



TI-P235-05-US  
Issue 3

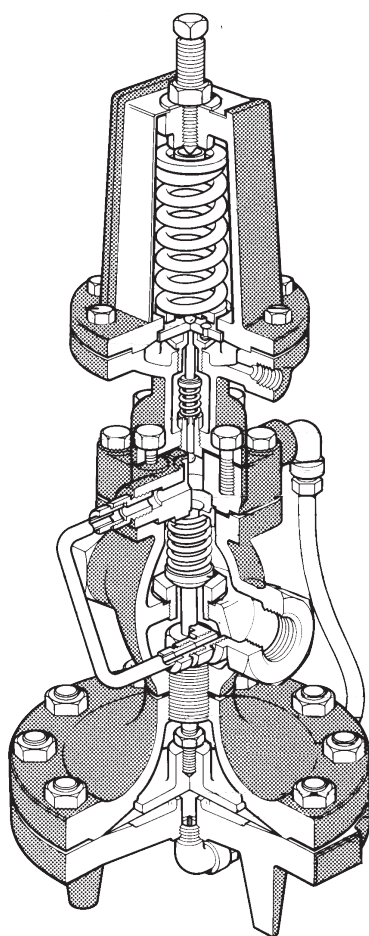
# Pilot Operated Pressure Regulator

## 1/2" to 4" 25P

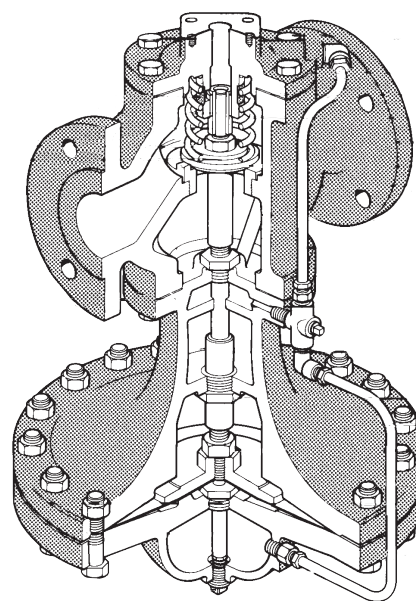
### Description

The 25P is a self-actuated pilot-operated 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	1/2" to 2"	2 1/2", 3", 4"	1/2" to 2"	2", 2 1/2", 3", 4"
Connections	NPT	ANSI 125 flanged	NPT	ANSI 300 flanged
Construction	Cast iron		Cast steel	
Options		ANSI 250 flanged		ANSI 150 flanged (excludes 2")



1/2" to 2"



2" (ANSI 300 only) to 4"

## 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.

## Downstream pressure ranges

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

Yellow: 3 to 30 psi (0.21 to 2.1 bar)

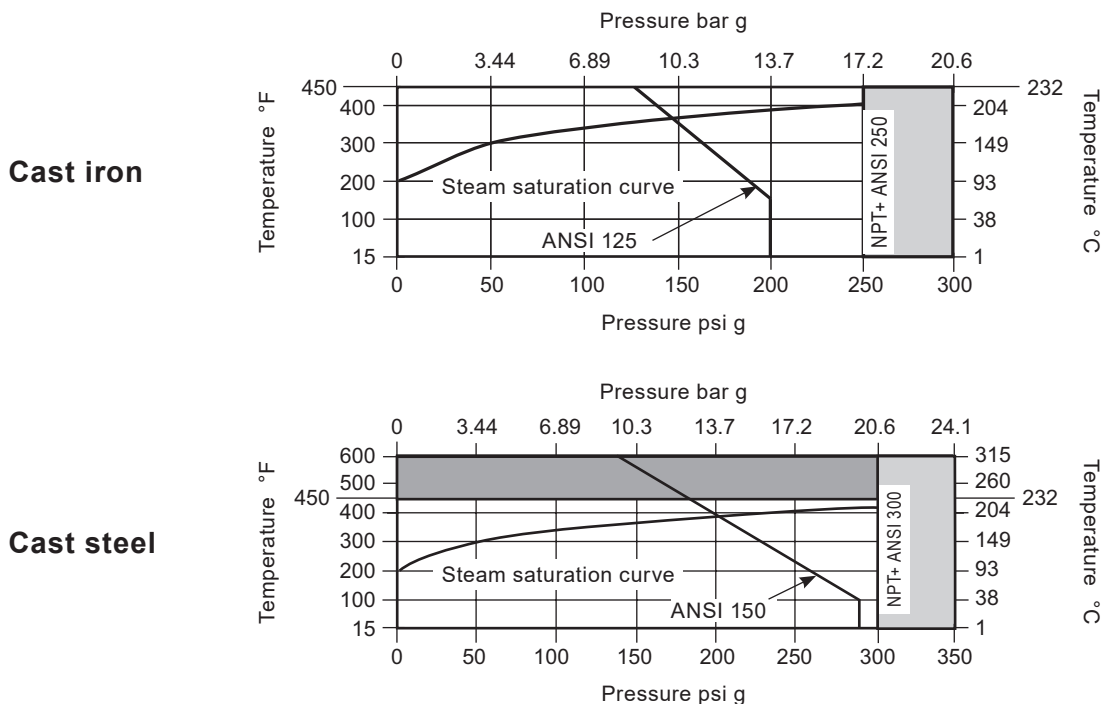
Blue: 20 to 100 psi (1.4 to 6.9 bar)



Red: 80 to 250 psi (5.5 to 17.2 bar)

## Capacities

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

## Pressure/temperature limits



-  The product should not be used in shaded area.
-  For operation in this region, stainless steel transmission tubing need be fitted.  
**Note:** Maximum temperature for Stainless steel tubing is 600 °F (316 °C)

## 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.

## Installation

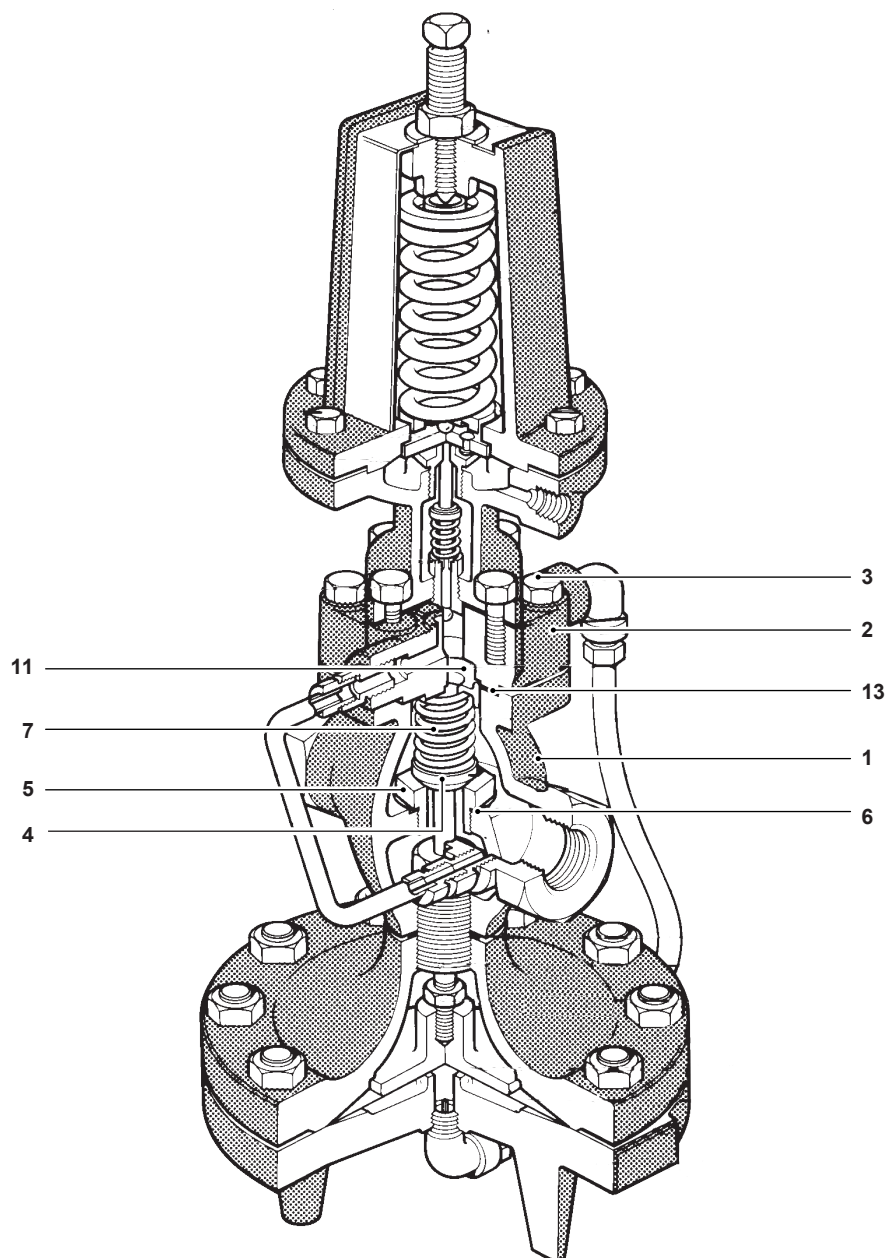
The regulator should be installed in a horizontal line with suitable bypass and isolating valves. A steam trap should be installed upstream to prevent condensate from reaching the regulator. The trap and regulator should both be protected with a strainer. The pressure sensing line should be located in a straight section of the downstream piping at least 10 pipe diameters from the nearest fitting. Complete installation instructions are given in IM-P717-06-US.

## Maintenance

Complete installation and maintenance instructions are given in IM-P717-06-US, a copy of which is supplied with each regulator. Available spare parts are shown on TI-P717-09-US and TI-P235-02-US.

## Materials

½" to 2"

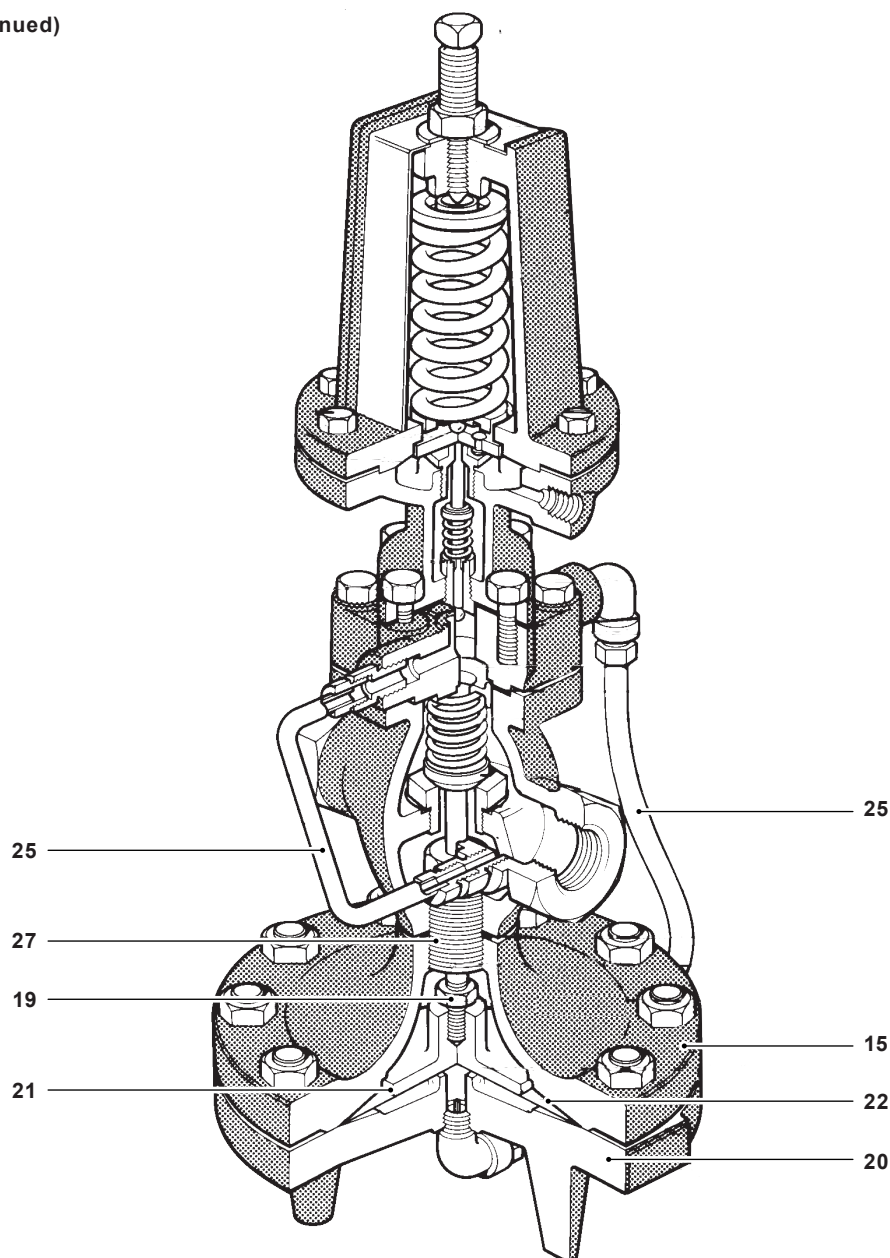


No.	Part	Material
1	Valve Body	Cast iron ASTM A 126 CL B
		Cast steel ASTM A216 Gr WCB
2	Cover	Cast iron ASTM A 126 CL B
		Cast steel ASTM A216 Gr WCB
3	Cover Bolts	Steel ASTM A449
4	Main Valve Head	Stainless steel
5	Main Valve Seat	Stainless steel
6	Main Valve Seat Gasket	Copper
7	Valve Return Spring	Stainless steel
11	Spring Guide	Cast iron ½"-2" CRS 2*** - 4"
13	Cover Gasket	Graphite

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## Materials (continued)

½" to 2"

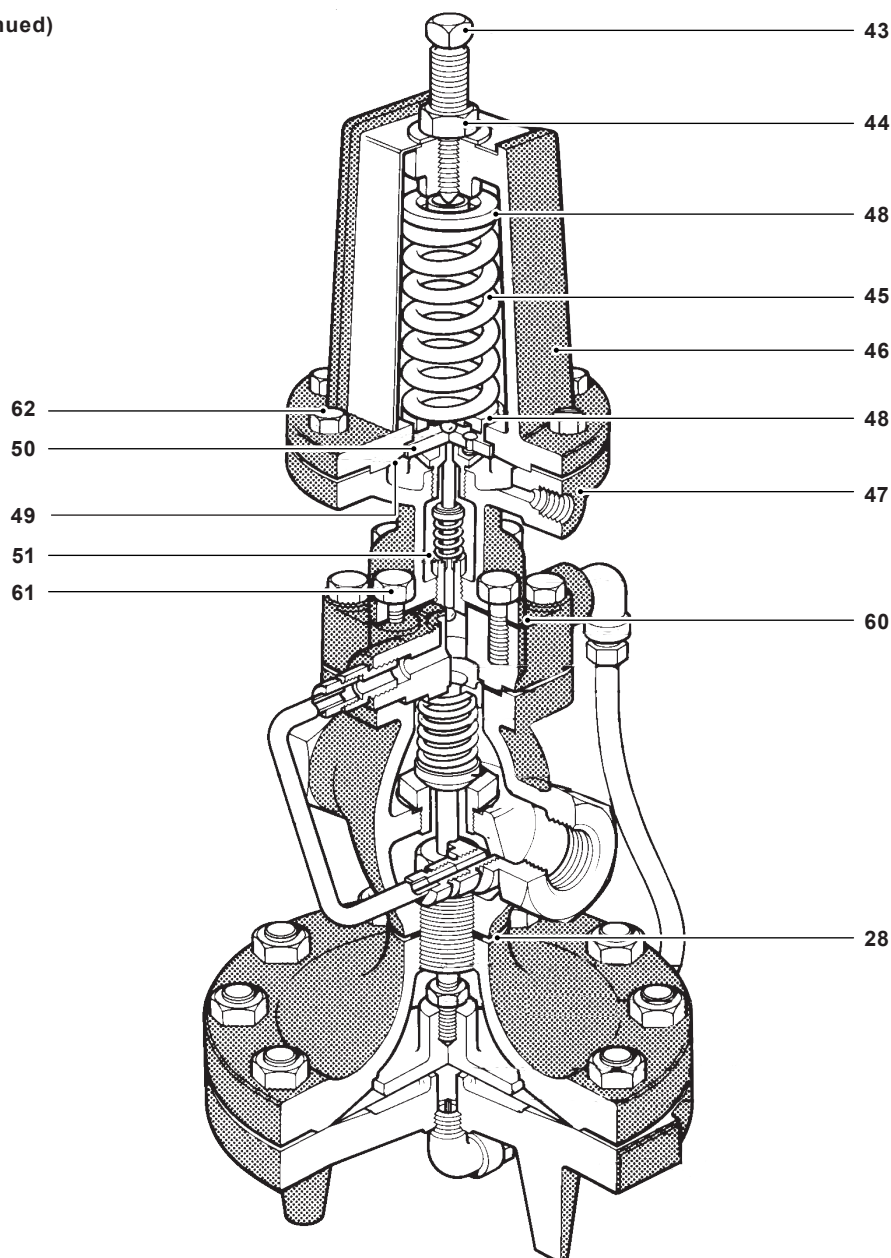


No.	Part	Material
15	Upper Diaphragm Case	Cast iron ASTM A 126 CL B
		Cast steel ASTM A216 Gr WCB
19	Nut	Brass ½" - 2" Steel 2" - 4"
20	Lower Diaphragm Case	Cast iron ASTM A 126 CL B
		Cast steel ASTM A216 Gr WCB
21	Diaphragm Plate	Stainless steel ½" - 2" C.I. 2" - 4"
22	Main Diaphragm (2 ply)	Stainless steel
25	Tubing Assembly	Copper Brass
	(optional for cast steel)	Stainless steel
27	Connector Stud	Stainless steel

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## Materials (continued)

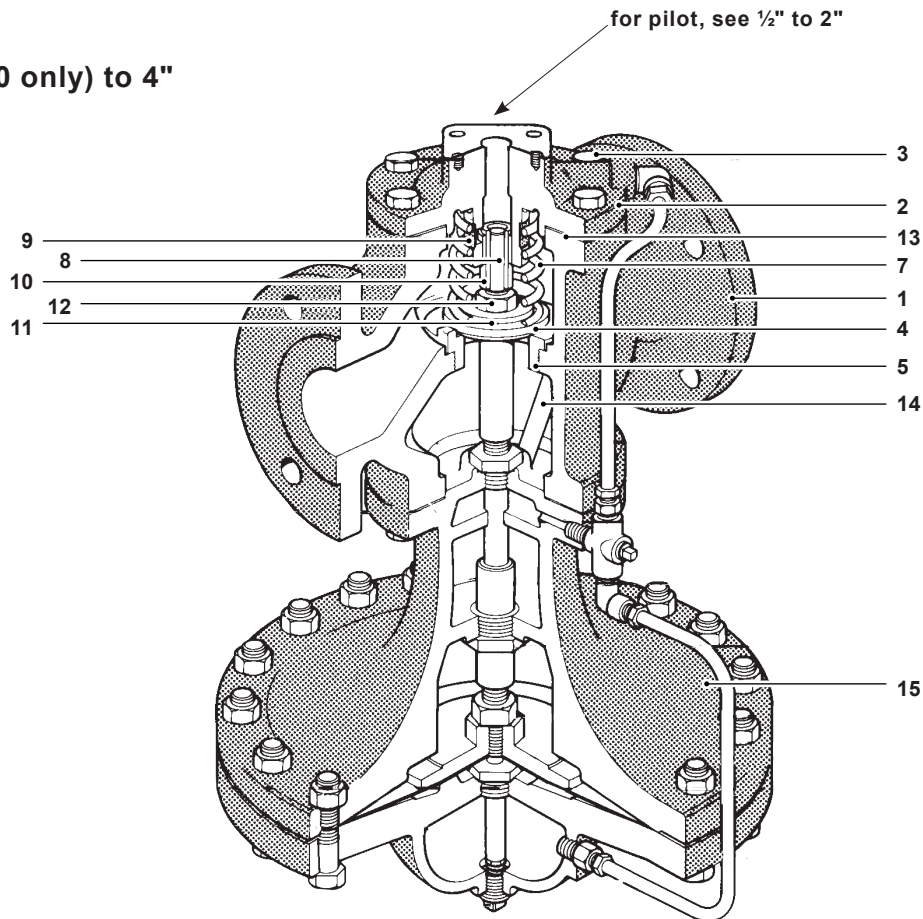
1/2" to 2"



No.	Part	Material
28	Body Gasket	1/2" - 2" Copper Clad 2" - 4" Graphite
43	Adjustment screw	Stainless steel
44	Jam Nut	Brass
45	Pilot Valve Spring	Steel
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
49	Diaphragm (2 ply)	Stainless steel
51	Pilot Head Spring	Stainless steel
60	Pilot Gasket	Graphite
61	Pilot Mounting Screws	Steel
62	Diaphragm Case Screws	Steel ASTM A449

## Materials

2" (ANSI 300 only) to 4"



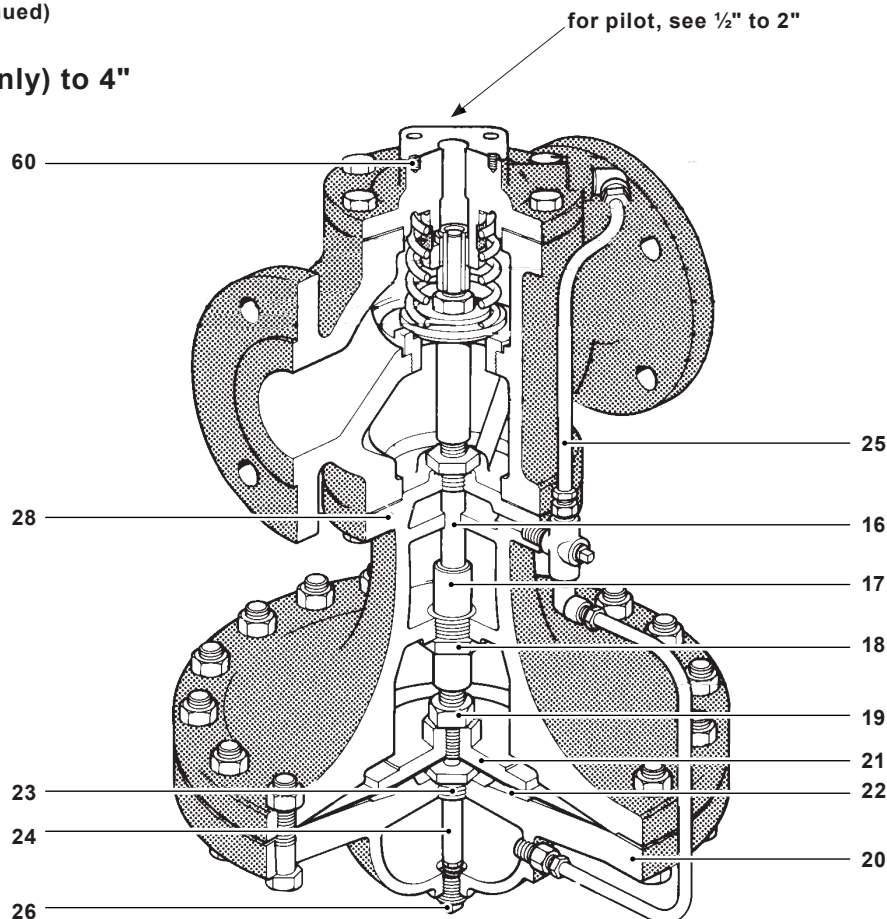
No.	Part	Material	
1	Valve Body	Cast iron	ASTM A 126 CL B
		Cast steel	ASTM A216 Gr WCB
2	Cover	Cast iron	ASTM A 126 CL B
		Cast steel	ASTM A216 Gr WCB
3	Cover Bolts	Steel	ASTM A449
4	Main Valve Head	Stainless steel	
5	Main Valve Seat	Stainless steel	
7	Valve Return Spring	Stainless steel	
8	Valve Stem	Stainless steel	
9	Strainer Screen	Stainless steel	
10	Valve Stem Sleeve	Stainless steel	
11	Spring Guide	Cast iron 1/2"-2" CRS 2" - 4"	
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

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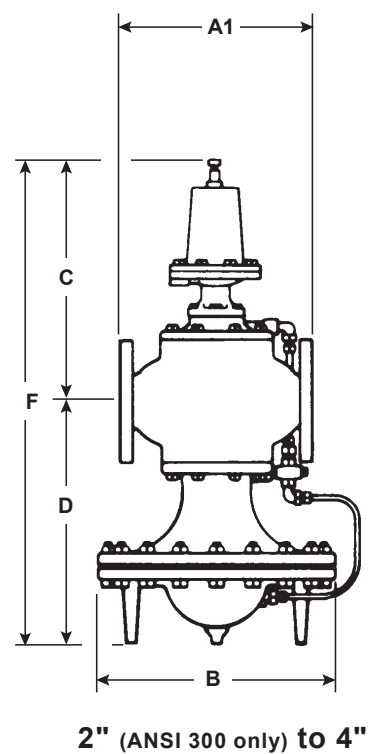
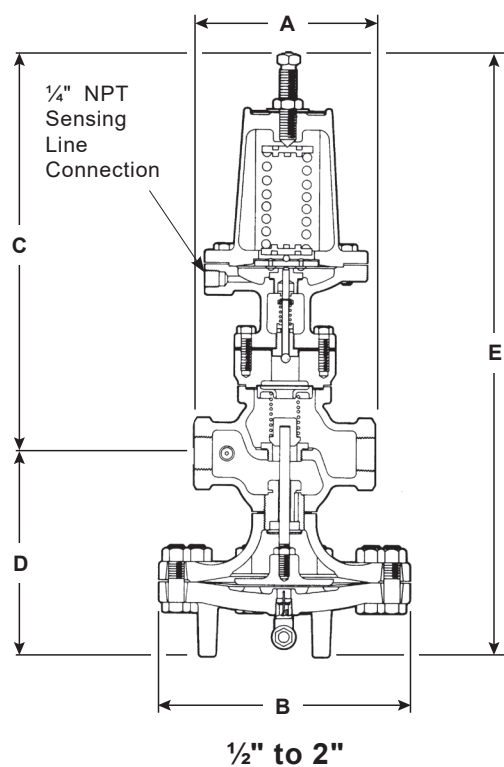
## Materials (continued)

2" (ANSI 300 only) to 4"



No.	Part	Material
16	Stem Bushing	Stainless steel (2½" - 4" Cast steel only)
17	Diaphragm Plate Stem	Stainless steel
18	Diaphragm Stem Guide	Stainless steel
19	Nut	Brass ½" - 2" Steel 2" - 4"
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	Stainless steel ½" - 2" C.I. 2" - 4"
22	Main Diaphragm (2 ply)	Stainless steel
23	Bushing	CRS
24	Tube and Orifice	Stainless steel
25	Tubing Assembly	Copper
		Brass
	(optional for cast steel)	Stainless steel
26	Plug	(Cast iron) Brass (Cast steel) Steel
28	Body Gasket	½" - 2" Copper Clad 2" - 4" Graphite
60	Pilot Gasket	Graphite

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



Size	A	ANSI 125 ANSI 150 A1	ANSI 250 ANSI 300 A1	B	C	D	E	Weight	
								Cast Iron	Cast Steel
1/2", 3/4"	5.5 (140)			7.6 (193)	12.2 (310)	6.2 (157)	18.4 (467)	32 (14.5)	35 (15.9)
1"	6.0 (152)			8.6 (218)	12.1 (307)	6.75 (171)	18.9 (480)	39 (17.7)	43 (19.5)
1 1/4", 1 1/2"	7.25 (184)			8.6 (218)	12.7 (323)	7.1 (80)	19.75 (502)	44 (20)	48 (21.8)
2"	8.5 (216)		9.0 (229)	10.6 (269)	13.3 (338)	8.2 (208)	21.5 (546)	69 (31.3)	75 (34)
2 1/2"		10.9 (277)	11.5 (292)	13.6 (345)	14.0 (356)	13.9 (353)	27.9 (709)	157 (71.2)	171 (77.6)
3"		11.75 (298)	12.5 (318)	13.6 (345)	13.9 (353)	14.4 (366)	28.4 (721)	188 (85.3)	205 (93)
4"		13.9 (353)	14.5 (368)	15.6 (396)	15.25 (387)	16.1 (409)	31.4 (798)	284 (129)	309 (140)