

# Cylinder Pressure Regulators

## FCR-1 Series General Diaphragm Regulators

### Features

- ⦿ Metal-to-metal seal to minimize external leak
- ⦿ Convoluted diaphragm design to improve regulation precision and cycle life
- ⦿ Applicable to corrosive or toxic gases
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments
- ⦿ Adjustable relief pressure
- ⦿ 20 µm filter installed at inlet

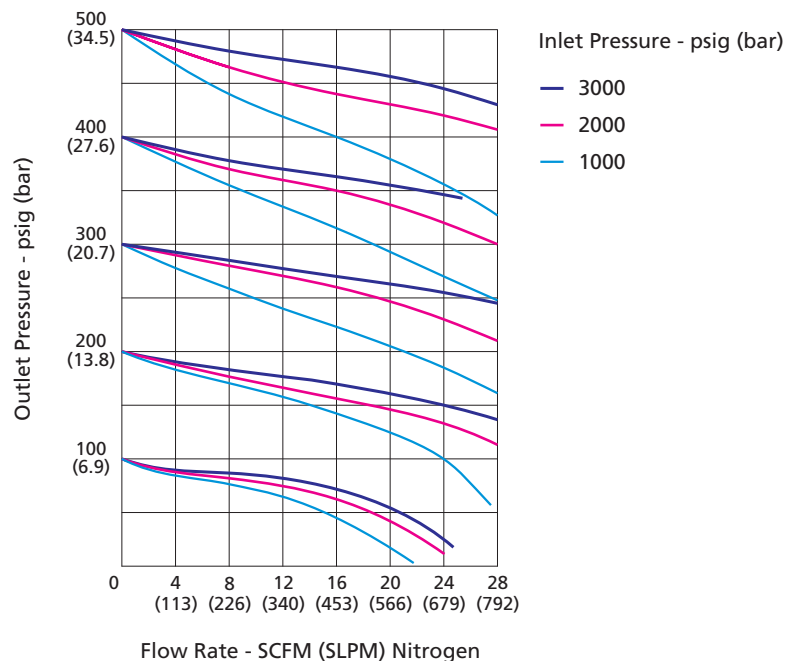


Model: FCR-16L-30-100-C330-B-B-00-R-P

### Technical Data

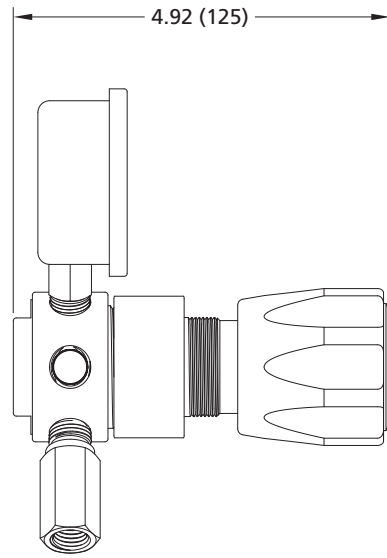
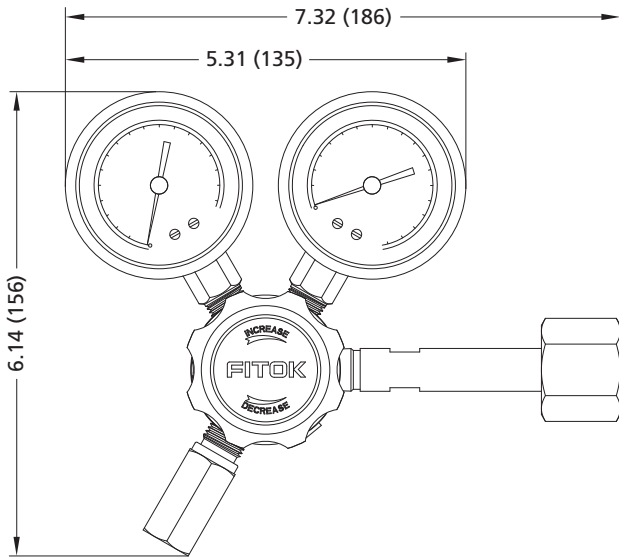
- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 3000 or 4500 psig
- ⦿ Outlet pressure range: 0~25, 0~50, 0~100, 0~250 or 0~500 psig
- ⦿ Material of the internal components:
  - Seat: PCTFE
  - Diaphragm: Hastelloy
  - Filter: 316L
- ⦿ Temperature: -40°F~+165°F (-40°C~+74°C)
- ⦿ Leak rates:
  - Internal:  $\leq 1 \times 10^{-7}$  mbar-l/s helium
  - External:  $\leq 1 \times 10^{-9}$  mbar-l/s helium
- ⦿ Flow coefficient (Cv): 0.06
- ⦿ Weight (regulator only):  $\approx 1.98$  lbs (0.9 kg)
- ⦿ Body ports: 1/4" female NPT for inlet, outlet, gauge and relief valve

### Typical Flow Chart

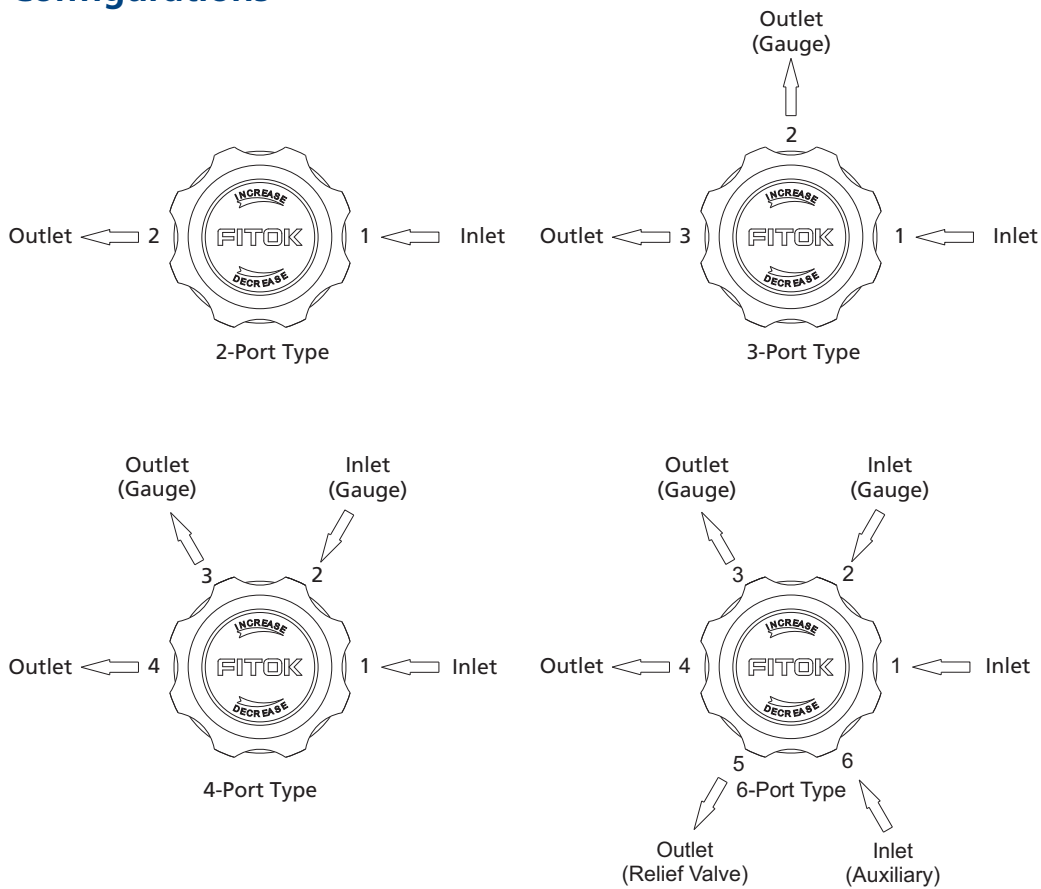


## Dimensions

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



## Porting Configurations



## Part Number Description

FCR - 16L - 30 - 100 - C580 - M - M - 32 - R - P

Body Material	
6L	316L SS
SS	316 SS
HC	Hastelloy C-276
B	Brass (Nickel-plated)

Inlet Pressure P1	
30	3000 psig
45	4500 psig

Outlet Pressure Range P2	
25	0~25 psig
50	0~50 psig
100	0~100 psig
250	0~250 psig
500	0~500 psig

Connection 1	
00	1/4" Female NPT
C_ _ _	CGA Number (USA)
DIN_	DIN Number (Germany)
Refer to page B-28 for cylinder connections, according to the specific gas type. Cylinder connections compliant to other standards are available upon request. Please contact FITOK for details.	

Connection 2	
B	With Gauge (psi/bar)
M	With Gauge (MPa)
P	Plug
Others refer to Connection 4	

Connection 3	
Same as Connection 2	

Connection 4	
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
30	Diaphragm Valve with 1/4" Female NPT
31	Diaphragm Valve with 1/4" Male NPT
32	Diaphragm Valve with 1/4" Tube Fitting
33	Diaphragm Valve with 3/8" Tube Fitting
34	Diaphragm Valve with 6 mm Tube Fitting
35	Diaphragm Valve with 8 mm Tube Fitting
Other connections are available upon request	

Connection 5	
R	Relief Valve
P	Plug
00	1/4" Female NPT

Connection 6	
Same as Connection 5	

Note: Most configurations are available.

Examples of part number:

- a. 2-port type (1 in, 1 out): FCR-16L-45-100-C580-00
- b. 3-port type (1 in, 2 out): FCR-1SS-30-500-C330-B-00
- c. 4-port type (2 in, 2 out): FCR-1B-45-250-00-B-B-34

# Cylinder Pressure Regulators

## FCR-1S Series Sensitive Diaphragm Regulators

### Features

- ⦿ Large diameter convoluted diaphragm to increase pressure sensitivity and minimize pressure drop
- ⦿ Fitted with captured vent as standard
- ⦿ 316L SS and Brass available for valve
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments
- ⦿ Die spring for stable outlet pressure
- ⦿ 20 µm filter installed at inlet

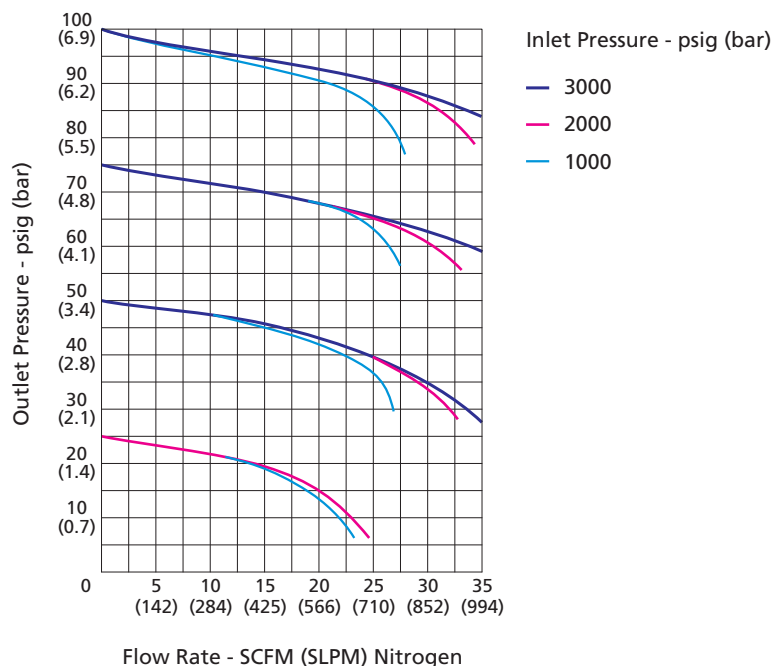


Model: FCR-1S6L-30-50-C580-B-B-00-R-P

### Technical Data

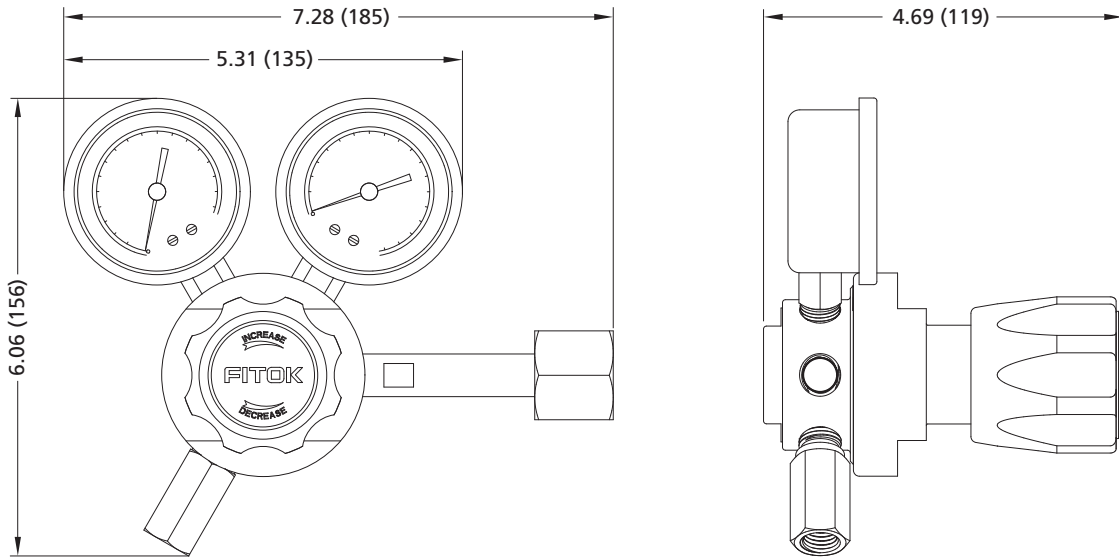
- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 3000 or 4500 psig
- ⦿ Outlet pressure range: 0~25, 0~50, 0~100, 0~150 or 0~200 psig
- ⦿ Material of the internal components:
  - Seat: PCTFE
  - Diaphragm: 316L
  - Filter: 316L
- ⦿ Temperature: -40°F~+165°F (-40°C~+74°C)
- ⦿ Leak rates:
  - Internal:  $\leq 1 \times 10^{-7}$  mbar-l/s helium
  - External:  $\leq 1 \times 10^{-9}$  mbar-l/s helium
- ⦿ Flow coefficient (Cv): 0.06
- ⦿ Weight (regulator only):  $\approx 2.87$  lbs (1.3 kg)
- ⦿ Body ports: 1/4" female NPT for inlet, outlet, gauge and relief valve

### Typical Flow Chart

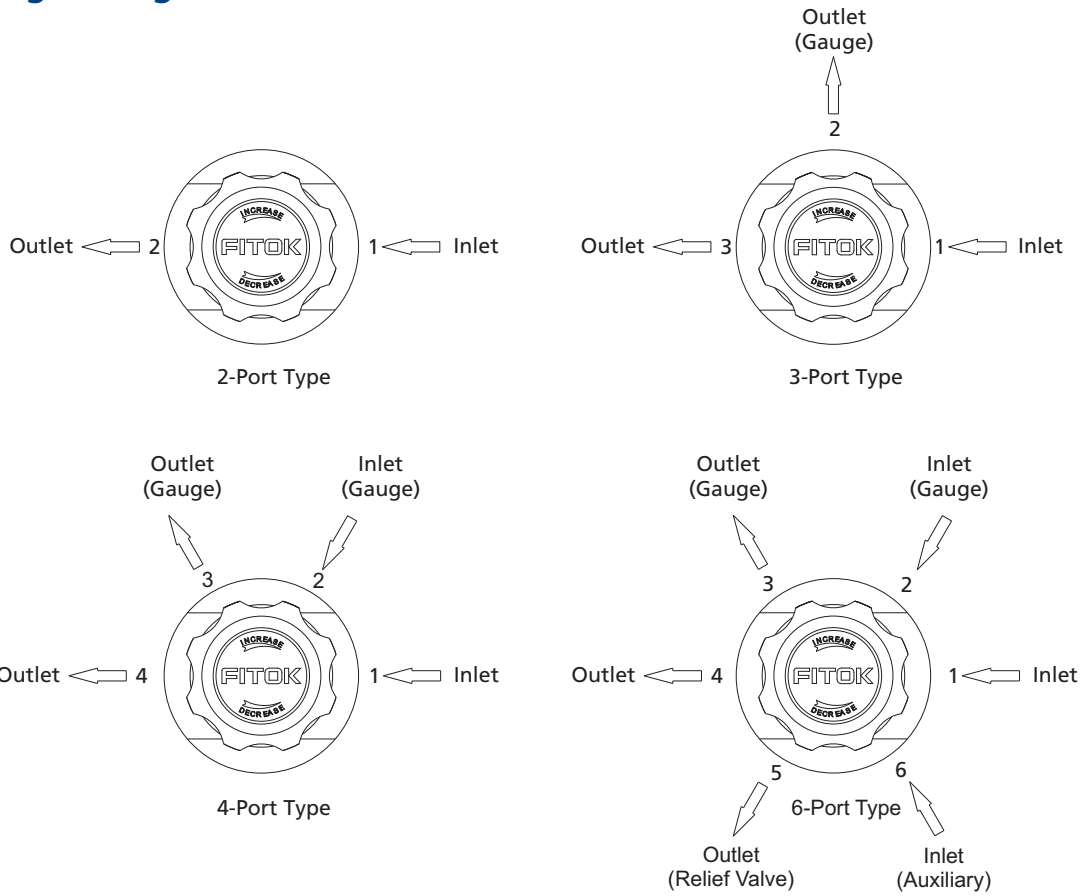


## Dimensions

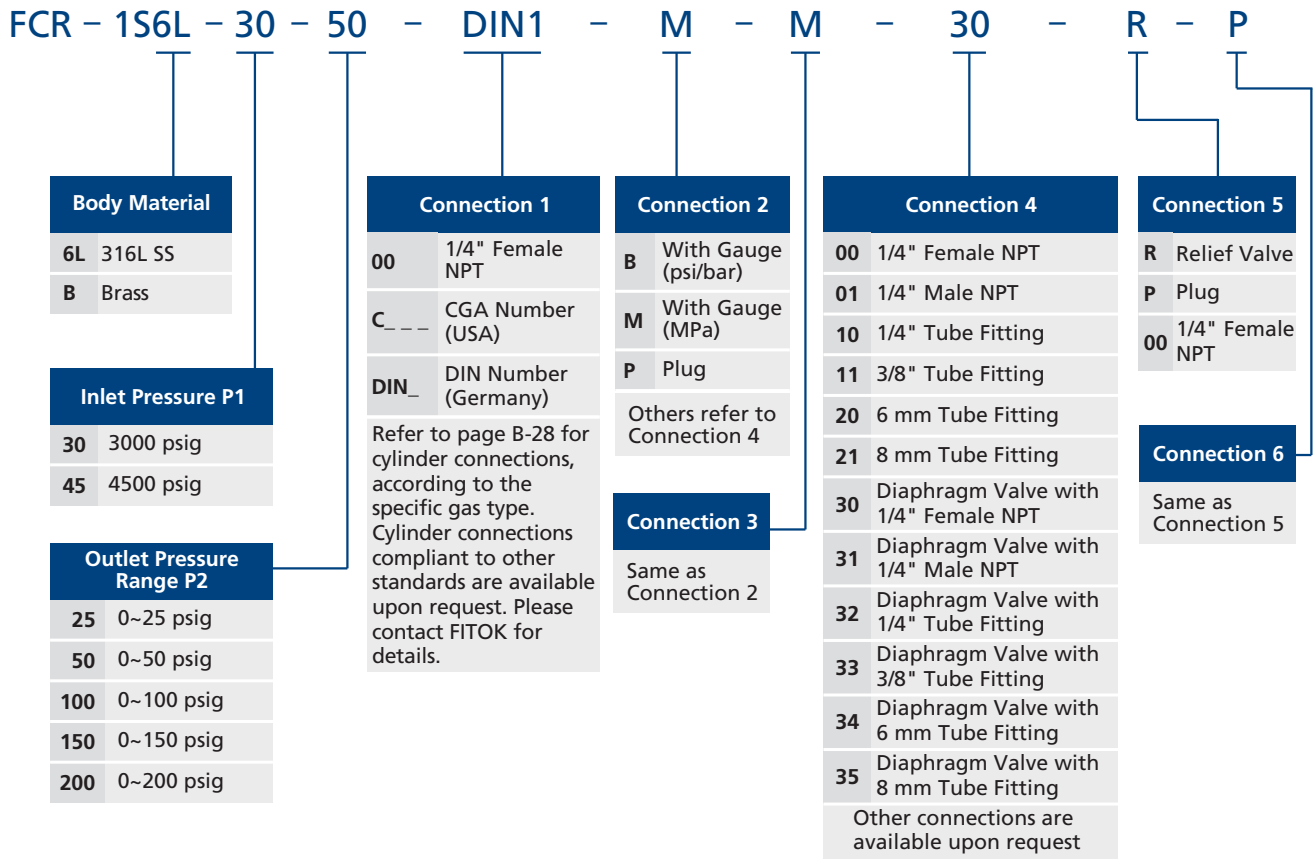
Dimensions, in inches (millimeters), are for reference only.



## Porting Configurations



## Part Number Description



Note: Most configurations are available.

Examples of part number:

- a. 2-port type (1 in, 1 out): FCR-1S6L-45-25-C580-00
- b. 3-port type (1 in, 2 out): FCR-1SB-30-150-C330-B-00
- c. 4-port type (2 in, 2 out): FCR-1SB-45-200-00-00-00-00

# Cylinder Pressure Regulators

## FCR-2 Series High Pressure Piston Regulators

### Features

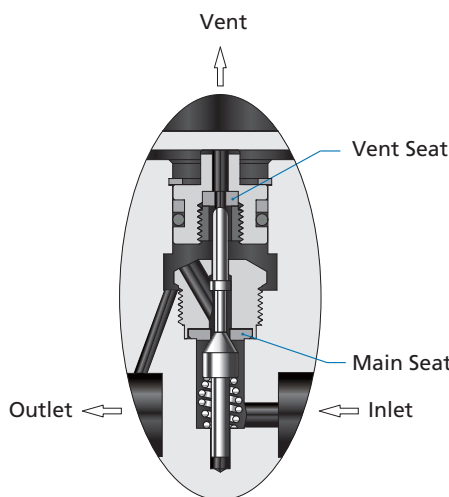
- ⦿ For high pressure applications
- ⦿ Robust piston-sensed design to ensure safety and reliability
- ⦿ 316L SS or Nickel-plated Brass body optional
- ⦿ For non-corrosive gases (due to seal limit)
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments
- ⦿ Venting model available
- ⦿ 20 µm filter installed at inlet



Model: FCR-26L-45-750-DIN8-B-B-00-P-P

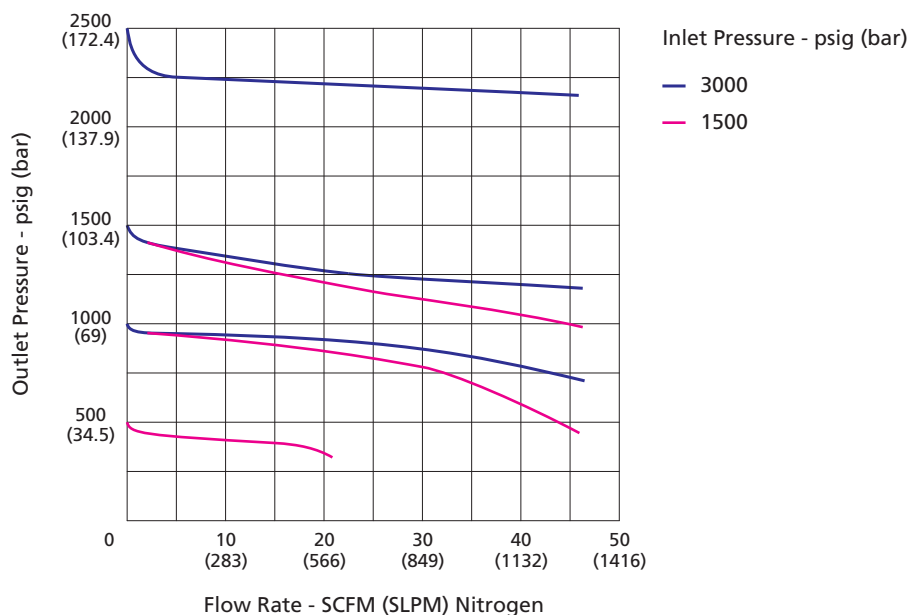
### Technical Data

- ⦿ Single-stage regulator
- ⦿ Maximum inlet pressure: 4500 or 6000 psig
- ⦿ Outlet pressure range: 0~750, 0~1500 or 0~2500 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



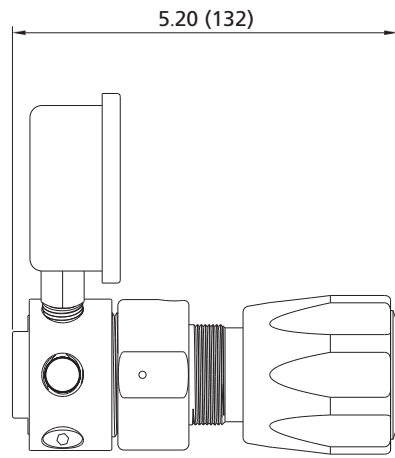
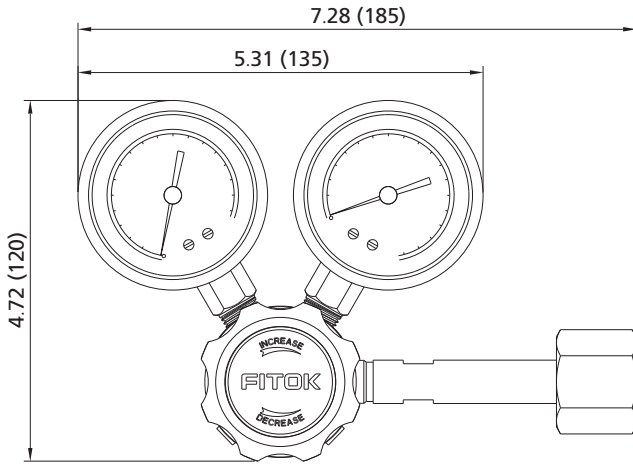
Construction Drawing with Venting Model

### Typical Flow Chart

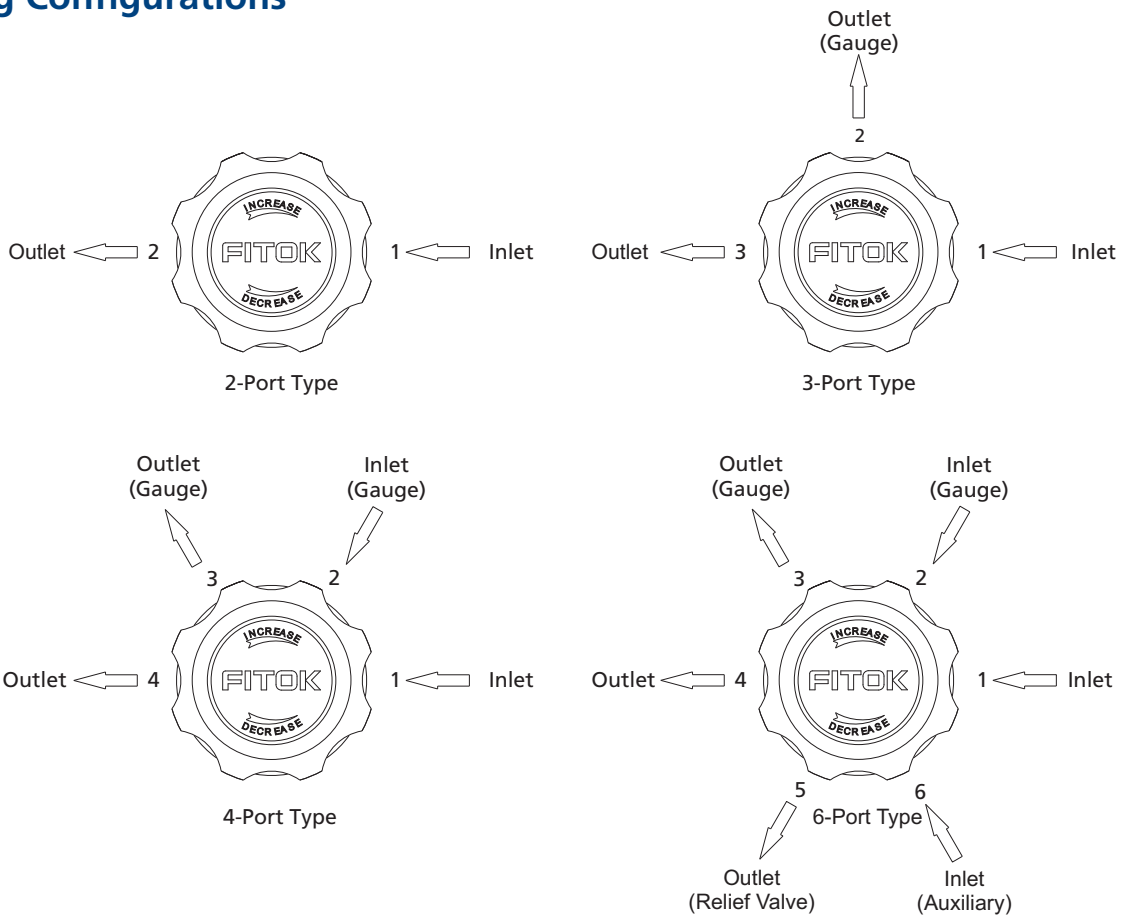


## Dimensions

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

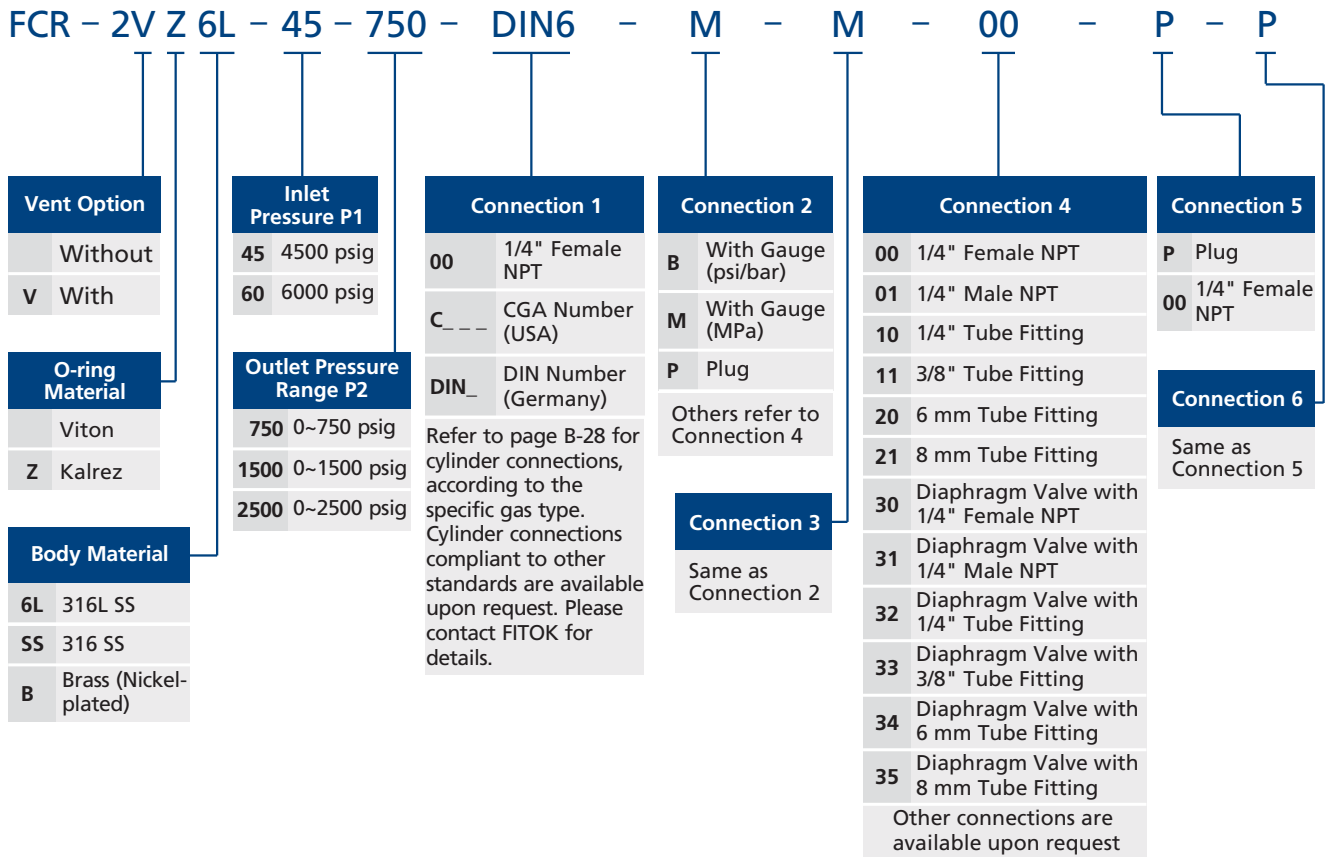


## Porting Configurations





## Part Number Description



Note: Most configurations are available.

Examples of part number:

- a. 2-port type (1 in, 1 out): FCR-26L-45-1500-C580-00
- b. 3-port type (1 in, 2 out): FCR-2VB-45-750-C660-00-00
- c. 4-port type (2 in, 2 out): FCR-2VZSS-60-2500-00-B-B-32

# Cylinder Pressure Regulators

## FCR-1D Series Dual-stage Diaphragm Regulators

### Features

- ⦿ Compact design
- ⦿ Dual-stage pressure reducing construction to provide accurate and stable pressure
- ⦿ 20 µm filter installed at inlet
- ⦿ With special cleaning and packaging, applicable to oxygen-enriched environments

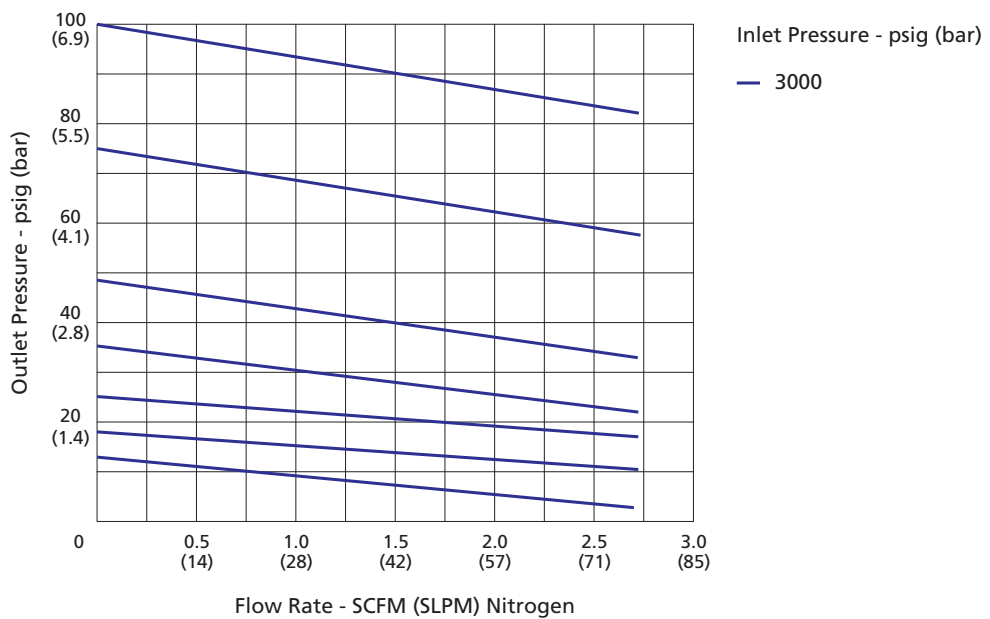


Model: FCR-1D6L-30-100-C660-B-B-00-R-P

### Technical Data

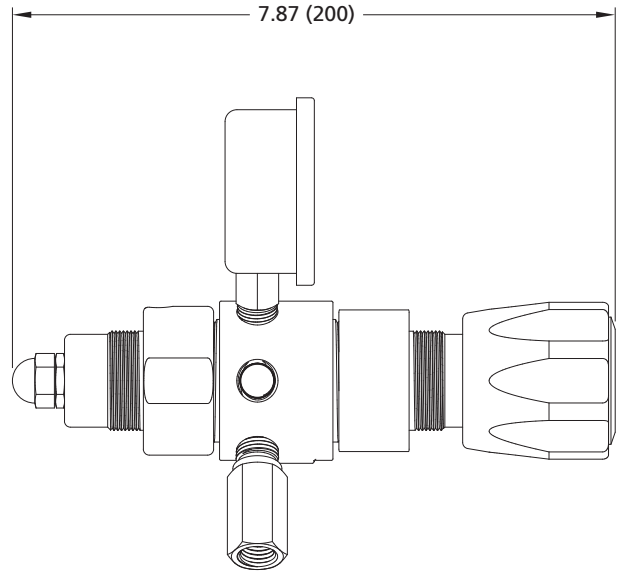
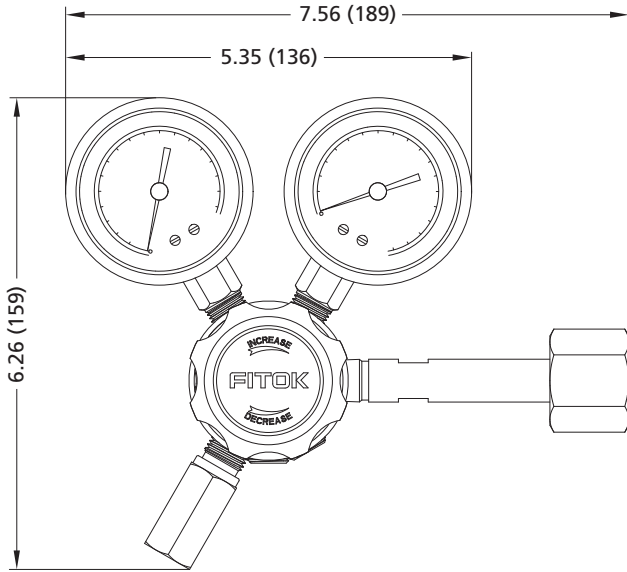
- ⦿ Maximum inlet pressure: 3000 or 4500 psig
- ⦿ 1st stage outlet pressure range: 480~500 psig  
2nd stage outlet pressure range: 0~25, 0~50, 0~100, 0~150, 0~250 psig
- ⦿ Material of the internal components:  
Seat: PCTFE  
Diaphragm: Hastelloy  
Filter: 316L
- ⦿ Temperature: -40°F~+165°F (-40°C~+74°C)
- ⦿ 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): 0.05
- ⦿ Weight (regulator only):  $\approx 3.3$  lbs (1.5 kg)
- ⦿ Body ports: 1/4" female NPT for inlet, outlet, gauge and relief valve

### Typical Flow Chart

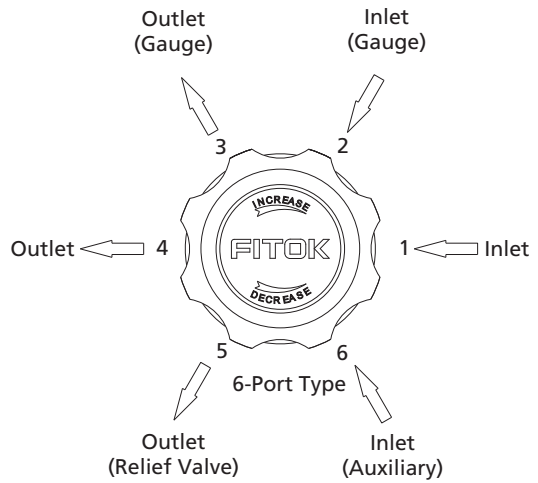
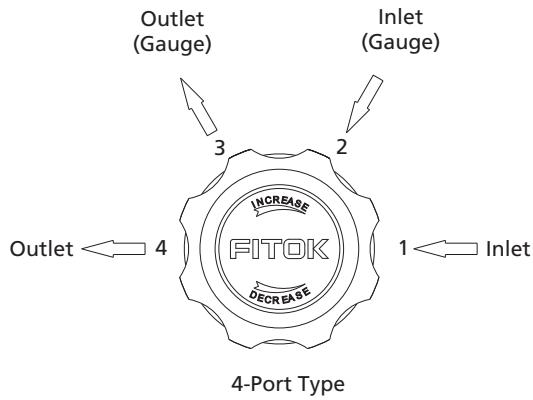


## Dimensions

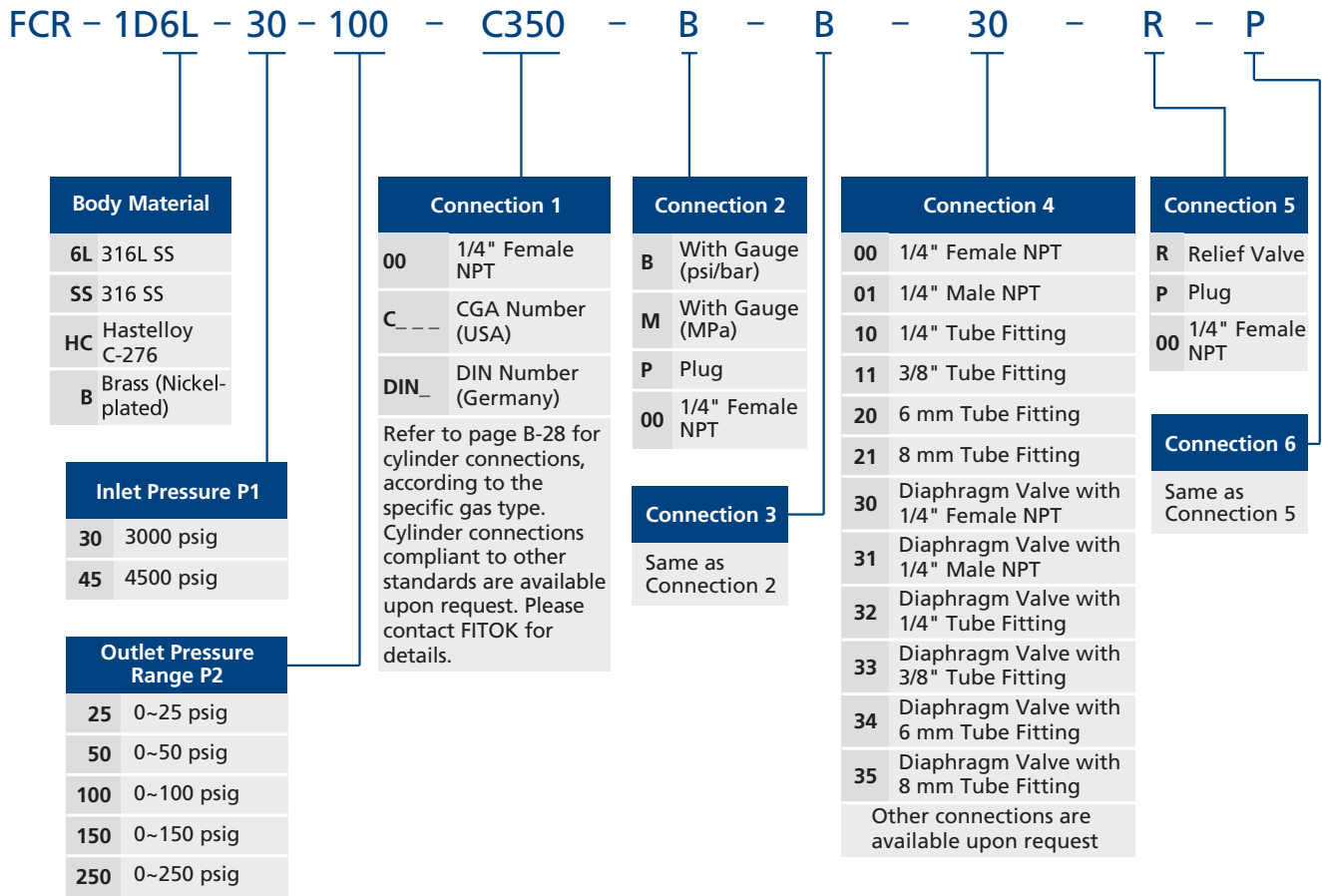
Dimensions, in inches (millimeters), are for reference only.



## Porting Configurations



## Part Number Description



Note: Most configurations are available.

Examples of part number:

a. 4-port type (2 in, 2 out): FCR-1DB-45-150-DIN1-B-B-30

b. 6-port type (3 in, 3 out): FCR-1DSS-30-50-C580-B-B-00-R-P