TYPE D PRESSURE REDUCING VALVE

The Type D pressure reducing valves are high performance valves specifically designed to optimise the stringent requirements of the fluids handling industry. Principal features include high capacity, balanced internal parts which permit fluctuating inlet pressures and ensure a stable downstream pressure. Tight shut off results under no flow conditions. The Type D, by virtue of its inherent advanced design, yet simplicity, and a minimum of moving parts, provides maximum service life, reliability and accuracy of control. The Type D is also a **WRAS - Approved Product**, in sizes 2½" to 6".

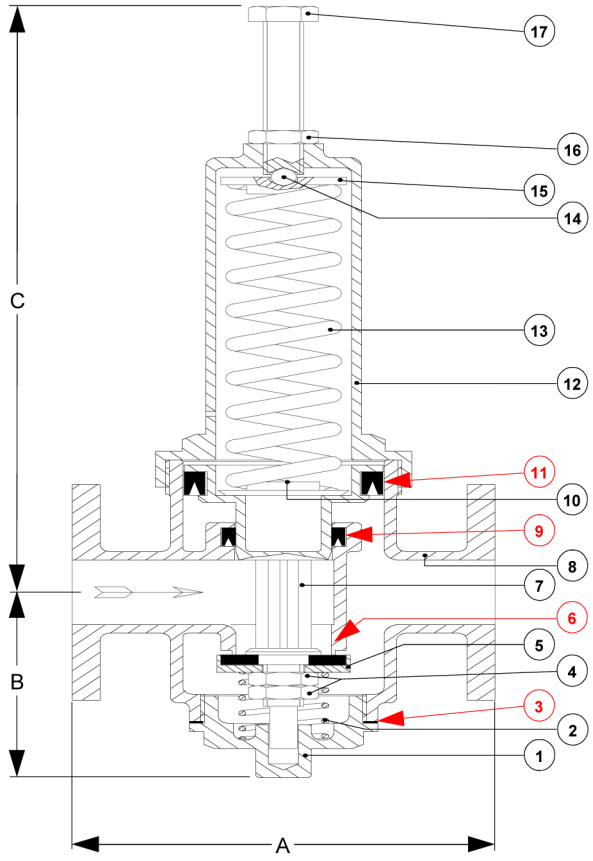
Valves are supplied in sizes ½" to 6" in SG Iron, Bronze, Stainless Steel or materials to suit the process requirements, with ends screwed female or alternatively flanged to customers requirements. Inlet pressures of up to 20.0 Barg can be accommodated, reduced pressure ranges of 0.35 - 13.8 Barg are possible. The maximum working temperature of the type D is 100°C.

Specification
All valves are supplied with a nitrile disc and seals for liquids as standard, but other materials are available on request.

Description of Action
High pressure fluid is admitted to the inlet port and acts both on the seat disc and smaller, lower piston areas, which are collectively balanced and therefore unaffected by any initial pressure variations. Compression of the spring opens the seat disc and permits the flow of fluid to the downstream pressure side of the valve, and through a cast internal port to the upper, larger piston chamber. At this point, the reduced pressure acts upon the upper piston area, creating an upward force, which opposes the downward spring load. Therefore, when the force of the reduced pressure in the upward direction exceeds the adjusted spring opening load, the seat disc tends to close, so restricting fluid flow through the valve and reducing its pressure until the desired set pressure is restored by the two forces in balance. Conversely, if the reduced pressure should fall, the spring load would be dominant and the seat disc would open, to permit a greater volume of fluid to flow until the set reduced pressure is reached and maintained at the valve outlet port.
Compressing the spring ***increases*** the reduced pressure, ***relaxing*** the spring ***decreases*** the reduced pressure.

Installation
All valves should be fitted in a horizontal pipeline with, flow in the direction of the arrow cast on the side of the body. The adjusting screw should be directly above or below the pipeline. The pipe must be clean and free from dirt, scale, etc. It is advisable to fit a stop valve on the high pressure side of the line. A relief valve should always be fitted where dead end conditions apply.

Typical Gunmetal Type D



Item	Description	Material
1	Cap	Gunmetal
2	Loading Spring	Stainless Steel
3	Joint, Cap	Non Asbestos
4	Locknuts	Aluminium Bronze
5	Disc holder	Aluminium Bronze
6	Disc	Nitrile
7	Spindle	Gunmetal
8	Body	Gunmetal
9	Seal, Small	Nitrile
10	Spring Locator	Brass
11	Seal, Large	Nitrile
12	Dome	Gunmetal
13	Spring	Carbon Steel
14	Ball	Stainless Steel
15	Spring Carrier	Brass
16	Locknut	Brass
17	Adjusting Screw	Brass

Size	A Flanged	A Screwed	B	C
15NB	105	85	60	110
20NB	105	85	60	110
25NB	155	110	85	250
40NB	172	152	115	335
50NB	172	172	118	345
65NB	230	-	160	420
80NB	280	-	190	535
100NB	320	-	225	630
125NB	380	-	270	840
150NB	425	-	310	860

These Items are recommended spares.

TYPE D PRESSURE REDUCING VALVE

Water Capacities litres/min

Pressure Drop Barg	Size									
	15	**20**	**25**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
1	27	36	72	200	315	450	680	950	1290	1565
2	31	45	85	285	450	700	975	1290	1565	1930
3	36	54	100	315	565	885	1180	1520	1790	2200
4	40	60	108	385	635	1020	1340	1635	1995	2475
5	50	68	118	430	700	1110	1430	1750	2130	2630
6	72	90	145	475	770	1155	1500	1815	2270	2770
7	90	113	176	500	840	1200	1540	1885	2340	2860
8	-	-	-	520	860	1225	1565	1905	2405	2950