



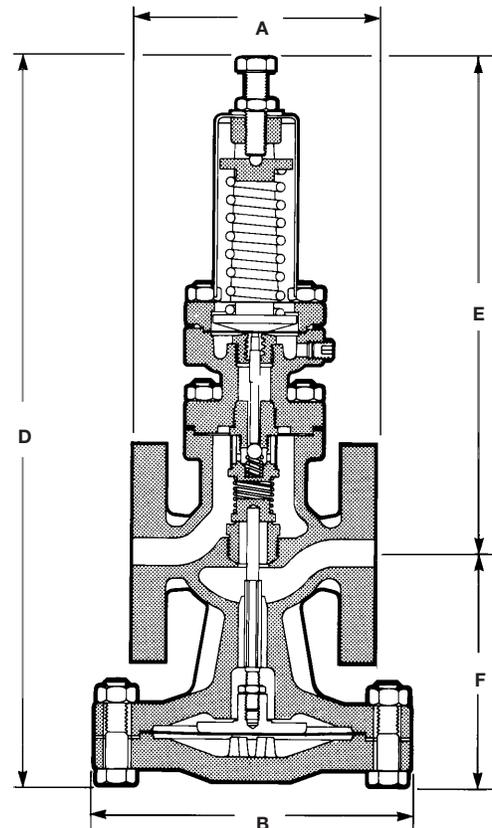
Stainless Steel Pilot Operated Pressure Regulator DP 163

The DP163 is a self-powered, pilot-operated pressure reducing valve constructed entirely of stainless steel with 316L SS body. Downstream pressure is sensed either internally or through an external sensing pipe.

Model	DP163
Sizes	1/2" to 3"
Connections	ANSI 300
Construction	316 Stainless Steel Body Stainless Steel Internals
Options	BS or DIN Flanges, ANSI 150 flanges

Typical Applications

Sterilizers, autoclaves, humidifiers, large and small scale bioprocessing equipment, culinary steam supplies and production suites, and other steam equipment which requires a reduced steam pressure to operate.



Limiting Operating Conditions

Max. Operating Pressure (PMO) 304 psig (21 barg)

Max. Operating Temperature 432°F (250°C)

Downstream Pressure Ranges

For the following downstream pressures, three color-coded pilot valve springs are available:

Yellow: 3 to 15 psi **Red:** 3 to 250 psi **Grey:** 230 to 304 psi
 0.2 to 3.0 bar 0.2 to 17 bar 16 to 21 bar

Pressure Shell Design Conditions

PMA 580 psig/0-248°F 40 barg/0-120°C
 Max. allowable pressure 472 psig/464°F 32 barg/240°C
 304 psig/752°F 21 barg/400°C

TMA 752°F/0-304 psig 400°C/0-21 barg
 Max. allowable temperature

Capacities

See TIS 3.081

Sample Specification

Self-contained reducing valves shall be pilot-actuated diaphragm operated type DP163. Valve shall be packless design, single-seated globe type suitable for dead-end shut off. Valve stem shall be top and bottom guided. Pilot to be top mounted with set pressure adjustment via a spring. Main valve body to be constructed of 316L stainless steel. All internal components to be made of stainless steel.

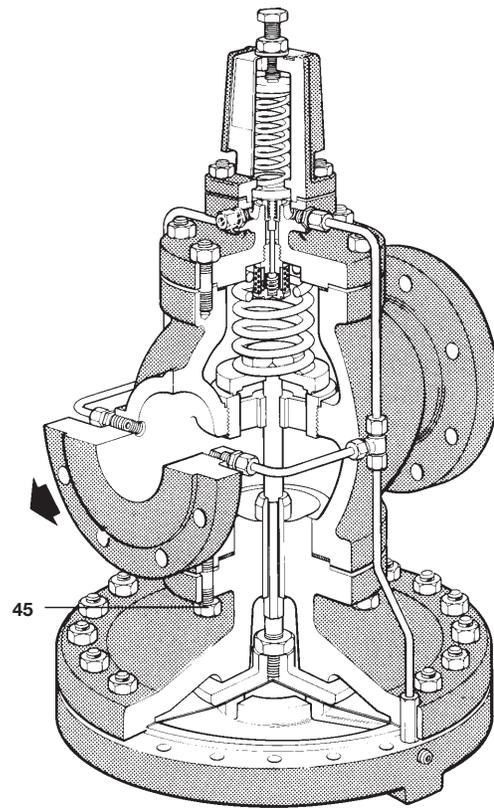
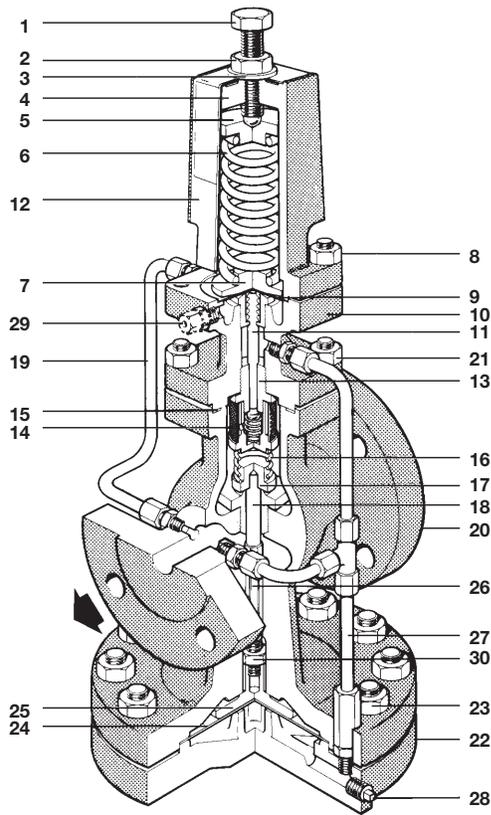
Dimensions (nominal) in inches and millimeters

Size	BS 4504 PN 40 A	ANSI 300 A	ANSI 150 A	BS 10 J A	B	D	E	F	Weight
1/2" & 1/2" LC 15 & 15 LC	5.1 130	5.1 130	4.7 122	5.1 130	6.9 175	15.9 405	10.9 277	5.0 128	33 lb 15 kg
3/4" 20	5.9 150	5.9 150	5.6 142	5.9 150	6.9 175	15.9 405	10.9 277	5.0 128	35.3 lb 16 kg
1" 25	6.3 160	6.3 160	6.1 156	6.4 164	8.5 216	17.3 440	11.3 288	6.0 152	50.7 lb 23 kg
1-1/4" 32	7.1 180	7.2 183	6.9 176	7.2 184	8.5 216	17.3 440	11.3 288	6.0 152	55.1 lb 25 kg
1-1/2" 40	7.9 200	8.2 209	7.9 200	8.2 209	11.0 280	19.3 490	12.0 305	7.3 185	88.1 lb 40 kg
2" 50	9.1 230	9.3 236	9.1 230	9.6 243	11.9 280	19.3 490	12.0 305	7.3 185	95.2 lb 42 kg
3" 80	12.2 310	12.5 319	12.2 310	12.8 325	13.8 350	22.8 580	12.7 322	10.1 258	226 lb 103 kg

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interests of development and improvement of the product, we reserve the right to change the specification.

TI-3-080-US 6-17

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Construction Materials

No.	Part	Material	
1	Adjustment Screw	Stainless Steel	BS 6105 A4/80
2	Adjustment Locknut	Stainless Steel	BS 6105 A4/80
3	Washer	Stainless Steel	BS 1449 304 S16
4	Spring Housing	Stainless Steel	BS 3100 316 C12
5	Top Spring Plate	Stainless Steel	BS 970 431 S29
6	Pressure Adjustment Spring	Stainless Steel	BS 2056 302 S25
7	Bottom Spring Plate	Stainless Steel	BS 970 431 S29
8	Spring Housing Securing Studs & Nuts	Stainless Steel	BS 6105 A4/80 M10 x 25 mm
9	Pilot Diaphragm	Stainless Steel	BS 1449 316 S31
10	Pilot Valve Housing	Stainless Steel	BS 3100 316 C12
11	Pilot Valve Plunger	Stainless Steel	BS 970 431 S29
12	Spring Housing Cover	Stainless Steel	BS 1449 304 S12
13	Pilot Valve & Seat Unit	Stainless Steel	BS 970 431 S29
14	Internal Strainer	Stainless Steel	BS 1449 304 S16
15	Body Gasket	Compressed Synthetic Fiber	P1141 A BS 2815 B
16	Main Valve Return Spring	Stainless Steel	BS 2056 302 S25
17	Main Valve	Stainless Steel	BS 970 431 S29
18	Main Valve Seat	Stainless Steel	BS 970 431 S29
19	Pressure Sensing Pipe	Stainless Steel	BS 3605 304 S14
20	Main Valve Body	Stainless Steel	BS 3100 316 C12
21	Pilot Valve Housing Securing Studs & Nuts	Stainless Steel	BS 6105 A4/80 DN 15 & 20 M10 x 25 mm DN 25 & 32 M12 x 30 mm DN 40 & 50 M16 x 35 mm DN 80 M12 x 35 mm
22	Main Diaphragm Chamber	Cast Stainless Steel	BS 3100 316 C12
23	Main Diaphragm	Stainless Steel	BS 6105 A4/80
	Securing Bolts & Nuts	Stainless Steel	BS 3692 Gr 8 DN 15 & 20 M12 x 50 mm DN 25 & 32 M12 x 55 mm DN 40 & 50 M12 x 65 mm DN 80 M12 x 75 mm

24	Main Diaphragms	Stainless Steel	BS 1449 316 S31
25	Main Diaphragm Plate	Stainless Steel	BS 970 431 S29
26	Push Rod	Stainless Steel	BS 970 431 S29
27	Pipe Assembly	Stainless Steel	BS 3605 304 S14
28	Plug 1/8" BSP	Stainless Steel	BS 970 431 S29
29	Pressure Pipe Union	Stainless Steel	BS 970 316 S31
30	Locknut	Stainless Steel	BS 6105 A4/80
45	Body Stud & Nuts	Stainless Steel	BS 6105 A4/80 M12 x 40 mm BS 3692 Gr 8

Installation

The DP163 controls by sensing the downstream pressure through a pressure sensing pipe taken from the union (29) or through the internal pressure sensing pipe (19) provided. Complete installation instructions are given in IM-P006-07, which accompanies the product. Note: Capacity will be reduced if an external sensing pipe is not fitted.

Maintenance

This product can be maintained without disturbing the piping connections. Complete isolation of the valve is required before any servicing is performed. The valve should be disassembled periodically for cleaning of the strainer screen and inspection and cleaning of both the valve head and seat, and the pilot head and seat. Worn or damaged parts should be replaced. Please refer to Spare Parts list (TIS 3.082) for replacement parts. Complete installation and maintenance instructions are available upon request.

TI-3-080-US 6.17