Compact Piston Regulators

RPCC Series

Introduction

RPCC Series Compact Piston Regulators feature a single-stage pressure reduction design with a piston sensing mechanism that is more resistant to damage caused by pressure spikes and offers a broad outlet pressure range. These regulators are ideal for high-pressure, low-flow applications.

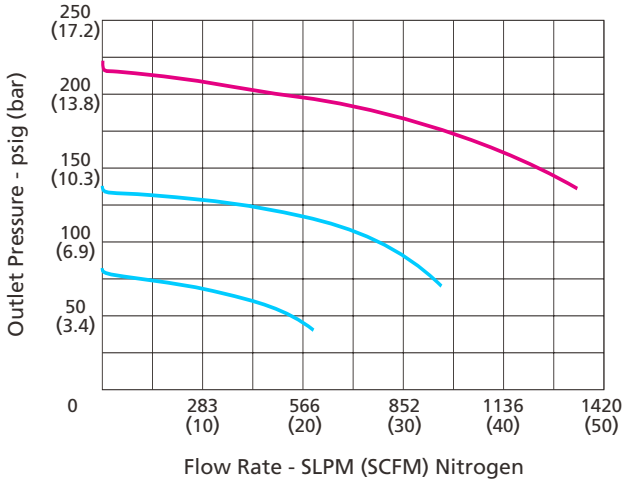
Features

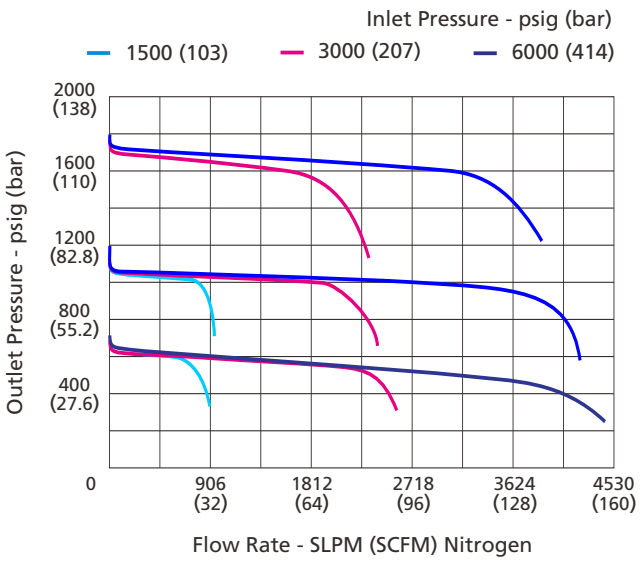
- ◎ Compact and small size design.
- ◎ Integrated 40 μm inlet filter for cleanliness and extended service life.
- ◎ A variety of O-ring material options for broad media compatibility and temperature ranges.

Technical Data

Port Size			1/4", 3/8", 6 mm or 8 mm
Max. Working Pressure			6000 psig (414 bar)
Outlet Pressure Range			0 ~ 80 psig (0 ~ 5.5 bar)
			0 ~ 140 psig (0 ~ 9.7 bar)
			0 ~ 220 psig (0 ~ 15.2 bar)
			0 ~ 700 psig (0 ~ 48.3 bar)
			0 ~ 1200 psig (0 ~ 82.8 bar)
			0 ~ 1800 psig (0 ~ 124 bar)
Flow Coefficient (Cv)			0.06
Working Temperature		**O-Ring**	NBR: -30 ~ 165°F (-34 ~ 74°C)
			FKM: -4 ~ 165°F (-20 ~ 74°C)
			FFKM: 1.4 ~ 400°F (-17 ~ 204°C)
			EPDM: -30 ~ 300°F (-34 ~ 149°C)
		Seat	PCTFE: -30 ~ 165°F (-34 ~ 74°C)
			PEEK: -30 ~ 400°F (-34 ~ 204°C)
SPE (Supply Pressure Effect)	**Outlet Pressure ⩽ 220 psig**		0.6 psig per 100 psig source pressure change
	Outlet Pressure > 220 psig		4 psig per 100 psig source pressure change
Leak Rate	**External**		Bubble tight
	Internal		Bubble tight

Flow Data





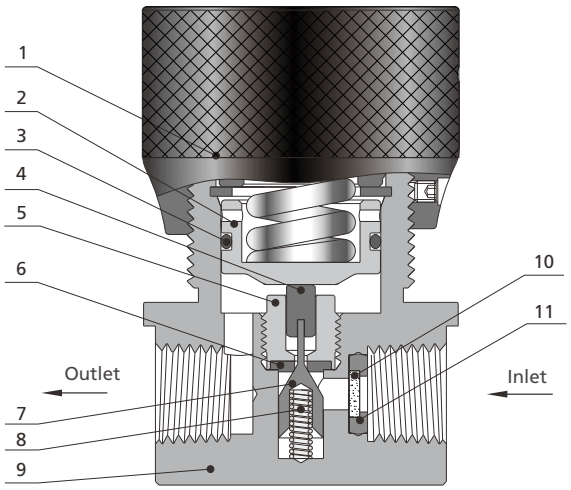
Process Specification

Item \ Process Specification	Special Cleaning and Packaging Process (FC-02)
Material	316L SS, Brass (Nickle-Plated)
Wetted Surface Roughness	Ra 32 µin. (0.8 µm)
Polishing Process	Machine Finished
Assembly Environment	In specially cleaned areas
Packaging	Double bagged

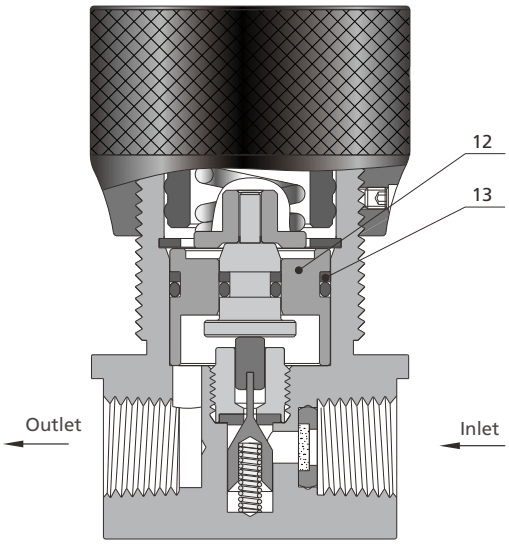
Major Materials of Construction

Large piston configuration: Max. outlet pressure ⩽ 220 psig
Small piston configuration: Max. outlet pressure > 220 psig

Large Piston

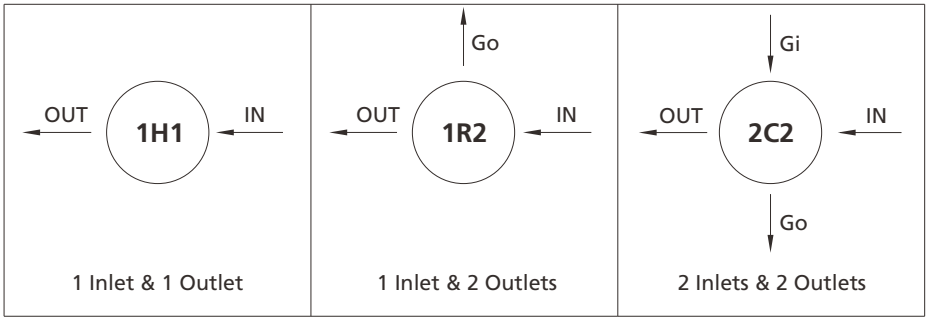


Small Piston



Item	Component	Material/Specification
1	Knob Handle	Aluminium Alloy
2	Piston	316L SS
3	O-Ring	NBR or FKM or FFKM or EPDM
4	Poppet Button	316L SS
5	Seat Retainer	316L SS
6	Seat	PCTFE/ASTM D1430 or PEEK
7	Lift Poppet	316L SS
8	Poppet Spring	316 SS
9	Body	316L SS or Brass (Nickle-Plated)
10	Filter	316L SS
11	Retaining Ring	PTFE/ASTM D1710
12	Piston Ring	316L SS
13	Retaining Ring	PTFE/ASTM D1710 or PEEK

Porting Configurations



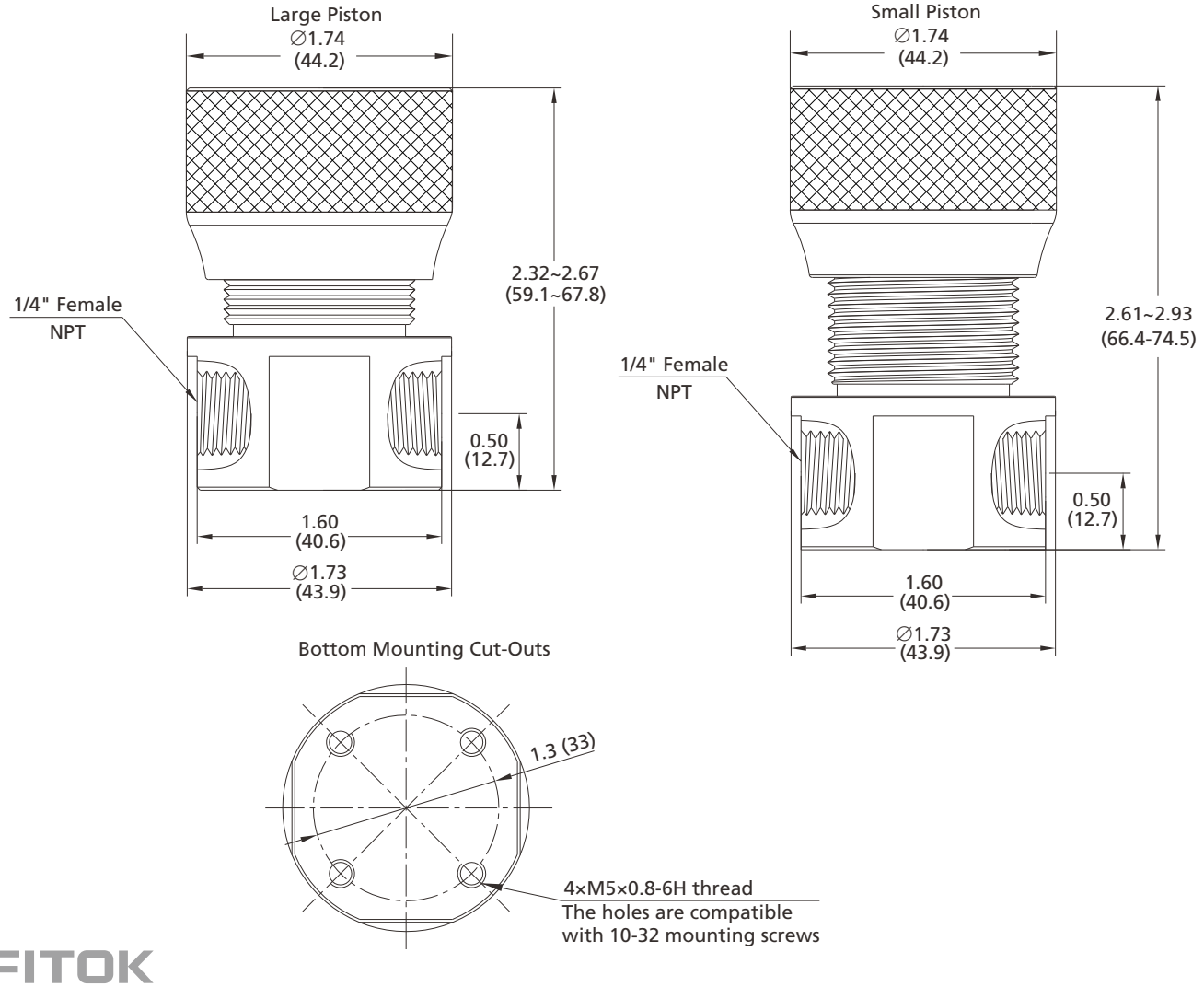
Porting Configuration Symbols

IN	OUT	Gi	Go
Inlet	Outlet	Auxiliary Inlet	Auxiliary Outlet

Notes: 1. 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.
2. Porting configuration is viewed from the top.

Dimensions

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



Ordering Number Description

RPCC - 6L - 6K - 7H - 2C2 - FNS4 - FL4 – IB – OB – PV - BS - F2

Series
RPCC

Body Material	
6L	316L SS
B	Brass (Nickle-Plated)

Max. Inlet Pressure	
6K	6000 psig (414 bar)

Outlet Pressure Range	
80	0~80 psig (0~5.5 bar)
140	0~140 psig (0~9.7 bar)
220	0~220 psig (0~15.2 bar)
7H	0~700 psig (0~48.3 bar)
12H	0~1200 psig (0~82.8 bar)
18H	0~1800 psig (0~124 bar)

Porting	
1H1	1 Inlet & 1 Outlet
1R2	1 Inlet & 2 Outlets
2C2	2 Inlets & 2 Outlets

Inlet (IN)	
FNS4	1/4" Female NPT
NS4	1/4" Male NPT
FL4	1/4" Tube Fitting
FL6	3/8" Tube Fitting
ML6	6 mm Tube Fitting
ML8	8 mm Tube Fitting

Outlet (OUT)	
	Same as Inlet
Specified in the same way as Inlet	

Inlet Pressure Gauge Port (Gi)	
	Without pressure gauge, refer to Note 6
IB	Gauge (psi/bar)
IM	Gauge (psi/MPa)
IP	Plug

Outlet Pressure Gauge Port (Go)	
	Without pressure gauge, refer to Note 6
OB	Gauge (psi/bar)
OM	Gauge (psi/MPa)
OP	Plug

Seat	
	PCTFE
P	PEEK

Installation Type	
	Threaded Hole at the Bottom
BS	Installed with Screws at the Bottom

O-Ring Material	
	NBR
V	FKM
Z	FFKM
E	EPDM

Process Specification	
F2	FC-02

Notes:
1. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available. Should you have any questions, please contact FITOK Group or our authorized distributors.
2. For NPT connection and Metric/Fractional Tube Fitting connection, the body connection is 1/4" Female NPT by default. Other options are adapted from Male NPT.
3. Auxiliary (Gi, Go) are 1/4" Female NPT by default.