



Cert. No. LRQ 0963008

ISO 9001

# spirax sarco

TI-P101-01  
CH Issue 4

## DP17T and DP17TE Pilot Operated Pressure / Temperature Control Valves with SG Iron Bodies

### Description

The DP17T and DP17TE are combined pressure/temperature control valves for use on steam applications. They are designed to be used in conjunction with a 2 m length of capillary which is available separately (other lengths are available on request - see 'Optional extras'). They combine a temperature and pressure pilot valve in one unit. This controls the main valve so that the temperature is maintained while the maximum steam pressure is limited.

A variable rate conical pressure adjustment spring is fitted providing a downstream pressure range of 0.2 - 17 bar g.

#### Notes:

1. The valve can be supplied with a blank undrilled flange if required.
2. The sensor of the control system will need to be mounted by either a union kit, pocket or wall mounting bracket - see 'Optional extras, page 4'.

#### Available types of valve

<b>DP17T</b>	Pressure/temperature control	<b>Optional extras</b>
<b>DP17TE</b>	Pressure/temperature control with electrically operated solenoid valve	See page 4.

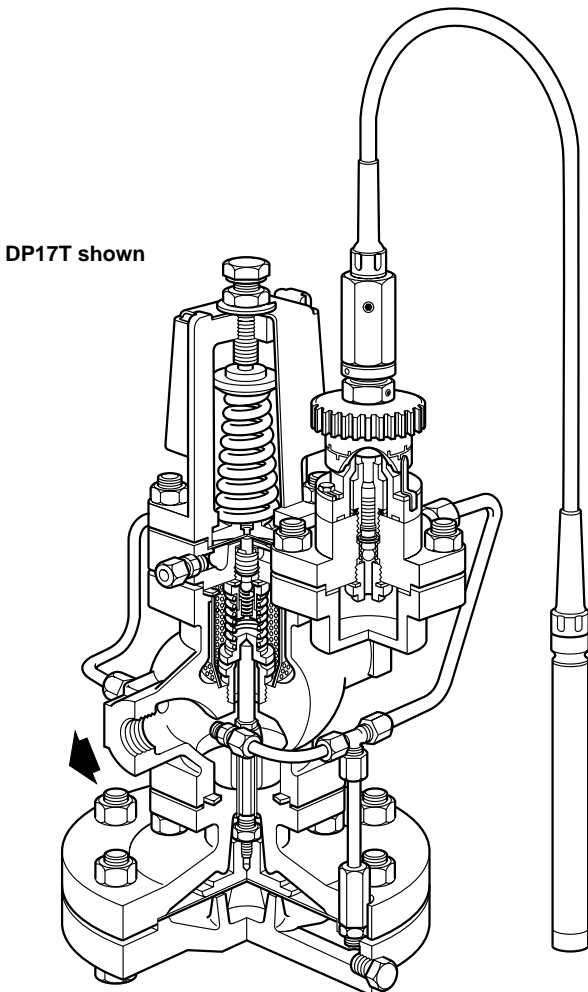
#### Temperature ranges

<b>Range A</b> 16°C to 49°C	<b>Range B</b> 38°C to 71°C	<b>Range C</b> 49°C to 82°C	<b>Range D</b> 71°C to 104°C	<b>Range E</b> 93°C to 127°C
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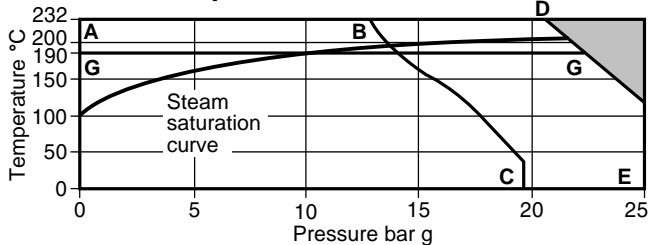
#### Sizes and pipe connections

DN15LC, DN15, DN20, DN25, DN32, DN40 and DN50 screwed BSP (BS 21 parallel) or NPT (DN15 to 25 only).

Standard flanges:	<b>DN15 - DN50</b> BS 4504 PN25	<b>DN25 - DN50</b> BS 10 Table H and ANSI 300
Available on request:	<b>DN15 - DN50</b> JIS 10/16 and ANSI 150	<b>DN15 - DN20</b> BS 10 Table F <b>DN15</b> ANSI 300



#### 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.

**G-G** The DP17TE is limited to 190°C.

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	DP17T 17 bar g
	for saturated steam service	DP17TE 10 bar g
TMO	Maximum operating temperature	232°C
Minimum operating temperature		0°C
<b>Note:</b> 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		
<b>Note:</b> With internals fitted, test pressure must not exceed 25 bar g		

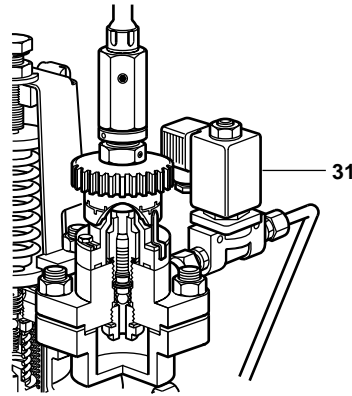
#### Technical data (Solenoid valve)

Voltagages available	230 ±10% Vac or 115 ±10% Vac (others available on request).
Frequency	50/60 Hz
Power consumption	Inrush 45 VA
	Holding 23 VA

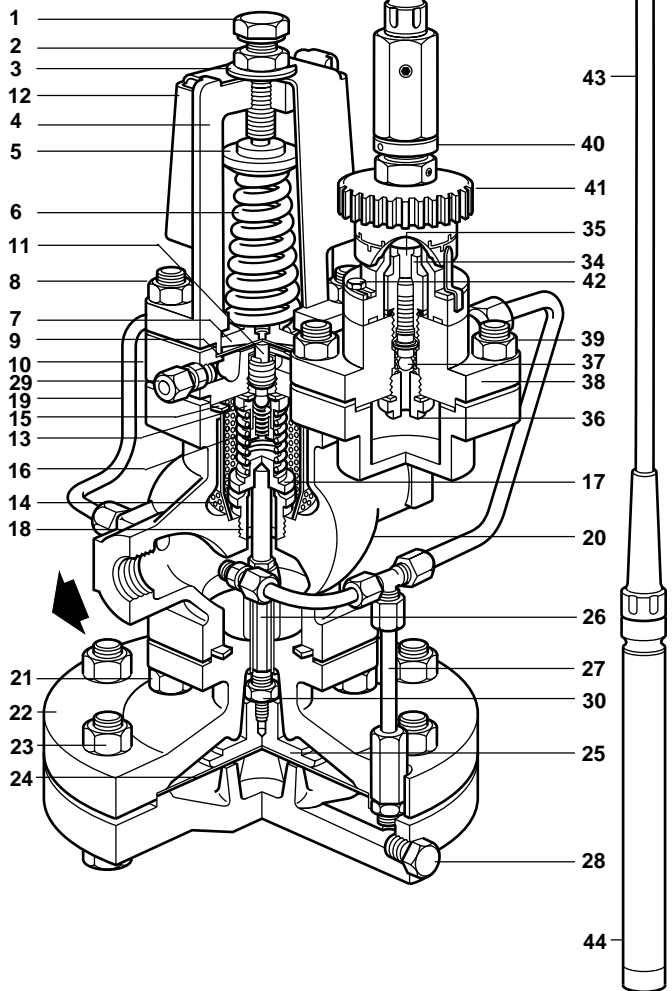
## Materials

No. Part	Material		
1	Adjustment screw	Steel	BS 3692 Gr. 8.8
2	Adjustment lock-nut	Steel	BS 3692 Gr. 8.8
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. 8.8
9	Pilot diaphragms	Phosphor bronze	BS 2870 PB 102
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 SA
13	Pilot valve and seat unit	Stainless steel	BS 970 431 S 29
	Filter element (not shown)	Brass	
14	Internal strainer	Stainless steel	BS 1449 304 S 16
15	Body gasket	Stainless steel reinforced exfoliated graphite	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	BS 970 431 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
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 1/8" BSP	Steel	
29	Pressure pipe union	Brass	
30	Lock-nut	Steel	BS 3692 Gr. 8
31	Solenoid valve		
34	Packless gland housing	Brass	BS 2874 CZ 121
35	Pilot valve plunger	Phenolic resin	ISO (BS) PF2C3
36	Pilot valve seat ring	Stainless steel	BS 970 431 S 29
37	Pilot valve closure member	Stainless steel	AISI 440 B
38	Pilot valve housing	SG iron	DIN 1693 GGG 40.3
39	Pilot valve housing securing studs and nuts	Steel M10 x 25 mm	BS 4439 Gr. 8.8 BS 3692 Gr. 8
40	Locking ring	Brass	BS 2874 CZ 122
41	Adjustment head	Phenolic resin	ISO (BS) PF2C3
42	Adjustment head securing screws	Cadium plated 2 BA x ¾"	
43	Capillary tube	Copper PVC covered	
44	Sensor	Brass	EN 12451 CW707R H130/170

## DP17TE

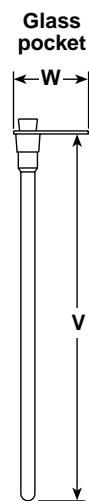
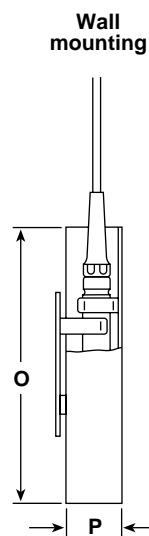
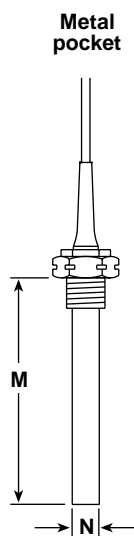
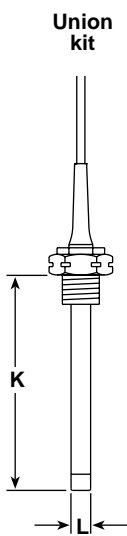
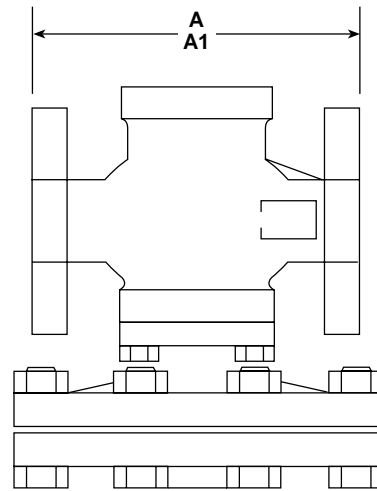
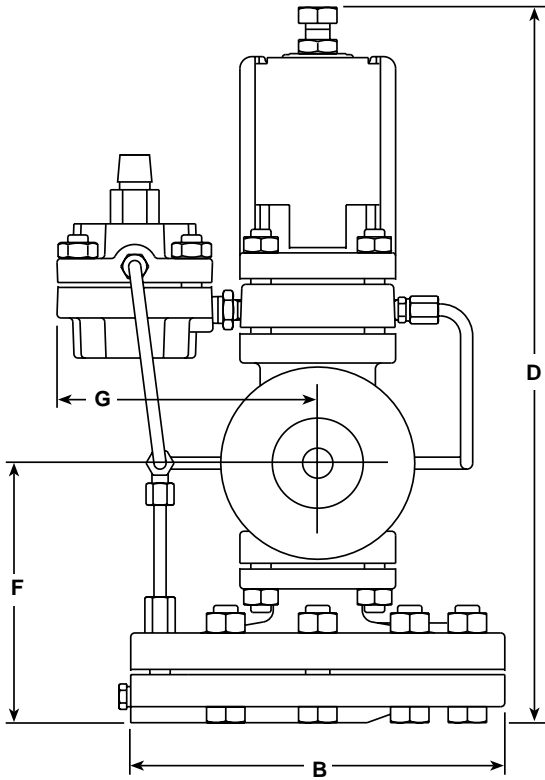


## DP17T



**Dimensions / weights (approximate) in mm and kg**

Size	Screwed A	BS 10 H A1	Flanged					B	D	F	G	Weight	
			PN25 A1	ANSI 300 A1	BS 10 F A1	ANSI 150 A1	JIS 10/16 A1					Screwed	Flanged
DN15LC	160	-	130	126.6	117	120.2	122	185	364	130	130	14.5	15.3
DN15	160	-	130	126.6	117	120.2	122	185	364	130	130	14.5	15.3
DN20	160	-	150	-	133	139.4	142	185	364	130	130	14.5	16.2
DN25	180	160	160	160.0	-	160.0	152	207	388	148	130	16.0	18.5
DN32	-	180	180	180.0	-	176.0	176	207	388	148	130		19.5
DN40	-	200	200	200.0	-	199.0	196	255	433	178	139		31.0
DN50	-	230	230	230.0	-	228.0	222	255	433	178	139		34.0



Union kit		Metal pocket		Wall mounting		Glass pocket	
K	L	M	N	O	P	V	W
142	17.5	150	22.3	195	35	575	117

## Optional extras

**Capillary tubes:** Available in multiples of 2 m up to a maximum of 14 m.

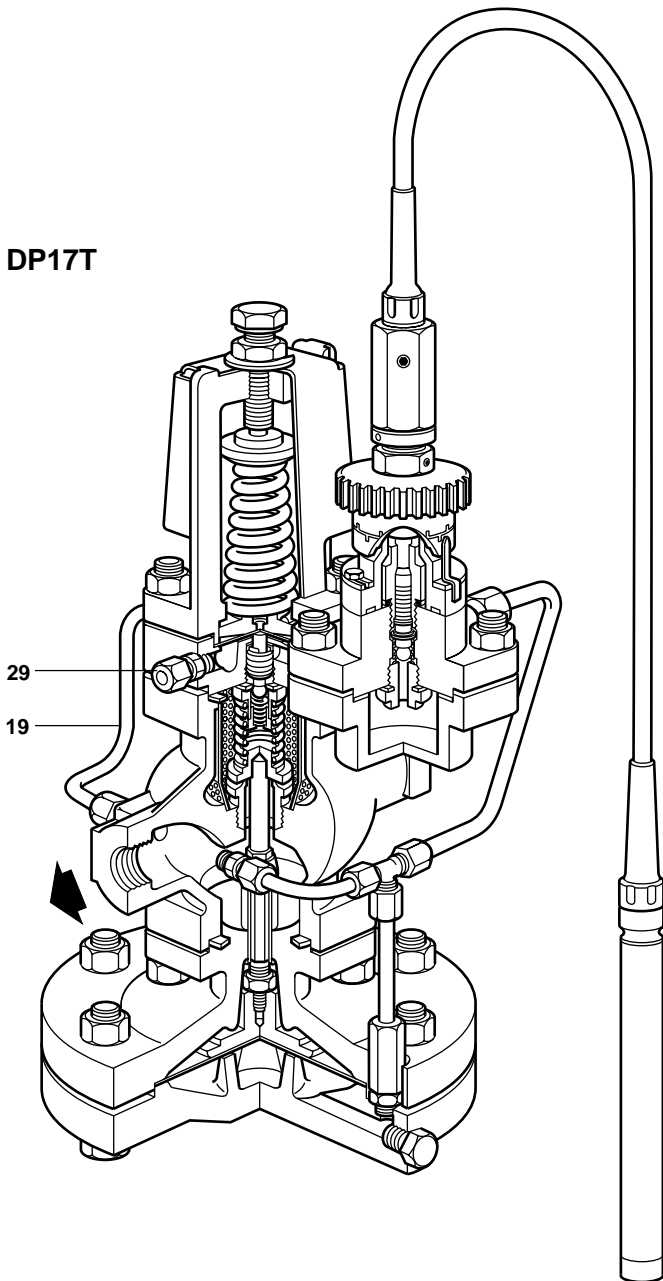
**Conversion kit:** Comprising of a solenoid valve and the necessary pipe and fittings for converting an existing DP17T to DP17TE.

**Union kit:** Comprising of union nipple (**U**), compression ring (**V**) and a gland nut (**W**). The union nipple is screwed  $\frac{3}{4}$ " BSP.

**Pockets:** Are available in copper with brass union nipple, mild steel or stainless steel. Union nipple **U** forms the top of the pocket and carries compression ring **V** and gland nut **W**. The union nipple is screwed  $\frac{3}{4}$ " BSP.

Special long pockets are available having minimum length of 0.5 m and a maximum of 1 m. They are sealed at the top by a rubber bung. Glass pockets are also available complete with bracket and sealed by a rubber bung.

**Wall mounting bracket:** inclusive of cover.



## Pressure sensing pipe

The DP17 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. Fitting is described in the Installation and Maintenance Instructions supplied with the valve.

## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P101-04) supplied with the product.

### Installation note:

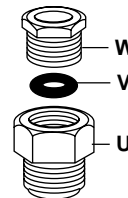
The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body.

## How to order

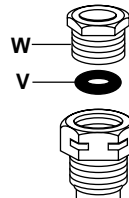
**Example:** 1 off Spirax Sarco DN20 DP17T pilot operated pressure/temperature control valve having flanged BS 4504 PN25 connections and a temperature range A.

**Spare parts** See TI-P101-02

Union kit



Pocket



Glass pocket

