

Dual Spring Safety Valve

Type DSF

Description

This high lift safety valve is our standard recommendation for shell boilers and other plant items. Spring load is taken on the metal-to-metal seating with the PTFE facing functioning only as an efficient seal. Discharge capacities in accordance with BS 6759-1.



Applications

Dual spring safety valve is suitable for steam or Pressure vessels and piping systems containing gas and air.

Dimensions and pipe connections

▪ Cast iron Body Dimensions (approx.) in mm

Nominal size	Valve Dimensions and Standard of Flange														
	Inlet Flange (BS10 Table F)					Outlet Flange (BS10 Table A)							B	C	H
	Size	D1	N	O	P	Size	D2	Q	U	V	W	P			
1 ½"	2 ½" DN65	184	8	18	146	4" DN100	216	2	M16	2	18	178	216	174	575
2"	3" DN80	203	8	18	165	4" DN100	216	2	M16	2	18	178	242	184	645
2 ½"	4" DN100	229	8	18	190	5" DN125	254	2	M16	2	18	210	264	210	685
3"	5" DN125	279	8	22	235	6" DN150	279	2	M16	2	18	235	288	224	775

▪ **Cast steel Body** Dimensions (approx.) in mm

Nominal size	Valve Dimensions and Standard of Flange															
	Inlet Flange (BS10 Table H)						Outlet Flange (BS10 Table A)							B	C	H
	Raised Face	Size	D1	N	O	P	Size	D2	Q	U	V	W	P			
1 ½"	114 x 0.8	2 ½" DN65	184	8	22	146	4" DN100	216	2	M16	2	18	178	219	174	575
2"	127 x 0.8	3" DN80	203	8	22	165	4" DN100	216	2	M16	2	18	178	252	178	645
2 ½"	152 x 0.8	4" DN100	229	8	22	190	5" DN125	254	4	M16	4	18	210	275	210	685
3"	178 x 0.8	5" DN125	280	8	22	235	6" DN150	279	4	M16	4	18	235	297	224	775

Outlet flange

Q = No. of tapped holes

U = Thread size

V = No. of plain holes

W = Dia. of plain holes

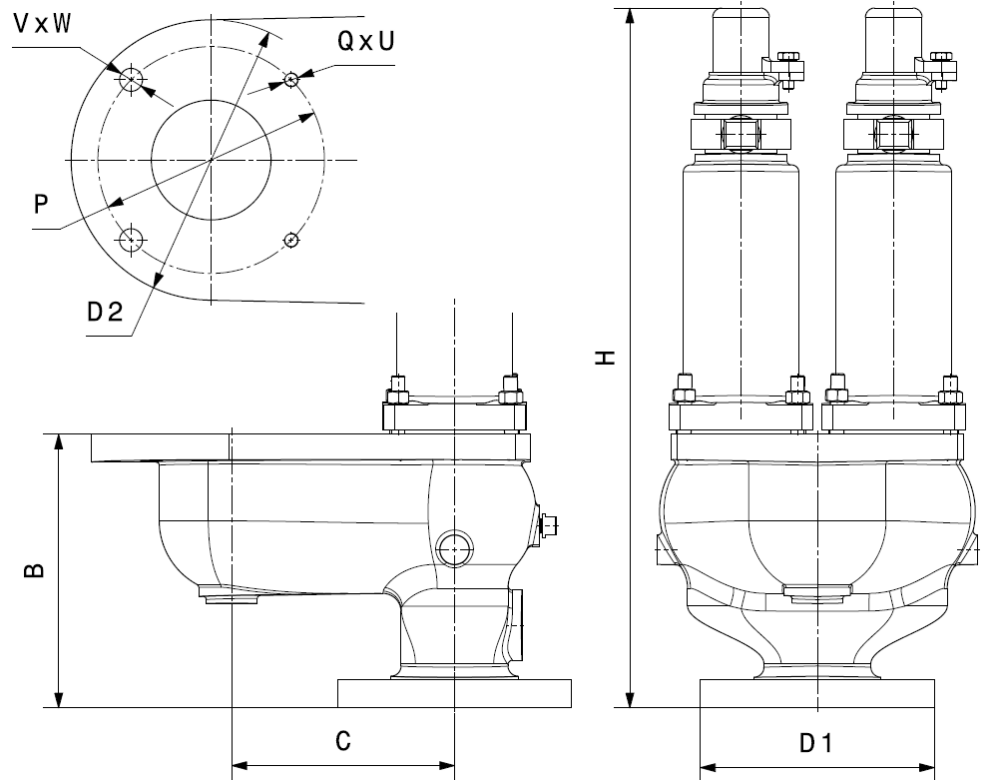
P = Pitch circle dia.

Inlet flange

N = No. of holes

O = Dia. of holes

P = Pitch circle dia.



Pressure/temperature rating

Body material	Maximum set pressure	Temperature
Cast iron	11 bar	Up to 220 °C
Cast steel	20 bar	Up to 224 °C

Capacities

Discharge capacity to BS6759 Part 1 1984.

Coefficient of discharge $K_{dr} = 0.37$ Overpressure 10%.

Set Pressure (gauge) bar	I Dry saturated steam II Air at 15°C (60°F) Capacities (kg/h)							
	Nominal size							
	1 ½"		2"		2 ½"		3"	
	I	II	I	II	I	II	I	II
1	839	1025	1311	1601	2216	2706	3357	4100
2	1279	1562	1998	2440	3377	4124	5116	6248
3	1719	2099	2685	3279	4539	5542	6875	8396
4	2159	2637	3372	4118	5700	6960	8634	10544
5	2599	3174	4059	4957	6861	8378	10393	12691
6	3039	3711	4746	5795	8022	9796	12152	14839
7	3479	4248	5433	6634	9183	11214	13911	16987
8	3919	4785	6120	7473	10345	12632	15670	19135
9	4359	5322	6807	8312	11506	14050	17429	21283
10	4798	5860	7494	9151	12667	15468	19188	23431
11	5238	6397	8181	9990	13828	16886	20947	25579
12	5678	6934	8868	10829	14989	18304	22706	27726
13	6118	7471	9555	11668	16151	19722	24465	29874
14	6558	8008	10242	12507	17312	21140	26223	32022
15	6998	8546	10929	13345	18473	22558	27982	34170
16	7438	9803	11616	14184	19634	23976	29741	36318
17	7878	9620	12303	15023	20795	25394	31500	38466
18	8318	10157	12990	15862	21956	26812	33259	40614
19	8758	10694	13677	16701	23118	28230	35018	42761
20	9198	11231	14364	17540	24279	29647	36777	44909



Material

Item	Part Name	Material	
1	Body	Cast steel	Cast Iron
2	Seat ring	Stainless steel	
3	Seat nut	Bronze	
4	Locking stud	Stainless steel	
5	Stem	Stainless steel	
6	Bottom spring seat	ST37	
7	Upper spring seat	ST37	
8	Spring	Alloy steel	
9	Spring cover	Cast Iron	
10	Locking cover	Cast Iron	
11	Adjusting screw	Brass	
12	Disc	Stainless steel	
13	Stem cover	Cast Iron	
14	Disc bushing	Bronze	
15	Wrench	Cast Iron	

