

# 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 port 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

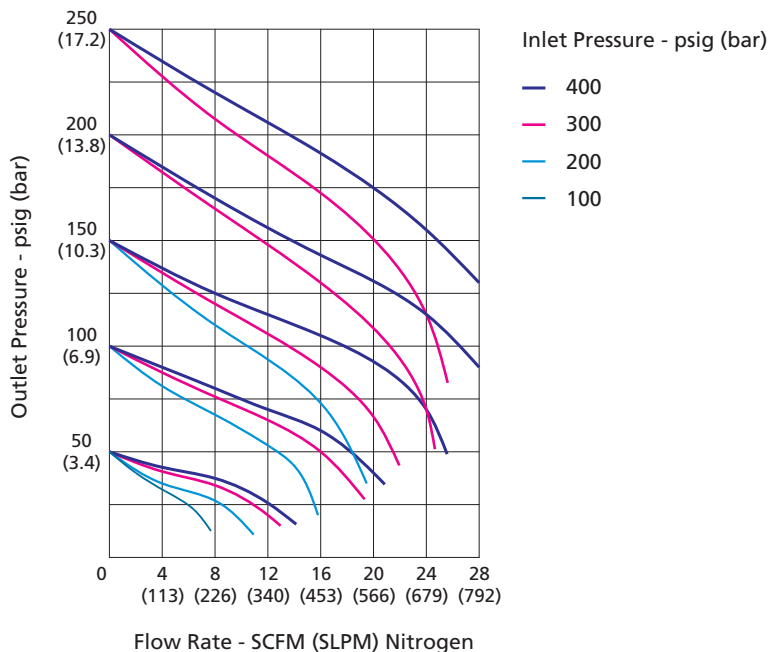


Model: FLR-16L-15-100-00-00-Z

### Technical Data

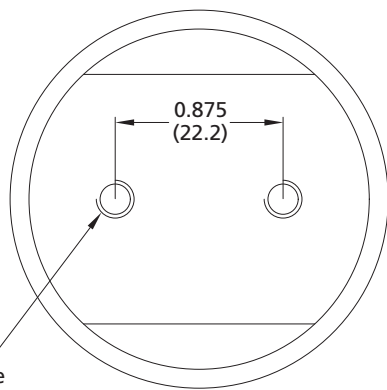
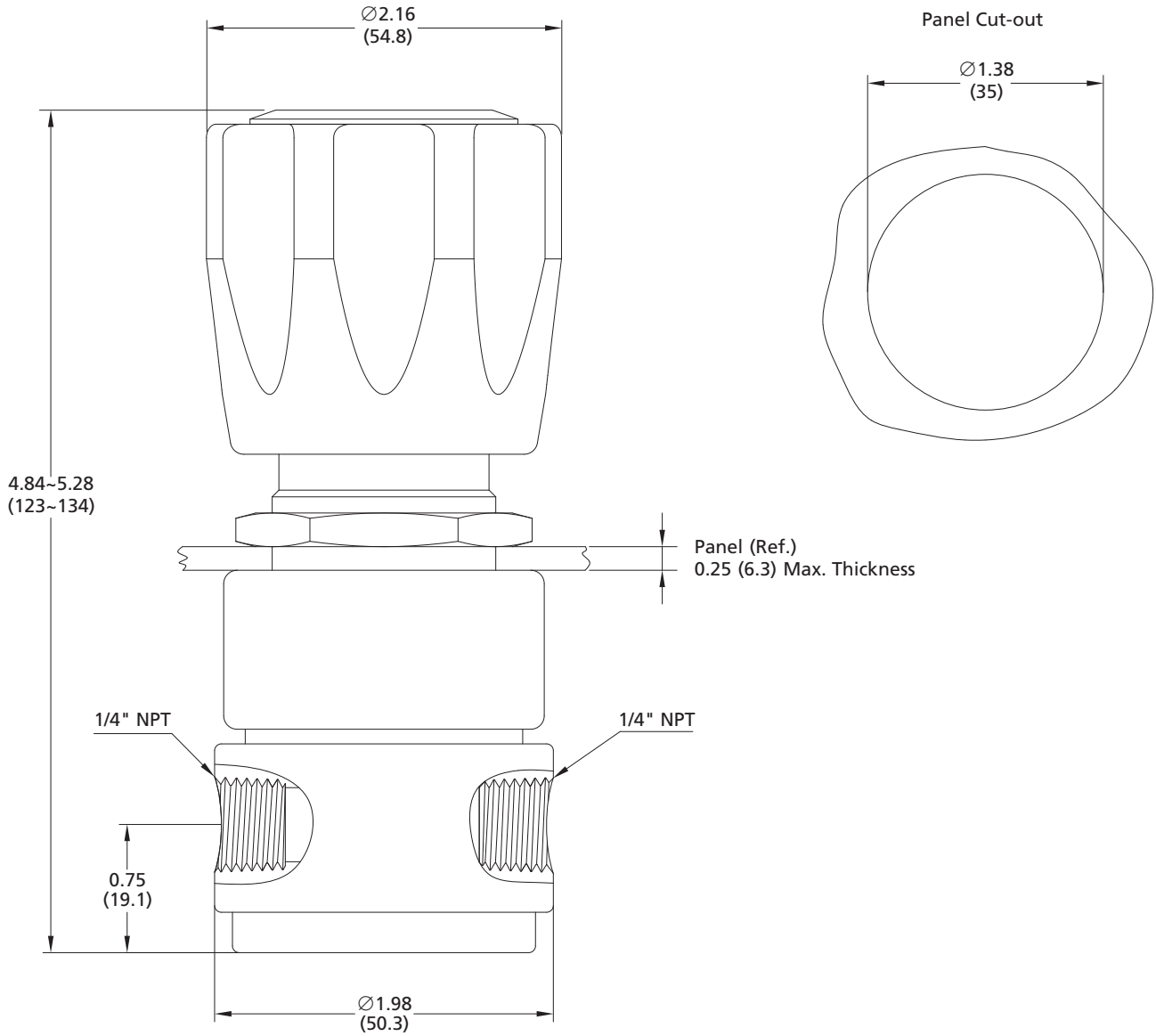
- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 500 or 1500 psig
- ⦿ Outlet pressure range: 0~25, 0~50, 0~100 or 0~250 psig
- ⦿ Material of the internal components:
  - Seat: PCTFE
  - Diaphragm: Hastelloy
  - Filter: 316L
- ⦿ Temperature: -40°F~+165°F (-40°C~+74°C)
- ⦿ Leak rates:
  - Internal:  $\leq 1 \times 10^{-7}$  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



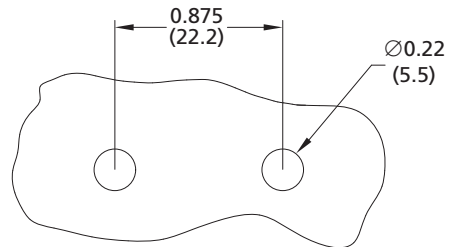
## Dimensions

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

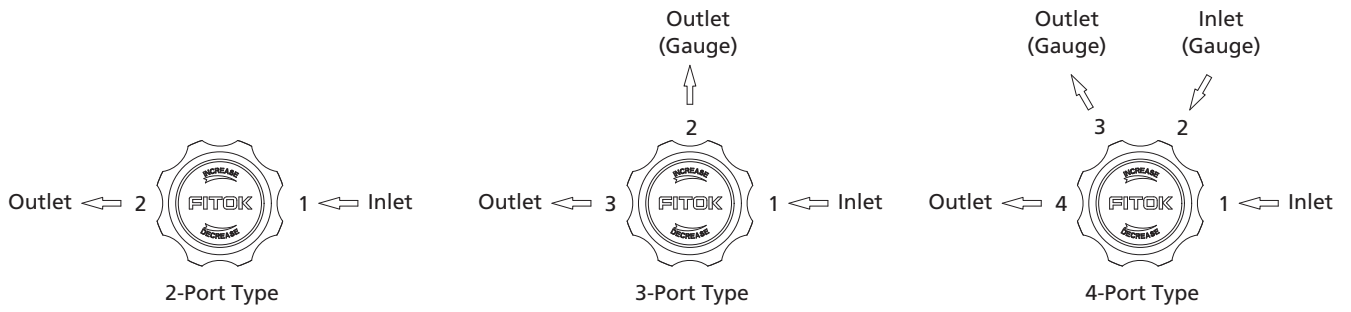


2xM5x0.8-6H thread  
The holes are compatible with 10-32 mounting screws

Bottom Panel Cut-outs



## Port 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 (psi/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			

**Notes:**

- 1. Most configurations are available.
- 2. Before ordering, please read **Installation Instructions and Cautions** on A-77.

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 port configurations available
- ⦿ Panel mounted or installed with screws at the bottom

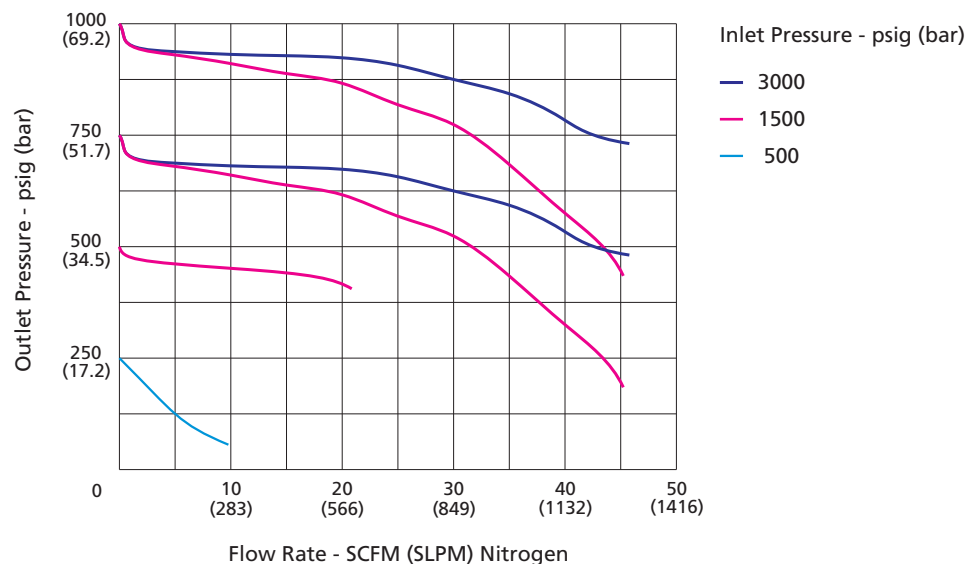
### Technical Data

- ⦿ 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:
  - Main Seat: PCTFE (PEEK for Venting Model)
  - Vent 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



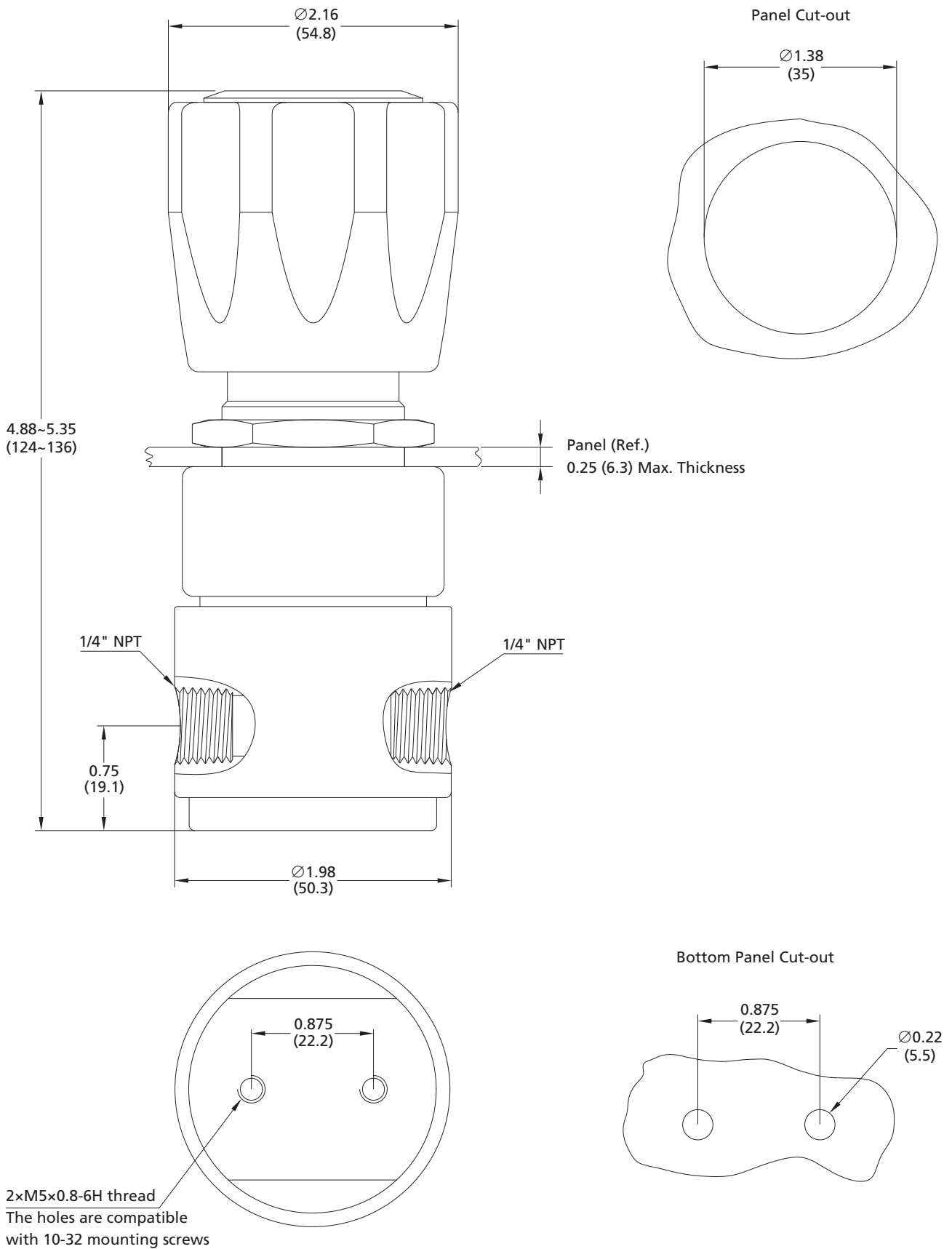
Model: FLR-2SS-45-1000-00-00-Z

### Typical Flow Chart

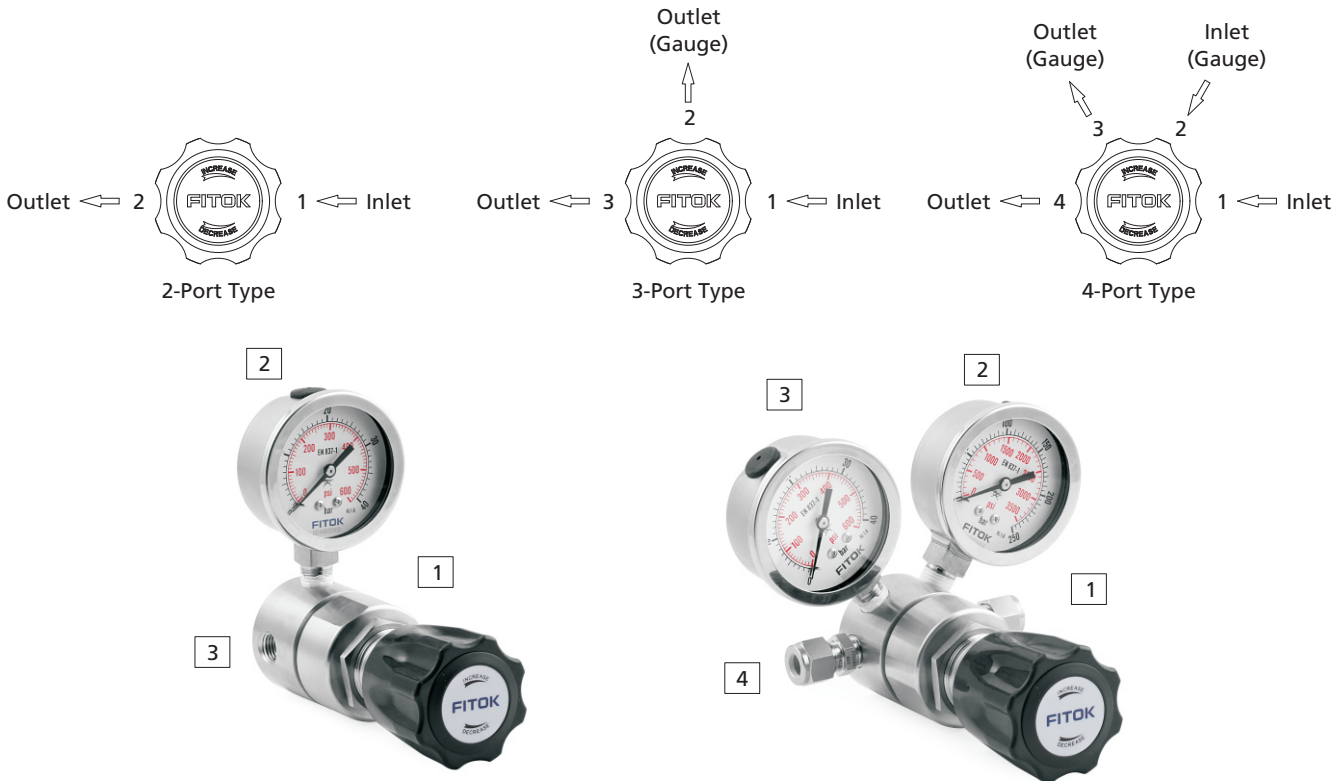


## Dimensions

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



## Port 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 (psi/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		

Notes:  
 1. Most configurations are available.  
 2. Before ordering, please read **Installation Instructions and Cautions** on A-77.

- 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, Brass body for non-corrosive gases
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments
- ⦿ Three port configurations available
- ⦿ Panel mounted or installed with screws at the bottom
- ⦿ Fitted with captured vent as standard

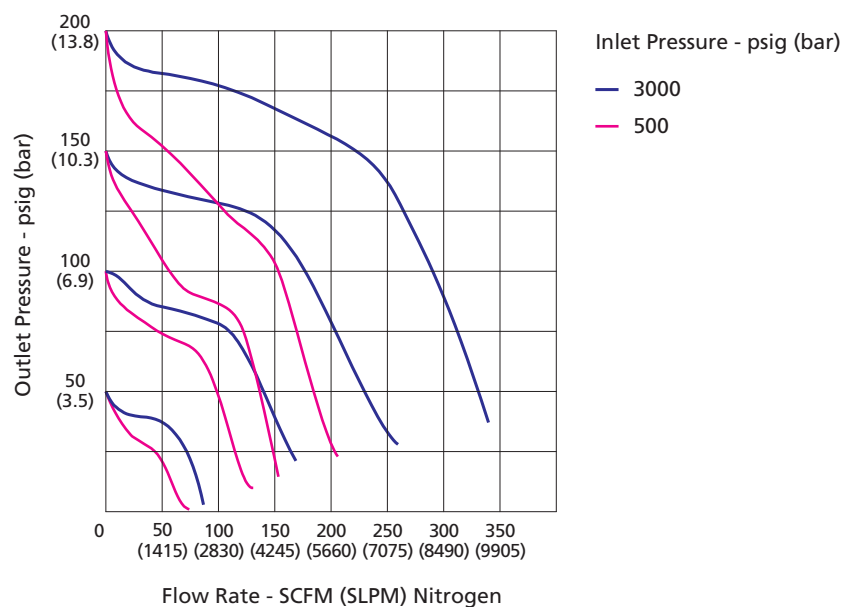
### Technical Data

- ⦿ 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:
  - Internal: Bubble-tight
  - 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



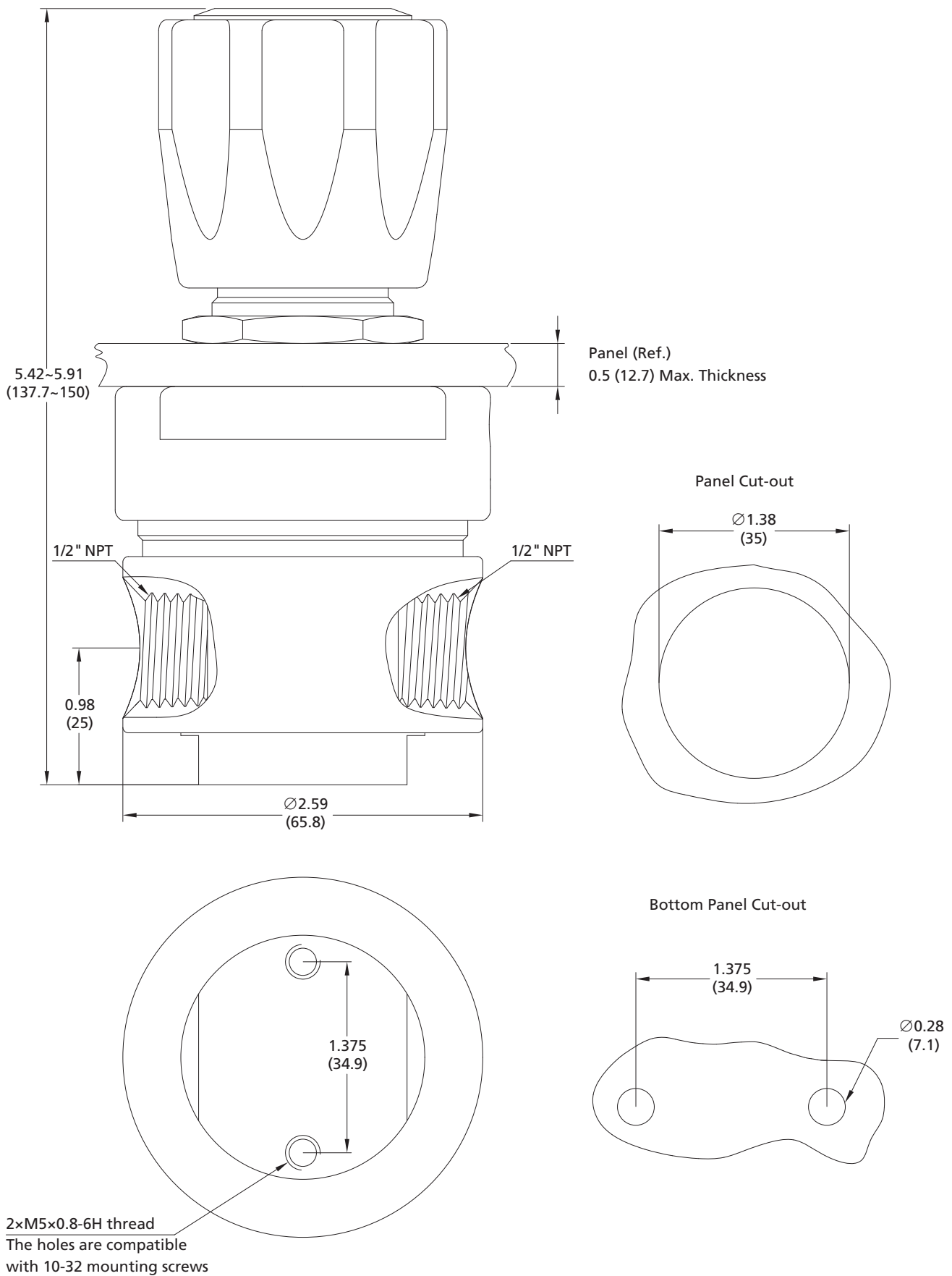
Model: FLR-3SS-30-100-04-04-Z

### Typical Flow Chart



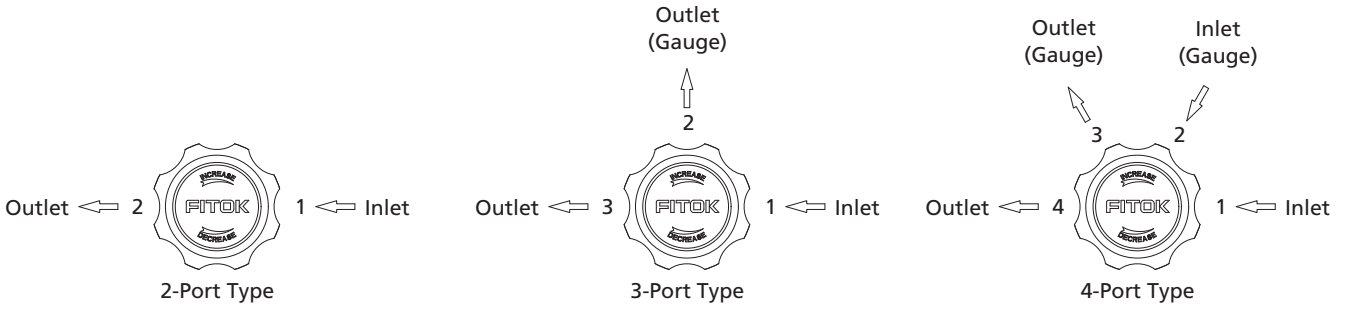
## Dimensions

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





# Port 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 (psi/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	

Notes:  
 1. Most configurations are available.  
 2. Before ordering, please read **Installation Instructions and Cautions** on A-77.  
 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-3SS-05-200-04-00-04

# Line Pressure Regulators

## FLR-5 Series High Flow Diaphragm Regulators

### Features

- Suitable for low pressure and high flow applications
- Large diameter convoluted diaphragm to increase pressure sensitivity
- 316L SS body for corrosive gases, and Brass body for non-corrosive gases
- Fitted with captured vent as standard
- With special cleaning and packaging, applicable to oxygen-enriched environments
- Panel mounted or installed with screws at the bottom

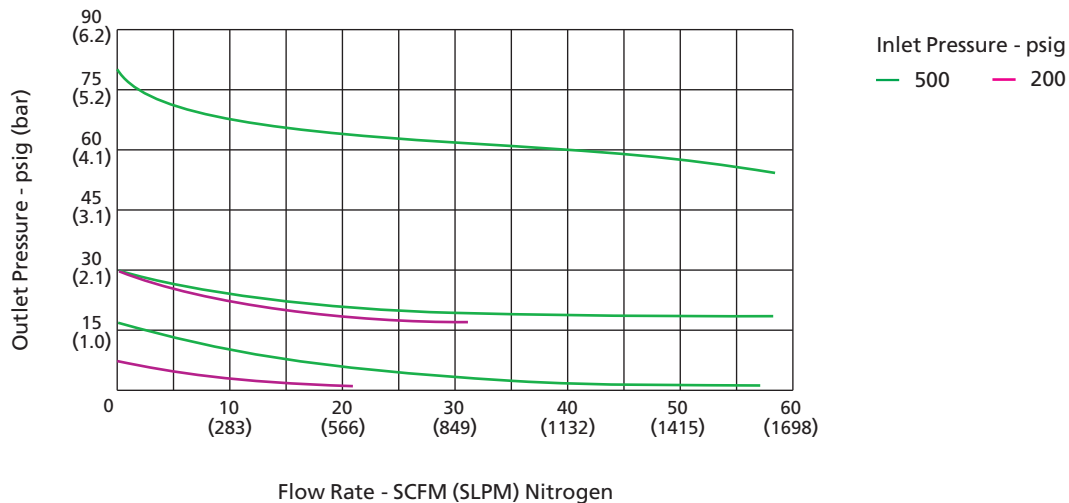
### Technical Data

- 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:
  - Internal: Bubble-tight
  - External:  $\leq 1 \times 10^{-9}$  mbar.l/s helium
- Flow coefficient (Cv): 1.8
- Weight (regulator only):  $\approx 5.95$  lbs (2.7 Kg)
- Body ports: 3/4" female NPT for inlet, outlet, 1/4" female NPT for gauge



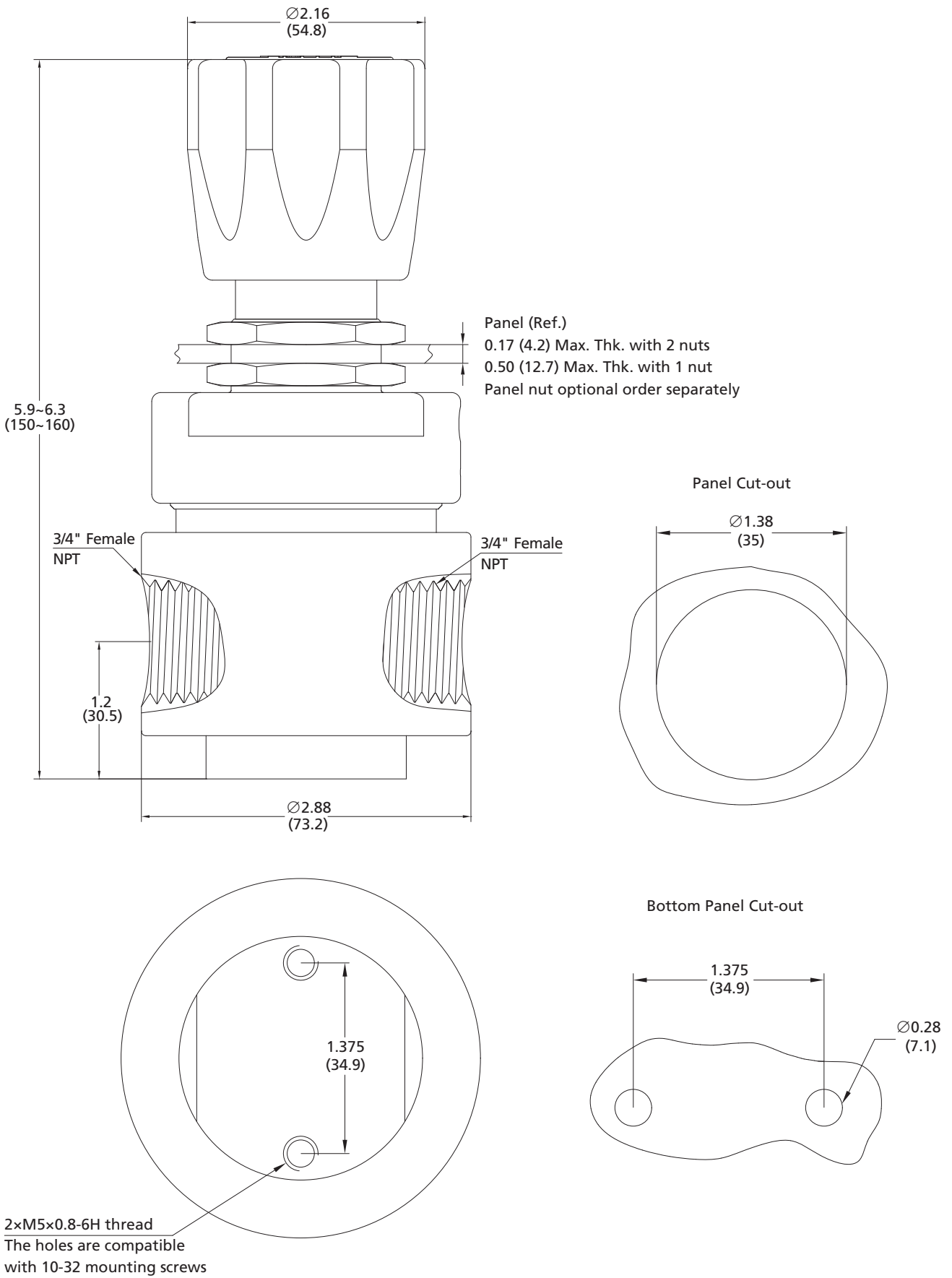
Model: FLR-56L-05-100-04-04-Z

### Typical Flow Chart

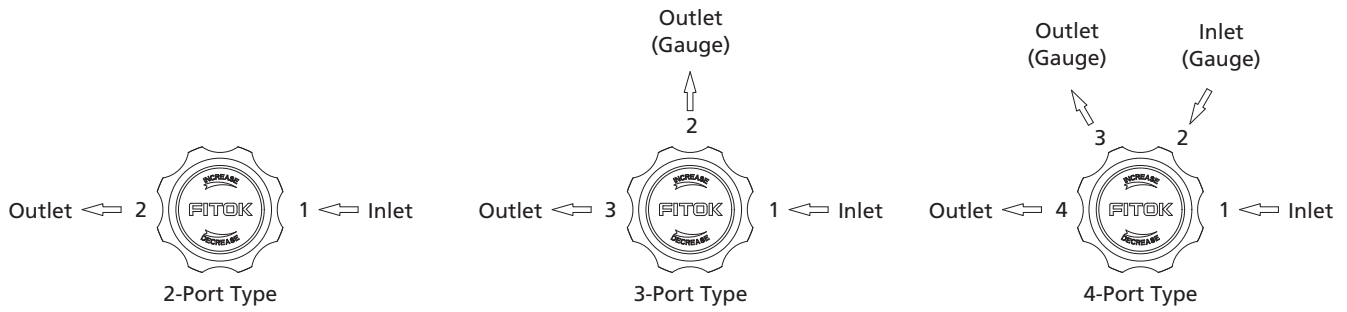


## Dimensions

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



## Port Configurations



## Part Number Description

FLR - 56L - 05 - 150 - 05 - B - B - 05 - Z

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

Inlet Pressure P1	
05	500 psig

Outlet Pressure Range P2	
15	0~15 psig
30	0~30 psig
75	0~75 psig
150	0~150 psig

Connection 1	
05	3/4" Female NPT
14	3/4" Tube Fitting
16	1" Tube Fitting
25	16 mm Tube Fitting
26	18 mm Tube Fitting
27	20 mm Tube Fitting
28	22 mm Tube Fitting
Other connections are available upon request	

Connection 2	
B	With Gauge (psi/bar)
M	With Gauge (psi/MPa)
P	Plug
00	1/4" Female NPT
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	

Connection 3	
Same as Connection 2	

Connection 4	
Same as Connection 1	

Installation Type	
Not Required	
Z	Installed with One Panel Nut
M	Installed with Two Panel Nuts
N	Installed with Screws at the Bottom

**Notes:**

- Most configurations are available.
- Before ordering, please read **Installation Instructions and Cautions** on A-77.

Examples of part number:

- 2-port type (1 in, 1 out): FLR-56L-05-150-05
- 3-port type (1 in, 2 out): FLR-56L-05-30-05-B-05
- 4-port type (2 in, 2 out): FLR-5SS-05-150-05-B-B-05

# 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

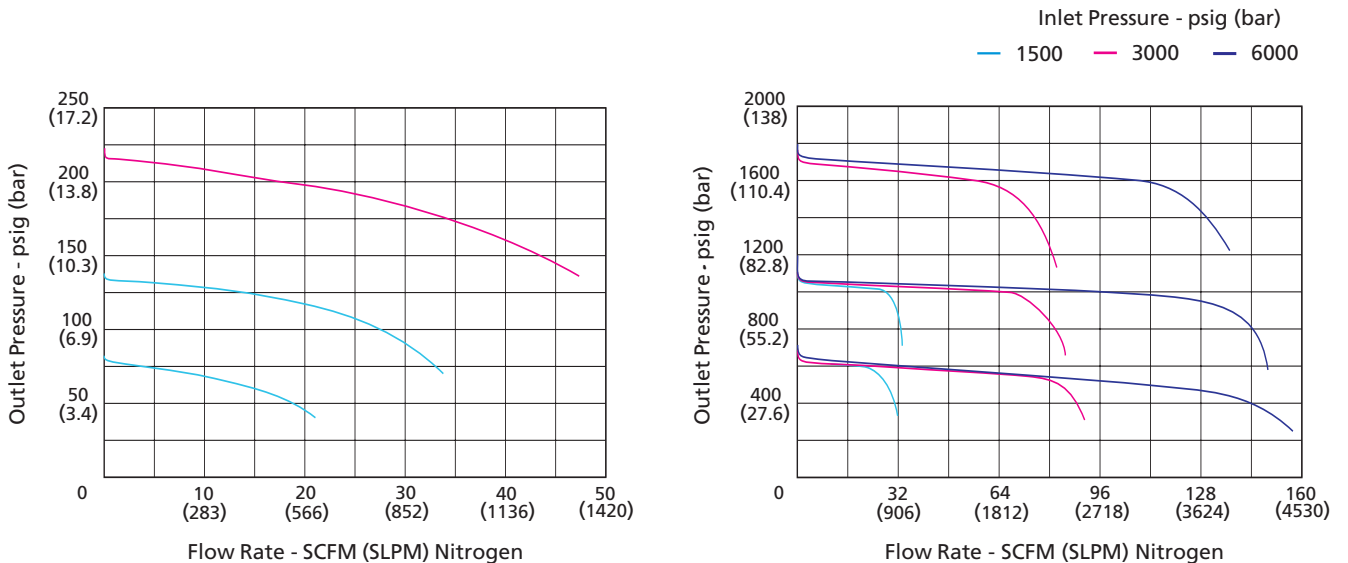


Model: FBR-15S-60-220-00-00-00

### Technical Data

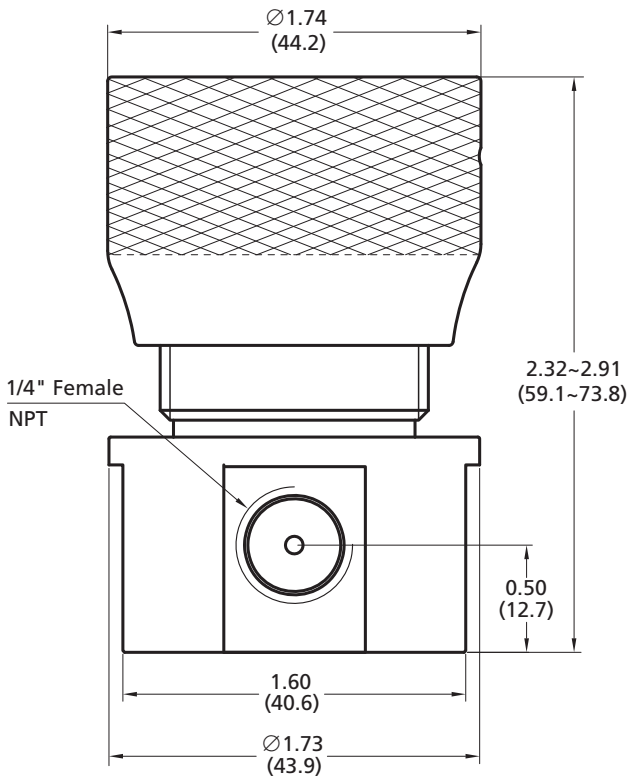
- ⦿ Media contact materials
  - Body: 316, 316L or Brass (Nickel-plated)
  - Seat: PCTFE, PEEK or Vespel
  - Piston: Aluminium Alloy
  - O-ring: Viton, Kalrez or Buna-N
  - Filter: 316L
- ⦿ Operating conditions
  - Maximum rated inlet pressure: 6000 psig
  - Outlet pressure ranges: 0~80, 0~140, 0~220,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

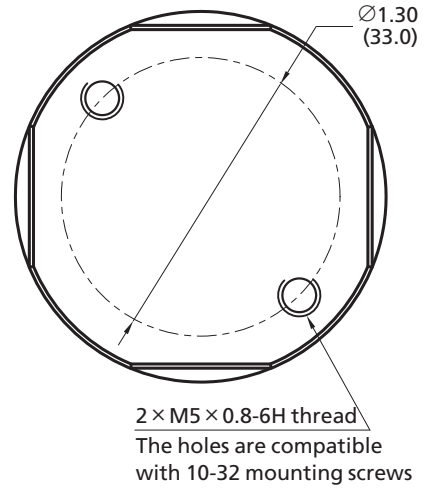


## Dimensions

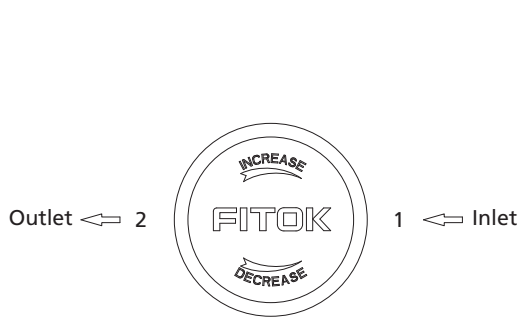
Dimensions, in inches (millimeters), are for reference only.



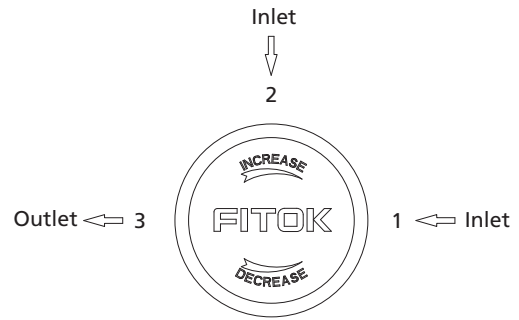
Bottom Panel Cut-outs



## Port Configurations



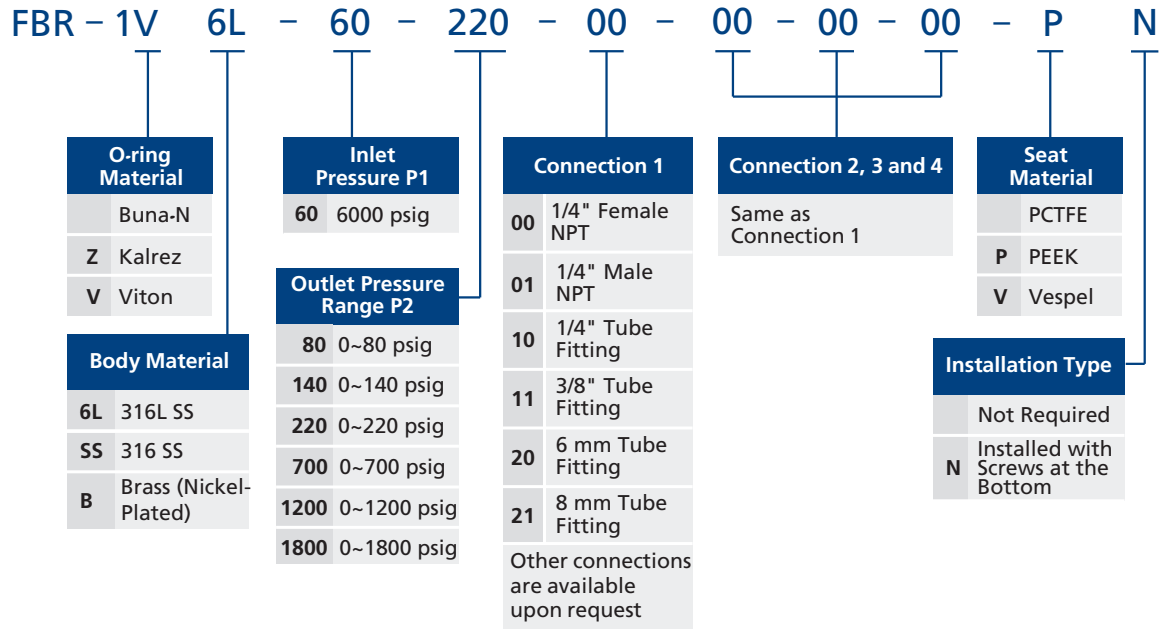
2-Port Type



4-Port Type



## Part Number Description



Notes:

1. Most configurations are available.
2. Before ordering, please read **Installation Instructions and Cautions** on A-77.

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

- ⦿ 316 Stainless steel or brass body optional
- ⦿ Robust piston sensed design
- ⦿ Stable outlet pressure and easy tune
- ⦿ 7 different outlet pressure ranges
- ⦿ All pressure ranges can be vented to 0 psig
- ⦿ Applicable to general gases or liquid
- ⦿ Panel mountable

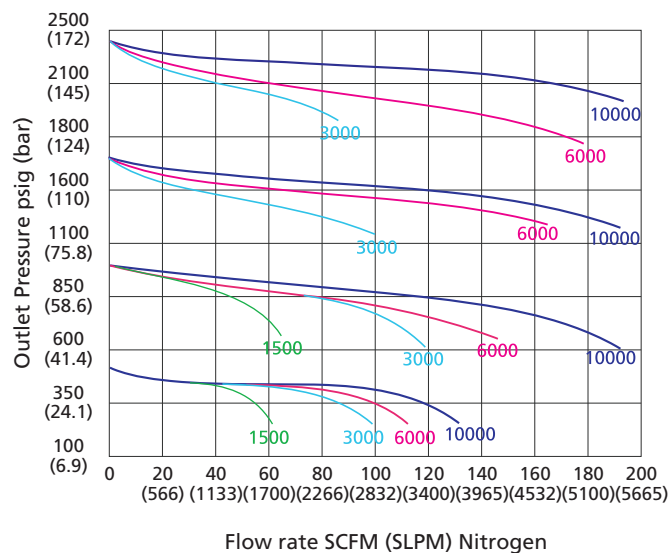
### Technical Data

- ⦿ 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: 316L  
O-rings: Viton 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: ≈5.75 lbs (2.6 kg)
- ⦿ Body ports: 1/4" female NPT for inlet, outlet and gauge



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

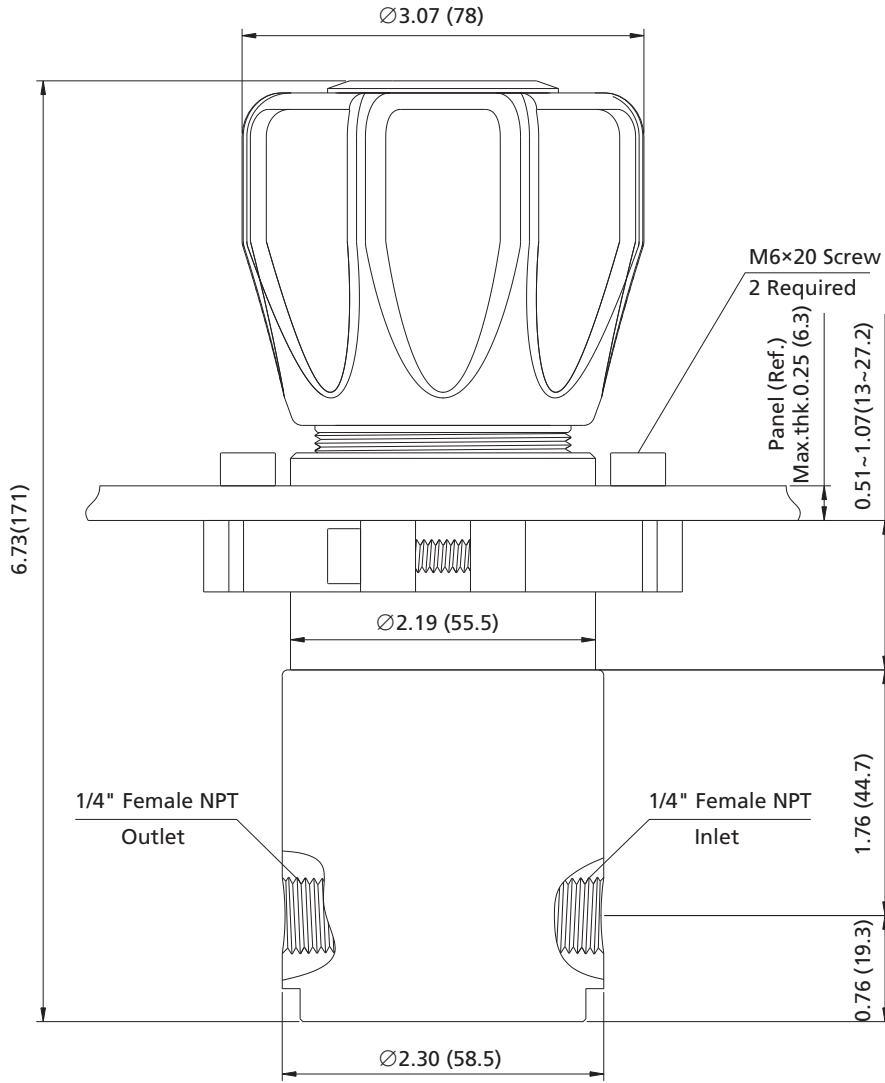
### Flow Chart



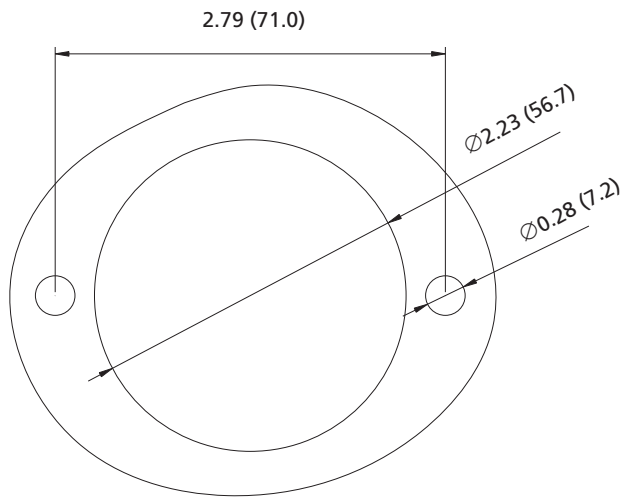


## Dimensions

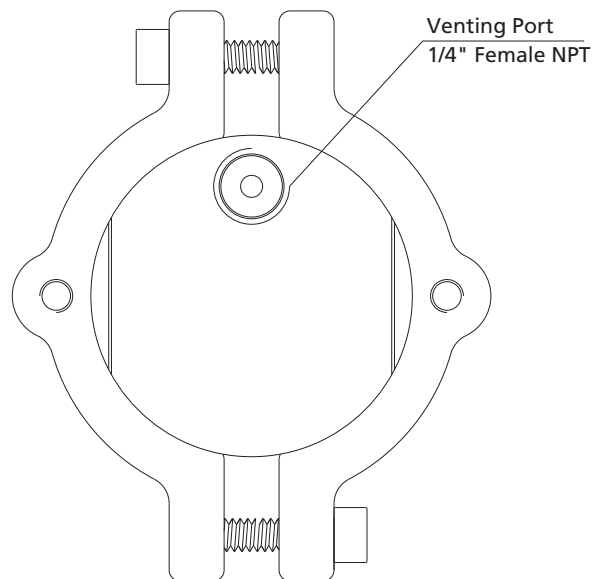
Dimensions, in inches (millimeters), are for reference only.



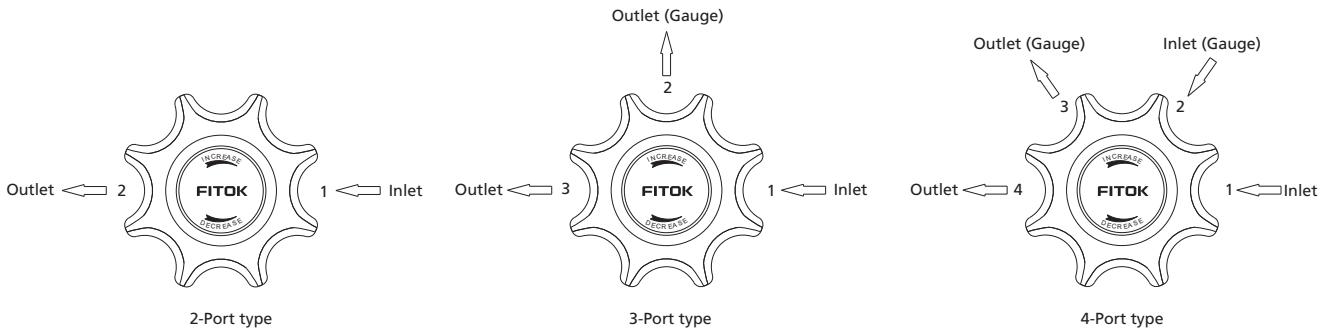
Panel Cut-outs



Bottom View



## Port Configurations



## Part Number Description

HPR - 10BN -		60 -		10 -		12 -		B -		B -		00 -		ZV-F2	
<b>Body Material</b>		<b>Inlet Pressure P1</b>		<b>Connection 1</b>		<b>Connection 2</b>		<b>Connection 3</b>		<b>Connection 4</b>		<b>Panel Mount</b>		<b>Vent Option</b>	
SS 316 SS		60 6000 psig		00 1/4" Female NPT		B With Gauge (psi/bar)		Same as Connection 2		Same as Connection 1		Without		Without	
B Brass (Max. Inlet Pressure 6000 psig)		100 10000 psig		01 1/4" Male NPT		M With Gauge (psi/MPa)						Z With		With	
<b>O-ring Material</b>		<b>Outlet Pressure Range P2</b>		10 1/4" Tube Fitting		P Plug									
Viton		5 10~500 psig		11 3/8" Tube Fitting		00 1/4" Female NPT									
N NBR		8 15~800 psig		20 6 mm Tube Fitting		01 1/4" Male NPT									
		15 15~1500 psig		21 8 mm Tube Fitting		10 1/4" Tube Fitting									
		25 30~2500 psig		Other connections are available upon request		11 3/8" Tube Fitting									
		40 50~4000 psig				20 6 mm Tube Fitting									
		60 60~6000 psig				21 8 mm Tube Fitting									
		100 200~10000 psig				Other connections are available upon request									
														<b>Product Technology Grade</b>	
														General Purpose	
														F2 Special Cleaning and Packaging	

Notes:

1. Most configurations are available but not everyone.
2. Venting port can not be blocked.
3. For liquid services, install the regulator with the venting port pointed vertically down.
4. Before ordering, please read **Installation Instructions and Cautions** on A-77.

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 Pressure High Flow Regulators

### Features

- ⦿ For high pressure and high flow applications
- ⦿ Large piston sensor gives excellent sensitivity
- ⦿ Balanced valve design ensures stable downstream pressure
- ⦿ Three port configurations available
- ⦿ Panel mounting available
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments

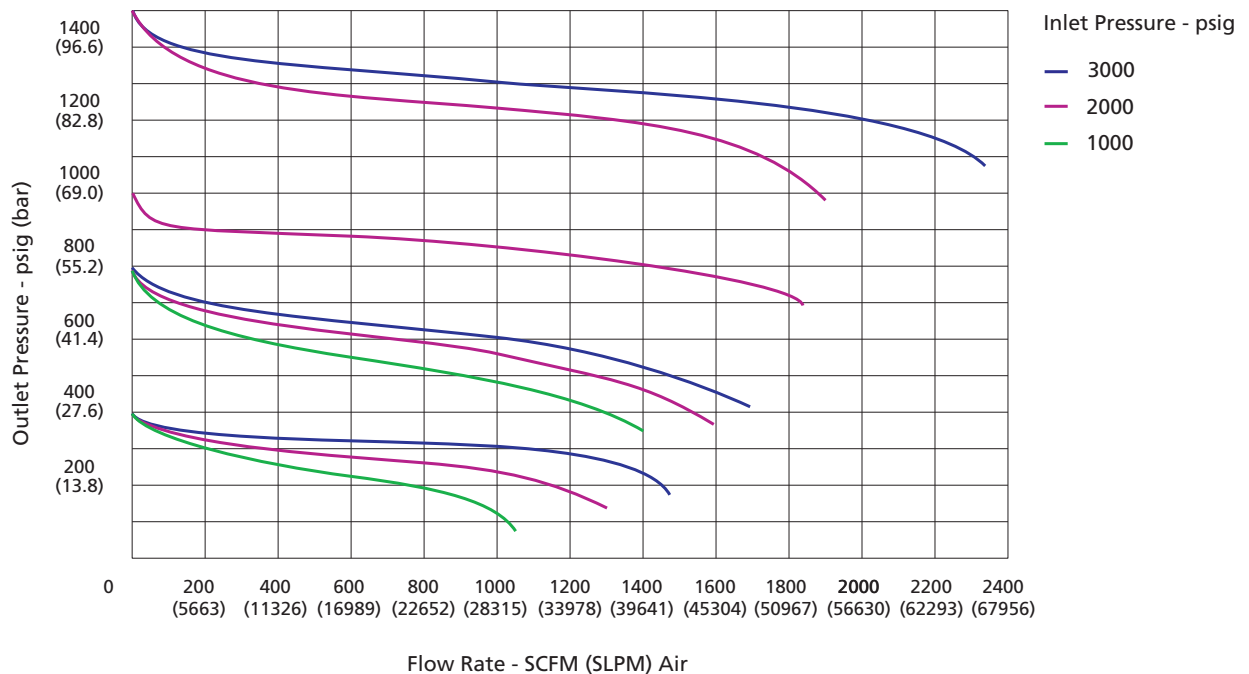
### Technical Data

- ⦿ 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 main components:  
Body: 316 SS or brass  
Seat: PCTFE  
Piston: 316L  
O-rings: Viton or Kalrez
- ⦿ 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)
- ⦿ Body ports: 1/2" female NPT for inlet, outlet,  
1/4" female NPT for gauge



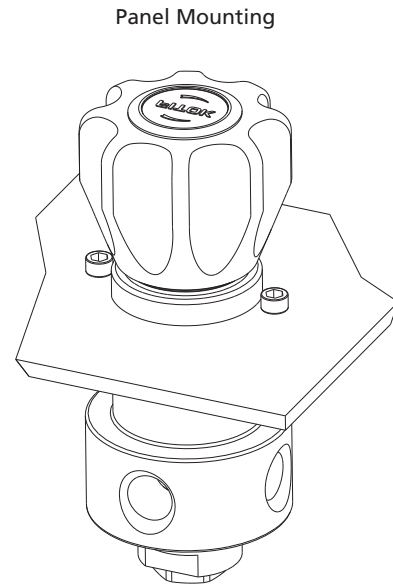
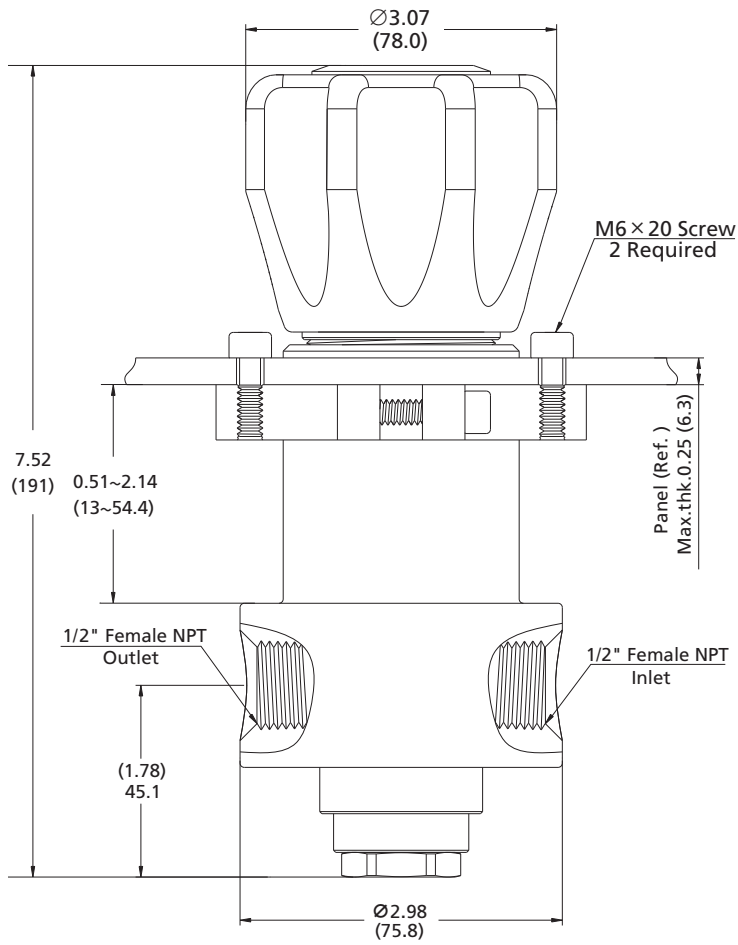
Model: HPL-06SS-45-1000-04-04-Z

### Typical Flow Chart

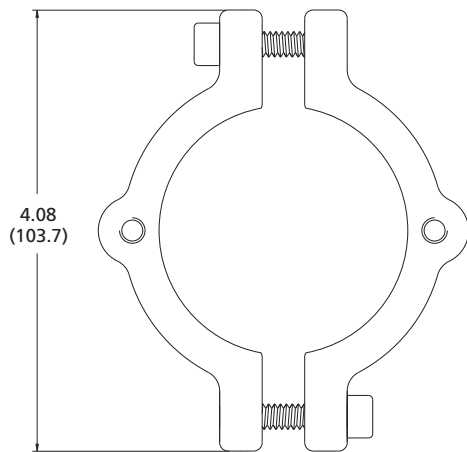


## Dimensions

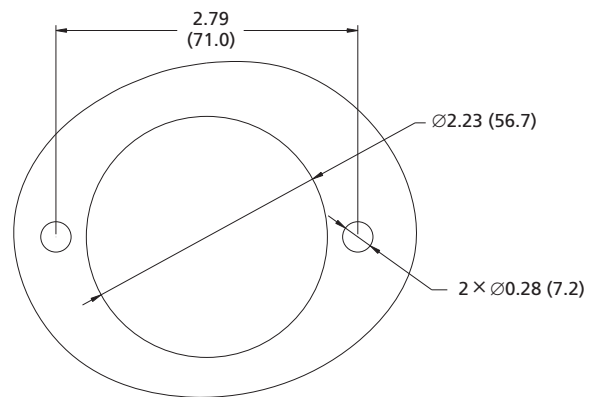
Dimensions, in inches (millimeters), are for reference only.



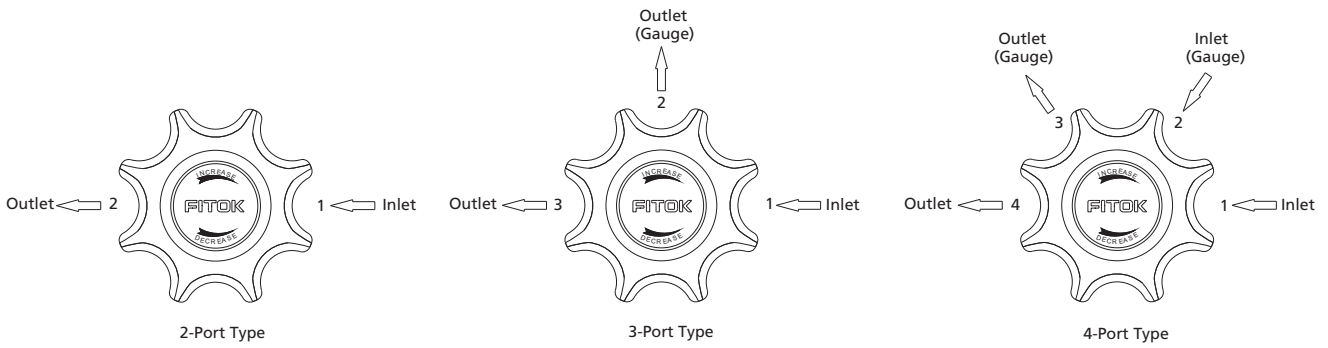
Panel Mounting Kit



Panel Cut-out



# Port Configurations



## Part 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)	Same as Connection 2
V With	6L 316L SS	45 4500 psig	05 3/4" Female NPT	M With Gauge (psi/MPa)	
	Brass (Max. Inlet Pressure 3750 psig)		14 3/4" Tube Fitting	P Plug	Connection 4
	B	Outlet Pressure Range P2	25 16 mm Tube Fitting	00 1/4" Female NPT	Same as Connection 1
		300 0~300 psig	26 18 mm Tube Fitting	01 1/4" Male NPT	
		600 0~600 psig	Other connections are available upon request	10 1/4" Tube Fitting	Panel Mount
		1000 0~1000 psig		11 3/8" Tube Fitting	Without
		1500 0~1500 psig		20 6 mm Tube Fitting	Z With
				21 8 mm Tube Fitting	
				Other connections are available upon request	

**Notes:**

- Most configurations are available.
- Before ordering, please read **Installation Instructions and Cautions** on A-77.

Examples of part number:

- 2-Port type (1 in, 1 out): HPL-06B-37-600-04-04
- 3-Port type (1 in, 2 out): HPL-066L-45-1000-04-B-04
- 4-Port type (2 in, 2 out): HPL-065S-45-1500-04-B-B-04