

171 Series

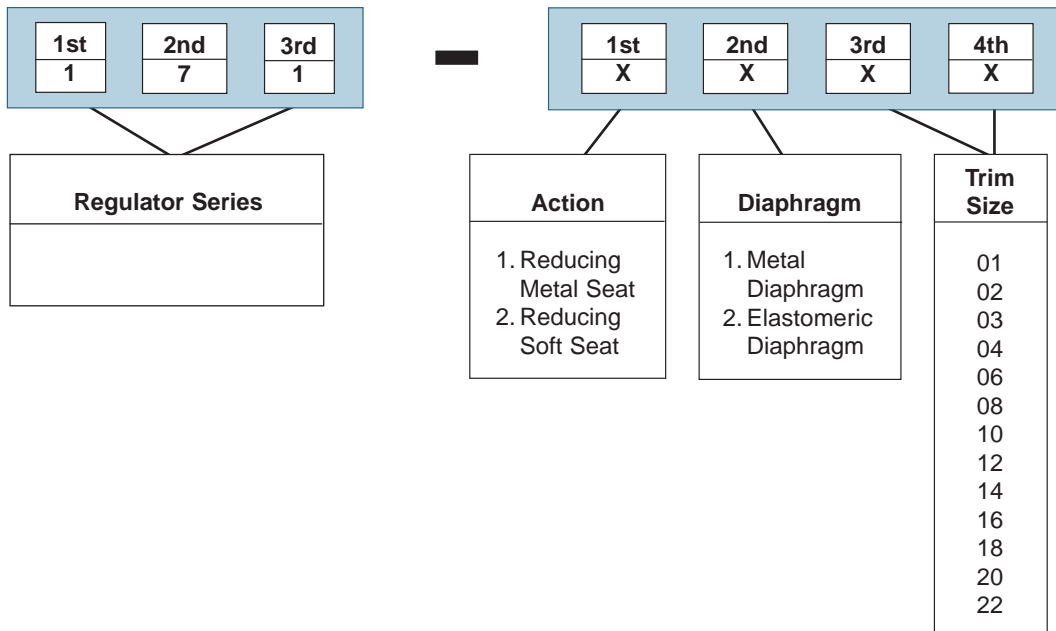
Direct-Operated, Pressure Reducing Regulators



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Numbering System



171 Series: (97/23/EC - PED – 94/9/EC - ATEX)

The 171 series are, direct-operated, pressure reducing regulators. They are available in 1/2 through 1 1/2 inch (DN15 through DN40) with NPT or GAS threaded connections. The regulators are available only in cast iron. The robust construction can sustain rugged use. The design can handle inlet pressures up to 580 psig (40 barg).

Features

- Economical design
- In-line maintenance
- Elastomer discs for tight shutoff
- Rugged construction



Specifications

Body

Body Sizes and End Connections

- 1/2" through 1 1/2" (DN15 through DN40) NPT or GAS

Maximum Inlet Pressure

- 580 psig (40 barg)

Maximum Outlet Pressure

- see table 2

Set Point Range

- 3 to 217 psig (0.21 to 15 barg)
see table 2

Temperature Range

- see tables 4, 5

Pressure Sensing

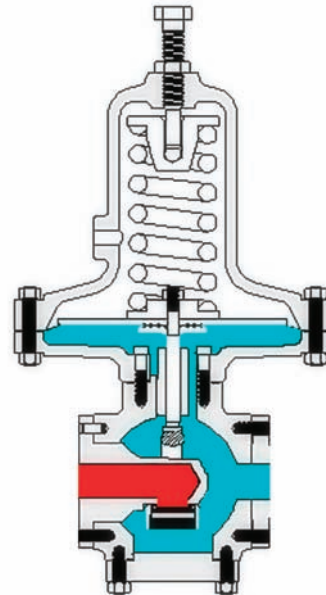
- internal (external on request)

Capacities

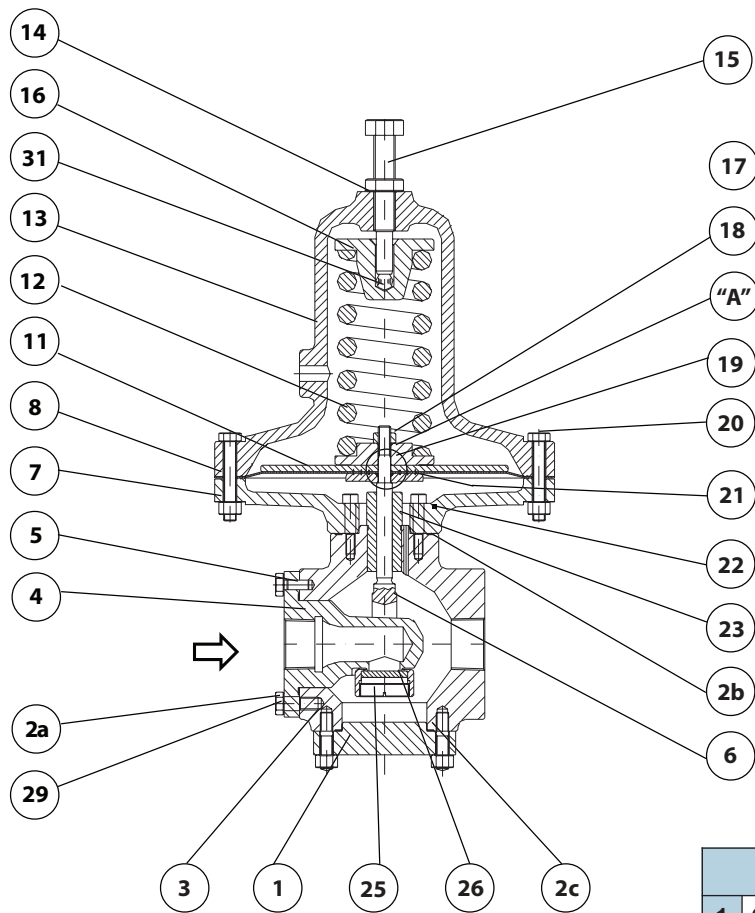
- see table 7

Weight

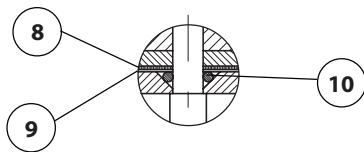
- see table 6



Materials



Part "A" (only on request)



Materials			
1	Cover	14	Lock Nut
2	Gasket	15	Adjusting Screw
3	L.P. Body	16	Spring Loader
4	H.P. Body	17	Nut
5	Pin	18	Spring Guide
6	Plug	19	Screw
7	Servomotor Flange	20	Nut
8	Diaphragm	21	Little Plate
9	Protection (if requested)	22	Screw
10	O-ring Gasket	23	Guide
11	Diaphragm Plate	24	Spring
12	Spring	25	Plug Tap
13	Spring Cover	26	Disc

Materials

Table 2 - Standard Set Pressure Ranges	
psig	barg
10.5 to 31	0.72 to 2.2
16 to 36	1.1 to 2.5
21 to 57	1.4 to 4.0
52 to 91	3.6 to 6.3
88 to 140	6.0 to 9.7
133 to 217	9.1 to 15.0
Maximum Outlet Pressure	
Actuator Size	Max Outlet Pressure
140	145 psig (10 barg)
130	350 psig (24.1 barg)
120	470 psig (32.4 barg)

Set pressure ranges shown are representative only. For optimum accuracy, final selection should be made using the Masoneilan ValSpeQ sizing and selection software.

Configurations/Material Availability	
*	Standard - Except Steam Service
**	Steam Service
***	Non Standard - Manufactured on Request

Table 3 - Standard Material Combinations	
Body	
	Cast Iron*
	32°F < T < 392°F (0°C < T < 200°C)
LP Body	Cast Iron
HP Body	316 SS
Cover	Carbon Steel
Studs	Carbon Steel
Gasket	PTFE
Trim	
Disc	FKM* Air, Gas, Liquids 316 SS** Steam Service
Plug Stem	316 SS
Guide Bushing	303 SS
Actuator	
Spring Casing	Cast Iron
Actuator Lower Casing	Cast Iron
Spring	CrV Steel
Diaphragm	CR (Polychloroprene)*
	FPM***
	Ethylene-Propylene (EPDM + PTFE)** Steam Service

Materials

Table 4 - Temperature Ranges for Diaphragms

Chloroprene (CR)*	32 to 194° F (0 to 90° C)
Ethylene-Propylene (EPDM+PTFE)**	32 to 320° F (0 to 160° C)
Fluoroelastomer (FPM)***	32 to 392° F (0 to 200° C)
316 SS**	32 to 392° F (0 to 200° C)

Table 5 - Temperature Ranges for Disc Elastomers

Fluoroelastomer (FKM)*	32 to 392° F (0 to 200° C)
Polytetrafluoroethylene (PTFE)***	
316 SS**	

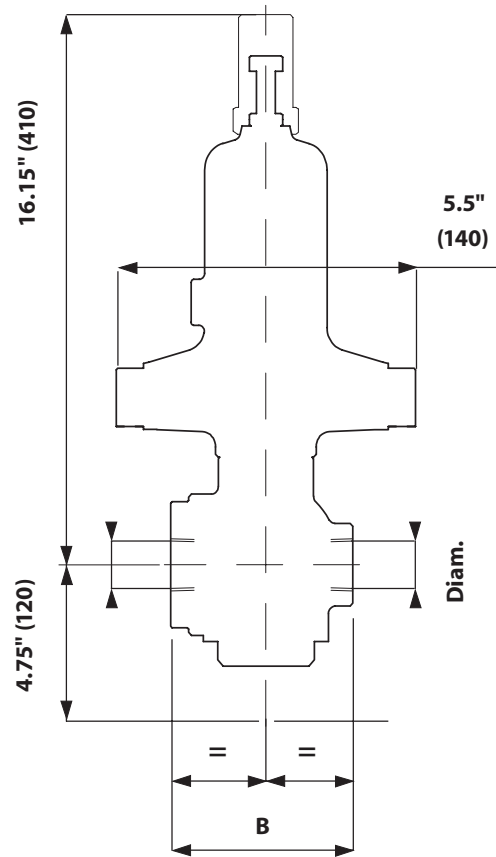
Table 6 - Weights

Size	Actuator Size		
	120	130	140
1/2" (DN15)	31 lbs (14 kg)	33 lbs (15 kg)	33 lbs (15 kg)
3/4" (DN20)	31 lbs (14 kg)	33 lbs (15 kg)	33 lbs (15 kg)
1" (DN25)	33 lbs (15 kg)	35.5 lbs (16 kg)	35.5 lbs (16 kg)
1 1/2" (DN40)	35.5 lbs (16 kg)	35.5 lbs (16 kg)	37.5 lbs (17 kg)

Table 7 - Rated Cv for All Body Sizes with Elastomer Diaphragm

Trim Number	Body Size			
	1/2" (DN15)	3/4" (DN20)	1" (DN25)	1 1/2" (DN40)
1	0.033	0.033	0.033	0.033
2	0.15	0.15	0.15	0.15
3	0.22	0.22	0.22	0.22
4	0.39	0.39	0.39	0.39
5	0.43	0.43	0.43	0.43
6	1.0	1.0	1.0	1.0
8	1.16	1.16	1.16	1.16
10		1.9	1.9	1.9
12			2	2
14				2.4
16				2.7
18				3.0
20				4.3
22				4.3

Dimensions



Dimensions with Handwheel or Seal Cap

Table 1 - Face to Face Dimensions		
	A	B
1/2" (DN15)	2 1/2" (64mm)	5 1/4" (134mm)
3/4" (DN20)		
1" (DN25)		
1 1/2" (DN40)	2 3/4" (70mm)	5 1/2" (140mm)

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