

Line Pressure Regulators

FLR-1 Series General Diaphragm Regulators

Features

- ⊙ Excellent sensitivity and set point pressure stability
- ⊙ Reduced inner capacity
- ⊙ 40 μm filter installed at inlet (face seal connection excluded)
- ⊙ With special cleaning and packaging, applicable to oxygen-enriched atmospheres

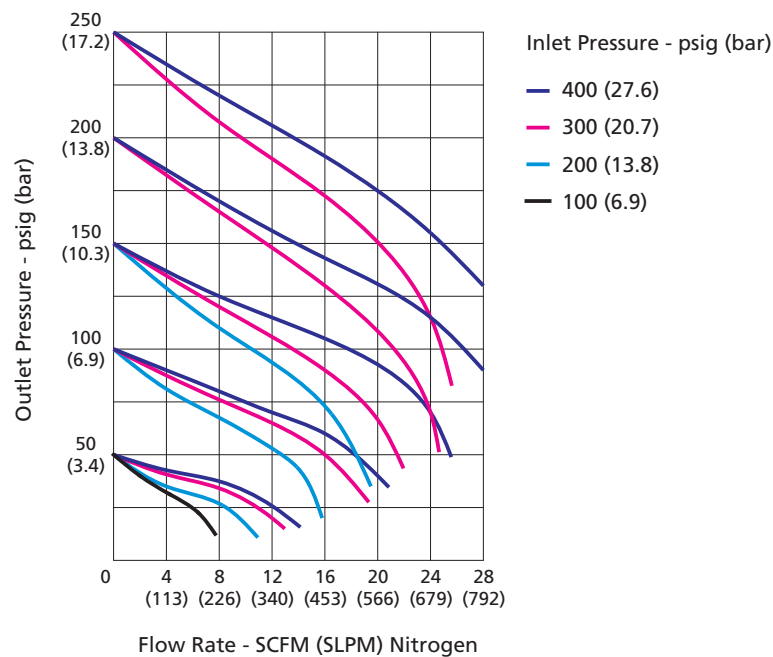
Technical Data

- ⊙ Single-stage regulator
- ⊙ Maximum inlet pressure: 500 or 1500 psig
- ⊙ Outlet pressure range: 0 ~ 25, 0 ~ 50, 0 ~ 100 or 0 ~ 250 psig
- ⊙ Material of the internal components:
 - Seat: PCTFE
 - Diaphragm: Hastelloy
 - Filter: 316L
- ⊙ Temperature: -40 °F ~ 165 °F (-40 °C ~ 74 °C)
- ⊙ Leak rates (helium):
 - Internal: $\leq 1 \times 10^{-7}$ std cm³/s
 - External: $\leq 1 \times 10^{-9}$ std cm³/s
- ⊙ Flow coefficient (Cv): 0.14
- ⊙ Weight (regulator only): ≈ 1.98 lbs (0.9 kg)



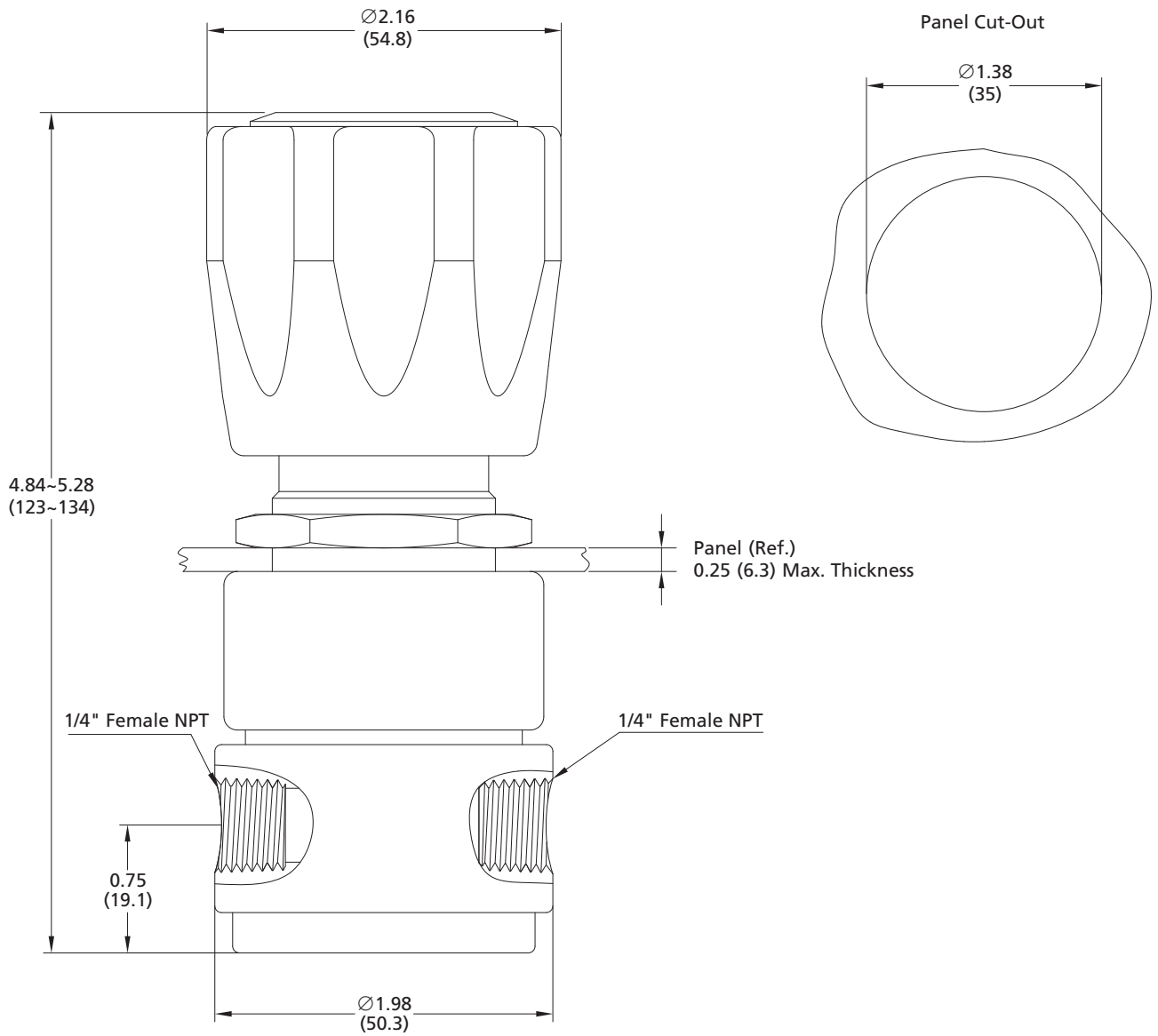
Model: FLR-16L-15-100-00-00-Z

Typical Flow Chart

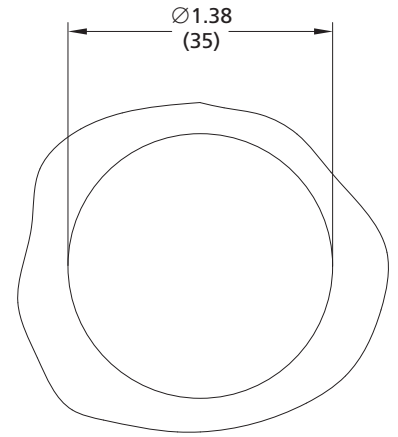


Dimensions

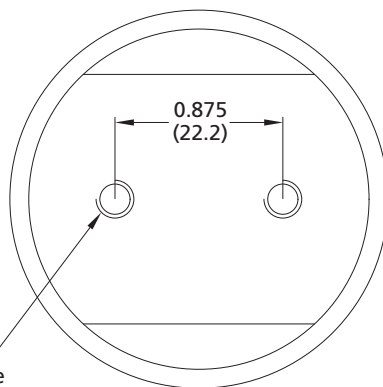
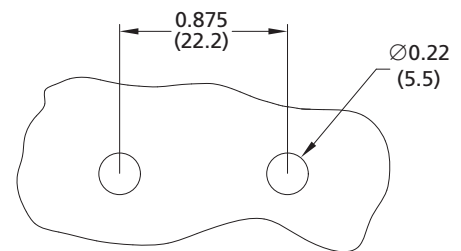
Dimensions, in inches (millimeters), are for reference only.



Panel Cut-Out

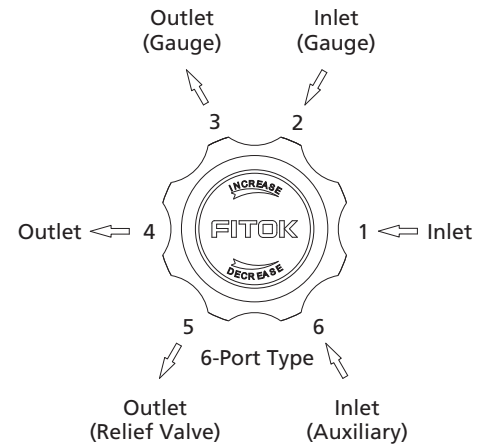
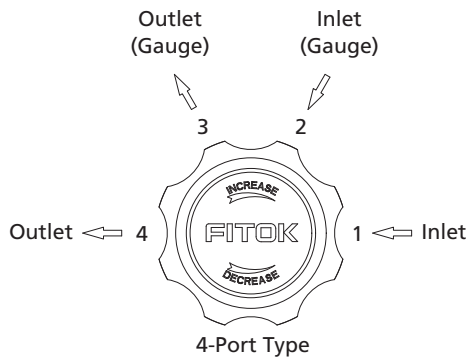
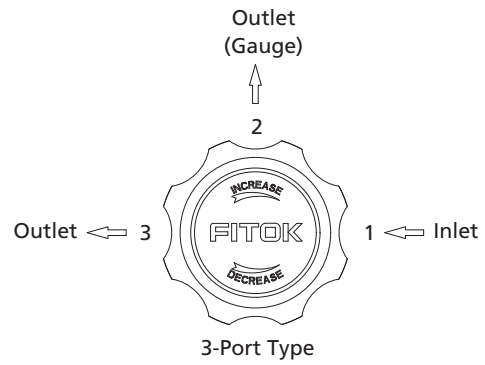
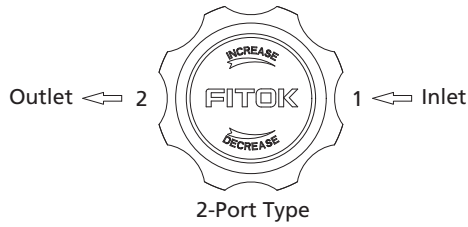


Bottom Panel Cut-Out



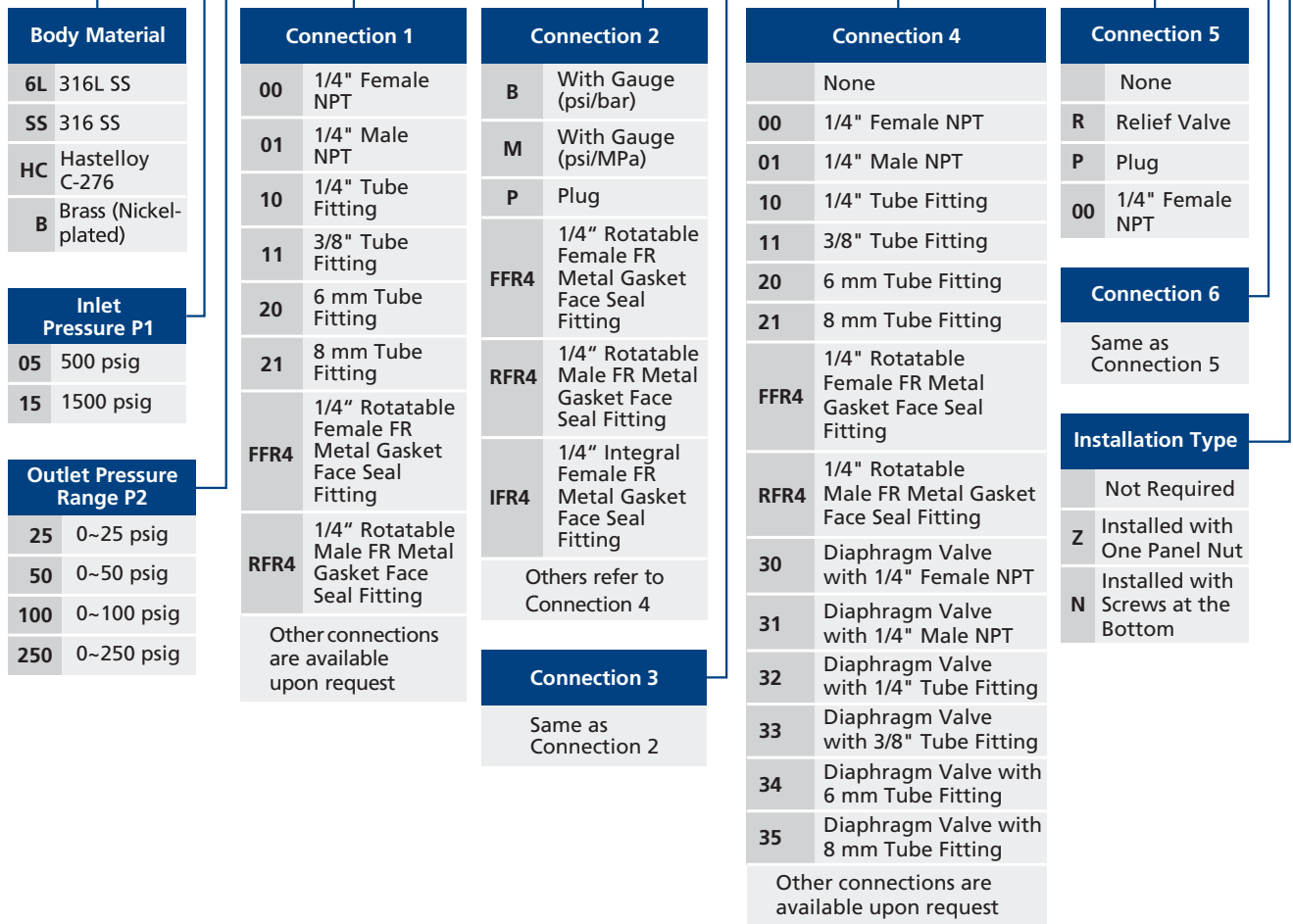
2×M5×0.8-6H thread
The holes are compatible with 10-32 mounting screws

Port Configurations



Ordering Number Description

FLR - 16L - 05 - 100 - 00 - M - M - 00 - R - P - Z



Notes:

- "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
- Before ordering, please read **User's Guide** on A-11.
- For face seal connection, the connection and body are orbital-welded integral structure. The pressure gauge is installed on "RFR4" connection by default.
- For connections other than face seal connection, the body connections are 1/4" Female NPT by default. Other options are adapted from 1/4" Male NPT.
Examples of part number:
 - 2-port type (1 in, 1 out): FLR-16L-05-100-00-00, FLR-16L-05-100-RFR4-RFR4
 - 3-port type (1 in, 2 out): FLR-16L-15-500-10-B-10, FLR-16L-15-100-FFR4-B-FFR4
 - 4-port type (2 in, 2 out): FLR-1B-15-250-00-B-B-20, FLR-16L-15-250-RFR4-B-B-RFR4

Line Pressure Regulators

FLR-2 Series General Piston Regulators

Features

- ⦿ Piston sensing design with greater outlet pressure adjustment range
- ⦿ Reduced inner capacity
- ⦿ 40 μm filter installed at inlet
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched atmospheres

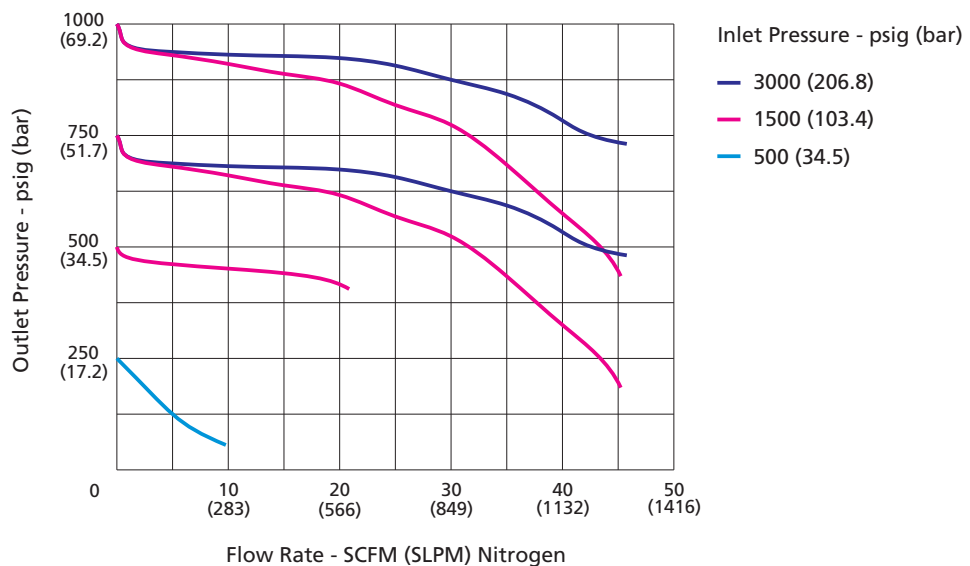
Technical Data

- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 3000 or 4500 psig
- ⦿ Outlet pressure range: 0 ~ 250, 0 ~ 500, 0 ~ 750 or 0 ~ 1000 psig
- ⦿ Material of the internal components:
 - Without venting Model: Main seat PCTFE
 - Venting Model: Main seat PEEK, vent seat PCTFE
 - Vent Seat: PCTFE
 - Piston: 316L
 - O-ring: FKM or FFKM
 - Filter: 316L
- ⦿ Temperature: -15 °F ~ 165 °F (-26 °C ~ 74 °C)
- ⦿ Leak rates:
 - Internal: Bubble-tight
 - External: Bubble-tight
- ⦿ Flow coefficient (Cv):
 - Without vent: 0.06
 - Vent: 0.1
- ⦿ Weight (regulator only): \approx 1.98 lbs (0.9 kg)



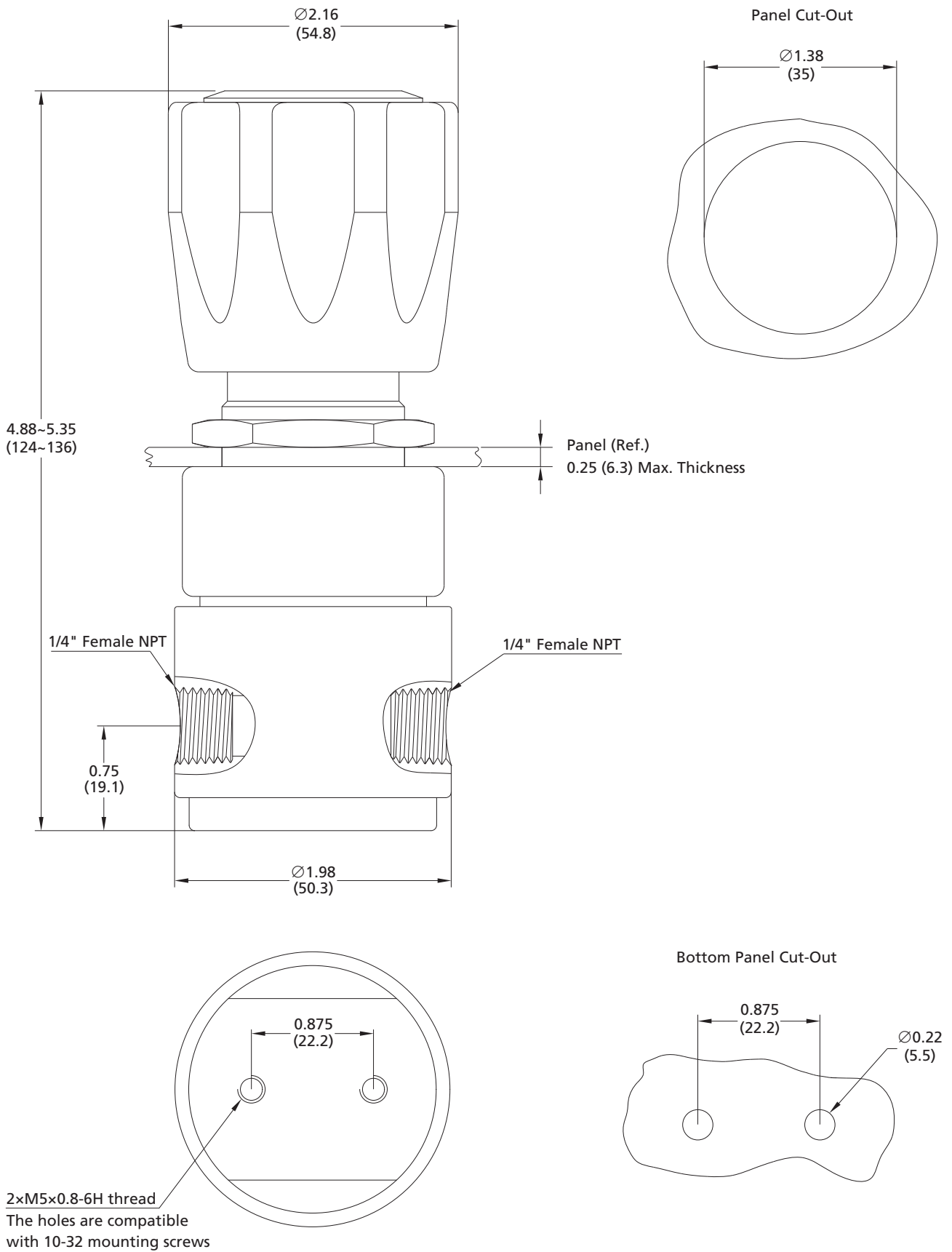
Model: FLR-2SS-45-1000-00-00-Z

Typical Flow Chart

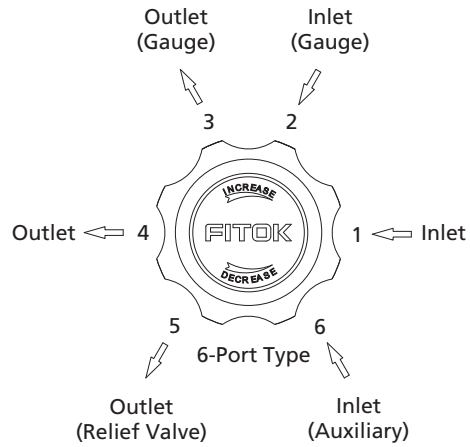
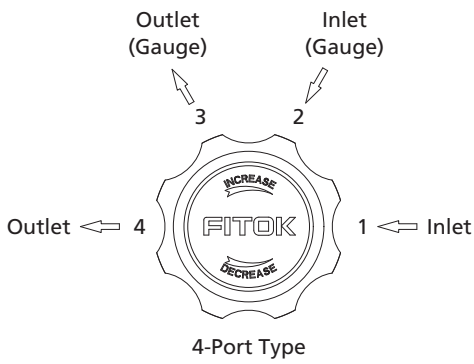
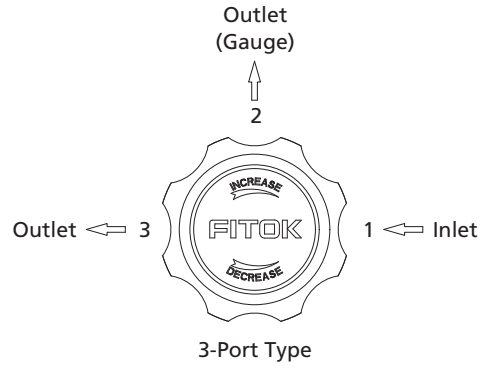
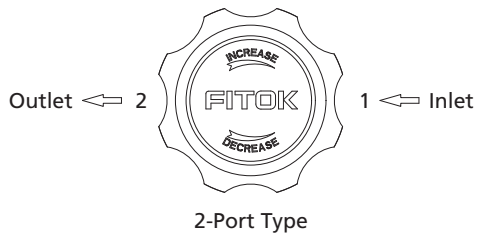


Dimensions

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

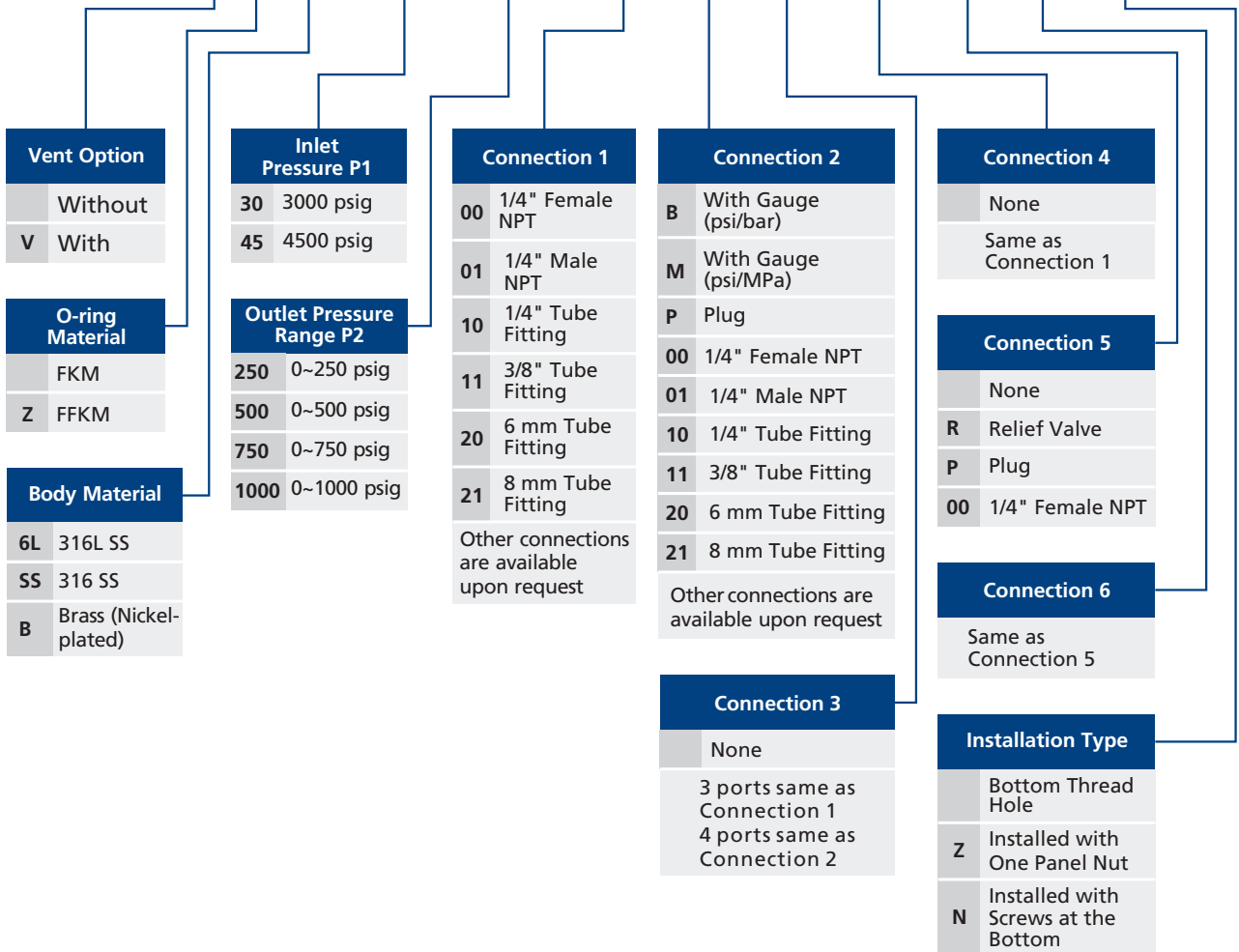


Port Configurations



Ordering Number Description

FLR - 2V Z 6L - 45 - 500 - 10 - B - B - 10 - R - P - Z



Notes:

- "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
- Before ordering, please read **User's Guide** on A-11.
- The body connections are 1/4" Female NPT by default. Other options are adapted from 1/4" Male NPT.

Examples of part number:

- 2-port type (1 in, 1 out): FLR-26L-30-250-00-00
- 3-port type (1 in, 2 out): FLR-2VB-45-1000-00-00-00
- 4-port type (2 in, 2 out): FLR-2VZSS-30-1000-00-B-B-10

Line Pressure Regulators

FLR-3 Series Medium Flow Regulators

Features

- ⦿ High flow (Cv 1.0) and high sensitivity
- ⦿ Large diameter convoluted diaphragm to increase pressure sensitivity
- ⦿ Balanced poppet to minimize supply pressure effect
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched atmospheres

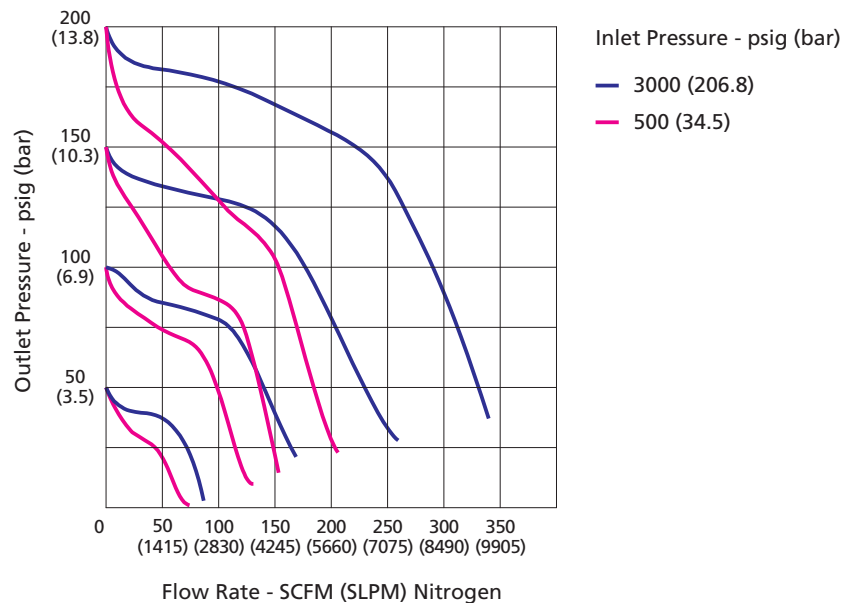
Technical Data

- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 500 or 3000 psig
- ⦿ Outlet pressure range: 0 ~ 25, 0 ~ 50, 0 ~ 100, 0 ~ 150 or 0 ~ 200 psig
- ⦿ Material of the internal components:
Seat: PCTFE
Diaphragm: Hastelloy
- ⦿ Temperature: -40 °F ~ 140 °F (-40 °C ~ 60 °C)
- ⦿ Leak rates (helium):
Internal: Bubble-tight
External: $\leq 1 \times 10^{-9}$ std cm³/s
- ⦿ Flow coefficient (Cv): 1.0
- ⦿ Weight (regulator only): ≈ 3.53 lbs (1.6 kg)



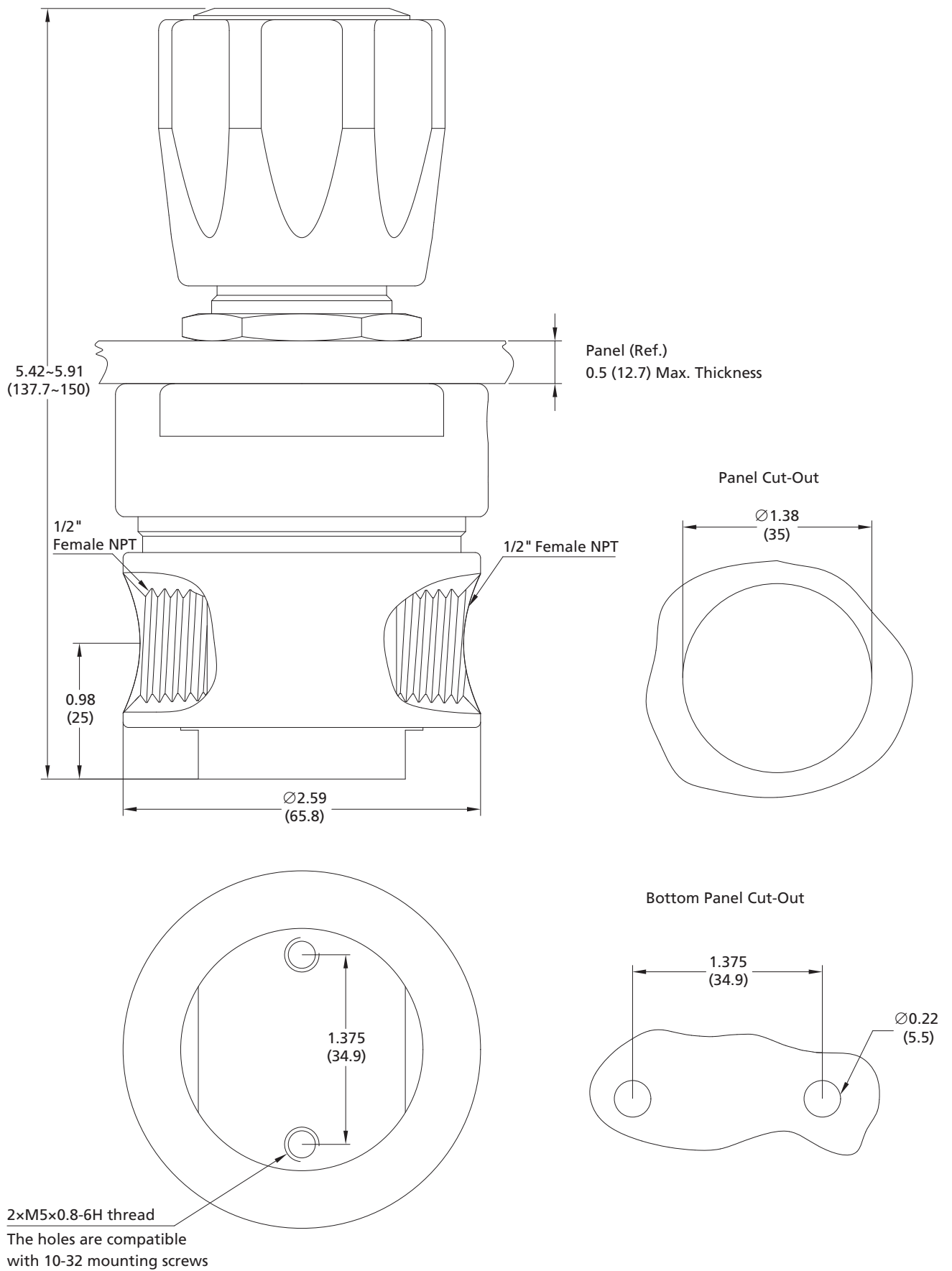
Model: FLR-3SS-30-100-04-04-Z

Typical Flow Chart

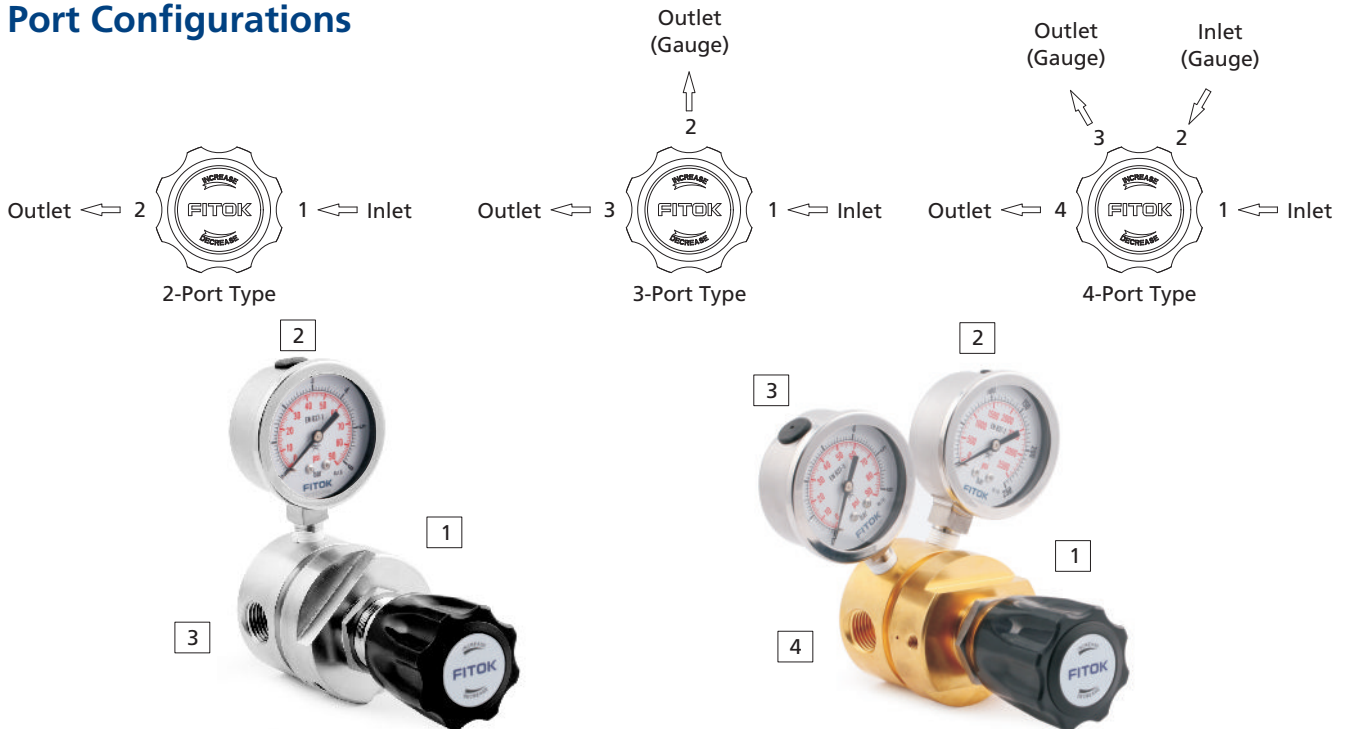


Dimensions

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



Port Configurations



Ordering Number Description

FLR - 3B - 30 - 100 - 04

Body Material	
6L	316L SS
SS	316 SS
B	Brass

Inlet Pressure P1	
05	500 psig
30	3000 psig

Outlet Pressure Range P2	
25	0~25 psig
50	0~50 psig
100	0~100 psig
150	0~150 psig
200	0~200 psig

Connection 1	
04	1/2" Female NPT
FFR8	1/2" Rotatable Female FR Metal Gasket Face Seal Fitting
RFR8	1/2" Rotatable Male FR Metal Gasket Face Seal Fitting
11	3/8" Tube Fitting
12	1/2" Tube Fitting
22	10 mm Tube Fitting
23	12 mm Tube Fitting

Other connections are available upon request

- B -

Connection 2	
B	With Gauge (psi/bar)
M	With Gauge (psi/MPa)
P	Plug
00	1/4" Female NPT
04	1/2" Female NPT
FFR8	1/2" Rotatable Female FR Metal Gasket Face Seal Fitting
RFR8	1/2" Rotatable Male FR Metal Gasket Face Seal Fitting
IFR4	1/4" Integral Female FR Metal Gasket Face Seal Fitting
01	1/4" Male NPT
10	1/4" Tube Fitting
11	3/8" Tube Fitting
20	6 mm Tube Fitting
21	8 mm Tube Fitting

Other connections are available upon request

- B -

Connection 3	
None	
3 Ports Same as Connection 1	
4 Ports Same as Connection 2	

- 04 -

Connection 4	
None	
Same as Connection 1	

Installation Type	
	Bottom Thread Hole
Z	Installed with One Panel Nut
M	Installed with Two Panel Nuts
N	Installed with Screws at the Bottom

Notes:

- "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
- Before ordering, please read **User's Guide** on A-11.
- For face seal connection, the connection and body are orbital-welded integral structure. The pressure gauge is installed on "RFR4" connection by default.
- For connections other than face seal connection, the body inlet and outlet connections default to 1/2" Female NPT, the gauge connection defaults to 1/4" Female NPT, and all other connections are adapted from the corresponding Male NPT.

Examples of part number:

- 2-port type (1 in, 1 out): FLR-36L-30-100-04-04, FLR-36L-30-100-FFR8-FFR8
- 3-port type (1 in, 2 out): FLR-3SS-05-150-04-00-04, FLR-36L-05-150-RFR8-RFR4-RFR8
- 4-port type (2 in, 3 out): FLR-3B-05-200-04-00-00-04, FLR-36L-05-200-FFR8-RFR4-RFR4-FFR8

Line Pressure Regulators

FLR-5 Series High Flow Regulators

Features

- ⦿ Suitable for low pressure and high flow applications
- ⦿ Large diameter convoluted diaphragm to increase pressure sensitivity
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched atmospheres

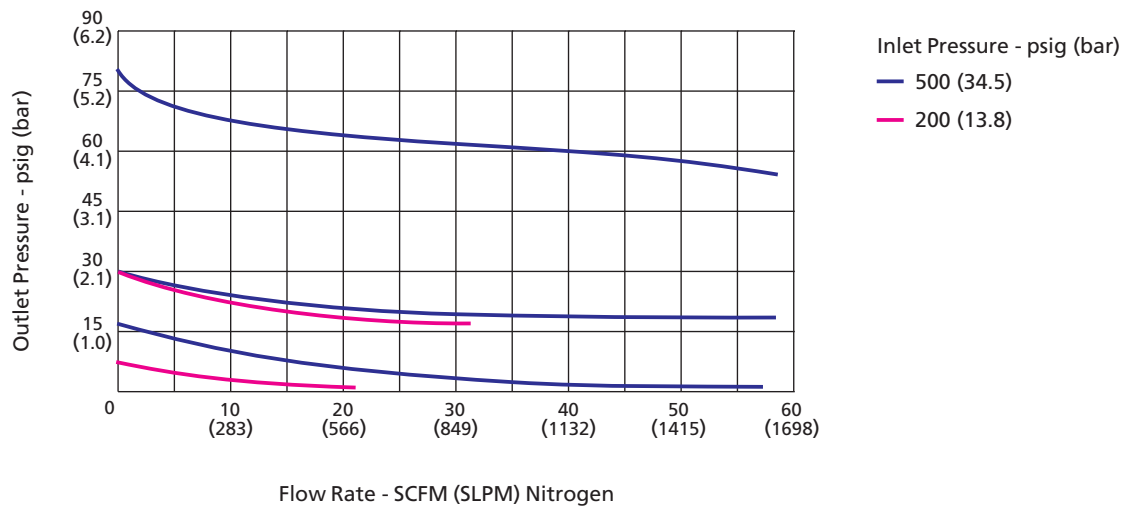
Technical Data

- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 500 psig
- ⦿ Outlet pressure ranges: 0 ~ 15, 0 ~ 30, 0 ~ 75, 0 ~ 150 psig
- ⦿ Material of the internal components:
 - Seat: PCTFE
 - Diaphragm: Hastelloy
- ⦿ Temperature: -40 °F ~ 165 °F (-40 °C ~ 74 °C)
- ⦿ Leak rates (helium):
 - Internal: Bubble-tight
 - External: $\leq 1 \times 10^{-9}$ std cm³/s
- ⦿ Flow coefficient (Cv): 1.8
- ⦿ Weight (regulator only): ≈ 5.95 lbs (2.7 kg)



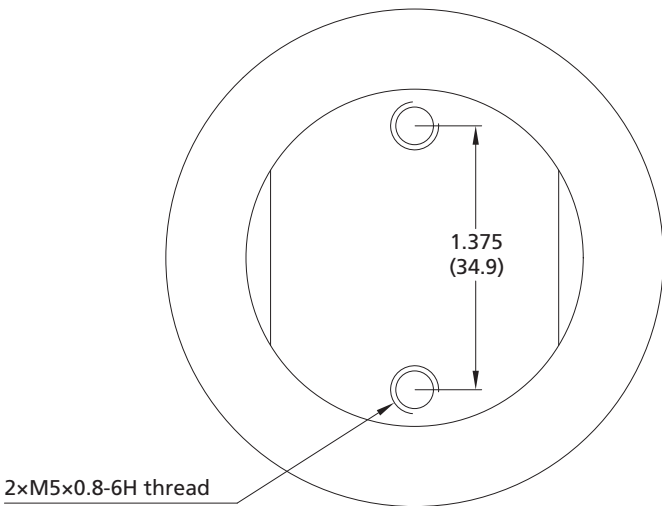
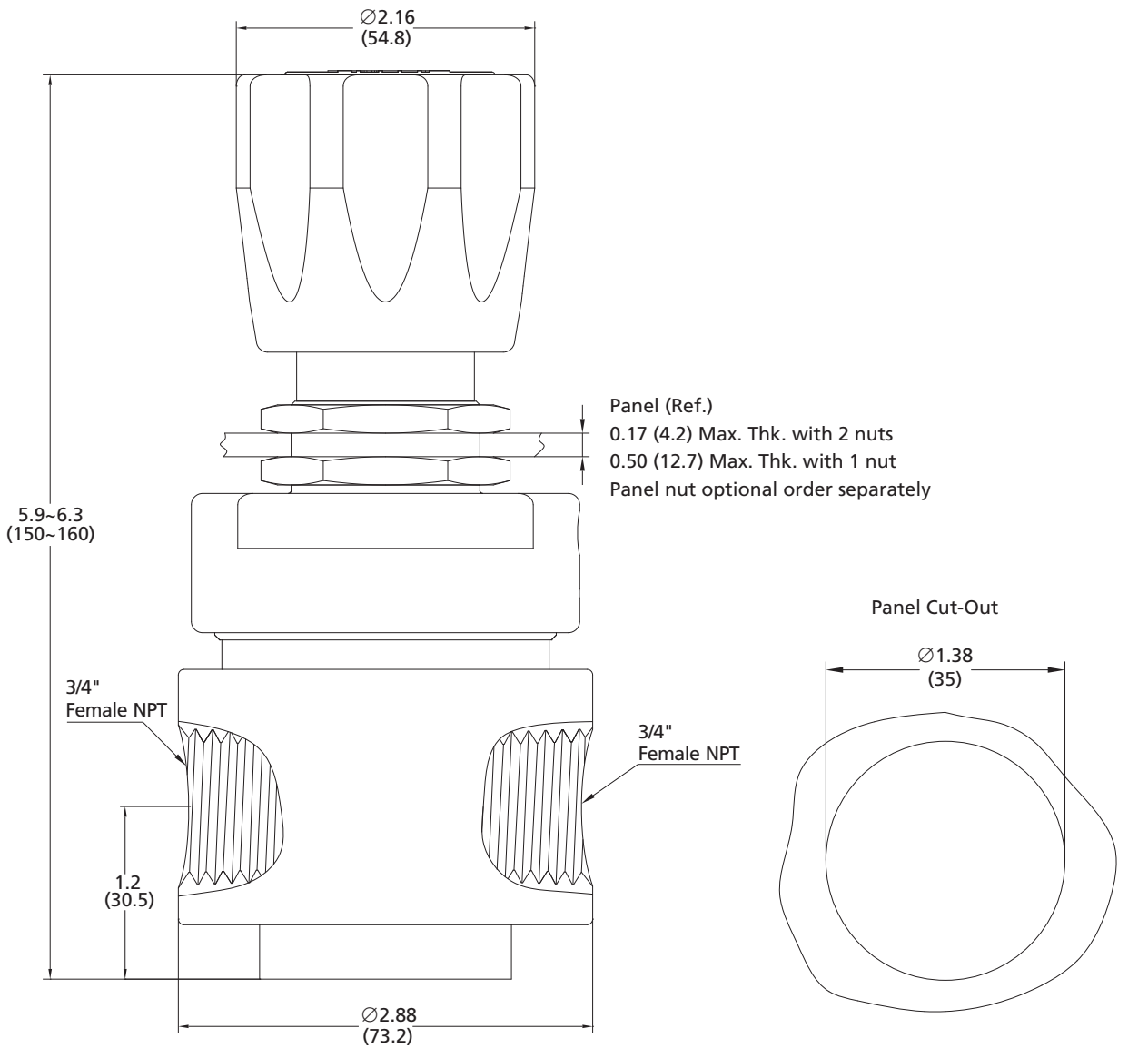
Model: FLR-56L-05-150-04-04-Z

Typical Flow Chart

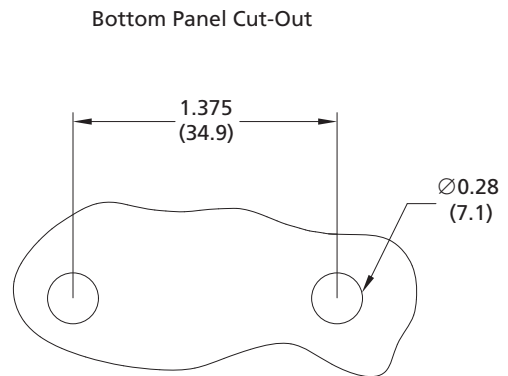


Dimensions

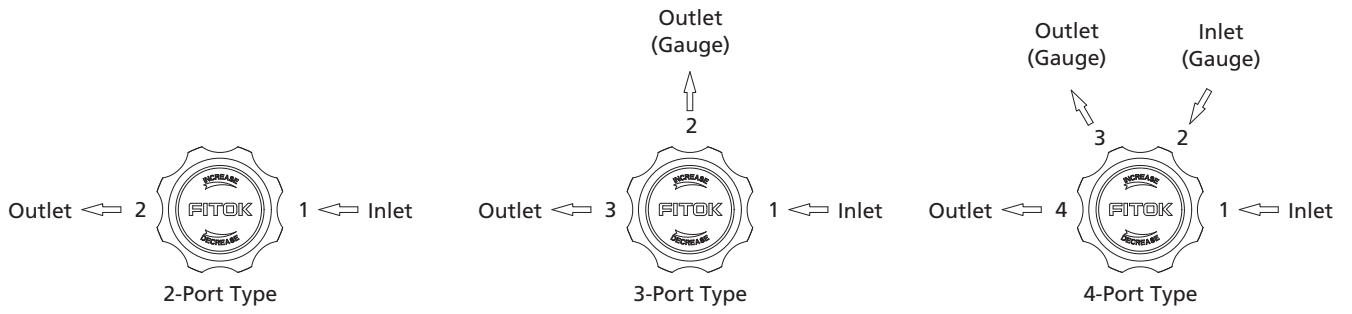
Dimensions, in inches (millimeters), are for reference only.



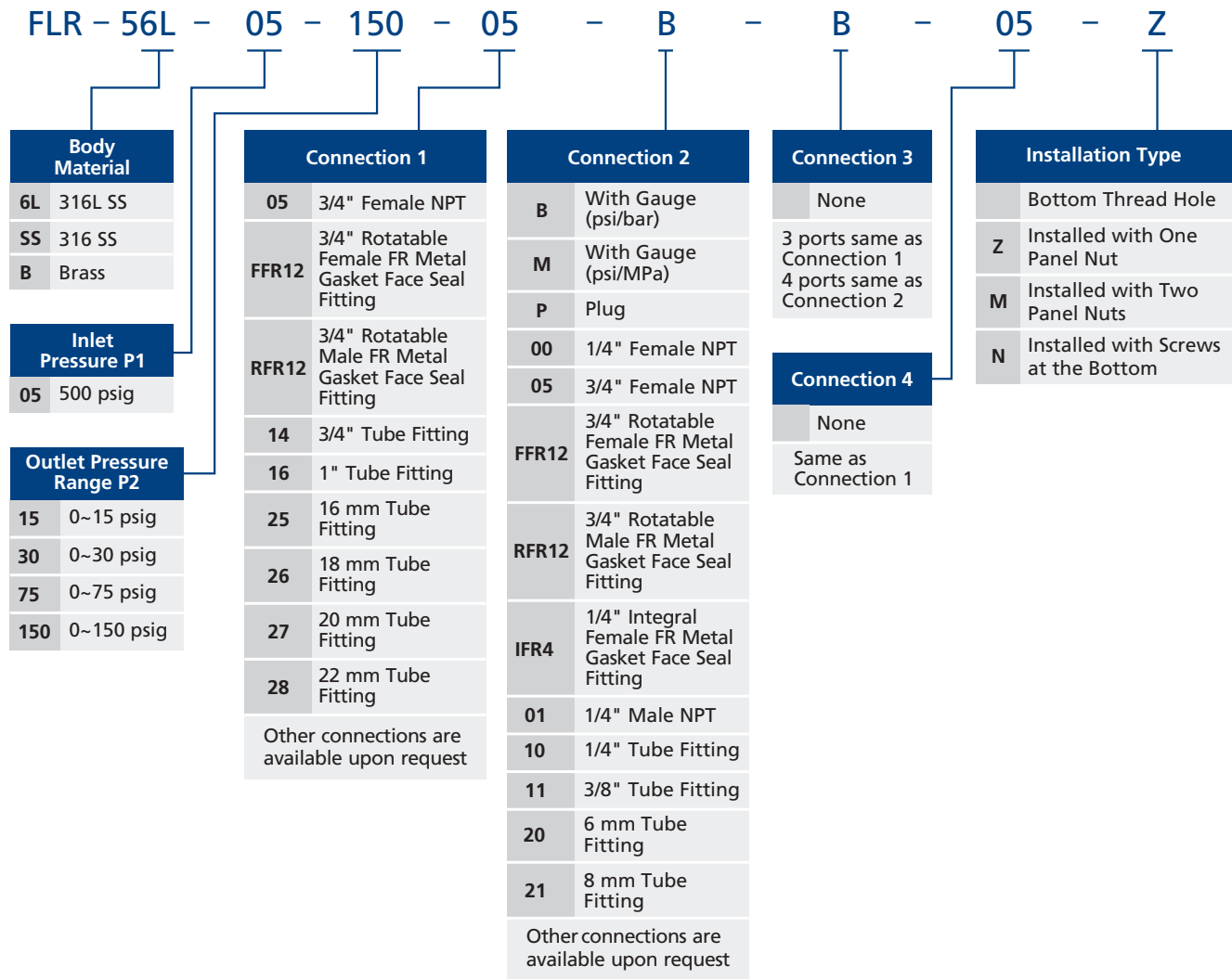
2×M5×0.8-6H thread
 The holes are compatible
 with 10-32 mounting screws



Port Configurations



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.
- Before ordering, please read **User's Guide** on A-11.
- For face seal connection, the connection and body are orbital-welded integral structure. The pressure gauge is installed on "RFR4" connection by default.
- For connections other than the face seal connection, the body inlet and outlet connections default to 3/4" Female NPT, the gauge connection defaults to 1/4" Female NPT, and all other connections are adapted from the corresponding Male NPT.

Examples of part number:

- 2-port type (1 in, 1 out): FLR-56L-05-15-05-05, FLR-56L-05-15-FFR12-FFR12
- 3-port type (1 in, 2 out): FLR-5SS-05-30-05-00-05, FLR-56L-05-30-RFR12-RFR4-RFR12
- 4-port type (2 in, 2 out): FLR-5B-05-75-05-B-B-05, FLR-56L-05-75-FFR12-RFR4-RFR4-RFR12

Line Pressure Regulators

FBR-1 Series Miniature Piston Regulators

Features

- ⦿ Compact design with small dimension
- ⦿ Reduced inner capacity
- ⦿ 40 µm filter installed at inlet
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched atmospheres

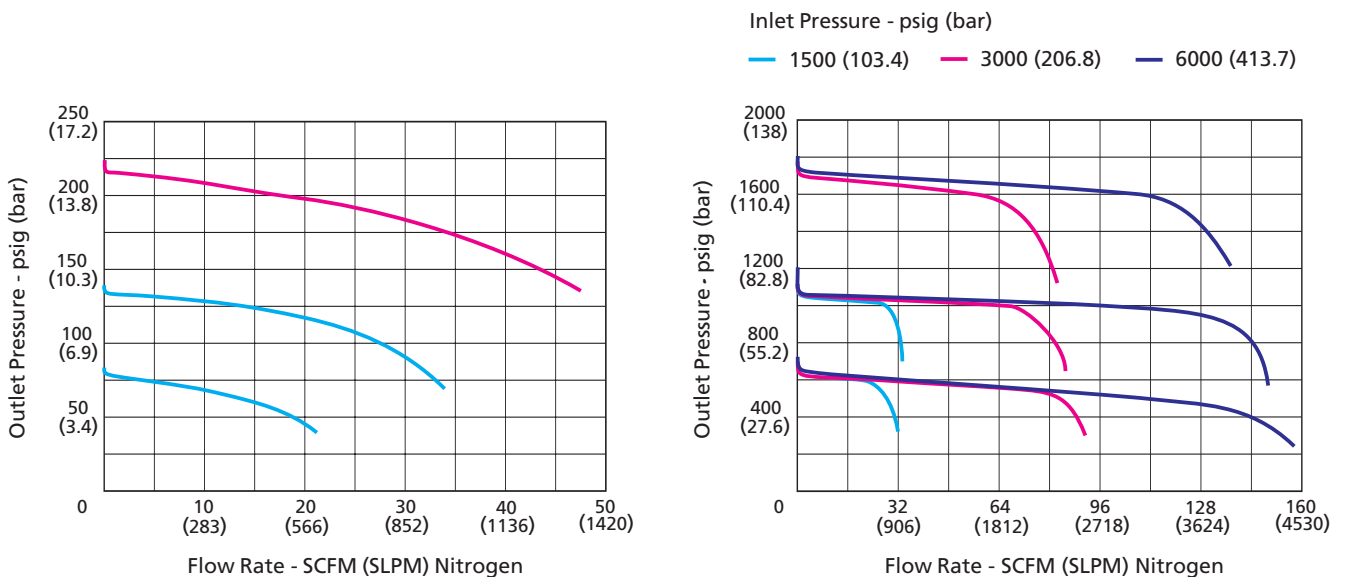
Technical Data

- ⦿ Material of the internal components:
 - Seat: PCTFE, PEEK or Polyimide
 - Piston: 316L
 - O-ring: FKM, FFKM or NBR
 - Filter: 316L
- ⦿ Operating conditions
 - Maximum rated inlet pressure: 6000 psig
 - Outlet pressure ranges: 0 ~ 80, 0 ~ 140, 0 ~ 220, 0 ~ 700, 0 ~ 1200, 0 ~ 1800 psig
 - Temperature: -15 °F ~ 165 °F (-26 °C ~ 74 °C)
- ⦿ Functional performance
 - Test pressure: 150% of maximum rated pressure
 - Burst pressure: 300% of maximum rated pressure
 - Leak rates:
 - Internal: Bubble-tight
 - External: Bubble-tight
- ⦿ Flow coefficient (Cv): 0.06
- ⦿ Weight(regulator only): 0.93 lbs (0.4 kg)



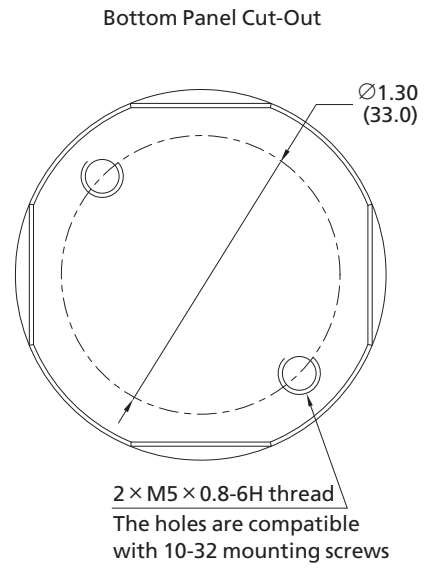
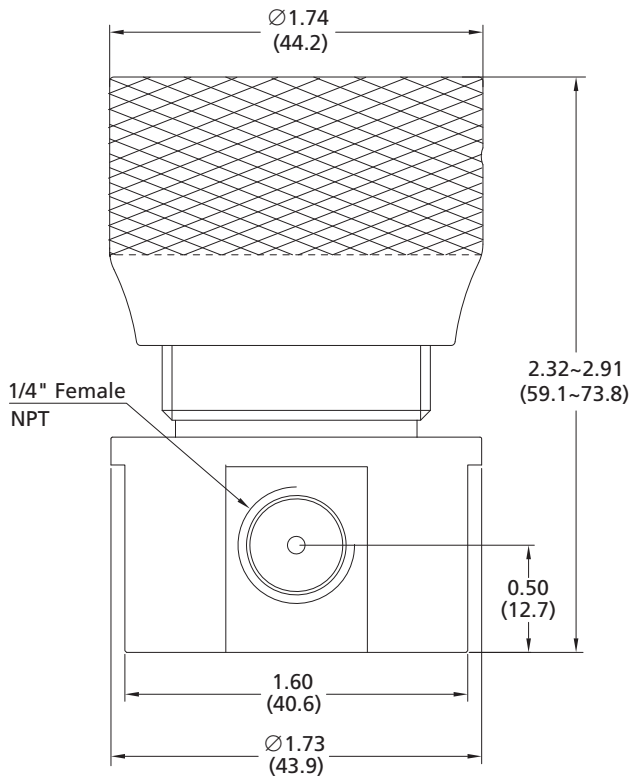
Model: FBR-15S-60-220-00-00-00

Typical Flow Chart

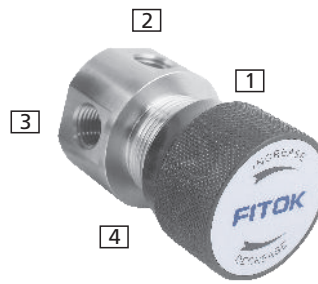
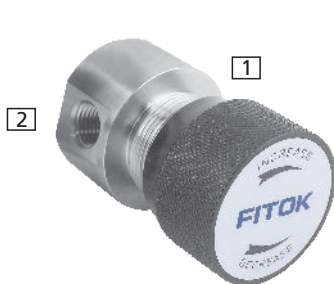
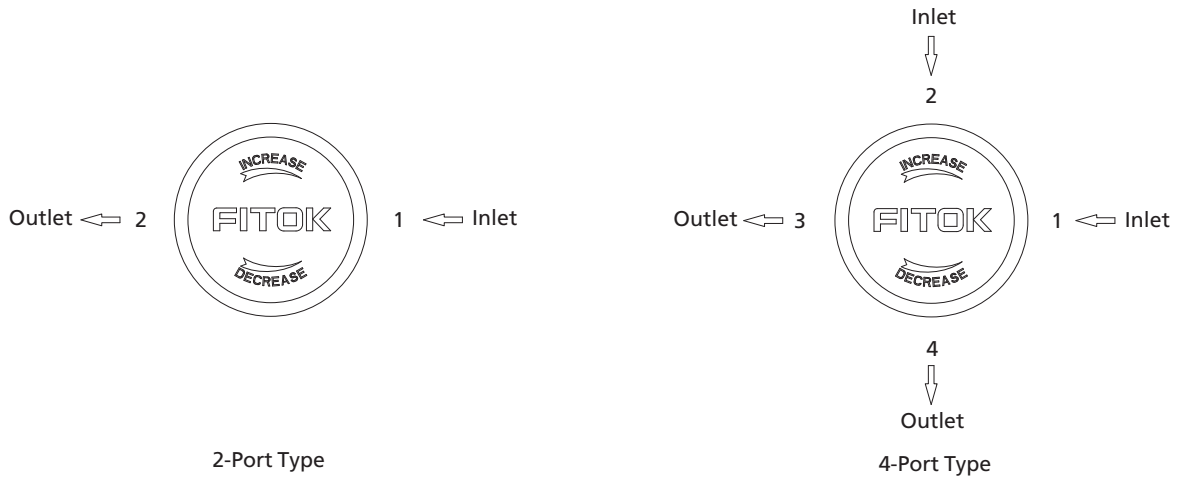


Dimensions

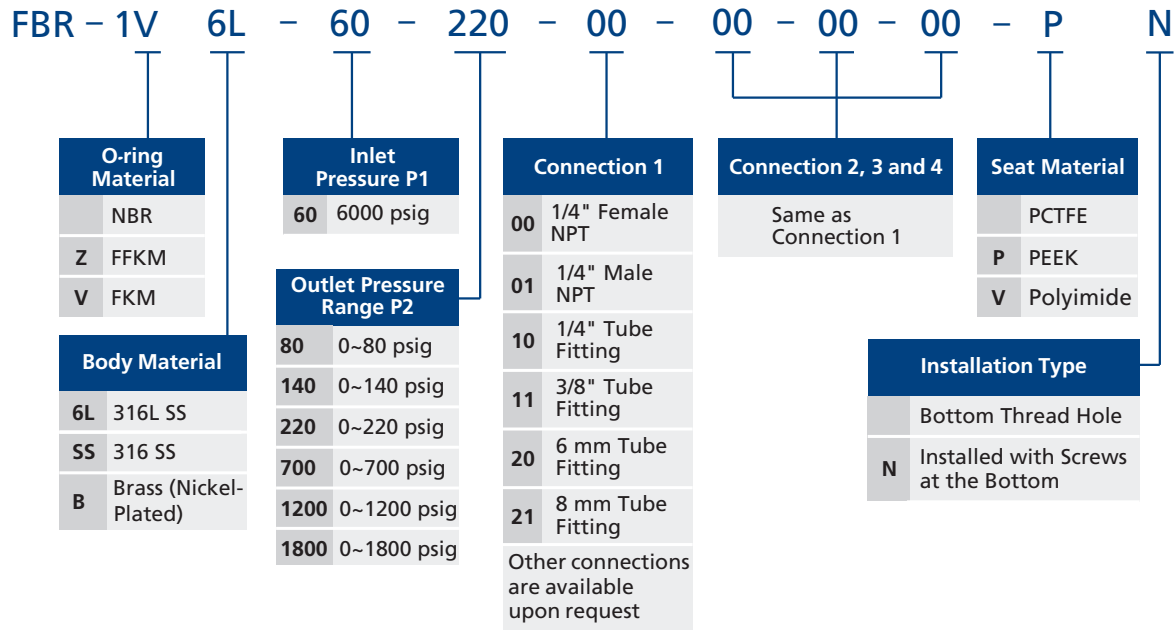
Dimensions, in inches (millimeters), are for reference only.



Port Configurations



Ordering Number Description



Notes:

1. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
2. Before ordering, please read **User's Guide** on A-11.
3. The body connections are 1/4" Female NPT by default. Other options are adapted from 1/4" Male NPT.

Examples of part number:

- a. 2-port type (1 in, 1 out): FBR-16L-60-80-00-00
- b. 4-port type (2 in, 2 out): FBR-16L-60-80-00-00-00-00

High Pressure Regulators

HPR-10 Series High Pressure Piston Regulators

Features

- Maximum inlet pressure 10000 psig
- Piston sensing design with greater outlet pressure adjustment range
- 40 μ m filter installed at inlet

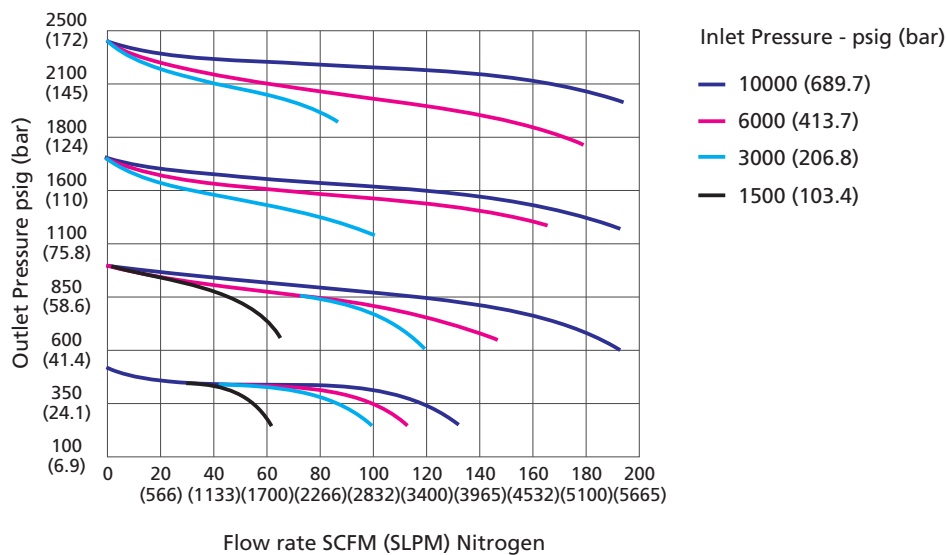
Technical Data

- Maximum inlet pressure:
 - Stainless: 10000 psig
 - Brass: 6000 psig
- Outlet pressure range: 10 ~ 500, 15 ~ 800, 15 ~ 1500, 30 ~ 2500, 50 ~ 4000, 60 ~ 6000 or 200 ~ 10000 psig
- Materials of the internal components:
 - Seat: PEEK
 - Piston: 316
 - O-rings: FKM or NBR
 - Filter: 316L
- Temperature: -15 °F ~ 165 °F (-26 °C ~ 74 °C)
- Leak rates:
 - Internal: Bubble-tight
 - External: Bubble-tight
- Flow coefficient (Cv): 0.06
- Weight: \approx 5.75 lbs (2.6 kg)



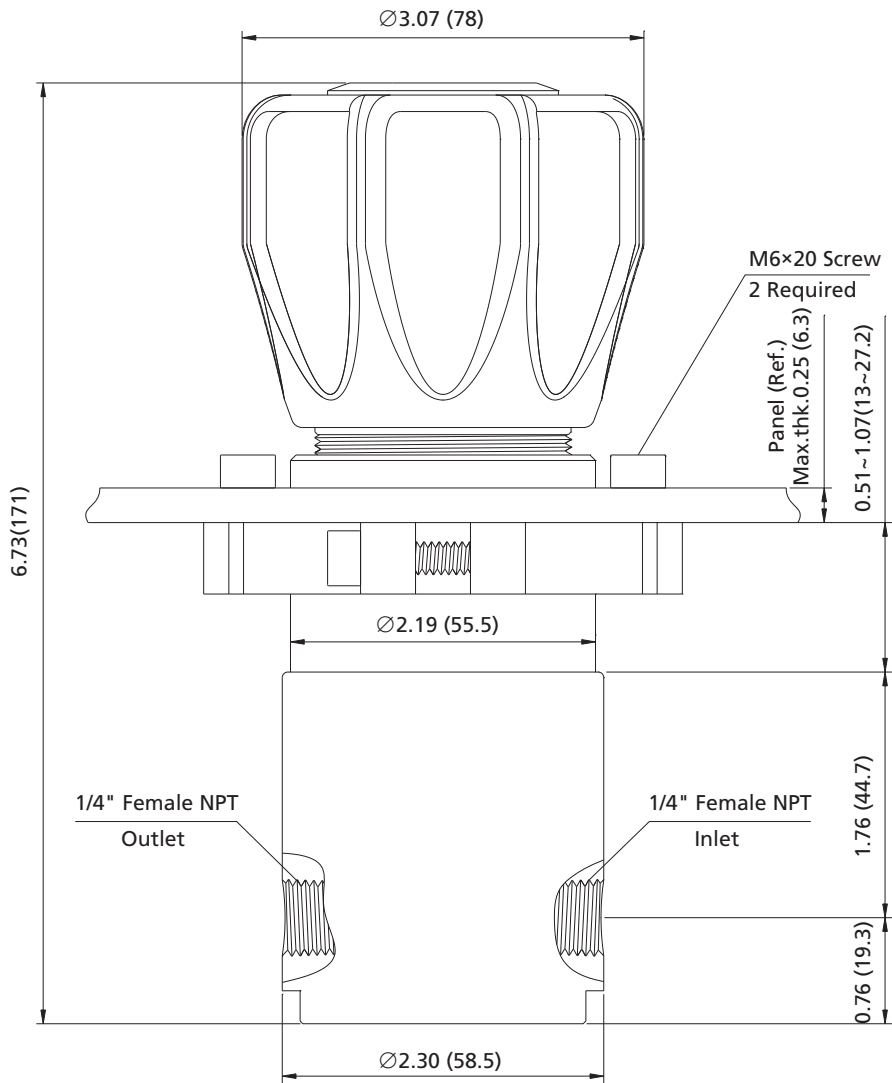
Model: HPR-10SSN-100-100-00-00-ZV

Flow Chart



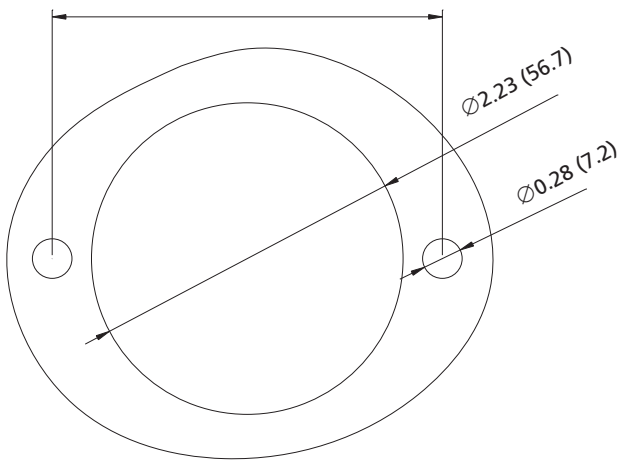
Dimensions

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

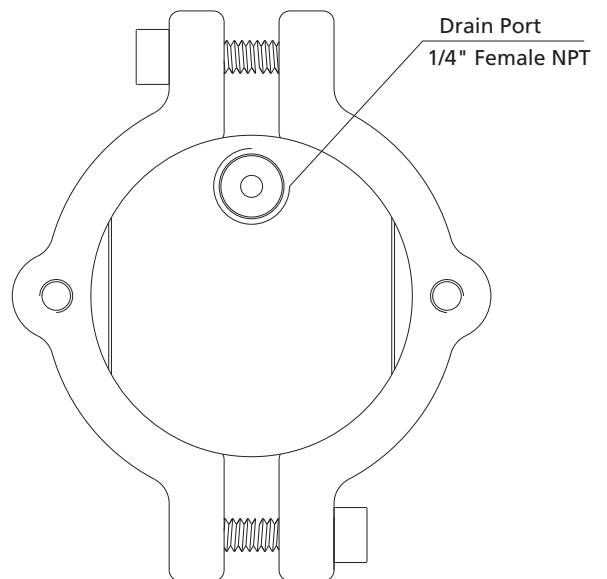


Panel Cut-Out

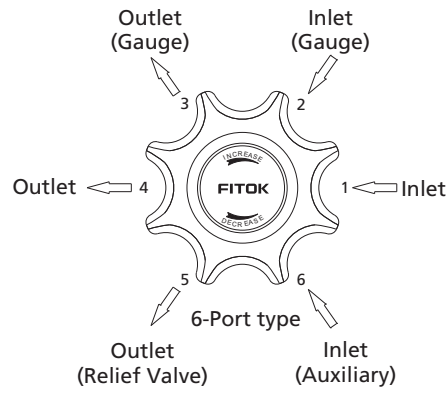
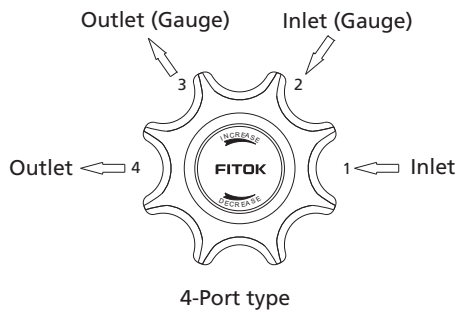
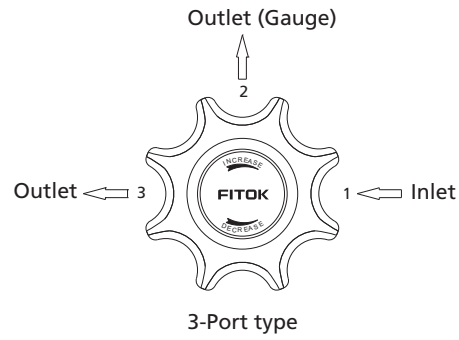
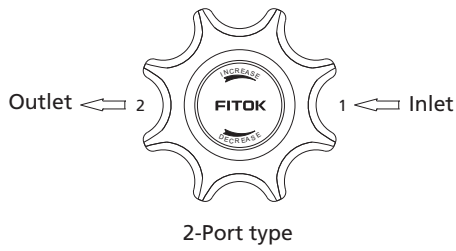
2.79 (71.0)



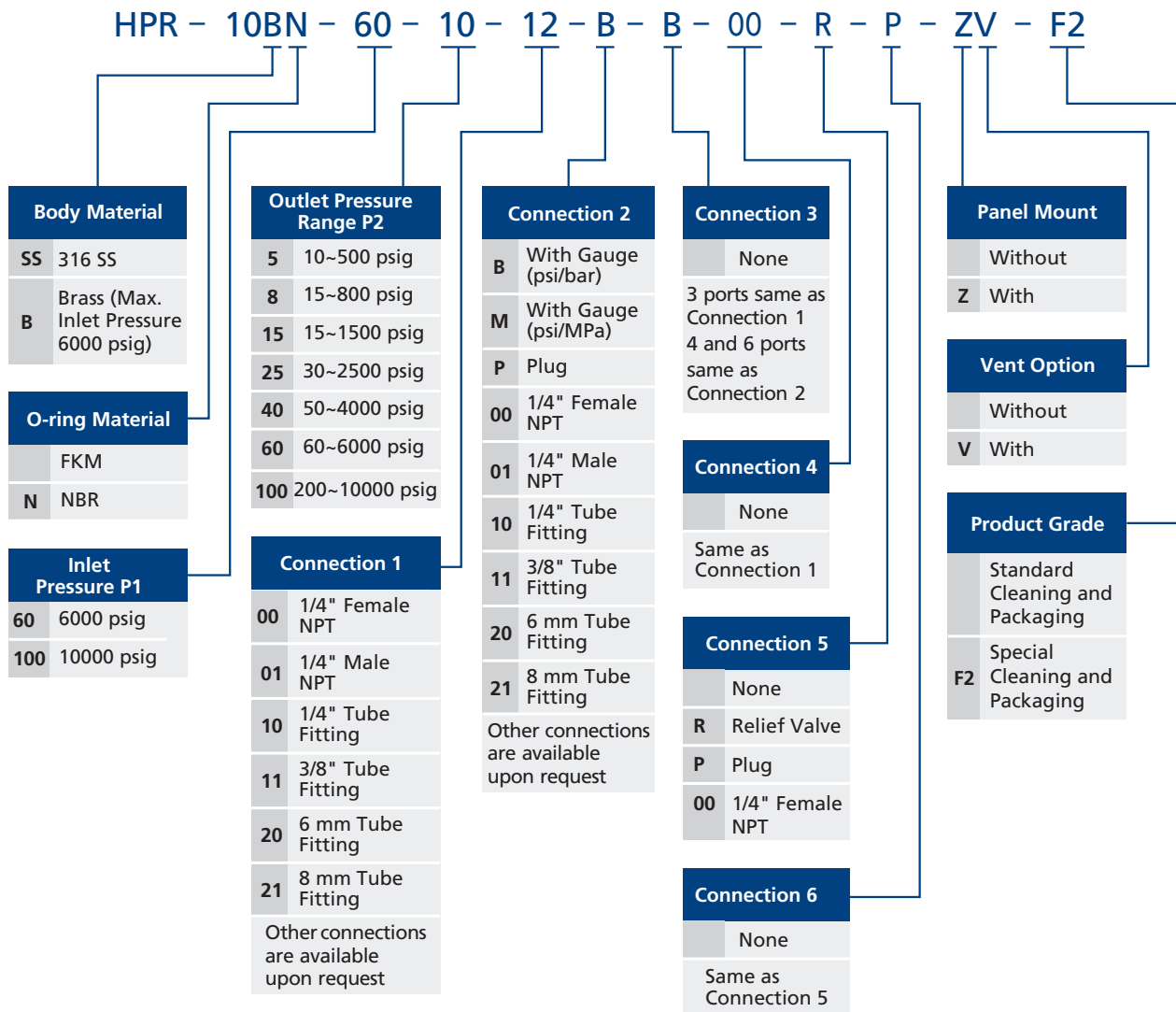
Bottom View



Port Configurations



Ordering Number Description



Notes:

1. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
2. Drain port at the bottom of the regulator can not be blocked.
3. Select the vent option for different media:
 - (1) For liquid services with fewer residual media downstream, install the regulator with the drain port pointing vertically down, and the media could drain from the drain port at the bottom with vent option.
 - (2) For gas services, the media could vent directly to atmosphere from below the handle with vent option.
 - (3) Fully captured-vent option is available upon request. Contact FITOK Group or our authorized distributors for more information.
4. Before ordering, please read **User's Guide** on A-11.
5. The body connections are 1/4" Female NPT by default. Other options are adapted from 1/4" Male NPT.

Examples of part number:

- a. 2-port type (1 in, 1 out): HPR-10SS-60-40-00-00
- b. 3-port type (1 in, 2 out): HPR-10B-60-60-00-B-00
- c. 4-port type (2 in, 2 out): HPR-10SS-100-25-00-B-B-00

Line Pressure Regulators

HPL-06 Series High Flow Piston Regulators

Features

- ⦿ For high flow applications
- ⦿ Piston sensing design with greater outlet pressure adjustment range
- ⦿ Large piston sensor gives excellent sensitivity
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched atmospheres

Technical Data

- ⦿ Maximum inlet pressure:
Stainless steel: 4500 psig
Brass: 3750 psig
- ⦿ Outlet pressure ranges: 0~300, 0~600, 0~1000, 0~1500 psig
- ⦿ Material of the internal components:
Seat: PCTFE
Piston: 316
O-rings: FKM or FFKM
- ⦿ Temperature: -15 °F ~ 220 °F (-26 °C ~ 104 °C)
- ⦿ Leak rates:
Internal: Bubble-tight
External: Bubble-tight
- ⦿ Flow coefficient (Cv): 2.0
- ⦿ Weight (regulator only): ≈ 6.25 lbs (2.83 kg)



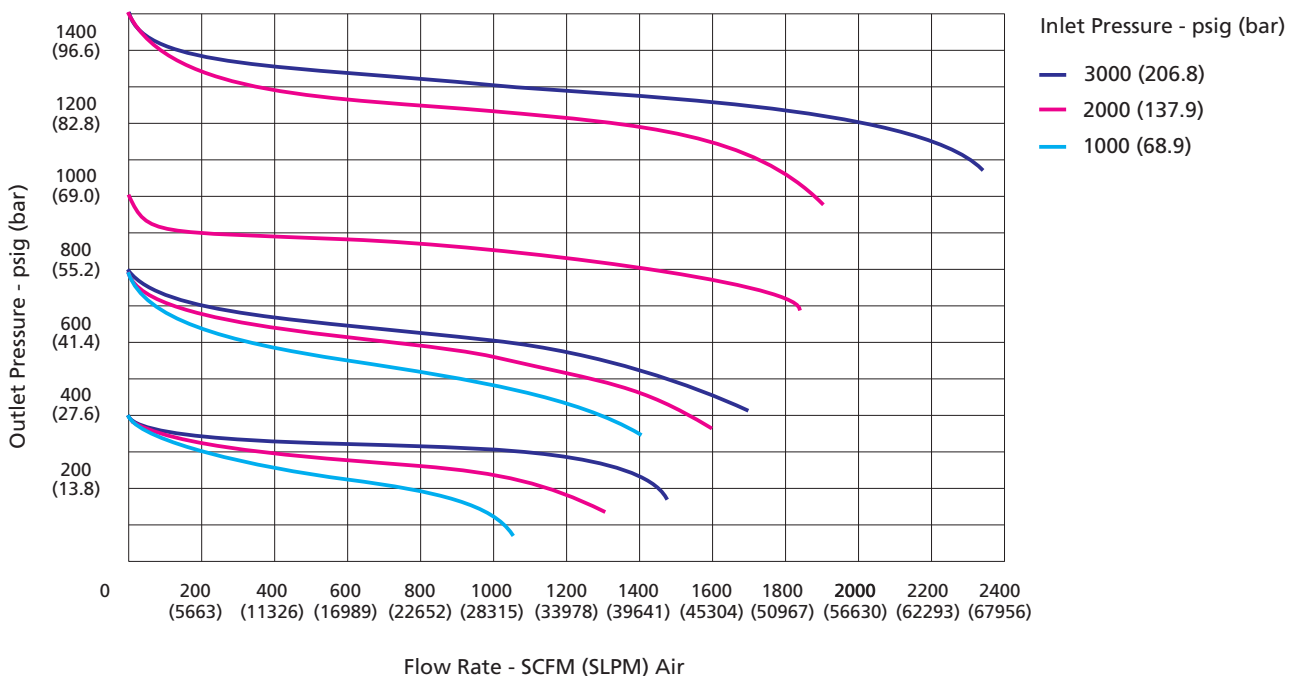
Model: HPL-06SS-45-1000-04-04-Z

Gas Control Equipment

Related Products

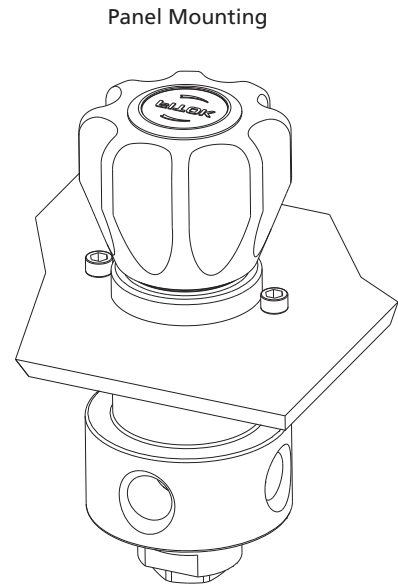
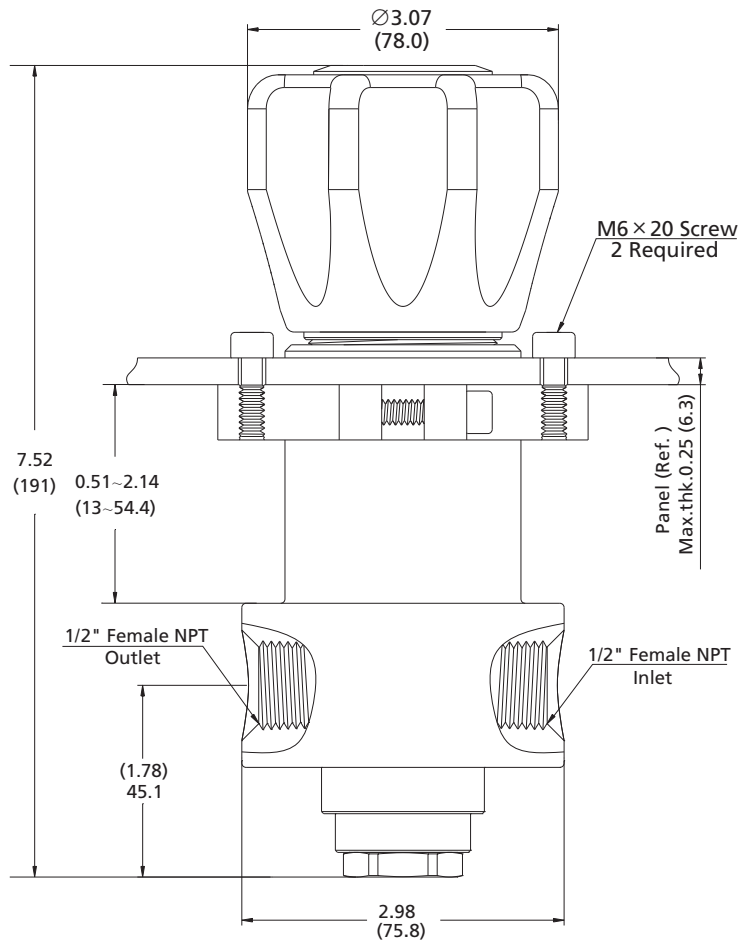
Technical References

Typical Flow Chart

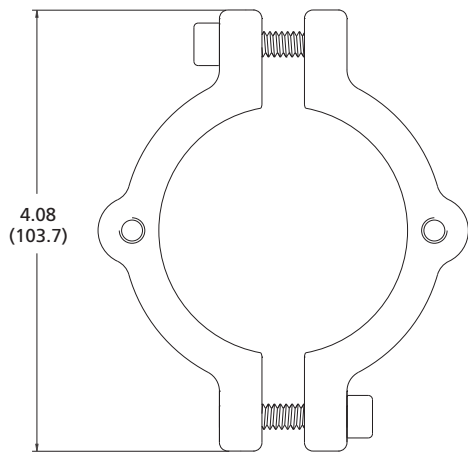


Dimensions

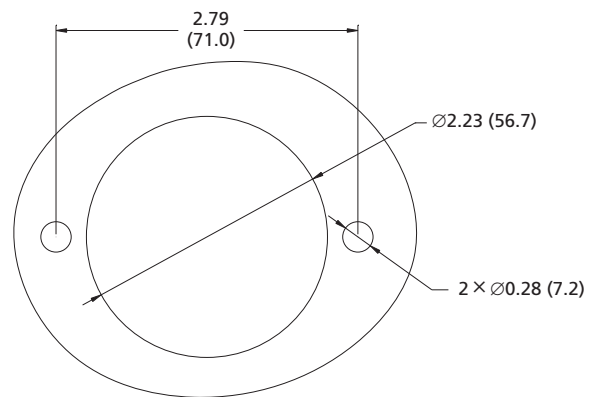
Dimensions, in inches (millimeters), are for reference only.



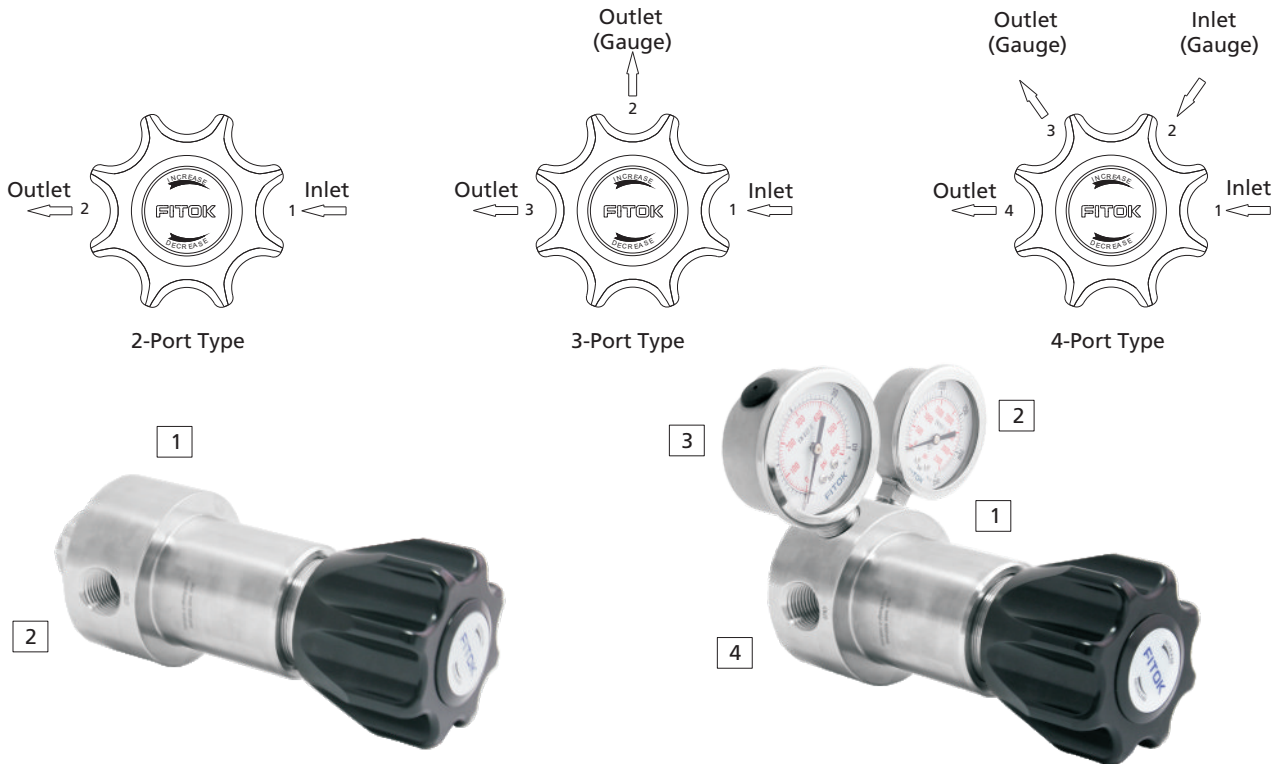
Panel Mounting Kit



Panel Cut-Out



Port Configurations



Ordering Number Description

HPL - 06V Z 6L - 45 - 600 - 04 - B - B - 04 - Z

Vent Option	Body Material	Inlet Pressure P1	Connection 1	Connection 2	Connection 3
Without	SS 316 SS	37 3750 psig	04 1/2" Female NPT	B With Gauge (psi/bar)	None
V With	6L 316L SS	45 4500 psig	05 3/4" Female NPT	M With Gauge (psi/MPa)	3 ports same as Connection 1
O-ring Material	B Brass (Max. Inlet Pressure 3750 psig)	Outlet Pressure Range P2	14 3/4" Tube Fitting	P Plug	4 and 6 ports same as Connection 2
FKM		300 0~300 psig	25 16 mm Tube Fitting	00 1/4" Female NPT	Connection 4
Z FFKM		600 0~600 psig	26 18 mm Tube Fitting	01 1/4" Male NPT	None
		1000 0~1000 psig	Other connections are available upon request	10 1/4" Tube Fitting	Same as Connection 1
		1500 0~1500 psig		11 3/8" Tube Fitting	Panel Mount
				20 6 mm Tube Fitting	Without
				21 8 mm Tube Fitting	Z With
				Other connections are available upon request	

Notes:

1. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
2. Before ordering, please read **User's Guide** on A-11.
3. When using the vent function, media will be discharged into the atmosphere from beneath the handle.
4. The body connections are 1/2" female NPT by default and the gauge mounting connections are 1/4" female NPT by default. The other options are adapted from corresponding male NPT.

Examples of part number:

- a. 2-Port type (1 in, 1 out): HPL-06B-37-600-04-04
- b. 3-Port type (1 in, 2 out): HPL-06L-45-1000-04-B-04
- c. 4-Port type (2 in, 2 out): HPL-06SS-45-1500-04-B-B-04