

# 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

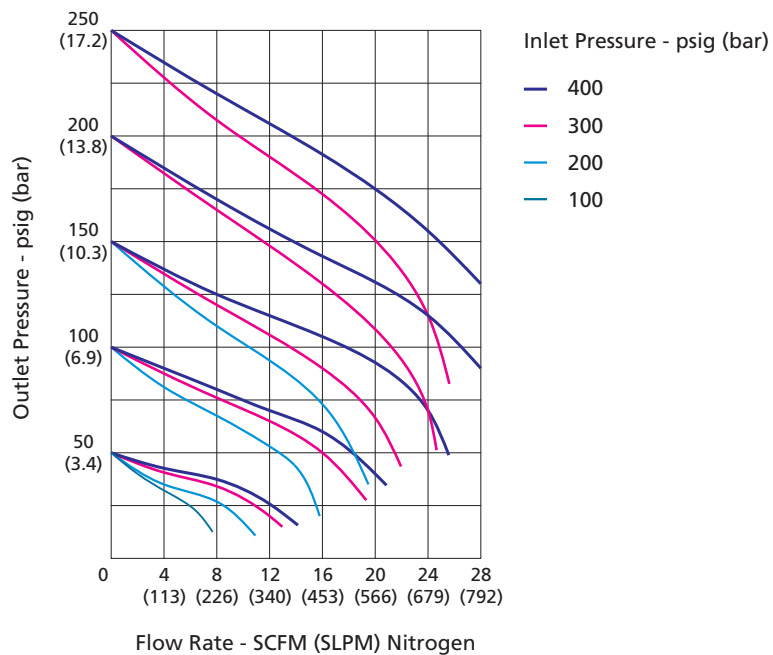


Model: FLR-16L-15-100-00-00-Z

### Technical Data

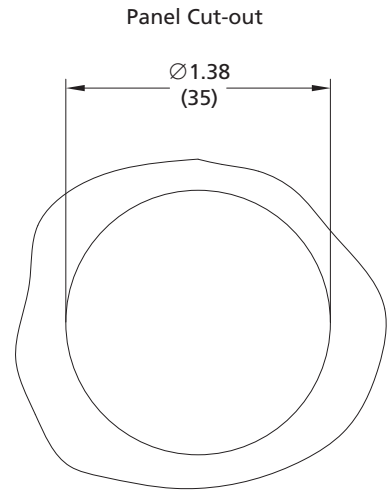
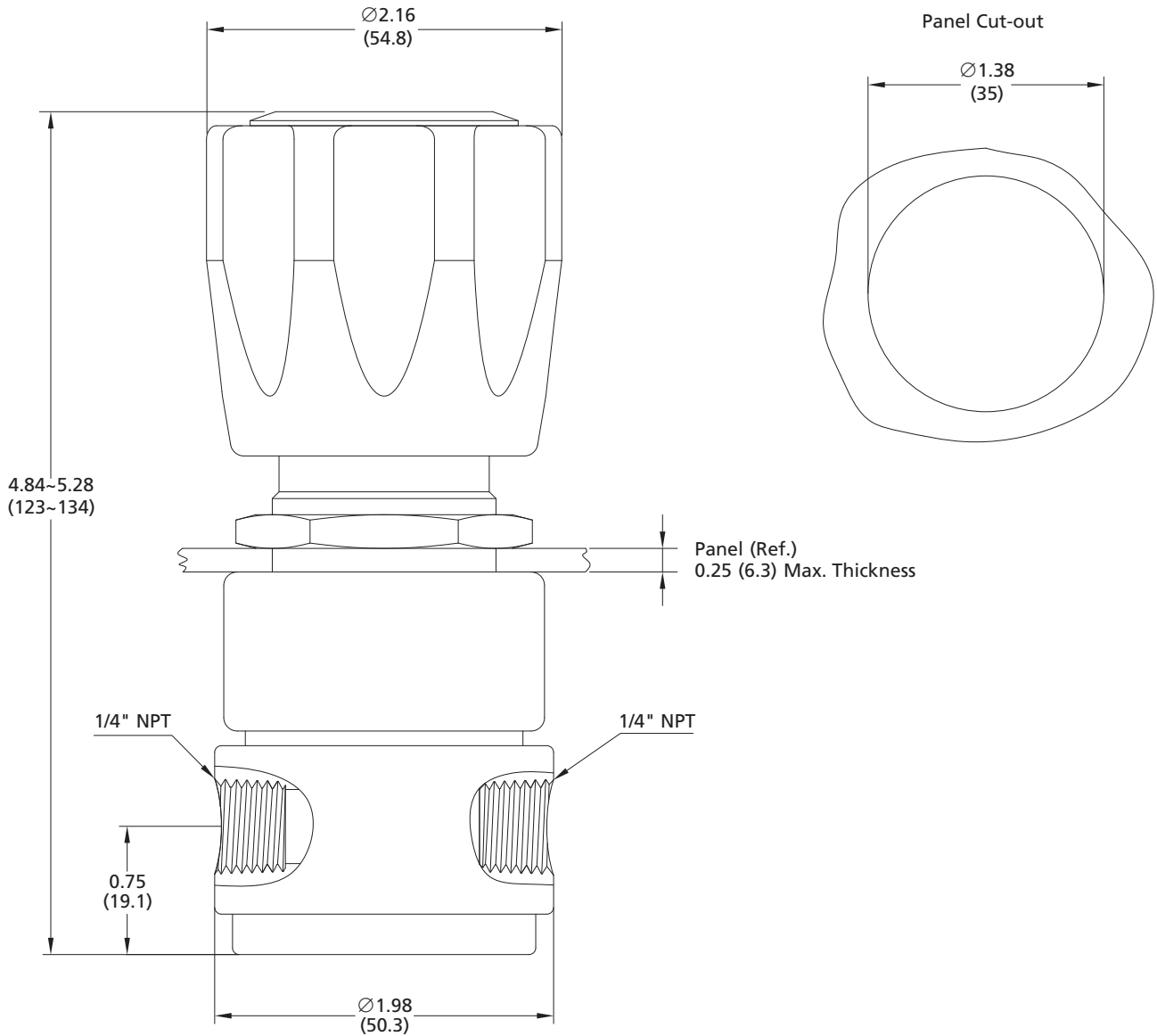
- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 500 or 1500 psig
- ⦿ Outlet pressure range: 0~25, 0~50, 0~100 or 0~250 psig
- ⦿ Material of the internal components:
  - Seat: PCTFE
  - Diaphragm: Hastelloy
  - Filter: 316L
- ⦿ Temperature: -40°F~+165°F (-40°C~+74°C)
- ⦿ Leak rates:
  - Internal: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

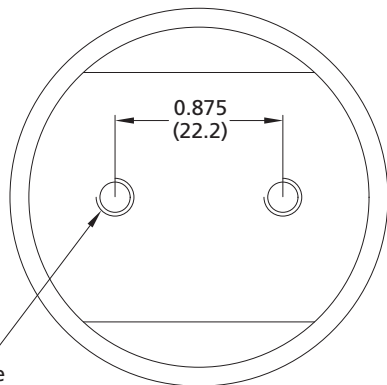


## Dimensions

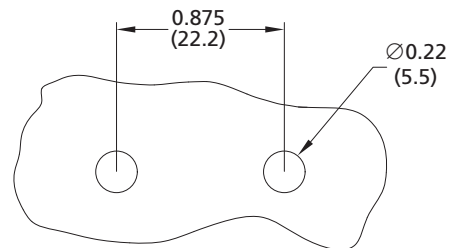
Dimensions, in inches (millimeters), are for reference only.



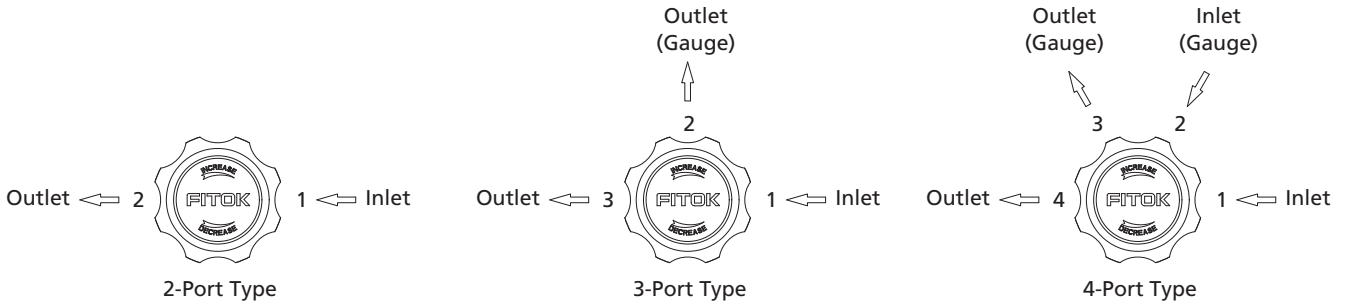
Bottom Panel Cut-outs



2×M5×0.8-6H 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	Outlet Pressure Range P2	Connection 1	Connection 2	Connection 3	Connection 4	Installation Type
6L 316L SS	05 500 psig	25 0~25 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	50 0~50 psig	01 1/4" Male NPT	M With Gauge (MPa)			Z Installed with One Panel Nut
HC Hastelloy C-276		100 0~100 psig	10 1/4" Tube Fitting	P Plug			N Installed with Screws at the Bottom
B Brass (Nickel-plated)		250 0~250 psig	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

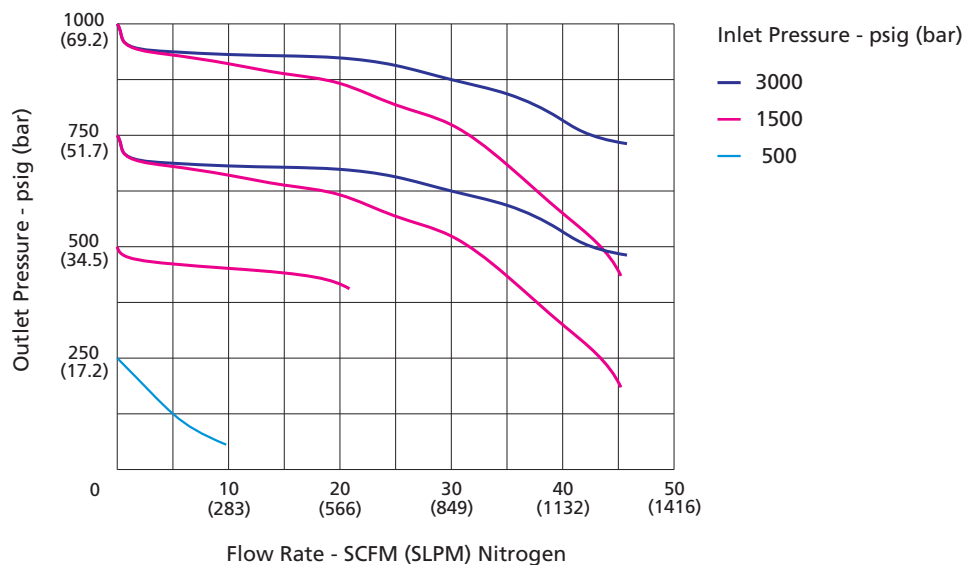
### Technical Data

- ⦿ 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:
  - 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



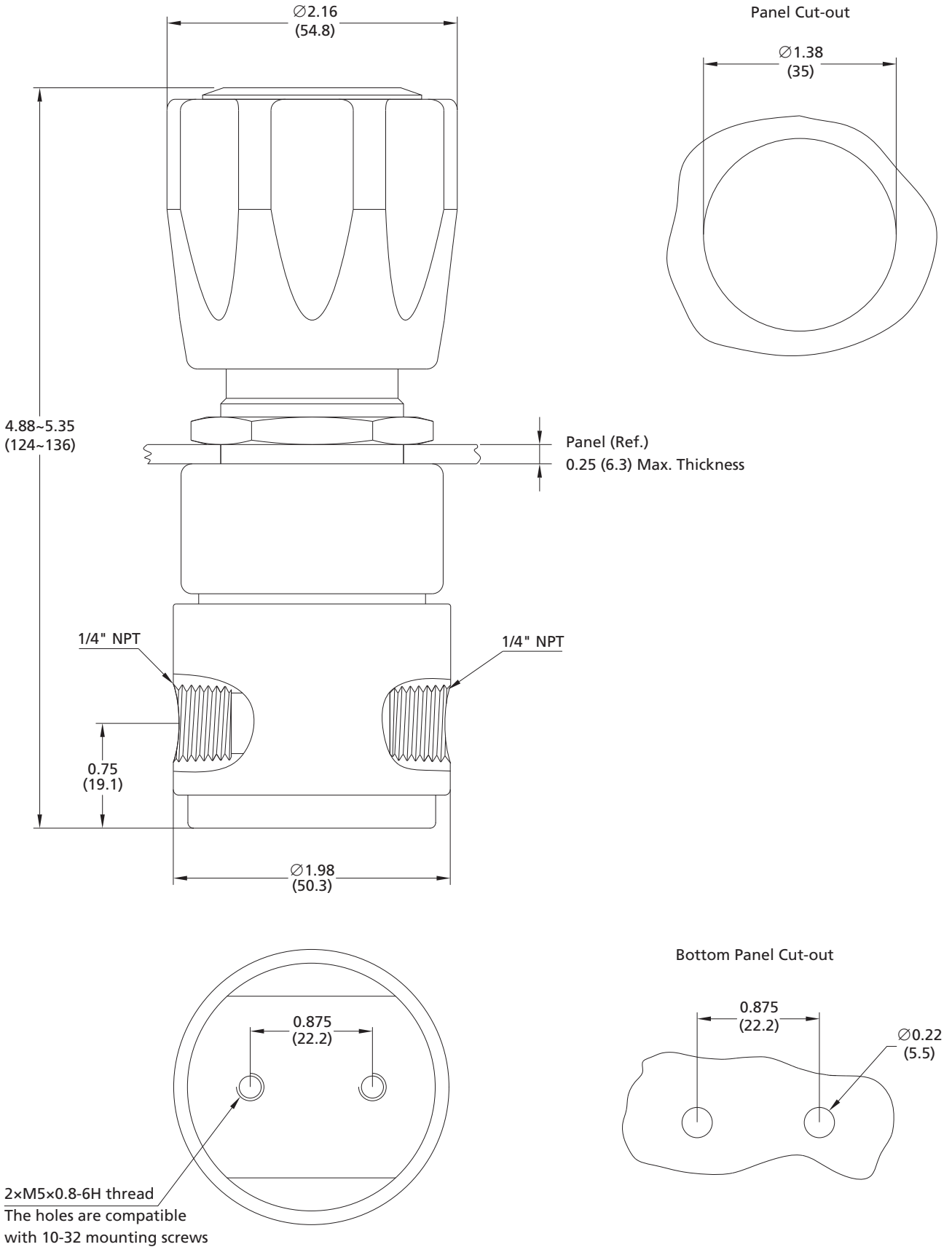
Model: FLR-2SS-45-1000-00-00-Z

### Typical Flow Chart

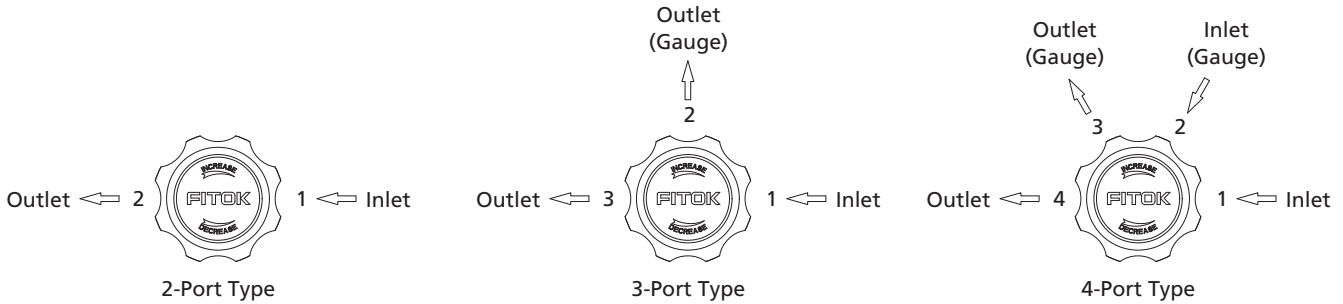


## Dimensions

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



## 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-2SS-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 porting configurations available
- Panel mounted or installed with screws at the bottom
- Fitted with captured vent as standard

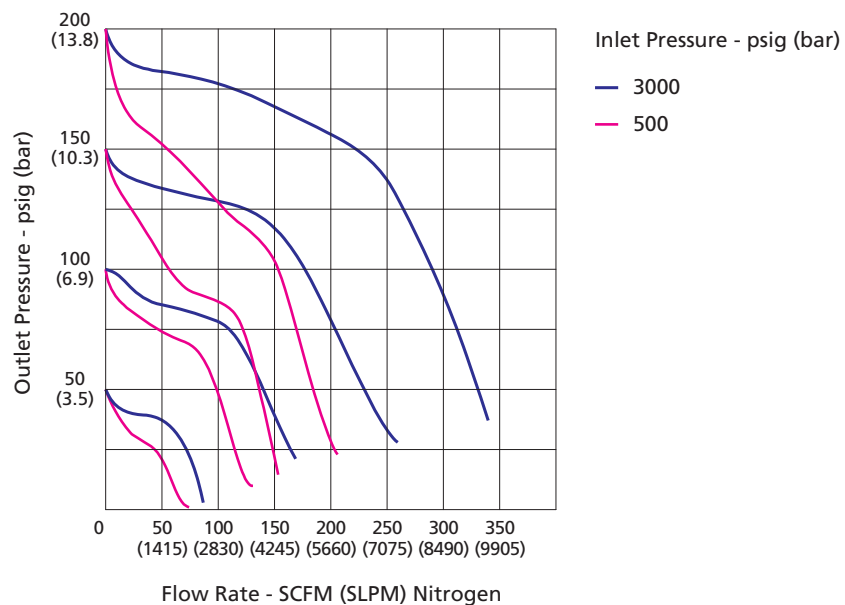


Model: FLR-3SS-30-100-04-04-Z

### Technical Data

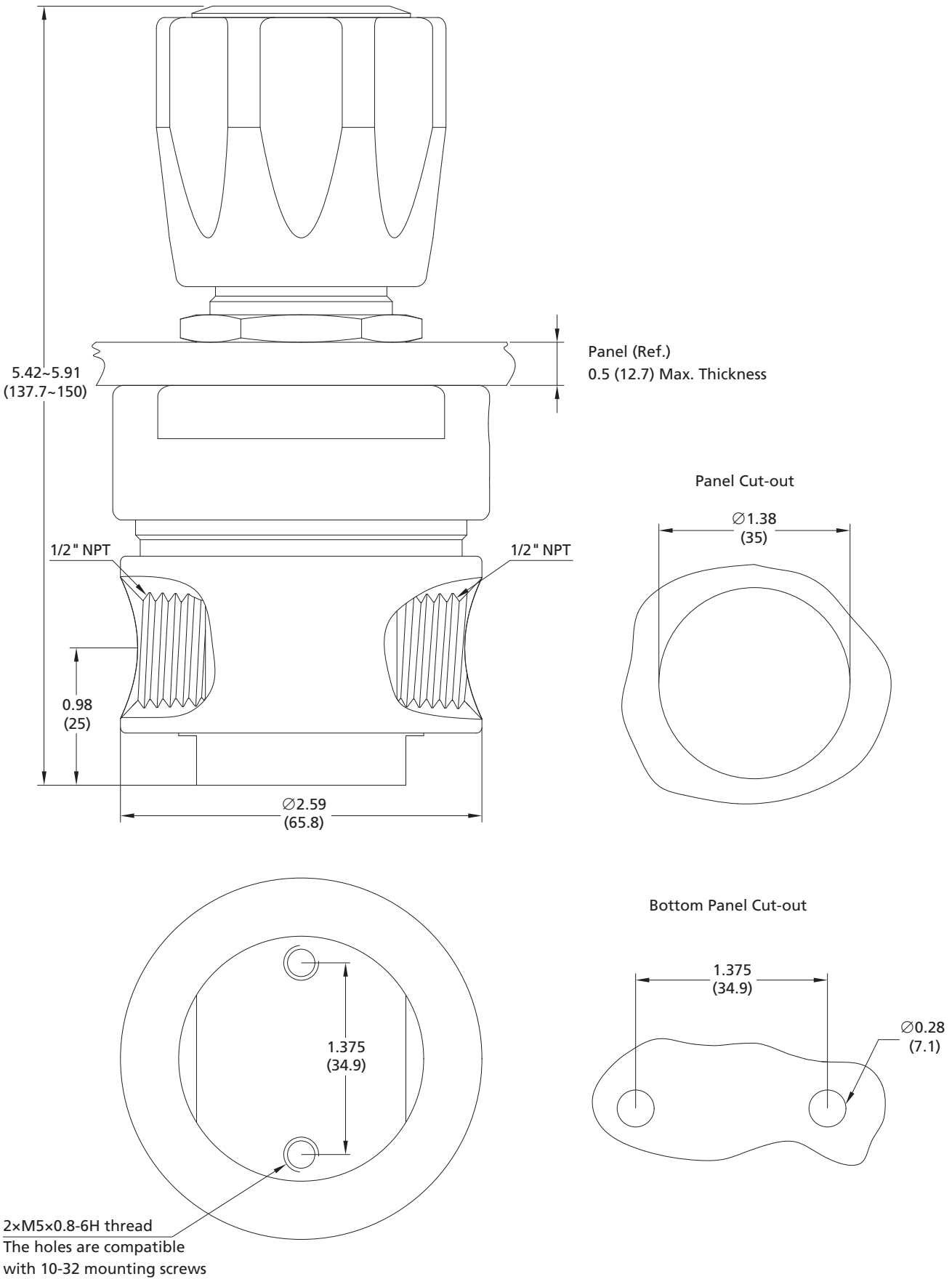
- Single-stage regulator
- Maximum inlet pressure: 500 or 3000 psig
- Outlet pressure range: 0~25, 0~50, 0~100, 0~150 or 0~200 psig
- Material of the internal components:
  - Seat: PCTFE
  - Diaphragm: Hastelloy
- Temperature: -40°F~+140°F (-40°C~+60°C)
- Leak rates:
  - Internal: Bubble-tight
  - External:  $\leq 1 \times 10^{-9}$  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

### Typical Flow Chart



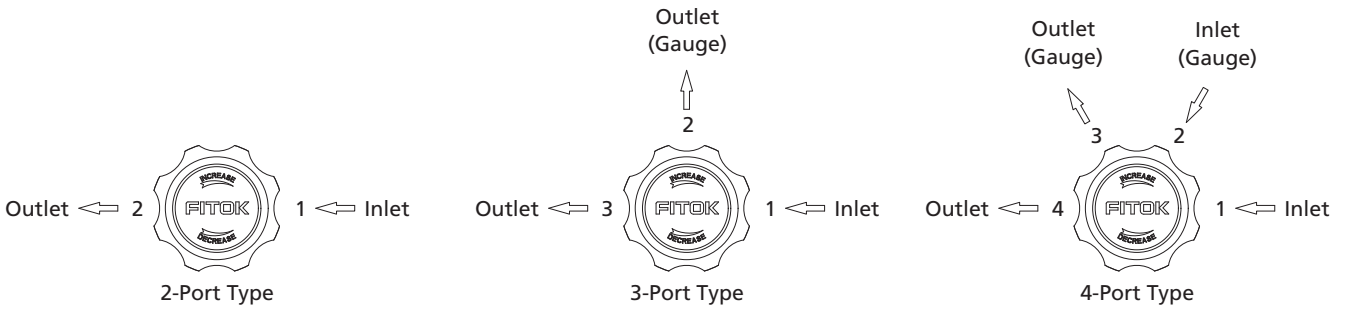
## Dimensions

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-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

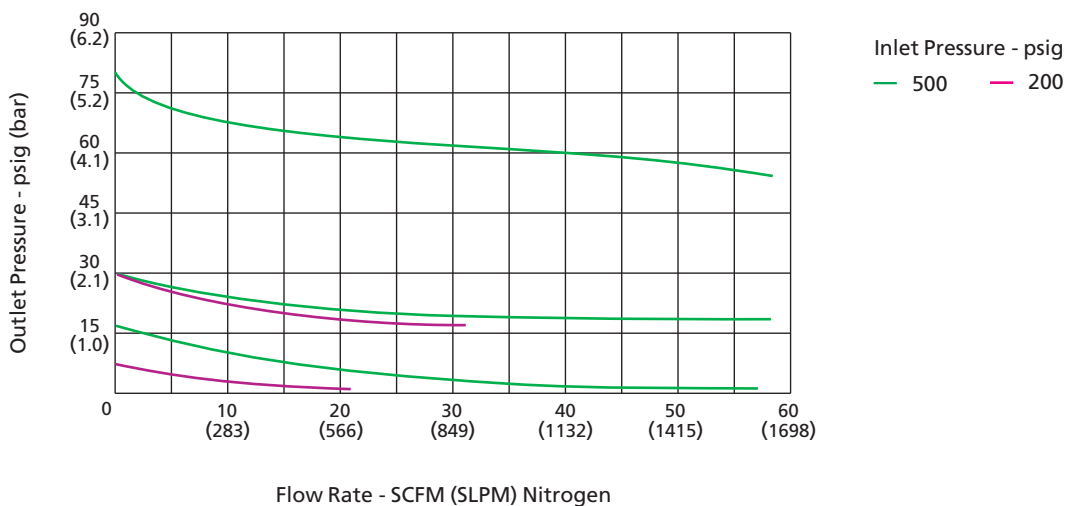
### Technical Data

- ⦿ 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



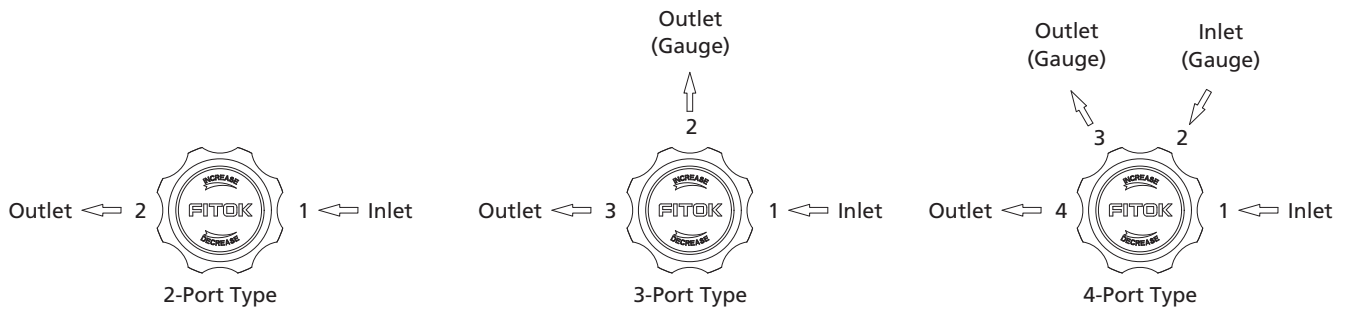
Model: FLR-56L-05-100-04-04-Z

### Typical Flow Chart





## Porting Configurations



## Part Number Description

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

Body Material		Inlet Pressure P1		Connection 1		Connection 2		Connection 3		Connection 4																			
6L	316L SS	05	500 psig	05	3/4" Female NPT	B	With Gauge (psi/bar)	Same as Connection 2		Same as Connection 1																			
SS	316 SS	<table border="1"> <thead> <tr> <th colspan="2">Outlet Pressure Range P2</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>0~15 psig</td> </tr> <tr> <td>30</td> <td>0~30 psig</td> </tr> <tr> <td>75</td> <td>0~75 psig</td> </tr> <tr> <td>150</td> <td>0~150 psig</td> </tr> </tbody> </table>		Outlet Pressure Range P2		15	0~15 psig	30	0~30 psig	75	0~75 psig	150	0~150 psig	14	3/4" Tube Fitting	M	With Gauge (MPa)	<table border="1"> <thead> <tr> <th colspan="2">Installation Type</th> </tr> </thead> <tbody> <tr> <td colspan="2">Not Required</td> </tr> <tr> <td>Z</td> <td>Installed with One Panel Nut</td> </tr> <tr> <td>M</td> <td>Installed with Two Panel Nuts</td> </tr> <tr> <td>N</td> <td>Installed with Screws at the Bottom</td> </tr> </tbody> </table>		Installation Type		Not Required		Z	Installed with One Panel Nut	M	Installed with Two Panel Nuts	N	Installed with Screws at the Bottom
Outlet Pressure Range P2																													
15	0~15 psig																												
30	0~30 psig																												
75	0~75 psig																												
150	0~150 psig																												
Installation Type																													
Not Required																													
Z	Installed with One Panel Nut																												
M	Installed with Two Panel Nuts																												
N	Installed with Screws at the Bottom																												
B	Brass	16	1" Tube Fitting	P	Plug																								
		25	16 mm Tube Fitting	00	1/4" Female NPT																								
		26	18 mm Tube Fitting	01	1/4" Male NPT																								
		27	20 mm Tube Fitting	10	1/4" Tube Fitting																								
		28	22 mm Tube Fitting	11	3/8" Tube Fitting																								
				Other connections are available upon request		20	6 mm Tube Fitting	Other connections are available upon request																					
						21	8 mm Tube Fitting																						

Note: Most configurations are available.

Examples of part number:

- a. 2-port type (1 in, 1 out): FLR-56L-05-15-05-05
- b. 3-port type (1 in, 2 out): FLR-56L-05-30-05-B-05
- c. 4-port type (2 in, 2 out): FLR-55S-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

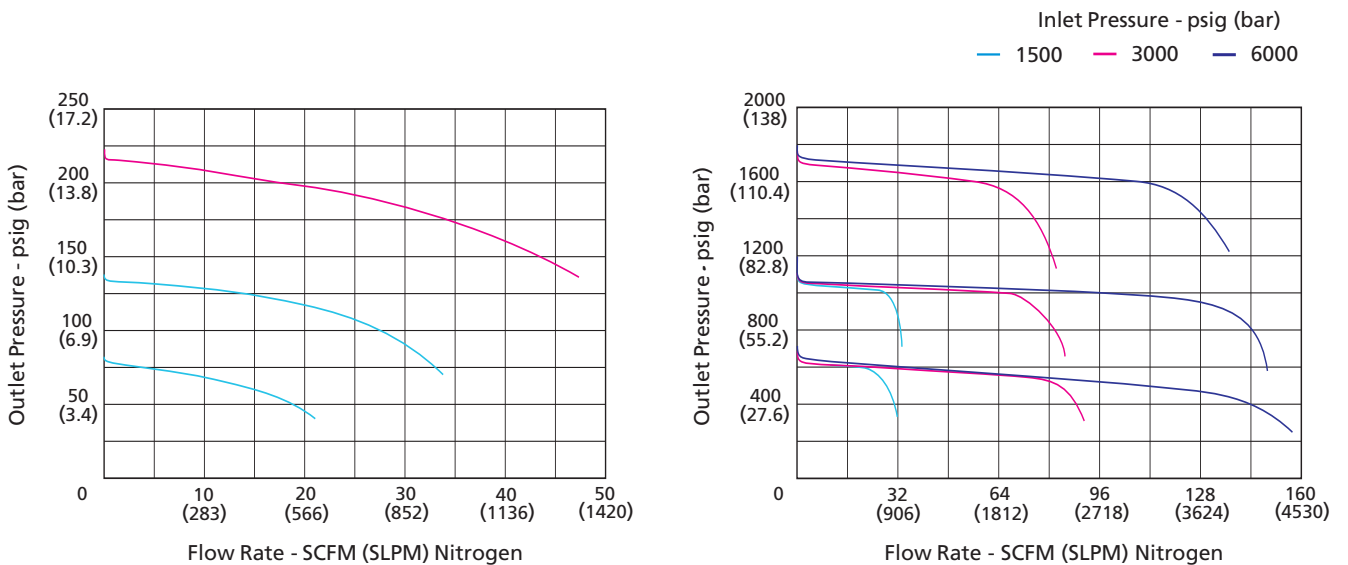


Model: FBR-1SS-60-220-00-00-00-00

### Technical Data

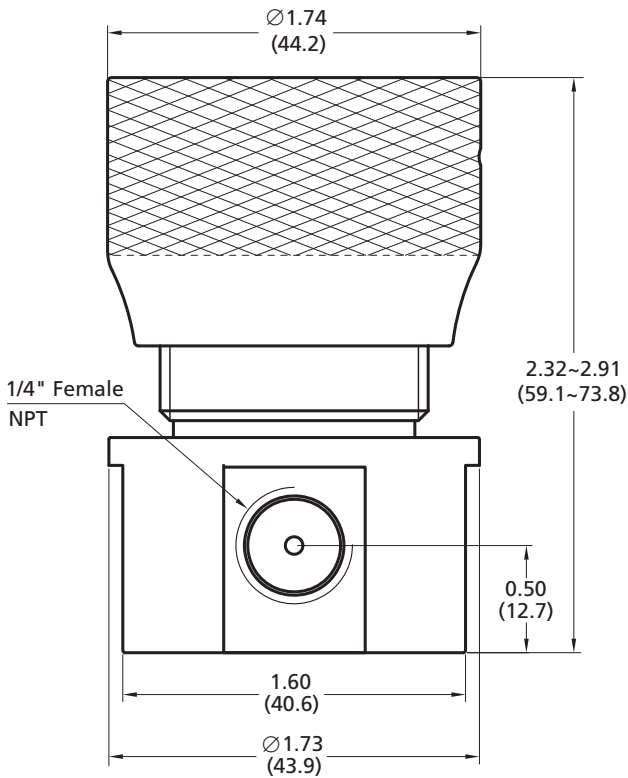
- ⦿ Media contact materials
  - Body: 316, 316L or Brass (Nickel-plated)
  - Seat: PCTFE, PEEK or Vespel
  - Piston: Aluminium Alloy
  - O-ring: Viton, Kalrez or Buna-N
  - Filter: 316L
- ⦿ Operating conditions
  - Maximum rated inlet pressure: 6000 psig
  - Outlet pressure ranges: 0~80, 0~140, 0~220,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

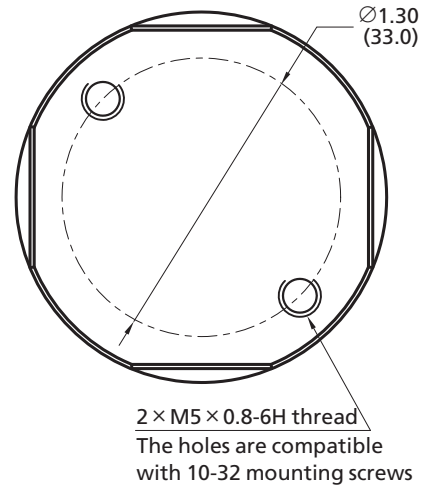


## Dimensions

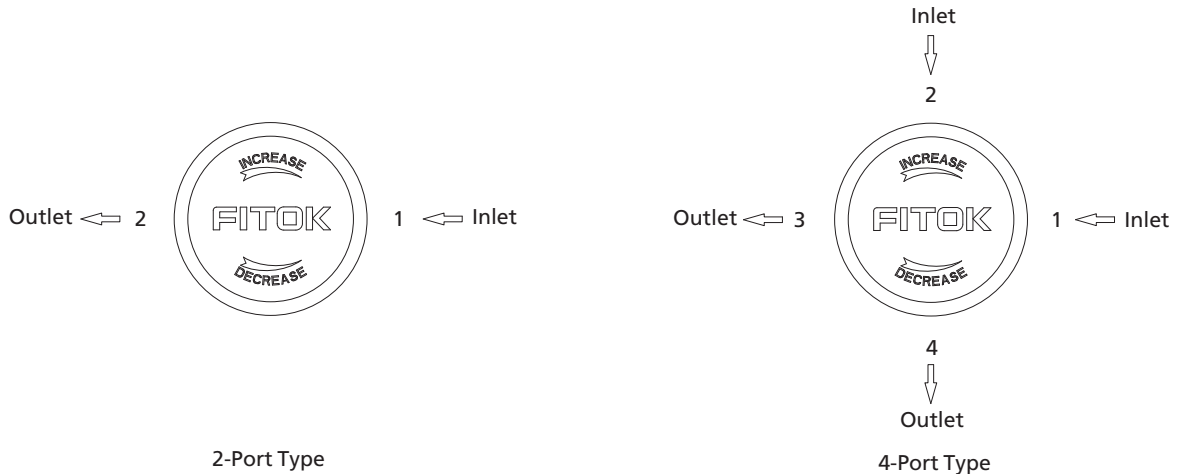
Dimensions, in inches (millimeters), are for reference only.



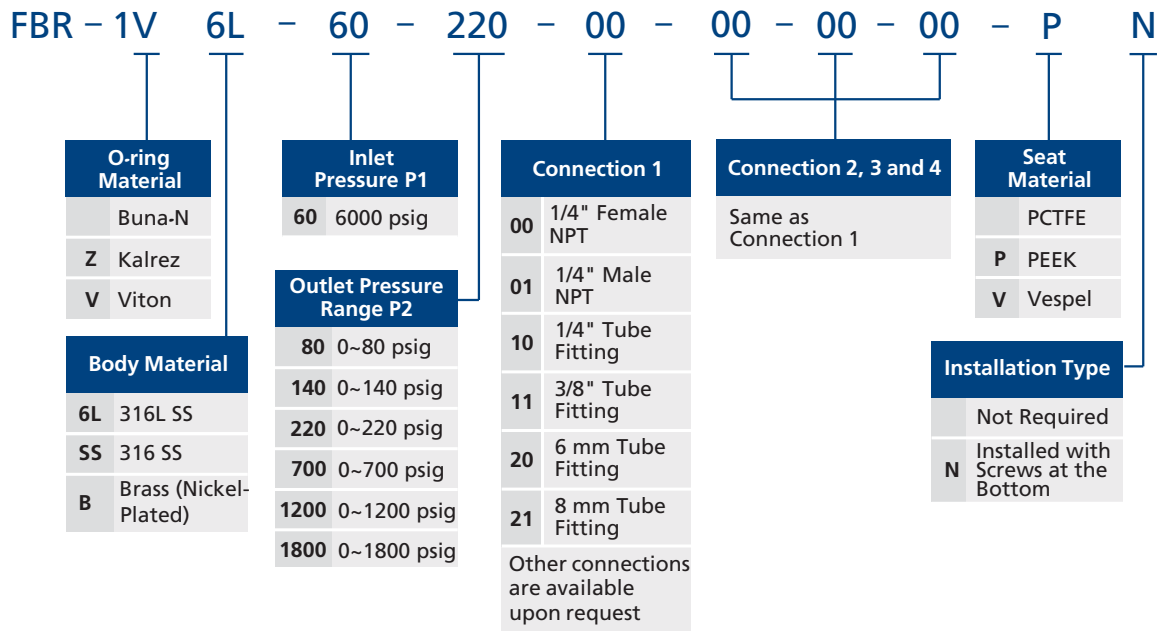
Bottom Panel Cut-outs



## Porting Configurations



## 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

# 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

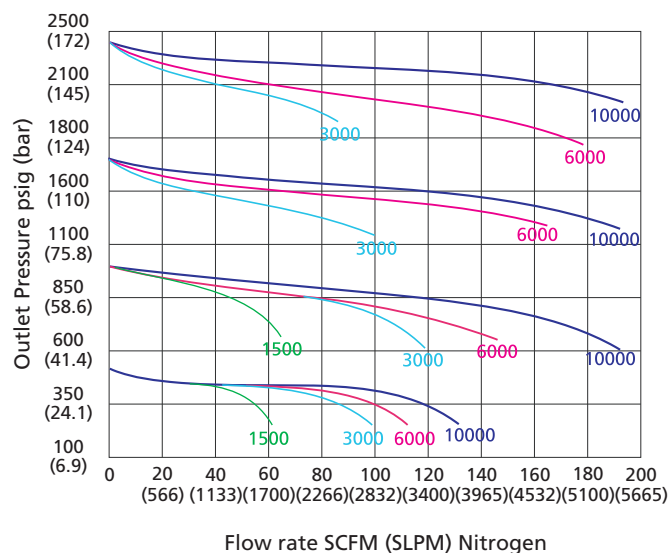
### Technical Data

- ⦿ 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

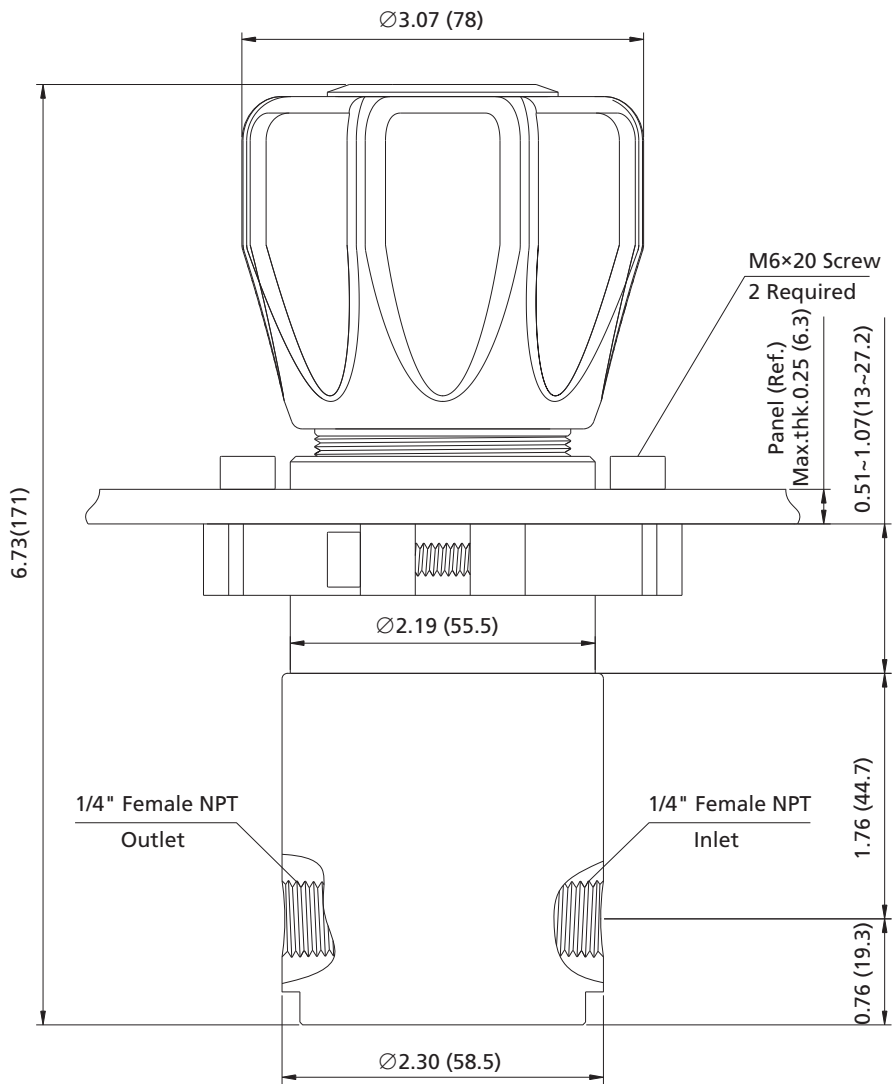
### Flow Chart



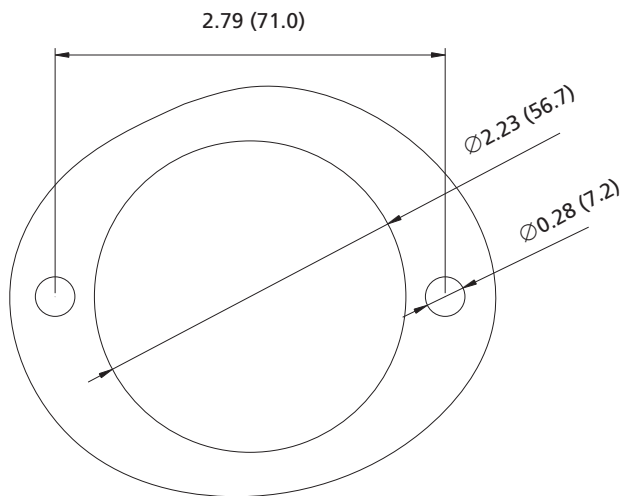


## Dimensions

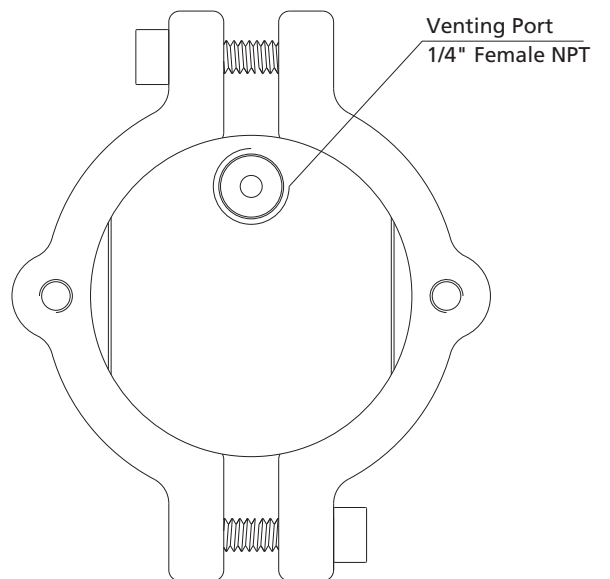
Dimensions, in inches (millimeters), are for reference only.



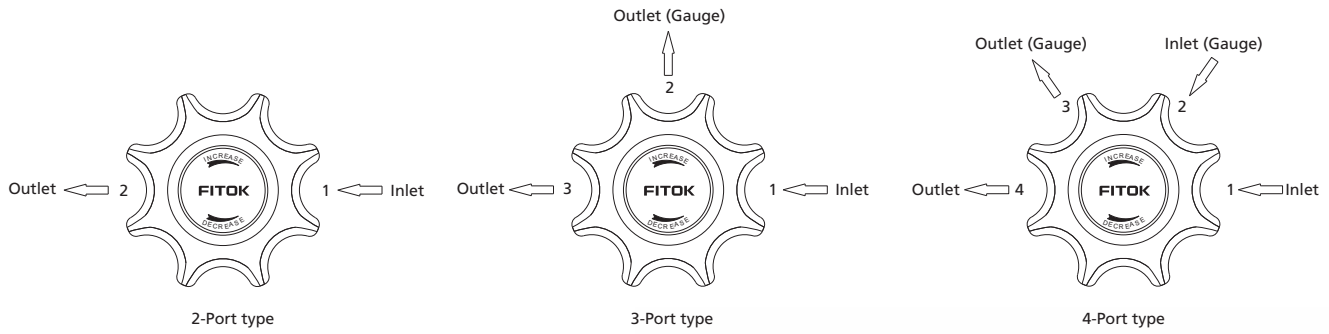
Panel Cut-outs



Bottom View



## Porting Configurations



## Part Number Description

HPR - 10BN - 60 - 10 - 12 - B - B - 00 - ZV-F2

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

Note: Most configurations are available but not everyone.  
 Venting port can not be blocked.  
 For liquid services, install the regulator with the venting port pointed vertically down.  
 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 porting configurations available
- ⦿ Panel mounting available
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments

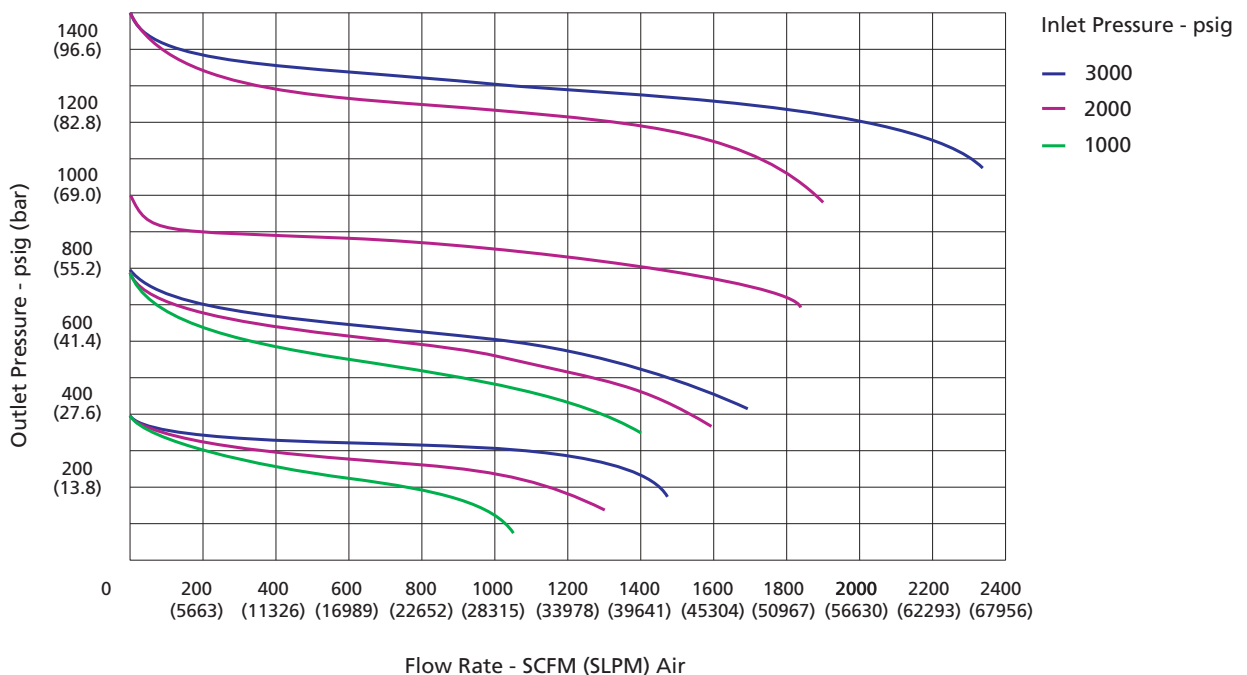
### Technical Data

- ⦿ 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 (-25°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



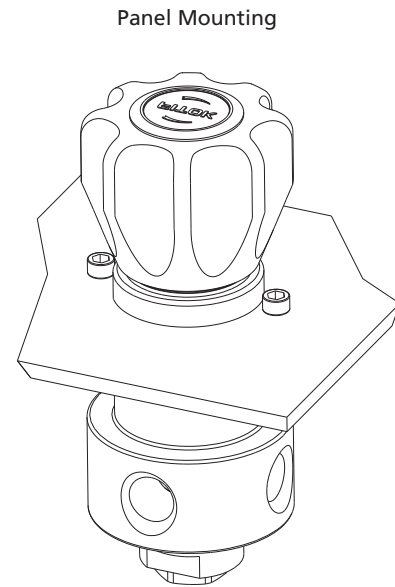
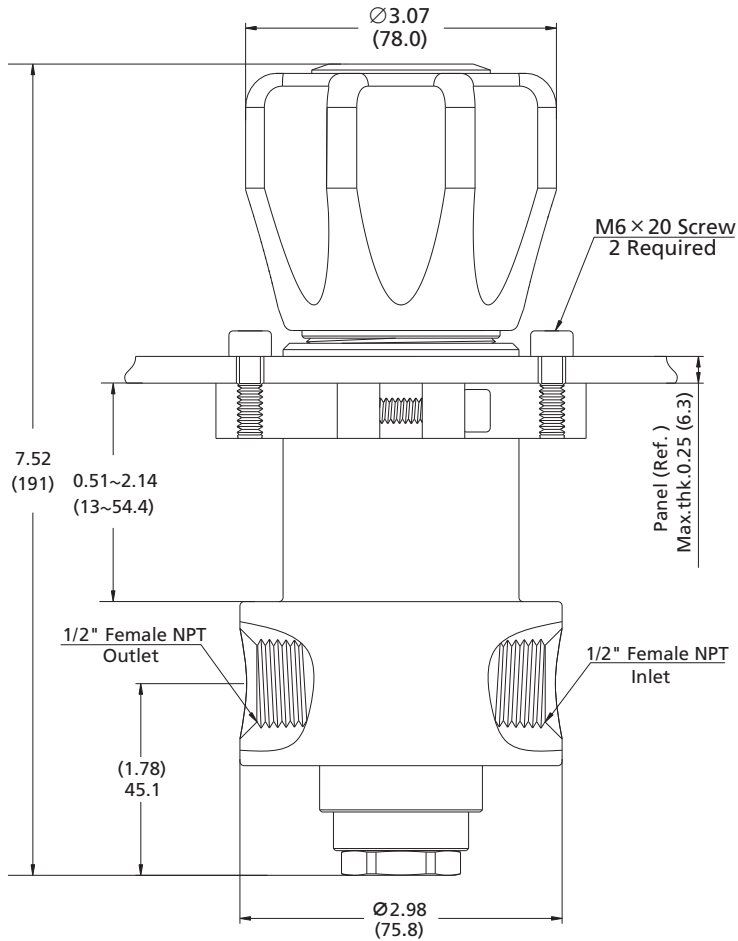
Model: HPL-06SS-45-1000-04-04-Z

### Typical Flow Chart

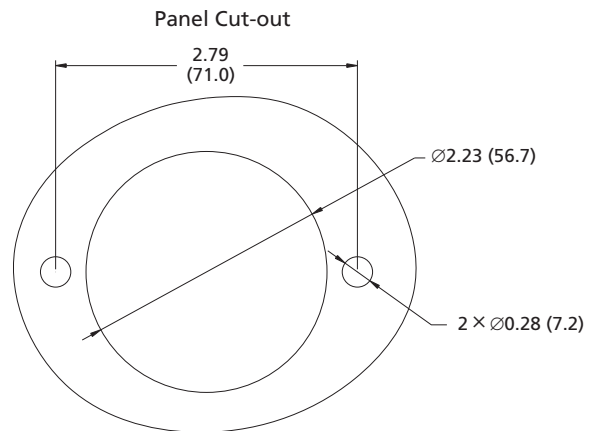
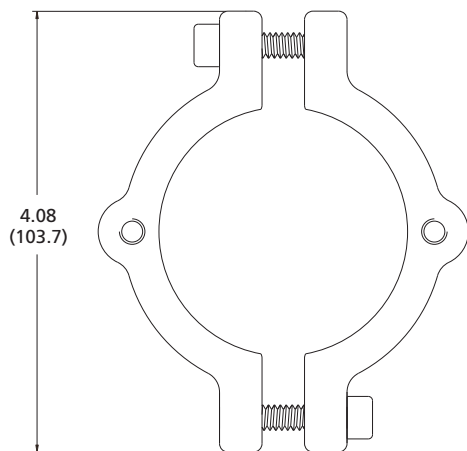


## Dimensions

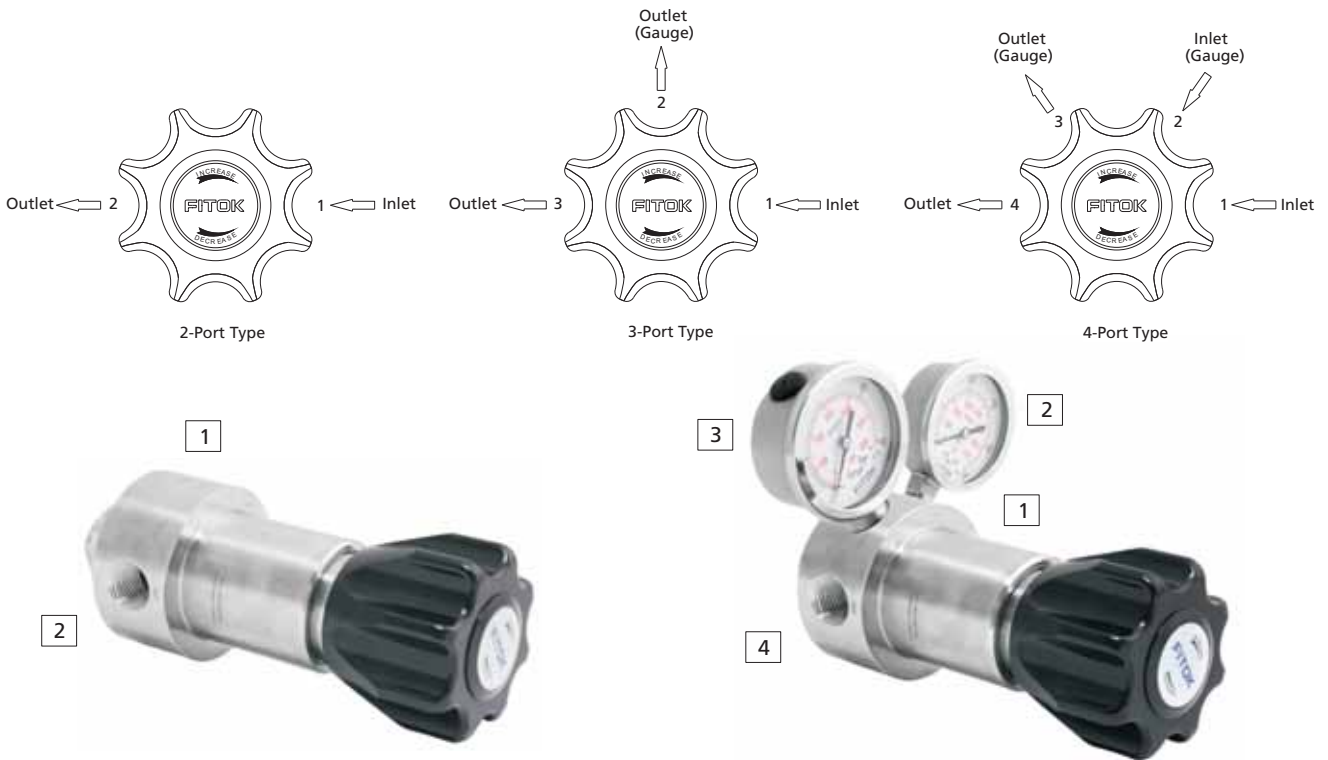
Dimensions, in inches (millimeters), are for reference only.



Panel Mounting Kit



## Porting Configurations



### Part Number Description

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	12 1/2" Tube Fitting	M With Gauge (MPa)	
	B Brass (Max. Inlet Pressure 3750 psig)	<b>Outlet Pressure Range P2</b>	14 3/4" Tube Fitting	P Plug	<b>Connection 4</b>
		300 0~300 psig	22 10 mm Tube Fitting	00 1/4" Female NPT	Same as Connection 1
		600 0~600 psig	23 12 mm Tube Fitting	01 1/4" Male NPT	
		1000 0~1000 psig	Other connections are available upon request	10 1/4" Tube Fitting	<b>Panel Mount</b>
		1500 0~1500 psig		11 3/8" Tube Fitting	Without
				20 6 mm Tube Fitting	Z With
				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): HPL-06B-37-600-04-04
- b. 3-Port type (1 in, 2 out): HPL-066L-45-1000-04-B-04
- c. 4-Port type (2 in, 2 out): HPL-06SS-45-1500-04-B-B-04