

spirax sarco

Combination Pressure/Temperature Regulator w/ Electric Override 1/2" to 4" 25PTE

The 25PTE has all of the features of the 25PT pressure/temperature regulator, with the addition of an electric pilot which permits an electrical signal to override the temperature and pressure pilots 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	25PTE			
Sizes	1/2" to 2"	2-1/2", 3", 4"	1/2" to 2"	2", 2-1/2", 3", 4"
Connections	NPT	ANSI 125 flgd.	NPT	ANSI 300 flgd.
Construction	Cast Iron		Cast Steel	
Options		ANSI 250 flgd.		ANSI 150 flgd. (excludes 2")
Electric Pilot Specifications	Non-Standard capillary tubing length (see TIS 1.1123)			
	Enclosure: NEMA 4 & 7 (C&D) 115v (230v)/60Hz Inrush: 45 VA Normally closed 200 psig Max. operating pressure			
Electric Pilot Options	For regulators 2-1/2" and larger at pressures below 125 psig, use the following electric pilot: Enclosure: NEMA 4 & 7 (C&D) 115v (230v)/60Hz Inrush: 45 VA Normally closed 140 psig Max Operating Pressure			

Typical Applications

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

Sample Specification

Pressure/Temperature Regulators shall be of the pilot-actuated, diaphragm-operated type with separate pressure and temperature pilots and electrical override. The main valve shall be single-seated, with hardened stainless steel trim; the regulator body shall be cast iron (cast steel). The pilots 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 overheat protection. The regulator shall be capable of dead-end shut-off. 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 (17 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	160°F to 220°F	70°C to 105°C
100°F to 160°F	40°C to 70°C	200°F to 260°F	95°C to 125°C
120°F to 180°F	50°C to 80°C	260°F to 320°F	125°C to 160°C

Downstream Pressure Ranges

For the following downstream pressures, three color-coded pilot valve springs are available:

Yellow: 3 to 30 psi **Blue:** 20 to 100 psi **Red:** 80 to 190 psi

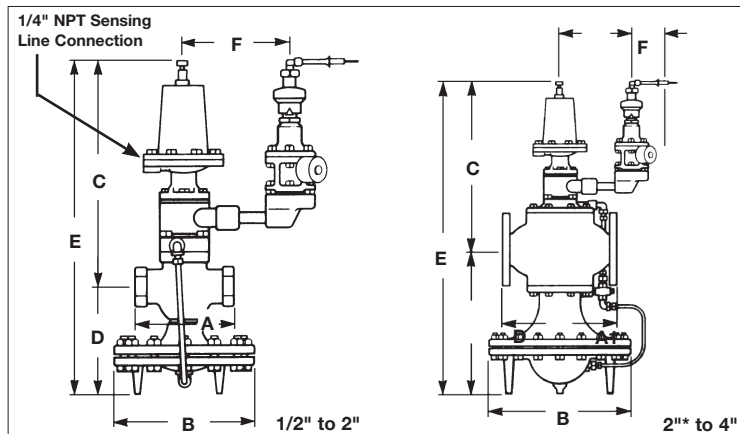
Pressure Shell Design Conditions

PMA Cast Iron: 250 psig/0-450°F 17 barg/0-232°C
Max. allowable pressure Cast Steel: 300 psig/0-600°F 21 barg/0-316°C

TMA Cast Iron: 450°F/0-250 psig 232°C/0-17 barg
Max. allowable temperature Cast Steel: 600°F/0-300 psig 316°C/0-21 barg

Capacities

The regulator is sized according to the temperature control requirements. For selection and sizing, see TIS 1.1114 and 3.030.



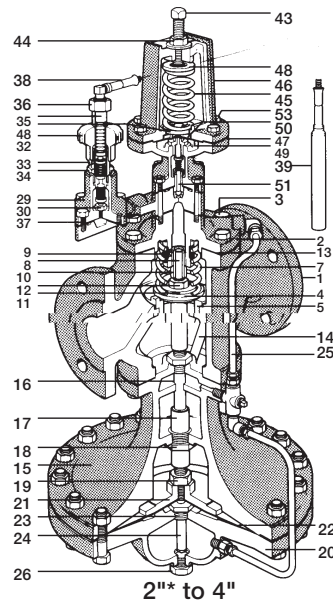
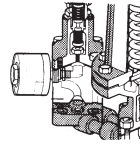
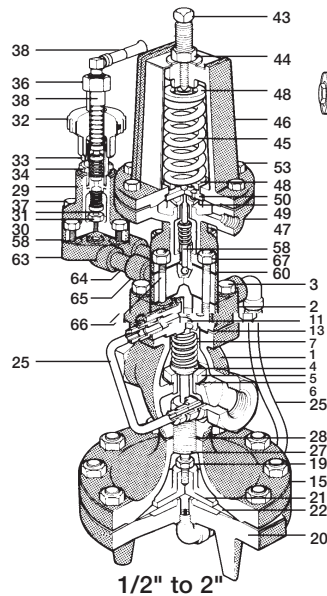
Size	Dimensions (nominal) in inches and millimeters								WEIGHT	
	A	A1	A1	B	C	D	E	F	Cast Iron	Cast Steel
1/2", 3/4"	5.5	-	-	7.6	13.25	6.2	19.4	5.0	41 lb	45 lb
	140	-	-	194	337	157	494	127	18.6 kg	20.4 kg
1"	6.0	-	-	8.6	13.2	6.75	19.9	5.0	48 lb	52 lb
	152	-	-	219	335	171	506	127	21.8 kg	23.6 kg
1-1/4", 1-1/2"	7.25	-	-	8.6	13.75	7.1	20.8	5.0	53.5 lb	60 lb
	184	-	-	219	349	179	529	127	24.3 kg	26.3 kg
2"	8.5	-	9.0	10.6	14.4	8.2	22.6	5.0	78 lb	85 lb
	216	-	228	270	365	208	573	127	35.4 kg	38.6 kg
2-1/2"	-	10.9	11.5	13.6	15.1	13.9	29.0	5.0	166 lb	181 lb
	-	276	292	346	383	354	737	127	75.6 kg	82.1 kg
3"	-	11.75	12.5	13.6	15.0	14.4	29.4	5.0	197.5 lb	215 lb
	-	298	318	346	381	367	748	127	89.6 kg	97.5 kg
4"	-	13.9	14.5	15.6	16.3	16.1	32.4	5.0	293.5 lb	320 lb
	-	352	368	397	414	410	824	127	133 kg	145 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.

TI-3-0171-US 4.12

Combination Pressure/Temperature Regulator w/ Electric Override 1/2" to 4" 25PTE



*ANSI 300 ONLY

Construction Materials

No.	Part	Material	
1	Valve Body	Cast Iron	ASTM A 126 CL B
		Cast Steel	ASTM A216 Gr WCB
2	Cover	Cast Iron	ASTM A 126 CL B
		Cast Steel	ASTM A216 Gr WCB
3	Cover Bolts	Steel	ASTM A449
4	Main Valve Head	Stainless Steel	
5	Main Valve Seat	Stainless Steel	
6	Main Valve Seat Gasket	Copper	
7	Valve Return Spring	Stainless Steel	
8	Valve Stem	Stainless Steel	
9	Strainer Screen	Stainless Steel	
10	Valve Stem Sleeve	Stainless Steel	
11	Spring Guide	Cast Iron 1/2"-2"	
12	Nut	Steel	
13	Cover Gasket	Graphite	
14	Pressure Equalizer Pipe	Stainless Steel	
15	Upper Diaphragm Case	Cast Iron	ASTM A 126 CL B
		Cast Steel	ASTM A216 Gr WCB
16	Stem Bushing (2-1/2" - 4" Cast Steel only)	Stainless Steel	
17	Diaphragm Plate Stem	Stainless Steel	
18	Diaphragm Stem Guide	Stainless Steel	
19	Nut	Brass 1/2" - 2"	
		Steel 2" - 4"	
20	Lower Diaphragm Case	Cast Iron	ASTM A 126 CL B
		Cast Steel	ASTM A216 Gr WCB
21	Diaphragm Plate	Brass 1/2" - 2" C.I. 2" - 4"	
22	Main Diaphragm (2 ply)	Stainless Steel	
23	Bushing	CRS	
24	Tube & Orifice	Stainless Steel	
25	Tubing Assembly	Copper Brass	
26	Plug (Cast Iron) (Cast Steel)	Brass Steel	
27	Connector Stud	Stainless Steel	
28	Body Gasket	1/2" - 2" Copper Clad 2" - 4" Graphite	
29	Pilot Valve Body	Cast Iron	ASTM A 126 CL B
		Cast Steel	ASTM A216 Gr WCB
30	Pilot Valve Seat	Stainless Steel	
31	Pilot Valve Head	Stainless Steel	
32	Adjustment Knob	Phenolic	

33	Pointer	Stainless Steel	
34	Extension Nut	Brass	
35	Case Tube	Brass	
36	Retaining Nut	Brass	
37	Pilot Mounting Screws	Steel	
38	Capillary Tube	Varies with style selected	
39	Bulb	Varies with style selected	
43	Adjustment Screw	Stainless Steel	
44	Jam Nut	Brass	
45	Pilot Valve Spring	Steel	
46	Upper Diaphragm Case	Cast Iron	
		Cast Steel	
47	Lower Diaphragm Case	Cast Iron	
		Cast Steel	
48	Spring Plate	Steel	ASTM A569
49	Diaphragm	Stainless Steel	
50	Diaphragm PLate	Brass	
51	Pilot Head Spring	Stainless Steel	
52	Spring Retainer Cup	Stainless Steel	
53	Retaining Ring	Brass	
54	Pilot Seat	Stainless Steel	
55	Pilot Head	Stainless Steel	
56	Head Stem	Stainless Steel	
57	Stem Guide	Stainless Steel	
58	Stem Guide Gasket	Stainless Steel	
59	Seat Gasket	Stainless Steel	
60	Pilot Gasket	Graphite	
61	Pilot Mounting Screws	Steel	ASTM A449
62	Diaphragm Case Screws	Steel	
63	"T" Pilot Adapter	Brass	
64	Adapter Pipe	Steel	
65	"P" Pilot Adapter	Ductile Iron	
		Cast Steel	
66	Adapter Stud	Steel	
67	Adapter Nut	Steel	

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 regulator. The trap and regulator should both be protected with a strainer. The thermostatic bulb must be carefully located in the medium being heated. The pressure sensing line may be located either in the downstream piping or in the steam space. Complete installation instructions are given in IM-3-000-US.

Maintenance

Complete installation and maintenance instructions are given in IM-3-000-US, a copy of which is supplied with each regulator. Available spare parts are shown on TI-1-1120-US and TI-3-0271-US.

TI-3-0171-US 4.12