Regulators

Miniature Tied Diaphragm Regulators

RTCC Series

Introduction

RTCC Series Miniature Tied Diaphragm Regulators feature a single-stage pressure reduction design. Their tied diaphragm construction provides positive shutoff. With no threads or springs in wetted areas and a compact form, these regulators are ideal for low flow ultra high purity applications.

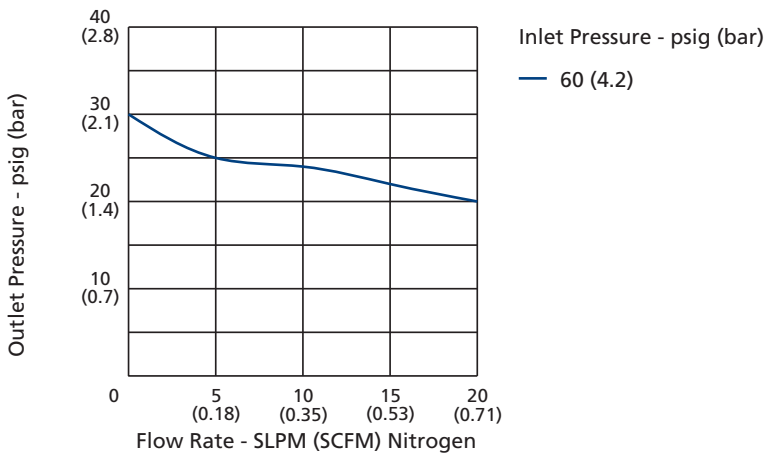
Features

- Alloy C-22 lift poppet and Alloy C-276 diaphragm provide 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 exposed to the wetted area for easy purging
- Tied diaphragm construction offers positive shutoff for safety

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			0 ~ 30 psig (0 ~ 2.1 bar)
			0 ~ 60 psig (0 ~ 4.2 bar)
			0 ~ 100 psig (0 ~ 6.9 bar)
Working Temperature			-40 ~ 160 °F (-40 ~ 71 °C)
Flow Coefficient (Cv)			0.08
SPE (Supply Pressure Effect)			0.3 psig per 20 psig source pressure change
Leak Rate (Helium)	**External**	**Inboard**	$\leqslant 2\times10^{-10}$ std cm^3/s
		Outboard	$\leqslant 2\times10^{-9}$ std cm^3/s
	Internal		$\leqslant 2\times10^{-9}$ std cm^3/s

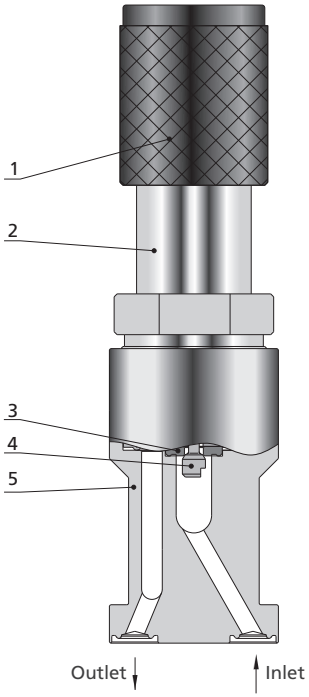
Flow Data

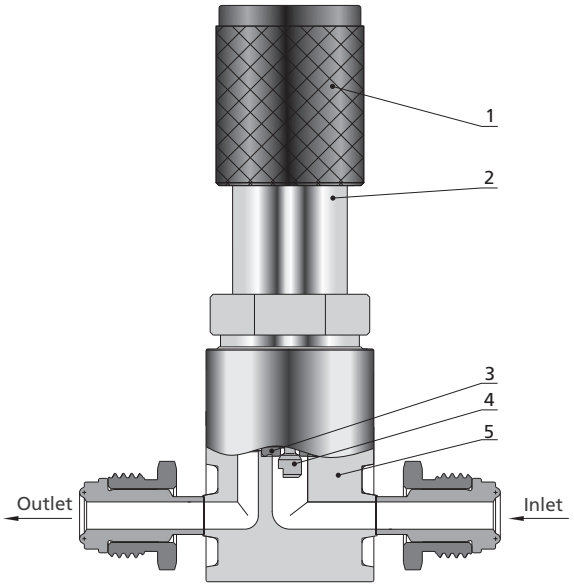


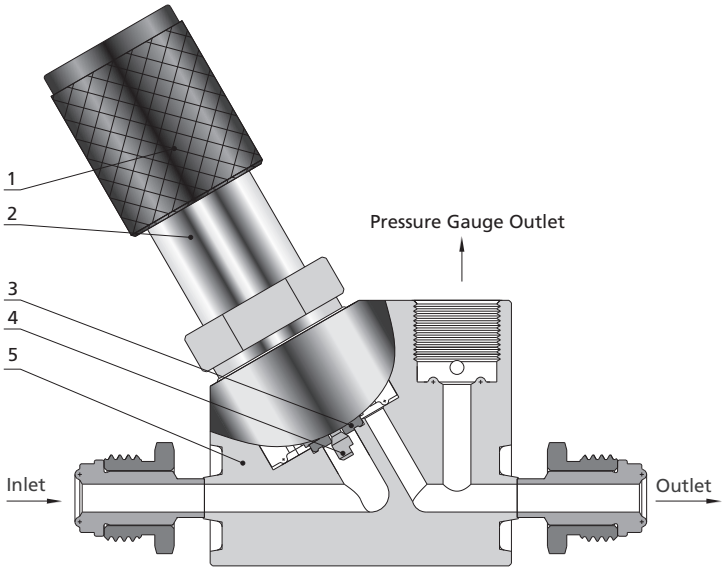
Process Specification

Item \ Process Specification	Ultra High Purity (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

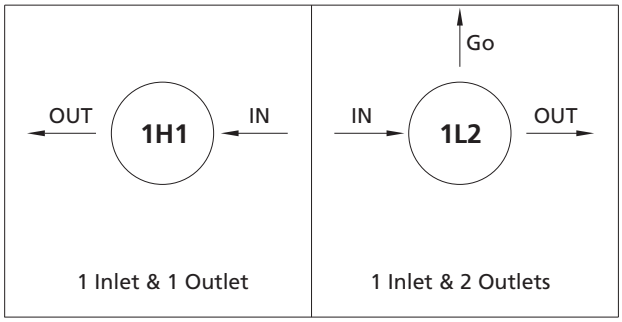






Item	Component	Material/Specification
1	Handle	Aluminum
2	Bonnet	316 SS/ASTM A479
3	Seat	PCTFE/ASTM D1430 or PTFE/ASTM D1710
4	Lift Poppet	Alloy C-22/ASTM B574
5	Body	316L SS/316L SS VAR

Porting Configurations



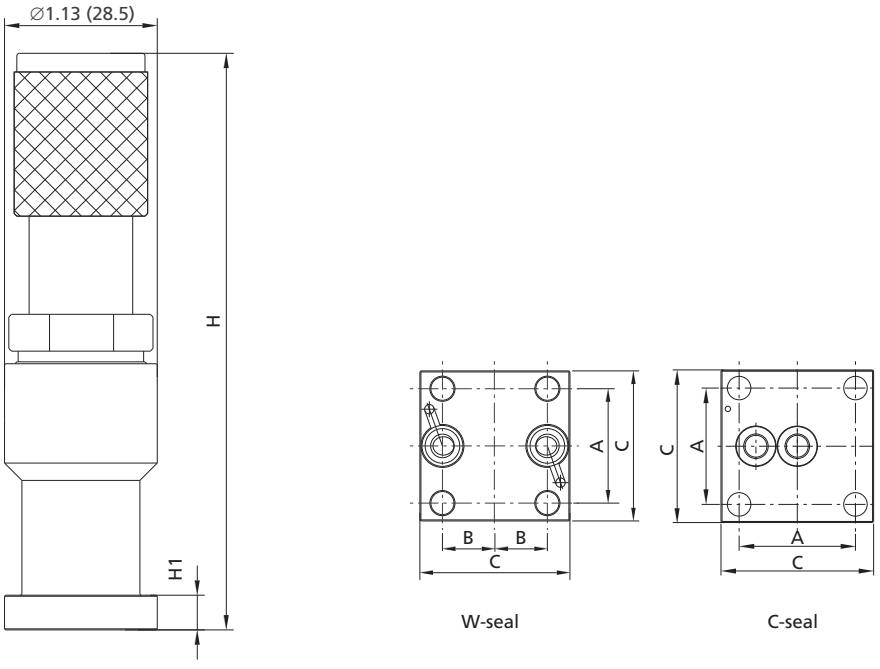
Porting Configuration Symbol

IN	OUT	Go
Inlet	Outlet	Outlet Pressure Gauge Port

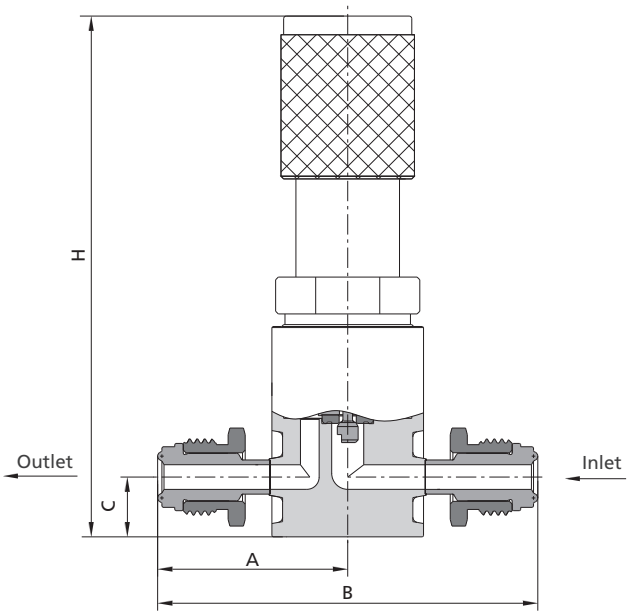
Note: IN and OUT are the inlet and outlet ports for connecting the valve to the system.
Ports other than IN and OUT should not be used for system connections.

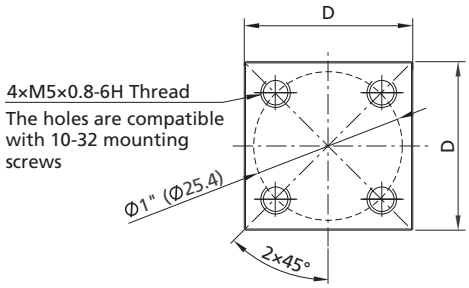
Dimensions and Ordering Information

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

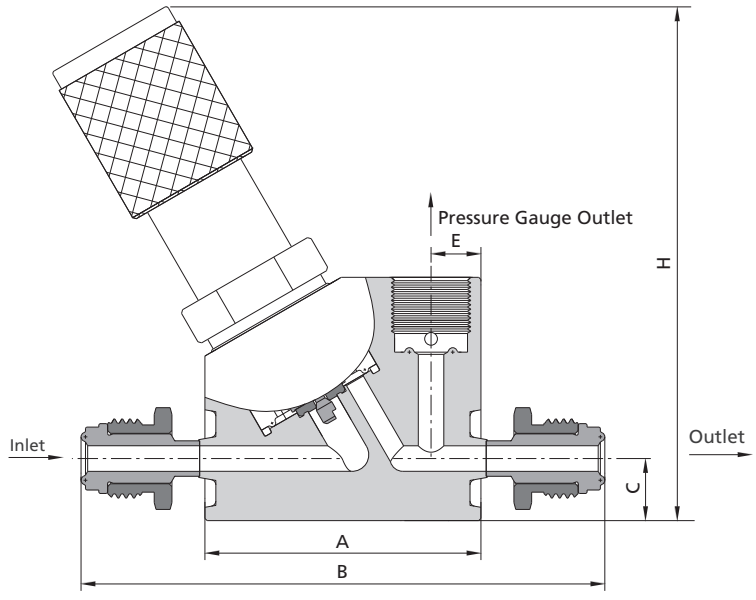


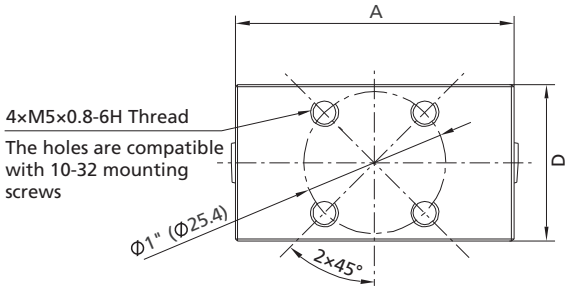
Basic Ordering Number	Port Type and Size	Dimensions, in. (mm)				
		A	B	C	H	H1
RTCC-□□-150-□□-1H1-WS11-F3	1.125" W-seal	0.86 (21.8)	0.39 (10.0)	1.13 (28.6)	4.10 (104.0)	0.26 (6.5)
RTCC-□□-150-□□-1H1-CS11-F3	1.125" C-seal					





Basic Ordering Number	Port Type and Size	Dimensions, in. (mm)				
		A	B	C	D	H
RTCC-□□-150-□□-1H1-RFR4-F3	1/4" Rotatable Male FR Metal Gasket Face Seal Fitting at Both Ends	1.39 (35.3)	2.78 (70.6)	0.44 (11.2)	1.12 (28.4)	3.68 (93.5)





Basic Ordering Number	Port Type and Size	Dimensions, in. (mm)					
		A	B	C	D	E	H
RTCC-□□-150-□□-1L2-RFR4-IFR4-F3	1/4" Rotatable Male FR Metal Gasket Face Seal Fitting at Both Ends, 1/4" Integral Female FR Metal Gasket Face Seal 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)	3.65 (92.7)

Ordering Number Description

RTCC - 6L - 150 - 60 - 1L2 - FFR4 - RFR4 - IFR4 - T - F3

Series
RTCC

Body Material	
6L	316L SS
6LV	316L SS VAR

Inlet Pressure P1	
150	150 psig (10.3 bar)

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

Porting	
1H1	1 Inlet & 1 Outlet
1L2	1 Inlet & 2 Outlets

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

Outlet Pressure Gauge Port (Go)	
	None
IFR4	1/4" Integral Female FR Metal Gasket Face Seal Fitting
OB	Gauge (psi/bar)
OM	Gauge (psi/MPa)

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

Process Specification	
F3	FC-03

Valve Seat	
	PCTFE
T	PTFE

Notes:

1. "Ordering Number Description" is a reference to understanding the combination rules of FITOK product part numbers. Not all combinations are available. Should you have any questions, please contact FITOK Group or our authorized distributors.
2. Mounting screws and gasket are not included, please contact FITOK Group or our authorized distributors if you have any requests.