

Line Pressure Regulators

FLR-1, FLR-2 FLR-3 and FBR-1 Series



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Line Pressure Regulators

FLR-1 Series Compact Diaphragm Regulators

Features

- ⦿ Similar to FCR-1 Series Regulators with larger orifice to provide higher flow capacity
- ⦿ Three porting configurations available
- ⦿ 316L SS body for corrosive or toxic gases, Nickel-plated Brass body for non-corrosive gases
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments
- ⦿ Configuration with filter installed at inlet as standard
- ⦿ Panel mounted or installed with screw at the bottom

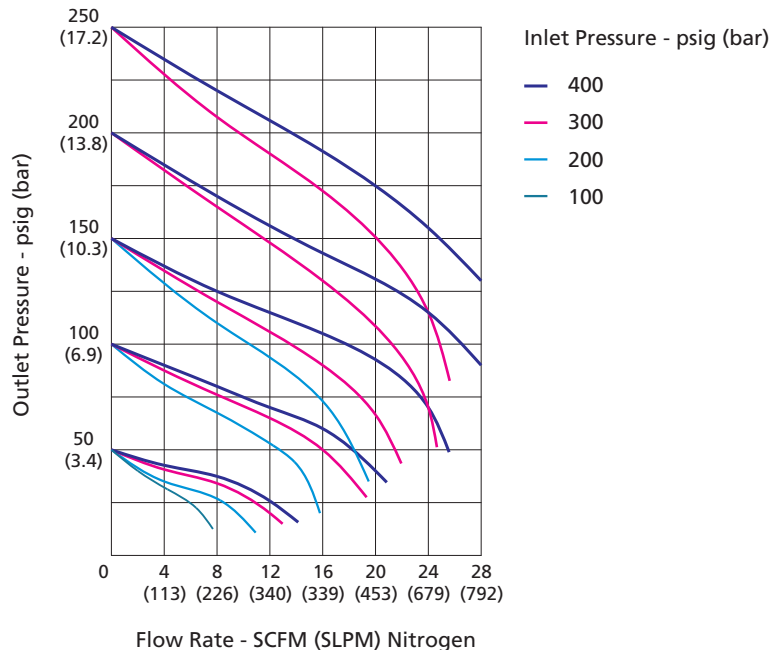


Model: FLR-16L-15-100-00-00-Z

Technical Data

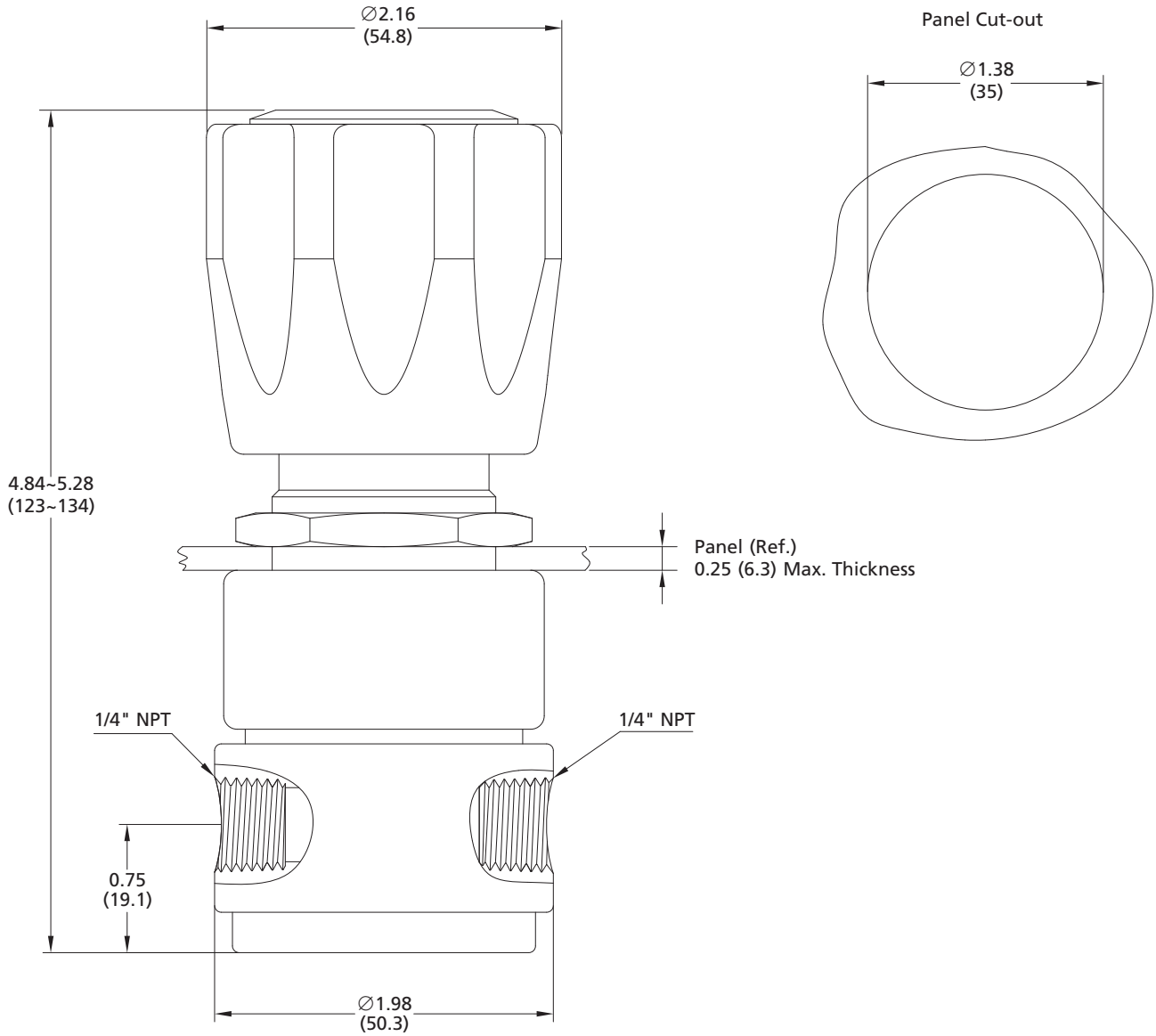
- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 500 or 1500 psig
- ⦿ Outlet pressure range: 0~25, 0~50, 0~100 or 0~250 psig
- ⦿ Material of the internal components:
 - Seat: PCTFE
 - Diaphragm: Hastelloy
 - Filter: 316L
- ⦿ Temperature: -40°F~+165°F (-40°C~+74°C)
- ⦿ Leak rates:
 - Internal: $\leq 1 \times 10^{-7}$ mbar·l/s helium
 - External: $\leq 1 \times 10^{-9}$ mbar·l/s helium
- ⦿ Flow coefficient (Cv): 0.14
- ⦿ Weight (regulator only): ≈ 1.98 lbs (0.9 kg)
- ⦿ Body ports: 1/4" female NPT for inlet, outlet and gauge

Typical Flow Chart

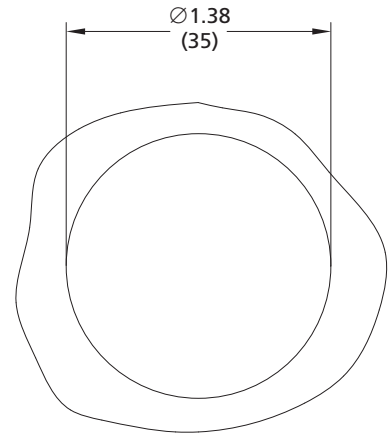


Dimensions

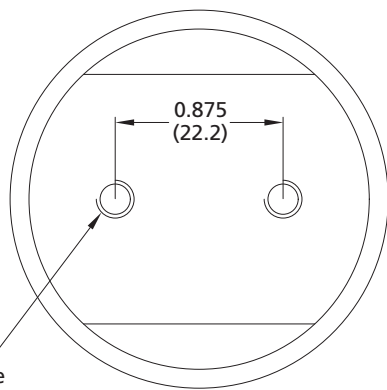
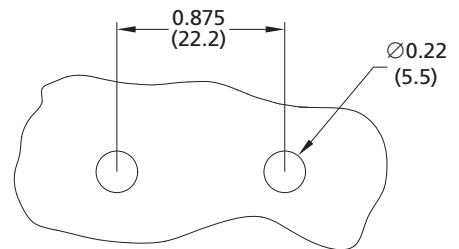
Dimensions, in inches (millimeters), are for reference only.



Panel Cut-out

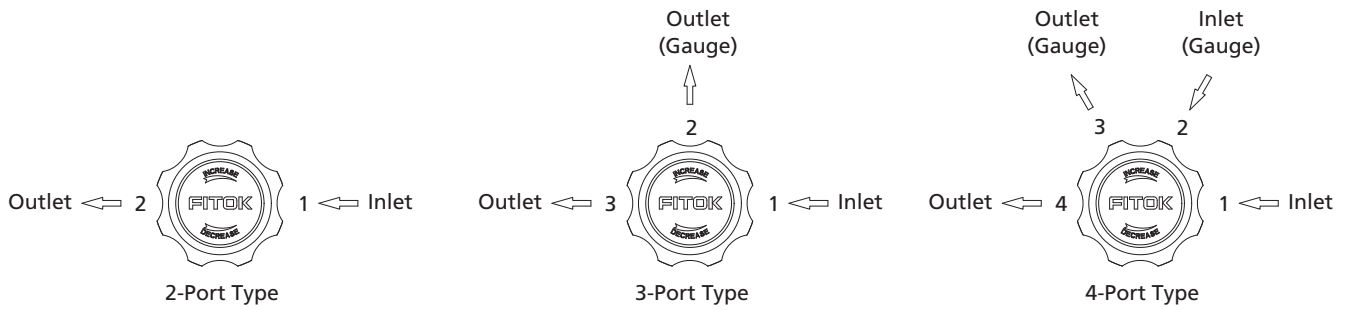


Bottom Panel Cut-outs



2xM5x0.8-6H thread
The holes are compatible with 10-32 mounting screws

Porting Configurations



Part Number Description

FLR - 16L - 15 - 100 - 00 - B - B - 00 - Z

Body Material	Inlet Pressure P1	Connection 1	Connection 2	Connection 3	Connection 4	Installation Type
6L 316L SS	05 500 psig	00 1/4" Female NPT	B With Gauge (psi/bar)	Same as Connection 2	Same as Connection 1	Not Required
SS 316 SS	15 1500 psig	01 1/4" Male NPT	M With Gauge (MPa)			Z Installed with One Panel Nut
HC Hastelloy C-276		10 1/4" Tube Fitting	P Plug			N Installed with Screws at the Bottom
B Brass (Nickel-plated)		11 3/8" Tube Fitting	00 1/4" Female NPT			
		20 6 mm Tube Fitting	01 1/4" Male NPT			
		21 8 mm Tube Fitting	10 1/4" Tube Fitting			
		Other connections are available upon request	11 3/8" Tube Fitting			
			20 6 mm Tube Fitting			
			21 8 mm Tube Fitting			
			Other connections are available upon request			

Note: Most configurations are available.

Examples of part number:

a. 2-port type (1 in, 1 out): FLR-16L-15-25-00-00

b. 3-port type (1 in, 2 out): FLR-16L-05-100-00-B-00

Line Pressure Regulators

FLR-2 Series Piston Regulators

Features

- ⦿ Applicable to non-corrosive gases or low-viscosity liquids
- ⦿ Easy to assemble and disassemble, convenient replacement of springs with different output ranges
- ⦿ Robust piston-sensed design to provide safety and reliability
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments
- ⦿ Three porting configurations available
- ⦿ Panel mounted or installed with screws at the bottom

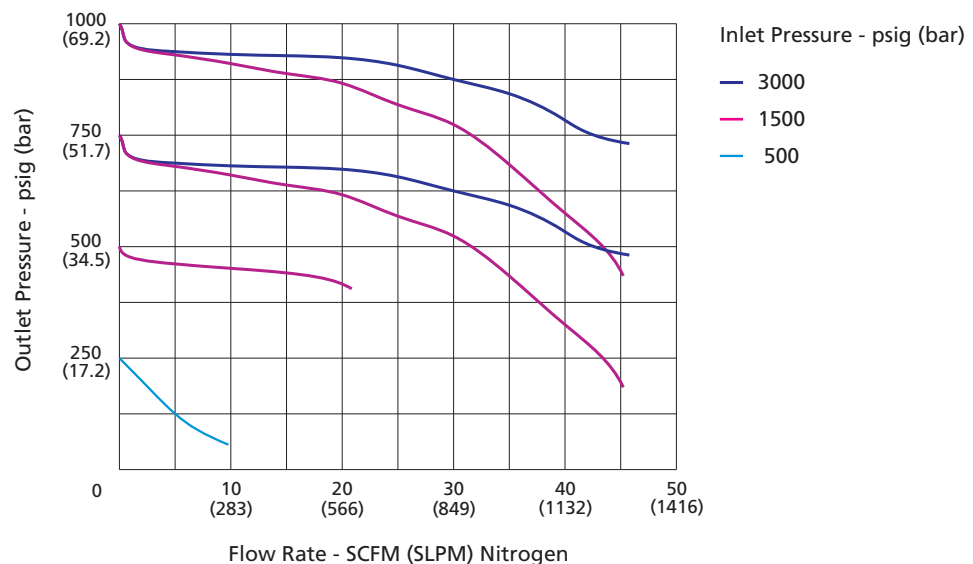
Technical Data

- ⦿ 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:
 - Seat: PCTFE
 - Piston: 316L
 - O-ring: Viton or Kalrez
 - 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): ≈1.98 lbs (0.9 kg)
- ⦿ Body ports: 1/4" female NPT for inlet, outlet and gauge



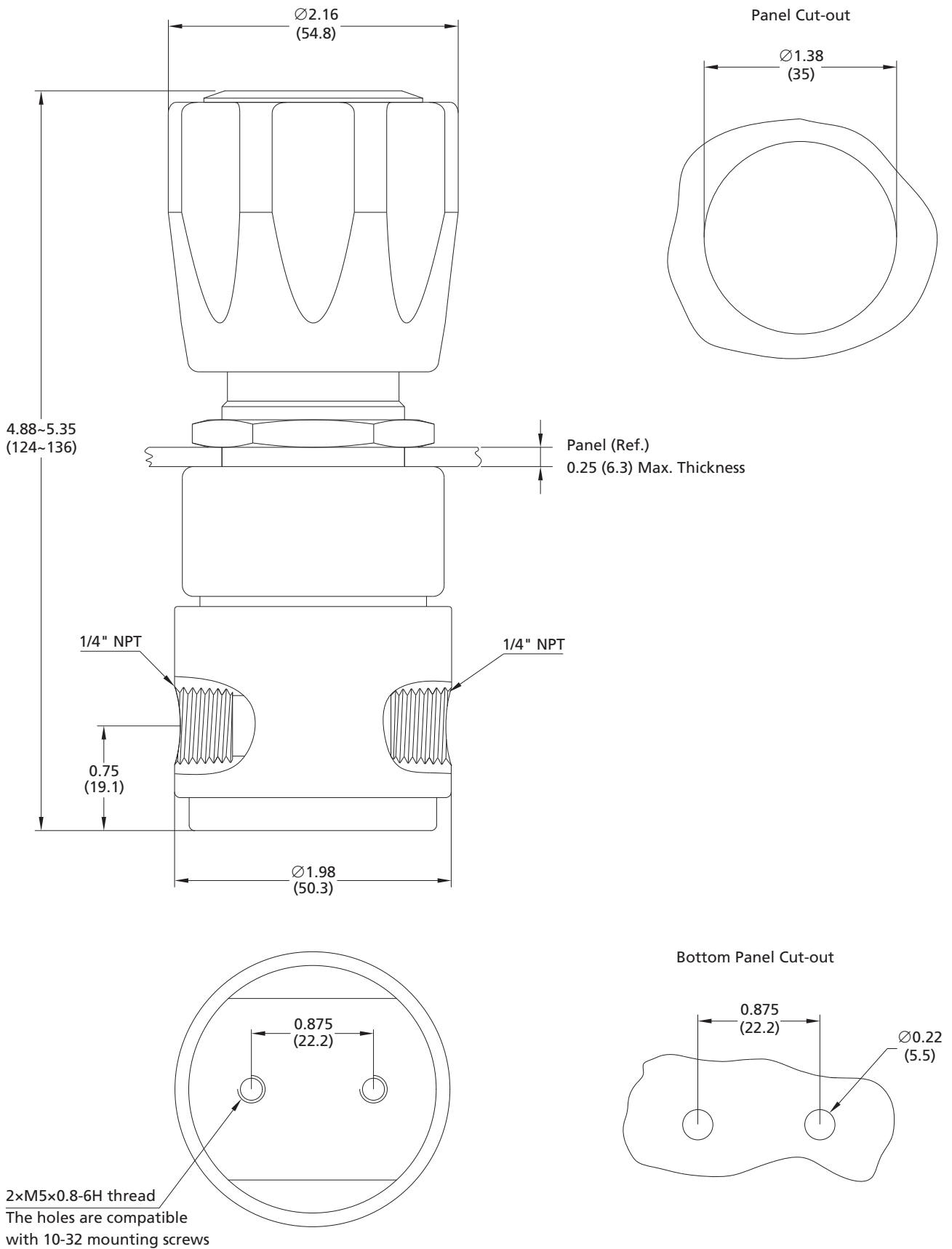
Model: FLR-2SS-45-1000-00-00-Z

Typical Flow Chart

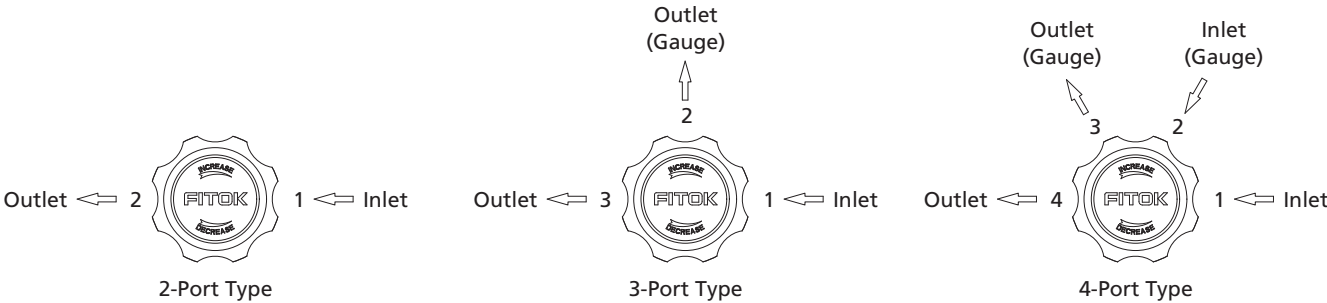


Dimensions

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



Porting Configurations



Part Number Description

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

Vent Option	Inlet Pressure P1	Connection 1	Connection 2	Connection 3	Connection 4
Without	30 3000 psig	00 1/4" Female NPT	B With Gauge (psi/bar)	Same as Connection 2	Same as Connection 1
V With	45 4500 psig	01 1/4" Male NPT	M With Gauge (MPa)		
O-ring Material	Outlet Pressure Range P2	10 1/4" Tube Fitting	P Plug		Installation Type
Viton	250 0~250 psig	11 3/8" Tube Fitting	00 1/4" Female NPT		Not Required
Z Kalrez	500 0~500 psig	20 6 mm Tube Fitting	01 1/4" Male NPT		Z Installed with One Panel Nut
Body Material	750 0~750 psig	21 8 mm Tube Fitting	10 1/4" Tube Fitting		N Installed with Screws at the Bottom
6L 316L SS	1000 0~1000 psig	Other connections are available upon request	11 3/8" Tube Fitting		
SS 316 SS			20 6 mm Tube Fitting		
B Brass (Nickel-plated)			21 8 mm Tube Fitting		
			Other connections are available upon request		

Note: Most configurations are available.
 Examples of part number:
 a. 2-port type (1 in, 1 out): FLR-26L-30-250-00-00
 b. 3-port type (1 in, 2 out): FLR-25S-45-1000-00-00-00

Line Pressure Regulators

FLR-3 Series Medium Flow Diaphragm Regulators

Features

- ⦿ For high inlet pressure applications
- ⦿ Balanced poppet
- ⦿ With large orifice to minimize outlet pressure change when inlet pressure reduces
- ⦿ Large diameter convoluted diaphragm to increase pressure sensitivity
- ⦿ 316L SS body for corrosive or toxic gases,
Nickel-plated Brass body for non-corrosive gases
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments
- ⦿ Three porting configurations available
- ⦿ Panel mounted or installed with screws at the bottom

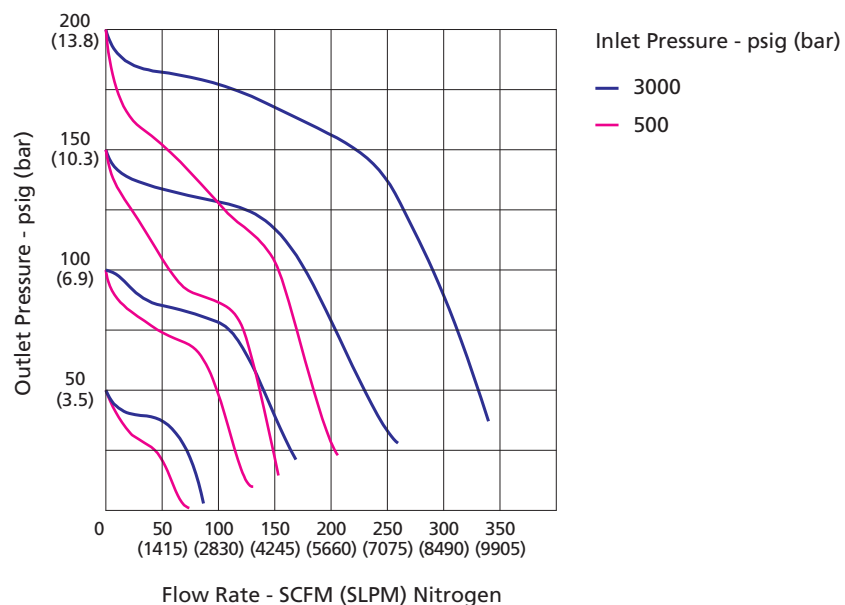


Model: FLR-3SS-30-100-04-04-Z

Technical Data

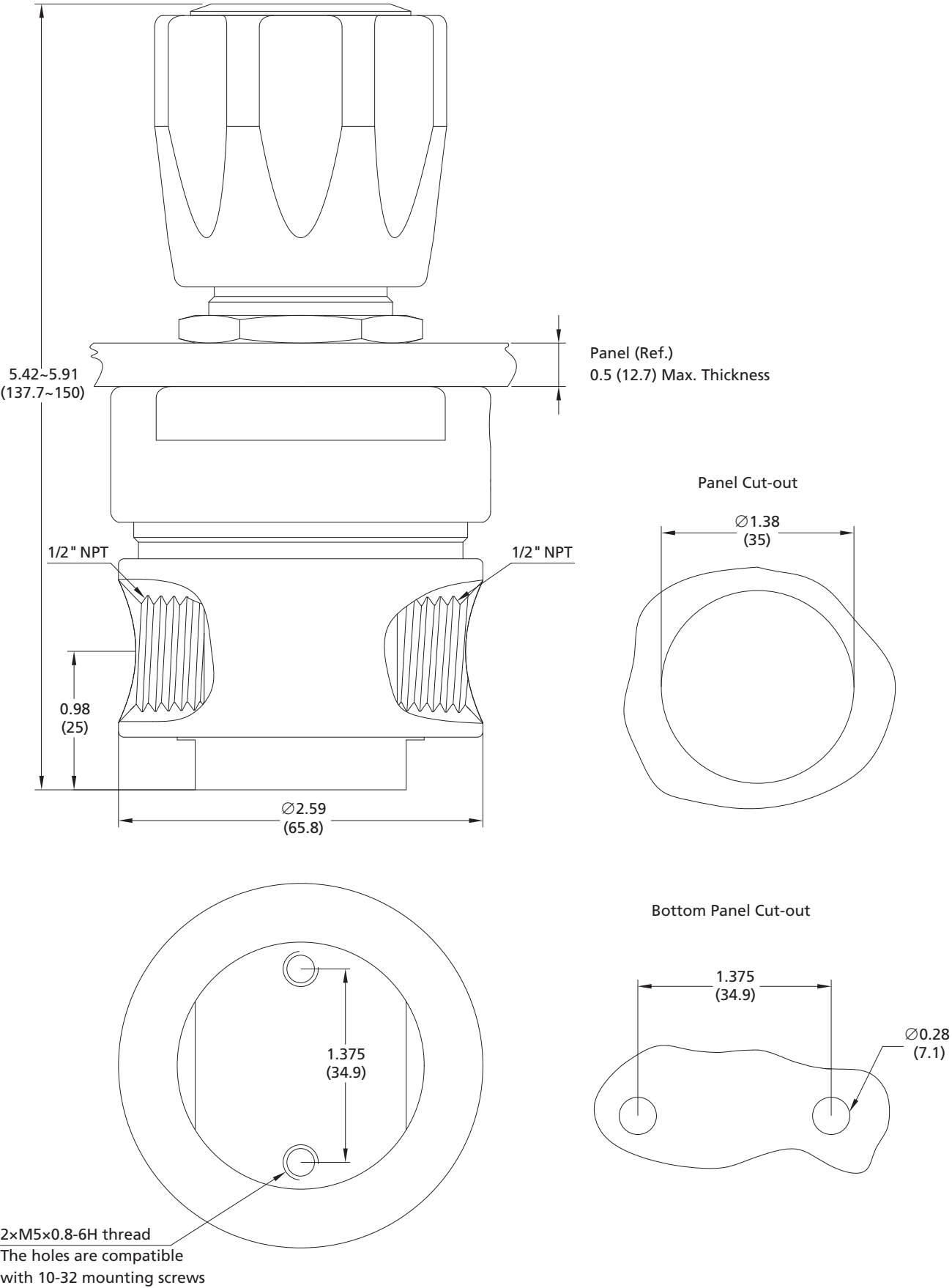
- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 500 or 3000 psig
- ⦿ Outlet pressure range: 0~25, 0~50, 0~100, 0~150 or 0~200 psig
- ⦿ Material of the internal components:
Seat: PCTFE
Diaphragm: 316L
- ⦿ Temperature: -40°F~+140°F (-40°C~+60°C)
- ⦿ Leak rates:
Internal: $\leq 1 \times 10^{-7}$ mbar·l/s helium
External: $\leq 1 \times 10^{-9}$ mbar·l/s helium
- ⦿ Flow coefficient (Cv): 1.0
- ⦿ Weight (regulator only): ≈ 3.53 lbs (1.6 kg)
- ⦿ Body ports: 1/2" female NPT for inlet, outlet
1/4" female NPT for gauge

Typical Flow Chart

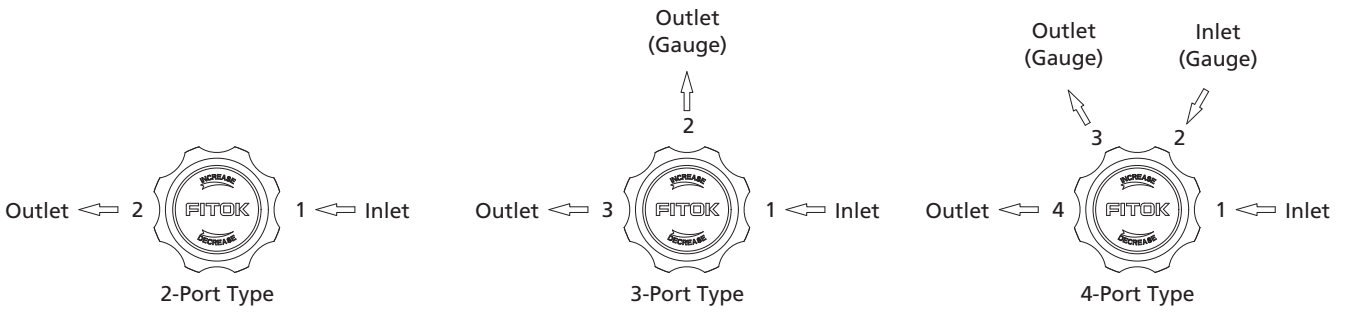


Dimensions

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Porting Configurations



Part Number Description

FLR - 3B - 30 - 100 - 04 - B - B - 04 - Z

Body Material		Inlet Pressure P1		Connection 1		Connection 2		Connection 3		Connection 4	
6L	316L SS	05	500 psig	04	1/2" Female NPT	B	With Gauge (psi/bar)	3 Ports Same as Connection 1		Same as Connection 1	
SS	316 SS	30	3000 psig	11	3/8" Tube Fitting	M	With Gauge (MPa)	4 Ports Same as Connection 2			
B	Brass			12	1/2" Tube Fitting	P	Plug				
				22	10 mm Tube Fitting	00	1/4" Female NPT				
				23	12 mm Tube Fitting	01	1/4" Male NPT				
				Other connections are available upon request		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					
										Installation Type	
										Not Required	
										Z Installed with One Panel Nut	
										M Installed with Two Panel Nuts	
										N Installed with Screws at the Bottom	

Note: Most configurations are available.

Examples of part number:

a. 2-port type (1 in, 1 out): FLR-36L-30-150-04-04

b. 3-port type (1 in, 2 out): FLR-35S-05-200-04-00-04

Line Pressure Regulators

FBR-1 Series Miniature Piston Regulators

Features

- Applicable to non-corrosive gases or low-viscosity liquids
- Easy to assemble and disassemble, convenient replacement of springs with different output ranges
- Robust piston-sensed design to provide safety and reliability
- With special cleaning and packaging, applicable to oxygen-enriched environments

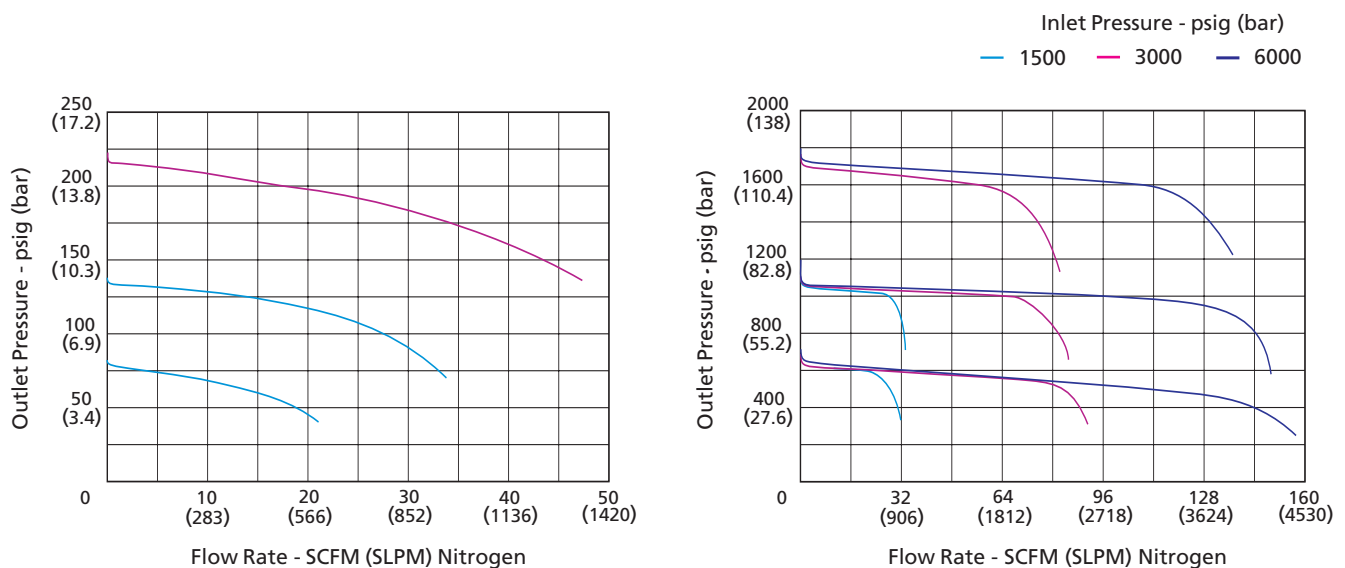


Model: FBR-15S-60-220-00-00-00-00

Technical Data

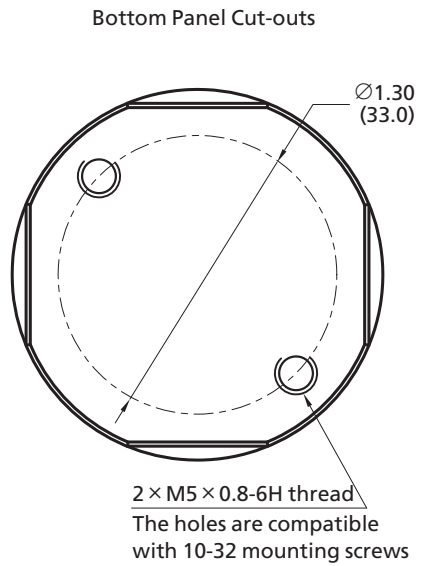
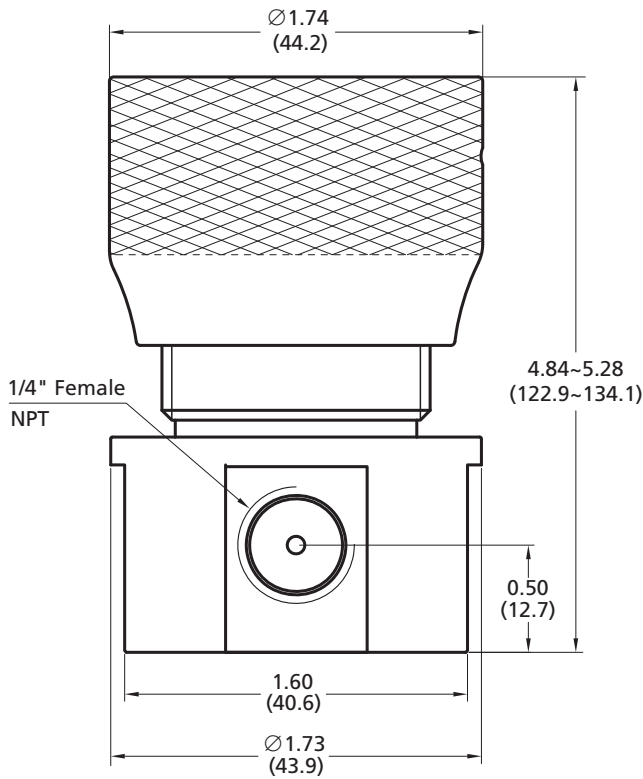
- Media contact materials
 - Body: 316, 316L or Brass (Nickel-plated)
 - Seat: PCTFE, PEEK or Vespel
 - Piston: Aluminium Alloy
 - O-ring: Viton, Kalrez or Buna-N
 - Filter: 316L
- Operating conditions
 - Maximum rated inlet pressure: 6000 psig
 - Outlet pressure ranges: 0~80, 0~140, 0~220, 0~700, 0~1200, 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)
- Body ports: 1/4" female NPT for inlet and outlet

Typical Flow Chart

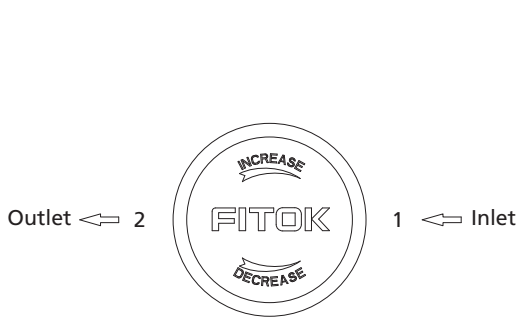


Dimensions

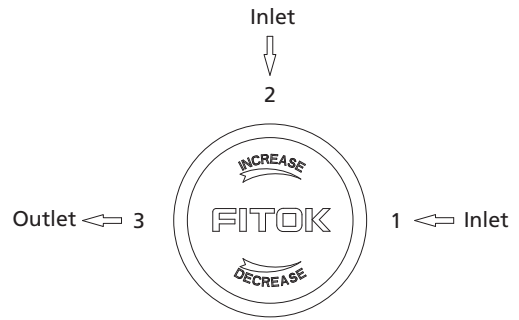
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Porting Configurations



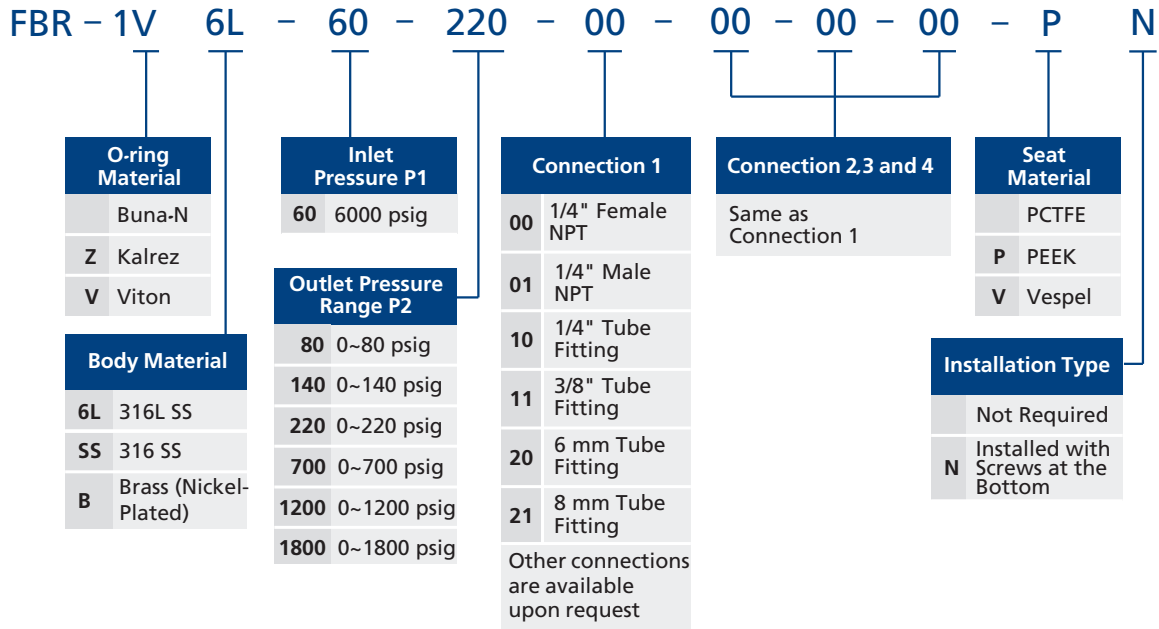
2-Port Type



4-Port Type



Part Number Description



Note: Most configurations are available.

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

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FK-IC-S-01-V-02-EN-161209