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VIP Product Code
46/0542



Working Conditions

Max Set Pressure: 10.5 Bar

Min Set Pressure: 0.3 Bar

Max Temperature: 195°C

Min Temperature: -20°C

Medium: Hot water, steam, compressed air and inert gasses, CO (to 20°C), ethylene glycol, potable water

Connection: Screwed inlet & outlet

Material: Gunmetal

Nabic Fig 542 Safety Valve with Spring

Application

The Fig 542 Safety Valve is an extremely versatile valve, suitable for use on hot water, steam or air. Although designed primarily for the protection of hot water boilers, its wide range of applicants make it an ideal valve for stocking as a general purpose safety valve.

Materials of Construction

Gunmetal construction with diaphragm protected working parts and PTFE to metal seating. All wetted parts, are manufactured from dezincification resistant materials, approved by the Water Research Centre for use on potable water. Inlet and outlet connection are of equal size, with female threads to BS 21. Sizes, from DN32 upwards, are also available with flanged inlet connections.

Features

- Resilient PTFE seating design
- High degree of seat tightness
- Suitable for hot water, steam, air
- Diaphragm protected working parts
- Safe manual testing
- Easy inspection and cleaning
- Pressure setting locked and sealed
- Designed and tested to BS EN ISO 4126-1
- Capacities certified by AOTC
- WRAS Approved
- UKWFB listed
- Pad lock available
- Drain plug fitted on sizes DN40 and above allows fitting of a pressure gauge

Pipe Connections

Threaded female inlet and outlet connections. Inlet and outlet connections are of equal size. Threaded connections are Rp (BSP) parallel to BS EN 10226-1. NPT connections are available upon request.

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VALUE IS PARAMOUNT

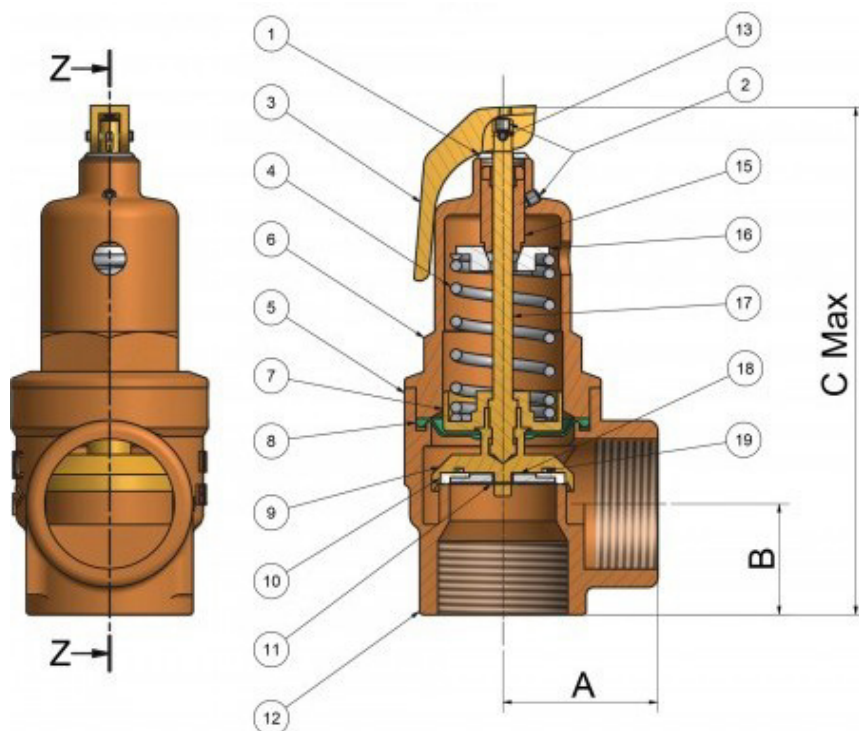
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VALVES INSTRUMENTS PLUS

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Dimensions						
VIP Stock Reference	DN	Rp BSP Inlet & Outlet	A	B	C	Weight (kg)
46/0542/015	15	1/2"	30	23	113	0.35
46/0542/020	20	3/4"	34	23	118	0.53
46/0542/025	25	1"	39	27	132	0.80
46/0542/032	32	1 1/4"	46	33	153	1.33
46/0542/040	40	1 1/2"	54	38	198	2.30
46/0542/050	50	2"	64	46	236	4.20
46/0542/065	65	2 1/2"	76	55	275	7.80
46/0542/080	80	3"	90	65	335	12.50

Materials of Construction		
Item	Part name	Material
1	Thrust washer	Brass, BS EN 12164 CW609N
2	Grubscrew	Steel
3	Test lever	Brass, BS EN 1982 CC754S
4	Spring	Chrome vanadium alloy steel, BS 2803 735 A50 HS (Stainless steel, BS 2056 302S26 optional)
5	Label	Yellow kapton
6	Spring cover	Bronze, BS EN 1982 CC491K
7	Piston	Brass, BS EN 12164 CW609N
8	Diaphragm	Silicon Rubber
9	Seat seal holder	Bronze, BS EN 1982 CC491K/Brass BS EN 12164 CW602N (DZR)
10	Seat seal	PTFE (Viton optional)
11	Starlock washer	Stainless steel
12	Body	Bronze, BS EN 1982 CC491K
13	Lever pin	Steel
14	Lead seal (not shown)	Lead
15	Adjusting screw	Brass, BS EN 12164 CW609N
16	Spring Plate	Brass, BS EN 12164 CW609N
17	Spindle	Brass, BS EN 12164 CW721R
18	Seat seal retaining plate	Bronze, BS EN 1982 CC491K/Brass BS EN 12164 CW602N (DZR)
19	O-ring	Viton

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Discharge Capabilities

The discharge capacity of a safety valve must be equal to or greater than the output of the boiler or system it is protecting. To ensure that the correct method of sizing is used, reference should be made to the relevant BS specification for the design of the boiler or system. Fig 542 capacities are tabulated below to assist selection.

Air capacity - 10% Overpressure (BS N 4126-1) Std. Litres/sec (Kdr=0.19)								
Pressure (Bar)	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80
1.0	14	24	38	62	97	151	256	387
2.0	21	37	58	94	148	230	389	590
3.0	28	50	77	127	198	310	523	793
4.0	35	62	97	159	249	389	657	995
6.0	49	88	137	224	350	547	925	1401
8.0	64	113	176	289	452	705	1192	1806
10.0	78	128	216	354	553	864	1460	2212
10.5	81	145	226	370	578	903	1527	2313

Std. Litres/sec (Kdr=0.19) To convert to ft³/min multiply by 2.1

Steam - 10% Overpressure (BS 6759) Kg/hr (Kdr=0.19)								
Pressure (Bar)	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80
1.0	37	66	103	168	263	411	695	1053
2.0	56	100	157	257	401	627	1059	1604
3.0	76	135	211	345	539	842	1423	2156
4.0	95	169	264	433	677	1057	1787	2707
6.0	134	238	372	610	953	1488	2515	3810
8.0	173	307	480	786	1229	1919	3244	4913
10.0	212	376	588	962	1505	2350	3972	6016
10.5	222	393	615	1006	1574	2457	4154	6292

Kg/hr (Kdr=0.19) To convert to lb/hr multiply by 2.2

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Hot Water - Unvented System - 10% Overpressure (BS EN 4126-1) kW (Kdr=0.19)

Pressure (Bar)	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80
1.0	23	41	64	106	165	258	436	660
2.0	35	63	98	161	251	393	664	1005
3.0	48	84	132	216	338	528	892	1351
4.0	60	106	166	271	424	663	1120	1697
6.0	84	149	233	382	597	933	1576	2388
8.0	108	192	301	493	770	1203	2033	3079
10.0	133	236	368	603	943	1472	2489	3770
10.5	139	246	385	631	986	1540	2603	3943

kW (Kde=0.19) To convert to Btu/hr multiply by 3400

Water - Unvented system - 10% Overpressure (BS EN 4126-1) Kg/min water (Kdr=0.19)

Pressure (Bar)	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80
1.0	30	53	83	136	213	332	561	850
2.0	42	75	117	192	301	469	793	1202
3.0	52	92	144	235	368	575	972	1472
4.0	60	106	166	272	425	664	1122	1700
6.0	73	130	203	333	521	813	1374	2082
8.0	85	150	235	385	601	939	1587	2404
10.0	95	168	263	430	672	1050	1774	2687
10.5	97	172	269	441	689	1076	1818	2754

Kg/min water (Kdr=0.19)

In the above tables, discharge capacities have been calculated in accordance with BS EN 4126-1 & BS 6759, using a derated coefficient of discharge (Kdr) 0.479, approved by AOTC.

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