

Miniature Diaphragm Regulators

RDCC Series

Introduction

RDCC Series Miniature 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 provides ensured 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

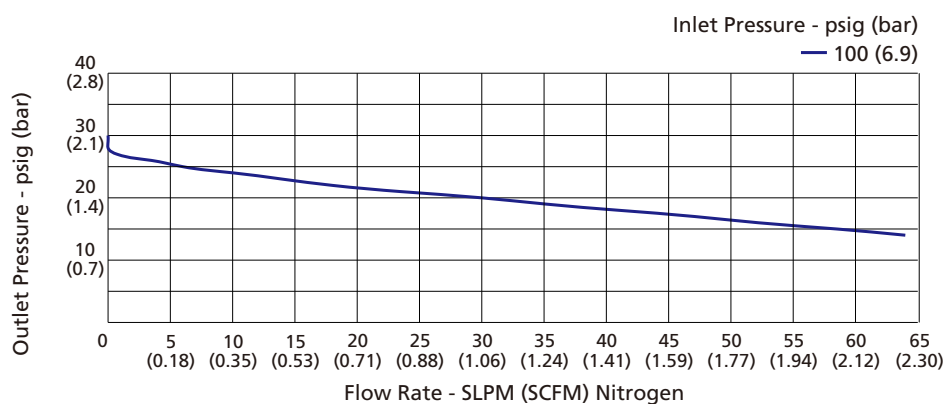
Technical Data

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)
Working Temperature ^①				PCTFE: -40 ~ 160 °F (-40 ~ 71 °C)
				PTFE: -40 ~ 160 °F (-40 ~ 71 °C)
				PFA: -40 ~ 302 °F (-40 ~ 150 °C)
Flow Coefficient (Cv)				0.08
SPE (Supply Pressure Effect)				0.3 psig per 20 psig source pressure change
Leak Rate (Helium)	External	Inboard	$\leq 2 \times 10^{-10}$ std·cm ³ /s	
		Outboard	$\leq 2 \times 10^{-9}$ std·cm ³ /s	
	Internal		$\leq 2 \times 10^{-9}$ 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



Fittings

Valves

Regulators

Filters

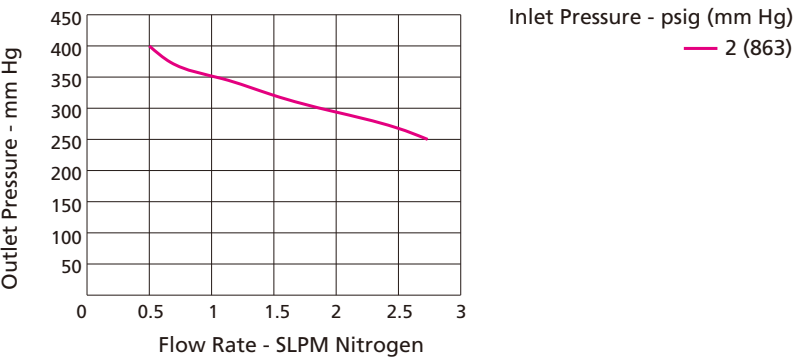
Tubing

Integrated Systems

Other Products

Technical Information

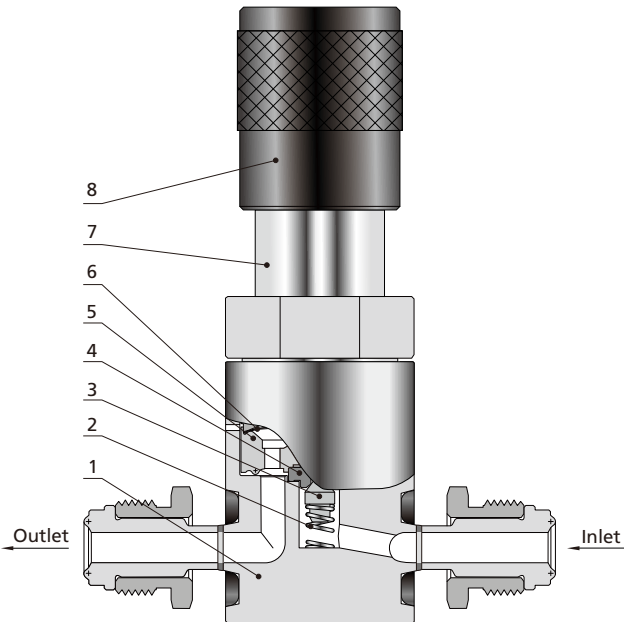
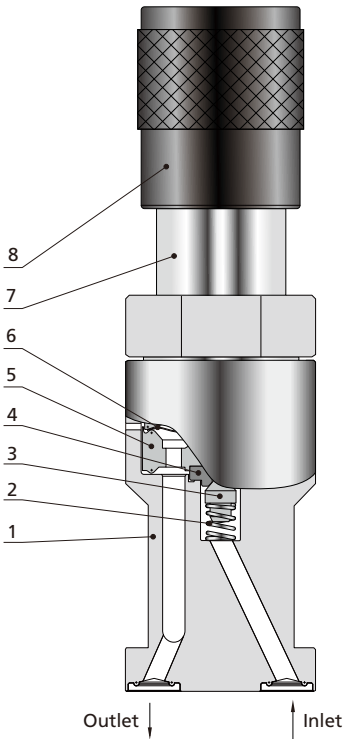
Applies to valves with outlet pressure range designator V30

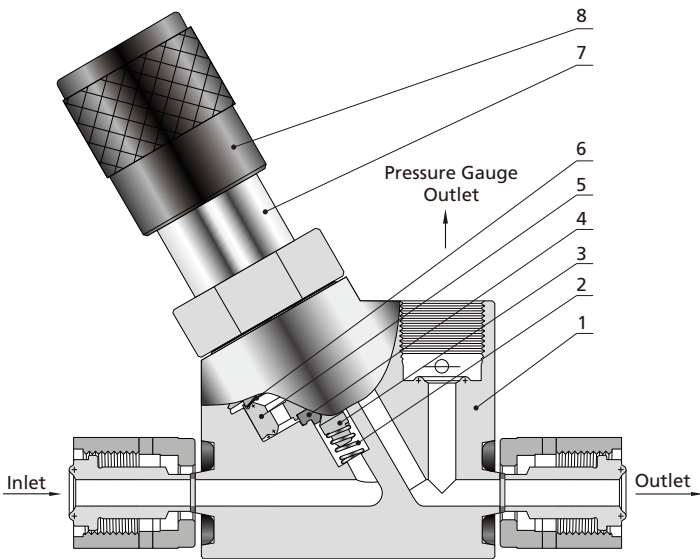


Process Specification

Item	Process Specification	Ultra High Purity Process (FC-03)
Material		316L SS, 316L SS VAR, 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

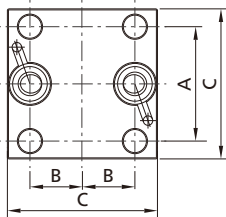
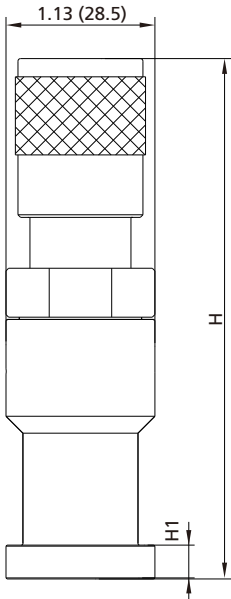




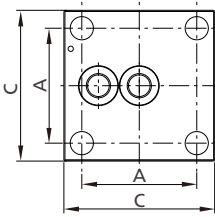
Item	Component	Material/Specification		
		6L	6LV	6LW
1	Body	316L SS	316L SS VAR	316L SS VIM-VAR
2	Poppet Spring	Alloy X-750		
3	Lift Poppet	Alloy 22/ASTM B574		
4	Seat	PCTFE/ASTM D1430 or PTFE/ASTM D1710		
5	Support	316L SS	316L SS VAR	316L SS VIM-VAR
6	Diaphragm	Alloy 22/ASTM B575		
7	Bonnet	316 SS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

Dimensions and Ordering Information

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



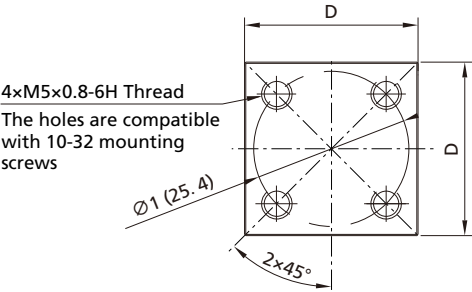
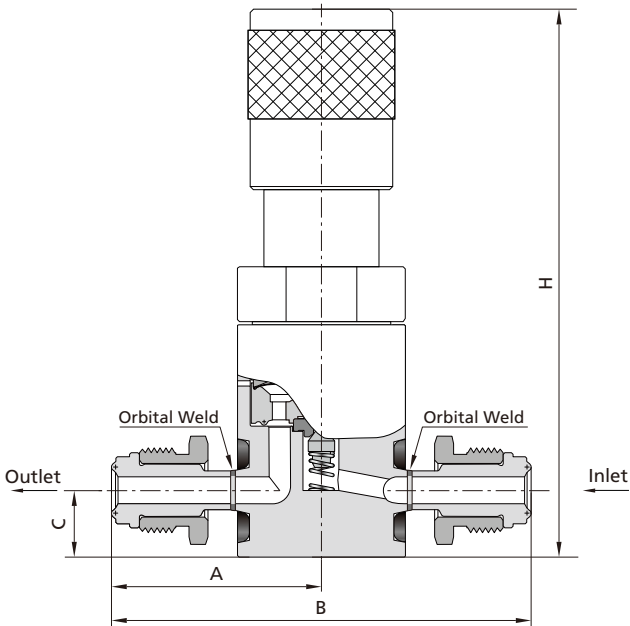
W-Seal



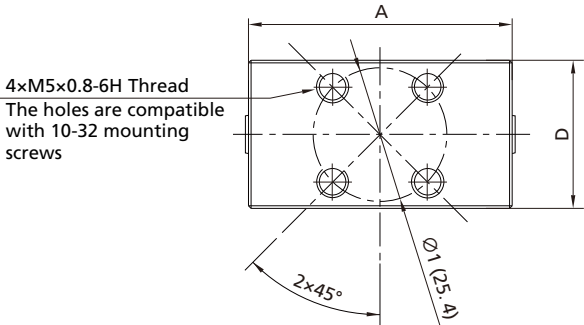
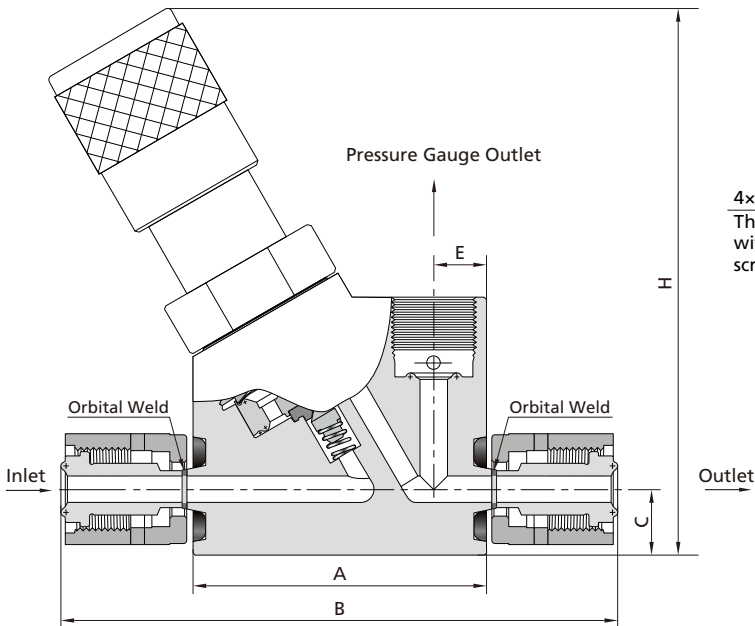
C-Seal

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					

R-17 Pressure Reducing Regulators

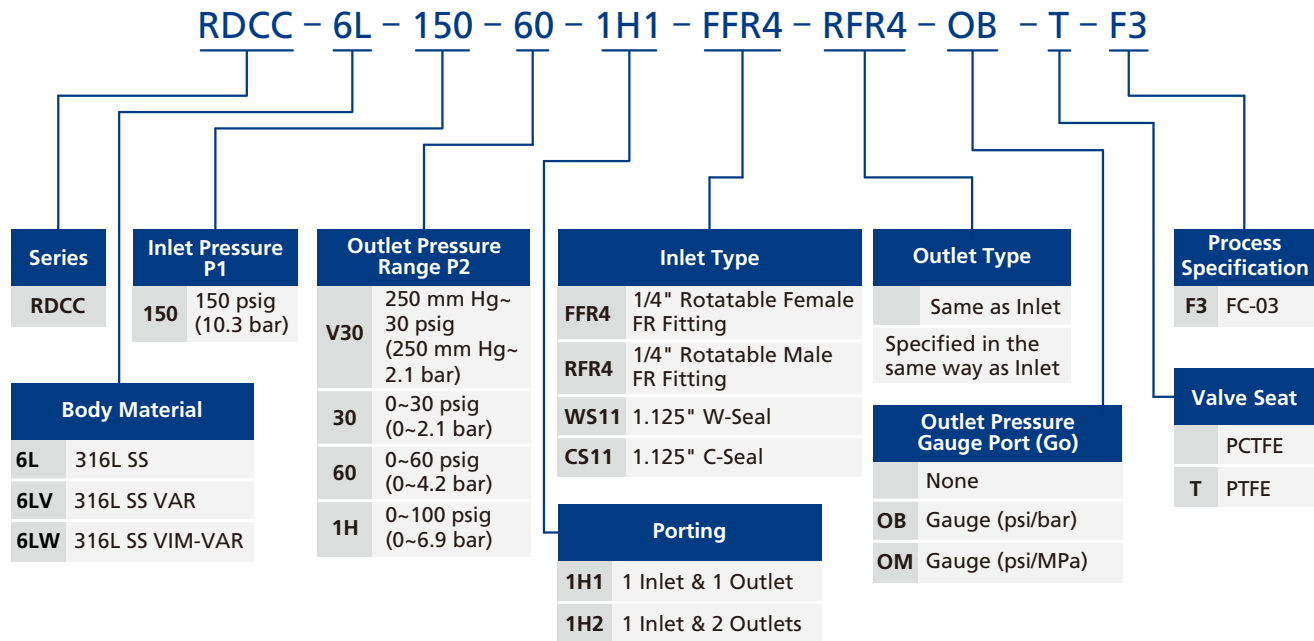


Basic Ordering Information	Connection Type and Size	Dimension, in. (mm)				
		A	B	C	D	H
RDCC-□□-150-□□-1H1-RFR4-F3	1/4" Rotatable Male FR Fittings at Both Ends	1.39 (35.3)	2.78 (70.6)	0.44 (11.2)	1.12 (28.4)	3.94 (100) Max
RDCC-□□-150-□□-1H1-FFR4-F3	1/4" Rotatable Female FR Fittings at Both Ends				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

Ordering Number Description



Notes:

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