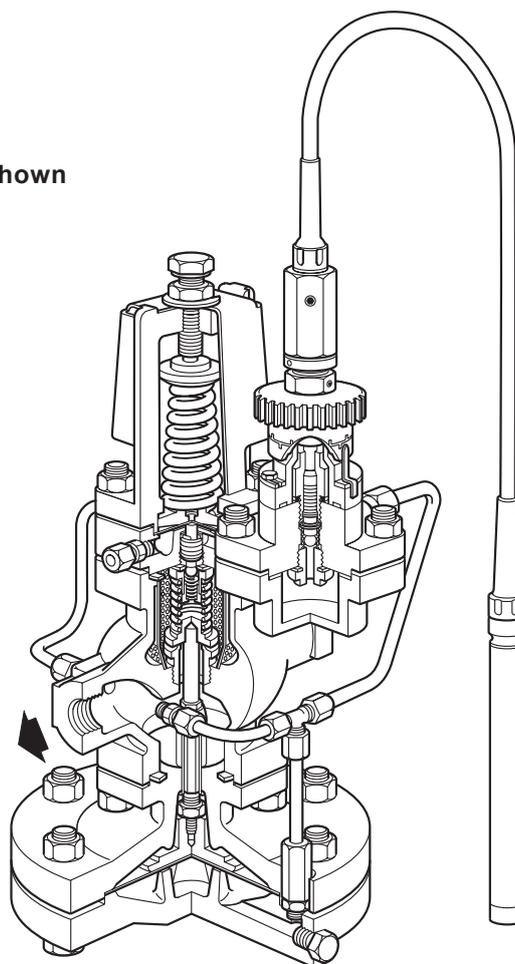




## DP17T and DP17TE

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

DP17T shown



### 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 7'.

### Available types of valve

DP17T	Pressure/temperature control	Optional extras
DT17TE	Pressure/temperature control with electrically operated solenoid valve	See page 5

### 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:	DN15 - DN50 BS 4504 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

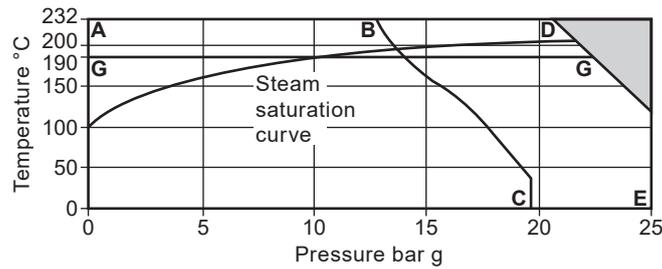
## Technical data (Solenoid valve)

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

## 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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## Pressure/temperature limits



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

 The product should not be used in this region or beyond its operating range as damage to the internals may occur.

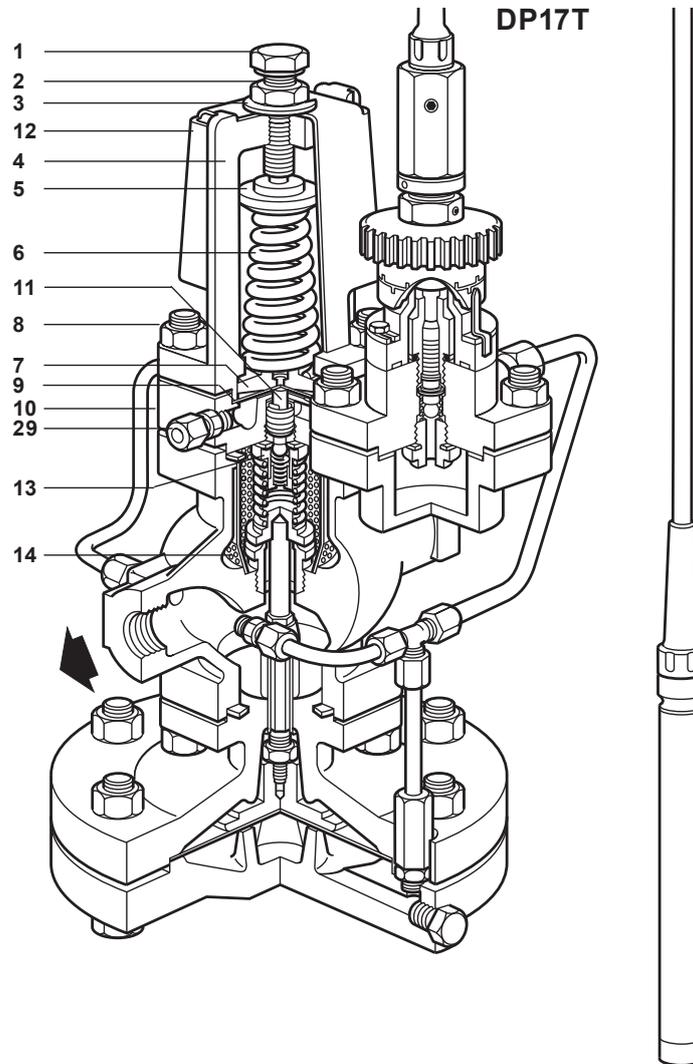
**A-B-E** Screwed and flanged BS 4504 PN25, ANSI 300, and BS 10 Table H.

**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 for saturated steam service	DP17T	17 bar g
		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	

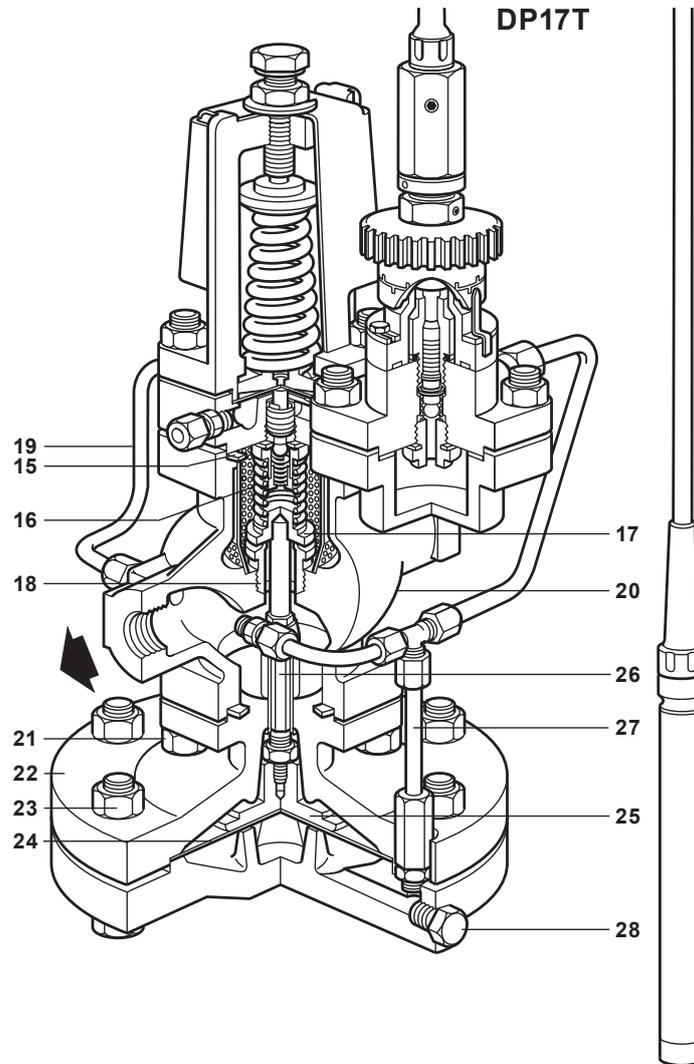
## Materials



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

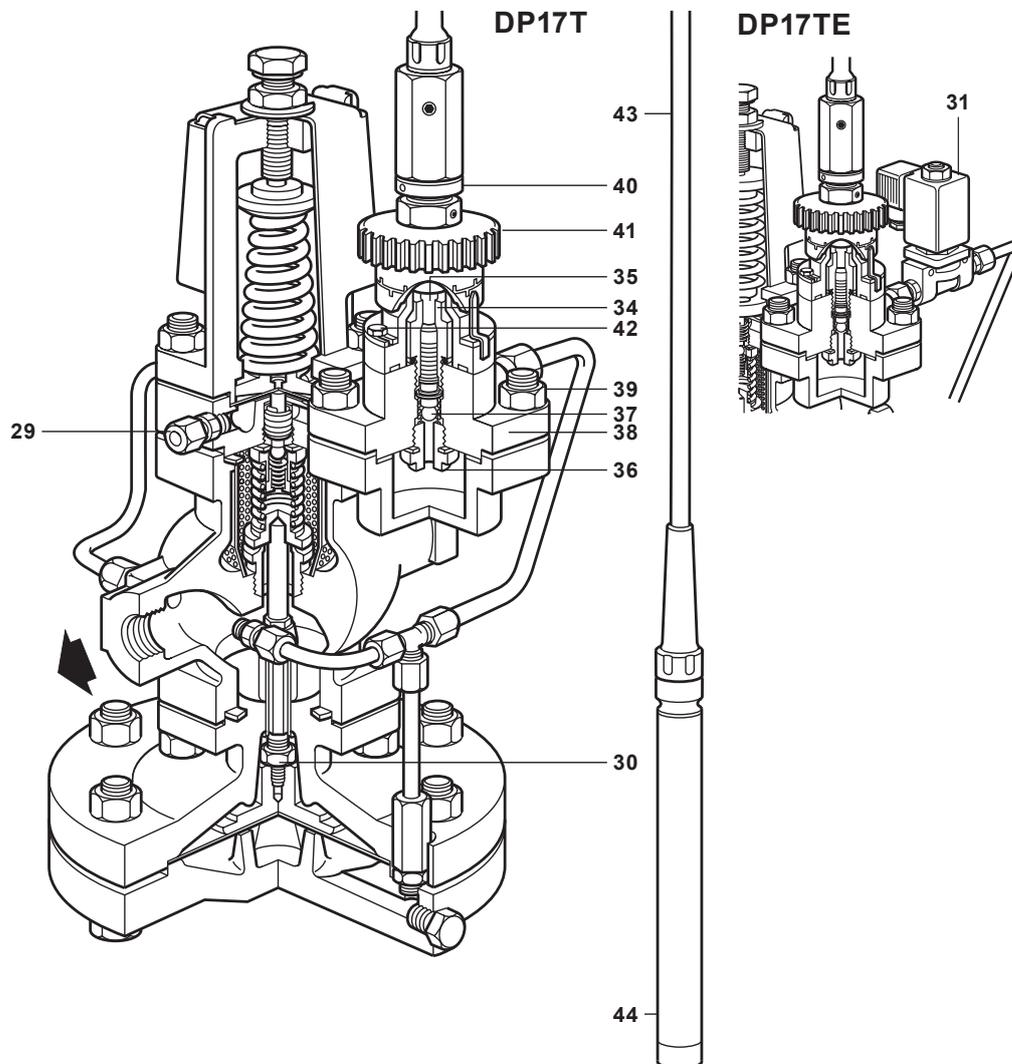
Materials list continued on pages 4 and 5

**Materials**  
(continued from page 3)



No. Part	Material	
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 BS 3692 Gr. 8.8
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	

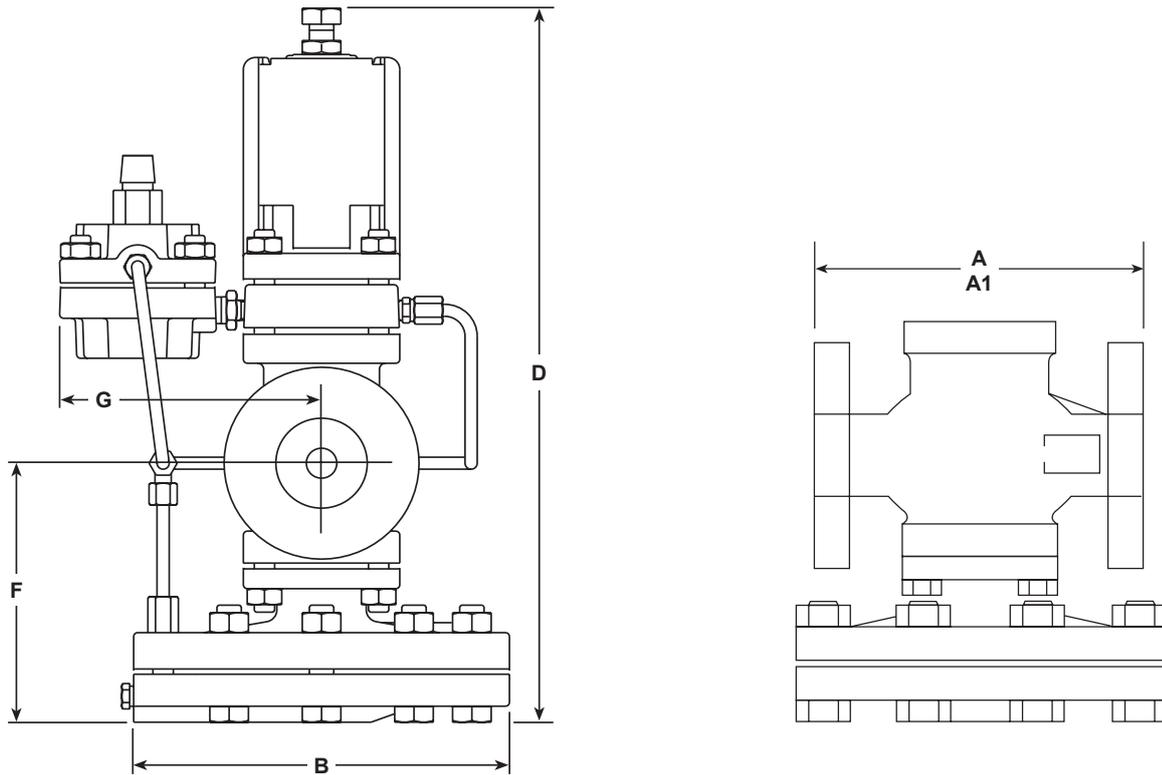
**Materials**  
(continued from page 4)



No. Part	Material	
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 3692 Gr. 8 BS 4439 Gr. 8.8
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 3/4"	
43 Capillary tube	Copper PVC covered	
44 Sensor	Brass	EN 12451 CW707R H130/170

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

Size	Screwed A	Flanged						B	D	F	G	Weight	
		BS 10 H A1	PN25 A1	ANSI 300 A1	BS 10 F A1	ANSI 150 A1	JIS 10/16 A1					Screwed	Flanged
DN15LC 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.

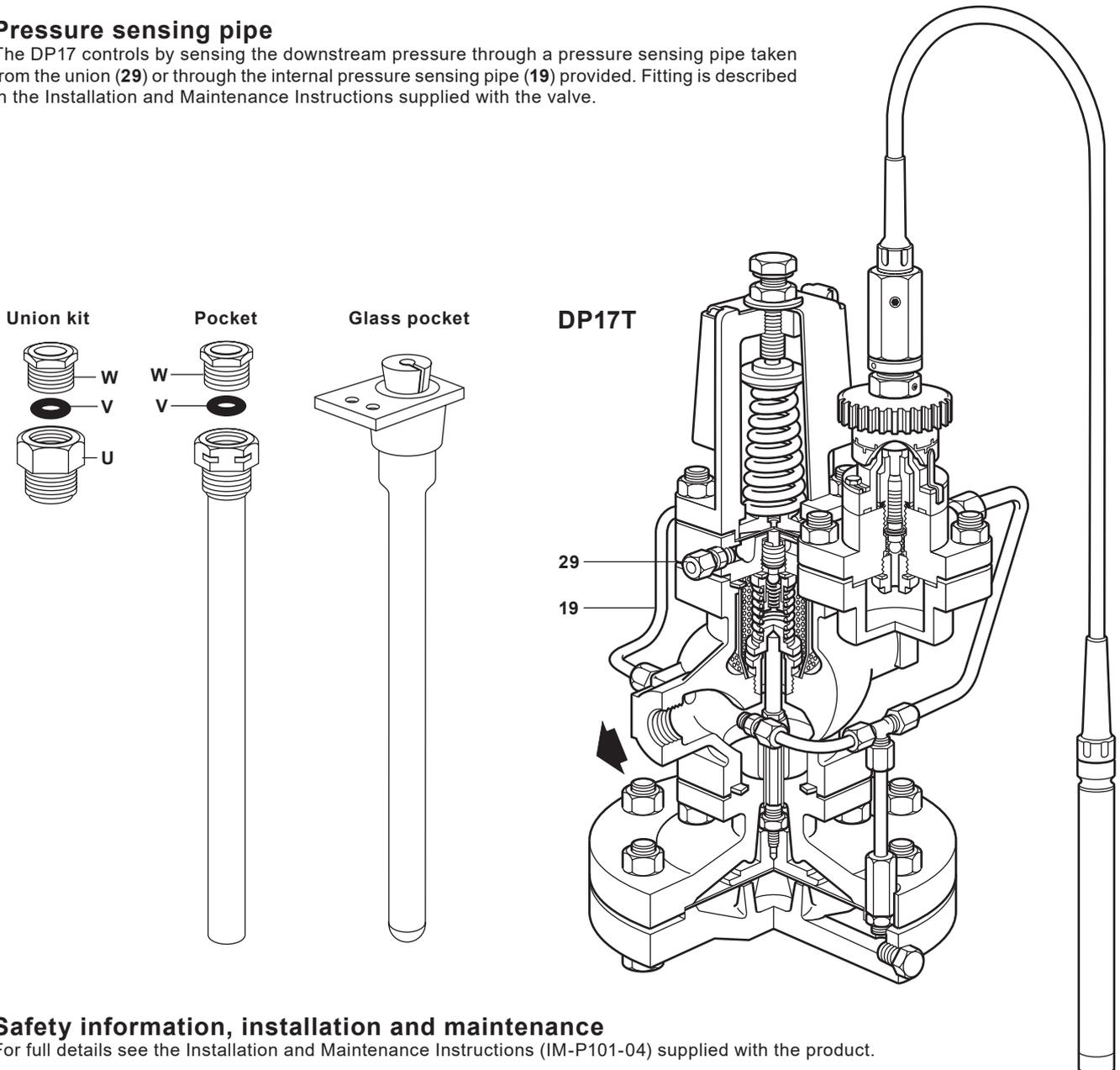
**Pockets:** Are available in copper with brass union nipple, mild steel or stainless steel. Union nipple **U** forms the top of the pocket and carries compression ring **V** and gland nut **W**. The union nipple is screwed  $\frac{3}{4}$ " BSP.

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.