



Cert. No. LRQ 0963008

ISO 9001

spirax sarco

TI-P100-14
CH Issue 2

DPS17

Combined

Pressure Reducing and Surplussing Valve

Description

The DPS17 is an SG iron pilot operated valve which combines the functions of a pressure reducing valve and a surplussing valve. It is suitable for steam or gases such as compressed air.

The main pilot, fitted onto the main valve body provides control of downstream pressure.

The surplussing pilot, fitted to the side of the valve is set to close the main valve should the upstream pressure fall below the desired level. This facilitates the shutting down of the non-essential plant in order to either prevent overloading of the boiler or maintain the supply pressure to essential plant.

Sizes and pipe connections

DN15LC, DN15, DN20, DN25, DN32, DN40 and DN50. Screwed BSP (BS 21 parallel) or NPT (DN15 to DN25 only).

Standard flanges: **DN15 - DN50** BS 4504 PN16 and PN25 **DN25 - DN50** BS 10 Table H and ANSI 300

Available on request: **DN15 - DN50** JIS 10/16 and ANSI 150 **DN15 - DN20** BS 10 Table F **DN15** ANSI 300

Capacities

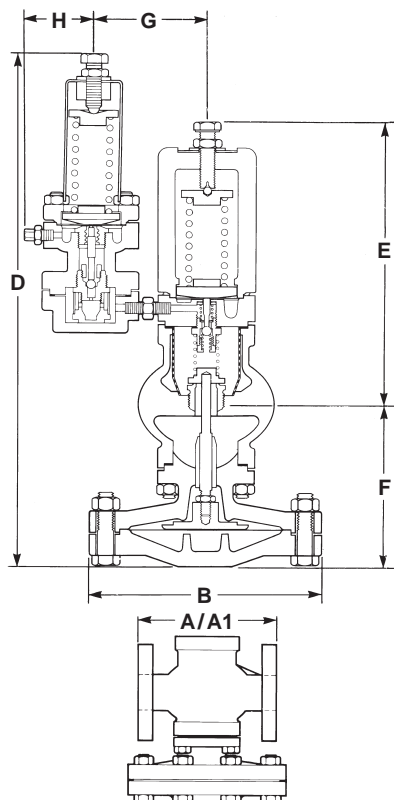
See TI-P006-03 for steam sizing and TI-P007-02 for compressed air. A low capacity version of the DN15 is available: Type DN15LC. The K_v maximum values shown below are full capacities and should be used for safety valve sizing purposes only.

DN15LC	1.0	DN15	2.8	DN20	5.5	DN25	8.1	DN32	12.0	DN40	17.0	DN50	28.0
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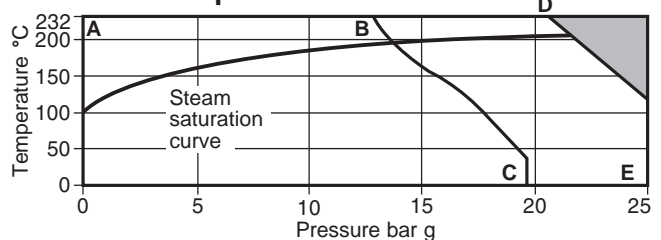
For conversion: C_v (UK) = $K_v \times 0.963$ C_v (US) = $K_v \times 1.156$

Note: Where the internal downstream pressure sensing pipe is used the valve capacity will be reduced.

Dimensions / weights (approximate) in mm and kg



Pressure / temperature limits



The product **must not** be used in this region.

A-D-E Screwed and flanged BS 4504 PN25, ANSI 300, and BS 10 Table H.

A-B-C Flanged ANSI 150.

Note: Three colour coded pressure adjustment springs are available to provide the required downstream pressure and surplussing pressure.

- Yellow** 0.2 bar g to 3 bar g
- Blue** 2.5 bar g to 7 bar g
- Red** 6.0 bar g to 17 bar g

Body design conditions		PN25
PMA	Maximum allowable pressure @ 120°C	25 bar g
TMA	Maximum allowable temperature	232°C
Minimum allowable temperature		-10°C
PMO	Maximum operating pressure for saturated steam service	17 bar g
TMO	Maximum operating temperature	232°C
Minimum operating temperature		0°C
Note: For lower operating temperatures consult Spirax Sarco.		
ΔPMX Maximum differential pressure is limited to the PMO		
Designed for a maximum cold hydraulic test pressure of 38 bar g		
Note: With internals fitted, test pressure must not exceed 25 bar g		

Size	Screwed							B	D	E	F	G	H	Weight	
	A	A1	A1	A1	A1	A1	A1							Screwed	Flanged
15 LC	160	-	130	126.6	117	120.2	122	185	394	234	130	65	50	15	15.8
15	160	-	130	126.6	117	120.2	122	185	394	234	130	65	50	15	15.8
20	160	-	150	-	133	139.4	142	185	394	234	130	65	50	15	16.7
25	180	160	160	160.0	-	160.0	152	207	418	240	148	65	50	16	19.0
32	-	180	180	180.0	-	176.0	176	207	418	240	148	65	50	-	20.0
40	-	200	200	200.0	-	199.0	196	255	463	255	178	65	50	-	32.0
50	-	230	230	230.0	-	228.0	222	255	463	255	178	65	50	-	34.5

Local regulations may restrict the use of this product to below the conditions quoted. In the interests of development and improvement of the product, we reserve the right to change the specification.

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Materials

No. Part	Material		
1	Adjustment screw	Steel	BS 3692 Gr. 8.8
2	Adjustment lock-nut	Steel	BS 3692 Gr. 8
3	Washer	Stainless steel	BS 1449 304 S 16
* 4	Spring housing	SG iron	DIN 1693 GGG 40
5	Top spring plate	Brass	BS 2872 CZ 122
6	Pressure adjustment spring	Stainless steel	BS 2056 302 S 25
7	Bottom spring plate	Brass	BS 2872 CZ 122
8	Spring housing securing studs and nuts	Steel M10 x 50 mm	BS 4439 Gr. 8.8 BS 3692 Gr. 8
9	Pilot diaphragms	Phosphor bronze	BS 2870 PB 102 1980
* 10	Pilot valve housing	SG iron	DIN 1693 GGG 40.3
11	Pilot valve plunger	Stainless steel	BS 970 431 S 29
12	Spring housing cover	Stainless steel	BS 1449 304 S 12 2A
13	Pilot valve and seat unit	Stainless steel	BS 970 431 S 29
14	Internal strainer	Stainless steel	BS 1449 304 S 16
15	Body gasket	Compressed asbestos fibre	BS 2815 Gr. A
16	Main valve return spring	Stainless steel	BS 2056 302 S 25
17	Main valve	Stainless steel	BS 970 431 S 29
18	Main valve seat	Stainless steel	BS970 431 S 29
19	Pressure sensing pipe	Copper	BS 2871 C 106 ½H
* 20	Main valve body	SG iron	DIN 1693 GGG 40.3
21	Main body securing studs and nuts	Steel M10 x 25 mm	BS 4439 Gr. 8.8 BS 3692 Gr. 8
* 22	Main diaphragm chamber	SG iron	DIN 1693 GGG 40.3
23	Main diaphragm securing bolts and nuts	Steel M12 x 50 mm	BS 3692 Gr. 8.8 BS 3692 Gr. 8
24	Main diaphragms	Phosphor bronze	BS 2870 PB 102 1980
25	Main diaphragm plate	Brass	BS 2872 CZ 122
26	Push rod	Stainless steel	BS 970 431 S 29
27	Pipe assembly	Brass and copper	
28	Plug ¼ BSP	Steel	
29	Pressure pipe union	Brass	
30	Lock-nut	Steel	BS 3692 Gr. 8
31	Surplussing pilot valve housing	Steel	DIN 17245 GSC 25
32	Surplussing pilot valve plunger	Stainless steel	BS 970 431 S29
33	Pilot valve and seat unit	Stainless steel	BS 970 431 S29
34	Internal strainer	Stainless steel	BS 1449 304 S16
* 35	Surplussing pilot valve plunger housing	SG iron	DIN 1693 GGG 40.3
36	Upstream sensing connection	Brass	

* **Note:** This product is also available in cast steel.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P100-13) supplied with the product.

Installation note:

The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body.

How to order

Example: 1 off Spirax Sarco DN32 DPS17 combined pressure reducing and surplussing valve. Flanged BS 4504 PN25. Fitted with blue pressure adjustment spring and red surplussing adjustment spring.

Spare parts

See TI-P100-03

