

Compact Tied Diaphragm Springless Regulators

RTCC Series

Introduction

RTCC Series Compact Tied Diaphragm Springless Regulators feature a single-stage pressure reduction design and a compact form, making them ideal for low flow ultra high purity applications.

Features

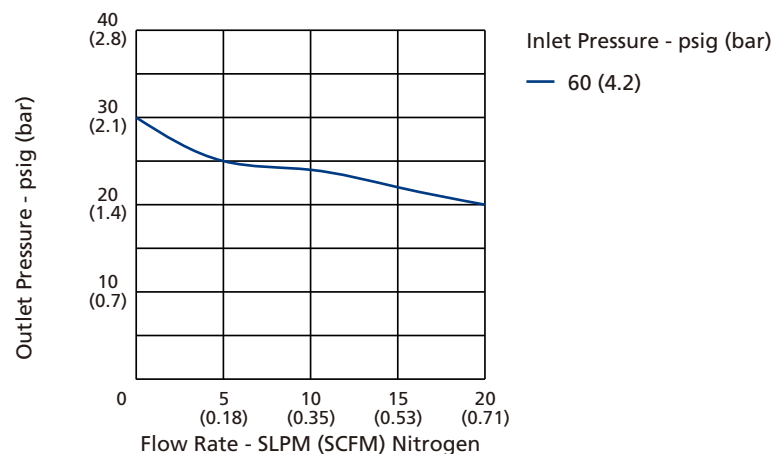
- Alloy 22 lift poppet and Alloy C-276 diaphragm provide excellent corrosion resistance
- Metal-to-metal seal between valve body and diaphragm ensures reliable sealing performance
- FR metal gasket face seal, W-seal, and C-seal connections optional
- Reinforced diaphragm design extends diaphragm service life
- No threads or springs exposed to the wetted area for easy purging
- Tied diaphragm construction offers positive shutoff for added 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 ^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



Fittings

Valves

Regulators

Filters

Tubing

Integrated Systems

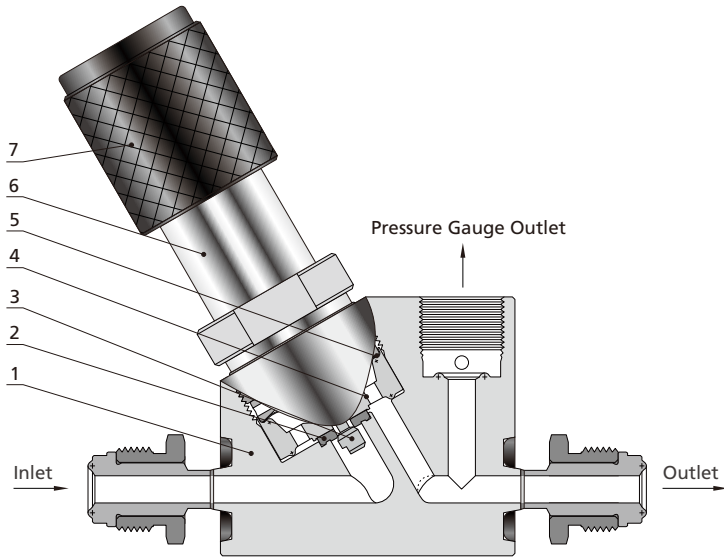
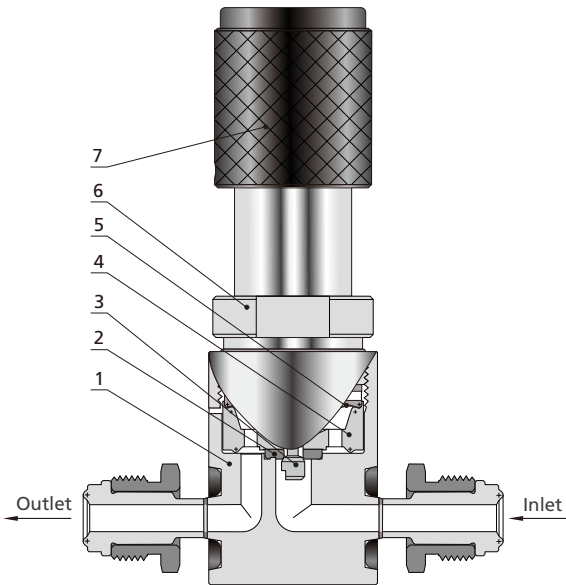
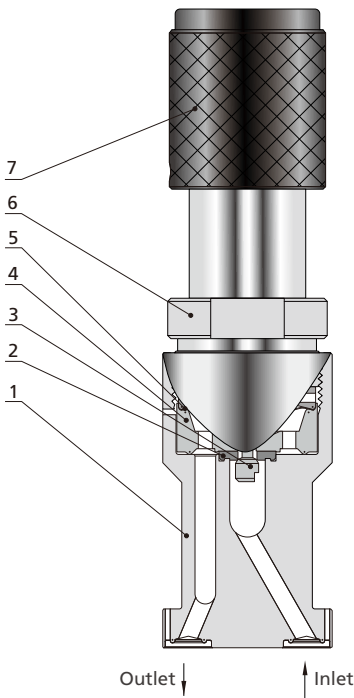
Other Products

Technical Information

Process Specification

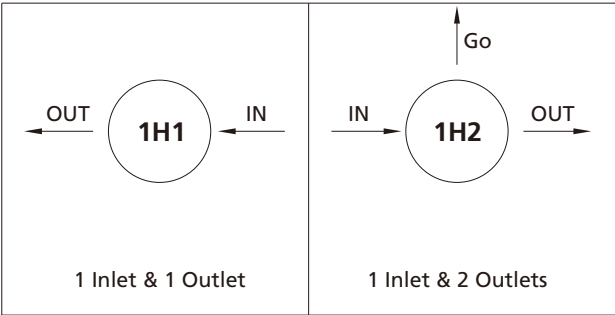
Item	Process Specification	Ultra High Purity Process (FC-03)
Material		316L SS, 316L SS VAR, 316L SS VIM-VAR
Wetted Surface Roughness		Ra 5 µin. (0.13 µm)
Polishing Process		Electropolished
Assembly Environment		ISO Class 4 (FS 209E Class 10 equivalent) cleanroom
Packaging		Double bagged in cleanroom

Major Materials of Construction



Item	Component	Material/Specification		
		6L	6LV	6LW
1	Body	316L SS	316L SS VAR	316L SS VIM-VAR
2	Seat	PCTFE/ASTM D1430 or PTFE/ASTM D1710		
3	Lift Poppet	Alloy 22/ASTM B574		
4	Support	316L SS	316L SS VAR	316L SS VIM-VAR
5	Diaphragm	Alloy C-276/ASTM B575		
6	Bonnet	316 SS/ASTM A479		
7	Handle	Aluminum		

Porting Configurations



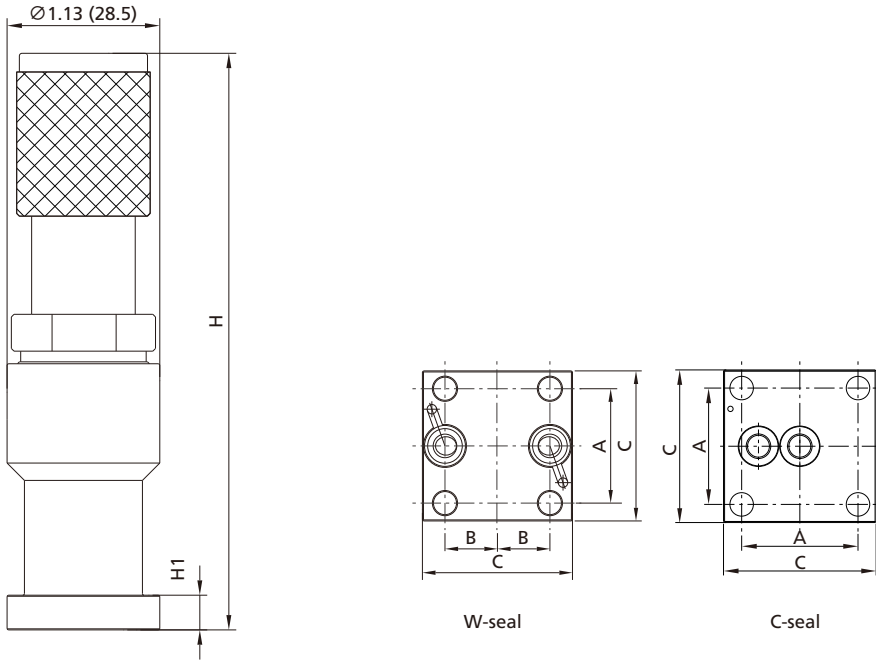
Porting Configuration Symbol

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)	4.41 (112) Max	0.26 (6.5)
RTCC-□□-150-□□-1H1-CS11-F3	1.125" C-seal					

Fittings
Valves
Regulators
Filters
Tubing
Integrated Systems
Other Products
Technical Information

Fittings

Valves

Regulators

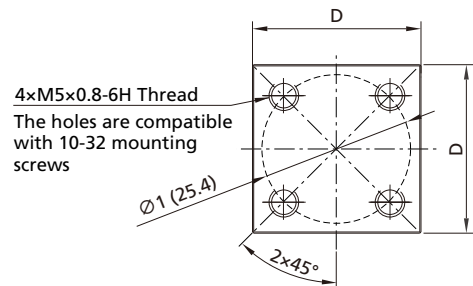
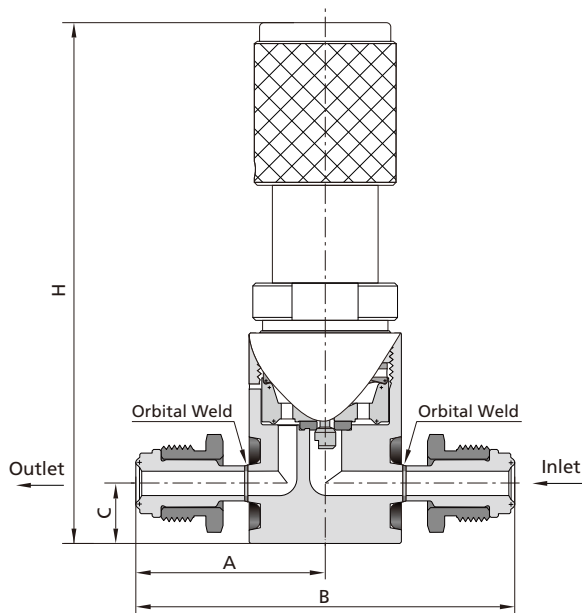
Filters

Tubing

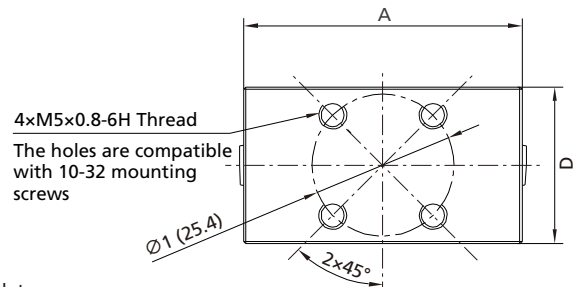
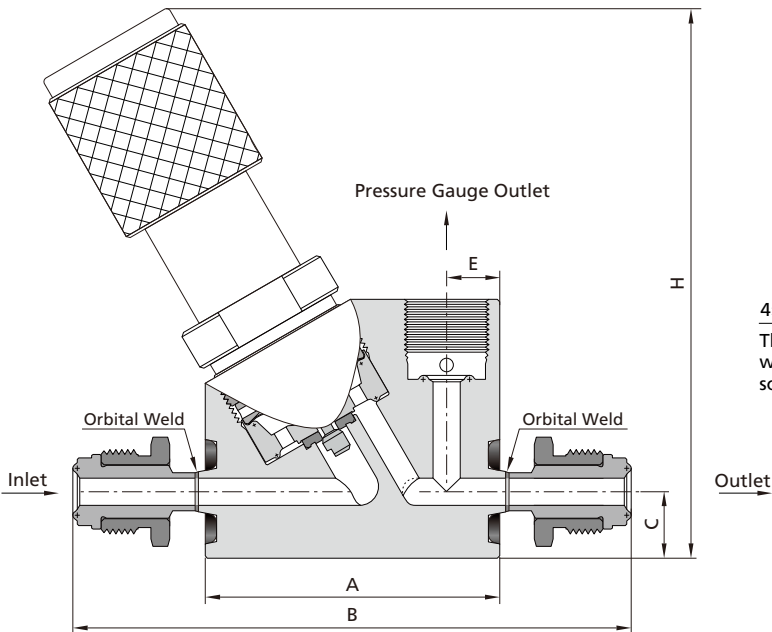
Integrated Systems

Other Products

Technical Information

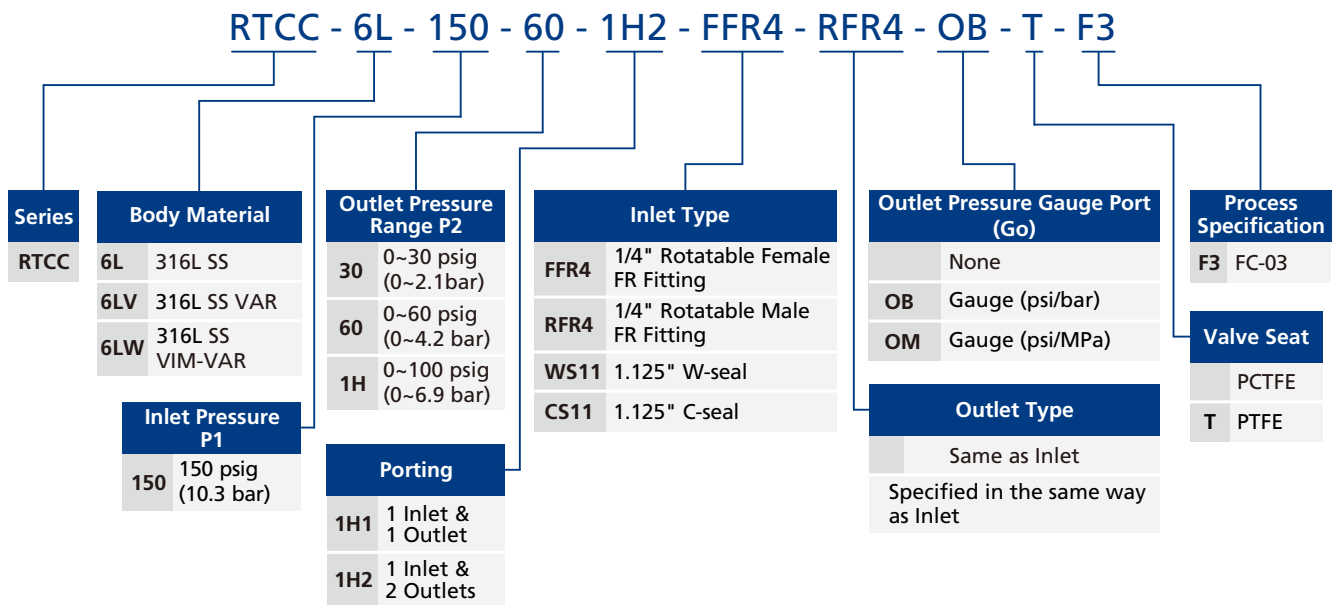


Basic Ordering Number	Port Type and Size	Dimensions, in. (mm)				
		A	B	C	D	H
RTCC-□□-150-□□-1H1-RFR4-F3	1/4" Rotatable Male FR Fitting at Both Ends	1.39 (35.3)	2.78 (70.6)	0.44 (11.2)	1.12 (28.4)	4.02 (102) Max



Basic Ordering Number	Port Type and Size	Dimensions, in. (mm)					
		A	B	C	D	E	H
RTCC-□□-150-□□-1H2-RFR4-IFR4-F3	1/4" Rotatable Male 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)	3.74 (95) Max

Ordering Number Description



Notes:

- "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.
- Mounting screws and gasket 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).