



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

| | | |
|---------------|--|------------------------|
| DP17T | Pressure/temperature control | Optional extras |
| DP17TE | Pressure/temperature control with electrically operated solenoid valve | See page 4. |

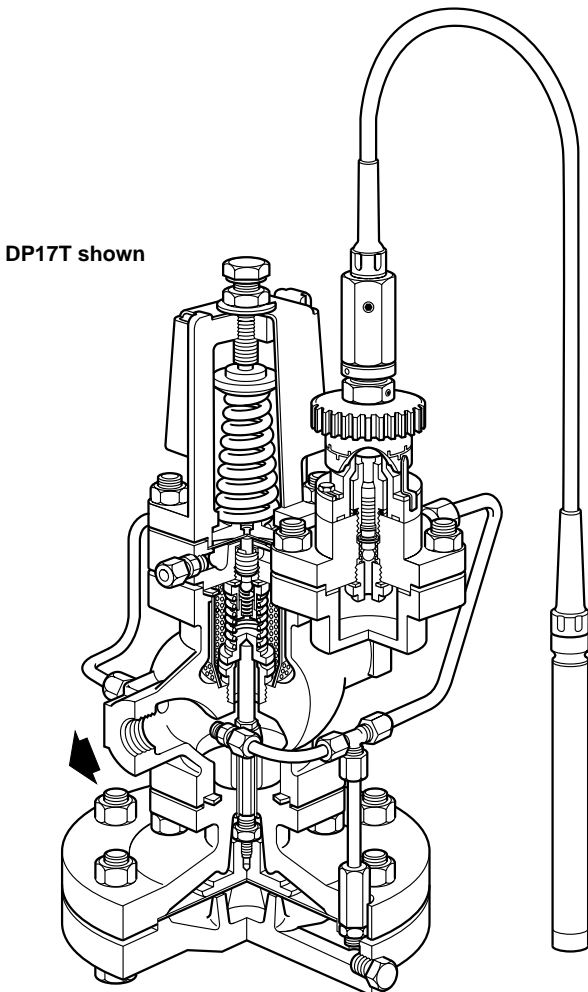
Temperature ranges

| | | | | |
|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|
| Range A 16°C to 49°C | Range B 38°C to 71°C | Range C 49°C to 82°C | Range D 71°C to 104°C | Range E 93°C to 127°C |
|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|

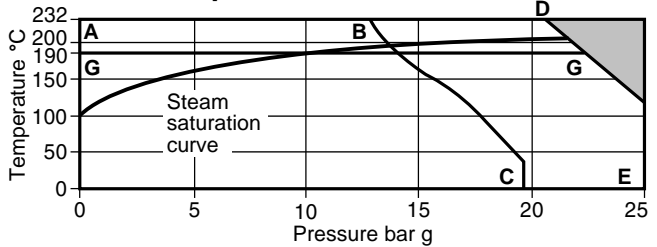
Sizes and pipe connections

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 |



Pressure / temperature limits



A-D-E 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 |
| 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 | | |

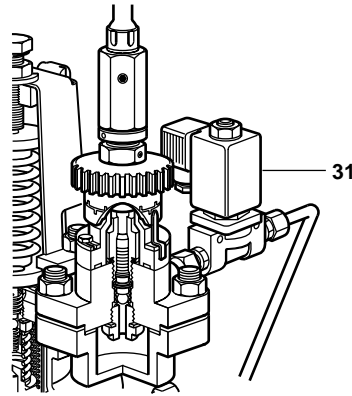
Technical data (Solenoid valve)

| | |
|----------------------|---|
| 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 |

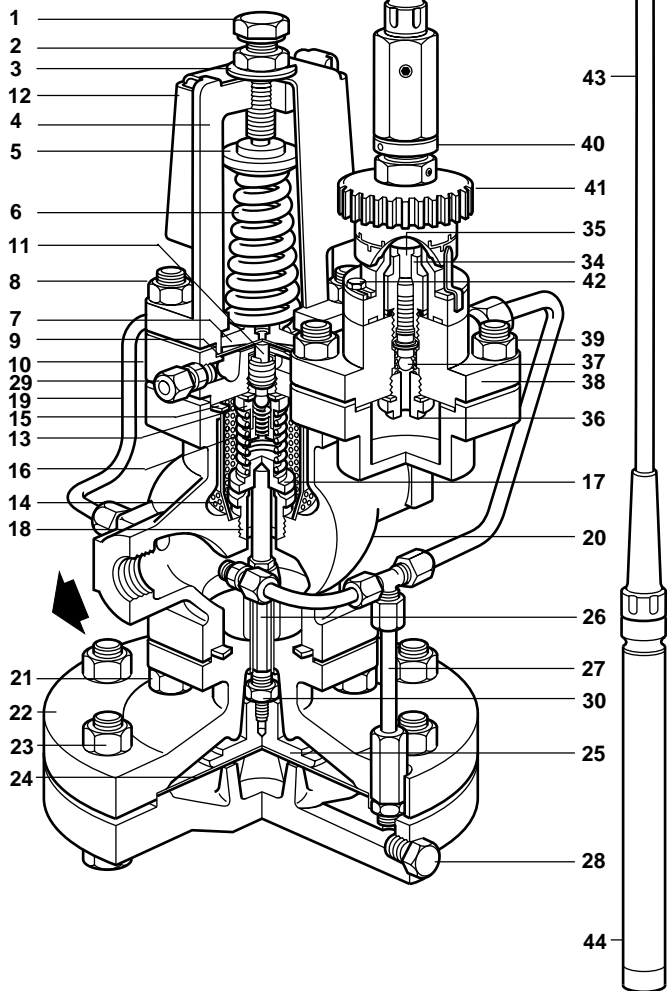
Materials

| 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

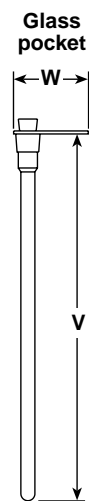
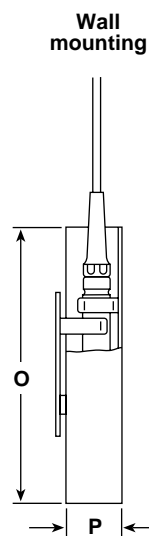
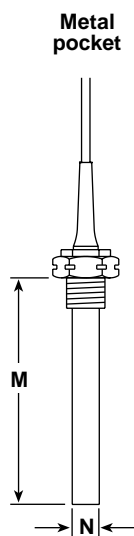
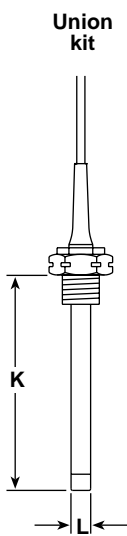
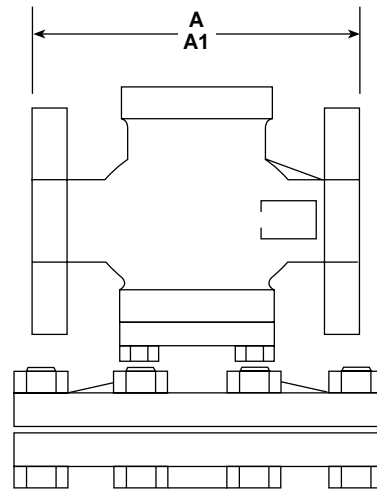
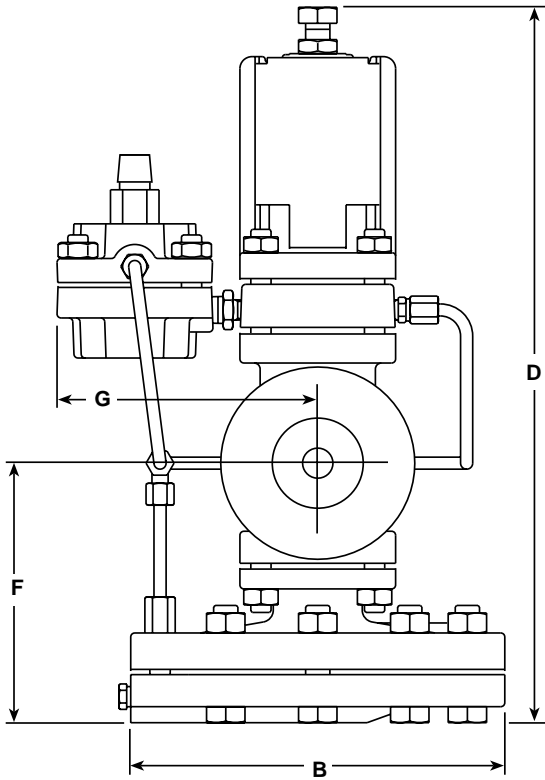


DP17T



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.

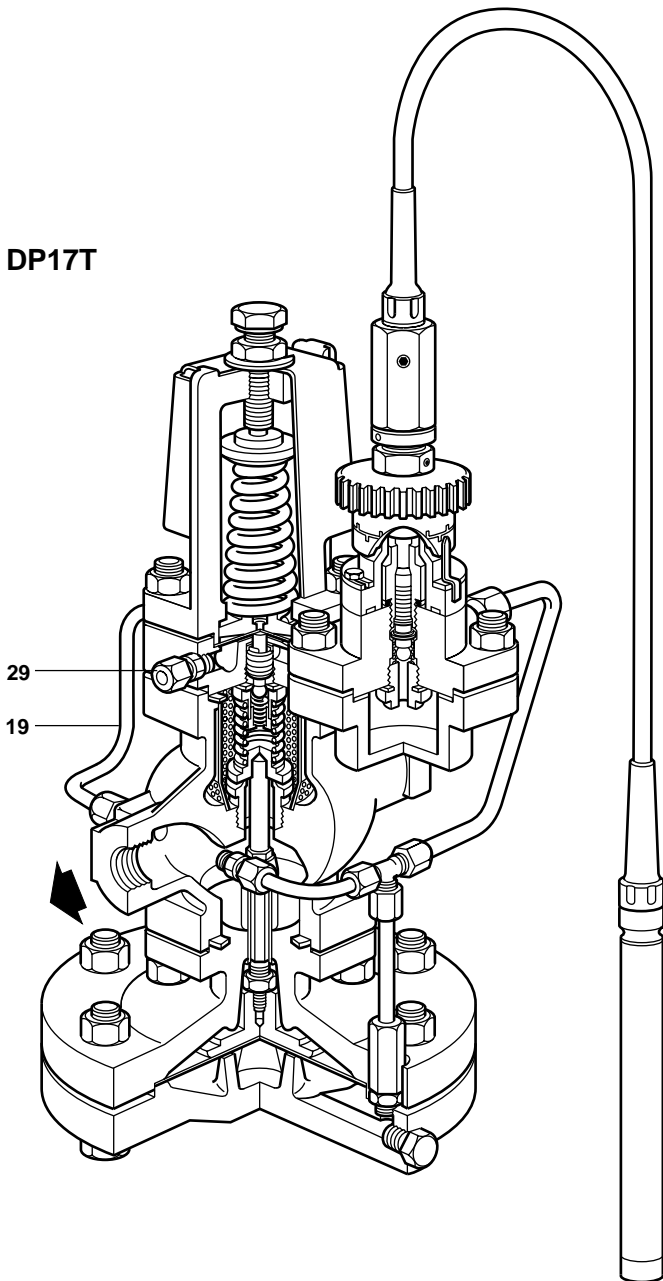
Conversion kit: Comprising of a solenoid valve and the necessary pipe and fittings for converting an existing DP17T to DP17TE.

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:

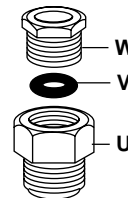
The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body.

How to order

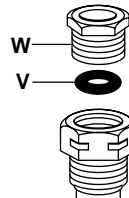
Example: 1 off Spirax Sarco DN20 DP17T pilot operated pressure/temperature control valve having flanged BS 4504 PN25 connections and a temperature range A.

Spare parts See TI-P101-02

Union kit



Pocket



Glass pocket

