

# Single Stage Pressure Regulator

## VSR-210UC Series

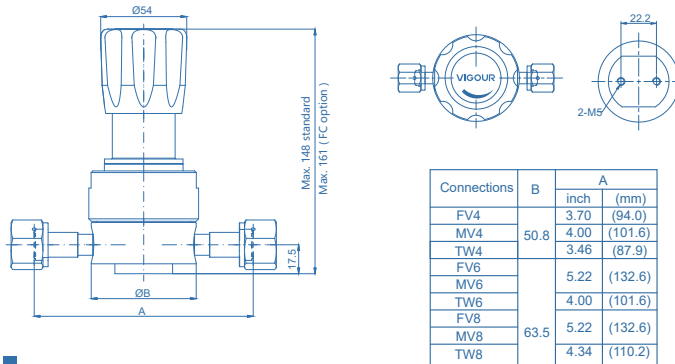
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### Product Feature

- Single-stage pressure regulator
- 10µin Ra average surface finish (10µin. Ra max, 7µin. Ra max. 5µin. Ra max optional)
- Minimized internal volume for short purge times
- All materials used meet ASTM A479 / A484 / A276 standards
- Internal connectors for pressure gauges
- Force compensation has wider flow capacity
- High control accuracy
- Metal-to-metal seal to atmosphere
- Simple outlet pressure limitation by hand-wheel
- 100% helium-leak-tested
- Tied-diaphragm design



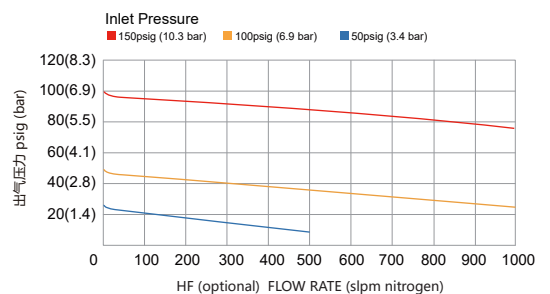
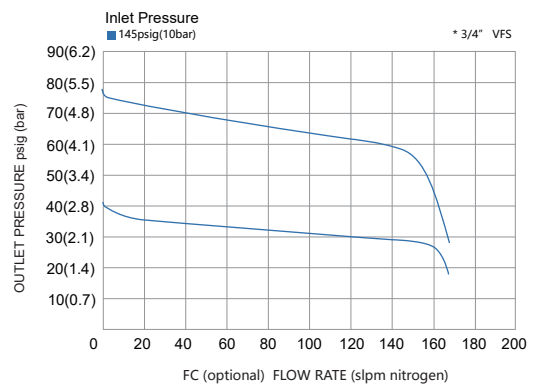
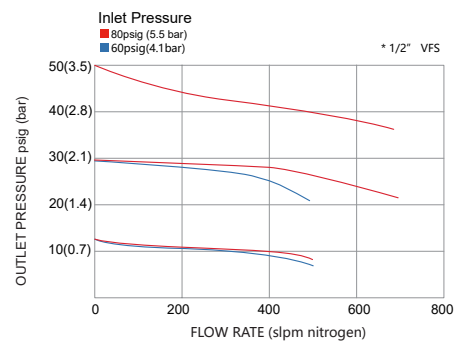
### Dimensions (mm)



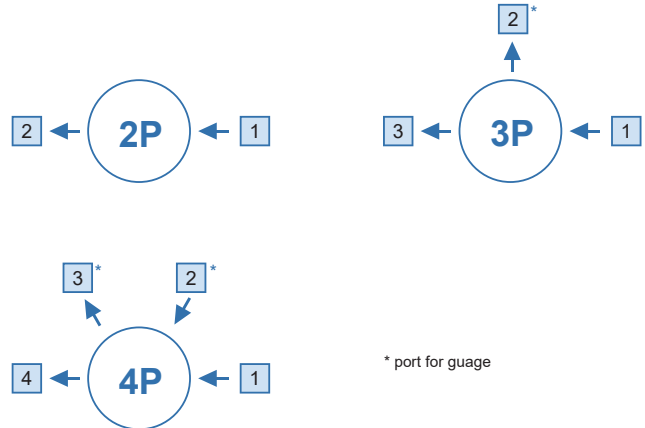
### Technical Data

Type:	single-stage
Inlet pressure P1:	Max. 3000 psig (200bar)
Outlet pressure P2:	Vac to 30/60/100/150/250 psig (2/4/7/10/17bar)
Surface finish:	10µin Ra average surface finish (10µin. Ra max, 7µin. Ra max, 5µin. Ra max optional)
Materials	
Body:	see ordering info
Valve seat:	PCTFE (VespeI® optional)
Diaphragm:	Hastelloy® C276
Inlets and Outlets:	1/4" / 3/8" / 1/2" or 3/4" VFS fitting or tube weld
Bonnet port:	1/8" NPT(F) (on panel mount option, bonnet port is not threaded)
Temperature range:	-40°F to +160°F (-40°C to +71°C)
Leak rate: (to atmosphere)	1x10 <sup>-9</sup> mbar-l/s He
(via seat)	1x10 <sup>-8</sup> mbar-l/s He
Flow capacity:	Cv=0.65, Cv=1.1 (HF option)
Supply pressure effect:	3.5 psig rise in delivery pressure per 100 psig source pressure drop 4.2 psig rise in delivery pressure per 100 psig source pressure drop (FC option)
Weight:	approx. 2.0kg (depending on connections or options)

### Flowchart



### Ordering Information



\* port for gauge

### Inlet/outlet Connection

FV4: 1/4" VFS female  
MV4: 1/4" VFS male  
FV6: 3/8" VFS female  
MV6: 3/8" VFS male

FV8: 1/2" VFS female  
MV8: 1/2" VFS male  
FV12: 3/4" VFS female  
MV12: 3/4" VFS male

IFV4: 1/4" (gauge female threaded connection machined on the body)  
TW4: 1/4" tube weld  
TW6: 3/8" tube weld

TW8: 1/2" tube weld  
TW12: 3/4" tube weld  
P: gauge (1/4" VFS fitting)  
IP: gauge (IFV4 fitting)

\* Other connection standard, consult factory

### Port Selection

**VSR - 210UCPSLV-117-V4-4P- 1 - 2 - 3 - 4 - R5-HF-FC-VS-P**

#### Installation

None: bottom mount  
P: panel mount

\* Panel hole  $\Phi$ 37mm

#### Materials

SLV: 316L secondary remelt body  
316L poppet and nozzle  
SH: 316L secondary remelt body  
Hastelloy® C22 internals  
SHP: 316L secondary remelt body  
Hastelloy® C22 poppet  
316L nozzle

\*All options diaphragm material is Hastelloy® C276

#### Inlet Pressure

20: 300 psig  
117: 1700 psig (standard)  
200: 3000 psig\*

\* Not available with outlet pressure:  
V2 / V4 / 2 / 4

#### Port Config

2P: 2 ports  
3P: 3 ports  
4P: 4 ports

#### Outlet Pressure

V2: Vac to 30 psig\*  
V4: Vac to 60 psig\*  
V7: Vac to 100 psig\*  
V10: Vac to 150 psig\*  
2: to 30 psig  
4: to 60 psig  
7: to 100 psig  
10: to 150 psig  
P17: Preset to 250 psig\*

\* 250 psig outlet pressure preset at  
800 psig (55 bar) inlet pressure.

\* With the V option, the negative pressure  
can not be adjusted, only the pressure  
gauge shows the negative pressure.

#### Process Specification

P: VS001A

\* For details, please refer to the appendix.

#### Valve seat Option

None: PCTFE  
VS: Vespel®

#### Option

FC: Force compensation

\* Force compensation feature inlet  
pressure Max. 300 psig

\* FC option is available with  
connection size 1/2 or 3/4 inch

\* Not available with outlet pressure:  
V2 / V4 / 2 / 4

\* connection size 3/4 inch  
pressure Max. 2400 psig

#### Cv Option

None: Cv=0.65  
HF: Cv=1.1

#### Surface Finish

None: 10  $\mu$ m. Ra max  
R7: 7  $\mu$ m. Ra max  
R5: 5  $\mu$ m. Ra max

### Ordering Example

**VSR - 210UCSLV - 117 - V4 - 2P - MV4 - FV4**

1 - 2

2



1

