

Back Pressure Valve with Internal Sensor Line Series 504, Ductile Body

Bulletin SSIN055 Issue/Rev. 0.1 (1/19)

The **INVALCO Series 504 Valve** is perfect for maintaining back pressure on vent lines from separators, treaters, dehydrators, compressor stations, gas gathering systems, etc.

Features

- **Ductile Body** – Meets a variety of application requirements.
- **Internal Sensing Line** – Reduces the chance of blockage.
- **RNCE Adaptable** – Can be modified for use in sour service.

Standard Specifications

Body

Ductile A-395

Diaphragm Case

Steel, 26 sq. in.

Containment Pressure

125 psi* (all models)

End Connections

2" FNPT

Diaphragm

Nylon reinforced Buna N

Notes:

1. Refer to valve engineering section for valve sizing charts.
 2. Cg-Cv is for fully opened valve.
 3. Part numbers valid only if valve desired is exactly as described.
- * Containment pressure is maximum working pressure and is limited by diaphragm case. However, pressures above the maximum spring setting are uncontrolled and the back pressure valve will be fully open.
- ** Limited by diaphragm



Temperature Limits

-20°F to 250°F

Spring Ranges

0 to 125 psi (on page 3).

Trim

416 Stainless with molded Fluoroelastomer plug, 1-3/4" orifice

Flow Capacity

Cg: 970
Cv: 28.5

Pressure Increase Required From Full Closed to Full Open

Spring Range	Increase
0-25 psi	2.7 psi
20-40 psi	4.0 psi
40-60 psi	9.5 psi
60-125 psi	10.5 psi

Settings

Any spring combination may be set to open at less than 5 psi working pressure, but, because the heavier springs are less sensitive, it is recommended that valves be selected to suit the pressure range required. The valve will be factory set at midpoint of range selected.

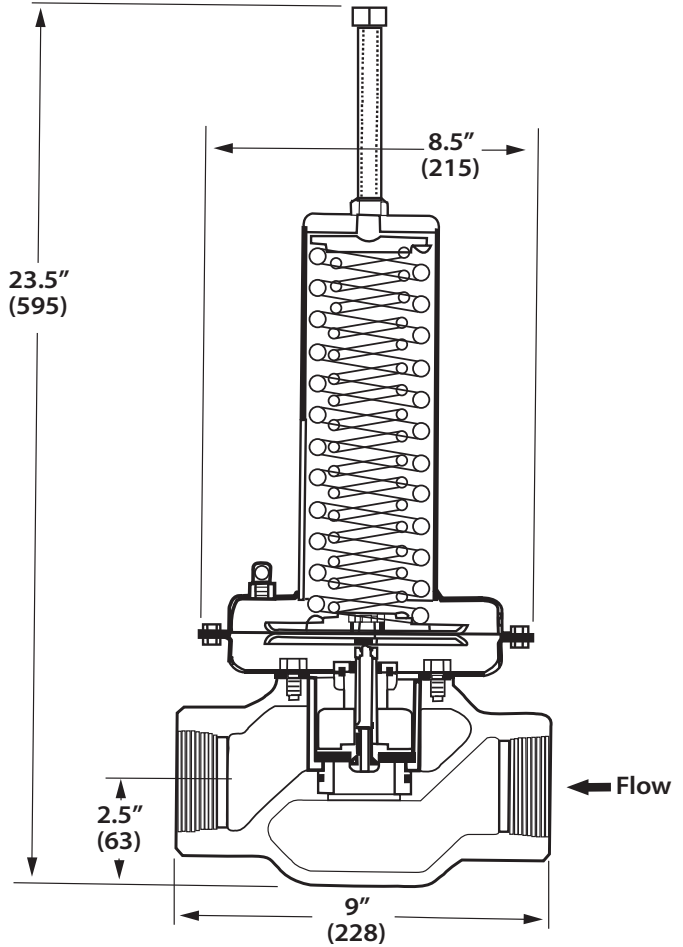
Ordering Information

Size	Model	Part Numbers, Spring Ranges psi				Wt. (lb)
		0 - 25	20 - 40	40 - 60	60 - 100	
2"	RSDG-201-504	80006279	80006280	80006281	80006282	45

Installation and Operation

Valve is installed in the line so that flow pressure is exerted against the bottom of the plug. Line pressure is exerted against the diaphragm through the hollow stem connecting the diaphragm to the plug. When flow pressure exceeds the spring setting pressure, valve opens and allows excess pressure relief through the orifice of the valve and down the flow line. As pressure is relieved, spring pressure returns the plug against the seat for positive seal. All parts are interchangeable with the Series 503 Cast Iron RDSG-201 and RDSG-301.

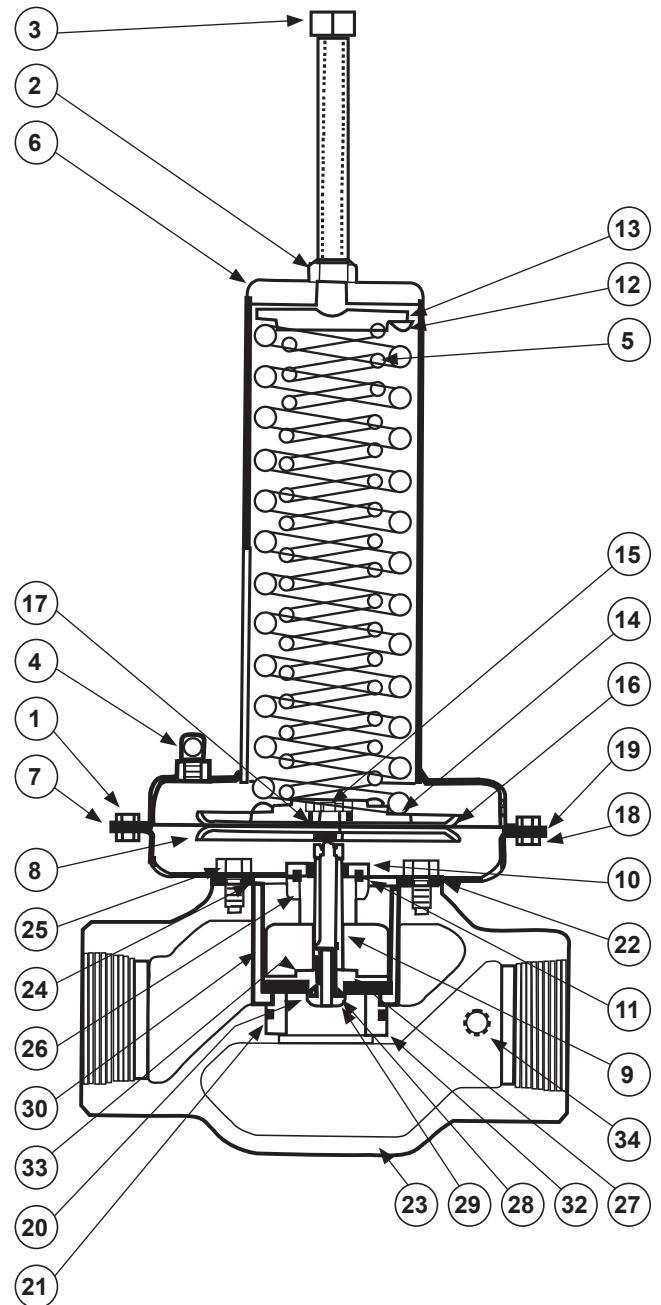
Dimensions – Inches (mm)



Dimensions – Inches to the nearest tenth (millimeters to the nearest whole mm), each independently dimensioned from engineering drawings.

Parts				
Item	N	Description	Qty.	Part No.
1		Screw 5/16-18x3/4 HHCS	12	65002073
2		Nut 5/8-11 Hex	1	65002136
3		Screw 5/8-11x5-1/2 SQHSS	1	65015572
4		1/4" Bleeder Filter	1	45002612
5	*	Spring (Inner)	1	2nd Chart
6		Upper Diaphragm Case	1	48004283
7		Diaphragm	1	45003465
8		Lower Diaphragm Plate	1	45003466
9		Stem	1	45003512
10		Stuffing Box	1	45003513
11		Gasket	1	45004455
12	*	Spring (Outer)	1	2nd Chart
13		Upper Spring Rest	1	45003991
14		Lower Spring Rest	1	45003992
15	*	Nut 3/8 - 24 Flexloc	1	65001401
16		Upper Diaphragm Plate	1	45005496
17	*	O-Ring BUN-012-90	1	67102312
18		Nut 5/16-18 Hex	12	65002100
19		Lower Diaphragm Case	1	45008806
20	*	O-Ring BUN-010-90	1	67101327
21	*	O-Ring BUN-226-90	1	67101534
22	*	Gasket	1	45000162
23		Body RDSG-201-504	1	45012095
24	*	O-Ring BUN-112-90	1	67101408
25		Screw 3/8-16x5/8 HHCS	4	65001380
26		Stuffing Nut Box	1	45003514
27	*	Plug	1	45001851
28		Washer 3/8 Tooth Lock	1	65004401
29		Lower Stem Plug	1	45003515
30		Seat Cage	1	45012086
32	*	Seat Ring	1	45006687
33	*	Copper Gasket	1	45001942
34		Plug, 1/4 NPT	1	45002595

Setting Ranges and Stock Numbers		
Item No.	12	5
Setting Range	Outside Spring	Inner Spring
0 - 25 psi	45003086	None
20 - 40 psi	45003086	45003421
40 - 60 psi	45003941	None
60 - 125 psi	45003941	45003940



Parts Key

*Recommended spare parts.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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TechnipFMC
FMC Technologies
Measurement Solutions, Inc.
13460 Lockwood Road
Building S01
Houston, Texas 77044 USA
P:+1 281.591.4000

USA Operation
1602 Wagner Avenue
Erie, Pennsylvania 16510 USA
P:+1 814.898.5000

Germany Operation
Smith Meter GmbH
Regentstrasse 1
25474 Ellerbek, Germany
P:+49 4101.304.0