

# spirax sarco®

## Pilot Operated Temperature Regulator w/ Electric Override 1/2" to 4" 25TE

The 25TE has all of the features of the 25T, with the addition of an electric pilot. An electrical signal can override the temperature pilot to provide a remote shut-off capability.

Note: For pressures below 15 psig, the E pilot is not recommended for use with valves 2-1/2" and larger.

Model ⇄	25TE			
<b>Sizes</b>	1/2" to 2"	2-1/2", 3", 4"	1/2" to 2"	2-1/2", 3", 4"
<b>Connections</b>	NPT	ANSI 125	NPT	ANSI 300
<b>Construction</b>	Cast Iron		Cast Steel	
<b>Options</b>		ANSI 250		ANSI 150
	Non-Standard Capillary tubing length in 5 ft. increments to a maximum of 50 ft. (see TIS 1.1123)			
<b>Electric Pilot Specifications</b>	Enclosure: NEMA 4 & 7 (C&D) 115v/60Hz; Holding: 23 VA Inrush: 45VA; Normally closed 200 psig Max. operating pressure			
<b>Electric Pilot Options</b>	140 psig Max. operating pressure (for faster response time) 230 volt coil			

### Capacities

The valve is sized according to the temperature control requirements.

For selection & sizing data, see TIS 1.1114

### Sample Specification

The pressure reducing valves shall be of the pilot-actuated diaphragm operated type with electric override. The main valve shall be single-seated with hardened stainless steel trim; the valve body shall be cast iron (cast steel). The pilots shall be bolted directly to the valve body and shall be removable without disturbing the control connections. The temperature setting shall be adjustable without the use of tools, and the set point shall be indicated on a calibrated dial. The thermostatic system shall be solid-fill, and shall incorporate over heat protection. The electric pilot shall have a NEMA 4 & 7 (C & D) enclosure with 115v (230v) 60 Hz coil.

### Limiting Operating Conditions

#### Max. Operating Pressure (PMO)

NPT: 200 psig (14 barg) @ 392°F (200°C)  
ANSI 125: 125 psig (8 barg) @ 392°F (200°C)  
ANSI 250: 200 psig (14 barg) @ 392°F (200°C)  
ANSI 150: 185 psig (12 barg) @ 392°F (200°C)  
ANSI 300: 200 psig (14 barg) @ 392°F (200°C)

#### Max. Operating Temperature\*

392°F (200°C)  
\*The temperature of the sensing bulb must not exceed 350°F (177°C)

### Standard Temperature Ranges

30°F to 90°F	0°C to 32°C		
60°F to 120°F	15°C to 50°C	100°F to 160°F	40°C to 70°C
120°F to 180°F	50°C to 80°C	160°F to 220°F	70°C to 105°C
200°F to 260°F	95°C to 125°C	260°F to 320°F	125°C to 160°C

### Pressure Shell Design Conditions

**PMA** Cast Iron: 250 psig/0-450°F 17 barg/0-232°C  
Max. allowable pressure Cast Steel: 300 psig/0-450°F 20 barg/0-232°C

**TMA** Cast Iron: 450°F/0-250 psig 232°C/0-17 barg  
Max. allowable temperature Cast Steel: 450°F/0-300 psig 232°C/0-20 barg

### Typical Applications

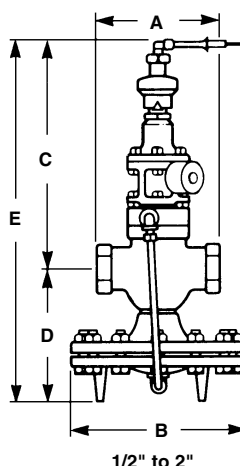
Temperature control applications where the valve must also respond to an electrical program timer, safety or limit switch, or remote manual switch.

### Installation

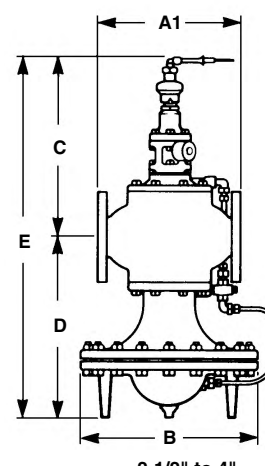
The regulator should be installed in a horizontal line with suitable bypass and isolating valves. A steam trap should be installed upstream to prevent condensate from reaching the valve. The trap and regulator should both be protected with a strainer. The thermostatic bulb must be carefully located in the medium being heated. Complete installation instructions are given in IMI 650-D76.

### Maintenance

Complete installation and maintenance instructions are given in IMI 650-D76, a copy of which is supplied with each valve. Available spare parts are shown on TIS 1.1120 and TIS 1.1121.



1/2" to 2"



2-1/2" to 4"

### Dimensions (nominal) in inches and millimeters

Size	Ansi 125 Ansi 150		Ansi 250 Ansi 300		Weight				
	A	A1	A1	B	C	D	E	Cast Iron	Cast Steel
1/2", 3/4"	5.5 140	- -	- -	7.6 194	12.1 306	6.2 157	18.25 464	30.5 lb 13.8 kg	33 lb 15 kg
1"	6.0 152	- -	- -	8.6 219	12.0 305	6.75 171	18.75 476	37.5 lb 17 kg	41 lb 15 kg
1-1/4", 1-1/2"	7.25 184	- -	- -	8.6 219	12.6 319	7.1 179	19.6 498	43 lb 19.5 kg	47 lb 21.3 kg
2"	8.5 216	- -	- -	10.6 270	13.2 335	8.2 208	21.4 543	67.5 lb 30.6 kg	74 lb 33.6 kg
2-1/2"	- -	10.9 276	11.5 292	13.6 346	13.9 354	13.9 354	27.9 708	156 lb 70.8 kg	170 lb 77.1 kg
3"	- -	11.75 298	12.5 318	13.6 346	13.9 351	14.4 367	28.4 721	187 lb 84.8 kg	204 lb 92.5 kg
4"	- -	13.9 352	14.5 368	15.6 397	15.1 383	16.1 410	31.2 792	283 lb 128 kg	308 lb 140 kg

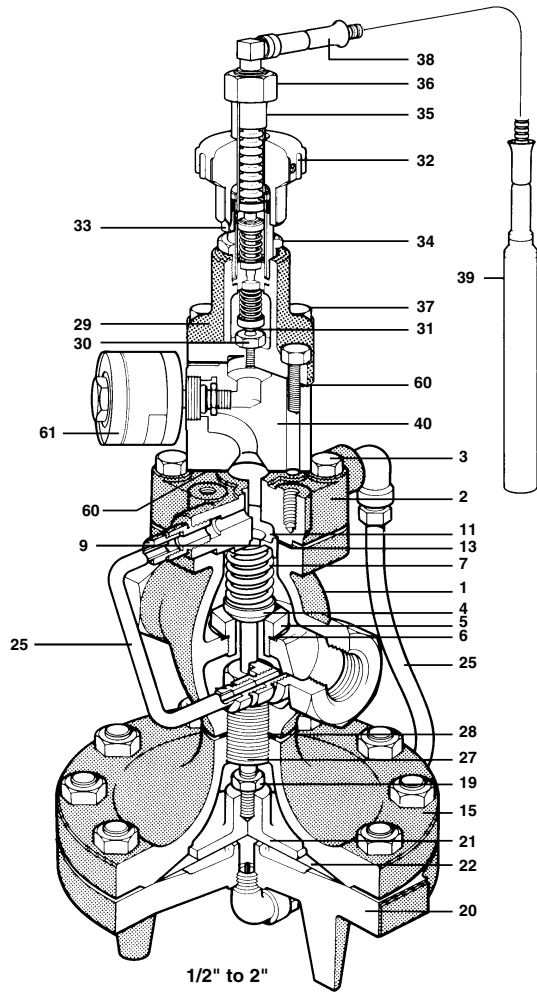
Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.

In the interests of development and improvement of the product, we reserve the right to change the specification.

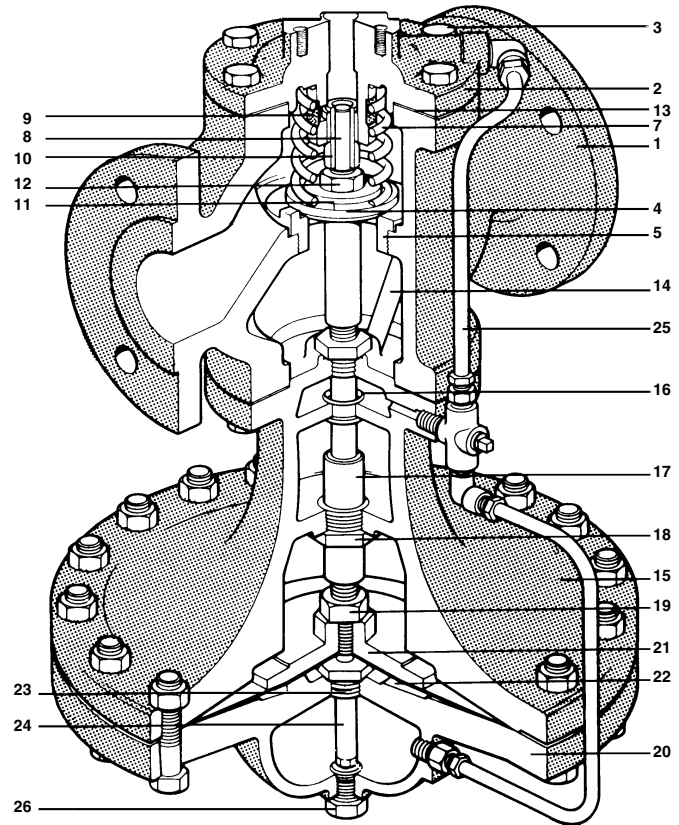
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# Pilot Operated Temperature Regulator w/ Electric Override

## 1/2" to 4" 25TE



1/2" to 2"



2-1/2" to 4"

### Construction Materials

No.	Part	Material
1	Valve Body	Cast Iron ASTM A 126 CL B
2	Cover	Cast Iron ASTM A 126 CL B
3	Cover Bolts	Steel ASTM A449
4	Main Valve Head	Stainless Steel
5	Main Valve Seat	Stainless Steel
7	Valve Return Spring	Stainless Steel
8	Valve Stem	Stainless Steel
9	Strainer Screen	Stainless Steel AISI 304
10	Valve Stem Sleeve	Stainless Steel AISI 420F
11	Spring Guide	Cast Iron 1/2" - 2" CRS 2-1/2" - 4" ASTM A 126 CL B AISI 1117
12	Nut	Steel ASTM A307
13	Cover Gasket	Graphite
14	Pressure Equalizer Pipe	Stainless Steel AISI 304
15	Upper Diaphragm Case	Cast Iron Cast Steel ASTM A 126 CL B ASTM A216 Gr WCB
16	Stem Bushing (2-1/2" - 4" Cast Steel only)	Stainless Steel AISI 303
17	Diaphragm Plate Stem	Stainless Steel AISI 304
18	Diaphragm Stem Guide	Stainless Steel AISI 303
19	Nut	Brass 1/2" - 2" Steel 2-1/2" - 4" ASTM B16 ASTM A307
20	Lower Diaphragm Case	Cast Iron Cast Steel ASTM A126CL B ASTM A216 Gr WCB
21	Diaphragm Plate	Brass 1/2" - 2" C.I. 2-1/2" - 4" ASTM B124 (377) ASTM A126 CL B
22	Main Diaphragm (2 ply)	Stainless Steel ASTM A240
23	Bushing	CRS AISI 1117
24	Tube & Orifice	Stainless Steel AISI 304
25	Tubing Assembly	Copper Brass ASTM B280 (122) ASTM B16

No.	Part	Material
26	Plug (Cast Iron) (Cast Steel)	Brass Steel ASTM B16 ASTM A105
27	Connector Stud	Stainless Steel AISI 303
28	Body Gasket	1/2" - 2" Copper Clad 2-1/2" - 4" Graphite Non-Asbestos Fill
29	Pilot Valve Body	Cast Iron Cast Steel ASTM A 126 CL B ASTM A216 Gr WCB
30	Pilot Valve Seat	Stainless Steel AISI 303
31	Pilot Valve Head	Stainless Steel AISI 440A
32	Adjustment Knob	Phenolic ASTM D 700 TY 2
33	Pointer	Stainless Steel AISI 301
34	Extension Nut	Brass ASTM B16
35	Case Tube	Brass ASTM B 135 (330)
36	Retaining Nut	Brass ASTM B16
37	Pilot Mounting Screws	Steel ASTM A449
38	Capillary Tube	Varies with sytle selected
39	Bulb	Varies with style selected
40	Electric Pilot Body	Cast Iron Cast Bronze ASTM A126 CL B ASTM B62
60	Pilot Gasket	Graphite
61	Electric Solenoid Valve	

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