

# 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 C-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

<b>Port Size</b>		1/4", 1.125" W-seal, 1.125" C-seal	
<b>Max. Working Pressure</b>		150 psig (10.3 bar)	
<b>Outlet Pressure Range</b>		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)	
<b>Working Temperature</b>		-40 ~ 160°F (-40 ~ 71°C)	
<b>Flow Coefficient (Cv)</b>		0.08	
<b>SPE (Supply Pressure Effect)</b>		0.3 psig per 20 psig source pressure change	
<b>Leak Rate (Helium)</b>	<b>External</b>	<b>Inboard</b>	$\leq 2 \times 10^{-10}$ std cm <sup>3</sup> /s
		<b>Outboard</b>	$\leq 2 \times 10^{-9}$ std cm <sup>3</sup> /s
	<b>Internal</b>		$\leq 2 \times 10^{-9}$ std cm <sup>3</sup> /s



Fittings

Valves

Regulators

Filters

Tubing

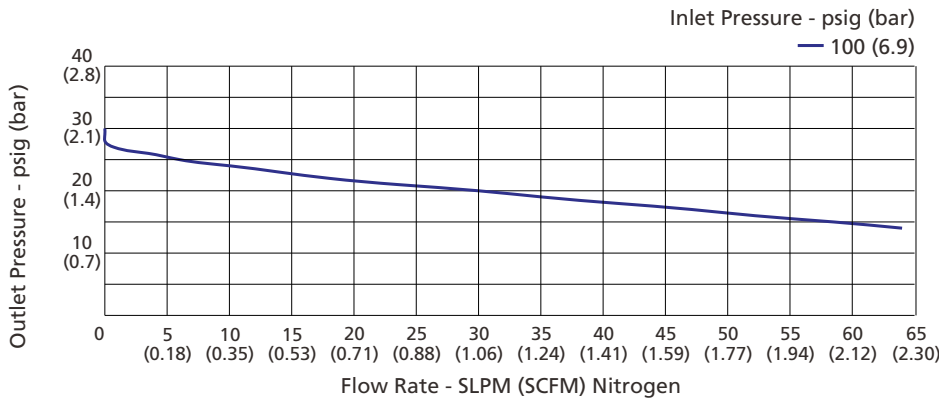
Integrated Systems

Other Products

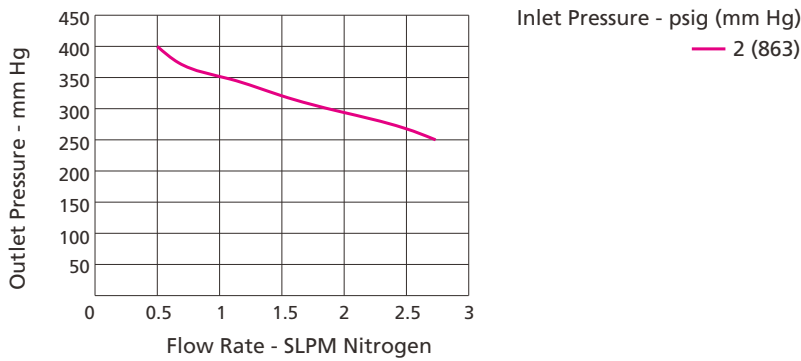
Technical Information

## Flow Data

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



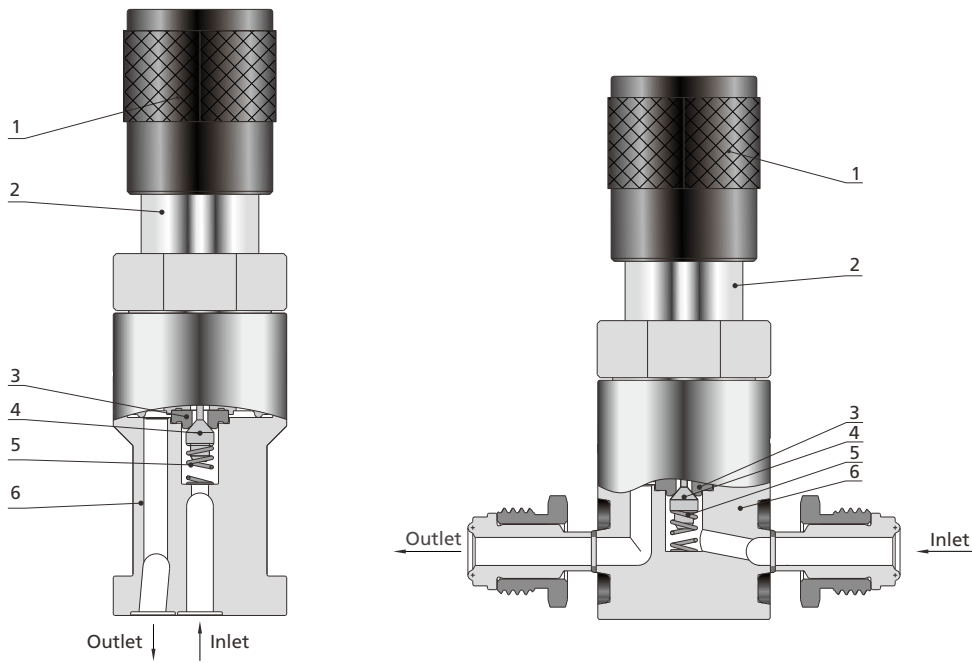
Applies to valves with outlet pressure range designator V30



## Process Specification

Item	Process Specification	Ultra High Purity Process (FC-03)
Material		316L SS, 316L SS VAR
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
1	Handle	Aluminium
2	Bonnet	316 SS/ASTM A479
3	Seat	PCTFE/ASTM D1430 or PTFE/ASTM D1710
4	Lift Poppet	Alloy C-22/ASTM B574
5	Poppet Spring	Alloy
6	Body	316L SS or 316L SS VAR

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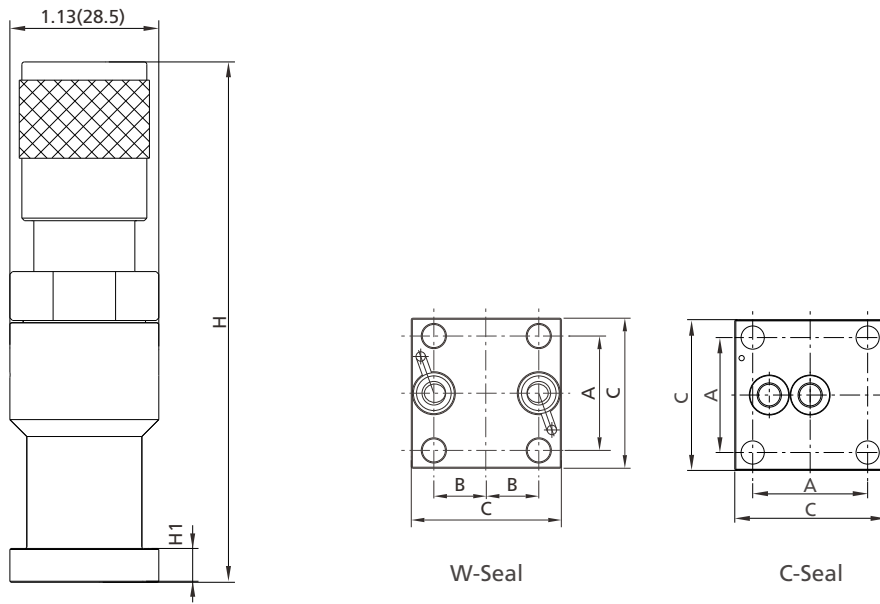
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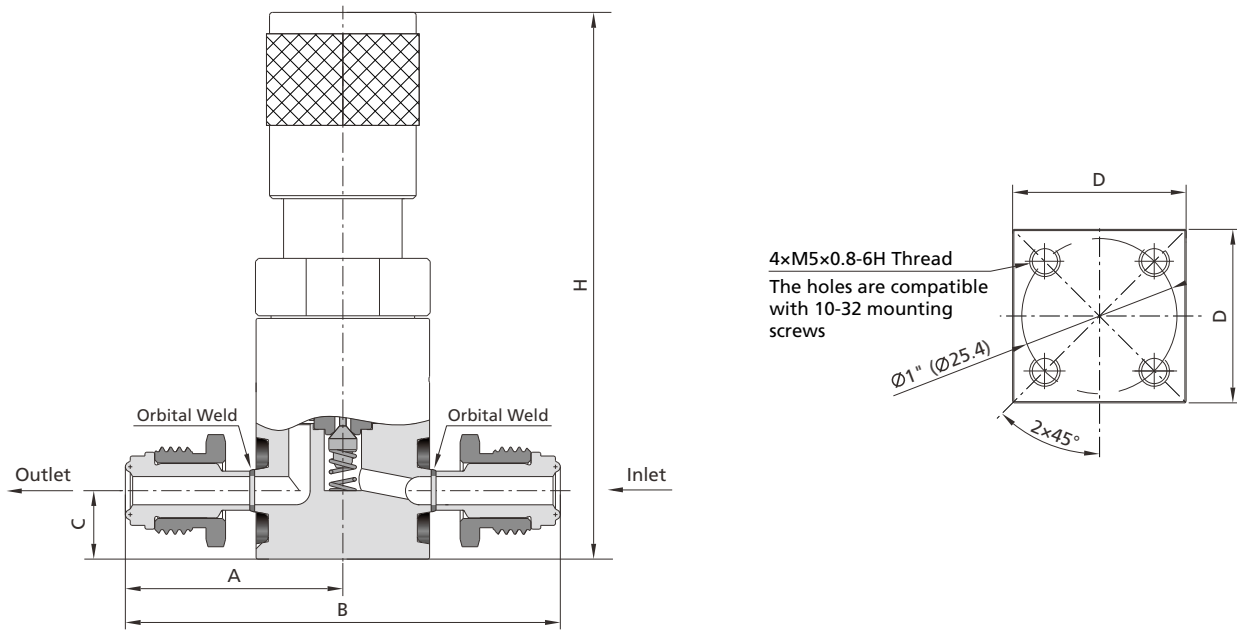
Technical Information

## Dimensions and Ordering Information

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



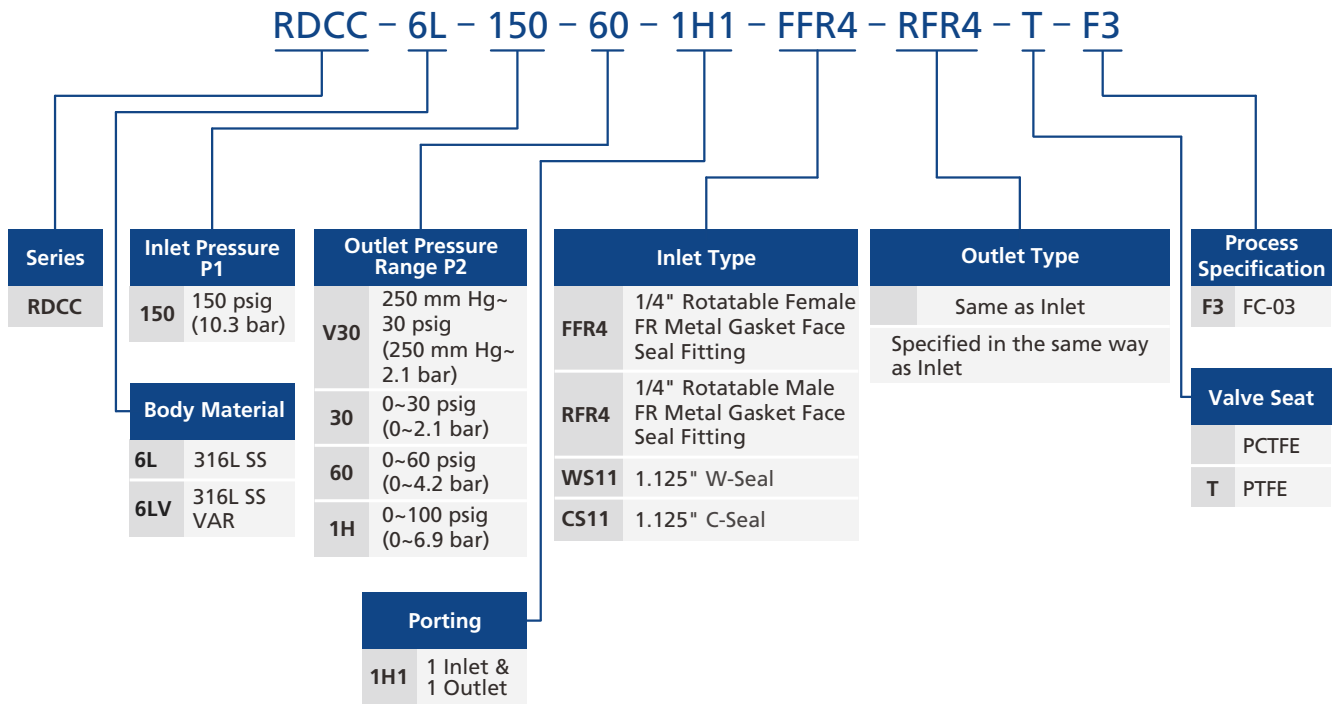
Basic Ordering Information	Connection Type and Size	Dimension, in. (mm)				
		A	B	C	H	H1
RDCC-□□-150-□□-1H1-WS11-F3	1.125" W-Seal	0.86 (21.8)	0.39 (10.0)	1.13 (28.6)	4.25 (108.0)	0.26 (6.5)
RDCC-□□-150-□□-1H1-CS11-F3	1.125" C-Seal					



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 Metal Gasket Face Seal Fittings at Both Ends	1.39 (35.3)	2.78 (70.6)	0.44 (11.2)	1.12 (28.4)	3.84 (97.5)
RDCC-□□-150-□□-1H1-FFR4-F3	1/4" Rotatable Female FR Metal Gasket Face Seal Fittings at Both Ends					
RDCC-□□-150-□□-1H1-RFR4-F3	Inlet: 1/4" Rotatable Male FR Metal Gasket Face Seal Fitting Outlet: 1/4" Rotatable Female FR Metal Gasket Face Seal Fitting					
RDCC-□□-150-□□-1H1-FFR4-RFR4-F3	Inlet: 1/4" Rotatable Female FR Metal Gasket Face Seal Fitting Outlet: 1/4" Rotatable Male FR Metal Gasket Face Seal Fitting					

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## 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.