

Regulators

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

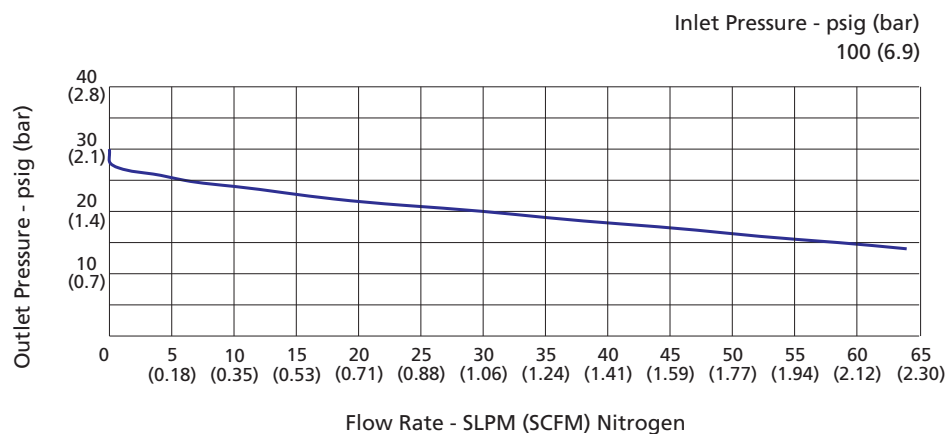
- ⦿ Lift poppet and diaphragm are made of Ni-Cr-Mo Alloy (UNS N06022), offering excellent corrosion resistance
- ⦿ Metal-to-metal seal between valve body and diaphragm provides ensured sealing performance
- ⦿ FR metal gasket face seal, W-seal, and C-seal connections optional
- ⦿ Reinforced diaphragm design extends diaphragm service life
- ⦿ No threads are exposed to the wetted area for easy purging



Technical Data

Port Size		1/4", 1.125" C-seal, 1.125" W-seal	
Max. Working Pressure		150 psig (10.3 bar)	
Outlet Pressure Range	30	0 ~ 30 psig (0 ~ 2.1 bar)	
	60	0 ~ 60 psig (0 ~ 4.1 bar)	
	1H	0 ~ 100 psig (0 ~ 6.9 bar)	
Working Temperature		-40 ~ 160°F (-40 ~ 71°C)	
Flow Coefficient (Cv)		0.08	
SPE (Supply Pressure Effect)		1.5 psig per 100 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

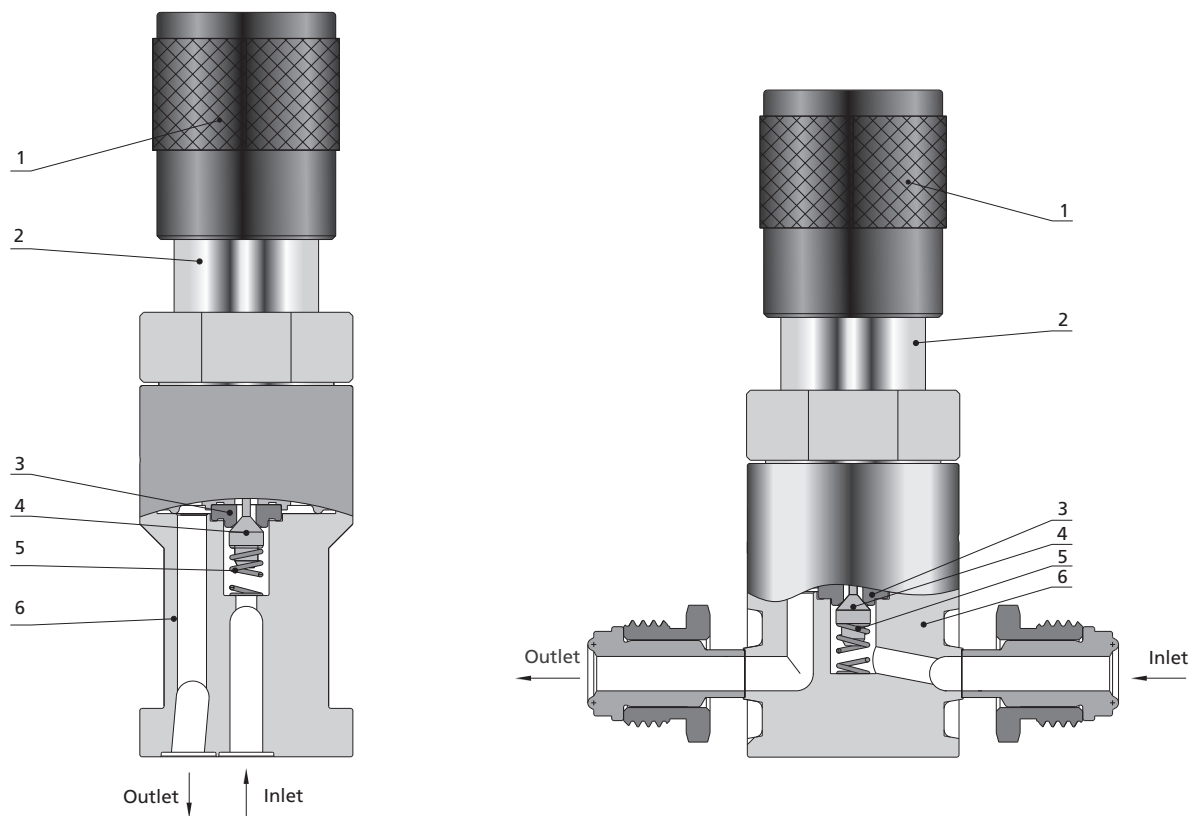
Flow Data



Process Specification

Process	Material	316L SS	316L VAR
Process Specification		Ultra High Purity (FC-03)	Ultra High Purity (FC-03)
Wetted Surface Roughness		Ra 5 µin. (0.13 µm)	Ra 5 µin. (0.13 µm)
Polishing Process		Electropolished	Electropolished
Assembly Environment		ISO Class 4 (F5 209E Class 10 equivalent) cleanroom	
Packaging		Double bagged in cleanroom	

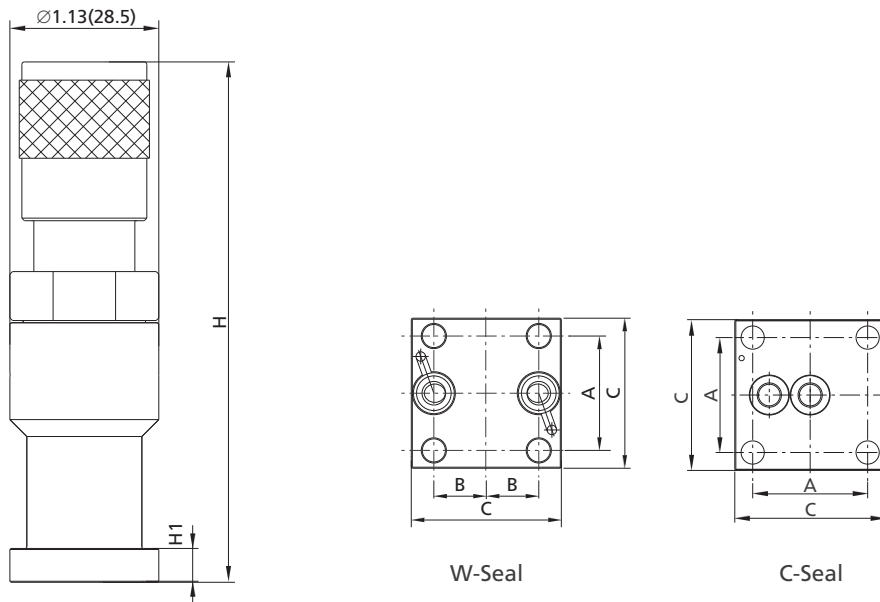
Major Materials of Construction



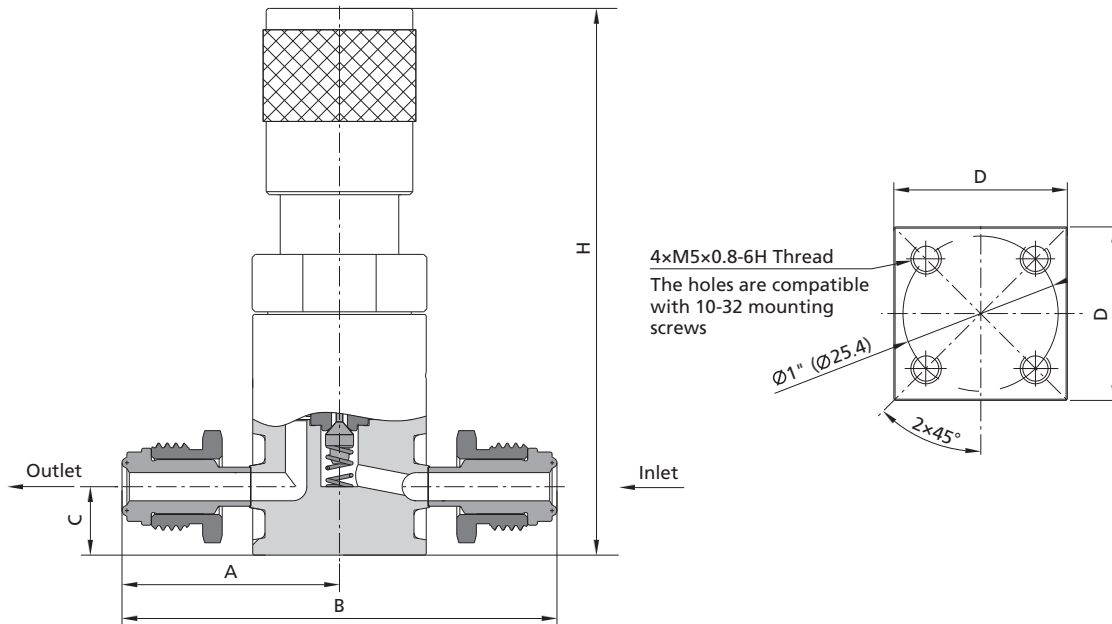
Item	Component	Material/Specification
1	Handle	Aluminium
2	Bonnet	316 SS/ASTM A479
3	Seat	PCTFE/ASTM D1430 or PTFE/ASTM D1710
4	Lift Poppet	Ni-Cr-Mo Alloy (UNS N06022)/ASTM B574
5	Poppet Spring	Alloy
6	Body	316L SS or 316L VAR

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-CS11-F3	1.125" C-Seal	0.86 (21.8)	0.39 (10.0)	1.13 (28.6)	4.25 (108.0)	0.26 (6.5)
RDCC-□□-150-□□-1H1-WS11-F3	1.125" W-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-FFR4-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					

