## spirax /sarco®

# Pilot Operated Pressure Regulator ½" to 4" 25P

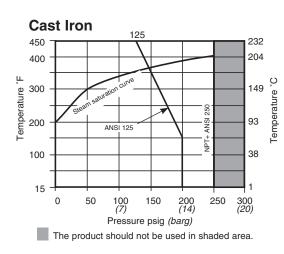
The 25P is a self-actuated pilotoperated pressure regulator. Downstream pressure is fed back through an external sensing line to the pressure pilot, which adjusts the opening of the main valve so as to maintain the set pressure. The main valve can close tight for ANSI/FCI 70-2 Class IV shut off when steam is not required.

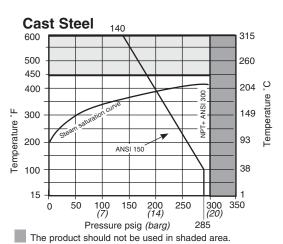
Model	25P			
Sizes	½" to 2"	2½", 3", 4"	½" to 2"	2½", 3", 4"
Connections	NPT	ANSI 125 flgd.	NPT	ANSI 300 flgd.
Construction	Cast Iron		Cast	Steel
Options		ANSI 250 flgd.		ANSI 150 flgd.

#### **Typical Applications**

The 25P is a reliable, accurate regulator to reduce steam from a high supply pressure to the most efficient operating pressure of the equipment, and to protect the equipment from dangerously high pressures.

### Capacities For selection and sizing data, see TIS 3.030.





For operation in this region, stainless steel transmission tubing need be fitted.

Note: Maximum temperature for Stainless Steel tubing is 600°F

#### 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 250 psi

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(E000000)	
	E

Dimensions (nominal) in inches and millimet						eters		
							Weight	
Α	A1	A1	В	С	D	E	Cast Iron	Cast Steel
<b>5.5</b> 140	=	_	<b>7.6</b> 194	<b>12.2</b> 310	<b>6.2</b> 157	<b>18.4</b> 467	<b>32 lb</b> 14.5 kg	<b>35 lb</b> 15.9 kg
<b>6.0</b> 152	_	_	<b>8.6</b> 219	<b>12.1</b> <i>308</i>	<b>6.75</b> 171	<b>18.9</b> <i>479</i>	<b>39 lb</b> 17.7 kg	<b>43 lb</b> 19.5 kg
<b>7.25</b> 184	=	_	<b>8.6</b> 219	<b>12.7</b> 322	<b>7.1</b> 179	<b>19.75</b> 502	<b>44 lb</b> 20 kg	<b>48 lb</b> 21.8 kg
<b>8.5</b> 216	=	_	<b>10.6</b> 270	<b>13.3</b> 338	<b>8.2</b> 208	<b>21.5</b> 546	<b>69 lb</b> 31.3 kg	<b>75 lb</b> 34 kg
<u>-</u> -	<b>10.9</b> <i>276</i>	<b>11.5</b> <i>292</i>	<b>13.6</b> 346	<b>14.0</b> 356	<b>13.9</b> <i>354</i>	<b>27.9</b> 710	<b>157 lb</b> 71.2 kg	<b>171 lb</b> 77.6 kg
=	<b>11.75</b> 298	<b>12.5</b> 318	<b>13.6</b> <i>346</i>	<b>13.9</b> <i>354</i>	<b>14.4</b> 367	<b>28.4</b> 721	<b>188 lb</b> 85.3 kg	<b>205 lb</b> 93 kg
_	<b>13.9</b> 352	14.5 368	<b>15.6</b> <i>397</i>	<b>15.25</b> <i>387</i>	<b>16.1</b> 410	<b>31.4</b> 797	<b>284 lb</b> 129 kg	<b>309 lb</b> 140 kg
	5.5 140 6.0 152 7.25 184 8.5	ANSI 125 ANSI 150 A A1 5.5 — 140 — 6.0 — 152 — 7.25 — 184 — 8.5 — 216 — 10.9 — 276 — 11.75 — 298 —	ANSI 125 ANSI 250 ANSI 150 ANSI 300  A A1 A1  5.5 — — — 140 — — — 152 — — — 152 — — — 184 — — — 8.5 — — — 216 — — — 1.0.9 11.5 — 276 292 — 11.75 12.5 — 298 318 — 13.9 14.5	ANSI 125 ANSI 250 ANSI 150 ANSI 300  A A1 A1 B  5.5 7.6 140 194  6.0 8.6 152 219  7.25 8.6 184 219  8.5 10.6 216 270  - 10.9 11.5 13.6 - 276 292 346  - 11.75 12.5 13.6 - 298 318 346  - 13.9 14.5 15.6	ANSI 125 ANSI 250 ANSI 150 ANSI 300  A A1 A1 B C  5.5 7.6 12.2 140 194 310  6.0 8.6 12.1 152 219 308  7.25 8.6 12.7 184 219 322  8.5 10.6 13.3 216 270 338  - 10.9 11.5 13.6 14.0 - 276 292 346 356  - 11.75 12.5 13.6 13.9 - 298 318 346 354  - 13.9 14.5 15.6 15.25	ANSI 125 ANSI 250 ANSI 150 ANSI 300  A A1 A1 B C D  5.5 7.6 12.2 6.2 140 194 310 157  6.0 8.6 12.1 6.75 152 219 308 171  7.25 8.6 12.7 7.1 184 219 322 179  8.5 10.6 13.3 8.2 216 270 338 208  - 10.9 11.5 13.6 14.0 13.9 276 292 346 356 354  - 11.75 12.5 13.6 13.9 14.4 298 318 346 354 367  - 13.9 14.5 15.6 15.25 16.1	ANSI 125 ANSI 250 ANSI 150 ANSI 300 A A1 A1 B C D E 5.5 7.6 12.2 6.2 18.4 140 194 310 157 467 6.0 194 310 157 467 6.0 219 308 171 479 7.25 219 308 171 479 7.25 8.6 12.7 7.1 19.75 184 219 322 179 502 8.5 10.6 13.3 8.2 21.5 216 270 338 208 546 - 10.9 11.5 13.6 14.0 13.9 27.9 - 276 292 346 356 354 710 - 11.75 12.5 13.6 13.9 14.4 28.4 - 298 318 346 354 367 721 - 13.9 14.5 15.6 15.25 16.1 31.4	ANSI 150 ANSI 300  A A1 A1 B C D E Cast Iron  5.5 7.6 12.2 6.2 18.4 32 b  140 194 310 157 467 14.5 kg  6.0 8.6 12.1 6.75 18.9 39 lb  152 219 308 171 479 17.7 kg  7.25 8.6 12.7 7.1 19.75 44 lb  184 219 322 179 502 20 kg  8.5 10.6 13.3 8.2 21.5 69 lb  216 - 270 338 208 546 31.3 kg  - 10.9 11.5 13.6 14.0 13.9 27.9 15.2 kg  - 11.75 12.5 13.6 13.9 14.4 28.4 188 lb  - 298 318 346 354 367 721 85.3 kg  - 13.9 14.5 15.6 15.25 16.1 31.4 284 lb

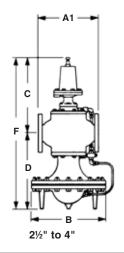
Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.

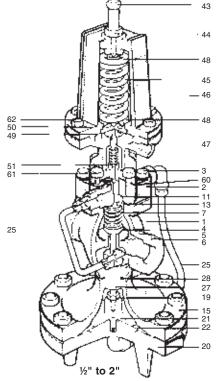
In the interests of development and improvement of the product, we reserve the right to change the specification.

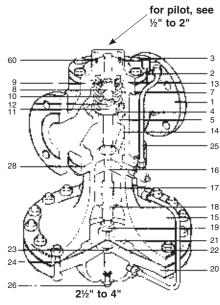
### **Pilot Operated Pressure Regulator** 1/2" to 4" 25P

#### Sample Specification

The pressure regulator shall be of the pilot-actuated diaphragm operated type. The main valve shall be single-seated with hardened stainless steel trim; the regulator body shall be cast iron (cast steel). The pilot shall be bolted directly to the regulator body. The regulator shall be capable of dead-end shut-off.







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	Steel		
		1½", 25 & 2" 25S	400 Series Stn Stl		
		all other sizes	400 Series Stn Stl		
5	Main Valve Seat	Stainless Steel 1/2"-2"	400 Series Stn Stl		
		2½" - 4"	AISI 303		
6	Main Valve Seat Gasket	Copper	ASTM B272		
7	Valve Return Spring	Stainless Steel	AISI 631		
8	Valve Stem	Stainless Steel	AISI 303		
9	Strainer Screen	Stainless Steel	AISI 304		
10	Valve Stem Sleeve	Stainless Steel	AISI 420F		
11	Spring Guide	Cast Iron ½"-2"	ASTM A 126 CL B		
		CRS 2½" - 4"	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	ASTM A 126 CL B		
		Cast Steel	ASTM A216 Gr WCB		
16	Stem Bushing (2½" - 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"	ASTM B16		
		Steel 21/2" - 4"	ASTM A307		
20	Lower Diaphragm Case	Cast Iron	ASTM A 126 CL B		
		Cast Steel	ASTM A216 Gr WCB		
21	Diaphragm Plate	Brass ½" - 2"	ASTM B124 (377)		
	, ,	C.I. 2½" - 4"	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	ASTM B280 (122)		
-		Brass	ASTM B16		
	(optional for cast steel)	Stainless Steel	AISI 316		

No.	Part	Material	
26	Plug (Cast Iron)	Brass	ASTM B16
	(Cast Steel)	Steel	ASTM A105
27	Connector Stud	Stainless Steel	AISI 303
28	Body Gasket	1/2" - 2" Copper Clad	Non-Asbestos Fill
		2½" - 4" Graphite	
43	Adjustment Screw	Stainless Steel	AISI 303
44	Jam Nut	Brass	ASTM B16
45	Pilot Valve Spring	Steel	AISI 1060
46	Upper Diaphragm Case	Cast Iron	ASTM A 126 CL B
		Cast Steel	ASTM A216 Gr WCB
47	Lower Diaphragm Case	Cast Iron	ASTM A 126 CL B
		Cast Steel	ASTM A216 Gr WCB
48	Spring Plate	Steel	ASTM A569
49	Diaphragm	Stainless Steel	ASTM A240
50	Diaphragm PLate	Brass	ASTM B36
51	Pilot Head Spring	Stainless Steel	AISI Type 302
60	Pilot Gasket	Graphite	
61	Pilot Mounting Screws	Steel	ASTM A449
62	Diaphragm Case Screws	Steel 5/16" - 18 x 1"	ASTM A449

#### 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 pressure sensing line should be located in a straight section of the downstream piping at least 10 pipe diameters from the nearest fitting. 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-3-027-US & TI-3-0271-US.

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