



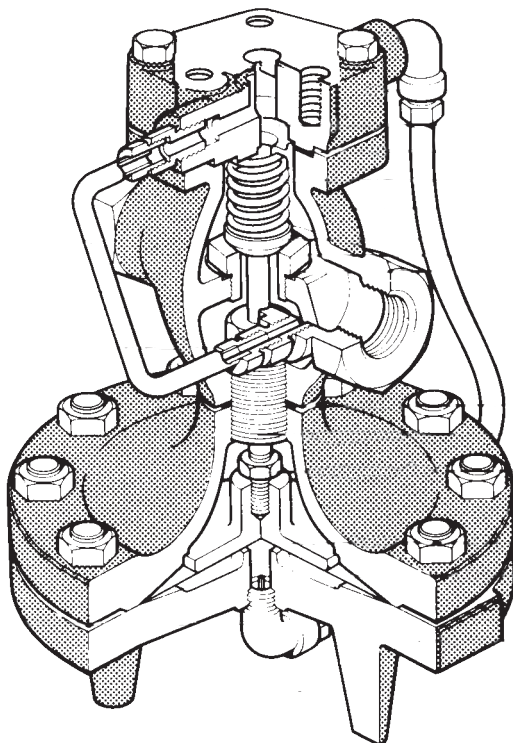
# Pressure Regulator with Air Loaded Pilot

## 1/2" to 4" 25PA

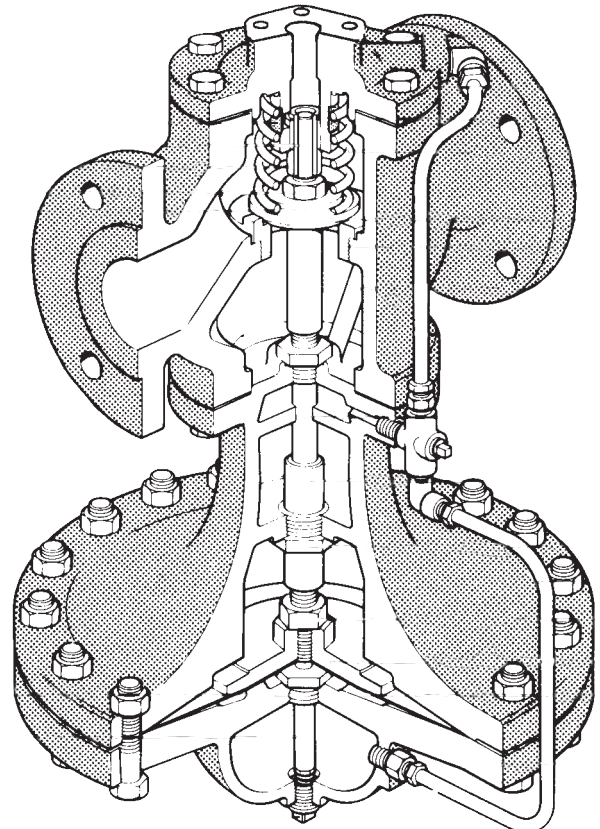
### Description

The Pressure Pilot is loaded by an external compressed air supply rather than by a spring. The downstream pressure can be set remotely by adjusting the loading air pressure.

Model	25PA			
Sizes	1/2" to 2" (DN15 to DN50)	2 1/2", 3", 4" (DN65, DN80, DN100)	1/2" to 2" (DN15 to DN50)	2", 2 1/2", 3", 4" (DN50, DN65, DN80, DN100)
Connections	NPT	ANSI 125	NPT	ANSI 300
Construction	Cast Iron		Cast Steel	
Options		ANSI 250		ANSI 150 (excludes 2")
Transmission Tubing	Copper Tubing		Stainless Steel Tubing	



1/2" to 2"  
(DN15 to DN50)



2" to 4"  
(DN50\* to DN100)  
\*ANSI 300 only

**Air Pilots**

PA direct air load maximum 120 psi g (8.3 bar g) air

**Downstream pressure ranges**

For proper selection, see TI-P717-08-US

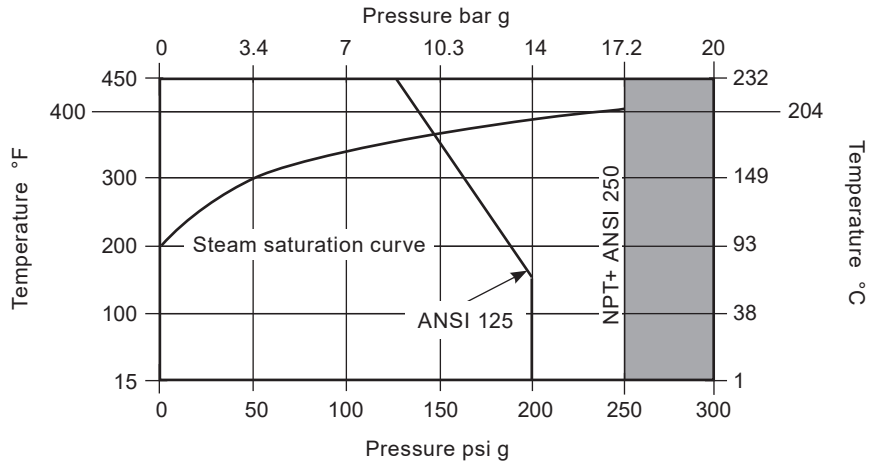
PA 3 to 100 psi g (approximate ratio 1:1), see table

**Capacities**

For selection and sizing data, see TI-P717-08-US

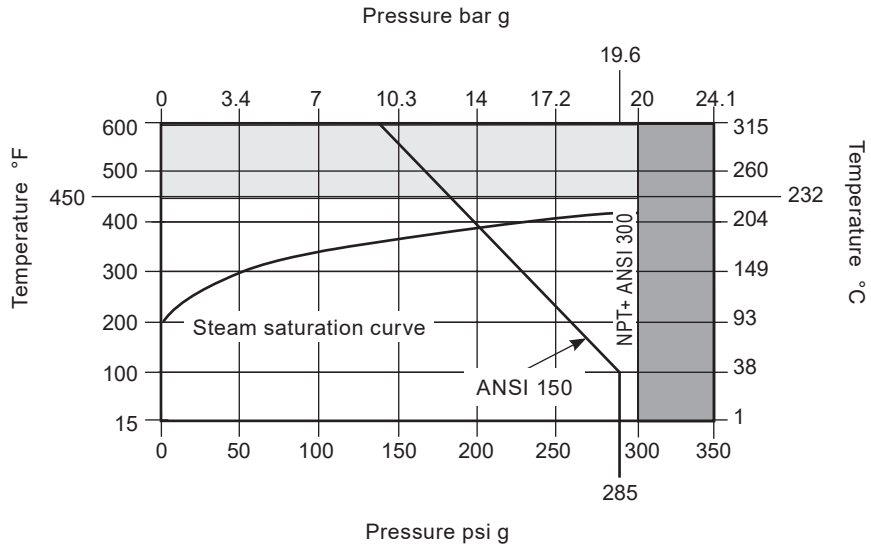
**Pressure/temperature limits**

**Cast Iron**



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

**Cast Steel**

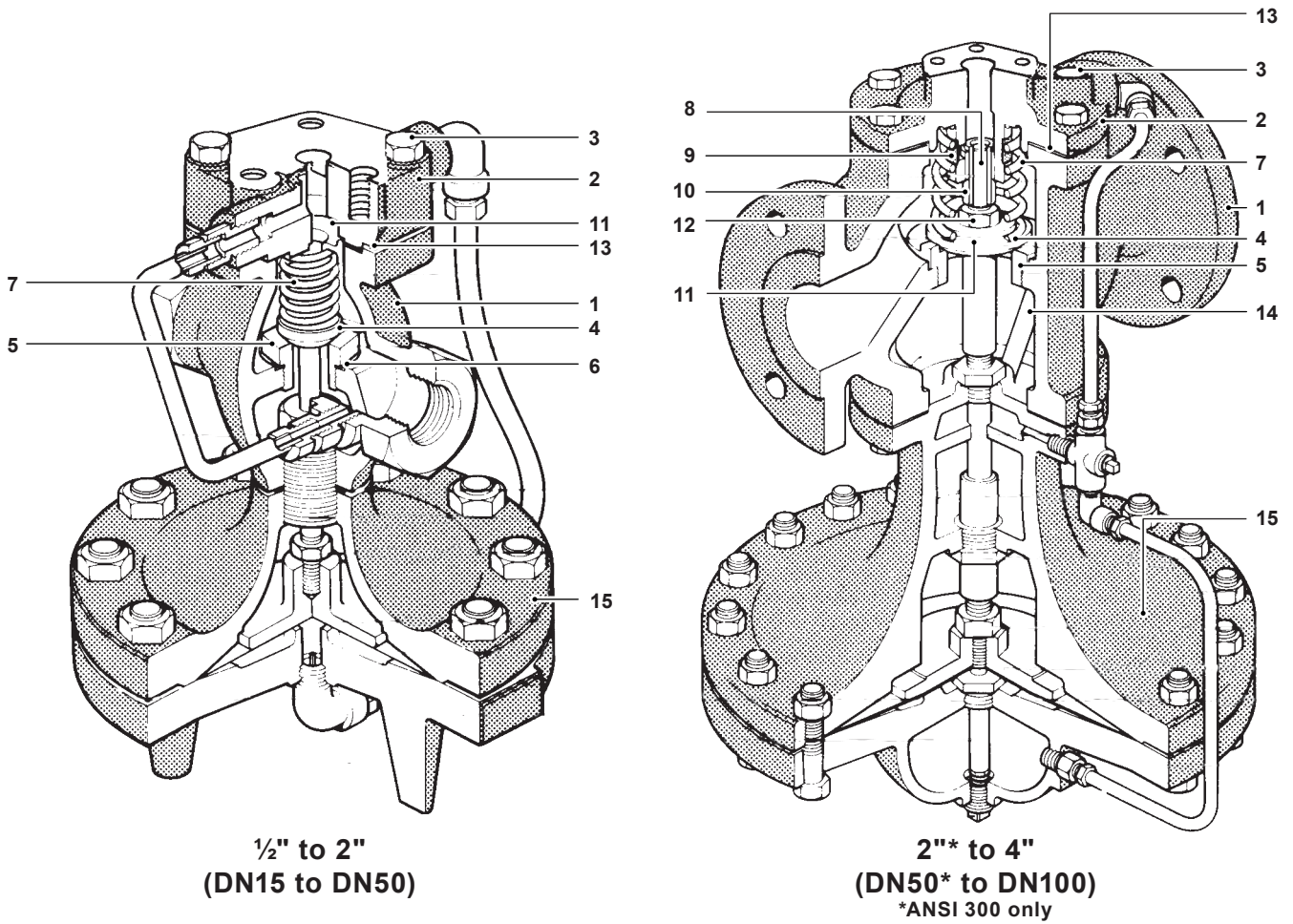


For operation in this region, stainless steel transmission tubing need be fitted.

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

**Note:** Maximum temperature for Stainless Steel tubing is 600 °F (316 °C)

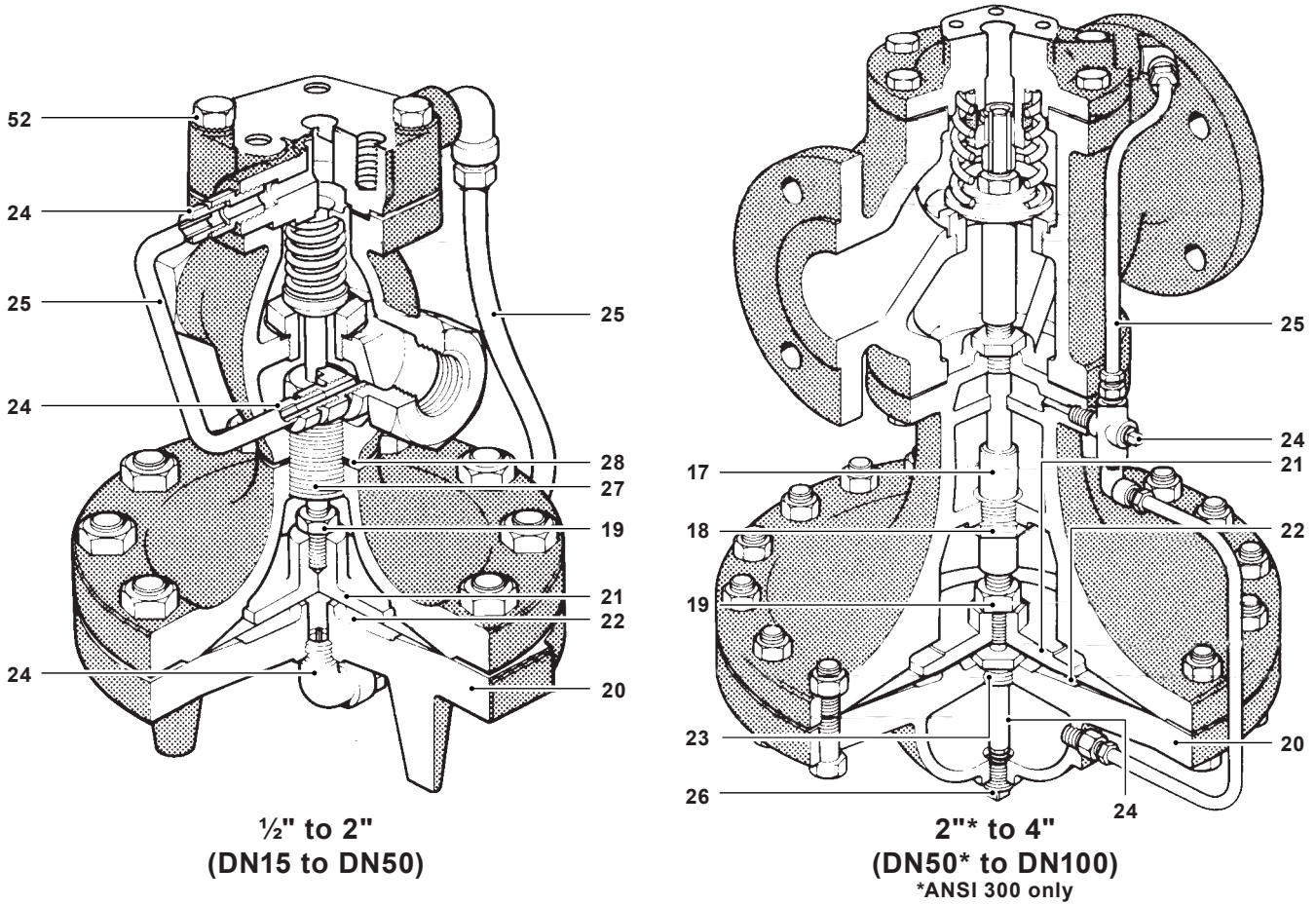
## Materials



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" (DN15 - DN50)
		CRS 2" - 4" (DN50* - DN100)
12	Nut	Steel
13	Cover Gasket	Graphite
14	Pressure Equalizer Pipe	Stainless Steel
15	Upper Diaphragm Case	Cast Iron ASTM A 126 CL B

Materials continued on next page

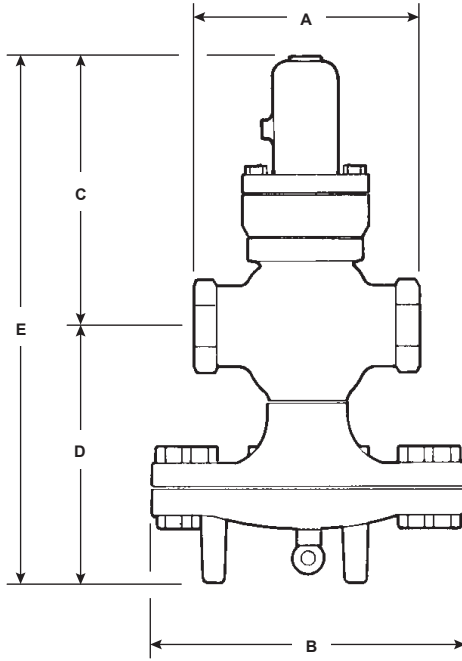
**Materials (continued)**



No.	Part	Material
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" (DN15 - DN50) Steel 2"* - 4" (DN50* - DN100)
20	Lower Diaphragm Case	Cast Iron <span style="float: right;">ASTM A 126 CL B</span> Cast Steel <span style="float: right;">ASTM A216 Gr WCB</span>
21	Diaphragm Plate	Brass 1/2" - 2" (DN15 - DN50) C.I. 2"* - 4" (DN50* - DN100)
22	Main Diaphragm (2 ply)	Stainless Steel
23	Bushing	CRS
24	Tube and Orifice	Stainless Steel
25	Tubing Assembly Cast Iron	Copper / Brass
	Tubing Assembly Cast Steel	Stainless Steel
26	Plug	(Cast Iron) Brass (Cast Steel) Steel
27	Connector Stud	Stainless Steel
28	Body Gasket	1/2" - 2" (DN15 - DN50) Copper Clad

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

**25PA**  
**½" to 2"**  
**(DN15 to DN50)**



Size	A	ANSI 125	ANSI 250	B	ANSI 125	ANSI 250	D	ANSI 125	ANSI 250	Weight	
		ANSI 150	ANSI 300		ANSI 300	ANSI 300		ANSI 300	Cast iron	Cast steel	
½", ¾"	5.5 (140)			7.6 (193)			6.2 (157)	16.3 (414)	14.2 (361)	32 (14.5)	35 (15.9)
1"	6.0 (152)			8.6 (218)	10.1 (257)	8.0 (203)	6.75 (171)	16.9 (429)	14.8 (376)	39 (17.7)	43 (19.5)
1¼", 1½"	7.25 (184)						7.1 (180)	17.7 (450)	15.6 (396)	44 (20.0)	48 (21.8)
2"	8.5 (216)		9.0 (229)	10.6 (269)	11.3 (287)	9.2 (234)	8.2 (208)	19.5 (495)	17.4 (442)	69 (31.3)	75 (34.0)
2½"		10.9 (277)	11.5 (292)	13.6 (345)	11.9 (302)	9.9 (251)	13.9 (353)	25.8 (655)	23.8 (605)	157 (71.2)	171 (77.6)
3"		10.75 (273)	12.5 (318)			9.8 (249)	14.4 (366)	26.3 (668)	24.3 (617)	188 (85.3)	205 (93.0)
4"		13.9 (353)	14.5 (368)	15.6 (396)	13.2 (335)	11.1 (282)	16.1 (409)	29.3 (744)	27.3 (693)	284 (129)	309 (140)

\* All pilots are interchangeable. Drawings are for dimensional purposes only.

**Air Loading Pilot PA Requires Air Loading**  
as indicated in the following table

<b>Desired Outlet Steam Pressure P2 psi g (bar g)</b>	5 (0.34)	10 (0.69)	25 (1.7)	50 (3.4)	75 (5.2)	100 (6.9)
<b>Inlet Pressure P1 psi g (bar g)</b>	10 to 100 (0.69 to 6.9)					
<b>Approximate Air Set Pressure psi g (bar g)</b>	11 to 13.5 (0.76 to 0.93)	16 to 16.8 (1.1 to 1.2)	31 to 33.5 (2.1 to 2.3)	56 to 58 (3.9 to 4)	80 to 81 (5.5 to 5.6)	102 to 103 (7 to 7.1)

**Installation**

The valve 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 pressure sensing line should 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 valve. Available spare parts are shown on TI-P717-09-US and TI-P235-02-US.

Standard Transmission tubing for Cast Iron Valve will be Copper with Brass fittings.

Standard Transmission tubing for Cast Steel Valve will be Stainless Steel.

If a different material is required order the Spare Part Kit

**Stainless Steel Transmission Tubing Kits**

Item #	Size	Description
71464	½", ¾"	Kit, ½"-¾", 25 Valve, Stainless Steel, Transmission tubing
71465	1"	Kit, 1", 25 Valve, Stainless Steel, Transmission tubing
71466	1¼", 1½"	Kit, 1¼"-1½", 25 Valve, Stainless Steel, Transmission tubing
71467	2"	Kit, 2", 25 Valve, Stainless Steel, Transmission tubing
71468	2½"	Kit, 2½", 25 Valve, Stainless Steel, Transmission tubing
71469	3"	Kit, 3", 25 Valve, Stainless Steel, Transmission tubing
71470	4"	Kit, 4", 25 Valve, Stainless Steel, Transmission tubing

**Copper Tubing Transmission Line Kits**

Item #	Size	Description
57302	½", ¾"	Transmission tubing kit, ½"-¾", 25 Valve
57303	1"	Transmission tubing kit, 1", 25 Valve
57304	1¼", 1½"	Transmission tubing kit, 1¼"-1½", 25 Valve
57305	2"	Transmission tubing kit, 2", 25 Valve
58010	2½"	Transmission tubing kit, 2½", 25 Valve
58011	3"	Transmission tubing kit, 3", 25 Valve
58012	4"	Transmission tubing kit, 4", 25 Valve