

# 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

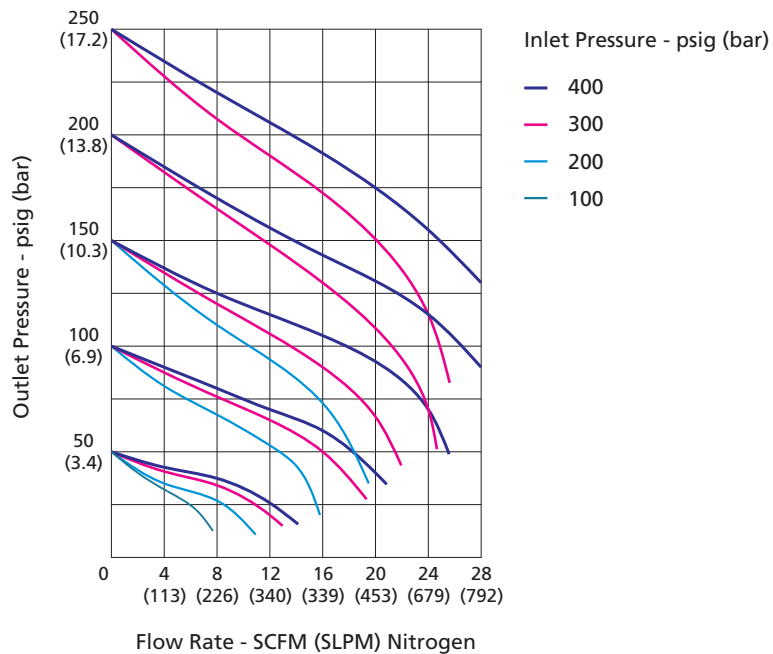


Model: FLR-16L-15-100-00-00-Z

### Technical Data

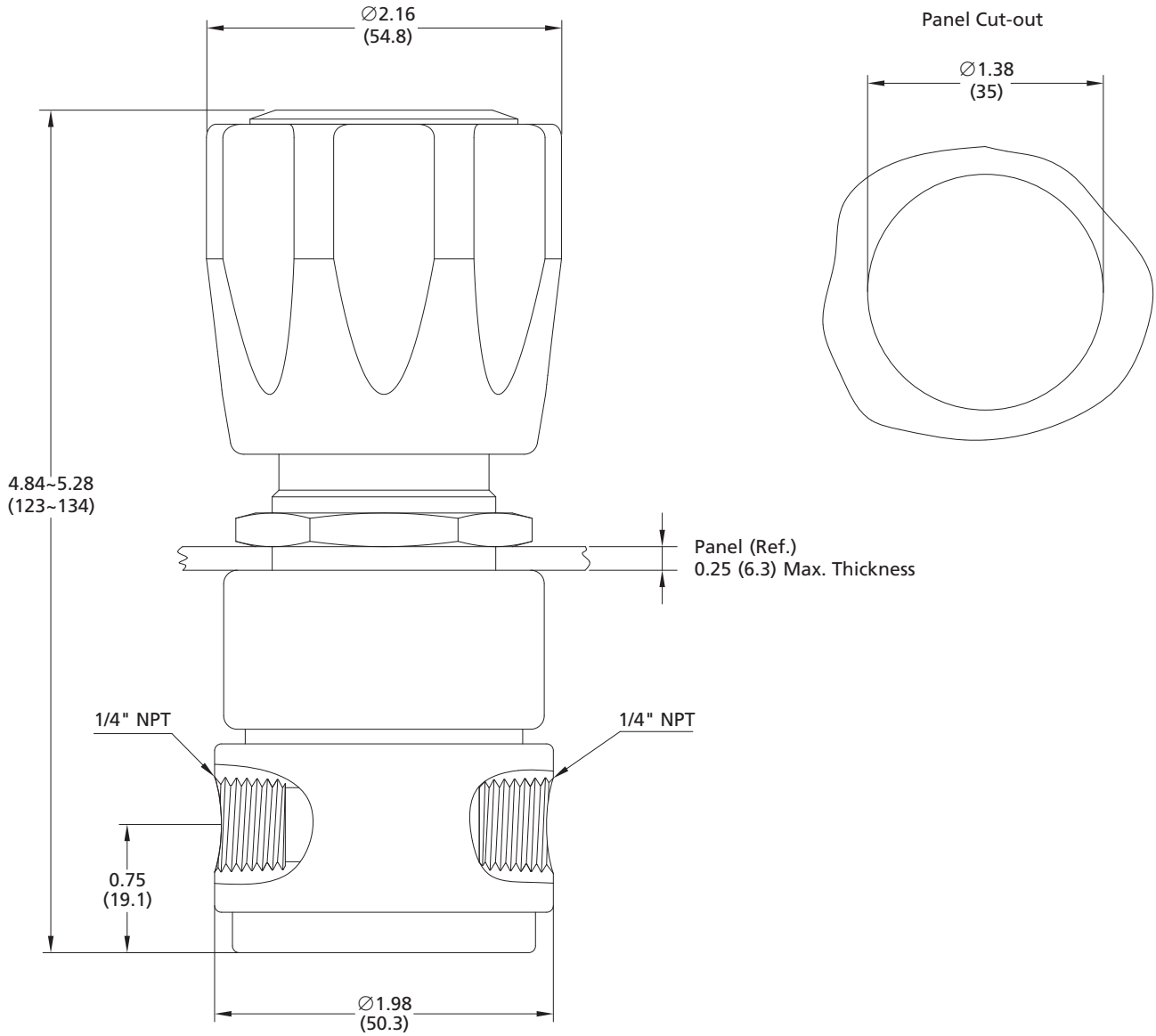
- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 500 or 1500 psig
- ⦿ Outlet pressure range: 0~25, 0~50, 0~100 or 0~250 psig
- ⦿ Material of the internal components:
  - Seat: PCTFE
  - Diaphragm: Hastelloy
  - Filter: 316L
- ⦿ Temperature: -40°F~+165°F (-40°C~+74°C)
- ⦿ Leak rates:
  - Internal: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

### Typical Flow Chart

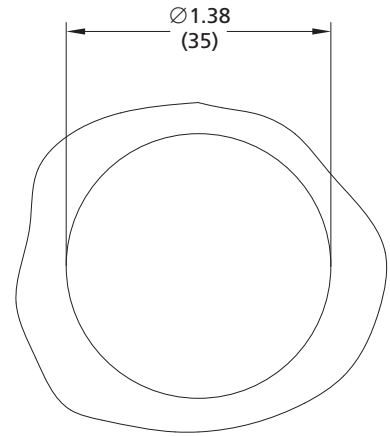


## Dimensions

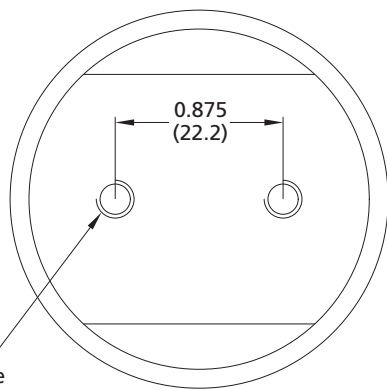
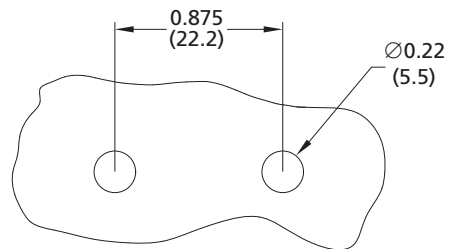
Dimensions, in inches (millimeters), are for reference only.



Panel Cut-out

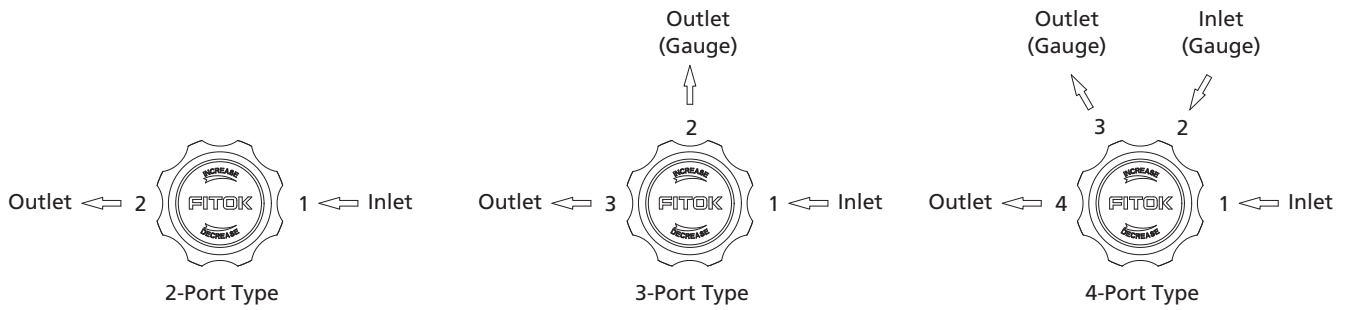


Bottom Panel Cut-outs



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			
	<b>Outlet Pressure Range P2</b>	20 6 mm Tube Fitting	01 1/4" Male NPT			
	25 0~25 psig	21 8 mm Tube Fitting	10 1/4" Tube Fitting			
	50 0~50 psig	Other connections are available upon request	11 3/8" Tube Fitting			
	100 0~100 psig		20 6 mm Tube Fitting			
	250 0~250 psig		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

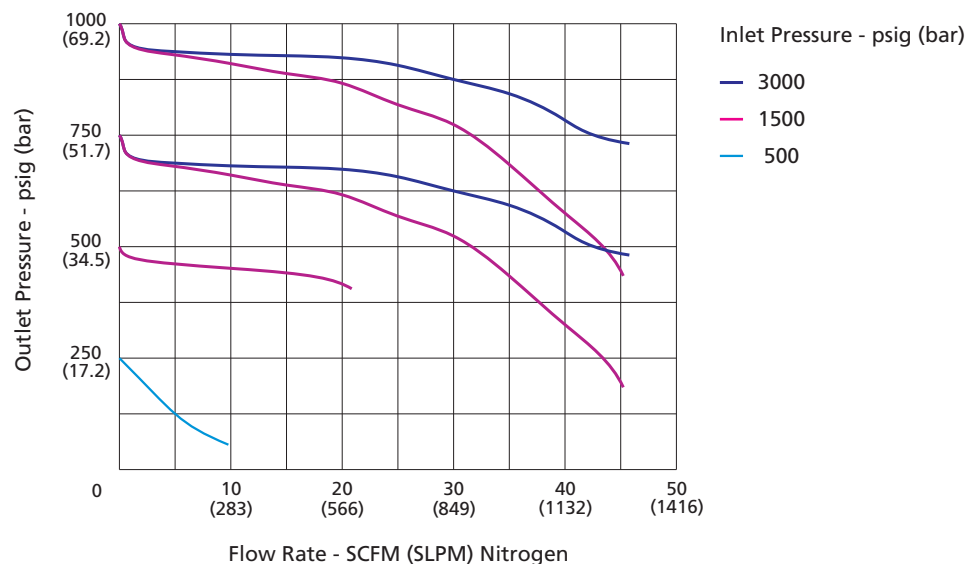
### Technical Data

- ⦿ 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



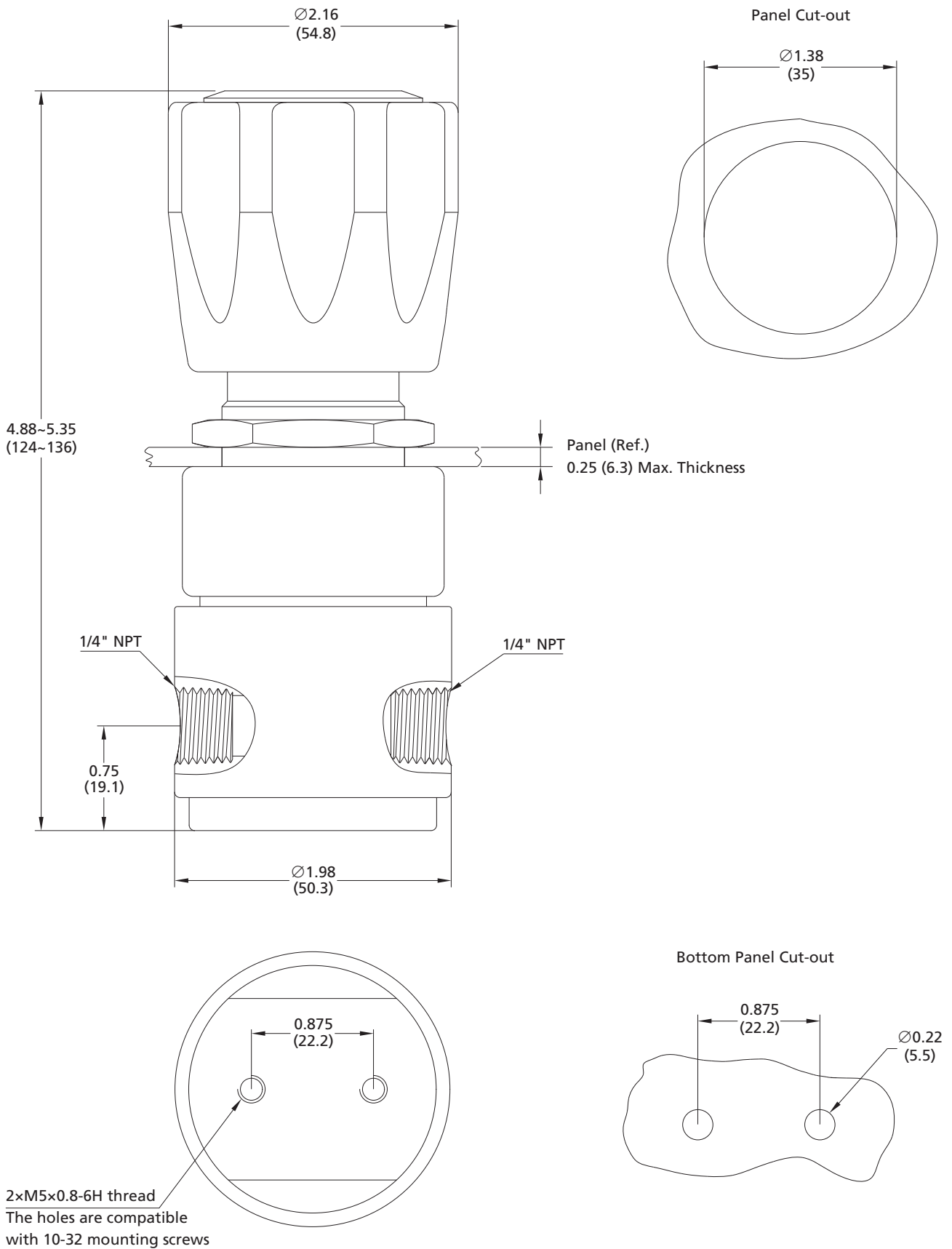
Model: FLR-2SS-45-1000-00-00-Z

### Typical Flow Chart

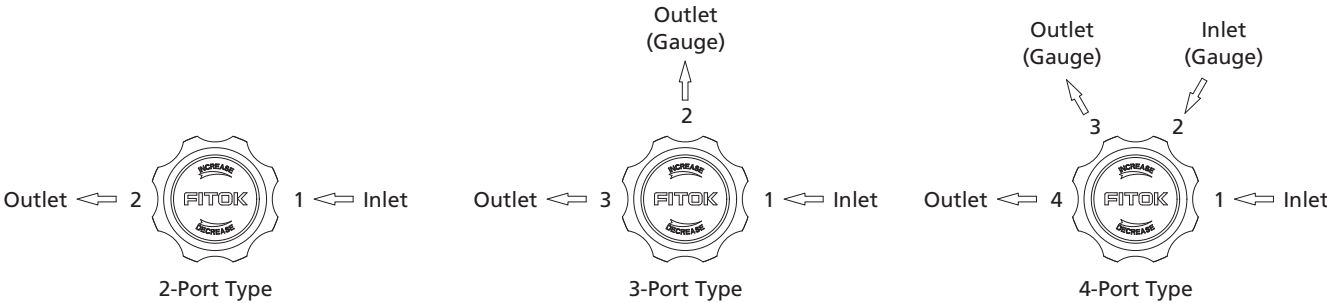


## Dimensions

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



# Porting Configurations



# Part Number Description

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

<b>Vent Option</b>	<b>Inlet Pressure P1</b>	<b>Connection 1</b>	<b>Connection 2</b>	<b>Connection 3</b>	<b>Connection 4</b>
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)		
<b>O-ring Material</b>	<b>Outlet Pressure Range P2</b>	10 1/4" Tube Fitting	P Plug		<b>Installation Type</b>
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
<b>Body Material</b>	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

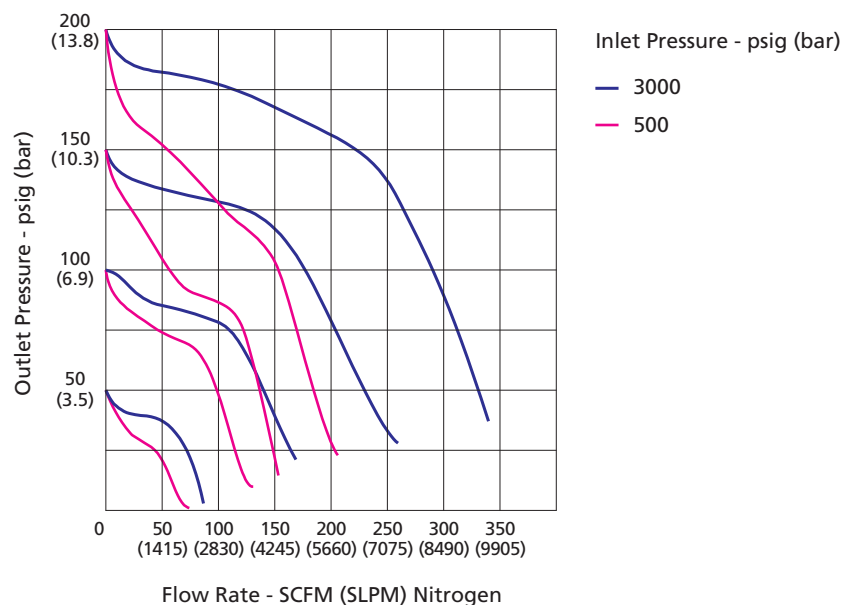


Model: FLR-3SS-30-100-04-04-Z

### 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):  $\approx 3.53$  lbs (1.6 kg)
- ⦿ Body ports: 1/2" female NPT for inlet, outlet  
1/4" female NPT for gauge

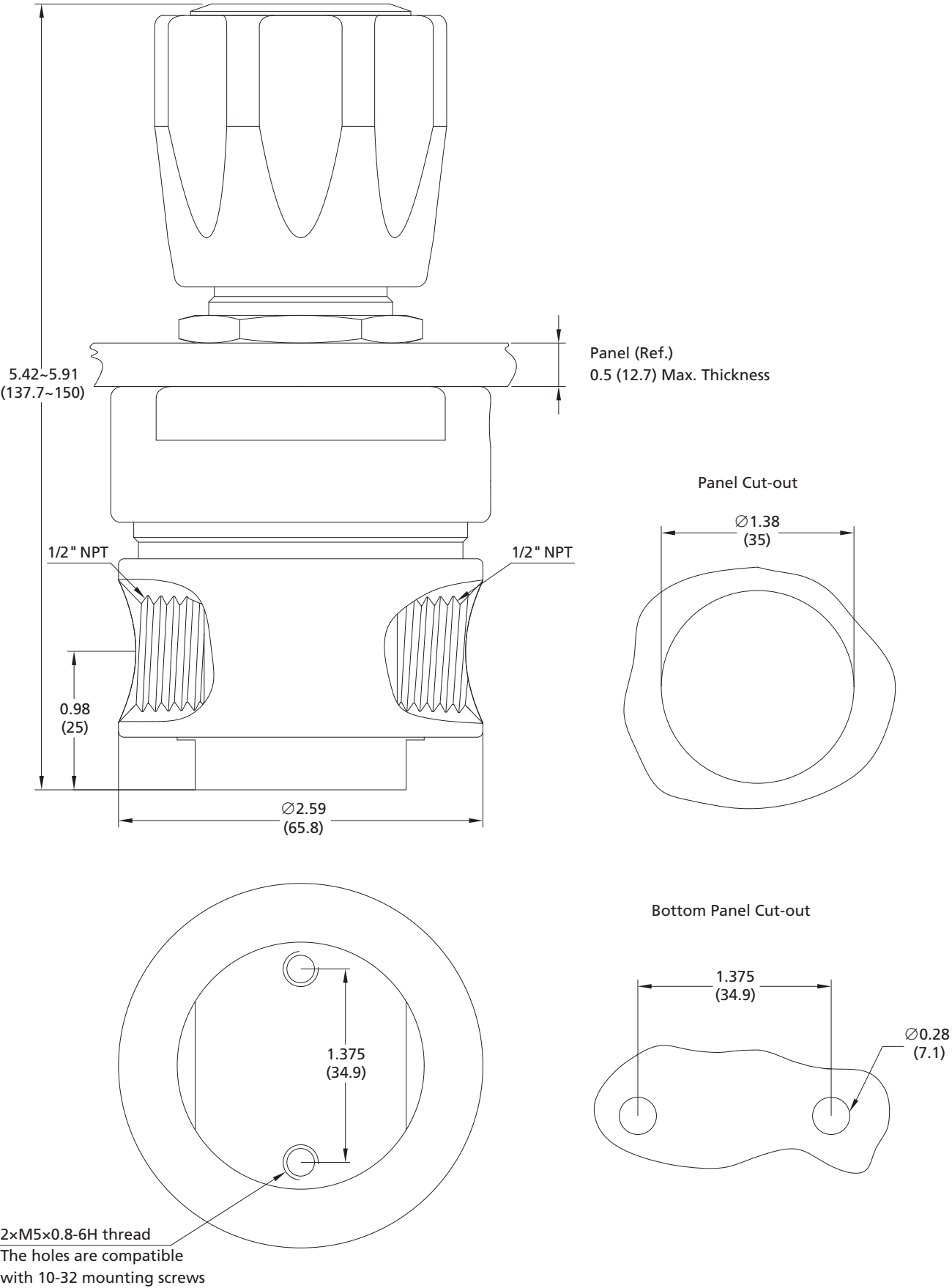
### Typical Flow Chart



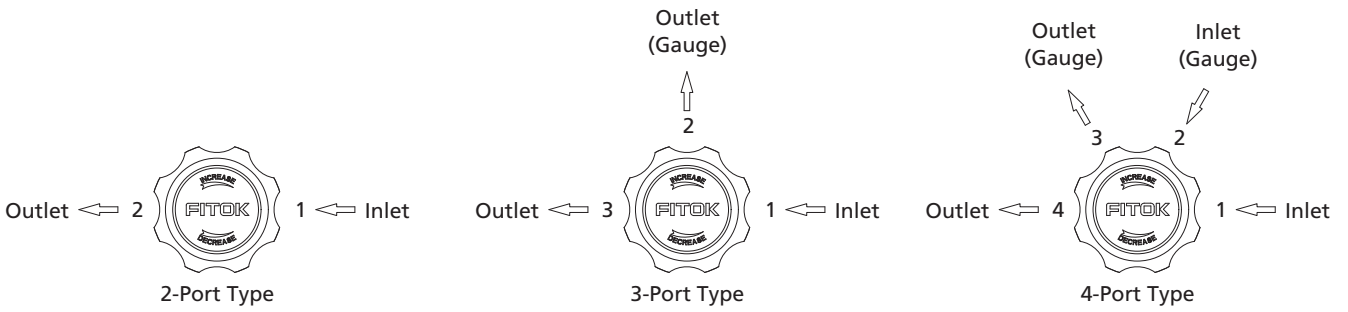


# Dimensions

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



## 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

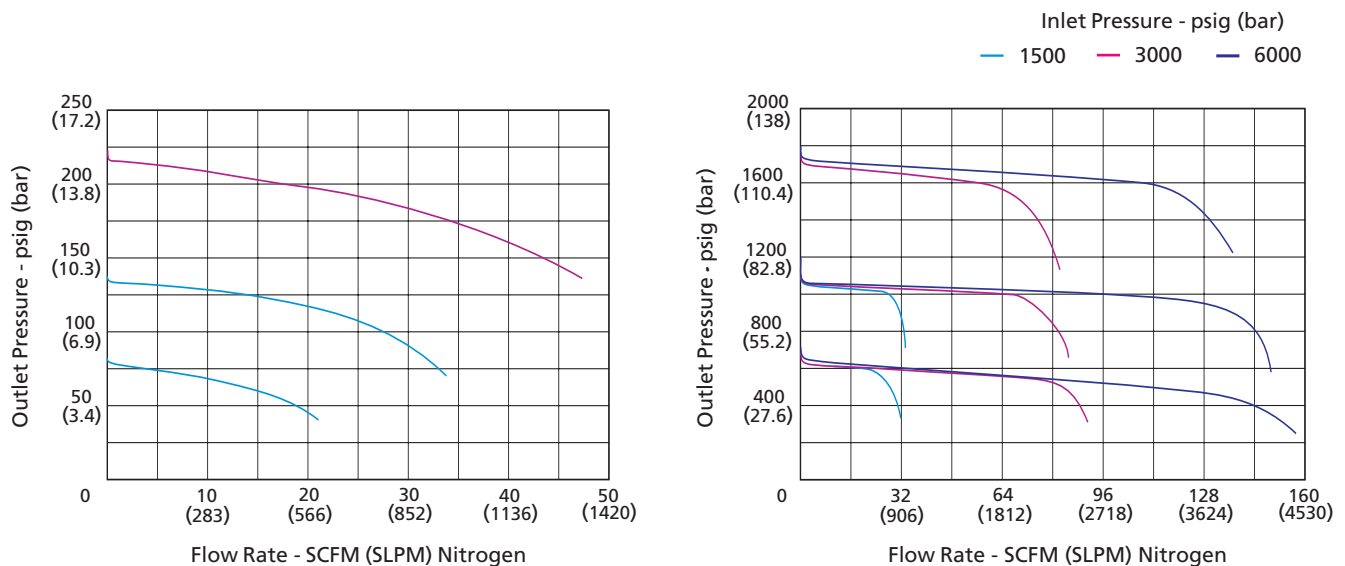


Model: FBR-15S-60-220-00-00-00-00

### Technical Data

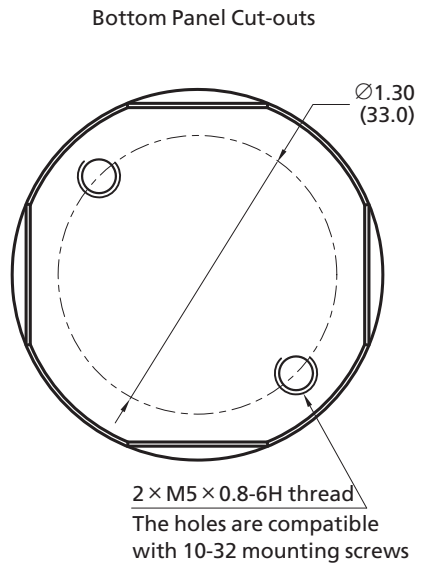
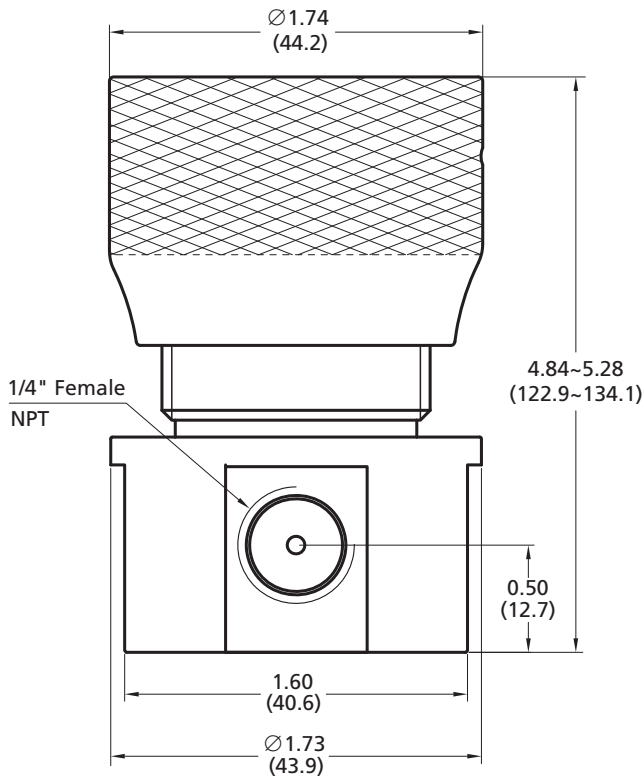
- ⦿ Media contact materials
  - Body: 316, 316L or Brass (Nickel-plated)
  - Seat: PCTFE, PEEK or Vespel
  - Piston: Aluminium Alloy
  - O-ring: Viton, Kalrez or Buna-N
  - Filter: 316L
- ⦿ Operating conditions
  - Maximum rated inlet pressure: 6000 psig
  - Outlet pressure ranges: 0~80, 0~140, 0~220, 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

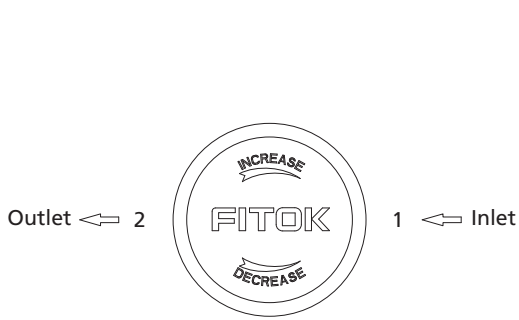


## Dimensions

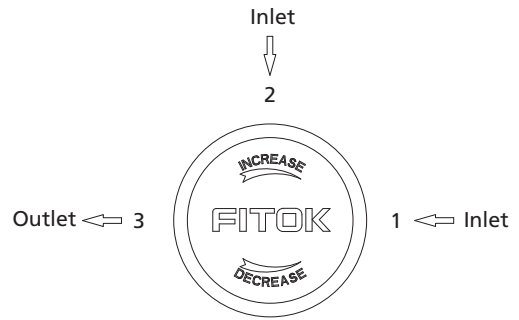
Dimensions, in inches (millimeters), are for reference only.



## Porting Configurations



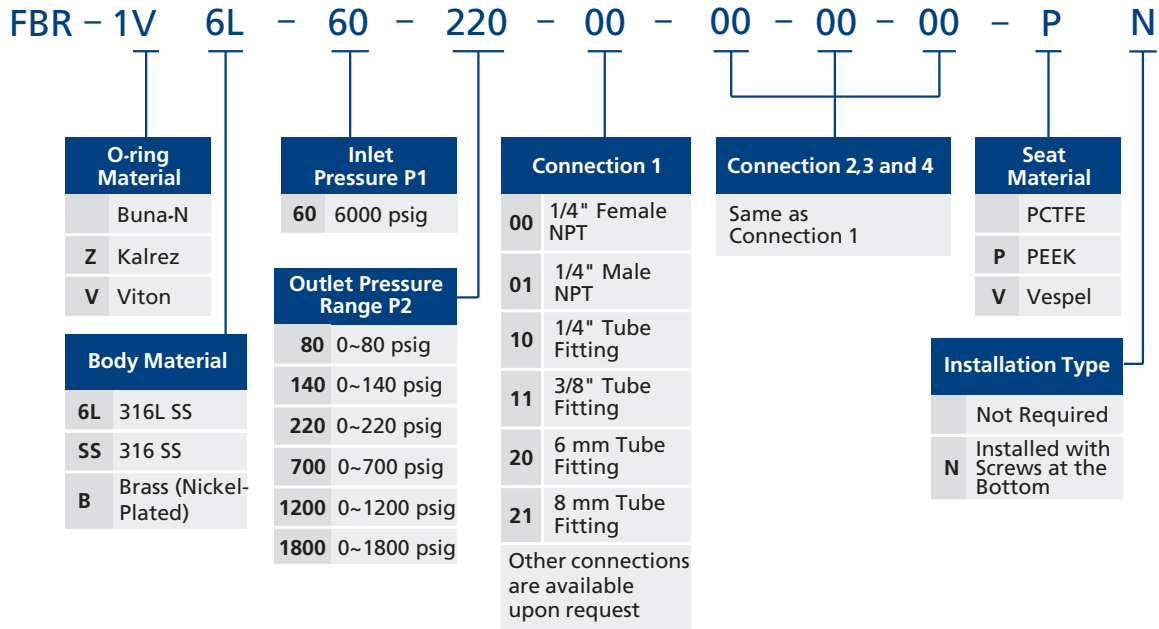
2-Port Type



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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