Compact Diaphragm Regulators
RDCC Series



Introduction

RDCC Series Compact Diaphragm Regulators feature a single-stage pressure reduction design with a combination of metal diaphragm and free poppet. This configuration ensures excellent sensitivity and stable outlet pressure. With their compact form, these regulators are ideal for low flow, ultra high purity applications.

Features

- ◎ Lift poppet and diaphragm are made of Alloy 22, offering excellent corrosion resistance
- ◎ Metal-to-metal seal between valve body and diaphragm ensures reliable sealing performance
- ◎ FR metal gasket face seal, W-seal, and C-seal connections optional
- ◎ Reinforced diaphragm design extends diaphragm service life
- ◎ No threads are exposed to the wetted area for easy purging

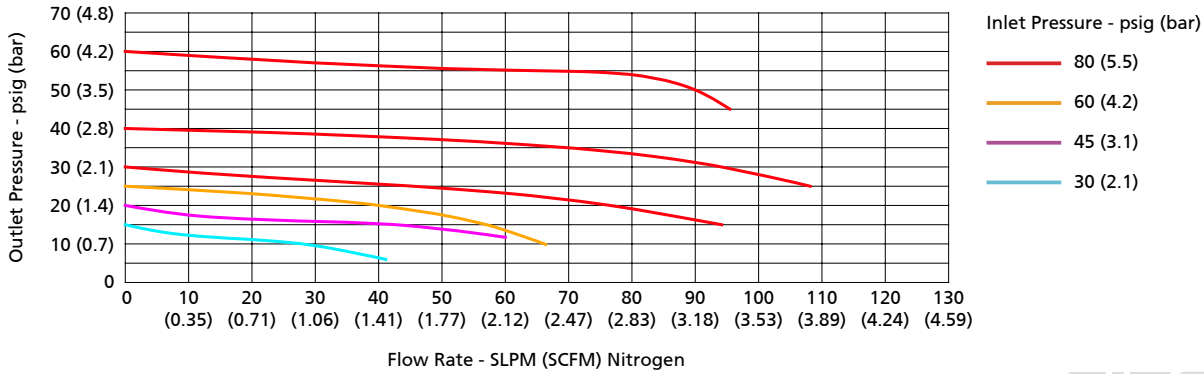
Technical Data

Port Size			1/4", 1.125" W-seal, 1.125" C-seal
Max. Working Pressure			150 psig (10.3 bar)
Outlet Pressure Range			250 mm Hg ~ 30 psig (250 mm Hg ~ 2.1 bar)
			0 ~ 30 psig (0 ~ 2.1 bar)
			0 ~ 60 psig (0 ~ 4.2 bar)
			0 ~ 100 psig (0 ~ 6.9 bar)
Flow Coefficient (Cv)			0.08
Working Temperature①			PCTFE: -40 ~ 160 °F (-40 ~ 71 °C)
			PTFE: -40 ~ 160 °F (-40 ~ 71 °C)
			PFA: -40 ~ 302 °F (-40 ~ 150 °C)
SPE (Supply Pressure Effect)			0.3 psig per 20 psig source pressure change
Leak Rate (Helium)	**External**	**Inboard**	≤ 2×10^{-10} std·cm^3/s
		Outboard	≤ 2×10^{-9} std·cm^3/s
	Internal		≤ 2×10^{-9} std·cm^3/s

① For the working temperature of products equipped with a pressure gauge, please refer to the catalog for Pressure Gauges.

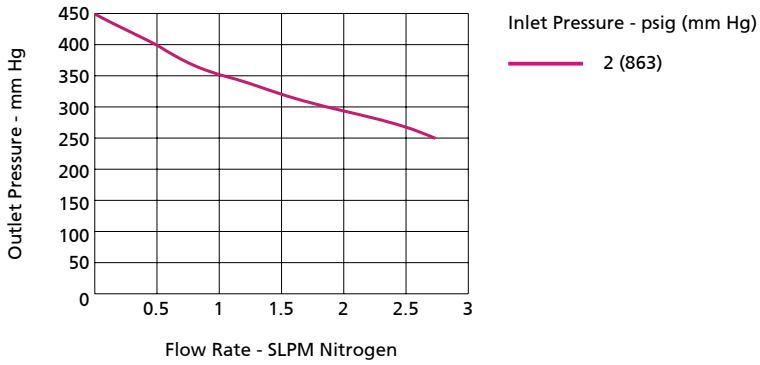
Flow Data

Applies to valves with outlet pressure range designators 30, 60, or 1H



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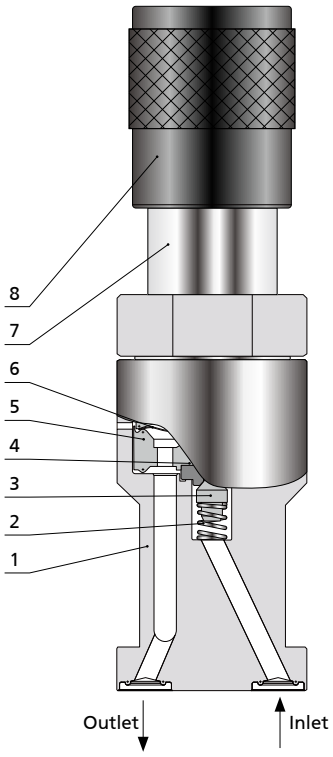
Applies to valves with outlet pressure range designator V30

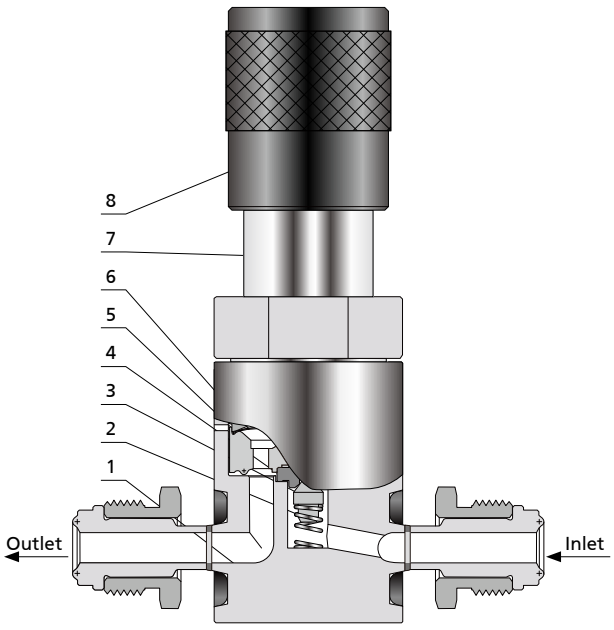


Process Specification

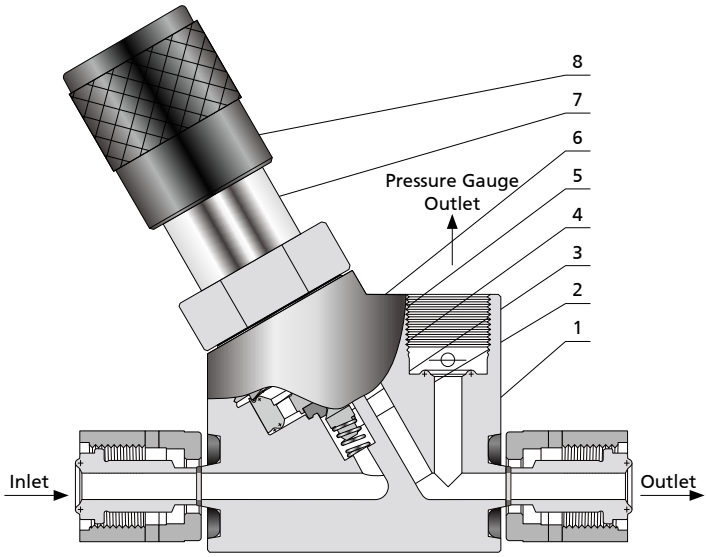
Item \ Process Specification	Ultra High Purity Process (FC-03)
Material	316L SS, 316L SS V AR, 316L SS VIM-VAR
Wetted Surface Roughness	Ra 5 µin. (0.13 µm)
Polishing Process	Electropolished
Assembly Environment	ISO Class 4 (FS 209E Class 10 equivalent) cleanroom
Packaging	Double bagged in cleanroom

Major Materials of Construction





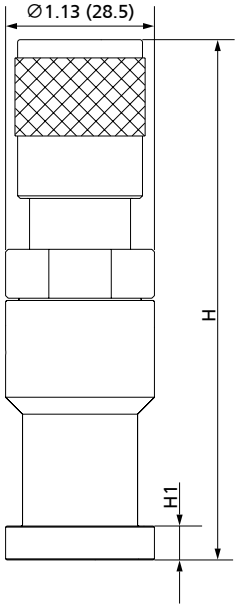
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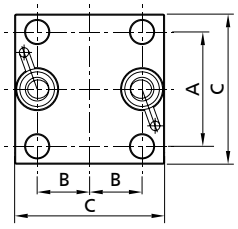


Item	Component	Material/Specification		
		6L	6LV	6LW
1	Body	316L SS	316L SS VAR	316L SS VIM-VAR
2	Poppet Spring	Alloy X-750		
3	Lift Poppet	Alloy 22/ASTM B574		
4	Seat	PCTFE/ASTM D1430 or PTFE/ASTM D1710		
5	Support	316L SS	316L SS VAR	316L SS VIM-VAR
6	Diaphragm	Alloy 22/ASTM B575		
7	Bonnet	316 SS		
8	Handle	Aluminium		

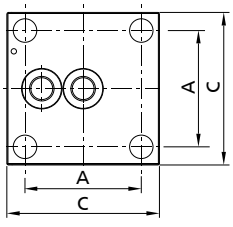
Dimensions and Ordering Information

Dimensions, in inches (millimeters), are for reference only.





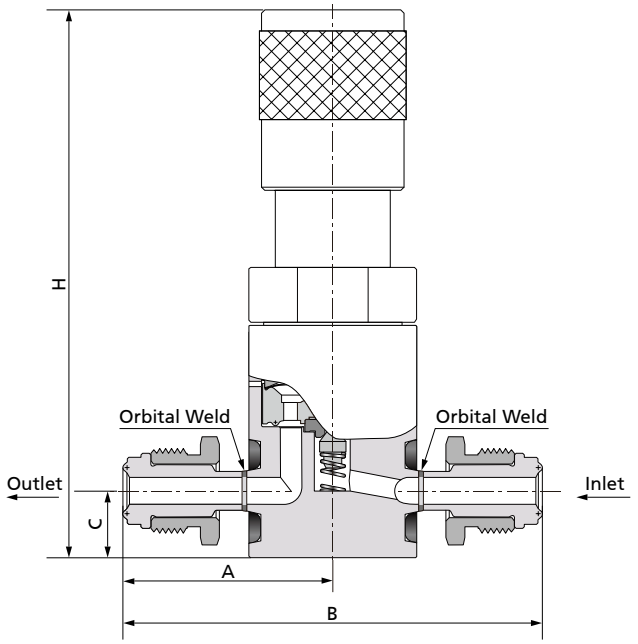
W-Seal

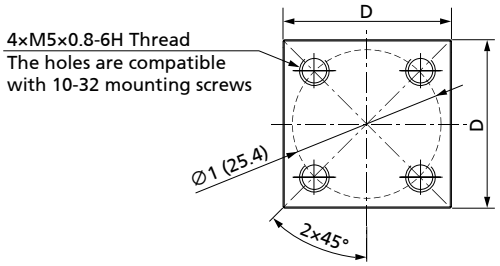


C-Seal

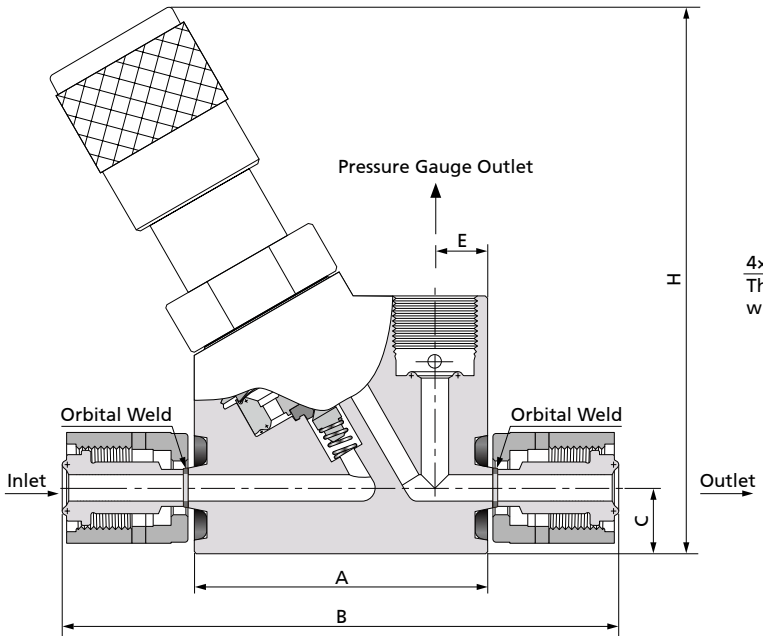
Basic Ordering Information	Connection Type and Size	Dimension, in. (mm)				
		A	B	C	H	H1
RDCC-□□-150-□□-1H1-WS11-F3	1.125" W-Seal	0.86 (21.8)	0.39 (10.0)	1.13 (28.6)	4.33 (110) Max.	0.26 (6.5)
RDCC-□□-150-□□-1H1-CS11-F3	1.125" C-Seal					

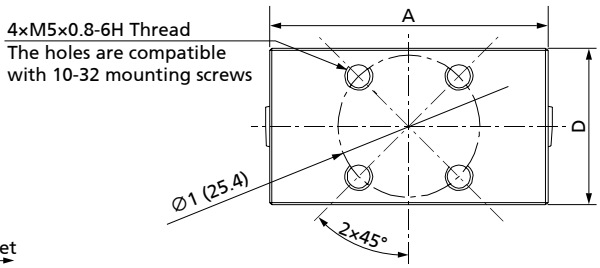
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Basic Ordering Information	Connection Type and Size	Dimension, in. (mm)				
		A	B	C	D	H
RDCC-□□-150-□□-1H1-RFR4-F3	1/4" Rotatable Male FR Fittings at Both Ends	1.39 (35.3)	2.78 (70.6)	0.44 (11.2)	1.12 (28.4)	3.94 (100) Max.
RDCC-□□-150-□□-1H1-FFR4-F3	1/4" Rotatable Female FR Fittings at Both Ends					
RDCC-□□-150-□□-1H1-RFR4-FFR4-F3	Inlet: 1/4" Rotatable Male FR Fitting Outlet: 1/4" Rotatable Female FR Fitting					
RDCC-□□-150-□□-1H1-FFR4-RFR4-F3	Inlet: 1/4" Rotatable Female FR Fitting Outlet: 1/4" Rotatable Male FR Fitting					





Basic Ordering Information	Connection Type and Size	Dimension, in. (mm)					
		A	B	C	D	E	H
RDCC-□□-150-□□-1H2-FFR4-F3	1/4" Rotatable Female FR Fitting at Both Ends, 1/4" Integral Female FR Fitting as Pressure Gauge Connection	1.96 (49.8)	3.70 (94.0)	0.44 (11.2)	1.10 (28.0)	0.35 (9.0)	3.94 (100) Max.

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Ordering Number Description

RDCC - 6L - 150 - 60 - 1H1 - FFR4 - RFR4 - OB - T - F3

Series
RDCC

Body Material	
6L	316L SS
6LV	316L SS VAR
6LW	316L SS VIM-VAR

Inlet Pressure P1	
150	150 psig (10.3 bar)

Outlet Pressure Range P2	
V30	250 mm Hg~ 30 psig (250 mm Hg~ 2.1 bar)
30	0~30 psig (0~2.1 bar)
60	0~60 psig (0~4.2 bar)
1H	0~100 psig (0~6.9 bar)

Porting	
1H1	1 Inlet & 1 Outlet
1H2	1 Inlet & 2 Outlets

Inlet Type	
FFR4	1/4" Rotatable Female FR Fitting
RFR4	1/4" Rotatable Male FR Fitting
WS11	1.125" W-Seal
CS11	1.125" C-Seal

Outlet Type	
	Same as Inlet
Specified in the same way as Inlet	

Outlet Pressure Gauge Port (Go)	
	None
OB	Gauge (psi/bar)
OM	Gauge (psi/MPa)

Valve Seat	
	PCTFE
V	Polyimide

Process Specification	
F3	FC-03

Notes:
1. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
2. Mounting screws and gaskets are not included, please contact FITOK Group or our authorized distributors if you have any requests.
3. For the 1H2 port configuration, the pressure gauge port defaults to IFR4 (1/4" integral female FR fitting).

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