	DN20	DN25	DN32	DN40	DN50	DN15	DN20	DN25	DN32	DN40	DN50	
0.35	3.93	11.4	15.0	24.7	38.7	60.6	18.3	52.6	69.6	111	180	279	
1.0	8.28	23.9	31.6	52.0	81.5	128	31.2	89.9	119	189	308	476	
2.0	13.6	39.1	51.7	85.0	133	209	48.8	140	186	295	481	744	
3.0	18.3	52.8	69.8	115	180	282	63.5	183	242	384	626	968	
4.0	22.9	66.3	87.6	144	226	354	79.7	230	303	482	786	1215	
5.0	27.6	79.7	105	173	272	426	95.9	276	365	580	945	1462	
6.0	32.3	93.2	123	203	317	497	112	323	427	678	1105	1708	
7.0	36.9	107	141	232	363	569	128	369	488	776	1265	1955	
8.0	41.6	120	159	261	409	641	144	416	550	874	1424	2202	
9.0	46.2	134	177	290	455	713	161	463	611	972	1584	2449	
10.0	50.9	147	194	320	501	785	177	509	673	1070	1744	2696	
12.0	60.2	174	230	378	593	929	209	603	796	1267	2063	3189	
12.5	66.6	181	239	393	616	965	217	626	827	1316	2143	3313	
14.0	69.5	201	265	437	684	1072	242	696	920	1463	2382	3683	
16.0	78.9	228	301	495	776	1216	274	789	1043	1659	2701	4177	
18.0	88.2	255	337	554	868	1360	306	882	1166	1855	3021	4670	
20.0	97.5	282	372	612	960	1504	339	976	1289				
22.0	107	309	408	671	1051	1647	371	1069					
24.0	116	336	443	729	1143	1791	403	1162					
26.0							436		Maximum pressure per size based on 716 bronze valve.				
28.0	Useful Conversions							468		716 C1 and SS maximum pressure 12.5 Barg.			
	Nm <sup>3</sup> /h = 1/sec x 3.60							501					
	SCFM = 1/sec x 2.12												
30.0							533						
32.0													

\* Minimum overpressure = 0.07 Barg at set pressure less than 1.0 Barg.

### Other Gases

If you wish to use the valve on other compatible gases, the sizing details above can be used. The valve capacity will however change depending on the specific gravity of the flowing gas. Multiply the valve air capacity by  $1/\sqrt{SG}$  to give the gas capacity. SG = specific gravity (relative to air = 1).

716H (ASME VIII) Air Capacity @ 10% Overpressure & 15°C		
Set Pressure	No.6 Orifice	No.7 Orifice
Barg	l/s	l/s
1	–	37
10	–	210
20	–	403
30	–	595
40	–	787
50	–	980
51	407	999
60	478	–
80	635	–
100	791	–
102	807	–

## SATURATED STEAM CAPACITY CHART (kg/h)

Set Pressure (Barg)	Valve Type 707 BS EN ISO 4126 pt 1 (BS6759 pt 1:2:3 @ 10% Overpressure*)						Valve Type 716 (BS6759 Pt1 @ 5% Overpressure)†						
	DN15	DN20	DN25	DN32	DN40	DN50	DN15	DN20	DN25	DN32	DN40	DN50	
0.35	9.68	28.0	37.0	60.8	95.3	149	35.6	103	136	216	351	543	
1.0	22.6	65.2	86.2	142	222	348	70.5	203	269	427	696	1075	
2.0	35.9	104	137	225	353	553	125	359	475	755	1230	1902	
3.0	47.8	138	182	300	470	737	167	480	635	1010	1645	2543	
4.0	59.3	171	226	372	583	914	209	602	795	1265	2060	3185	
5.0	76.6	221	292	481	753	1181	251	723	955	1519	2475	3826	
6.0	89.0	257	340	559	876	1372	293	844	1115	1774	2889	4467	
7.0	99.9	289	381	627	983	1540	335	965	1276	2029	3304	5108	
8.0	112	324	428	705	1104	1731	377	1086	1436	2283	3719	5750	
9.0	123	355	469	771	1208	1893	419	1207	1596	2538	4134	6391	
10.0	135	390	515	848	1329	2082	461	1329	1756	2793	4549	7032	
12.0	157	454	600	987	1548	2425	545	1571	2076	3302	5378	8315	
12.5	167	482	637	1048	1642	2573	566	1632	2156	3429	5586	8636	
14.0	182	524	693	1140	1787	2799	629	1831	2397	3811	6208	9598	
16.0	201	606	801	1318	2066	3237	714	2056	2717	4321	7038	10880	
18.0	243	702	928	1527	2393	3750	798	2298	3037	4830	7867	12163	
20.0	256	739	977	1606	2518	3946	882	2540	3357				
22.0	284	822	1086	1786	2799	4386	966	2783					
24.0	308	889	1174	1931	3027	4743							
26.0	<b>Useful Conversions</b>												
28.0	lbs/h = kg/h x 2.2046												
30.0													

\* Minimum overpressure = 0.07 Barg at set pressure less than 0.7 Barg.

† Minimum overpressure = 0.07 Barg at set pressure less than 1.0 Barg.

### Other Temperatures

The steam tables on these pages are based on saturated steam, at the temperatures shown.

For steam systems operating at higher temperatures, the above capacities will need to be derated by using the super heat correction factor. Refer to page 30.

716H (ASME VIII) Steam Capacity @ 10% Overpressure		
Set Pressure	No.6 Orifice	No.7 Orifice
Barg	kg/h	kg/h
1	–	100
10	–	567
20	–	1086
30	–	1605
40	–	2124
50	–	2643
51	1098	2695
60	1289	–
80	1712	–
100	2135	–
102	2177	–

## WATER CAPACITY CHART (l/min) @ 10% overpressure\* @ 20°C

Set Pressure (Barg)	Valve Type 707 (BS6759 Pt3)						Valve Type 716 (BS6759 Pt3)					
	DN15	DN20	DN25	DN32	DN40	DN50	DN15	DN20	DN25	DN32	DN40	DN50
0.35	10.3	29.8	39.4	64.8	102	159	27.6	79.4	105	167	272	420
1.0	16.7	48.3	63.8	105	164	258	44.6	129	170	270	440	680
2.0	23.6	68.3	90.2	148	233	364	63.1	182	240	382	622	962
3.0	28.9	83.6	110	182	285	446	77.3	223	294	468	762	1178
4.0	33.4	96.5	128	210	329	515	89.3	257	340	540	880	1361
5.0	37.4	108	143	235	368	576	99.8	287	380	604	984	1521
6.0	40.9	118	156	257	403	631	109	315	416	662	1078	1667
7.0	44.2	128	169	278	435	682	118	340	449	715	1164	1800
8.0	47.3	137	180	297	465	729	126	364	481	764	1245	1924
9.0	50.1	145	191	315	493	773	134	386	510	811	1320	2041
10.0	52.8	153	202	332	520	815	141	406	537	854	1392	2152
12.0	57.9	167	221	363	570	893	155	445	589	936	1525	2357
12.5	59.1	171	226	371	581	911	158	454	601	955	1556	2406
14.0	62.5	181	239	392	615	964	167	481	636	1011	1647	2546
16.0	66.8	193	255	420	658	1031	179	514	680	1081	1760	2722
18.0	70.9	205	271	445	698	1093	189	545	721	1146	1867	2887
20.0	74.7	216	285	469	735	1152	200	575	760			
22.0	78.4	226	299	492	771	1208	209	603				
24.0	81.9	236	312	514	806	1262	219	639				
26.0							227					
28.0							236					
30.0							244					
32.0							252					
34.0												
36.0												
38.0												
40.0												

\* Minimum overpressure = 0.07 Barg at set pressure less than 0.7 Barg.

### Useful Conversions

l/gpm = 1/min x 0.22

m<sup>3</sup>/min = 1/min x 0.001

### Other Liquids

If you wish to use the valve on other compatible liquids, the sizing details above can be used. The valve capacity will however change depending on the specific gravity of the flowing liquid. Multiply the valve water capacity by  $1/\sqrt{SG}$  to give the liquid capacity.

SG = specific gravity (relative to water = 1).

## HOT WATER CAPACITY CHART (kW) FOR A PRESSURISED (un-vented) SYSTEM

Set Pressure (Barg)	Valve Type 707 (BS6759 Pt1 @ 10% Overpressure)*						Valve Type 716 (BS6759 Pt1 @ 5% Overpressure)†					
	DN15	DN20	DN25	DN32	DN40	DN50	DN15	DN20	DN25	DN32	DN40	DN50
0.35	6.88	19.9	26.3	43.2	67.7	106	54.5	157	208	330	538	832
1.0	14.0	40.5	53.5	88.0	138	216	61.9	178	236	374	611	944
2.0	22.9	66.3	87.5	144	226	354	78.2	225	298	473	771	1192
3.0	30.9	89.4	118	194	304	477	105	301	398	633	1031	1594
4.0	38.8	112	148	244	382	599	131	377	498	792	1291	1996
5.0	46.7	135	178	293	460	720	157	453	599	952	1551	2398
6.0	54.6	158	208	343	537	842	184	529	699	1112	1811	2799
7.0	62.5	181	239	392	615	964	210	605	799	1271	2071	3201
8.0	70.4	203	269	442	693	1085	236	681	900	1431	2331	3603
9.0	78.3	226	299	491	770	1207	263	757	1000	1590	2591	4005
10.0	86.2	249	329	541	848	1329	289	833	1100	1750	2851	4407
12.0	102	294	389	640	1003	1572	342	984	1301	2069	3370	5211
12.5	106	306	404	665	1042	1633	355	1022	1351	2149	3500	5412
14.0	118	340	449	739	1158	1815	394	1136	1501	2388	3890	6015
16.0	133	386	510	838	1314	2059	447	1288	1703	2708	4410	6818
18.0	149	431	570	937	1469	2302	500	1440	1903	3027	4930	7622
20.0	165	477	630	1036	1624	2545	553	1592	2104			
22.0	181	522	690	1135	1780	2788	605	1744				
24.0	197	568	751	1234	1935	3032						
26.0												
28.0												
30.0												
32.0												
34.0												
36.0										Maximum pressure per size based on 716 bronze valve.		
38.0												
40.0										For 716 C1 and SS maximum pressure 12.5 barg.		

\* Minimum overpressure = 0.07 Barg at set pressure less than 0.7 Barg.

† Minimum overpressure = 0.07 Barg at set pressure less than 1.0 Barg.

### Note

**Pressurised (un-vented) hot water systems** have the entire discharge capacity handled solely by the valve.

**Open vented systems** take into account the discharge capacities of the vent. Hence the equivalent discharge of the valve/system is considered to be double the above chart capacities.



## INSTALLATION

Safety Relief Valves should always be installed in an upright position with their spring chamber vertical. All packing materials should be removed from the valve connections prior to installation.

### Pressure Vessels

When fitting a Safety Relief Valve onto pressure vessels, the inlet connection pipe should be as short as possible and the bore should be at least equivalent to the nominal bore size of the valve.

The pressure drop between the vessel and the valve should be no more than 3% at rated capacity.

A pressure-tight dome should be specified when:

- 1) A back pressure must be contained within the relieving system.
- 2) A head of liquid is built up within the valve body and consequently needs to be contained.
- 3) The relieving medium is toxic, corrosive or environmentally unfriendly.

### Pipelines

When fitting a Safety Relief Valve into a pipeline, the inlet connecting pipe leading from the main pipeline to the Safety Relief Valve should be as short as possible, so that the inlet pressure drop is no more than 3% of rated capacity.

In addition, it is advised that the Safety Relief Valve is placed a sufficient distance downstream of the pressure source. This will protect the valve from the adverse effects of pressure pulsations.

### Discharge Pipelines

These should be equal to or larger than the valve outlet, with adequate supports, minimum number of bends and overall length. Unless balanced bellows valves are installed, the maximum built up backpressure should not exceed 10% of the set pressure, although the 746, 756 and the 766 can handle higher back pressure if required. Steam service valves should be adequately drained.

Alignment of the discharge or drain should present no risk to persons or property. Protection from the collection of rainwater or condensation in the discharge pipe is advisable.

### System Cleansing

It is essential that new installations are fully flushed and all debris removed prior to installing the valve as serious damage can be caused to valve seats, resulting in subsequent leakage.

### Pressure Adjustment

Every valve is fitted with a suitable spring and tested before leaving the factory. Valves can be preset on request but to alter the set pressure, the adjusting screw, when viewed from the top, should be screwed downwards in a clockwise direction to increase the set pressure and upwards in an anti-clockwise direction to decrease it. Set pressure adjustment must be carried out by experienced and approved personnel. Any change in set pressure must be within the range of the existing spring, if it exceeds the range, a new spring will be required. The cap lead seal must be re-made after any adjustment to the set pressure.

## COLD DIFFERENTIAL TEST PRESSURE

When setting a valve intended for use at high temperature on a test rig using a test fluid at ambient temperatures, it is necessary to set the valve at a slightly higher pressure, so that it will open at the correct set pressure under operating conditions. The necessary allowance is shown in the following table.

Operating temperature	Increase in set pressure at ambient temperature
Up to 121°C	None
122°C to 316°C	1%
317°C to 427°C	2%

## 716 SPRING SELECTION CHARTS

DN15 Spring Range				DN32 Spring Range			
Part No	Barg	Psig	Colour code	Part No	Barg	Psig	Colour code
C0074	0.35 – 1.0	5 – 15	Red	C0452	0.35 – 1.0	5 – 14	Red
C2133	1.0 – 1.7	15 – 25	Blue	C0457	1.0 – 1.7	14 – 25	Blue
C2134	1.7 – 2.4	25 – 35	Orange	C0461	1.7 – 3.1	25 – 45	Orange
C2135	2.4 – 4.1	35 – 60	Orange/Blue	C0467	3.1 – 4.1	45 – 60	Orange/Blue
C2136	4.1 – 6.9	60 – 100	Green/White	C0469	4.1 – 5.5	60 – 80	Purple
C2137	6.9 – 10.3	100 – 150	Green/Blue	C0472	5.5 – 8.6	80 – 125	Green/White
C2138	10.3 – 12.4	150 – 180	White/Blue	C0475	8.6 – 10.3	125 – 150	Green/Blue
C2181	12.4 – 15.5	180 – 225	—	C0476	10.3 – 12.8	150 – 185	White/Blue
C0623	15.5 – 18.6	225 – 270	White	C0477	11.4 – 13.8	166 – 200	—
C2169	18.6 – 22.1	270 – 320	—	C0478	12.6 – 15.2	183 – 220	—
C0645	22.1 – 26.5	320 – 384	Red/Yellow	C0479	13.9 – 16.8	202 – 243	—
C2201	26.5 – 27.6	384 – 400	—	C0480	15.4 – 18.5	223 – 268	—
C0651	27.6 – 32.0	400 – 464	Red/Green				

DN20 Spring Range				DN40 Spring Range*			
Part No	Barg	Psig	Colour code	Part No	Barg	Psig	Colour code
C0686	0.35 – 1.0	5 – 14	Red	C0508	0.35 – 1.0	5 – 14	Red
C0688	1.0 – 2.1	14 – 30	Blue	C0492	1.0 – 1.7	14 – 25	Blue
C0689	2.1 – 2.8	30 – 40	Orange	C0495	1.7 – 3.1	25 – 45	Orange
C2125	2.8 – 3.8	40 – 55	Orange/Blue	C0498	3.1 – 4.1	45 – 60	Orange/Blue
C0690	3.8 – 5.5	55 – 80	Purple	C0499	4.1 – 5.5	60 – 80	Purple
C2126	5.5 – 7.6	80 – 110	Green/White	C0501	5.5 – 8.6	80 – 125	Green/White
C0691	7.6 – 10.3	110 – 150	Green/Blue	C0503	8.6 – 10.3	125 – 150	Green/Blue
C2127	10.3 – 12.4	150 – 180	White/Blue	C0504	10.3 – 12.8	150 – 185	White/Blue
C2178	12.4 – 15.5	180 – 225	—	C0505	11.4 – 13.8	166 – 200	—
C0693	15.5 – 18.6	225 – 270	White	C0506	12.6 – 15.2	183 – 220	—
C2170	18.6 – 20.3	270 – 295	—	C0507	15.4 – 18.5	223 – 268	—
C0694	20.3 – 24.5	295 – 355	Red/Yellow				

DN25 Spring Range				DN50 Spring Range*			
Part No	Barg	Psig	Colour code	Part No	Barg	Psig	Colour code
C2119	0.35 – 1.0	5 – 14	Red	C0919	0.35 – 1.0	5 – 14	Red
C2120	1.0 – 1.7	14 – 25	Blue	C0922	1.0 – 1.7	14 – 25	Blue
C2121	1.7 – 3.1	25 – 45	Orange	C0924	1.7 – 3.1	25 – 45	Orange
C2114	3.1 – 4.1	45 – 60	Orange/Blue	C1400	3.1 – 4.1	45 – 60	Orange/Blue
C2113	4.1 – 5.5	60 – 80	Purple	C0928	4.1 – 5.5	60 – 80	Purple
C2122	5.5 – 8.6	80 – 125	Green/White	C0930	5.5 – 8.6	80 – 125	Green/White
C2123	8.6 – 10.7	125 – 155	Green/Blue	C0933	8.6 – 10.3	125 – 150	Green/Blue
C2124	10.7 – 12.8	155 – 185	White/Blue	C0934	10.3 – 12.8	150 – 185	White/Blue
C2202	12.8 – 13.2	185 – 192	—	C0935	11.4 – 13.8	166 – 200	—
C2234	13.2 – 15.4	192 – 223	—	C0936	12.8 – 15.4	185 – 223	—
C2203	15.4 – 17.6	223 – 255	—	C0937	14.5 – 17.4	210 – 253	—
C2235	17.6 – 20.5	255 – 297	—	C0939	15.4 – 18.5	223 – 268	—

Springs up to 12.5 Barg (181 Psig) listed above for all materials comply with the requirements of BS6759:Part 1.

The cast iron 716 is only available up to 13 Barg (188 Psig) on any medium.

The stainless steel 716 is only available up to 12.5 Barg (181 Psig) on any medium.

Stainless steel springs are available for 716 to the same pressures as shown above.

\*DN40 and DN50 716 valves with PTFE trim can not have their springs selected from the above two charts. Refer to factory.