

VIGOUR

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HIGH PURITY GAS SYSTEM

**Gas
Control
Solutions**

Table Of Contents

Regulator Selection Guide	
Cylinder Pressure Regulator	
Panel & Line Regulator	
Back Pressure Regulator	
Calibration Gas Regulator	
High pressure self - venting Regulator	
Hydrogen Regulator	
Precision Pressure Regulator	
Pilot Operated Pressure Regulator	
Pressure Control Panel	
Gas Terminal	
Extension & Mounting Station	
Purge Assemblie	
Diaphragm Valve / Ball Valve / Needle Valve / Check Valve / Relief Valve	
Alarm System	
Accessorie	
Quick Connector & Cylinder Connection & Dielectric Connection	
Tube Fitting	
Material Compatibility	
Cross-section Drawing	

Regulator Selection Guide

SERIES	Diaphragm regulator	Piston regulator	Dual stage regulator	Pressure control panel	Double-sided pressure control panel	Wall-mounting generator backup panel	Calibration regulator	Back Pressure regulator	Max inlet Pressure (bar)	Pressure control range psig(bar)															
										0 to.....															
										psi bar	15 1	30 2	43 3	60 4	105 7	120 8	145 10	300 20	362 25						
Cylinder Pressure Regulator																									
VSR-1EM	✓								250			✓		✓			✓								
VSR-16M		✓							300								✓	✓							
VSR-1E	✓												✓		✓	✓		✓			✓		✓		
VSR-2E	✓	✓*											✓		✓	✓		✓			✓		✓		
VSR-3	✓	✓*											✓		✓	✓	✓								
VSR-6E		✓																							
VSR-11E			✓										✓		✓	✓	✓								
VSR-11EH			✓																						
Panel & Line Regulator																									
VSR-1ML/1MLP	✓								100			✓		✓		✓	✓	✓							
VSR-1EL/1ELP	✓												✓		✓	✓	✓			✓			✓		
VSR-2EL/2ELP	✓	✓*											✓		✓	✓	✓			✓			✓		
VSR-3L/3LP	✓	✓*											✓		✓	✓	✓								
VSR-4L	✓								35			✓		✓		✓	✓	✓							
VSR-6EL/6ELP		✓							300																
VSR-10LS	✓								20			✓		✓	✓										
VSR-12L/12HL	✓								35		✓	✓		✓		✓	✓	✓							
VSR-2EPH	✓								40		✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓
VSR-3PH	✓								40			✓		✓		✓	✓								
VSR-4PH	✓								35			✓		✓		✓	✓	✓							
VSR-10PH	✓								20			✓		✓	✓		✓								
VSR-3F	✓								40			✓		✓		✓	✓			✓			✓		
VSR-4F	✓								35			✓		✓		✓	✓	✓							
VSR-10F	✓								20			✓		✓	✓		✓								
Back Pressure Regulator																									
VSR-51								✓	10																
VSR-52								✓	50																
VSR-53								✓	300																
Calibration Gas Regulator																									
VSR-15							✓		200			✓		✓											
VSR-19							✓																		
High Pressure Self-venting Regulator																									
VSR-7		✓							300									✓							
VSR-8		✓							400/700																
VSR-31		✓							300				✓		✓	✓	✓								
VSR-36		✓							300								✓								
Hydrogen Pressure Regulator																									
VSR-9		✓*							350/700						✓	✓	✓								
VSR-92		✓							350/700			✓		✓		✓	✓								
Pilot Operated Pressure Regulators																									
VSR-60	✓								400																
VSR-61	✓								200/400				✓				✓	✓	✓						
Pressure Control Panel																									
VSP-1				✓					300			✓		✓			✓	✓							
VSP-1E				✓									✓		✓			✓	✓						
VSP-1H				✓									✓		✓			✓	✓						
VSP-1DE				✓									✓		✓			✓	✓						
VSP-2					✓								✓		✓			✓	✓						
VSP-2E					✓								✓		✓			✓	✓						
VSP-3AE					✓								✓		✓			✓	✓						
VSP-6A					✓								✓		✓			✓	✓						
VSP-8AE					✓								✓		✓			✓	✓						
VSP-11E					✓								✓		✓			✓	✓						
VSP-36					✓				245/300									✓							
VSP-5A					✓				300			✓		✓			✓	✓							
Generator Back-up Panel																									
VSP-B						✓			300																
Gas Terminal																									
VSR-1ET	✓								100			✓		✓			✓	✓							
VSR-2T	✓												✓		✓			✓	✓						
VSR-1ETG	✓												✓		✓			✓	✓						
VSR-1ETG-BV	✓								100			✓		✓			✓	✓							
VSR-2TG	✓								300			✓		✓			✓	✓							
VSR-3T	✓								60			✓		✓			✓	✓							
VSR-3TG	✓												✓		✓			✓	✓						
VSR-4T	✓												✓		✓			✓	✓						
VSR-5T	✓												✓		✓			✓	✓						

* Outlet Pressure more than 20bar

[illegible]

Cylinder Pressure Regulator

VSR-1EM Series

Product Features

- Cylinder pressure regulator with lightweight materials
- Brass chrome plated or aluminium body and aluminium bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and aluminium bonnet for corrosive gases
- Accurate and stable pressure control
- Minimal internal volume allows for rapid purging and carry-over
- Various porting configurations are available
- Tested for use with oxygen

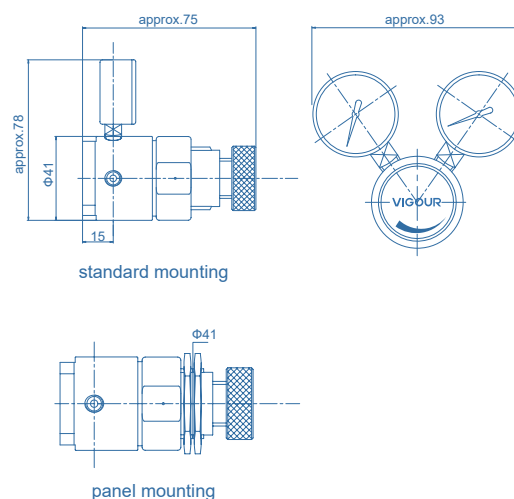
Typical Applications

- Analyzers
- Lecture bottles
- Sampling systems

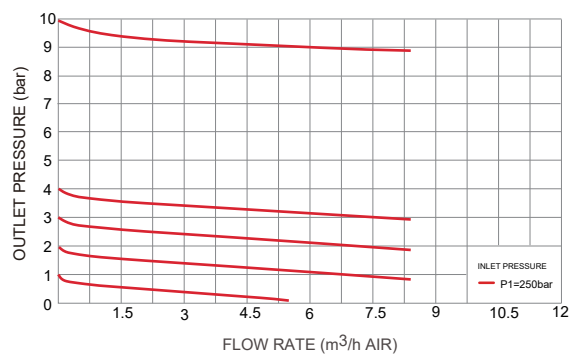
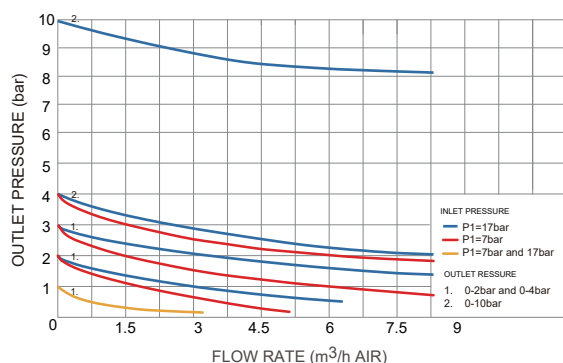
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 250 bar
Outlet pressure P2:	2/4/10 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/8", 1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁶ mbar l/s He
(via seat)	Bubble-tight
Flow capacity:	Cv=0.06
Weight:	0.47kg

Dimensions (mm)



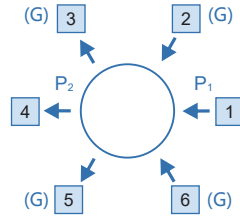
Flow Chart



Cylinder Pressure Regulator

VSR-1EM Series

Ordering Information



G: Gauge port is 1/8" NPT(F)

Inlets / Outlets

DIN: Germany
CGA: USA
BSP: British
GB: China
UNI: Italy

NF: French
JIS: Japan
F2: 1/8" NPT(F)
F4: 1/4" NPT(F)
M4: 1/4" NPT(M)

02: 1/8" Tube fitting
04: 1/4" Tube fitting
06: 3/8" Tube fitting
6M: 6mm Tube fitting
8M: 8mm Tube fitting

TW6M: 6mm Weld tube
TW8M: 8mm Weld tube
P: Gauge (Psig/bar)
R: Relief valve
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 1EMP S - 250 - 10 - 1 - 2 - 3 - 4 - 5 - 6 - N2

Options

None: Standard mounting
P: Panel mounting

Body Material

S: 316L
C: Chrome plated brass
A: Aluminum

Inlet Pressure P1

40: 40 bar
100: 100 bar
200: 200 bar
250: 250 bar

Type of Gas

Please specify type of gas

Outlet Pressure P2

2: to 2 bar
4: to 4 bar
10: to 10 bar

Ordering Example

Example: VSR - 1EMS - 250 - 10 - CGA - P - P - 04 - B - B - O2

1 - 2 - 3 - 4 - 5 - 6



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Cylinder Pressure Regulator

VSR-16M Series

Product Feature

- Lightweight piston pressure reducer
- The body is 6061 aluminum with anodized surface
- Compact design, weight only 225g
- Up to four 1/4 "NPT, or SAE threaded connectors
- Stainless steel optional
- Tested for use with oxygen

Typical Applications

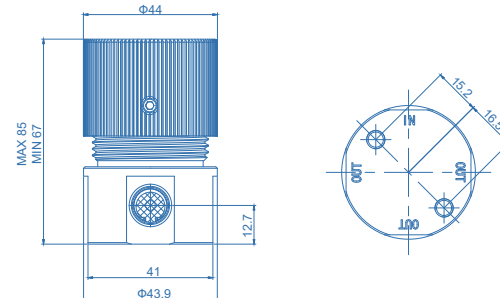
- Corollary Equipment
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- Service & Test Equipment



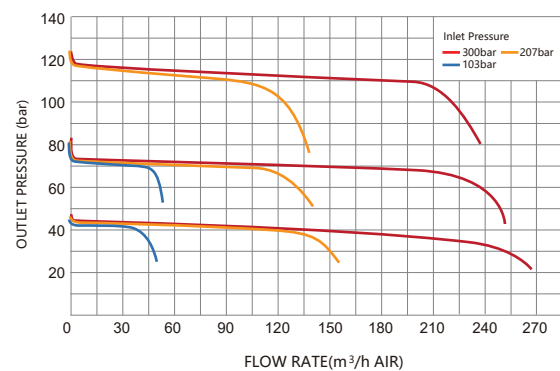
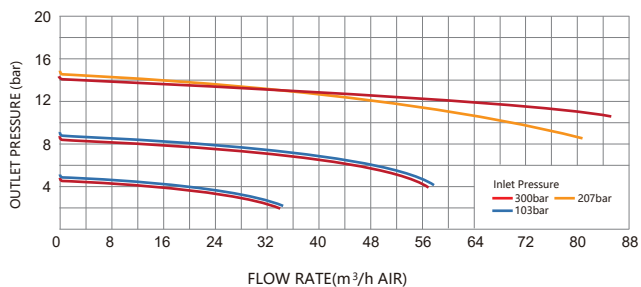
Technical Data

Type:	Regulators
Inlet Pressure:	Max. 300 bar
Materials	
Body:	See ordering info
Valve Seat:	PCTFE / PEEK (Vespel® Option)
O-ring:	Viton®
Inlets/Outlets:	1/4"NPT(F)
Leak Rate:	Bubble-tight
Flow Capacity:	Cv=0.06
Weight:	0.2kg

Dimensions (mm)

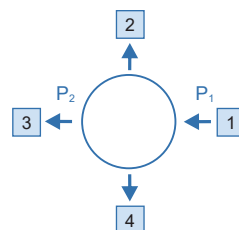


Flow Chart



Cylinder Pressure Regulator VSR-16M Series

Ordering Information



Inlets / Outlets

F4: 1/4"NPT(F)

P: Gauge (Psig/bar)

B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 16MP - S - 300 - 150 - 1 - 2 - 3 - 4 - V

Type

None: Standard mounting
P: Panel mounting

Body Material

None: Aluminum
S: 316L

Inlet Pressure P₁

300: 300 bar

Valve Seat

None: PCTFE
P: PEEK
V: Vespe[®]

Outlet Pressure P₂

100: to 100 bar
150: to 150 bar

Ordering Example

Example: VSR - 16MP - 300 - 150 - F4 - P - P - F4 - V

1 2 3 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Cylinder Pressure Regulator

VSR-1E Series

Product Features

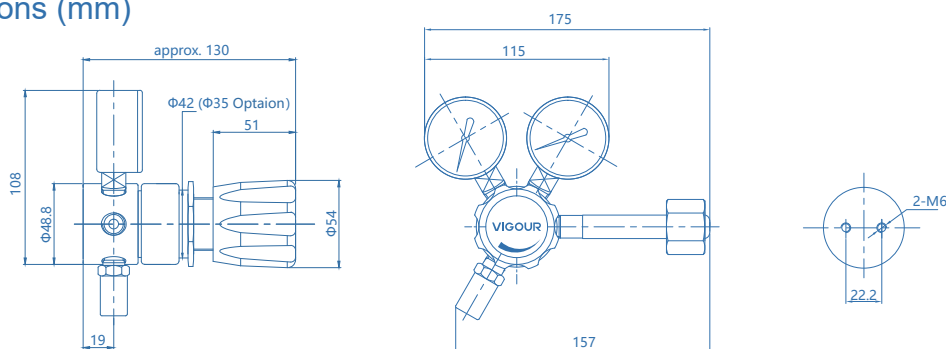
- Cylinder pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- 6 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Tested for use with oxygen



Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

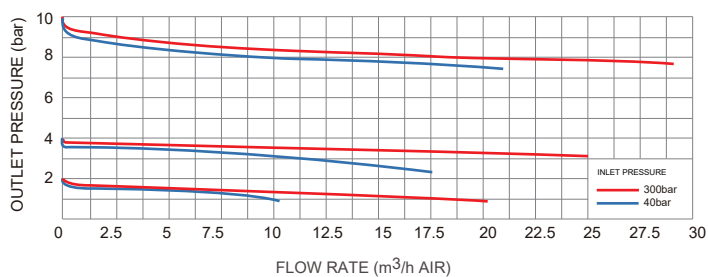
Dimensions (mm)



Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	VAC/2/4/8/10/20 bar
Materials	
Body regulator, Relief valve:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/4" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.07
Weight:	1.30kg

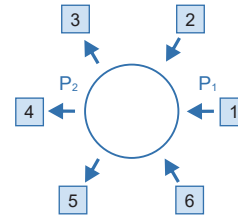
Flow Chart



Cylinder Pressure Regulator

VSR-1E Series

Ordering Information



Inlets / Outlets

DIN: Germany
CGA: USA
BSP: British
GB: China
UNI: Italy

NF: French
JIS: Japan
F4: 1/4" NPT(F)
M4: 1/4" NPT(M)
O2: 1/8" Tube fitting

O4: 1/4" Tube fitting
O6: 3/8" Tube fitting
6M: 6mm Tube fitting
8M: 8mm Tube fitting
TW6M: 6mm Weld tube

TW8M: 8mm Weld tube
P: Gauge (Psig/bar)
R: Relief valve
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 1EP S- 200- 20 - 1 - 2 - 3 - 4 - 5 - 6 - N2

Options

None: Standard mounting
P: Panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar
100: 100 bar
200: 200 bar
300: 300 bar

Outlet Pressure P₂

2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar
V2: -1bar to 2bar
V4: -1bar to 4bar
V10: -1bar to 10bar
V20: -1bar to 20bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 1EC - 200 - 10 - CGA - P - P - F4 - B - B - O₂



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Cylinder Pressure Regulator

VSR-2E Series

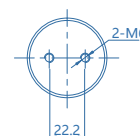
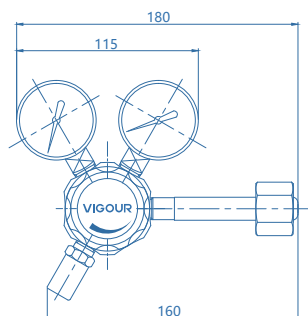
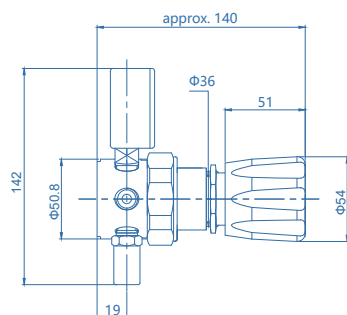
Product Features

- Cylinder pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- 6 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filter
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

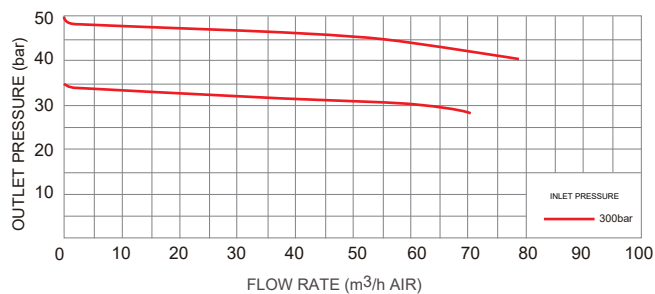
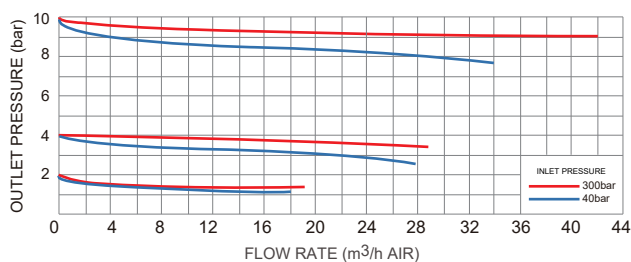
Dimensions (mm)



Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	VAC/2/4/8/10/20/35/50 bar
Materials	
Body regulator, Relief valve:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/4" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.08
Weight:	1.25kg

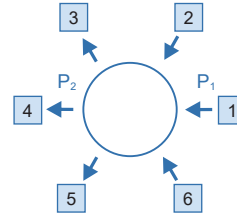
Flow Chart



Cylinder Pressure Regulator

VSR-2E Series

Ordering Information



Inlets / Outlets

DIN: Germany
CGA: USA
BSP: British
GB: China
UNI: Italy

NF: French
JIS: Japan
F4: 1/4" NPT(F)
M4: 1/4" NPT(M)
O2: 1/8" Tube fitting

04: 1/4" Tube fitting
06: 3/8" Tube fitting
6M: 6mm Tube fitting
8M: 8mm Tube fitting
TW6M: 6mm Weld tube

TW8M: 8mm Weld tube
P: Gauge (Psig/bar)
R: Relief valve
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 2EP S - 200 - 20 - 1 - 2 - 3 - 4 - 5 - 6 - N₂

Options

None: Standard mounting
P: Panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar
100: 100 bar
200: 200 bar
300: 300 bar

Outlet Pressure P₂

2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar
35: to 35 bar
50: to 50 bar
V2: -1 bar to 2 bar
V4: -1 bar to 4 bar
V10: -1 bar to 10 bar
V20: -1 bar to 20 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 2EC - 200 - 10 - CGA - P - P - F4 - B - B - O₂

1 - 2 - 3 - 4 - 5 - 6



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Cylinder Pressure Regulator

VSR-3 Series

Product Features

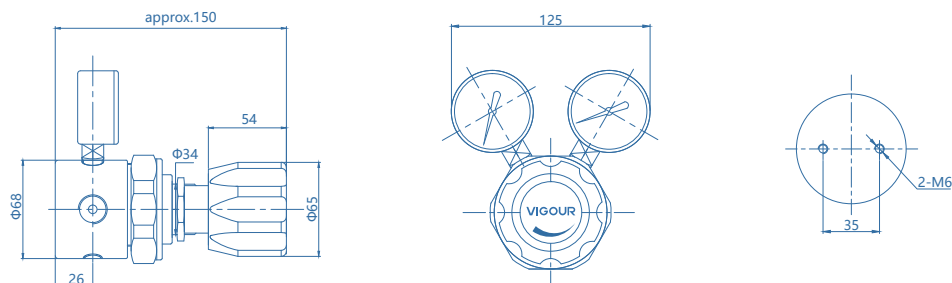
- Pressure regulator, special design for manifold application
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- 6 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filter
- Tested for use with oxygen



Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

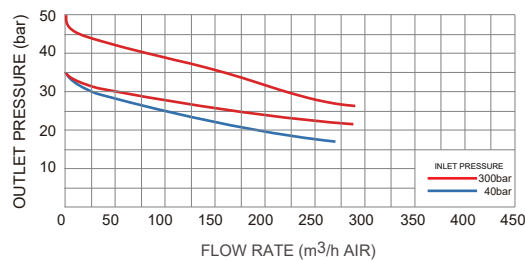
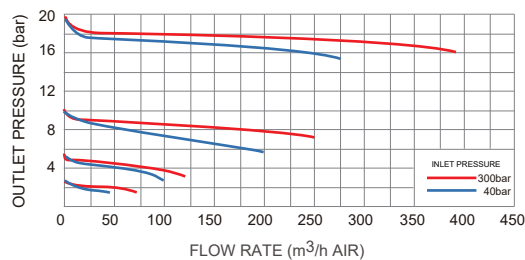
Dimensions (mm)



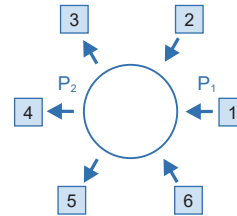
Technical Data

Type:	single-stage
Inlet pressure P ₁ :	max. 300 bar
Outlet pressure P ₂ :	2/4/8/10/20/35/50 bar
Materials	
Body regulator, Relief valve:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	see ordering info
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=1.0
Weight:	2.7kg

Flow Chart



Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)
F6: 3/8" NPT(F)
F8: 1/2" NPT(F)
F12: 3/4" NPT(F)

08: 1/2" Tube fitting
12: 3/4" Tube fitting
TW12M: 12mm Weld tube
TW20M: 20mm Weld tube

P: Gauge (Psig/bar)
R: Relief valve
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 3P S - 200 - 20 - 1 - 2 - 3 - 4 - 5 - 6 - N₂

Options

None: Standard mounting
P: Panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar
100: 100 bar
200: 200 bar
300: 300 bar

Outlet Pressure P₂

2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar
35: to 35 bar
50: to 50 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 3S - 200 - 20 - F8 - P - P - F8 - B - B - N₂

1 - 2 - 3 - 4 - 5 - 6



* For mixed gases, please specify cylinder connection standard and thread when ordering..

Cylinder Pressure Regulator

VSR-6E Series

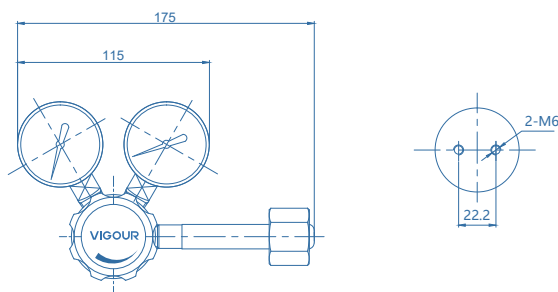
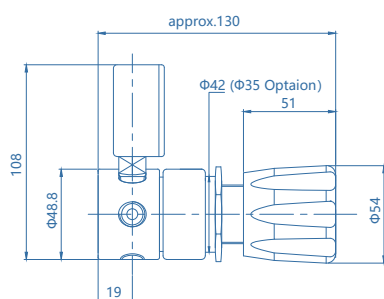
Product Features

- Diaphragm design high pressure piston regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- 6 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filter
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

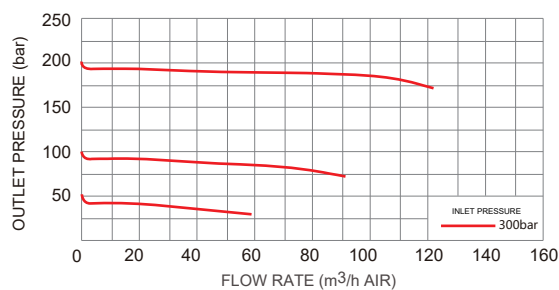
Dimensions (mm)



Technical Data

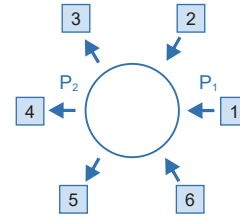
Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	50/100/200 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
Bonnet:	see ordering info
Diaphragm:	Hastelloy® C276
Filter:	SS 316L
O-ring:	Viton®(FKM)
(option)	Kalrez®(FFKM)
Inlets and Outlets:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.15
Weight:	1.20kg

Flow Chart



Cylinder Pressure Regulator VSR-6E Series

Ordering Information



Inlets / Outlets

DIN: Germany
CGA: USA
BSP: British
GB: China
UNI: Italy

NF: French
JIS: Japan
F4: 1/4" NPT(F)
M4: 1/4" NPT(M)
O2: 1/8" Tube fitting

04: 1/4" Tube fitting
06: 3/8" Tube fitting
6M: 6mm Tube fitting
8M: 8mm Tube fitting

TW6M: 6mm Weld tube
TW8M: 8mm Weld tube
P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 6EP S - 300 - 100 - 1 - 2 - 3 - 4 - 5 - 6 - N₂

Options

None: Standard mounting
P: Panel mounting

Body Material

S: 316L
C: Chrome plated brass

Inlet Pressure P₁

200: 200 bar
300: 300 bar

Outlet Pressure P₂

50: to 50 bar
100: to 100 bar
200: to 200 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 6EC - 200 - 100 - CGA - P - P - F4 - B - B - O₂

1 - 2 - 3 - 4 - 5 - 6



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Cylinder Pressure Regulator

VSR-6H Series

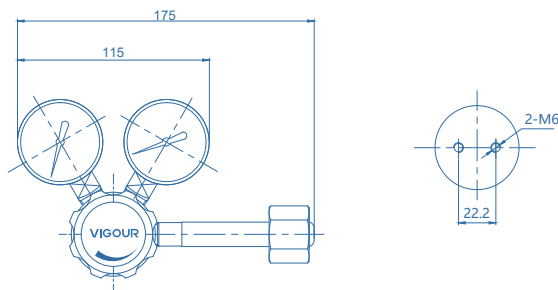
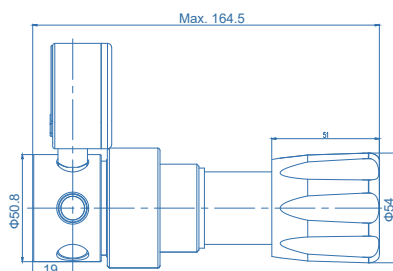
Product Features

- piston design high pressure regulator
- Standard equipped with self-pressure relief device
- Stainless steel 316L body and bonnet for corrosive gases
- 6 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filter
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

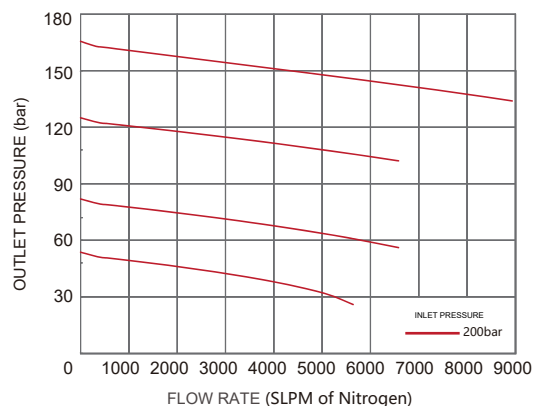
Dimensions (mm)



Technical Data

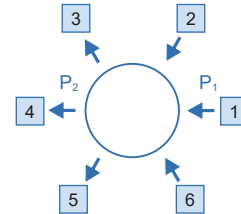
Type:	single-stage
Inlet pressure P ₁ :	max. 300 bar
Outlet pressure P ₂ :	35/50/100/200 bar
Materials	
Body regulator:	316L
Valve seat:	PCTFE
Bonnet:	316L
Filter:	SS 316L
O-ring:	Viton®(FKM)
Inlets and Outlets:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.15
Weight:	1.20kg

Flow Chart



Cylinder Pressure Regulator VSR-6H Series

Ordering Information



Inlets / Outlets

DIN: Germany
CGA: USA
BSP: British
GB: China
UNI: Italy

NF: French
JIS: Japan
F4: 1/4" NPT(F)
M4: 1/4" NPT(M)
O2: 1/8" Tube fitting

04: 1/4" Tube fitting
06: 3/8" Tube fitting
6M: 6mm Tube fitting
8M: 8mm Tube fitting

TW6M: 6mm Weld tube
TW8M: 8mm Weld tube
P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 6HP S - 300 - 100 - 1 - 2 - 3 - 4 - 5 - 6 - N₂ - X

Options

None: Standard mounting
P: Panel mounting

Body Material

S: 316L

Inlet Pressure P₁

200: 200 bar
300: 300 bar

Outlet Pressure P₂

35: to 35 bar
50: to 50 bar
100: to 100 bar
200: to 200 bar

Option

None: Self-venting
X: No Self-venting

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 6HS - 200 - 100 - CGA - P - P - F4 - B - B - O₂

1 - 2 - 3 - 4 - 5 - 6



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Cylinder Pressure Regulator

VSR-11E Series

Product Features

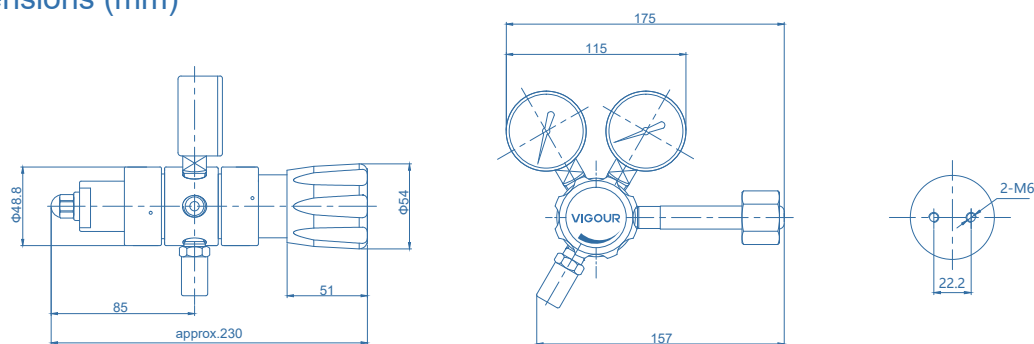
- Dual stage pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Stable outlet pressure
- Inlet filter
- Simple outlet pressure limitation by handwheel
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



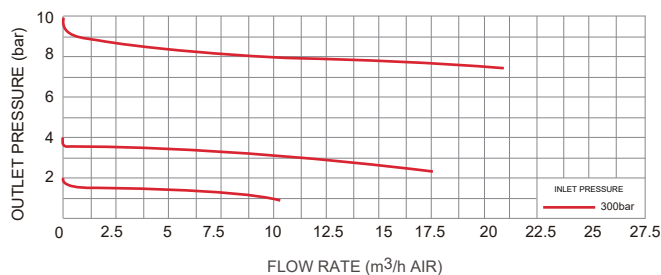
Dimensions (mm)



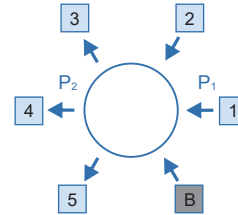
Technical Data

Type:	Dual-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/8/10/20 bar
Materials	
Body regulator, Relief valve:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
Filter:	SS 316L
Inlets and Outlets:	1/4" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.07
Weight:	2.10kg

Flow Chart



Ordering Information



Inlets / Outlets

DIN: Germany
CGA: USA
BSP: British
GB: China
UNI: Italy

NF: French
JIS: Japan
F4: 1/4" NPT(F)
M4: 1/4" NPT(M)
02: 1/8" Tube fitting

04: 1/4" Tube fitting
06: 3/8" Tube fitting
6M: 6mm Tube fitting
8M: 8mm Tube fitting
P: Gauge (Psig/bar)

R: Relief valve
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 11ES - 200 - 10 - 1 - 2 - 3 - 4 - 5 - B - N2

Body Material

S: 316L
C: Chrome plated brass

Inlet Pressure P₁

100: 100 bar
200: 200 bar
300: 300 bar

Outlet Pressure P₂

2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 11EC - 200 - 10 - F4 - P - P - F4 - B - B - N2

1 2 3 4 5 6



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Cylinder Pressure Regulator

VSR-11EH Series

Product Features

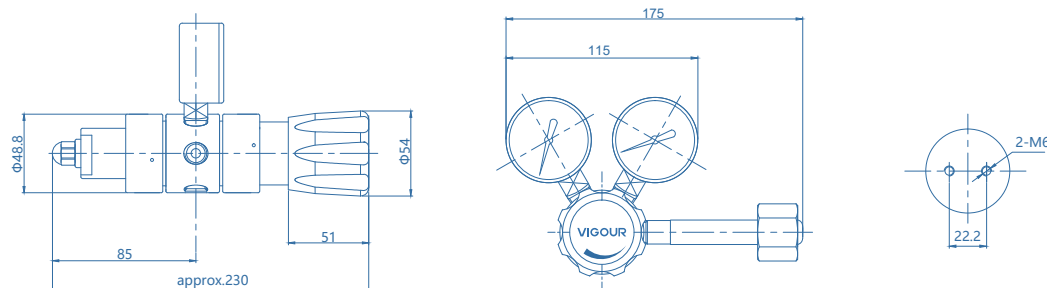
- Dual stage pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Stable outlet pressure
- Inlet filter
- Simple outlet pressure limitation by handwheel
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



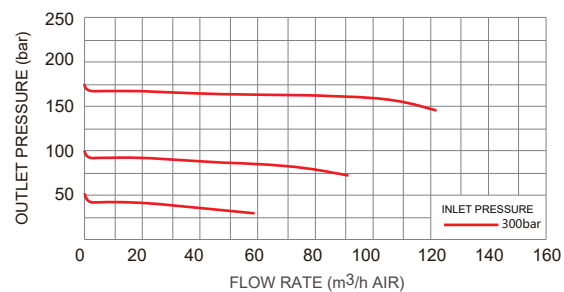
Dimensions (mm)



Technical Data

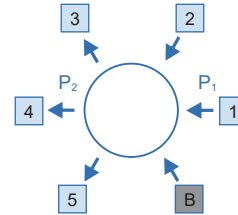
Type:	Dual-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	50/100/200 bar
Materials	
Body regulator, Relief valve:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
Filter:	SS 316L
Inlets and Outlets:	1/4" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.15
Weight:	2.10kg

Flow Chart



Cylinder Pressure Regulator VSR-11EH Series

Ordering Information



Inlets / Outlets

DIN: Germany
CGA: USA
BSP: British
GB: China

UNI: Italy
NF: French
JIS: Japan
F4: 1/4" NPT(F)

M4: 1/4" NPT(M)
02: 1/8" Tube fitting
04: 1/4" Tube fitting
06: 3/8" Tube fitting

6M: 6mm Tube fitting
8M: 8mm Tube fitting
P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 11EHS - 200 - 50 - 1 - 2 - 3 - 4 - 5 - B - N₂

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

100: 100 bar
200: 200 bar
300: 300 bar

Outlet Pressure P₂

50: 50 bar
100: 100 bar
200: 200 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 11EHC - 200 - 50 - F4 - P - P - F4 - B - B - N₂

1 - 2 - 3 - 4 - 5 - 6



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Panel & Line Regulator

VSR-1ML & VSR-1MLP Series

Product Features

- Line mounting pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- 4 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Tested for use with oxygen



Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

VSR-1ML

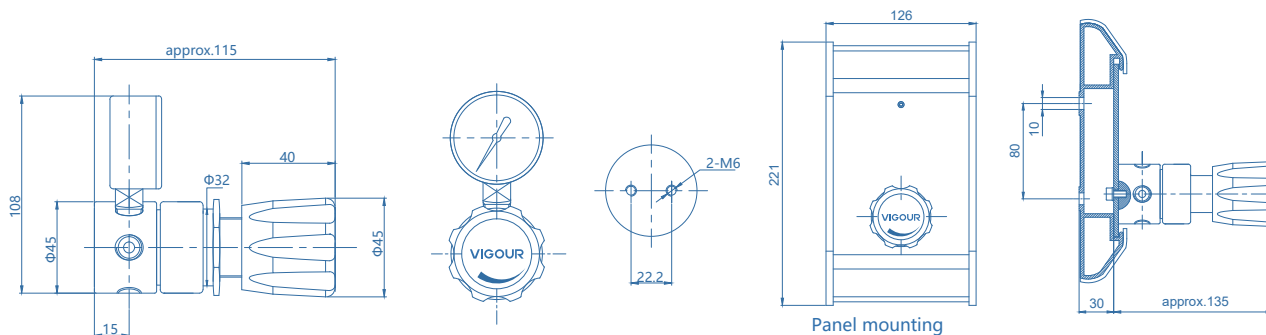


VSR-1MLP



Mounting panel
Model No. : VSR-T-BPB

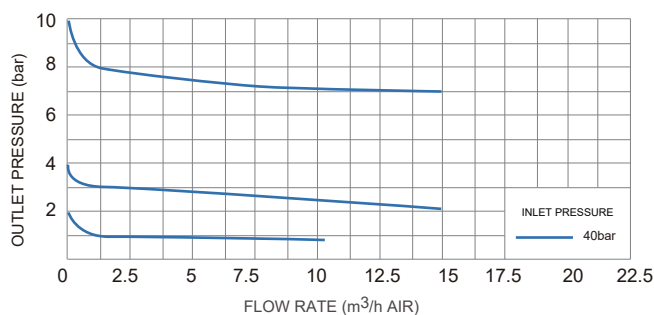
Dimensions (mm)



Technical Data

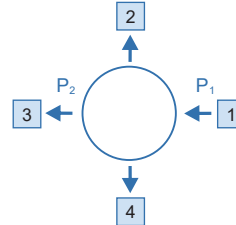
Type:	single-stage
Inlet pressure P1:	max. 100 bar
Outlet pressure P2:	2/4/8/10/20 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
Filter:	SS 316L
Inlets and Outlets:	1/8"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.12
Weight:	0.85kg

Flow Chart



Panel & Line Regulator VSR-1ML & VSR-1MLP Series

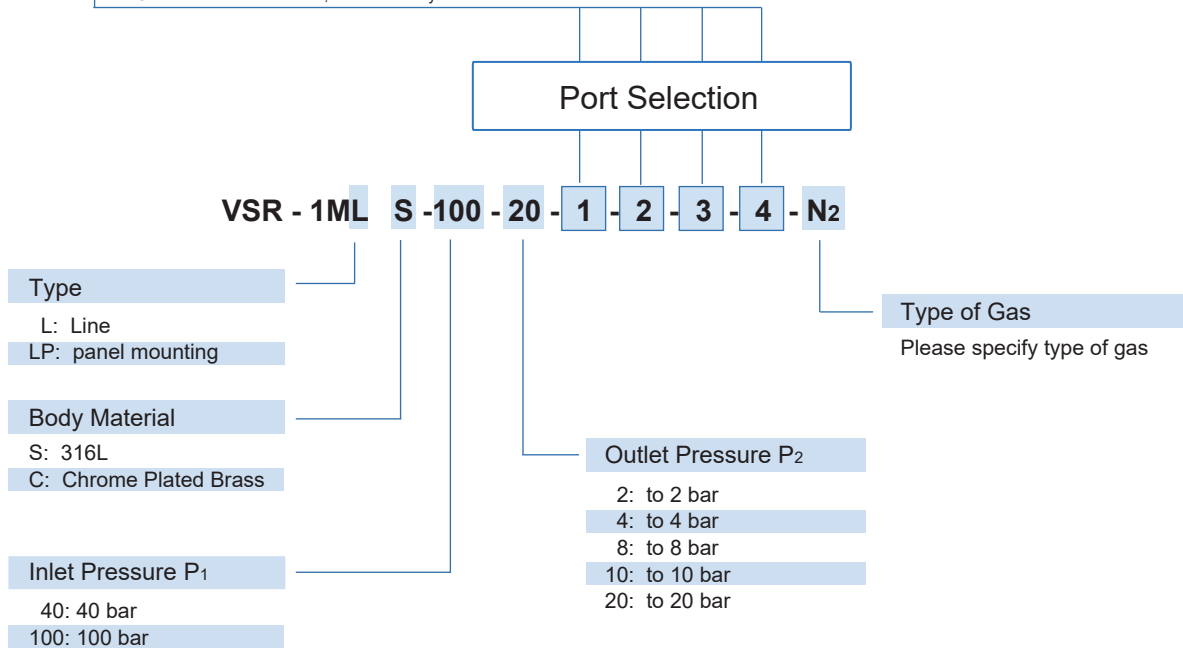
Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)	06: 3/8" Tube fitting	TW8M: 8mm Weld tube
M4: 1/4" NPT(M)	6M: 6mm Tube fitting	P: Gauge (Psig/bar)
02: 1/8" Tube fitting	8M: 8mm Tube fitting	B: Plug
04: 1/4" Tube fitting	TW6M: 6mm Weld tube	

* Other connection standard, consult factory.



Ordering Example

Example: VSR - 1ML - S - 40 - 20 - F4 - P - F4 - B - N₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Panel & Line Regulator

VSR-1EL & VSR-1ELP Series

Product Features

- Line mounting pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- 4 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Tested for use with oxygen



Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

VSR-1EL

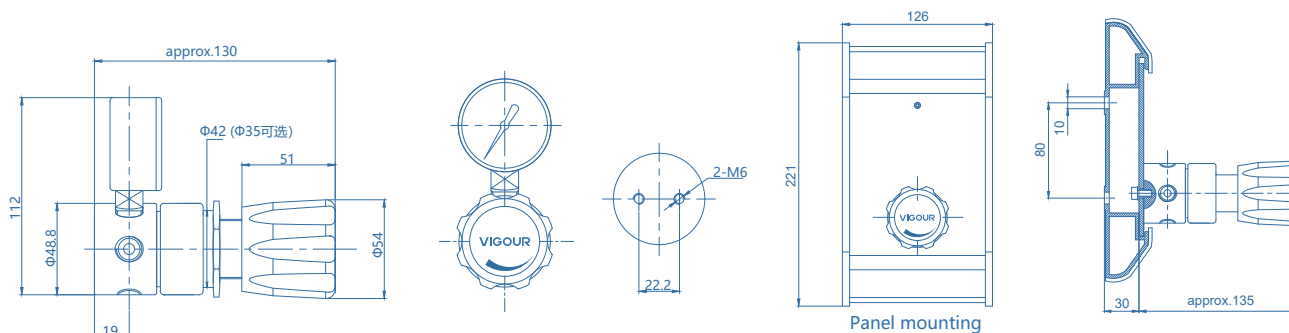


VSR-1ELP



Mounting panel
Model No. : VSR-T-BPB

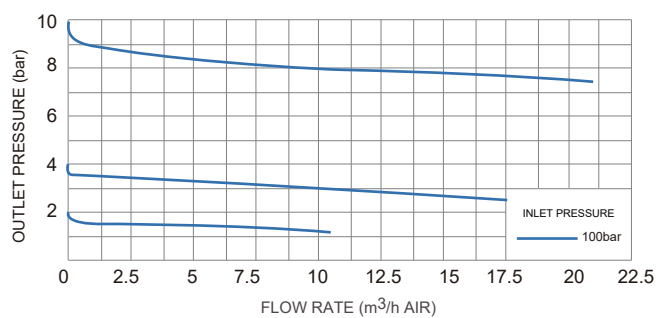
Dimensions (mm)



Technical Data

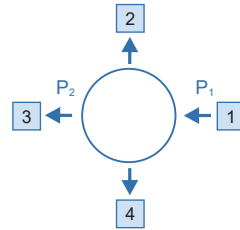
Type:	single-stage
Inlet pressure P1:	max. 100bar
Outlet pressure P2:	VAC/2/4/8/10/20 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
Filter:	SS 316L
Inlets and Outlets:	1/4" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.18
Weight:	1.04kg

Flow Chart



Panel & Line Regulator VSR-1EL & VSR-1ELP Series

Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)
M4: 1/4" NPT(M)
F6: 3/8" NPT(F)
M6: 3/8" NPT(M)

O2: 1/8" Tube fitting
O4: 1/4" Tube fitting
O6: 3/8" Tube fitting
O6: 6mm Tube fitting

8M: 8mm Tube fitting
TW6M: 6mm Weld tube
TW8M: 8mm Weld tube
P: Gauge (Psig/bar)

B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 1EL S - 100 - 20 - 1 - 2 - 3 - 4 - N2

Type

L: Line
LP: panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar
100: 100 bar

Type of Gas

Please specify type of gas

Outlet Pressure P₂

2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar
V2: -1bar to 2bar
V4: -1bar to 4bar
V10: -1bar to 10bar
V20: -1bar to 20bar

Ordering Example

Example: VSR - 1EL C - 100 - 20 - F4 - P - F4 - B - O₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Panel & Line Regulator

VSR-2EL & VSR-2ELP Series

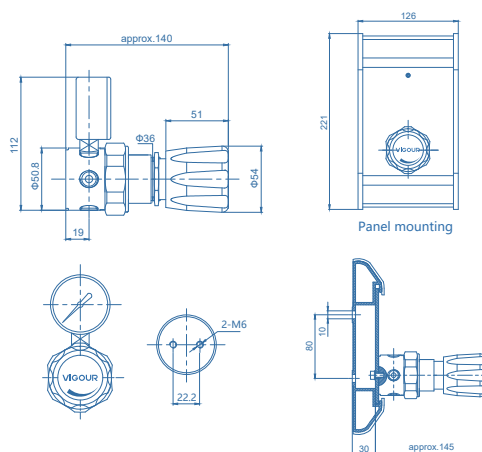
Product Features

- Line and Panel pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- 4 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filler
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Dimensions (mm)



Technical Data

Type:	single-stage
Inlet pressure P1:	max. 100 bar
Outlet pressure P2:	VAC/1/2/4/8/10/20/35/50 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE / EPDM (NP option)
Diaphragm:	Hastelloy® C276 PTFE+Neoprene (NP option)
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/4" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity: (P2=35/50 bar)	Cv=0.08
(P2=2/4/10/20 bar)	Cv=0.28
Weight:	1.25kg



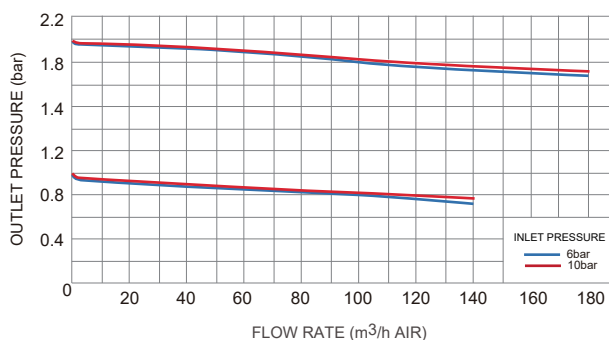
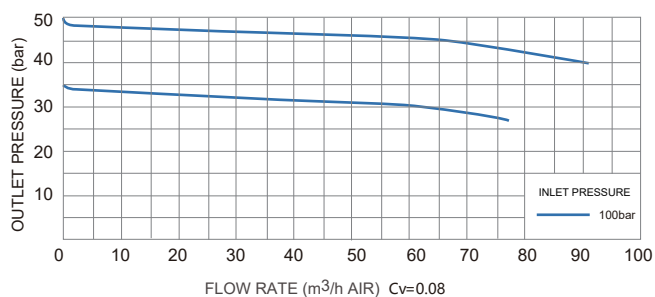
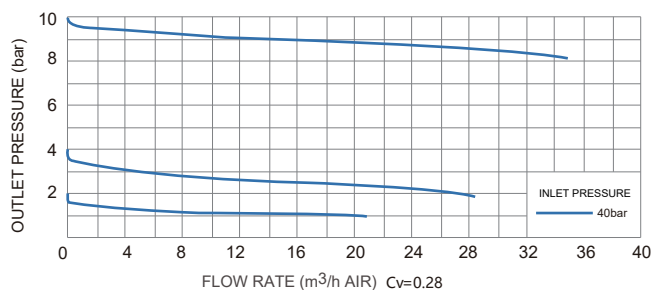
VSR-2EL

VSR-2ELP



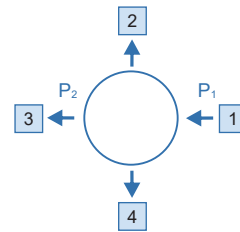
Mounting panel
Model No. : VSR-T-BPB

Flow Chart



Panel & Line Regulator VSR-2EL & VSR-2ELP Series

Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)	02: 1/8" Tube fitting	8M: 8mm Tube fitting
M4: 1/4" NPT(M)	04: 1/4" Tube fitting	TW12M: 12mm Weld tube
F6: 3/8" NPT(F)	06: 3/8" Tube fitting	P: Gauge (Psig/bar)
M6: 3/8" NPT(M)	6M: 6mm Tube fitting	B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 2EL S -100 - 20 - 1 - 2 - 3 - 4 - NP - N2

Type

L: Line
LP: panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

10: 10 bar
20: 20 bar
40: 40 bar
100: 100 bar

Outlet Pressure P₂

1: to 1 bar
2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar
35: to 35 bar
50: to 50 bar
V2: -1 bar to 2 bar
V4: -1 bar to 4 bar
V10: -1 bar to 10 bar
V20: -1 bar to 20 bar

Type of Gas

Please specify type of gas

Diaphragm Option

None: Hastelloy® C276
NP: PTFE+Neoprene*

* Inlet pressure Max. 20bar,
Outlet pressure applies only:
1: to 1bar, 2: to 2 bar

Ordering Example

Example: VSR - 2EL C - 10 - 2 - F4 - P - F4 - B - NP - O₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Panel & Line Regulator

VSR-3L & VSR-3LP Series

Product Features

- Line and Panel mounting pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- 4 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filler
- Tested for use with oxygen



Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

VSR-3L

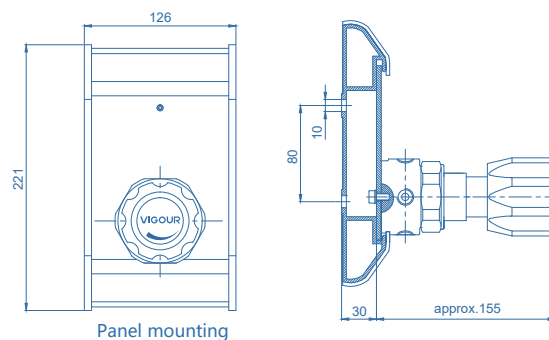
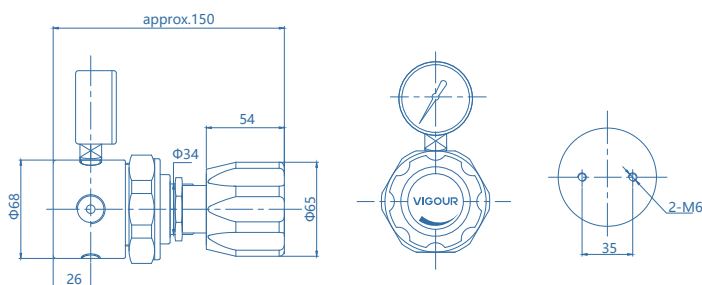


VSR-3LP



Mounting panel
Model No. : VSR-T-BPB

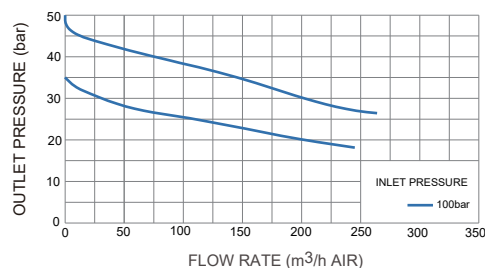
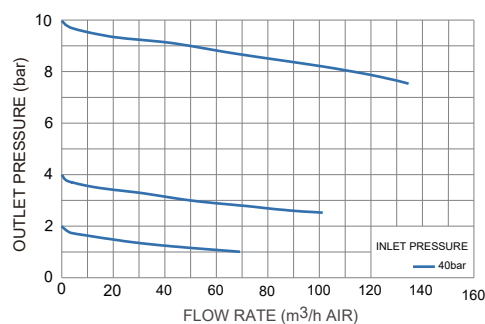
Dimensions (mm)



Technical Data

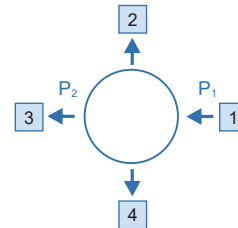
Type:	single-stage
Inlet pressure P1:	max. 100 bar
Outlet pressure P2:	1/2/4/8/10/20/35/50 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276 PTFE+Neoprene (NP option)
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	see ordering info
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=1.7
Weight:	2.8kg

Flow Chart



Panel & Line Regulator VSR-3L & VSR-3LP Series

Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)
F6: 3/8" NPT(F)
F8: 1/2" NPT(F)
F12: 3/4" NPT(F)

O8: 1/2" Tube fitting
12: 3/4" Tube fitting
TW12M: 12mm Weld tube
TW20M: 20mm Weld tube

P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 3L - S - 100 - 20 - 1 - 2 - 3 - 4 - NP - N₂

Type

L: Line
LP: panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

10: 10 bar
40: 40 bar
100: 100 bar

Outlet Pressure P₂

1: to 1bar
2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar
35: to 35 bar
50: to 50 bar

Type of Gas

Please specify type of gas

Diaphragm Option

None: Hastelloy® C276
NP: PTFE+Neoprene*

* Inlet pressure Max. 20bar,
Outlet pressure applies only:
1: to 1bar, 2: to 2 bar

Ordering Example

Example: VSR - 3L S - 100 - 4 - F8 - P - F8 - B - O₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Pipeline-type Pressure Regulator

VSR-4L Series

Product Features

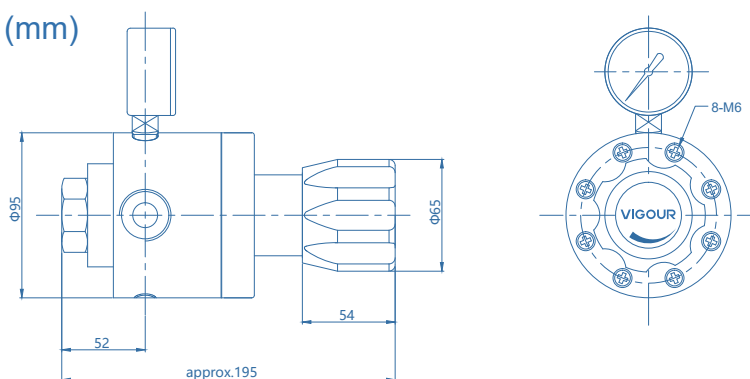
- Low pressure, High flow regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for pharmaceutical, food, and beverage application
- 4 ports flexible configuration
- Stable outlet pressure
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



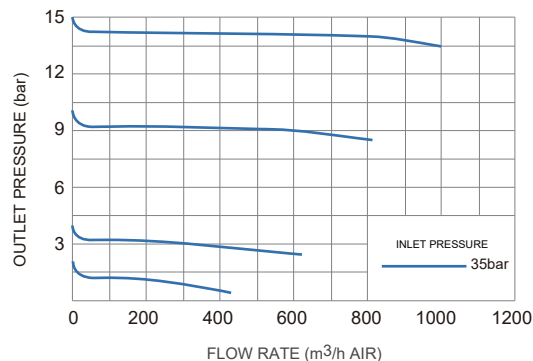
Dimensions (mm)



Technical Data

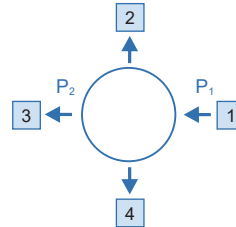
Type:	single-stage
Inlet pressure P1:	max. 35 bar
Outlet pressure P2:	2/3/4/8/10/20 bar
Materials	
Body regulator:	see ordering info
Valve seat:	EPDM (Buna-N option)
Diaphragm:	PTFE+Neoprene
Inlets and Outlets:	see ordering info
Temperature range:	-15°C to +74°C
Leak rate:	bubble-tight
Flow capacity:	Cv=5.1
Weight:	4.1kg

Flow Chart



Pipeline-type Pressure Regulator VSR-4L Series

Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)	M12: 3/4" NPT(M)	12: 3/4" Tube fitting
F8: 1/2" NPT(F)	F16: 1" NPT(F)	16: 1" Tube fitting
M8: 1/2" NPT(M)	M16: 1" NPT(M)	P: Gauge (Psig/bar)
F12: 3/4" NPT(F)	TW20M: 20mm Weld tube	B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 4L S - 35 - 20 - 1 - 2 - 3 - 4 - N₂

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

10: 10 bar
35: 35 bar

Outlet Pressure P₂

2: to 2 bar
3: to 3 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 4L S - 35 - 10 - F16 - P - F16 - B - O₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Panel & Line Regulator

VSR-6EL & VSR-6ELP Series

Product Features

- Diaphragm design high pressure piston regulator
- Line and Panel mounting pressure regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- 4 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filter
- Tested for use with oxygen



Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

VSR-6EL

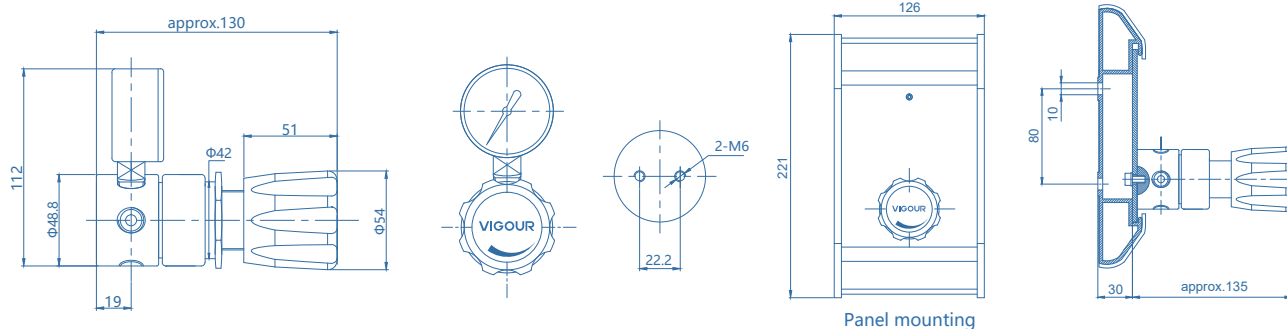


VSR-6ELP



Mounting panel
Model No. : VSR-T-BPB

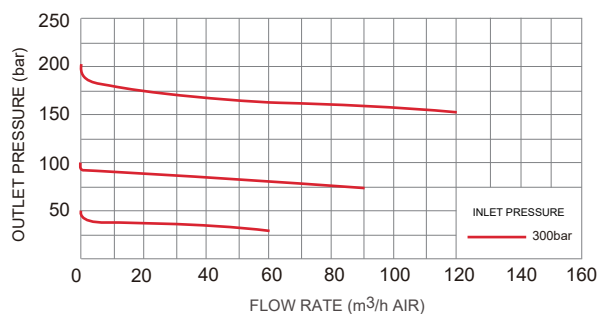
Dimensions (mm)



Technical Data

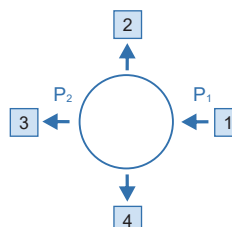
Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	50/100/200 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
Piston:	SS 316L
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/4" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1X10 ⁻⁸ mbar l/s He
(Via seat)	1X10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.15
Weight:	1.13kg

Flow Chart



Panel & Line Regulator VSR-6EL & VSR-6ELP Series

Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)

M4: 1/4" NPT(M)

F6: 3/8" NPT(F)

M6: 3/8" NPT(M)

02: 1/8" Tube fitting

04: 1/4" Tube fitting

06: 3/8" Tube fitting

6M: 6mm Tube fitting

8M: 8mm Tube fitting

TW6M: 6mm Weld tube

TW8M: 8mm Weld tube

P: Gauge (Psig/bar)

B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 6EL - S - 200 - 50 - 1 - 2 - 3 - 4 - N₂

Type

L: Line

LP: panel mounting

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

100: 100 bar

200: 200 bar

300: 300 bar

Type of Gas

Please specify type of gas

Outlet Pressure P₂

50: to 50 bar

100: to 100 bar

200: to 200 bar

Ordering Example

Example: VSR - 6EL C - 200 - 50 - F4 - P - F4 - B - O₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Line Regulator

VSR-10L Series

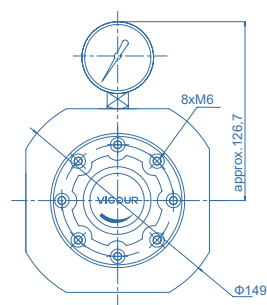
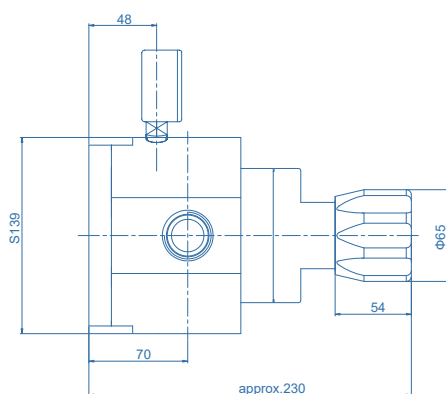
Product Features

- Low pressure, High flow regulator
- Body Material: 316L
- High precision, high sensitivity
- 4 ports flexible configuration
- Stable outlet pressure
- Tested for use with oxygen

Typical Applications

- Food and pharmaceutical industry
- Petroleum and petrochemical industry
- Integrated equipment matching

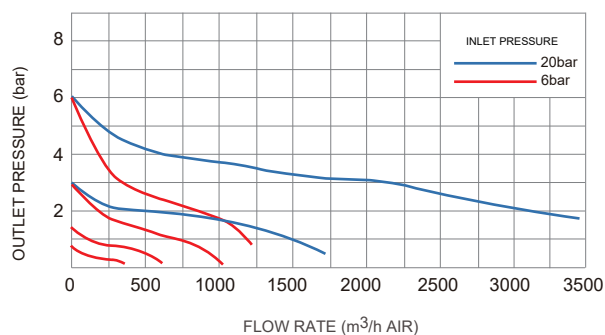
Dimensions (mm)



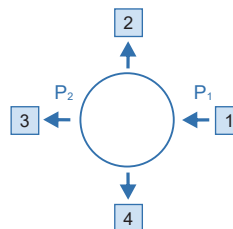
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 20 bar
Outlet pressure P2:	2/3/4/7/10 bar
Materials	
Body regulator:	SS 316L
Valves seat:	EPDM
Diaphragm:	PTFE+Neoprene
Inlets and Outlets:	see ordering info
Temperature range:	-15°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=10
Weight:	14.2kg

Flow Chart



Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)
F24: 1-1/2" NPT(F)
M24: 1-1/2" NPT(M)

P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 10L S - 20 - 10 - 1 - 2 - 3 - 4 - N₂

Body Material

S: 316L

Inlet Pressure P₁

10: to 10 bar
20: to 20 bar

Outlet Pressure P₂

2: to 2 bar
3: to 3 bar
4: to 4 bar
7: to 7 bar
10: to 10 bar

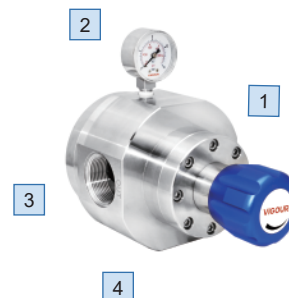
Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 10LS - 20 - 10 - F24 - P - F24 - B - O₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Line Regulator

VSR-12HL Series

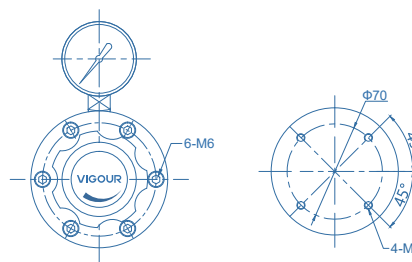
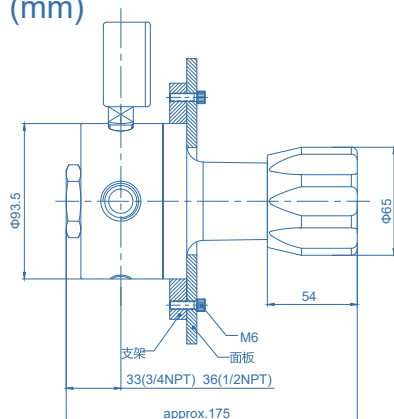
Product Features

- Low pressure, high flow regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for pharmaceutical, food, and beverage application
- 4 ports flexible configuration
- Stable outlet pressure
- Tested for use with oxygen
- Large seat and diaphragm areas provide high capacity with sensitive control of delivery pressure with low falloff

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- Service & Test Equipment
- hydrogen energy resource

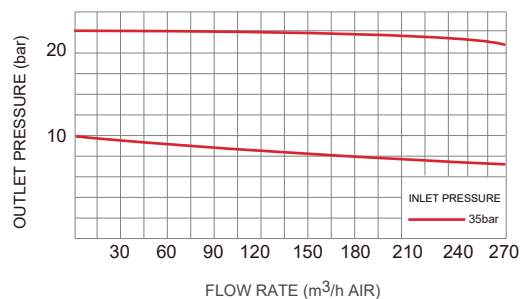
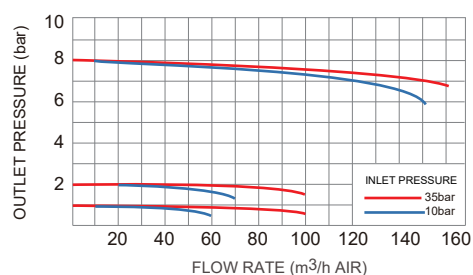
Dimensions (mm)



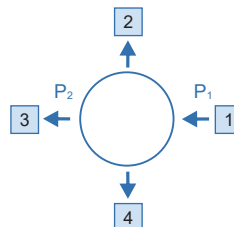
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 35 bar
Outlet pressure P2:	1/2/4/8/10/20 bar
Materials	
Body regulator:	see ordering info
Valve seat:	EPDM (Viton® option)
Diaphragm:	PTFE+Buna-N
Inlets and Outlets:	see ordering info
Temperature range:	-15°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=3.1
Weight:	approx. 2.5kg / 3.7kg

Flow Chart



Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)
F8: 1/2" NPT(F)
F12: 3/4" NPT(F) (only for VSR-12HL series)
12: 3/4" Tube fitting

16: 1" Tube fitting
TW20M: 20mm Weld tube
P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 12HL S - 35 - 20 - 1 - 2 - 3 - 4 - N2

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

35: 35 bar

Outlet Pressure P₂

1: to 1 bar
2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 12HL S - 35 - 10 - F8 - P - F8 - B - O₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Line Regulator

VSR-2EPH Series

Product Features

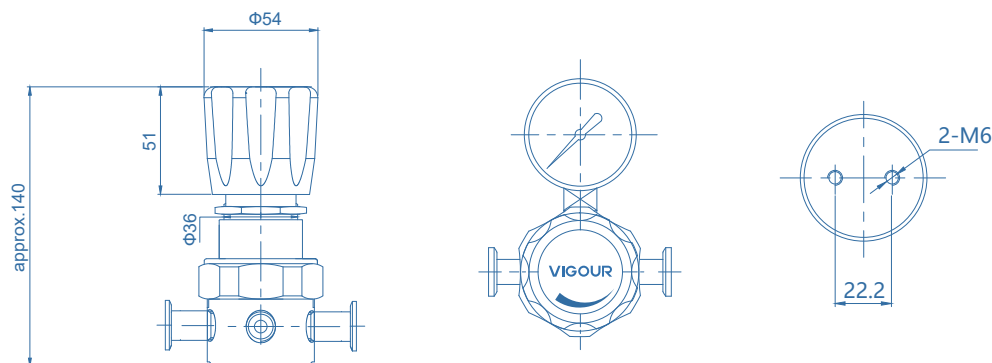
- Line pressure regulator
- Stainless steel 316L body
- Stable outlet pressure
- Hand wheel adjustment, precise control of pressure
- Tested for use with oxygen
- Clamp standard ISO2852(ASME BPE option)
- Seals conform to USP Class VI and BPE design
- Suitable for biotechnology and pharmaceutical applications

Typical Applications

- Food and pharmaceutical industry
- Petroleum and petrochemical industry
- Integrated equipment matching



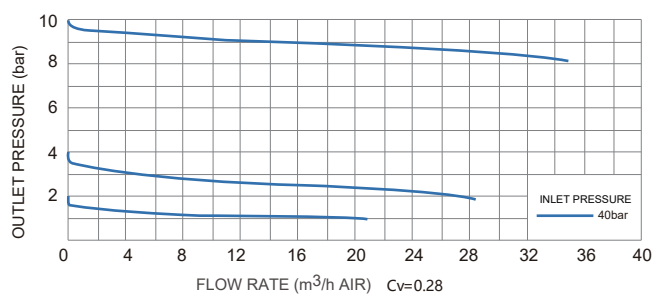
Dimensions (mm)



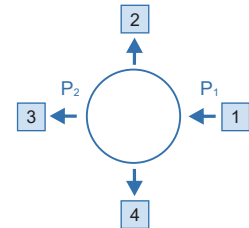
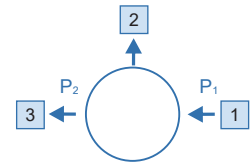
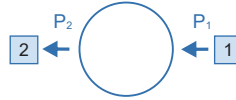
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 40 bar
Outlet pressure P2:	VAC/1/2/3/4/8/10/20 bar
Materials	
Body regulator:	316L
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/4" standard, 3/8" optional
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.28
Weight:	1.25kg

Flow Chart



Ordering Information



Inlets / Outlets

S16: 1" Clamp

S32: 2" Clamp

TW4: 1/4" Tube fitting

TW6: 3/8" Tube fitting

TW4M: 4mm Tube fitting

TW6M: 6mm Tube fitting

FV4: 1/4" VFS fitting (Female)

P: Gauge (Psig/bar)

* Other connection standard, consult factory.

Port Selection

VSR - 2EPH S - 40 - 10 - 1 - 2 - 3 - N₂

Body Material

S: 316L

Inlet Pressure P₁

10: 10 bar

40: 40 bar

Outlet Pressure P₂

1: to 1 bar

2: to 2 bar

3: to 3 bar

4: to 4 bar

8: to 8 bar

10: to 10 bar

20: to 20 bar

V2: -1 bar to 2 bar

V4: -1 bar to 4 bar

V10: -1 bar to 10 bar

V20: -1 bar to 20 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 2EPHS - 40 - 4 - S16 - S16 - N₂

1 - 2



Line Regulator

VSR-3PH Series

Product Features

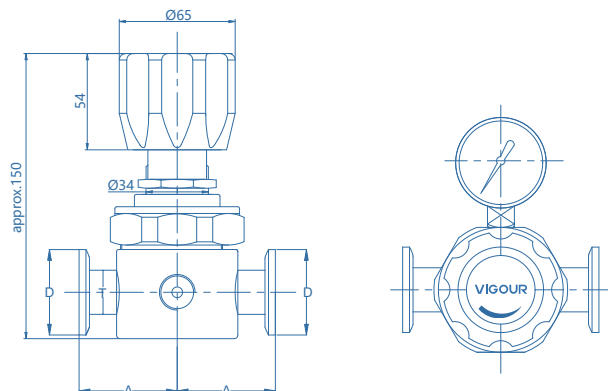
- Line pressure regulator
- Stainless steel 316L body
- 2 or 3 ports configuration
- Stable outlet pressure
- Hand wheel adjustment, precise control of pressure
- Tested for use with oxygen
- Clamp standard ISO2852(ASME BPE optional)
- Seals conform to USP Class VI and BPE design

Typical Applications

- Food and pharmaceutical industry
- Petroleum and petrochemical industry
- Integrated equipment matching



Dimensions (mm)

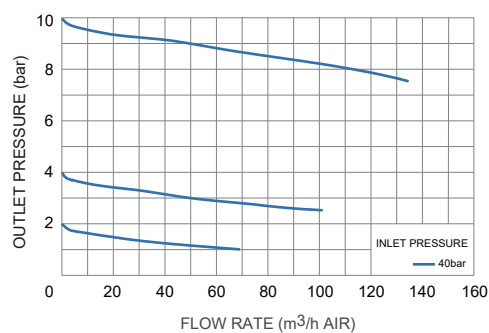


Connections	A	T	D
	mm	inch	mm
S16-TW8	60.6	1/2	25.4
S32-TW8	60.6	1/2	50.5
S16-TW12	60.6	3/4	25.4
S32-TW12	60.6	3/4	50.5
S32-TW16	60.6	1	50.5
S40-TW16	60.6	1	64
S32-TW24	60.6	1.5	50.5
S40-TW24	60.6	1.5	64
S40-TW32	60.6	2	64

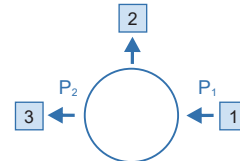
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 40 bar
Outlet pressure P2:	2/3/4/8/10 bar
Materials	
Body regulator:	316L
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	see ordering info
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=1.7
Weight:	2.8kg

Flow Chart



Ordering Information



Inlets / Outlets

S16: 1" Clamp

S32: 2" Clamp

S40: 2-1/2" Clamp

TW8: 1/2" Tube fitting

TW12: 3/4" Tube fitting

TW12M: 12mm Tube fitting

TW20M: 20mm Tube fitting

FV4: 1/4" VFS(F)

P: Gauge (Psig/bar)

* Other connection standard, consult factory.

Port Selection

VSR - 3PH S - 40 - 10 - 1 - 2 - 3 - N₂

Body Material

S: 316L

Inlet Pressure P₁

10: 10 bar

40: 40 bar

Outlet Pressure P₂

2: to 2 bar

3: to 3 bar

4: to 4 bar

8: to 8 bar

10: to 10 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 3PH S - 40 - 4 - S16 - S16 - N₂

1 - 2



Line Regulator

VSR-4PH Series

Product Features

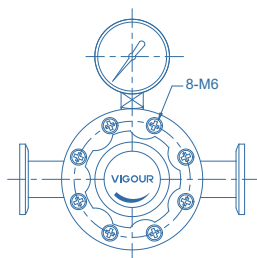
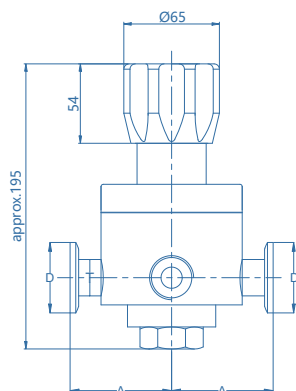
- Line pressure regulator
- Stainless steel 316L body
- 2 or 3 ports configuration
- Stable outlet pressure
- Hand wheel adjustment, precise control of pressure
- Tested for use with oxygen
- Clamp standard ISO2852(ASME BPE option)
- Seals conform to USP Class VI and BPE design

Typical Applications

- Food and pharmaceutical industry
- Petroleum and petrochemical industry
- Integrated equipment matching



Dimensions (mm)

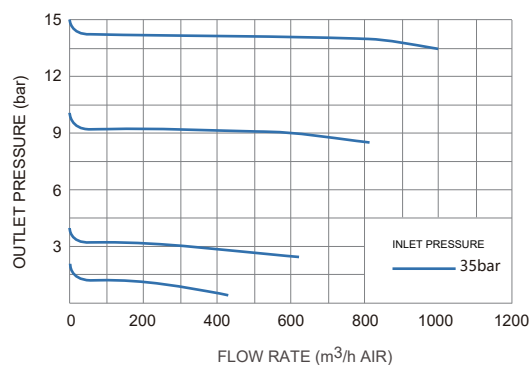


Connections	A mm	T inch	D mm
S16-TW8	73.6	1/2	25.4
S32-TW8	73.6	1/2	50.5
S16-TW12	73.6	3/4	25.4
S32-TW12	73.6	3/4	50.5
S32-TW16	73.6	1	50.5
S40-TW16	73.6	1	64
S32-TW24	73.6	1.5	50.5
S40-TW24	73.6	1.5	64
S40-TW32	73.6	2	64

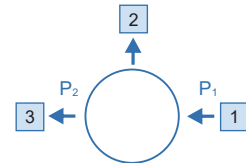
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 35 bar
Outlet pressure P2:	2/3/4/8/10/20 bar
Materials	
Body regulator:	316L
Valve seat:	EPDM
Diaphragm:	PTFE+Neoprene
Inlets and Outlets:	see ordering info
Temperature range:	-15°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=5.1
Weight:	4.20kg

Flow Chart



Ordering Information



Inlets / Outlets

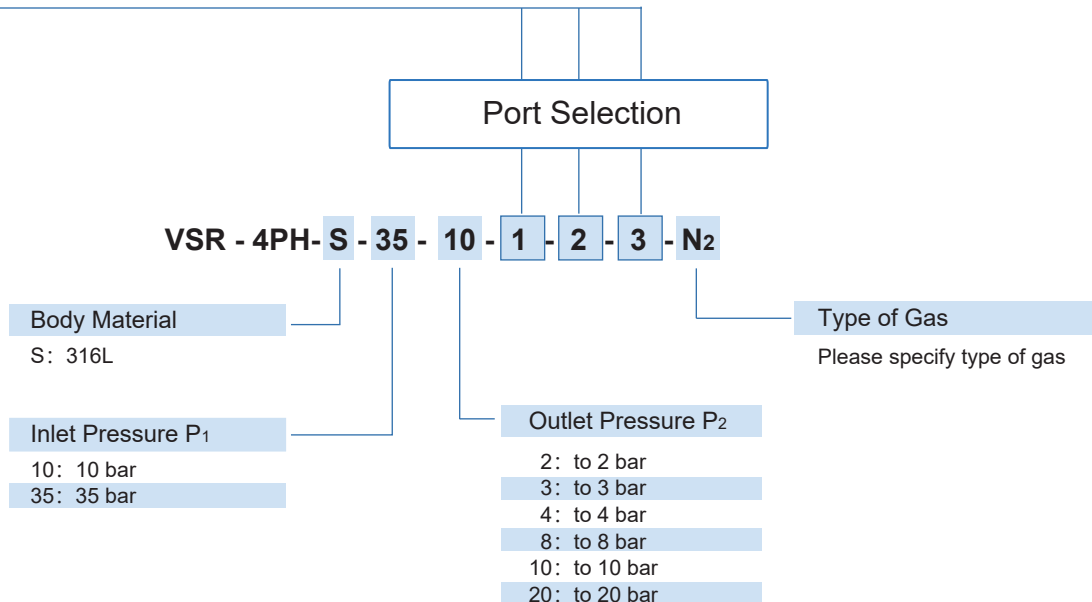
S16: 1" Clamp
S32: 2" Clamp
S40: 2-1/2" Clamp

TW8: 1/2" Tube fitting
TW12: 3/4" Tube fitting
TW16: 1" Tube fitting
TW24: 1-1/2" Tube fitting

TW12M: 12mm Tube fitting
TW20M: 20mm Tube fitting
TW25M: 25mm Tube fitting
TW30M: 30mm Tube fitting

P: Gauge (Psig/bar)

* Other connection standard, consult factory.



Ordering Example

Example: VSR - 4PHS - 35 - 10 - S16 - S16 - N₂

1 - 2



Line Regulator

VSR-10PH Series

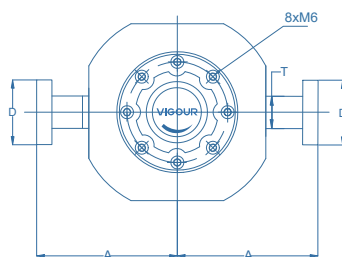
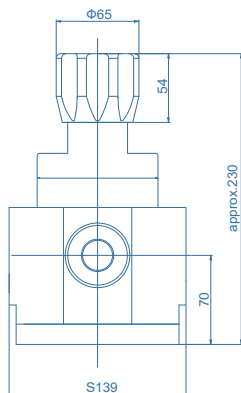
Product Features

- Low pressure, large flow pressure reducer
- Stainless steel 316L body
- High precision, high sensitivity
- 2 or 3 ports configuration
- Stable output pressure
- Suitable for oxygen
- Seals conform to USP Class VI and BPE design
- Suitable for biotechnology and pharmaceutical applications

Typical Applications

- Food and pharmaceutical industry
- Petroleum and petrochemical industry
- Integrated equipment matching

Dimensions (mm)

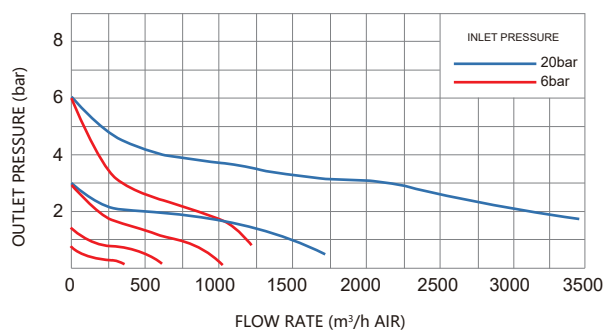


Connections	A	T	D
	mm	inch	mm
S32-TW16	98.1	1	50.5
S40-TW16	98.1	1	64
S32-TW24	98.1	1.5	50.5
S40-TW24	98.1	1.5	64

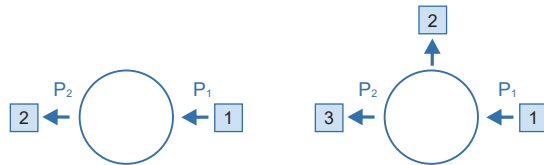
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 20 bar
Outlet pressure P2:	2/3/4/7/10 bar
Materials	
body regulator:	316L
Valve seat:	EPDM
Diaphragm:	PTFE
Inlets and Outlets:	see ordering info
Temperature range:	-15°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=10.0
Weight:	18.5kg

Flow Chart



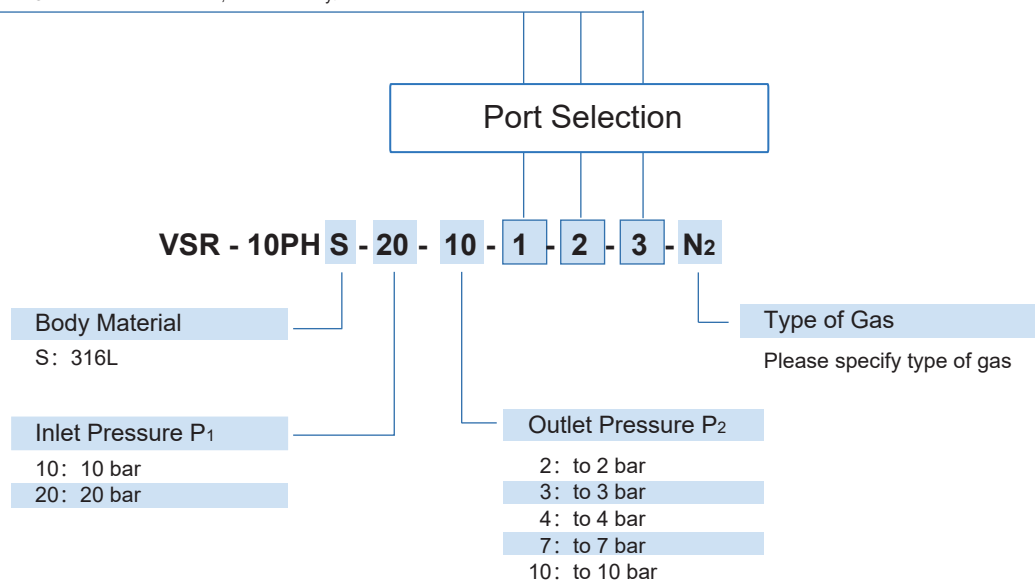
Ordering Information



Inlets / Outlets

S16: 1" Clamp	TW16: 1" Tube fitting
S32: 2" Clamp	TW24: 1-1/2" Tube fitting
S40: 2-1/2" Clamp	P: Gauge (Psig/bar)

* Other connection standard, consult factory.



Ordering Example

Example: **VSR - 10PHS - 20 - 10 - S32 - B - S32 - N2**

1 - 2 - 3



Line Regulator

VSR-3F Series

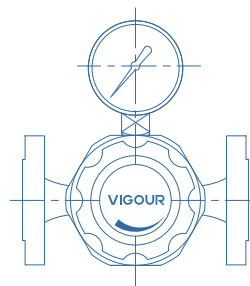
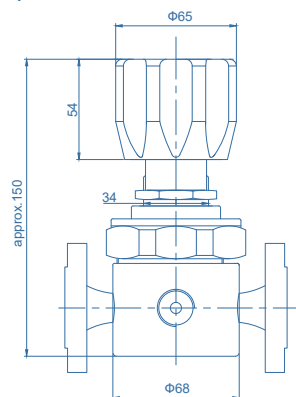
Product Features

- Line pressure regulator
- Stainless steel 316L body
- 4 ports configuration
- Stable outlet pressure

Typical Applications

- Pharmaceutical Industry
- Food and Beverage Industry

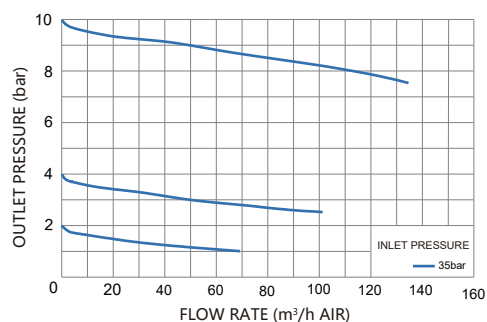
Dimensions (mm)



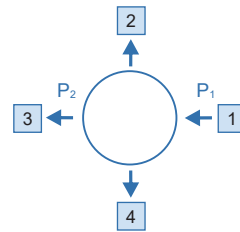
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 40 bar
Outlet pressure P2:	2/3/4/10/20/V2/V10 bar
Materials	
body regulator:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	see ordering info
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=1.7
Weight:	3.2kg

Flow Chart



Ordering Information



Inlets / Outlets

D10: DN10 Flange
D15: DN15 Flange
D20: DN20 Flange

D25: DN25 Flange
D30: DN30 Flange
F4: 1/4"NPT(F)

P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 3F S - 40 - 10 - 1 - 2 - 3 - 4 - N₂

Body Material

S: 316L

Inlet Pressure P₁

10: 10 bar
16: 16 bar
25: 25 bar
40: 40 bar

Outlet Pressure P₂

2: to 2 bar
3: to 3 bar
4: to 4 bar
10: to 10 bar
20: to 20 bar
V2: 30 in Hg VAC ~ 2 bar
V10: 30 in Hg VAC ~ 10 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 3FS - 40 - 10 - D10 - F4 - D10 - B - N₂

1 - 2 - 3 - 4



Line Regulator

VSR-4F Series

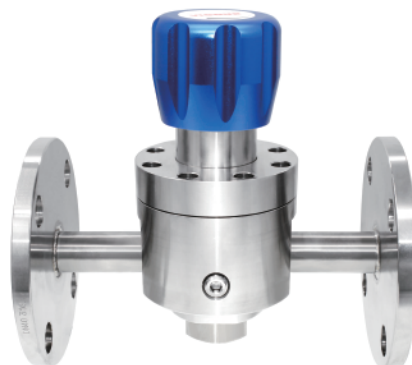
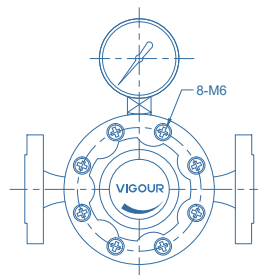
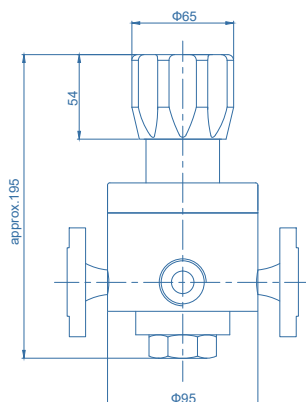
Product Features

- Line pressure regulator
- Stainless steel 316L body
- 4 ports configuration
- Stable outlet pressure

Typical Applications

- Pharmaceutical Industry
- Food and Beverage Industry

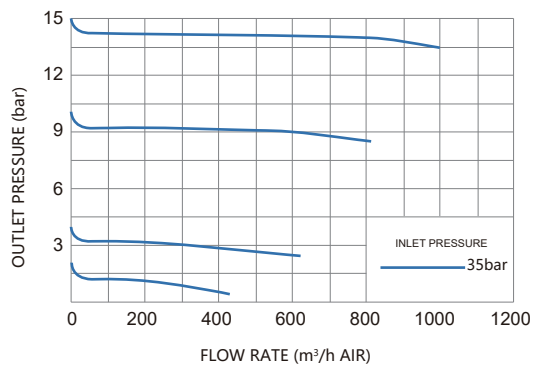
Dimensions (mm)



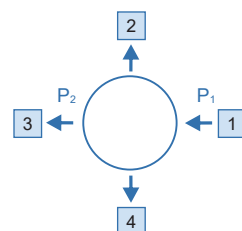
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 35 bar
Outlet pressure P2:	2/3/4/8/10/20 bar
Materials	
body regulator:	see ordering info
Valve seat:	EPDM (Buna-N option)
Diaphragm:	PTFE+Neoprene
Inlets and Outlets:	see ordering info
Temperature range:	-15°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=5.1
Weight:	5.10kg

Flow Chart



Ordering Information



Inlets / Outlets

D20: DN20 Flange	F4: 1/4" NPT(F)	B: Plug
D25: DN25 Flange	P: Gauge (Psig/bar)	

* Other connection standard, consult factory.

Port Selection

VSR - 4F - S - 35 - 10 - 1 - 2 - 3 - 4 - N₂

Body Material

S: 316L

Inlet Pressure P₁

10: 10 bar
16: 16 bar
25: 25 bar
35: 35 bar

Outlet Pressure P₂

2: to 2 bar
3: to 3 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar

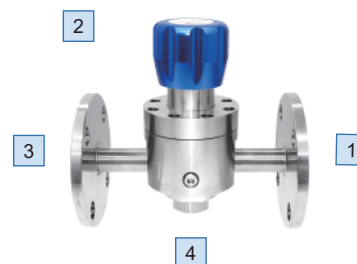
Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 4FS - 35 - 10 - D20 - B - D20 - B - N₂

1 - 2 - 3 - 4



Line Regulator

VSR-10F Series

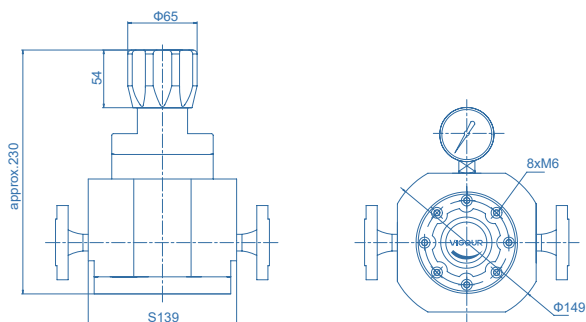
Product Features

- Line pressure regulator
- Stainless steel 316L body
- 3 or 4 ports configuration
- Stable outlet pressure
- Tested for use with oxygen

Typical Applications

- Pharmaceutical Industry
- Food and Beverage Industry
- Integrated equipment matching

Dimensions (mm)

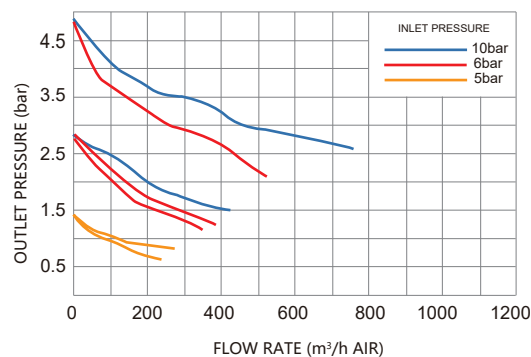
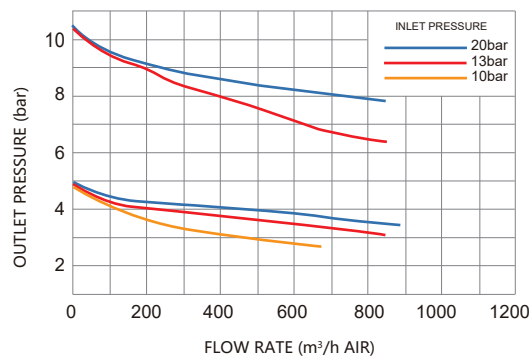


Technical Data

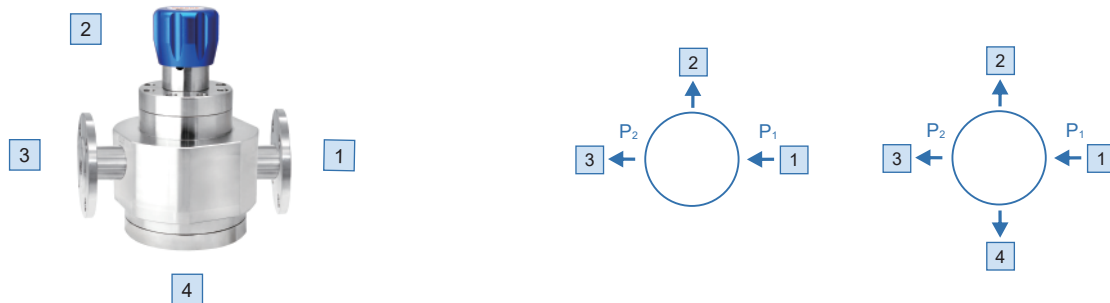
Type:	single-stage
Inlet pressure P1:	max. 20 bar
Outlet pressure P2:	2/3/4/7/10 bar
Materials	
body regulator:	316L
Valve seat:	EPDM
Diaphragm:	PTFE+Neoprene
Inlets and Outlets:	see ordering info
Temperature range:	-15°C~+74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=10
Weight:	19.4kg



Flow Chart



Ordering Information



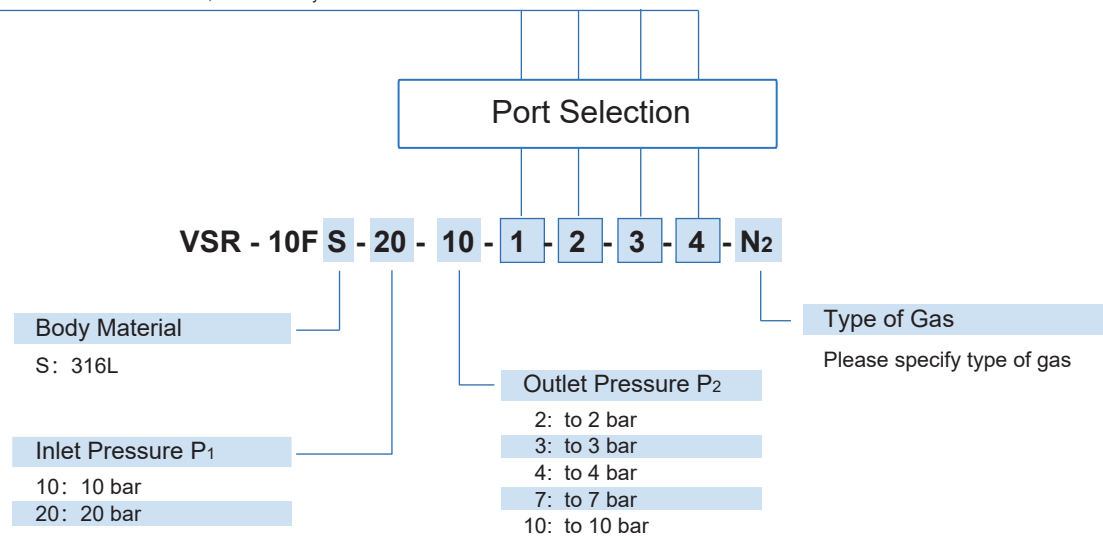
Inlets / Outlets

D20: DN20 Flange
D25: DN25 Flange
D40: DN40 Flange

D50: DN50 Flange
D80: DN80 Flange
P: Gauge (Psig/bar)

B: Plug

* Other connection standard, consult factory.



Ordering Example

Example: VSR - 10FS - 20 - 10 - D20 - P - D20 - B - N₂

1 - 2 - 3 - 4

Back Pressure Regulator

VSR-51 Series

Product Features

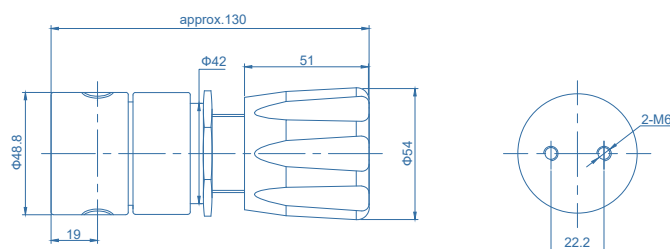
- Reduces contamination and provides accurate regulation of corrosive or non-corrosive gases
- Close pressure differential between crack and reseal
- Compact and economical
- Panel mounting is available
- Tested for use with oxygen

Typical Applications

- Analytical systems
- Gas sampling
- pilot plants
- OEM packages
- R & D laboratories



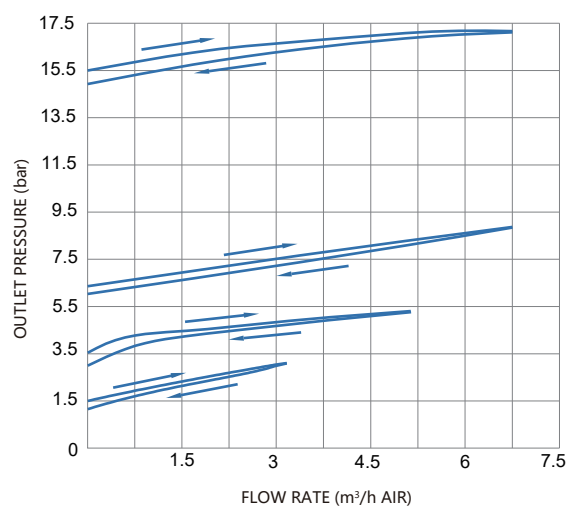
Dimensions (mm)



Technical Data

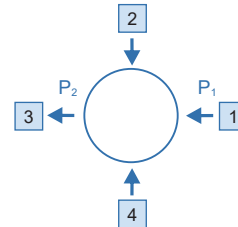
Backpressure:	max. 17 bar
Controlled pressure:	see ordering info
Materials	
Body regulator, Relief valve:	see ordering info
Valve seat:	PCTFE (standard) / Vespel®(option)
Diaphragm:	Hastelloy®
Filter:	SS 316L
Inlets and Outlets:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble tight
Flow capacity:	Cv=0.08
Weight:	1kg

Flow Chart



Back Pressure Regulator VSR-51 Series

Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F) | P: Gauge (Psig/bar) | B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 51P S - 17 - 1 - 2 - 3 - 4 - VS - N₂

Type

L: Line mounting
P: Panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Controlled Pressure Range

2: 0-2 bar
4: 0-4 bar
7: 0-7 bar
17: 0-17 bar

Type of Gas

Please specify type of gas

Valve Seat

None: PCTFE
VS: Vespel®

Ordering Example

Example: VSR - 51LS - 17 - F4 - P - F4 - B - O₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Back Pressure Regulator

VSR-52 Series

Product Features

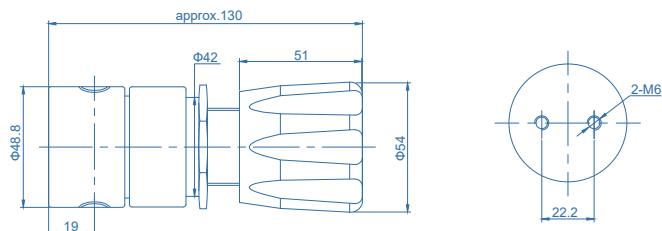
- Economical, compact design
- Piston sensed design is safe and reliable
- Available in a Stainless Steel or Brass design
- Optional gauge ports and panel mounting
- Low handknob torque for easy operation
- Bubble-tight shutoff at all reseating pressures
- Tested for use with oxygen



Typical Applications

- Industrial equipment for hydraulic or pneumatic service
- calibration system
- Laboratory pressure control
- High pressure sampling system
- Maintain and test equipment

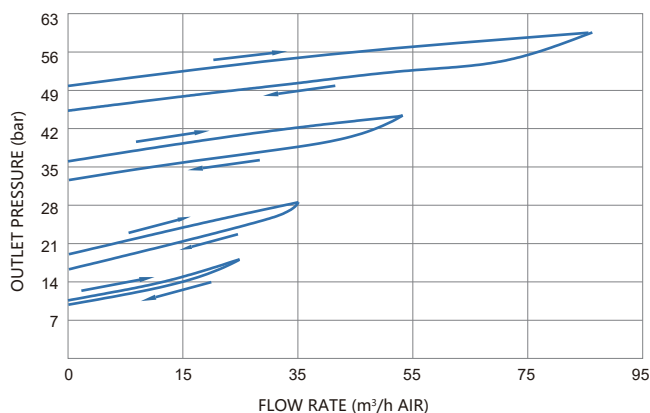
Dimensions (mm)



Technical Data

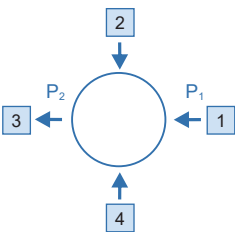
Backpressure:	max. 50 bar
Controlled pressure:	see ordering info
Materials	
Body regulator, relief valve:	see ordering info
Valve seat:	PCTFE (standard) / Vespe [®] (option)
Piston:	SS 316L
O-ring:	Viton [®] (FKM)
(option)	Kalrez [®] (FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=0.1
Weight:	1kg

Flow Chart



Back Pressure Regulator VSR-52 Series

Ordering Information



Inlets / Outlets

F4: 1/4"NPT(F) | P: Gauge (Psig/bar) | B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 52 - L S - 10 - 1 - 2 - 3 - 4 - VS - N₂

Type

L: Line mounting
P: Panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Controlled Pressure Range

10: 3-10 bar
20: 3-20 bar
50: 7-50 bar

Type of Gas

Please specify type of gas

Valve Seat

None: PCTFE
VS: Vespe[®]

Ordering Example

Example: VSR - 52LS - 10 - F4 - P - F4 - B - N₂

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Back Pressure Regulator

VSR-53 Series

Product Features

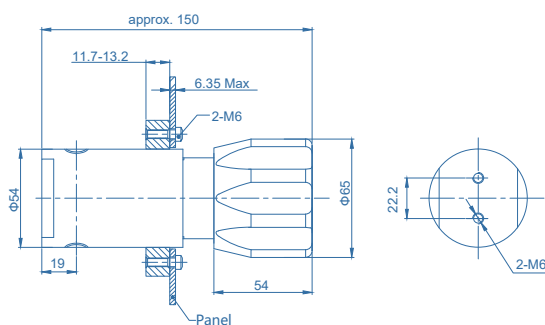
- Function similar to relief valve, ease of adjustment
- Panel and line mounting
- Accuracy: $\pm 1\%$ of central pressure range
- Bubble-tight shut-off at all reseal pressures
- Tested for use with oxygen

Typical Applications

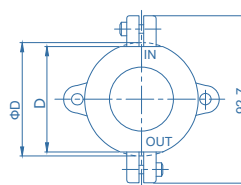
- Pump discharge pressure control
- Reactor pressure control
- Over-pressurization relief



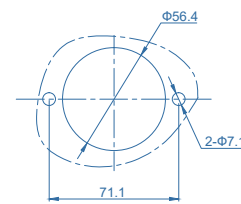
Dimensions (mm)



Inlets and Outlets	D
1/4 NPT(F)	58.4
1/4, 3/8 NPT(F)	Φ63
3/8 NPT(F) HU	78.2
1/2 NPT(F)	84.6



Stent models: LV-53

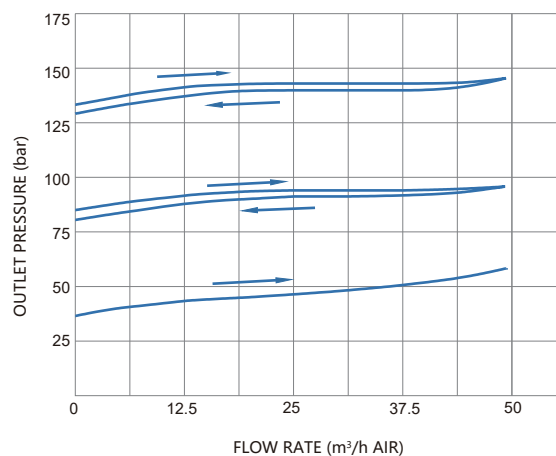


Panel Cut-Out

Technical Data

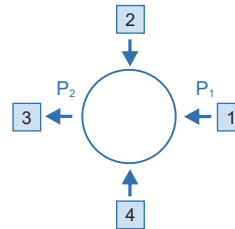
Backpressure:	max. 300 bar
Controlled pressure:	see ordering info
Materials	
Body regulator:	316L
Valve seat:	PCTFE (standard) / Vespel®(option)
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Piston:	SS 316L
Inlets and Outlets:	see ordering info
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	CV=0.14 (<100bar) CV=0.1(100~300bar)
Weight:	2.2 kg

Flow Chart



Back Pressure Regulator VSR-53 Series

Ordering Information



Inlets / Outlets

F4: 1/4"NPT(F)
F6: 3/8"NPT(F)
F8: 1/2"NPT(F)

P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 53 **L** **S** - 50 - **1** - **2** - **3** - **4** - VS - N₂

Type

L: Line mounting
P: Panel mounting

Body Material

S: 316L

Controlled Pressure Range

35: 0.35-35 bar
50: 0.35-50 bar
100: 0.7-100 bar
200: 1.72-200 bar
300: 3.45-300 bar

Type of Gas

Please specify type of gas

Valve Seat

None: PCTFE
VS: Vespe|®

Ordering Example

Example: VSR - 53 **L** **S** - 50 - **F4** - **F4** - **F4** - **B** - N₂

1 - **2** - **3** - **4**



Back Pressure Regulator

VSR-56 Series

Product Feature

- Pilot-operated pressure regulating structure
- Adjustable with high sensitivity and no hysteresis
- Stable output control

Product Applications

- Precision low-pressure gas delivery hose extrusion system
- Fuel component testing system
- Fuel cell testing system



Technical Data

Max. Controlled pressure: 6 bar

Materials

Body regulator: 316L

Diaphragm: PTFE (Standard) / Polyimide (Option)

O-ring: Viton® (FKM) / Kalrez® (FFKM)

Inlets and Outlets: 1/4"1"NPT(F)

Pilot connection port: 1/8"NPT (F)

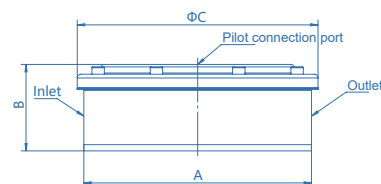
Temperature range: -30°C to +74°C

Leak rate: Bubble tight

Flow capacity: Cv=1.2 (1/4") Cv=8.5 (1")

Weight: 1.6kg(1/4") 13.1KG (1")

Dimensions (mm)



End Connections	Dimensions (mm)		
	A	B	C
1/4"	80.3	41	86.4
1"	184	70	194.5

Ordering Information

VSR - 56S - 6 - F16 - F16 - PI - K

Materials

S: 316L

Backpressure

6: 6 bar

Inlet / Outlet

F4: 1/4"NPT(F)

F16: 1"NPT(F)

O-ring

None: FKM

K: FFKM

Diaphragm

None: PCTFE

PI: Polyimide

Calibration Gas Regulator VSR-15 Series

Product Features

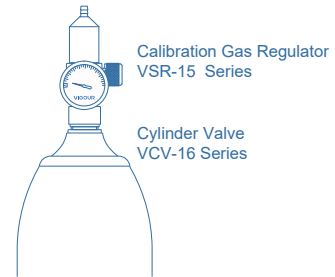
- Cylinder pressure regulator
- Brass chrome plated body or stainless steel body
- Piston type

Typical Applications

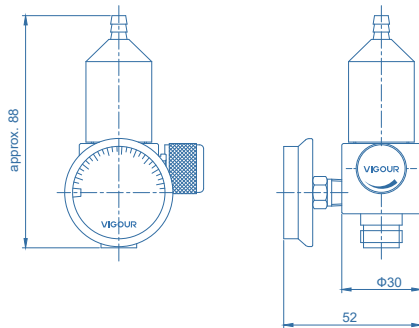
- Calibration system

Technical Data

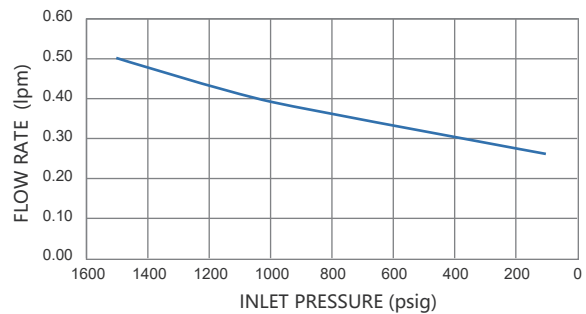
Type:	single-stage
Inlet pressure:	max. 200 bar
Outlet pressure:	2 bar(standard) 4 bar(option)
Outlet flow settings:	see ordering info
Materials	
Body regulator:	see ordering info
Temperature range:	-20°C to +50°C
Leak rate:	Bubble-tight
Weight:	0.35 kg



Dimensions (mm)



Flow Chart



Ordering Information

VSR - 15C - 200 - 4 - 0.2 - C10 - 3/16 - W — Flow Setting Type

Body Material
S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁
20: 20 bar
200: 200 bar

Outlet Pressure P₂
2: 2 bar (standard)
4: 4 bar (option)

W: Hand wheel

Outlet connection
3/16: 3/16" Hose barb

Inlet connection
C10: 5/8-18 UNF (C-10)
CGA600: CGA600

Nominal Flow
0.2: 0.2 LPM 1.5: 1.5 LPM
0.3: 0.3 LPM 2.5: 2.5 LPM
0.5: 0.5 LPM 5: 5 LPM
1: 1 LPM 6: 6 LPM

High Pressure Self-venting Regulator

VSR-7 Series

Product Features

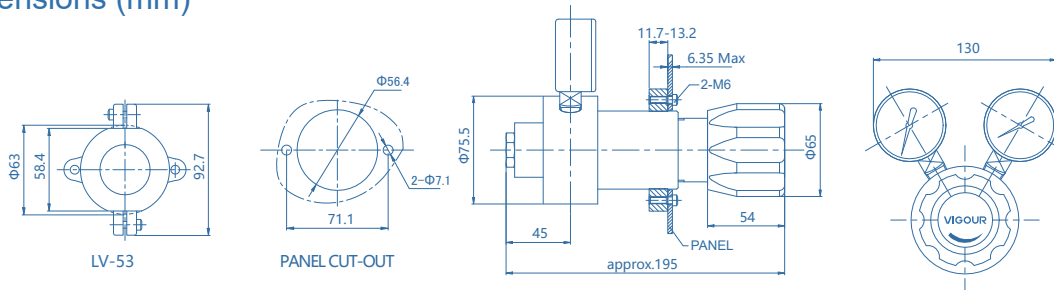
- High pressure, high flow regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for pharmaceutical, food and beverage application
- Simple outlet pressure limitation by handwheel
- Self-venting standard
- Stable outlet pressure
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration System
- Laboratory Pressure Control
- High Pressure Sampling System
- Service & Test Equipment



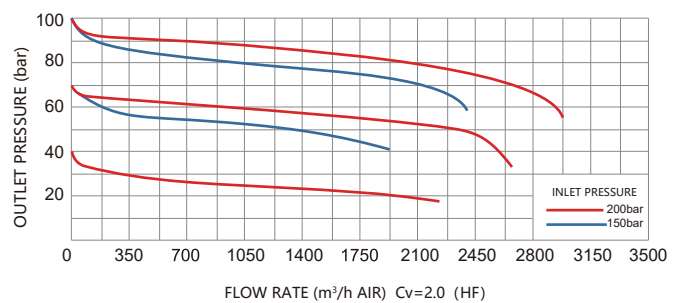
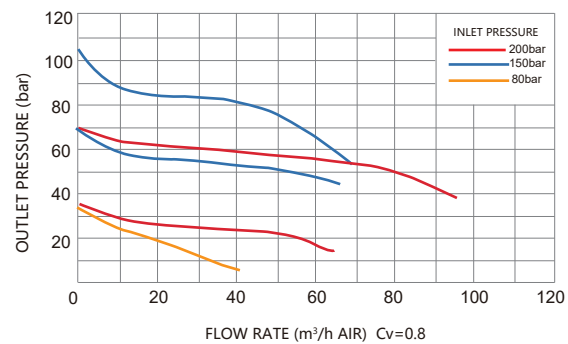
Dimensions (mm)



Technical Data

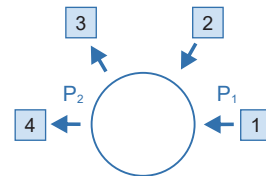
Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	20/35/50/100/170 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
Filter:	SS 316L
O-ring:	Viton® (FKM)
Back-up ring:	PTFE
Gaskets:	PCTFE
Inlets and Outlets:	1/4", 1/2" NPT(F) 3/4", 1" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=0.8 Cv=2.0(HF)
Weight:	2.9kg

Flow Chart



High Pressure Self-venting Regulator VSR-7 Series

Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)
F8: 1/2" NPT(F)
F12: 3/4" NPT(F)
F16: 1" NPT(F)

TW12M: 12mm weld tube
TW20M: 20mm weld tube
P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 7S - 200 - 20 - 1 - 2 - 3 - 4 - N2 - HF - X

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar
100: 100 bar
200: 200 bar
300: 300 bar

Outlet Pressure P₂

20: to 20 bar
35: to 35 bar
50: to 50 bar
100: to 100 bar
170: to 170 bar

Option

Blank: Self-venting
X: Non self-venting

Option

Blank: Cv=0.8
HF: Cv=2.0

*HF Option applicable: 1/4", 1/2", 3/4", 1".

Type Of Gas

Please specify type of gas

Ordering Example

Example: VSR - 7S - 300 - 50 - F8 - P - P - F8 - N2

1 - 2 - 3 - 4



High Pressure Self-venting Regulator

VSR-8 Series

Product Features

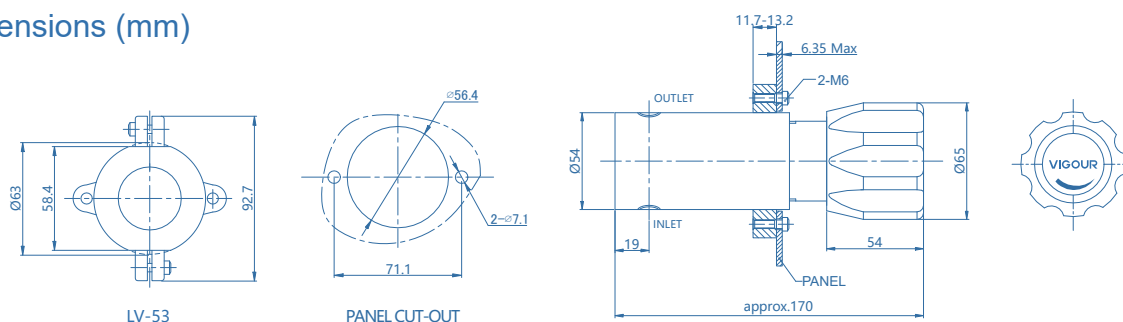
- Piston type high pressure regulator
- self-venting standard
- Stainless steel 316L body for pharmaceutical, food and beverage application
- 4 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filter
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration System
- Laboratory Pressure Control
- High Pressure Sampling System
- Service & Test Equipment



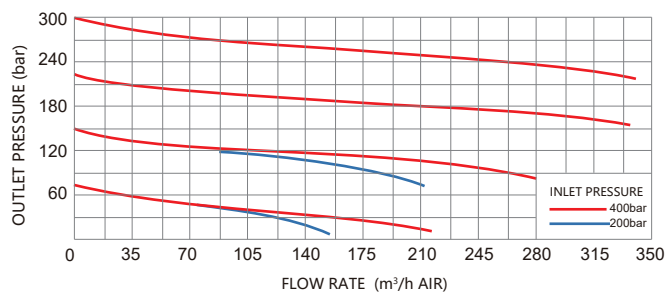
Dimensions (mm)



Technical Data

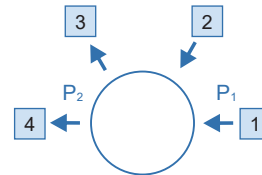
Type:	single-stage
Inlet pressure P1:	Brass: max. 400 bar 316L: max. 400/700 bar
Outlet pressure P2:	35/50/100/200//300/400 bar
Materials	
Body regulator, relief valve:	see ordering info
Main valve seat:	Vespel®
Vent valve seat:	PCTFE
Piston:	SS 316L
O-ring:	Viton® (FKM)
(option)	Kalrez®(FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/4"NPT (F)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=0.06
Weight:	2.20kg

Flow Chart



High Pressure Self-venting Regulator VSR-8 Series

Ordering Information



Inlets / Outlets

F4: 1/4"NPT(F)
M4: 1/4"NPT(M)
02: 1/8"Tube fitting
04: 1/4"Tube fitting
06: 3/8"Tube fitting

6M: 6mm Tube fitting
8M: 8mm Tube fitting
TW6M: 6mm Weld tube
TW8M: 8mm Weld tube

P: Gauge (Psig/bar)
B: Plug

* Other connection standard, consult factory.

Port Selection

VSR - 8S - 400 - 200 - 1 - 2 - 3 - 4 - N2 - X

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

400: 400 bar (Brass / 316L)
700: 700 bar (316L)

Outlet Pressure P₂

35: to 35 bar
50: to 50 bar
100: to 100 bar
200: to 200 bar
300: to 300 bar
400: to 400 bar

Option

Blank: Self-venting
X: Non self-venting

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 8C - 400 - 200 - F4 - F4 - F4 - F4 - N2 - X

1 - 2 - 3 - 4



* For mixed gases, please specify cylinder connection standard and thread when ordering.

High Pressure Self-venting Regulator

VSR-31 Series

Product Features

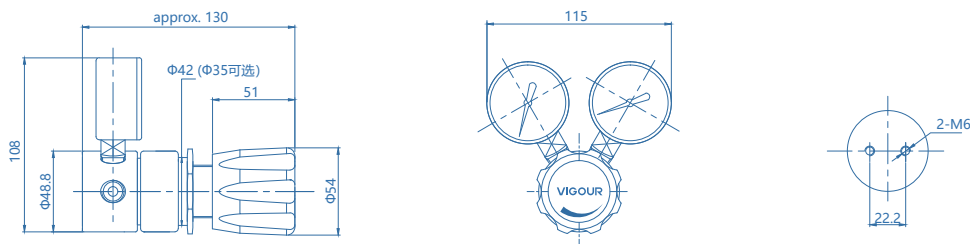
- Piston sensed for high reliability and long service life
- Brass or Stainless Steel construction
- For pilot type pressure reducing system
- 4 ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Adjustable and stoppable ultimate maximum outlet pressure



Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

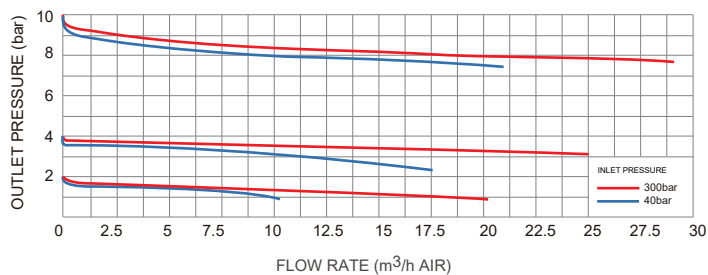
Dimensions (mm)



Technical Data

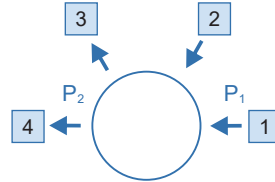
Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/8/10/20 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/4" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=0.07
Weight:	approx. 1.30kg

Flow Chart



High Pressure Self-venting Regulator VSR-31 Series

Ordering Information



Inlets / Outlets

F4: 1/4" NPT(F)

P: Gauge (Psig/bar)

* Other connection standard, consult factory.

Port Selection

VSR - 31P S- 200- 20 - 1 - 2 - 3 - 4 - N₂

Options

None: Standard mounting
P: Panel mounting

Body Material

S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁

100: 100 bar
200: 200 bar
300: 300 bar

Outlet Pressure P₂

2: to 2 bar
4: to 4 bar
8: to 8 bar
10: to 10 bar
20: to 20 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 31C - 200 - 10 - F4 - P - P - F4 - O₂

1 - 2 - 3 - 4



High Pressure Regulator

VSR-36 Series

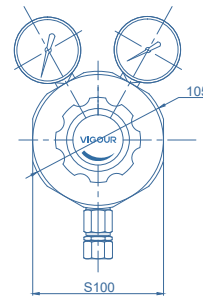
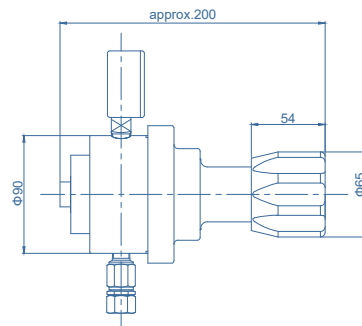
Product Features

- Pressure regulator, piston type
- Brass body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- 5 Ports flexible configuration
- Stable outlet pressure
- Simple outlet pressure limitation by handwheel
- Inlet filter
- Tested for use with oxygen

Typical Applications

- Hydrogen energy resource
- Manifold Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

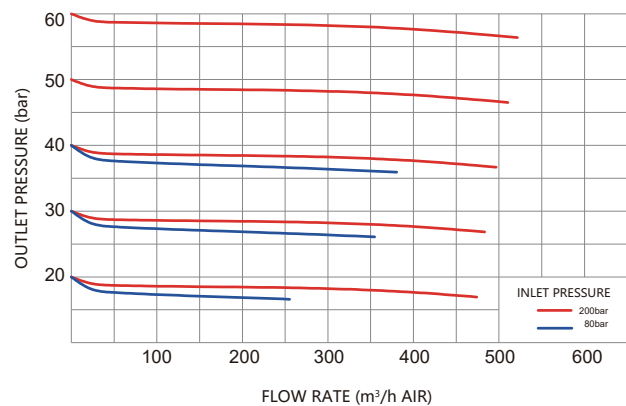
Dimensions (mm)



Technical Data

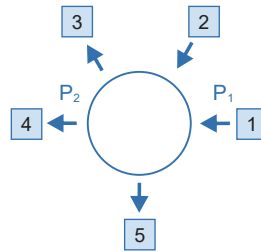
Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	20/40/60 bar
Materials	
Body regulator, Relief valve:	see ordering info
Valve seat:	PCTFE
O-ring:	Viton® (FKM)
Filter:	SS 316L
Inlets and Outlets:	see ordering info
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=2.0
Weight:	5.5kg

Flow Chart



High Pressure Regulator VSR-36 Series

Ordering Information



Inlets / Outlets

F4: 1/4"NPT(F) P: Gauge (Psig/bar)
F8: 1/2"NPT(F) B: Plug
F12: 3/4"NPT(F) R: Relief valve

* Other connection standard, consult factory.

Port Selection

VSR - 36S - 200 - 20 - 1 - 2 - 3 - 4 - 5 - N₂

Body Material

S: 316L
C: Chrome plated brass

Inlet Pressure P_1

40: 40bar
100: 100bar
200: 200bar
300: 300bar

Outlet Pressure P_2

20: 10 to 20 bar
40: 20 to 40 bar
60: 40 to 60 bar

Type of Gas

Please specify type of gas

Ordering Example

Example: VSR - 36S - 200 - 20 - F8 - P - P - F8 - B - N₂

1 - 2 - 3 - 4 - 5



* For mixed gases, please specify cylinder connection standard and thread when ordering.

Hydrogen Pressure Regulator

VSR-9 Series

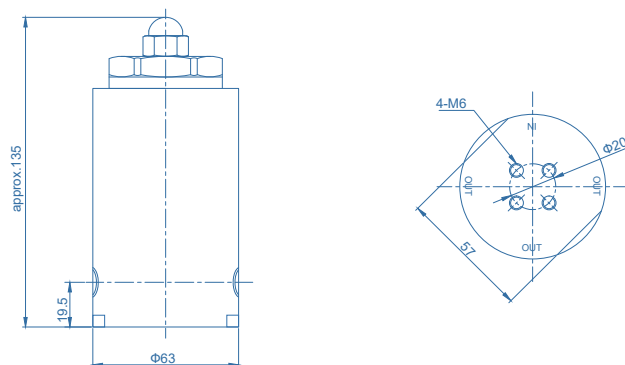
Product Features

- Piston-sensed design provides a long service life and enhanced safety
- High flow and minimal flow droop
- Balanced valve design minimizes supply pressure effect
- Used in diverse applications for a broad range of temperatures, flows and pressures
- Wide variety of preset outlet pressure are available
- 10 micron, 316 Stainless Steel filter

Typical Applications

- Hydrogen fuel cell vehicles

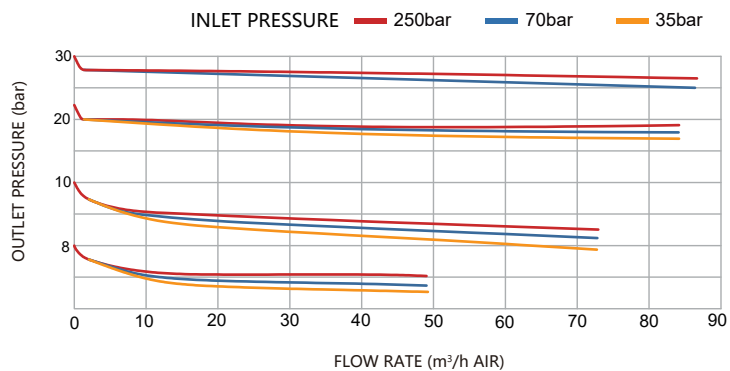
Dimensions (mm)



Technical Data

Inlet pressure P1:	max. 350 / 700 bar
Outlet pressure P2:	8/10/20/30 bar
Materials	
Body:	316L / Aluminium
Seat:	VespeI®
O-ring:	EPDM
Main valve:	316L
Sensor:	316L
Spring:	316L
Filter:	10µm 316
Leak rate:	Bubble-tight
Temperature range:	-40°C to +85°C
Flow capacity:	Cv=0.50
Weight:	2.4kg

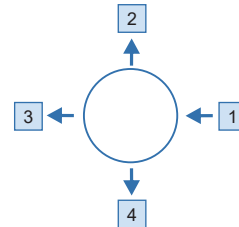
Flow Chart



Hydrogen Pressure Regulator

VSR-9 Series

Ordering Information



Inlets / Outlets

F4: 1/4"NPT(F)
F6: 3/8"NPT(F)
F8: 1/2"NPT(F)

A4: 1/4"SAE
A6: 3/8"SAE
A8: 1/2"SAE

P: Gauge (Psig/bar)

* Other connection standard, consult factory.

Port Selection

VSR - 9S - 350 - 8 - 1 - 2 - 3 - 4

Body Material

S: 316L

A: Aluminum

Inlet Pressure P₁

350: 350 bar

700: 700 bar (316L)

Outlet Pressure P₂

8: 8 bar

10: 10 bar

20: 20 bar

30: 30 bar

Ordering Example

Example: VSR - 9S - 350 - 8 - F4 - F4 - F4 - F4

1 - 2 - 3 - 4



Hydrogen Pressure Regulator

VSR-92 Series

Product Feature

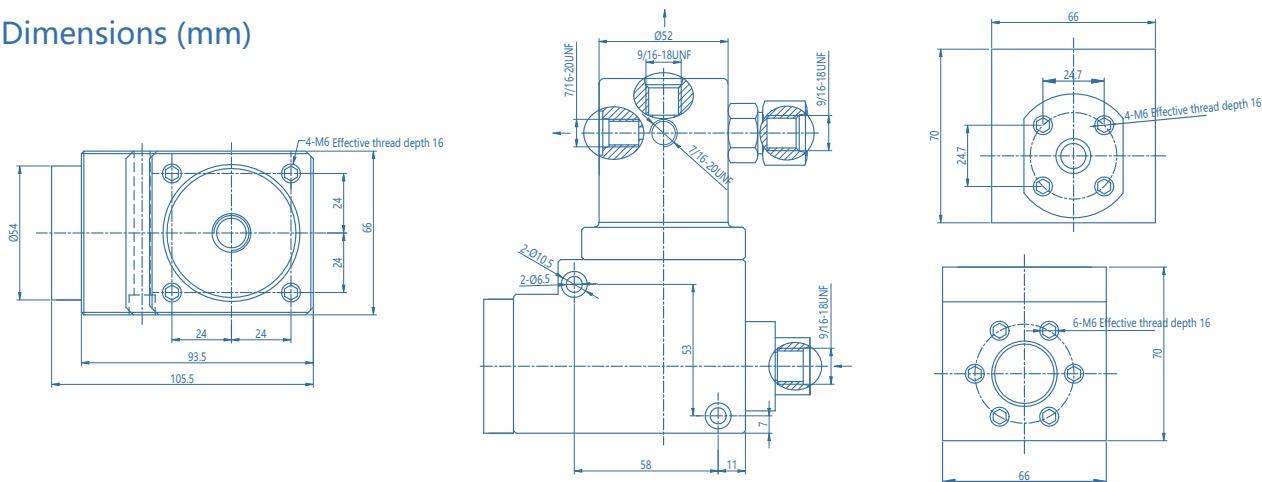
- High pressure on-board pressure reducer
- Piston type high pressure input, is safe and reliable
- High flow rate meets high power condition of hydrogen new energy
- Multi-specification preset pressure optional
- Porous design, convenient installation of accessories



Typical Applications

- Hydrogen vehicle air supply system

Dimensions (mm)



Technical Data

Type:	Dual-stage
Inlet pressure P1:	max. 350 bar / 700 bar
Outlet pressure P2:	Inlet 350 bar: 6~13 bar Inlet 700 bar: 7~13 bar

Materials

Body: Aluminium

Valve seat: Vespel®

O-ring:	EPDM
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Piston:	Aluminium
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Spring: Piano wire

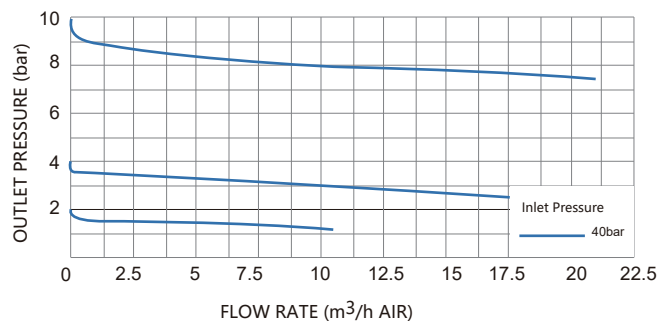
Filter: 120 μ m / 2 μ m 316L

Temperature range: -40°C to +85°C

Leak rate:	Bubble-tight
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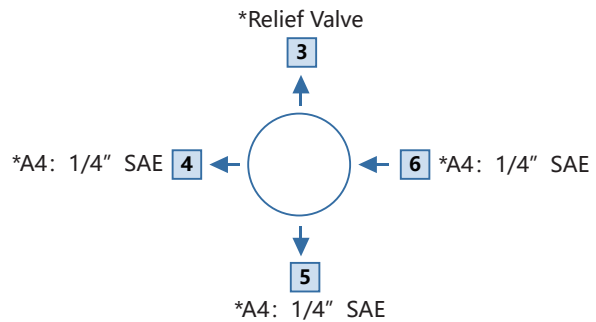
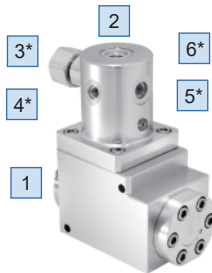
Weight: 1.9kg

Flow chart



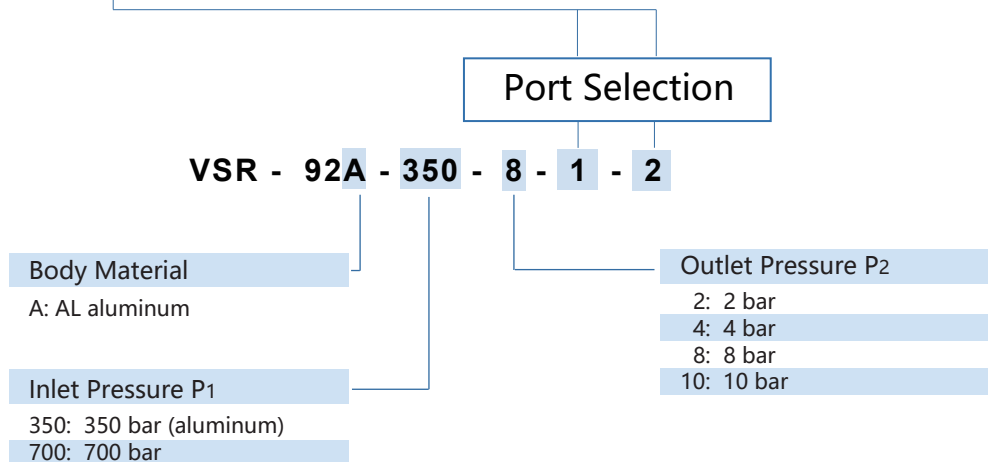
Hydrogen Pressure Regulator VSR-92 Series

Ordering Information



Inlets / Outlets		
F4: 1/4" NPT(F)	A4: 1/4" SAE	P: Gauge
F6: 3/8" NPT(F)	A6: 3/8" SAE	
F8: 1/2" NPT(F)	A8: 1/2" SAE	

* Other connection standard, consult factory.



Ordering Example

Example: VSR - 92A - 350 - 8 - A6 - A6
1 - 2



Precision Pressure Regulator

VSR-120 Series

Product Features

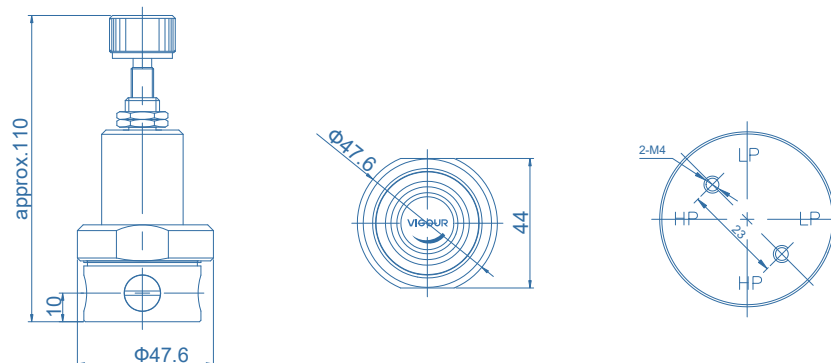
- Low pressure, high flow regulator
- Stainless steel 316L body, Aluminum body
- A variety of hole design, suitable for a variety of inlet and outlet gas structure
- Stable output pressure
- Simple outlet pressure limitation by handwheel
- Tested for use with oxygen

Typical Applications

- The hydrogen industry
- Supporting analysis industry
- Food and pharmaceutical industry



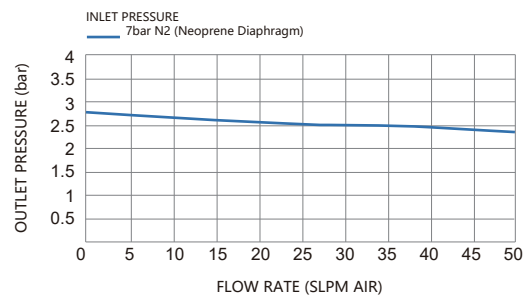
Dimensions (mm)



Technical Data

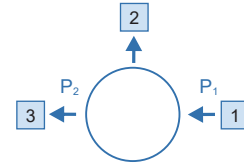
Type:	single-stage
Inlet pressure P ₁ :	max. 17 bar
Outlet pressure P ₂ :	0~0.3/0.7/2/4/7 bar
Materials	
Body regulator:	see ordering info
Valve seat:	Viton®(FKM)
Diaphragm:	Neoprene / 316L (option)
O-ring:	Viton®(FKM) / Kalrez®(FFKM)
Filter:	SS 316L
Inlets and Outlets:	1/8"
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=0.04
Weight:	0.4kg (316L) 0.2kg (Aluminum)

Flow Chart



Precision Pressure Regulator VSR-120 Series

Ordering Information



Inlets / Outlets

F2: 1/8" NPT(F)

M2: 1/8" NPT(M)

P: Gauge (Psig/bar)

* Other connection standard, consult factory.

Port Selection

VSR - 120 A - 15 - 4 - 1 - 2 - 3 - S - K - N₂

Body Material

S: 316L

A: Aluminum

Inlet Pressure P₁

17: 17 bar

Outlet Pressure P₂

0.3: to 0.3 bar

0.7: to 0.7 bar

2: to 2 bar

4: to 4 bar

7: to 7 bar

Type of Gas

Please specify type of gas

O-ring

none: FKM

K: FFKM

Diaphragm

none: Neoprene

S: 316L

Ordering Example

Example: VSR - 120 A - 15 - 4 - F2 - P - F2 - N₂

1 - 2 - 3



Precision Pressure Regulator

VSR-121 Series

Product Features

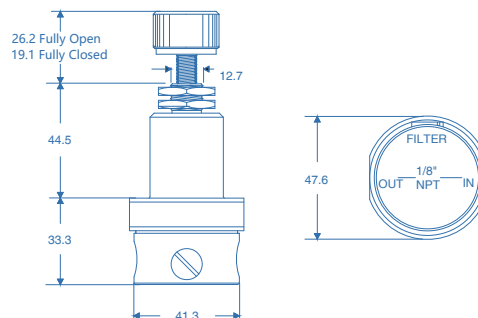
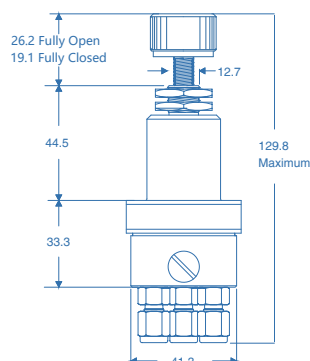
- Direct-acting and non-relieving
- Compact design enables panel mounting
- Aluminum body
- Bubble tight shut-off
- Stable output pressure
- Simple outlet pressure limitation by handwheel
- RoHS and REACH compliant

Typical Applications

- Environmental Analyzers — Helium or Hydrogen Carrier Gas
- Precision Nitrogen Control for Chemical Analysis
- Laboratory and Process Gas Chromatography applications



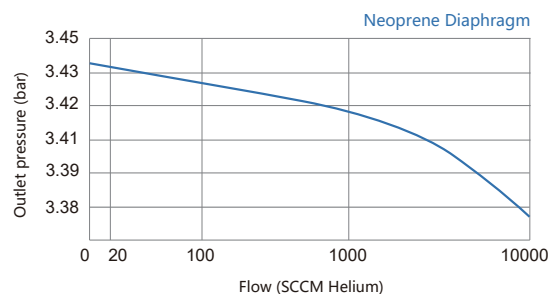
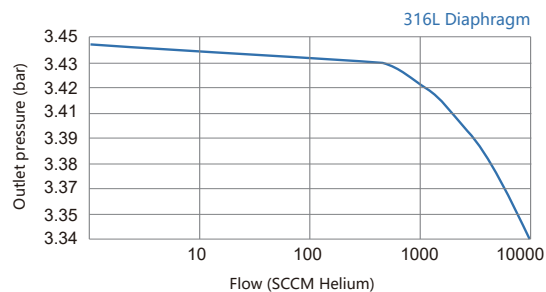
Dimensions (mm)



Technical Data

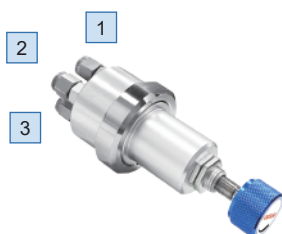
Type:	single-stage
Inlet pressure P1:	max. 17 bar
Outlet pressure P2:	0~0.3/0.7/2/4/7 bar
Materials	
Body regulator:	Aluminum
Valve seat:	Viton®(FKM)
Diaphragm:	316L / Neoprene (option)
O-ring:	Viton®(FKM) / Buna-N (option)
Filter:	SS 316L
Inlets and Outlets:	1/8" NPT (valve body connection) 1/8" Tube fitting (bottom connection)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Weight:	approx. 0.2kg

Flow Chart



Precision Pressure Regulator VSR-121 Series

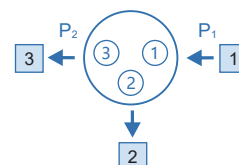
Ordering Information



Valve Body Connection Diagram



bottom connection Diagram



Inlets / Outlets

F2: 1/8"NPT(F) | 02: 1/8" Tube fitting | 01: 1/16" Tube fitting

* Other connection standard, consult factory.

Port Selection

VSR - 121 R A - 17 - 4 - 1 - 2 - 3 - N - B - N₂

Options

none: valve body connection
R: bottom connection

Body Material

A: Aluminum

Inlet Pressure P₁

17: 17 bar

Outlet Pressure P₂

0.3: to 0.3 bar
0.7: to 0.7 bar
2: to 2 bar
4: to 4 bar
7: to 7 bar

Type of Gas

Please specify type of gas

O-ring

none: FKM
B: Buna-N

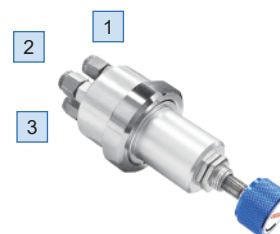
Diaphragm

none: 316L
N: Neoprene

Ordering Example

Example: VSR - 121RA - 17 - 4 - 02 - 02 - 02 - N₂

1 2 3



Pilot Operated Pressure Regulator

VSR-60 Series

Product Features

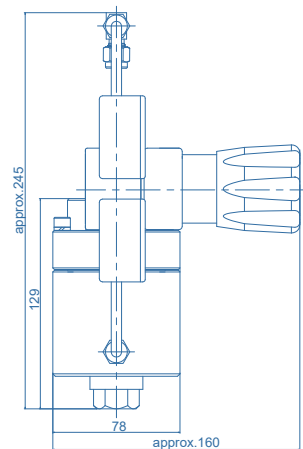
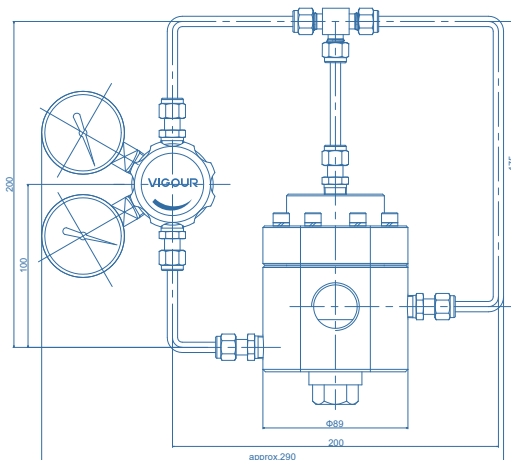
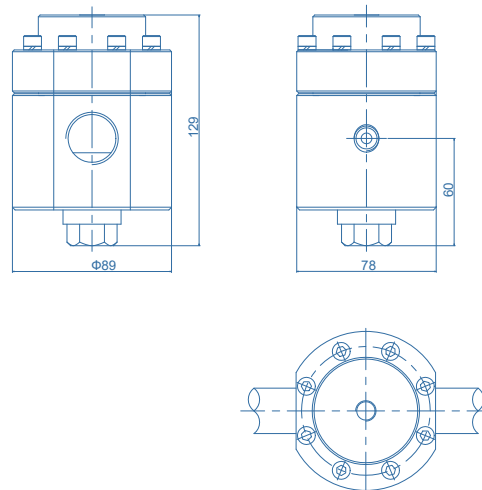
- Balancing valve core design
- Diaphragm type
- Dynamically adjusted pilot pressure regulator
- Pilot-operated pressure regulator can improve performance
- Provides good output stability
- Tested for use with oxygen



Typical Applications

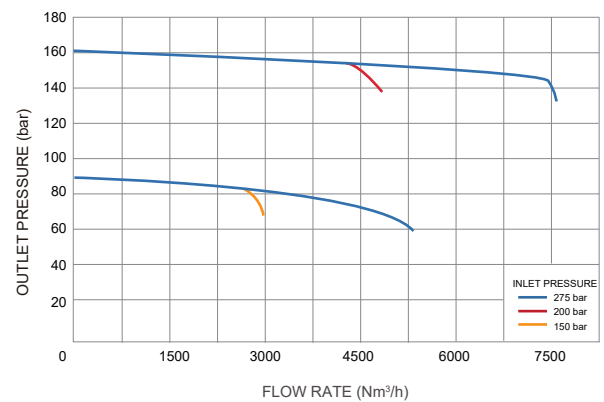
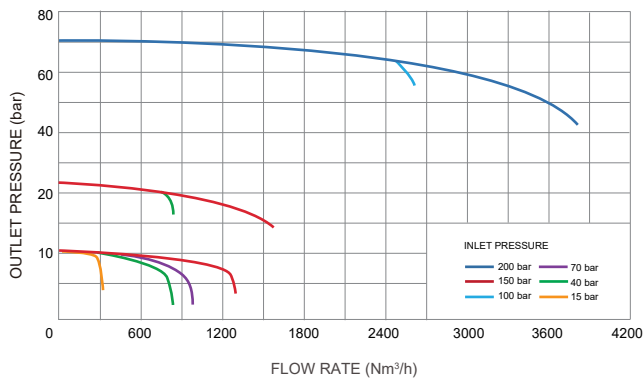
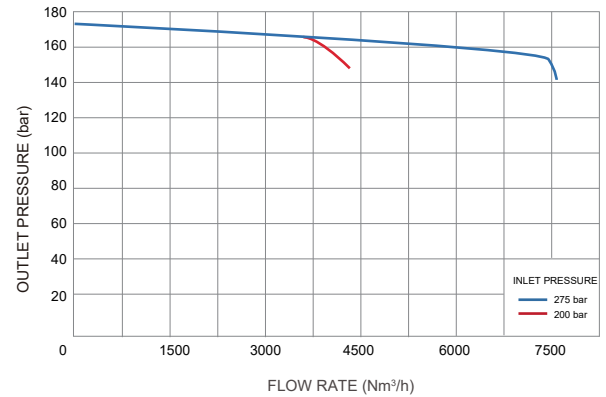
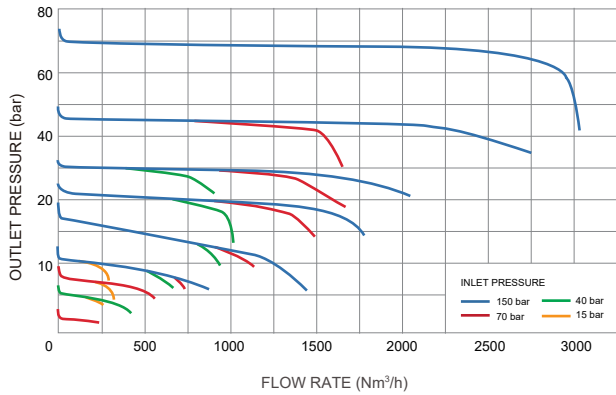
Type:	Pilot operated pressure regulator
Inlet pressure P1:	70/200/300/400 bar
Outlet pressure P2:	10/25/70/100/175 bar
Materials	
Valve seat:	EPDM (Inlet pressure 70 bar) PCTFE (Inlet pressure 70~400 bar)
Diaphragm:	EPDM
O-ring:	Viton®
Inlets and Outlets:	3/4" / 1" NPT(F)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	3/4" Cv=1.95 1" Cv=2.07
Weight:	approx. 5.6kg

Dimensions (mm)



Pilot Operated Pressure Regulator VSR-60 Series

Flow Chart



Ordering Example

VSR - 60 S - 400 - 175 - F16- F16 - X

Body Material

S: 316L

Inlet Pressure P1

70: 70 bar

200: 200 bar

300: 300 bar

400: 400 bar

Outlet Pressure P2

10: 0~10 bar

25: 0~25 bar

70: 0~70 bar

100: 0~100 bar

175: 0~175 bar

Option

None: include pilot operated pressure regulator

X: barring pilot operated pressure regulator

Inlets and Outlets

F12: 3/4"NPT(F)

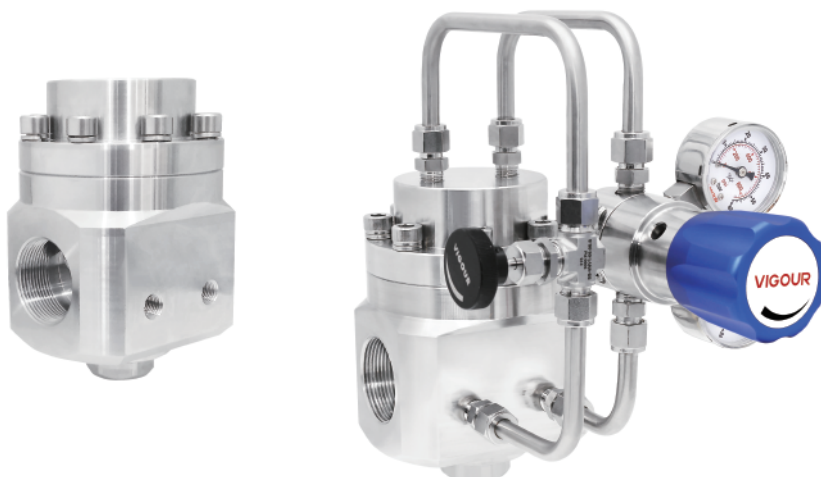
F16: 1"NPT(F)

Pilot Operated Pressure Regulator

VSR-61 Series

Product Features

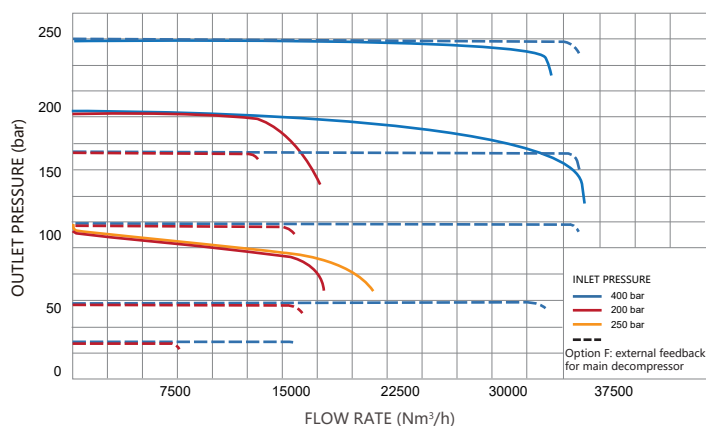
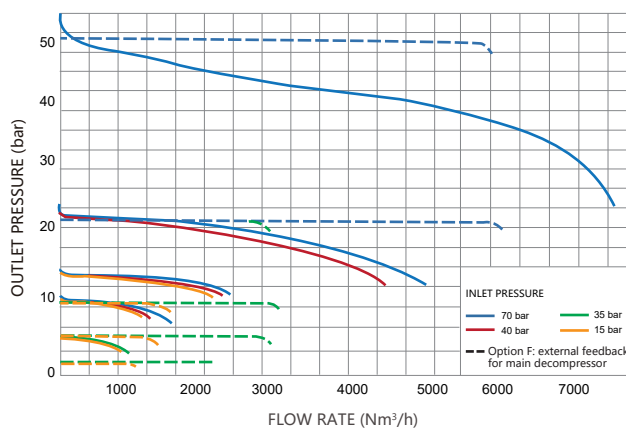
- Balancing valve core design
- Diaphragm type
- Dynamically adjusted pilot pressure regulator
- Pilot-operated pressure regulator can improve performance
- Optional external feedback for main decompressor
- Provides good output stability
- Tested for use with oxygen



Typical Applications

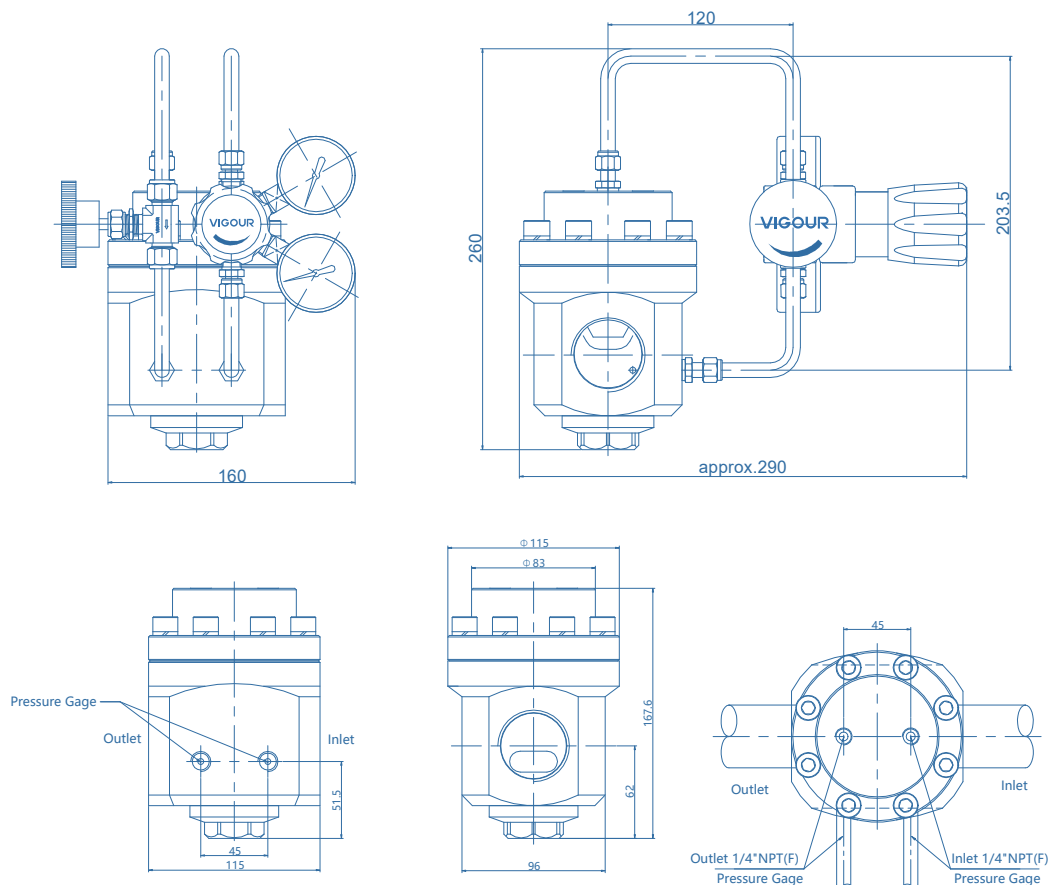
Type:	Pilot operated pressure regulator
Inlet pressure P1:	35/70/200/400 bar
Outlet pressure P2:	3/10/20/25/70/100/175/250 bar
Materials	
Valve seat:	EPDM (Inlet pressure 35/70 bar) PCTFE (Inlet pressure 200~400 bar)
Diaphragm:	EPDM
O-ring:	Viton®
Inlets and Outlets:	1-1/2"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble-tight
Flow capacity:	Cv=7.3
Weight:	approx. 10.8kg

Flow Chart



Pilot Operated Pressure Regulator VSR-61 Series

Dimensions (mm)



Ordering Example

VSR - 61 S - 400 - 250 - F24- F24 - X - F

Body Material

S: 316L
B: Brass

Inlet Pressure P1

35: 35 bar
70: 70 bar
200: 200 bar
400: 400 bar

Outlet Pressure P2

3: 0~3 bar
10: 0~10 bar
20: 0~20 bar
25: 0~25 bar
70: 0~70 bar
100: 0~100 bar
175: 0~175 bar
250: 0~250 bar

Option

None: not*

F= external feedback for main decompressor

*Pressure gauge connection: 1/4" NPT(F)

Type

None: include pilot operated pressure regulator
X: barring pilot operated pressure regulator

Inlets and Outlets

F24: 1-1/2" NPT(F)

Pressure Control Panel

VSP-1E Series

Product Features

- Manual pressure control panel
- VSR-1E / VSR-6E Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen

Typical Applications

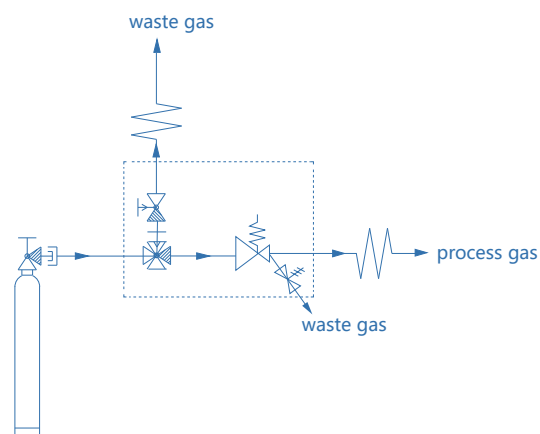
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



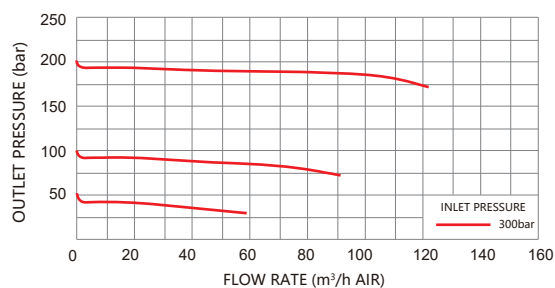
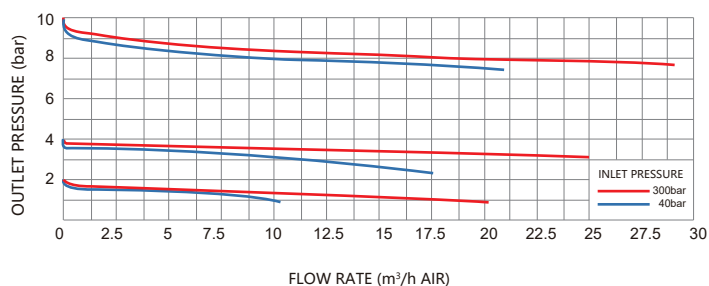
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/15/20/50/100/200 bar
Materials	
Body regulator:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy®C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	3.3kg

Schematic Drawing



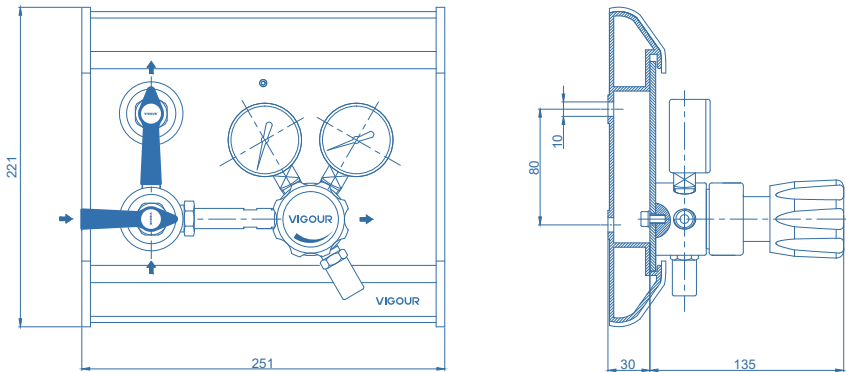
Flow Chart



Pressure Control Panel

VSP-1E Series

Dimensions (mm)



Ordering Information

VSP - 1ES - 300 - 10 - P - P - V - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

15: to 15 bar

20: to 20 bar

50: to 50 bar (Non Relief valve)

100: to 100 bar (Non Relief valve)

200: to 200 bar (Non Relief valve)

Type Of Gas

Please specify type of gas

Option

Blank: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

Outlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Inlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Pressure Control Panel

VSP-1 Series

Product Features

- Manual pressure control panel
- VSR-2E Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen

Typical Applications

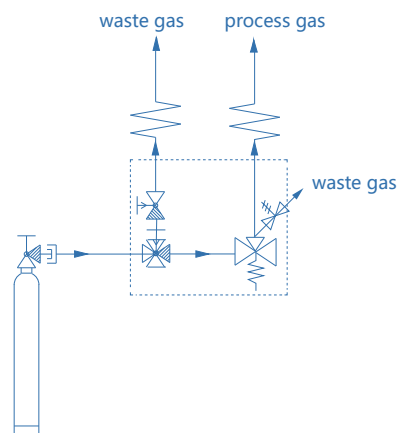
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



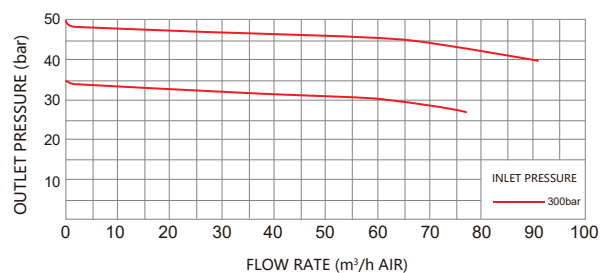
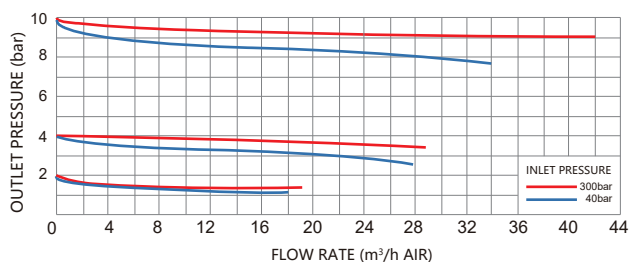
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy®C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	3.5kg

Schematic Drawing



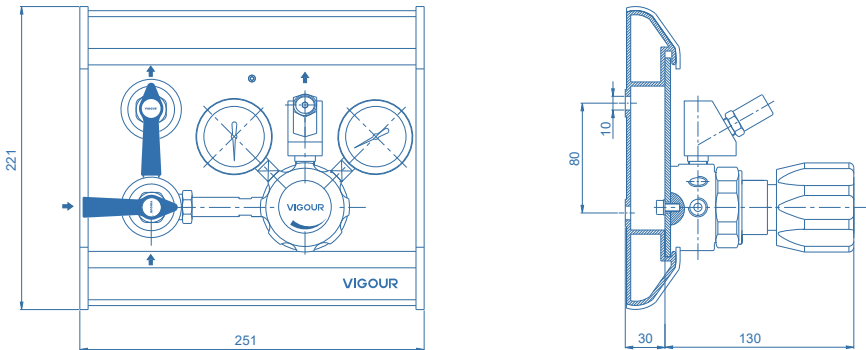
Flow Chart



Pressure Control Panel

VSP-1 Series

Dimensions (mm)



Ordering Information

VSP - 1S - 300 - 10 - P - P - V - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

35: to 35 bar (Non Relief valve)

50: to 50 bar (Non Relief valve)

Type Of Gas

Please specify type of gas

Option

Blank: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

Outlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Inlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Pressure Control Panel

VSP-1H Series

Product Features

- Manual pressure control panel
- VSR-3 Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen



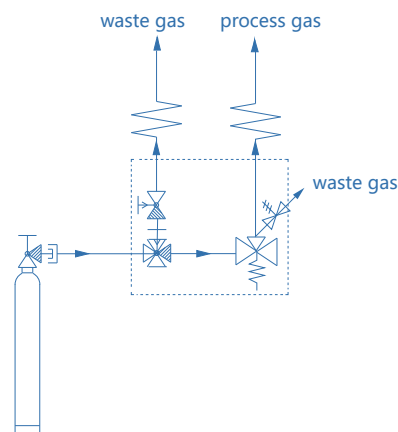
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

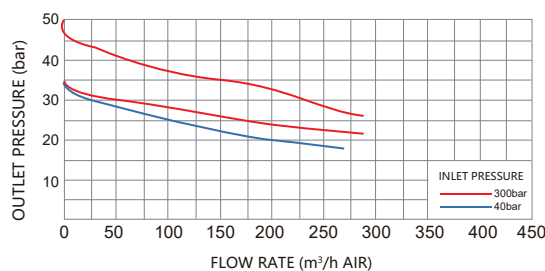
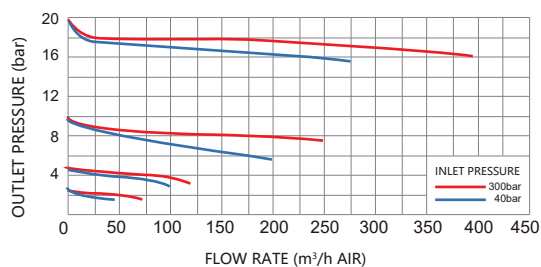
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy®C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/2"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	4.9kg

Schematic Drawing



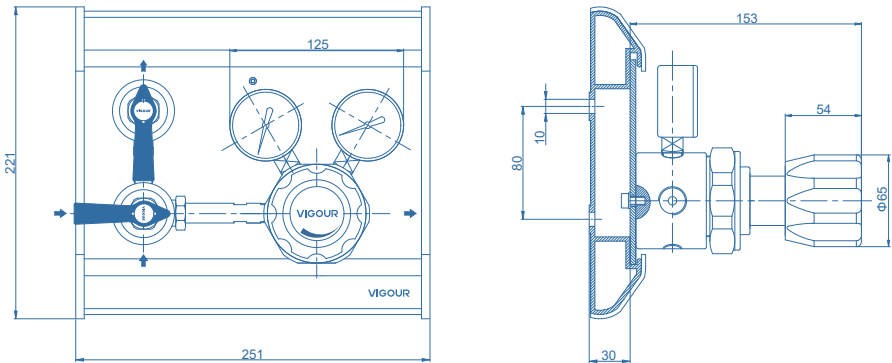
Flow Chart



Pressure Control Panel

VSP-1H Series

Dimensions (mm)



Ordering Information

VSP - 1HS - 300 - 10 - P - P - V - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

35: to 35 bar (Non Relief valve)

50: to 50 bar (Non Relief valve)

Type Of Gas

Please specify type of gas

Option

Blank: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

Outlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Inlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Pressure Control Panel

VSP-1DE Series

Product Features

- Manual pressure control panel
- VSR-1E / VSR-6E Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen

Typical Applications

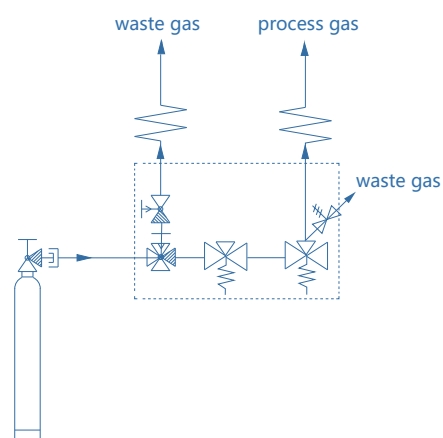
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



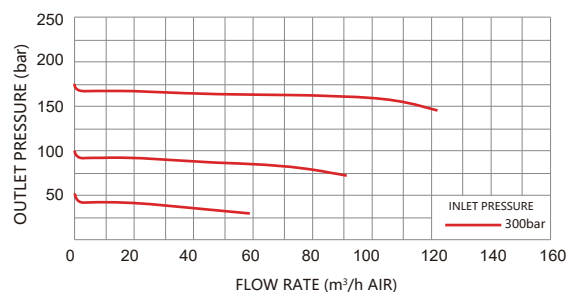
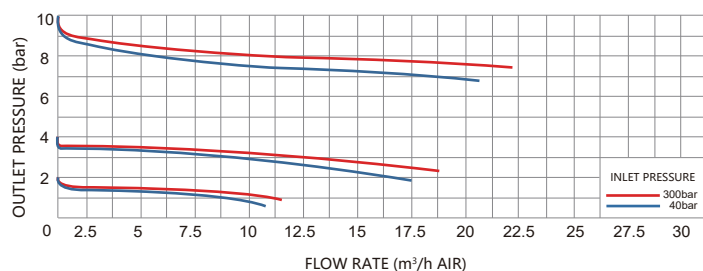
Technical Data

Type:	Double stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/50/100/200 bar
Materials	
Body regulator:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy®C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	3.5kg

Schematic Drawing



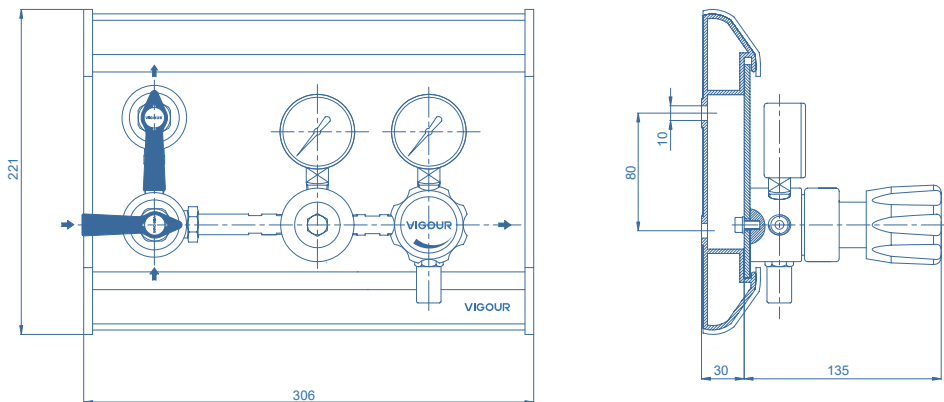
Flow Chart



Pressure Control Panel

VSP-1DE Series

Dimensions (mm)



Ordering Information

VSP - 1DES - 300 - 10 - P - P - V - N2			
Body Material		Type Of Gas	
S: 316L		Please specify type of gas	
C: Chrome Plated Brass			
Inlet Pressure P ₁		Option	
40: 40 bar		Blank: Includes inlet valve and vent valve	
100: 100 bar		V: Including inlet valve, not including vent valve	
200: 200 bar			
300: 300 bar		Outlet Pressure Indication	
		P: Pressure gauge	
		K: Contact gauge	
Outlet Pressure P ₂		Inlet Pressure Indication	
2: to 2 bar		P: Pressure gauge	
4: to 4 bar		K: Contact gauge	
10: to 10 bar			
20: to 20 bar			
50: to 50 bar (Non Relief valve)			
100: to 100 bar (Non Relief valve)			
200: to 200 bar (Non Relief valve)			

Pressure Control Panel

VSP-2E Series

Product Features

- Semi-automatic pressure control panel
- VSR-1E / VSR-6E Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen

Typical Applications

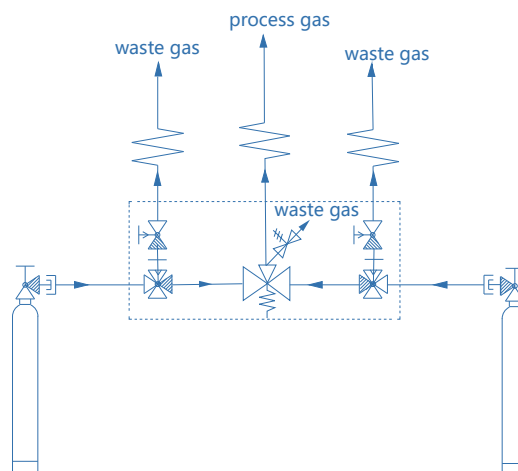
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



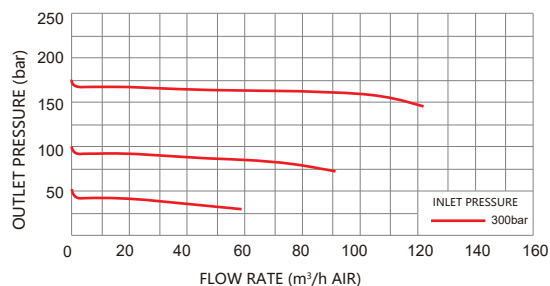
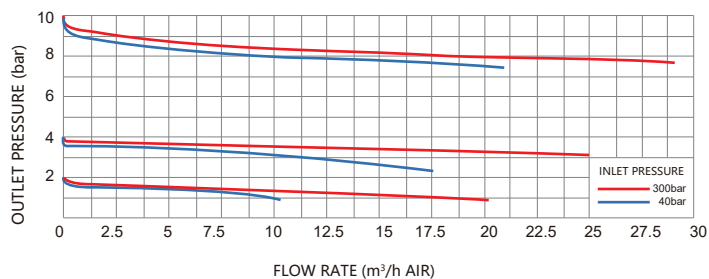
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/50/100/200 bar
Materials	
Body regulator:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy®C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	4.5kg

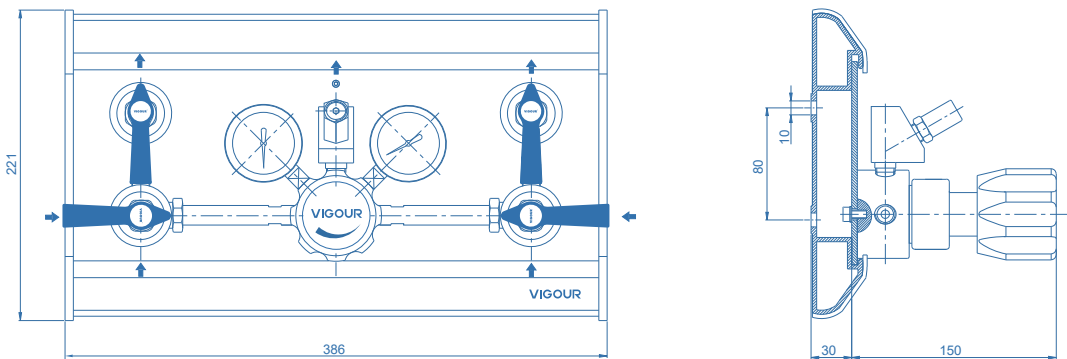
Schematic Drawing



Flow Chart



Dimensions (mm)



Ordering Information

VSP - 2E S - 300 - 10 - P - P - V - N₂

Body Material	Type Of Gas
S: 316L	Please specify type of gas
C: Chrome Plated Brass	
Inlet Pressure P ₁	Option
40: 40 bar	Blank: Includes inlet valve and vent valve
100: 100 bar	V: Including inlet valve, not including vent valve
200: 200 bar	
300: 300 bar	Outlet Pressure Indication
	P: Pressure gauge
	K: Contact gauge
Outlet Pressure P ₂	Inlet Pressure Indication
2: to 2 bar	P: Pressure gauge
4: to 4 bar	K: Contact gauge
10: to 10 bar	
20: to 20 bar	
50: to 50 bar (Non Relief valve)	
100: to 100 bar (Non Relief valve)	
200: to 200 bar (Non Relief valve)	

Pressure Control Panel

VSP-2 Series

Product Features

- Semi-automatic pressure control panel
- VSR-2E Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen



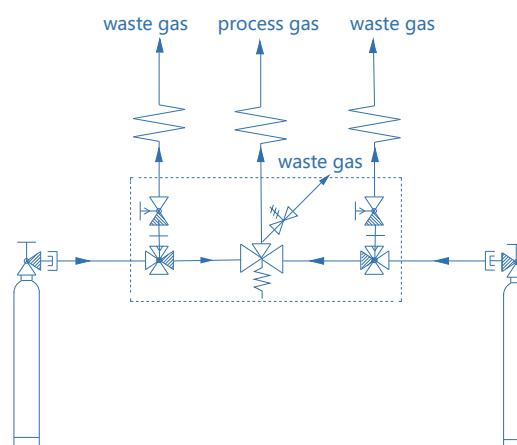
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

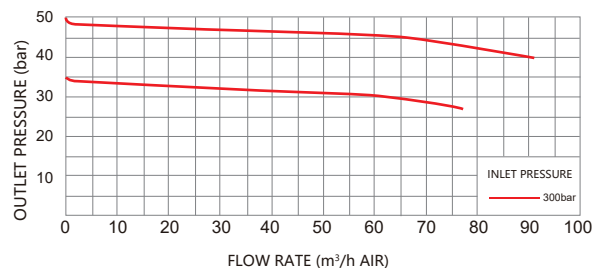
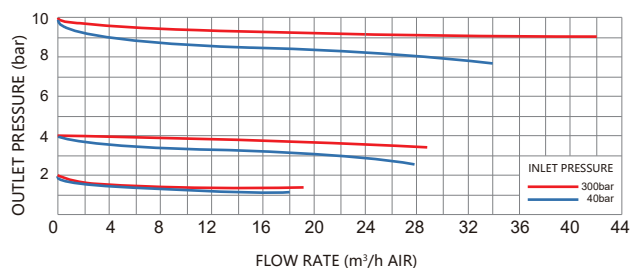
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy®C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	4.5kg

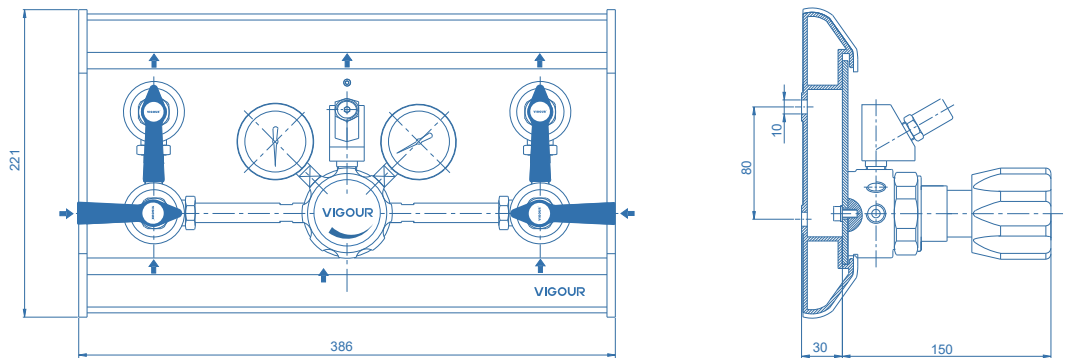
Schematic Drawing



Flow Chart



Dimensions (mm)



Ordering Information

VSP - 2S - 300 - 10 - P - P - V - N₂

Body Material S: 316L C: Chrome Plated Brass	Type Of Gas Please specify type of gas
Inlet Pressure P₁ 40: 40 bar 100: 100 bar 200: 200 bar 300: 300 bar	Option None: Includes inlet valve and vent valve V: Including inlet valve, not including vent valve
Outlet Pressure P₂ 2: to 2 bar 4: to 4 bar 10: to 10 bar 20: to 20 bar 35: to 35 bar (Non Relief valve) 50: to 50 bar (Non Relief valve)	Outlet Pressure Indication P: Pressure gauge K: Contact gauge
	Inlet Pressure Indication P: Pressure gauge K: Contact gauge

Pressure Control Panel

VSP-3AE Series

Product Features

- Semi-automatic pressure control panel
- VSR-1E / VSR-6E Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen



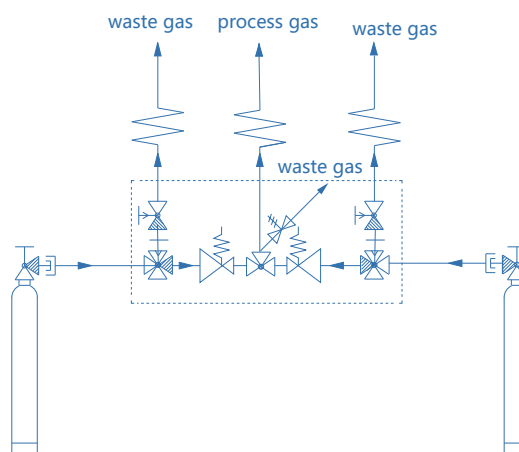
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

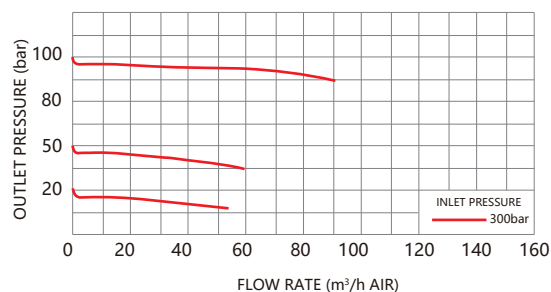
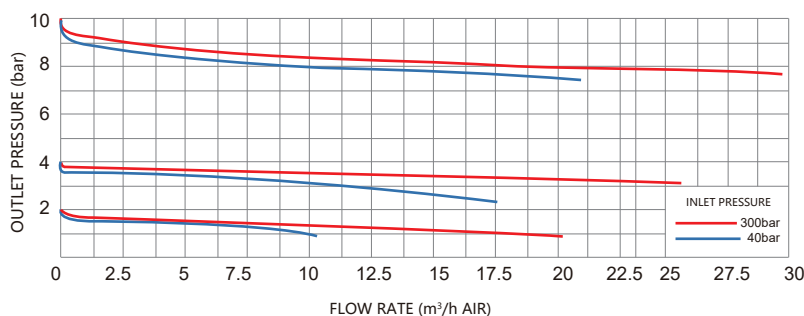
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/50/100 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy® C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	4.8kg

Schematic Drawing

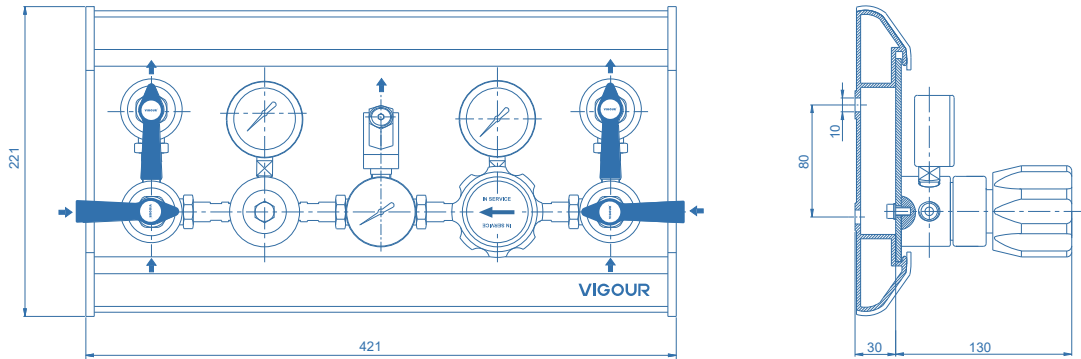


Flow Chart



Pressure Control Panel VSP-3AE Series

Dimensions (mm)



Ordering Information

VSP - 3AES - 300 - 10 - P - P - V - N2

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

50: to 50 bar (Non Relief valve)

100: to 100 bar (Non Relief valve)

Type Of Gas

Please specify type of gas

Option

None: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

X: Non inlet valve and vent valve

Outlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Inlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Pressure Control Panel

VSP-6A Series

Product Features

- Semi-automatic pressure control panel
- VSR-3 Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen



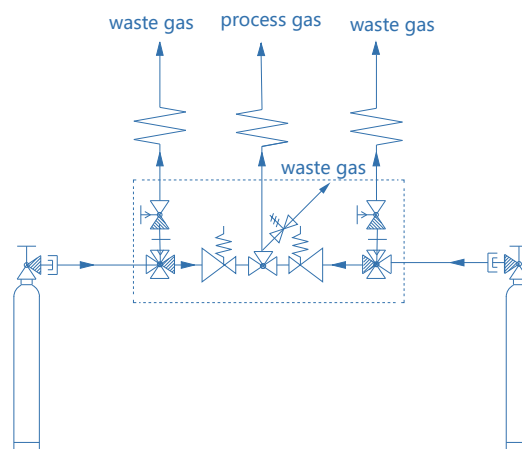
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

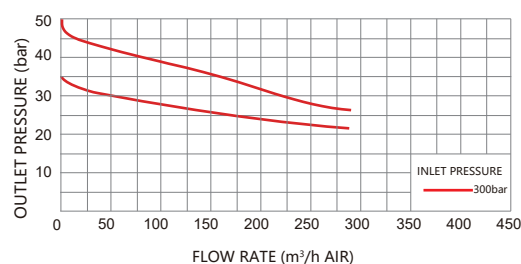
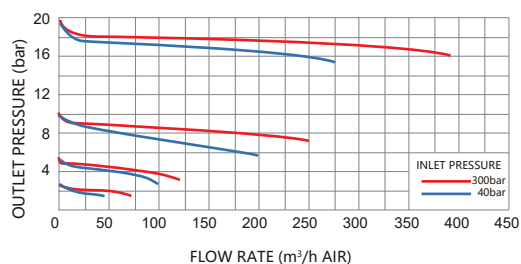
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy® C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/2"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	6.8kg

Schematic Drawing



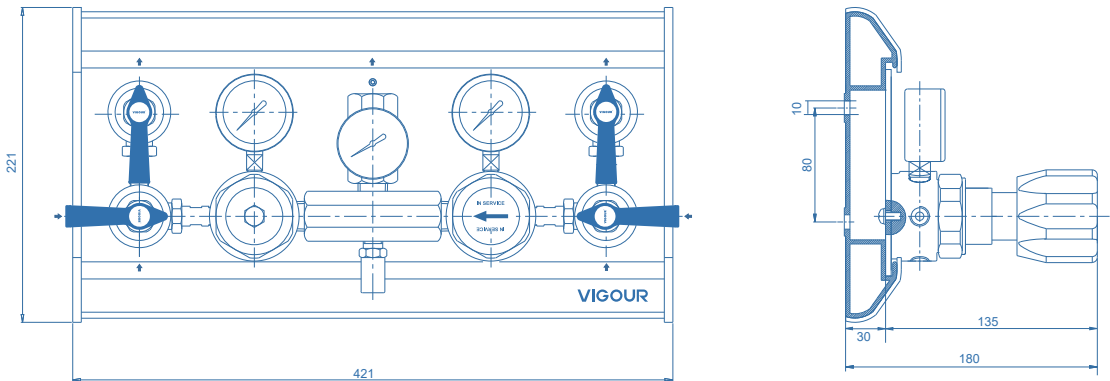
Flow Chart



Pressure Control Panel

VSP-6A Series

Dimensions (mm)



Ordering Information

VSP - 6AS - 300 - 10 - P - P - V - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

35: to 35 bar (Non Relief valve)

50: to 50 bar (Non Relief valve)

Type Of Gas

Please specify type of gas

Option

None: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

X: Non inlet valve and vent valve

Outlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Inlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Pressure Control Panel

VSP-7 Series

Product Features

- Fully automatic pressure control panel
- VSR-3 Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- When one side of the air source is exhausted, reverse circulation can be achieved without operation
- Tested for use with oxygen



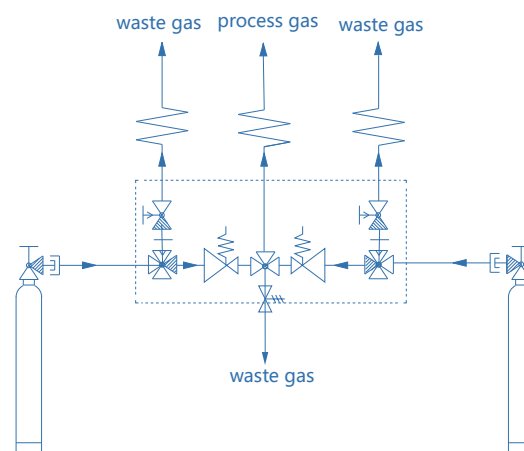
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

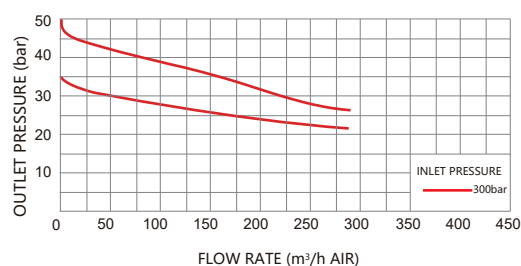
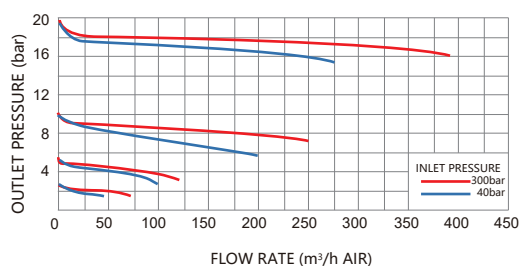
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy® C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4" NPT(F)
Outlet connection:	3/8" NPT(F)
Temperature range:	-20°C to +60°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	6.8kg

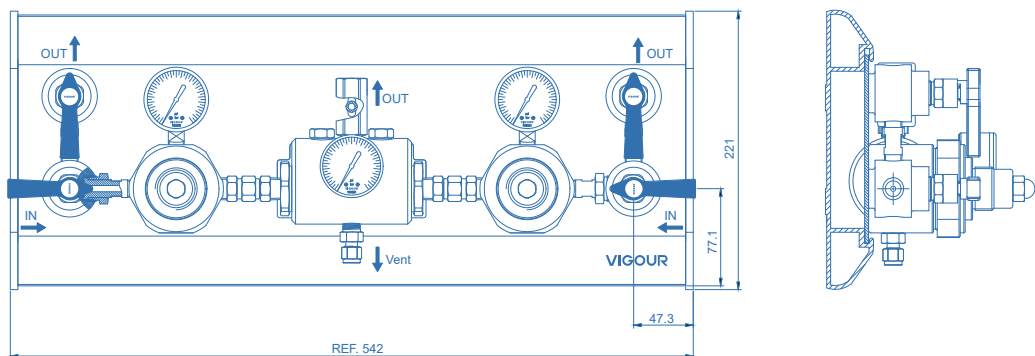
Schematic Drawing



Flow Chart



Dimensions (mm)



Ordering Information

VSP-7 S - 300 - 10 - P - P - V - N₂

Body Material
S: 316L
C: Chrome Plated Brass

Inlet Pressure P₁
40: 40 bar
100: 100 bar
200: 200 bar
300: 300 bar

Outlet Pressure P₂
2: to 2 bar
4: to 4 bar
10: to 10 bar
20: to 20 bar
35: to 35 bar (Non Relief valve)
50: to 50 bar (Non Relief valve)

Type Of Gas
Please specify type of gas

Option
None: Includes inlet valve and vent valve
V: Including inlet valve, not including vent valve
X: Non inlet valve and vent valve

Outlet Pressure Indication
P: Pressure gauge
K: Contact gauge

Inlet Pressure Indication
P: Pressure gauge
K: Contact gauge

Pressure Control Panel

VSP-8AE Series

Product Features

- Semi-automatic pressure control panel
- VSR-1E / VSR-6E Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Equipped with exhaust gas purge diaphragm valve and inlet
- Modular design
- Diaphragm valve, easy to operate
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen

Typical Applications

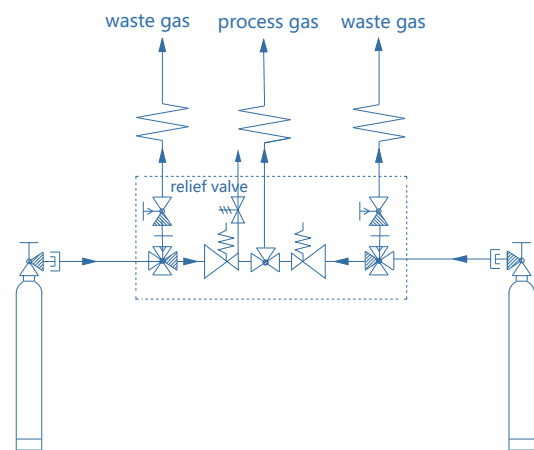
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Technical Data

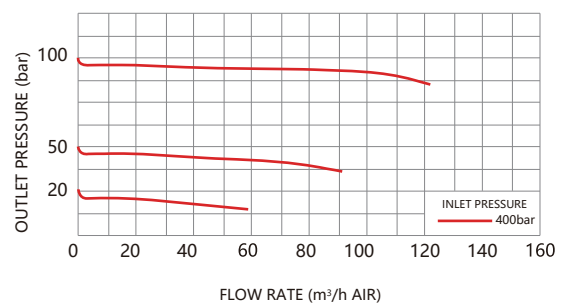
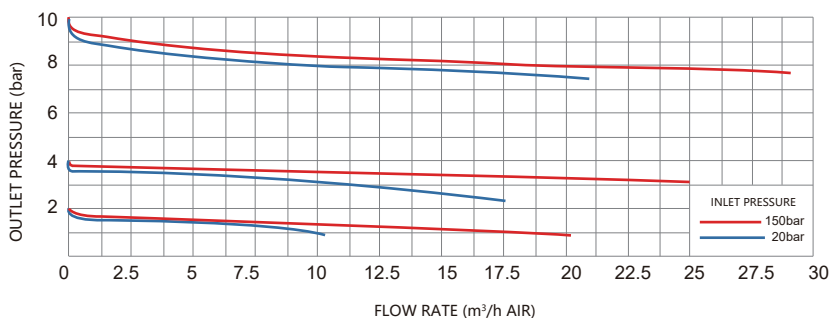
Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/50/100 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy® C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	4.8kg



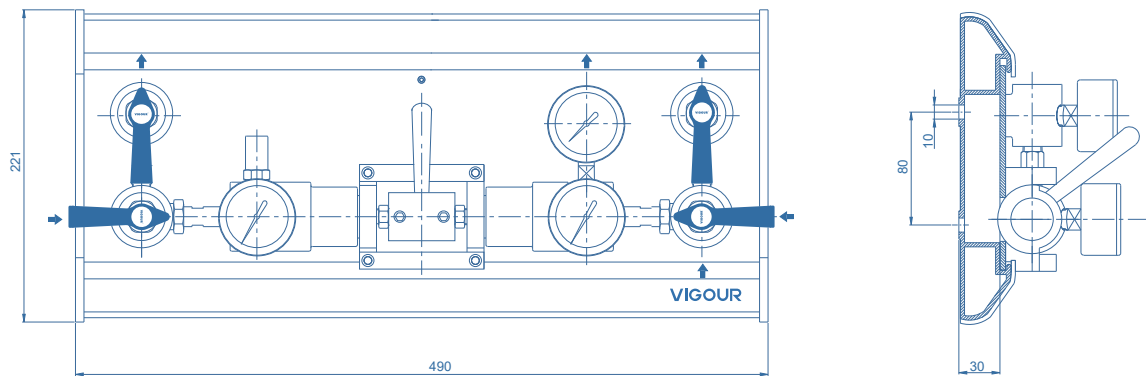
Schematic Drawing



Flow Chart



Dimensions (mm)



Ordering Information

VSP - 8AES - 300 - 10 - P - P - V - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

50: to 50 bar (Non Relief valve)

100: to 100 bar (Non Relief valve)

Type Of Gas

Please specify type of gas

Option

None: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

Outlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Inlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Pressure Control Panel

VSP-11E Series

Product Features

- Semi-automatic pressure control panel
- VSR-11E Series dual stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Easy installation into safety cabinet for gas cylinders
- Tested for use with oxygen



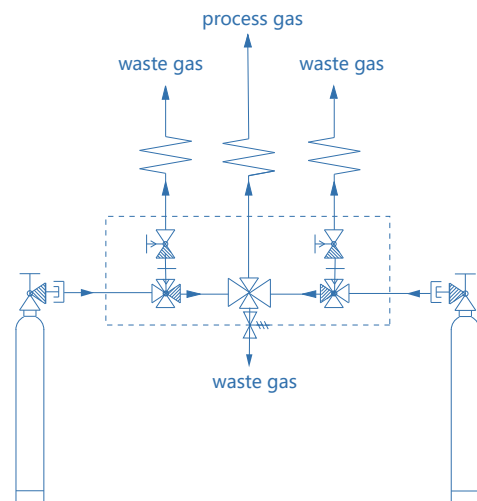
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

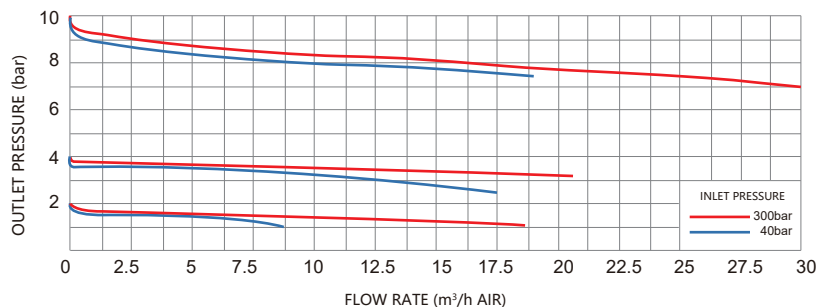
Technical Data

Type:	Dual-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PCTFE
Diaphragm (regulator):	Hastelloy® C276
(valve):	Elgiloy®
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	5.1kg

Schematic Drawing



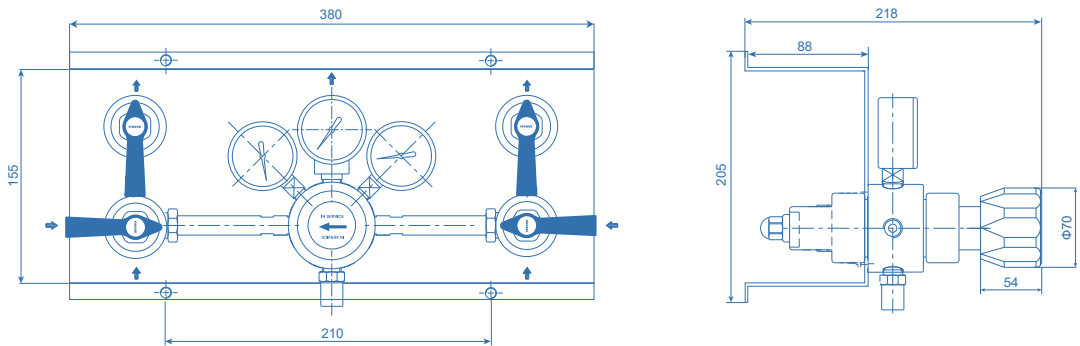
Flow Chart



Pressure Control Panel

VSP-11E Series

Dimensions (mm)



Ordering Information

VSP - 11ES - 200 - 10 - P - P - V - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

Type Of Gas

Please specify type of gas

Option

None: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

Outlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Inlet Pressure Indication

P: Pressure gauge

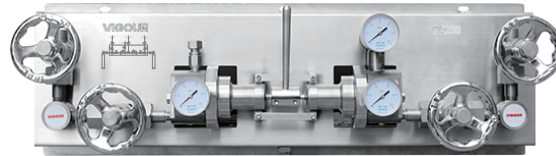
K: Contact gauge

Pressure Control Panel

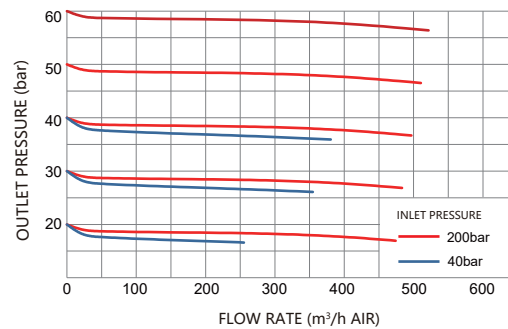
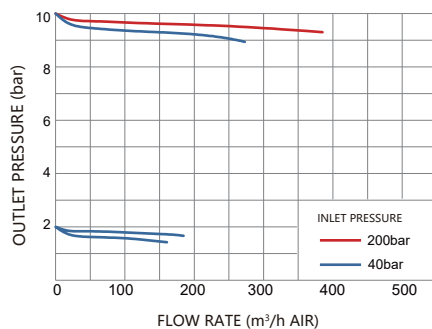
VSP-36 Series

Product Features

- Fully automatic pressure control panel
- For non-corrosive technical gases
- Single-stage type with balanced main valve
- Modular design (to be extended to 2X2, 2X3 etc. cylinders / bundles)
- Central filter in the regulator
- Shut-off valves
- Process gas and purge valve on the inlet pressure side
- Suitable for inlet pressure values of up to 300 bar
- Designed for use with oxygen
- Safety pressure gauges
- Adjustable outlet pressure



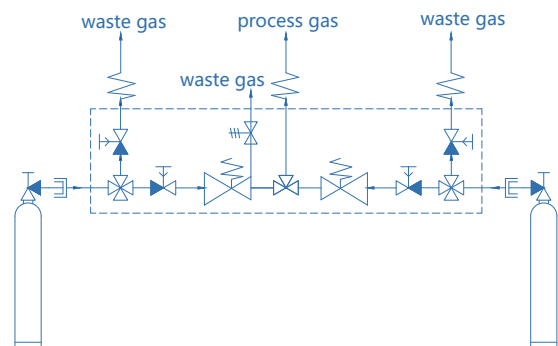
Flow Chart



Technical Data

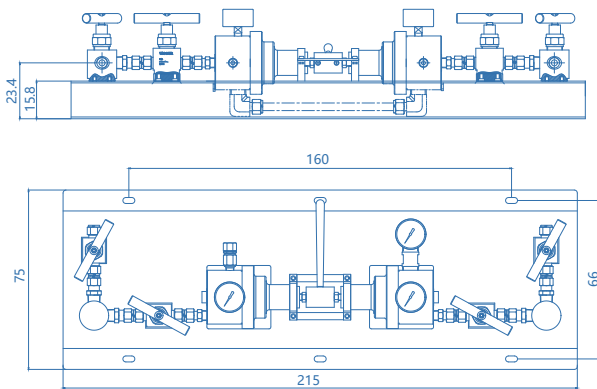
Type:	single-stage
Inlet pressure P1:	max. 245bar (Brass) / 300bar (316L)
Outlet pressure P2:	20/40/60bar
Materials	
Shut-off valve:	Brass / Chrome plated / 316L
Regulator body:	Brass / Chrome plated / 316L
Regulator valve seat:	PCTFE
Filter:	Stainless steel
Mounting plates:	Stainless steel
O-ring:	Viton®(FKM)
(option)	Kalrez®(FFKM)
Inlet connection:	1/4"NPT(F) (316L) 、 1/2"NPT(F) (Brass)
Outlet connection:	3/4"NPT(20mm Stainless steel tube)
Temperature range:	-30°C to +74°C
Leak rate:	Bubble tight
Weight:	27.5kg (Brass) / 20Kg (316L)

Schematic Drawing

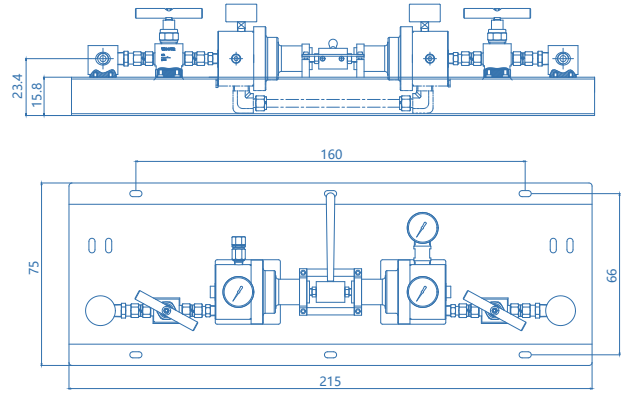


Pressure Control Panel VSP-36 Series

Dimensions (mm)



VSP-36S



VSP-36S-V

Ordering Information

VSP - 36S - 200 - 20 - P - P - V - N₂

Body Material

- S: 316L
- B: Brass
- C: Chrome Plated Brass

Inlet Pressure P₁

- 40: 40 bar
- 100: 100 bar
- 200: 200 bar
- 300: 300 bar

Outlet Pressure P₂

- 20: to 20 bar
- 40: to 40 bar
- 60: to 60 bar

Type Of Gas

Please specify type of gas

Option

None: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

Outlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Inlet Pressure Indication

P: Pressure gauge

K: Contact gauge

Automatic Change Over System

VSP-5A Series

Product Features

- Semi-automatic change over system
- VSR-1E Series single-stage regulator
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Compact design for easy installation into safety cabinets
- Tested for use with oxygen

Typical Applications

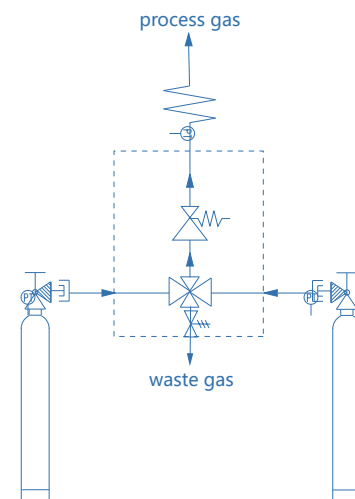
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



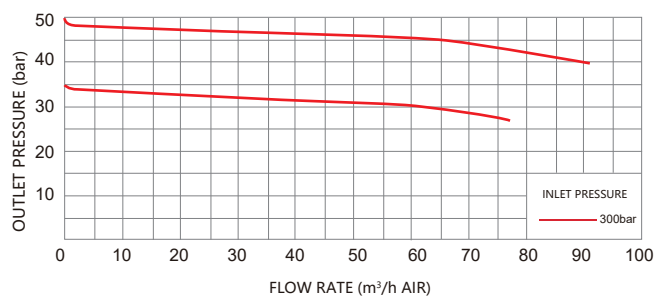
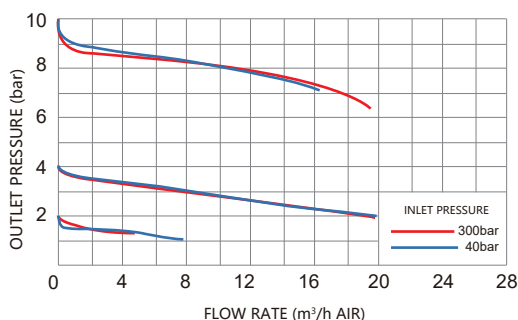
Technical Data

Type:	Double stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator:	see ordering info
Valve seat:	PCTFE
Diaphragm:	Hastelloy® C276
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Weight:	12.1kg

Schematic Drawing

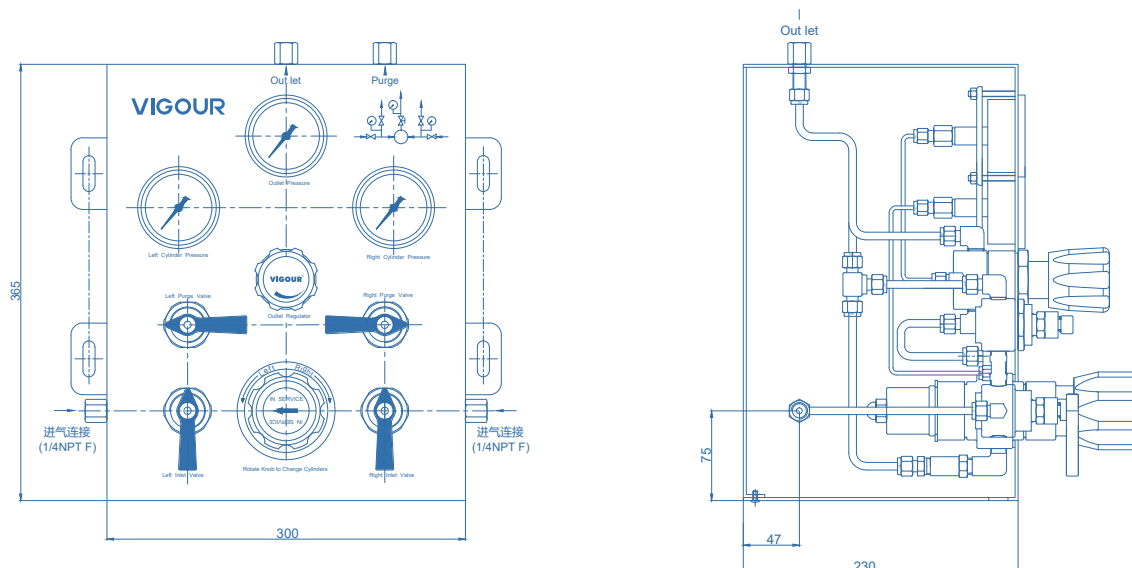


Flow Chart



Automatic Change Over System VSP-5A Series

Dimensions (mm)



Ordering Information

VSP - 5AS - 200 - 10 - F4 - F4 - V - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

35: to 35 bar (Non Relief valve)

50: to 50 bar (Non Relief valve)

Type Of Gas

Please specify type of gas

Option

None: Includes inlet valve and vent valve

V: Including inlet valve, not including vent valve

X: Non inlet valve and vent valve

Outlet Connection

F4: 1/4"NPT(F)

Inlet Connection

F4: 1/4"NPT(F) (standard)

M4: 1/4"NPT(M)

Automatic Change Over System

VSP-9 Series

Product Features

- Fully automatic change over system
- Digital display cylinder pressure and provide replacement reminder
- Audible and visual alarm, emergency cut-off
- Suitable for flammable gases
- Pneumatic diaphragm valve control
- Modular design, convenient maintenance
- Suitable for inlet pressure up to 300 bar
- Compact structure, easy installation
- Tested for use with oxygen



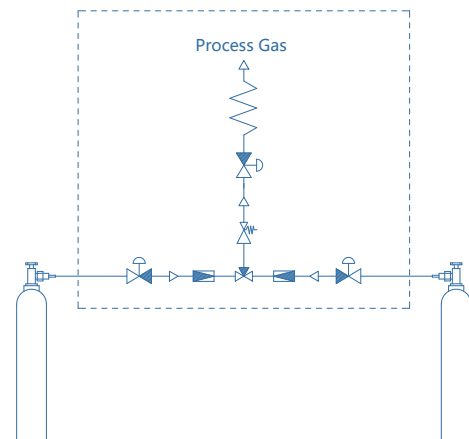
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

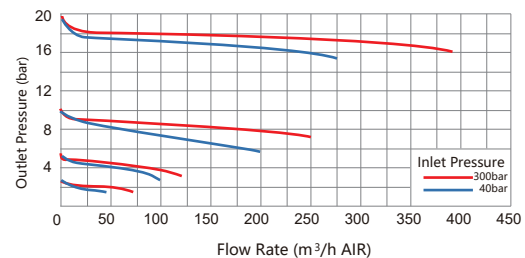
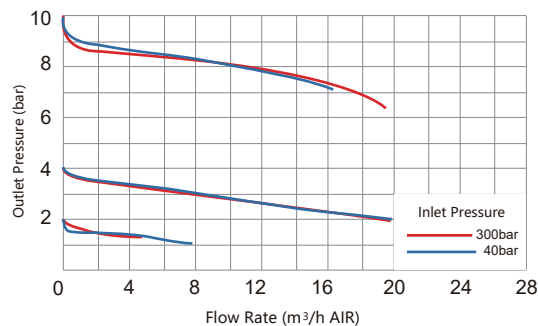
Technical Data

Type:	Automatic pressure control box
Inlet pressure P1:	Max. 300 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator:	see ordering info
Valve seat (regulator) :	PCTFE
Diaphragm (regulator) :	Hastelloy®C276
Diaphragm (valve) :	Elgiloy®
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(Via seat)	1x10 ⁻⁶ mbar l/s He
Weight:	12.1 kg

Schematic Drawing

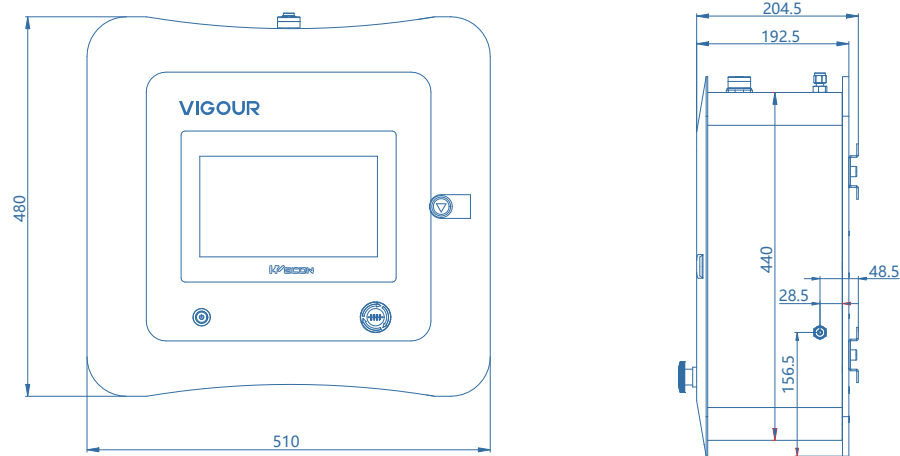


Flow Chart



Automatic Change Over System VSP-9 Series

Dimensions (mm)



Ordering Information

VSP - 9S - 200 - 10 - 04 - 04 - N₂

Materials

S: 316L

C: Chrome plated brass

Inlet Pressure P1

40: 40 bar

100: 100 bar

200: 200 bar

300: 300 bar

Outlet Pressure P2

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

35: to 35 bar

50: to 50 bar

Gas Type

Please specify gas type

Outlet Gauge

04: 1/4" Tube fitting

08: 1/2" Tube fitting

Inlet Gauge

04: 1/4" Tube fitting

08: 1/2" Tube fitting

Gas Terminal

VSR-1ET Series

Product Features

- Wall-mounting tapping points
- VSR-1EL series single-stage regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 100 bar
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Technical Data

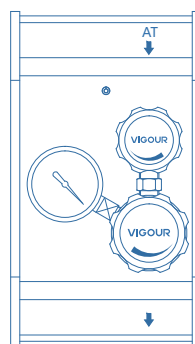
Type:	single-stage
Inlet pressure P1:	max. 100 bar
Outlet pressure P2:	2/4/10/20/50 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PEEK
Diaphragm (regulator):	Hastelloy® C276
(valve):	Hastelloy® C276
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.18
Weight:	2.5kg



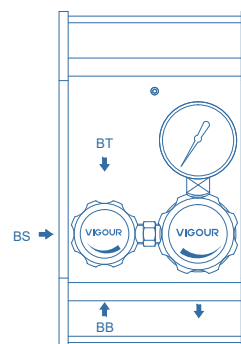
"A" type

"B" type

Schematic Drawing

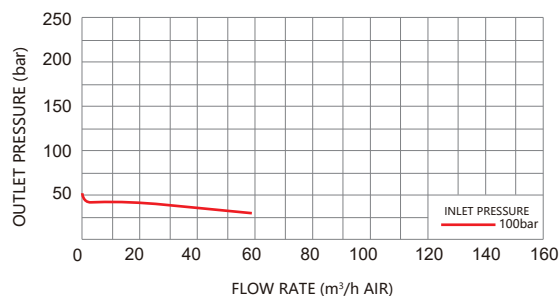
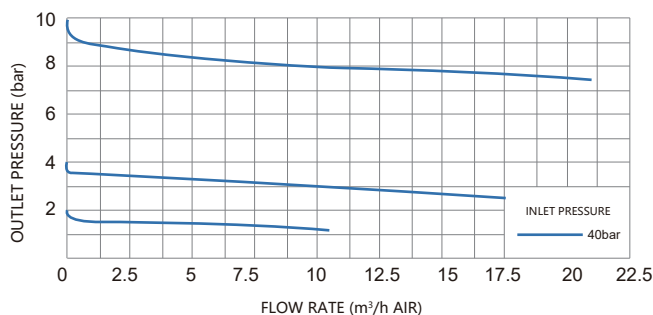


"A" type:
AT: Top-inlet

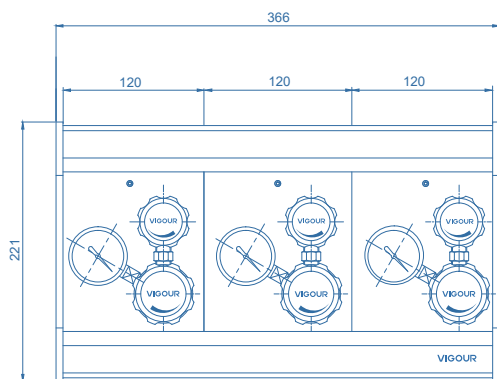


"B" type:
BT: Top-inlet
BB: Bottom-inlet
BS: side-inlet

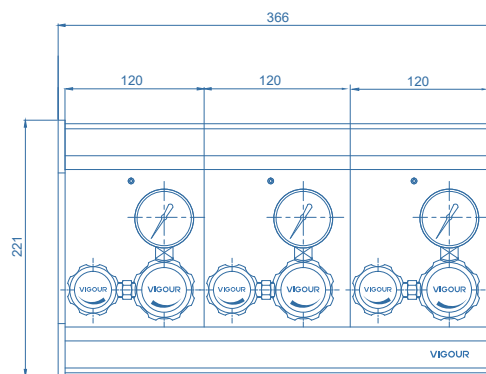
Flow Chart



Dimensions (mm)



"A" type



"B" type

Ordering Information

VSR - 1ETS P - 100 - 10 - AT - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Mounting

None: No plate

P: Included mounting plate

Inlet Pressure P₁

40: 40 bar

100: 100 bar

Type Of Gas

Please specify type of gas

Inlet Type

AT: "A" type Top-inlet

BT: "B" type Top-inlet

BB: "B" type Bottom-inlet

BS: "B" type Side-inlet

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

50: to 50 bar

Gas Terminal

VSR-2T Series

Product Features

- Wall-mounting tapping points
- VSR-2EL series single-stage regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 100 bar
- Tested for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Technical Data

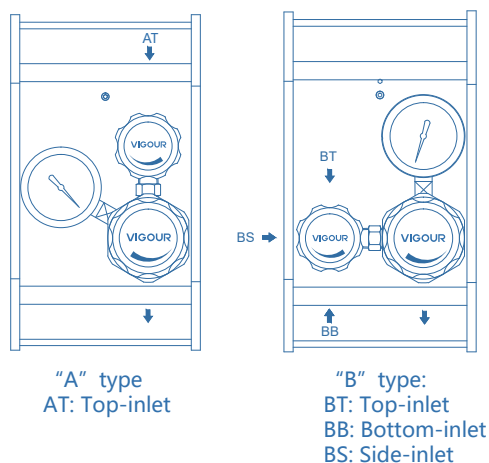
Type:	single-stage
Inlet pressure P1:	max. 100 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PEEK
Diaphragm (regulator):	Hastelloy® C276
(valve):	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Flow capacity:	
(Outlet pressure:2/4/10/20 bar)	Cv=0.28
(Outlet pressure:35/50 bar)	Cv=0.08
Weight:	3.5kg



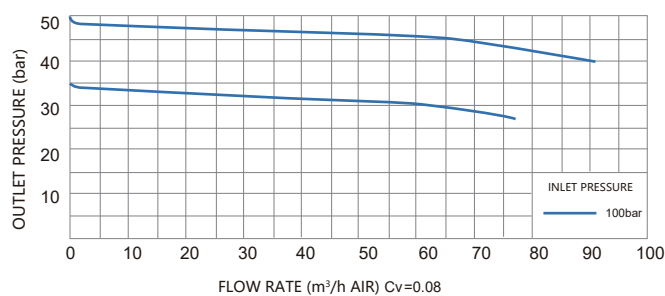
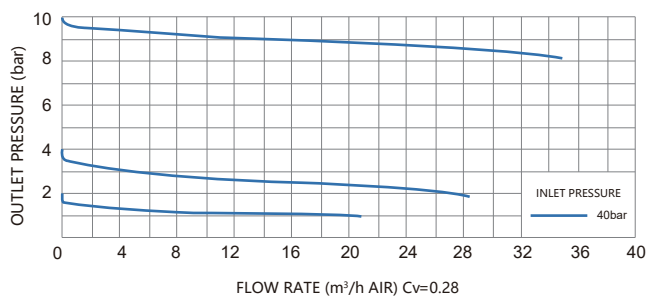
"A" type

"B" type

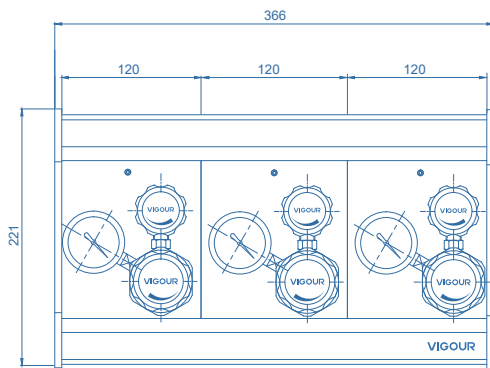
Schematic Drawing



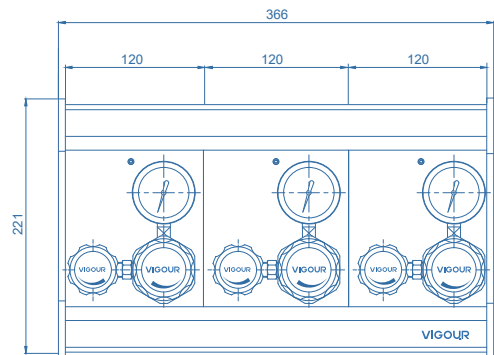
Flow Chart



Dimensions (mm)



"A" type



"B" type

Ordering Information

VSR - 2TS P - 100 - 10 - AT - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Mounting

None: No plate

P: Included mounting plate

Inlet Pressure P₁

40: 40 bar

100: 100 bar

Type Of Gas

Please specify type of gas

Inlet Type

AT: "A" type Top-inlet

BT: "B" type Top-inlet

BB: "B" type Bottom-inlet

BS: "B" type Side-inlet

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

35: to 35 bar

50: to 50 bar

Gas Terminal

VSR-1ETG Series

Product Features

- Wall-mounting tapping points
- VSR-1EL series single-stage regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 100 bar
- Tested for use with oxygen

Typical Applications

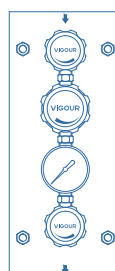
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



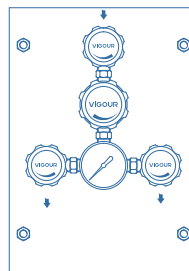
Technical Data

Type:	single-stage
Inlet pressure P ₁ :	max. 100 bar
Outlet pressure P ₂ :	2/4/10/20/50 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PEEK
Diaphragm (regulator):	Hastelloy® C276
(valve):	Hastelloy® C276
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.18
Weight:	4.1~5.7kg

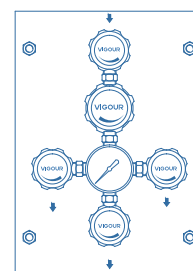
Schematic Drawing



"A" type:
Single outlet

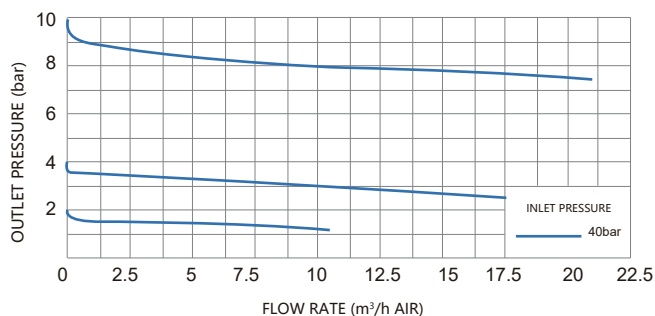


"B" type:
Dual outlet

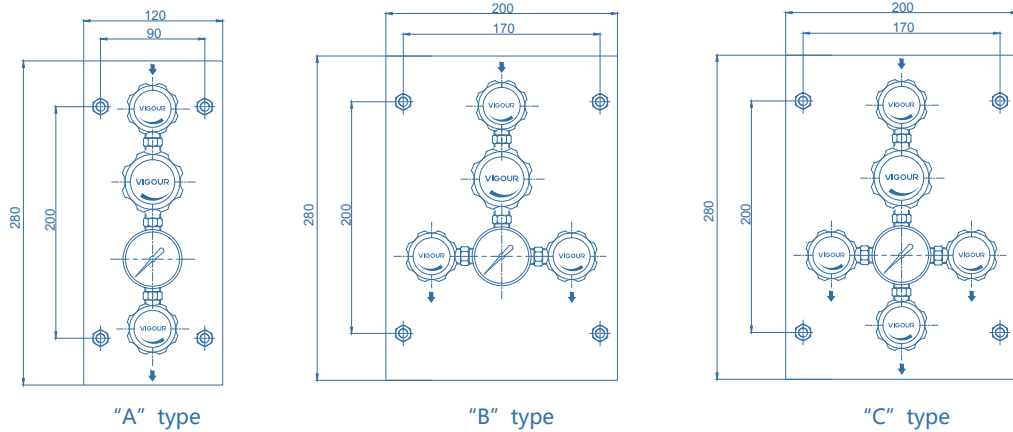


"C" type:
Triple outlet

Flow Chart



Dimensions (mm)



*As shown in the diagram, the inlet/outlet connection is the model of DV04.

Ordering Information

VSR - 1ETGS - 100 - 10 - DV04 - DV04 - A - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

50: to 50 bar

Type Of Gas

Please specify type of gas

Inlet Type

A: "A" type single outlet

B: "B" type dual outlet

C: "C" type triple outlet

Inlet / Outlet Port

DV04: 1/4" Diaphragm valve

O4: 1/4" Tube fitting

F4: 1/4" NPT(F)

Gas Terminal

VSR-1ETG-BV Series

Product Features

- Wall-mounting tapping points
- VSR-1EL series single-stage regulator
- Brass chrome plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 100 bar
- Tested for use with oxygen

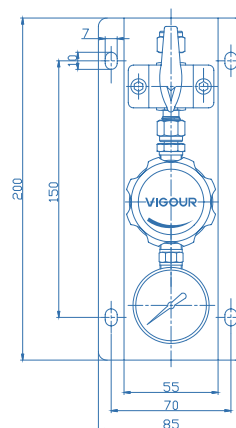
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

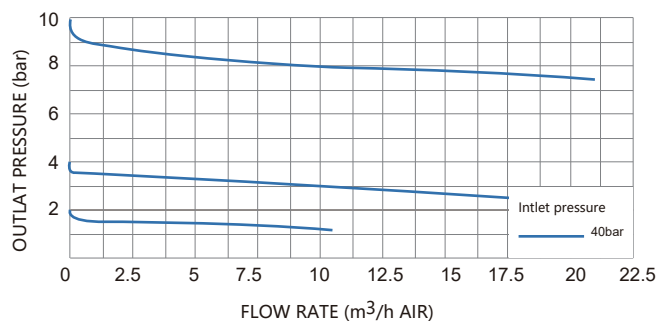
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 100 bar
Outlet pressure P2:	2/4/10/20/50 bar
Materials	
Body regulator and valves:	see ordering into
Valve seat (regulator):	PCTFE
(shut-off valve):	PTFE
Diaphragm (regulator):	Hastelloy® C276
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate: (to atmosphere)	1x10 ⁻⁸ mbar l/s He
(via seat)	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.18
Weight:	4.1~5.7kg

Dimensions (mm)

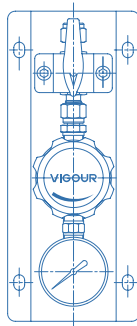


Flow Chart

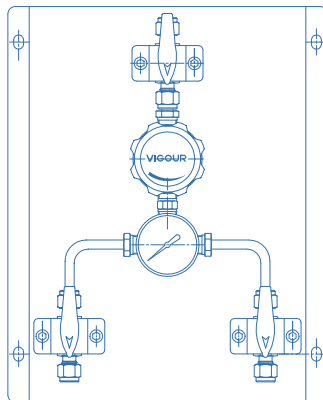


*As shown in the diagram, the outlet connection is the model of no ball valves.

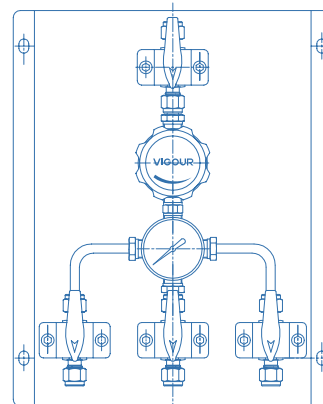
Schematic Drawing



"A" Type:
Single outlet



"B" Type:
Dual outlet



"C" Type:
Triple outlet

*As shown in the diagram, the inlet/outlet connection is the model of BV04.

Ordering Information

VSR - 1ETGS - 100 - 10 - BV04 - BV04 - A - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

50: to 50 bar

Gas Type

Please specify gas type

Outlet Type

A: "A" type single outlet

B: "B" type dual outlet

C: "C" type triple outlet

Inlet / Outlet Port

BV04: 1/4" ball valves

BV06: 3/8" ball valves

04: 1/4" Tube fitting

06: 3/8" Tube fitting

F4: 1/4" NPT(F)

Gas Terminal

VSR-2TG Series

Product Features

- Wall-mounting tapping points
- VSR-2EL series single-stage regulator
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 100 bar
- Tested for use with oxygen

Typical Applications

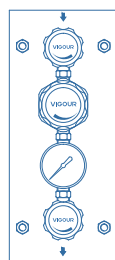
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



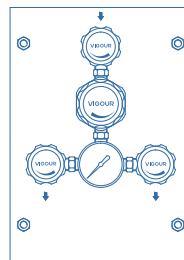
Technical Data

Type:	single-stage
Inlet pressure P1:	max. 300 bar
Outlet pressure P2:	2/4/10/20/35/50 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PEEK
Diaphragm (regulator):	Hastelloy® C276
(valve):	Hastelloy® C276
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Flow capacity:	
(Outlet pressure:2/4/10/20 bar)	Cv=0.28
(Outlet pressure:35/50 bar)	Cv=0.08
Weight:	4.5~6.9kg

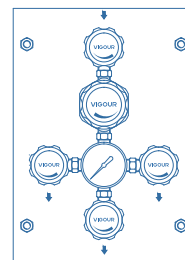
Schematic Drawing



"A" type:
Single outlet

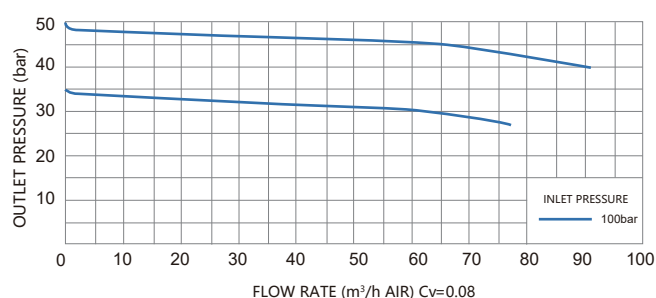
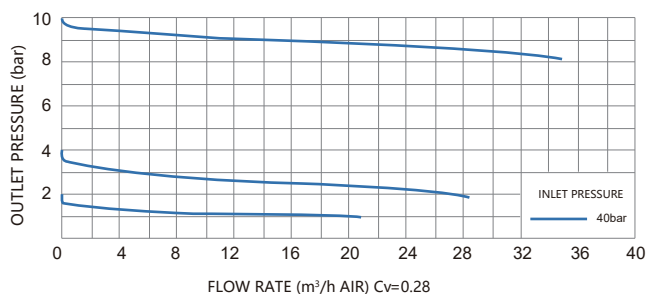


"B" type:
Dual outlet

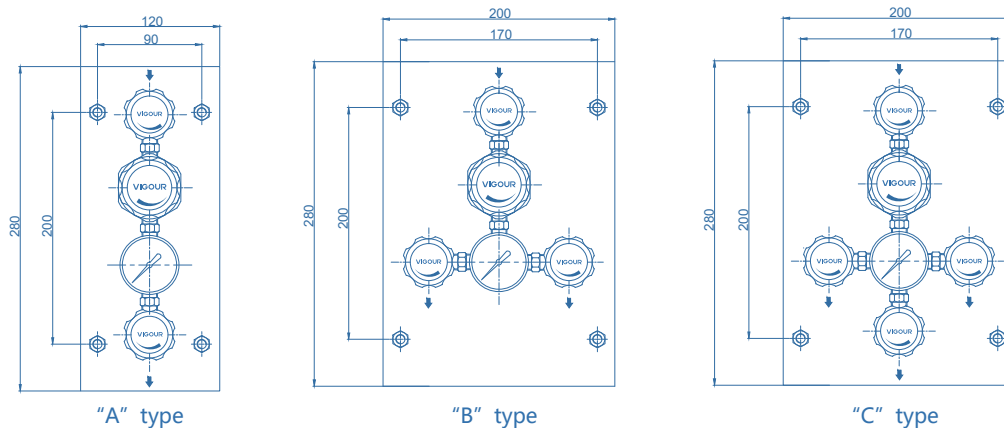


"C" type:
Triple outlet

Flow Chart



Dimensions (mm)



*As shown in the diagram, the inlet/outlet connection is the model of DV04.

Ordering Information

VSR - 2TGS - 100 - 10 - DV04 - DV04 - A - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

40: 40 bar

100: 100 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

35: to 35 bar

50: to 50 bar

Type Of Gas

Please specify type of gas

Inlet Type

A: "A" type single outlet

B: "B" type dual outlet

C: "C" type triple outlet

Inlet / Outlet Port

DV04: 1/4" Diaphragm valve

04: 1/4" Tube fitting

F4: 1/4" NPT(F)

Bench-mounting tapping point VSR-3T Series

Product Features

- Bench-mounting tapping points
- VSR-1EL series single-stage regulator
- VDV2 series diaphragm valve
- Brass chromed plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Suitable for inlet pressure up to 60 bar
- Test for use with oxygen

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



Bench mounting
Handle switch

Celling suspending
Handle switch

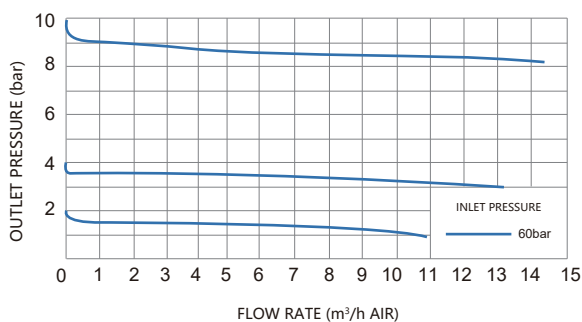


Colours coding will be in accordance to CGA PS2 and UNI EN 1089-3 standard

Technical Data

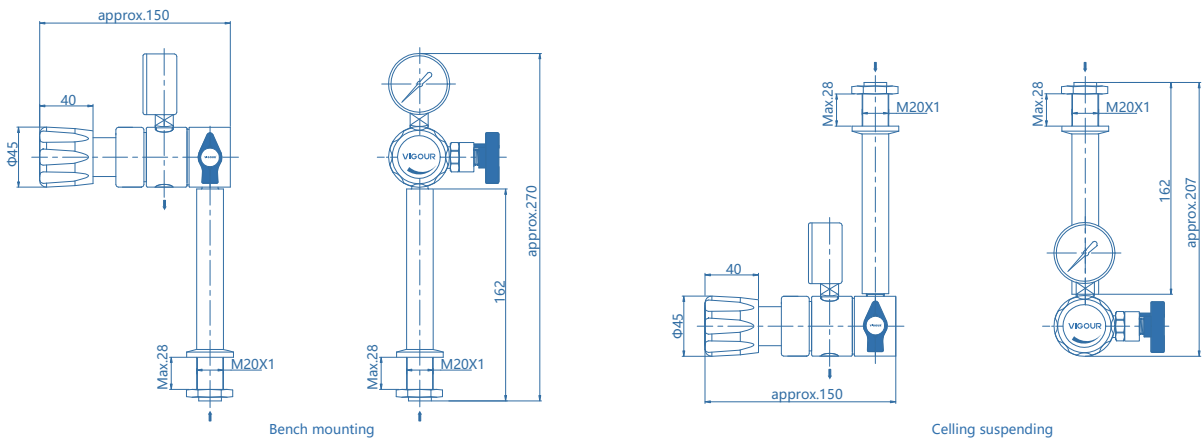
Type:	single-stage
Inlet pressure P ₁ :	max. 60 bar
Outlet pressure P ₂ :	2/4/10/20 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PEEK
Diaphragm (regulator):	Hastelloy® C276
(valve):	Hastelloy® C276
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.18
Weight:	1.6kg

Flow Chart



Bench-mounting tapping point VSR-3T Series

Dimensions (mm)



Ordering Information

VSR - 3TS - 60 - 10 - F4 - F4 - W - N2 - X					
Body Material		Installation			
S: 316L		None: Bench mounting			
C: Chrome Plated Brass		X: Ceiling suspending			
Inlet Pressure P ₁		Type Of Gas			
60: 60 bar		Please specify type of gas			
Outlet Pressure P ₂		Option			
2: to 2 bar		None: handle			
4: to 4 bar		W: hand wheel			
10: to 10 bar		Outlet Port			
20: to 20 bar		F4: 1/4"NPT(F)			
		Inlet Port			
		F4: 1/4"NPT(F)			
		04: 1/4 Tube fitting			

Wall-mounting tapping point VSR-3TG Series

Product Features

- Wall-mounting tapping points
- VSR-1EL series single-stage regulator
- VDV2 series diaphragm valve
- Brass chromed plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Suitable for inlet pressure up to 60 bar
- Test for use with oxygen

Typical Applications

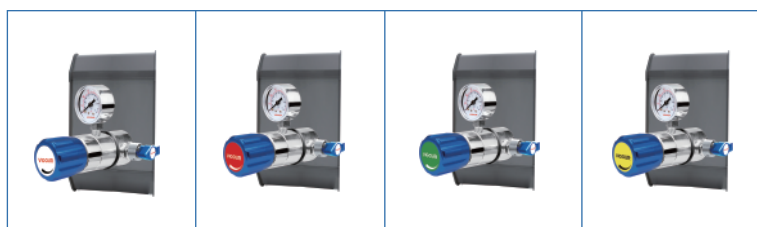
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



Handle switch



hand wheel switch

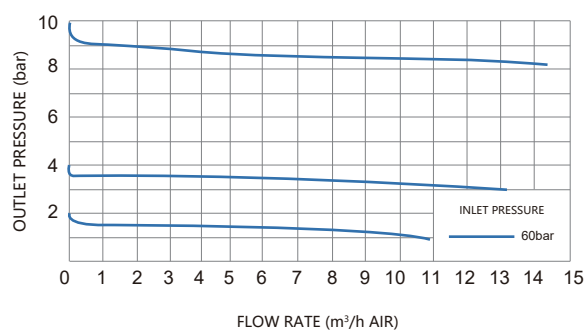


Colours coding will be in accordance to CGA PS2 and UNI EN 1089-3 standard

Technical Data

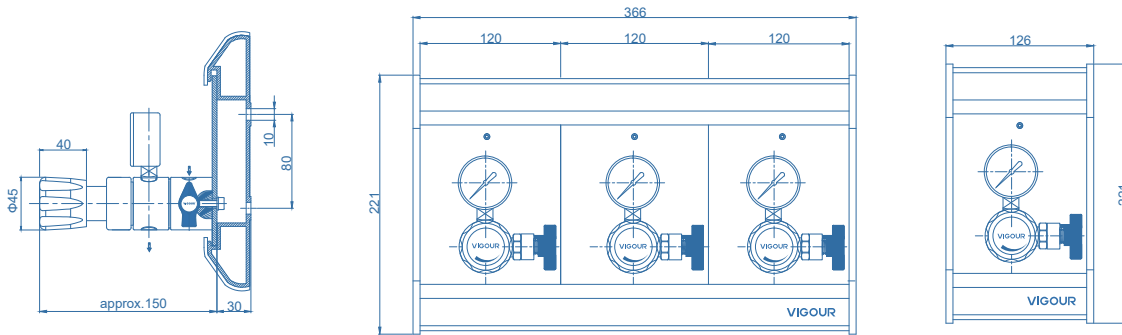
Type:	single-stage
Inlet pressure P1:	max. 60 bar
Outlet pressure P2:	2/4/10/20 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
(shut-off valve):	PEEK
Diaphragm (regulator):	Hastelloy® C276
(valve):	Hastelloy® C276
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.18
Weight:	1.16kg

Flow Chart



Wall-mounting tapping point VSR-3TG Series

Dimensions (mm)



Ordering Information

VSR - 3TGS P - 60 - 20 - F4 - F4 - W - N₂

Body Material

S: 316L

C: Chrome Plated Brass

Mounting

None: No plate

P: Included mounting plate

Inlet Pressure P₁

60: 60 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

Type Of Gas

Please specify type of gas

Option

None: handle

W: hand wheel

Outlet Port

F4: 1/4"NPT(F)

Inlet Port

F4: 1/4"NPT(F)

Panel-mounting tapping point VSR-4T Series

Product Features

- Panel-mounting tapping points
- VSR-1EL series single-stage regulator
- VDV2 series diaphragm valve
- Brass chromed plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body and bonnet for corrosive gases
- Modular design
- Suitable for inlet pressure up to 60 bar
- Test for use with oxygen



Handle switch



hand wheel switch

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

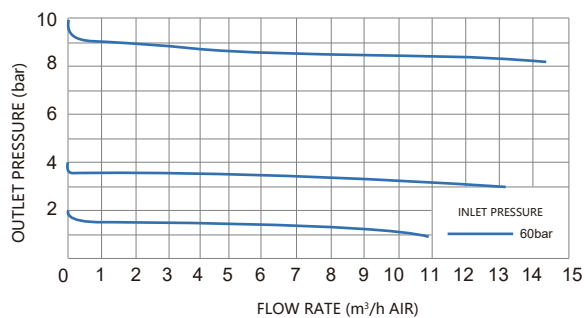


Colours coding will be in accordance to CGA PS2 and UNI EN 1089-3 standard

Technical Data

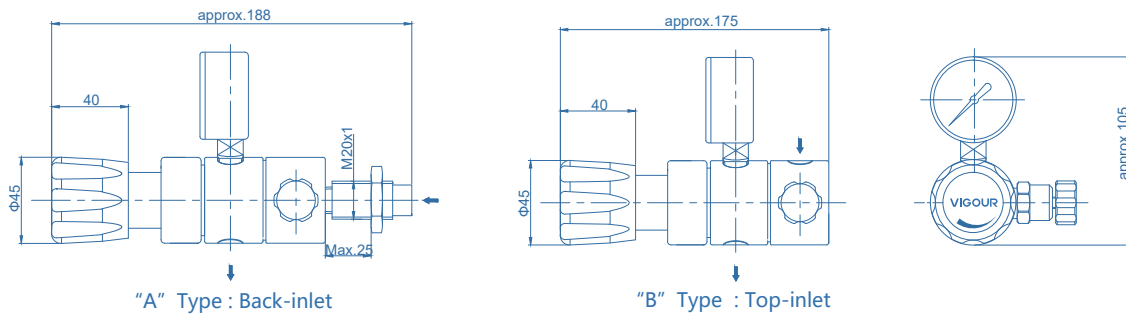
Type:	single-stage
Inlet pressure P1:	max. 60 bar
Outlet pressure P2:	2/4/10/20 bar
Materials	
Body regulator and valves:	see ordering info
Valve seat (regulator):	PCTFE
Diaphragm (regulator):	Hastelloy® C276
Filter:	SS 316L
Temperature range:	-30°C to +74°C
Leak rate (to atmosphere):	1x10 ⁻⁸ mbar l/s He
(via seat):	1x10 ⁻⁶ mbar l/s He
Flow capacity:	Cv=0.18
Weight:	0.8kg

Flow Chart



Panel-mounting tapping point VSR-4T Series

Dimensions (mm)



Ordering Information

VSR - 4TS - 60 - 4 - F4 - F4 - A - W - N2

Body Material

S: 316L

C: Chrome Plated Brass

Inlet Pressure P₁

60: 60 bar

Outlet Pressure P₂

2: to 2 bar

4: to 4 bar

10: to 10 bar

20: to 20 bar

Type Of Gas

Please specify type of gas

Option

None: handle

W: hand wheel

Installation Type

A: "A"Type

B: "B"Type

Outlet Port

F4: 1/4"NPT(F)

04: 1/4 Tube fitting

Inlet Port

F4: 1/4"NPT(F)

Wall-mounting tapping point VSR-5T Series

Product Features

- Wall-mounting tapping points
- VSR-1EL series single-stage regulator
- Aluminum for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Modular design
- Diaphragm type shut-off valve
- Suitable for inlet pressure up to 60 bar
- Test for use with oxygen
- Compact design tapping point



Technical Data

Type: single-stage

Inlet pressure P₁: max. 60 bar

Outlet pressure P₂: 2/4/10/20 bar

Materials

Body regulator and valves: see ordering info

Valve seat (regulator): PCTFE

Diaphragm (regulator): Hastelloy® C276

Filter: SS 316L

Temperature range: -30°C to +74°C

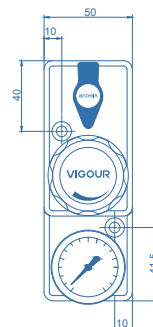
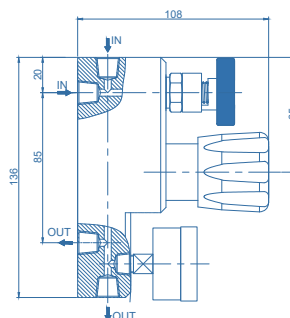
Leak rate (to atmosphere): 1x10⁻⁸ mbar l/s He

(via seat): 1x10⁻⁶ mbar l/s He

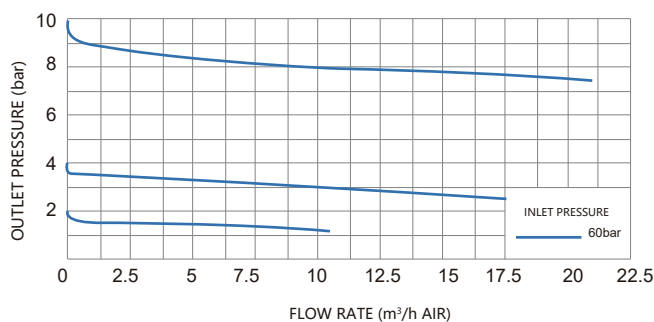
Flow capacity: Cv=0.18

Weight: 2.5kg

Dimensions (mm)



Flow Chart



Ordering Information

VSR - 5TA - 60 - 10 - N₂

Body Material

A: Aluminum

Type Of Gas

Please specify type of gas

Inlet Pressure P₁

60: 60 bar

Outlet Pressure P₂

2: to 2 bar
4: to 4 bar
10: to 10 bar
20: to 20 bar

Product Features

- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Extension for pressure control panel
- Design for easy installation

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



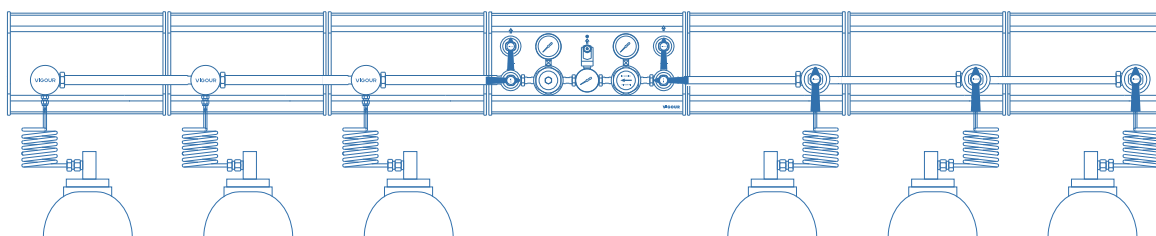
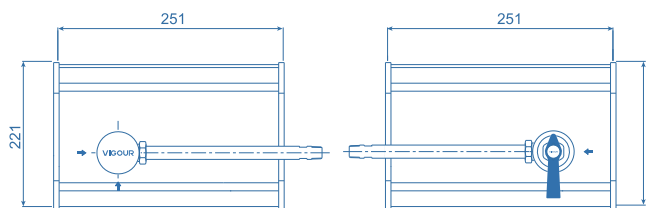
Tee Type

Relief Type

Technical Data

Inlet pressure P1:	max. 300 bar
Materials:	see ordering info
O-ring:	Viton® (FKM)
(option)	Kalrez® (FFKM)
Temperature range:	-30°C to +74°C
Weight:	1.2kg

Dimensions (mm)



Ordering Information

VSP - X - S - 1L - 1R - DV - O₂

Body Material

S: 316L

C: Chrome Plated Brass

Right Extension

1: single extension

2: Dual extensions

3: Tripe extensions

n: "2,3,4..." extensions

Type Of Gas

Please specify type of gas

Valve

None: Blok W/O valve

DV: VDV30 Diaphragm valve

Left Extension

1: Single extension

2: Dual extensions

3: Tripe extensions

n: "2,3,4..." extensions

Purge Assemblies

VSP-U Series

Product Features

- Purge assemblies
- Brass chromed plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L for corrosive gases
- Diaphragm type shut-off valves
- Suitable for inlet pressure up to 300 bar
- Tested for use with oxygen

Straight purge assemblies

The straight purge assembly is connected to the regulator body via an auxiliary high pressure port. The gas is vented through the body to a downstream location.

Tee purge assemblies

The tee purge can be connected between the cylinder and the regulator, or between the regulator and the instrument. The system can be flushed with the purging gas to remove contaminants prior to start-up or after a cylinder change.

Cross purge assemblies

The cross purge assembly is used between the cylinder and the regulator. In addition to the features on the tee purge, the cross purge assembly allows the use of inert purge gas.

Block & bleed purge assemblies

Block and bleed purges are typically used in manifolds or other applications where atmospheric contaminants need to be purged after cylinder changeout.



Straight purge assemblies



Tee purge assemblies



Cross purge assemblies

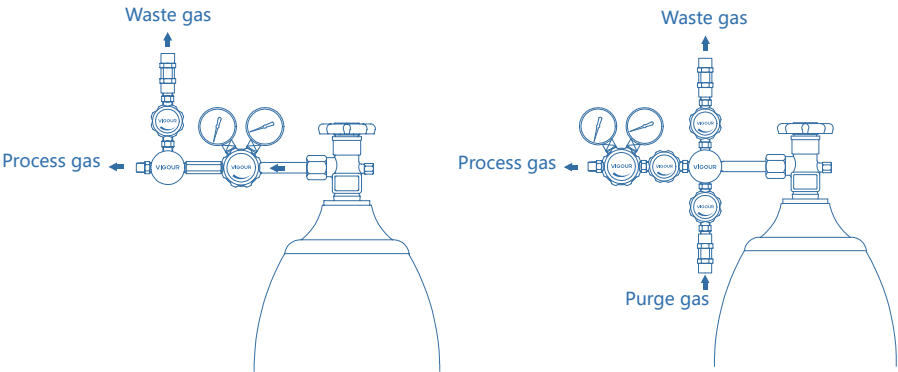


Block & bleed purge assemblies

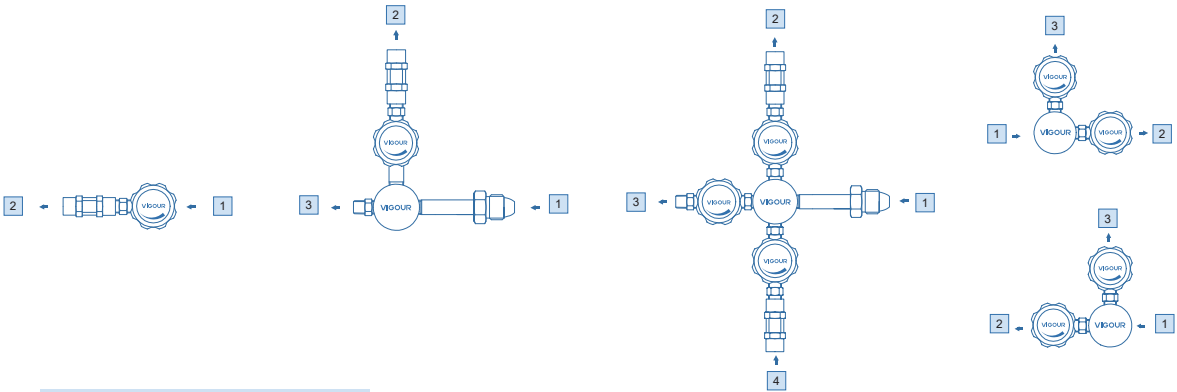
Technical Data

Type:	Purge assemblies
Inlet pressure:	max. 300 bar
Materials	
Body:	see ordering info
Diaphragm:	Hastelloy® C276
	Elgiloy®
Seat:	PCTFE
Filter:	SS 316L
Inlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate:	1x10 ⁻⁸ mbar l/s He
Orifice:	Φ2.7mm

Schematic Drawing



Ordering Information



Inlets / Outlets

F4: 1/4"NPT(F)	04: 1/4" Tube fitting	CGA: USA	GB: China
M4: 1/4"NPT(M)	DIN: Germany	UNI: Italy	CV: Check valve
02: 1/8" Tube fitting	BSP: British	NF: French	

* Other connection standard, consult factory

Port Selection

VSP - U S C - 1 - 2 - 3 - 4 - N₂

Type

- S: Straight purge assemblies
- T: Tee purge assemblies
- C: Cross purge assemblies
- LB: Left block & bleed purge assemblies
- RB: Right block & bleed purge assemblies

Type of Gas

Please specify type of gas

Body Material

- S: 316L
- C: Chrome Plated Brass

Diaphragm Valve

VDV1 Series

Product Features

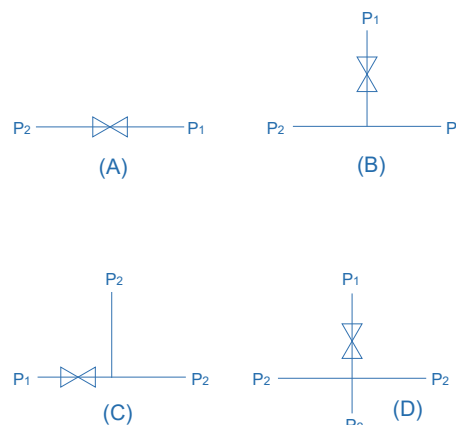
- Brass chromed plated body and bonnet for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L for corrosive gases
- Wide range of inlets / outlets
- Suitable for inlet pressure up to 60 bar, hand wheel design
- Metal-to-metal sealing to atmosphere
- Tested for use with oxygen

Typical Applications

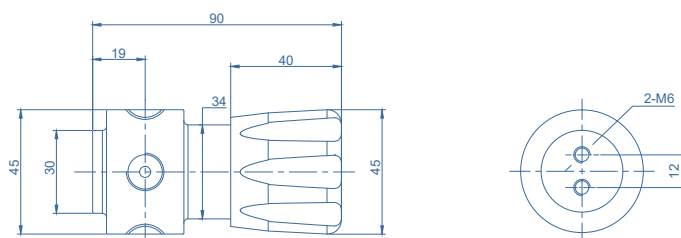
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Technical Data

Type:	Diaphragm valve
Inlet pressure:	max. 60 bar
Materials	
Body:	see ordering info
Seat:	PEEK
Diaphragm:	Elgiloy®
Filter:	SS316L
Inlet / outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to +74°C
Leak rate:	10 ⁻⁸ mbar l/s He
Orifice:	Φ4 mm
Weight:	0.5 kg



Dimensions (mm)



Ordering Information

VDV 1 - C - A - F4 - F4

Body Material

S: 316L

C: Chrome Plated Brass

Type

A: 2 Ports

B: 3 Ports

C: 3 Ports

D: 4 Ports

Inlets / Outlets

F4: 1/4" NPT(F)

F6: 3/8" NPT(F)

Product Features

- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Suitable for inlet pressure up to 60 bar, hand wheel design
- Wide range of inlets / outlets
- Metal-to-metal sealing to atmosphere
- Tested for use with oxygen

Typical Applications

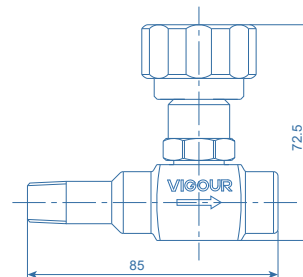
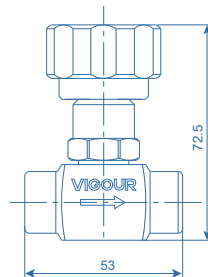
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Technical Data

Type:	Diaphragm valve
Inlet pressure:	max. 60 bar
Materials	
Body:	see ordering info
seat:	PEEK
Diaphragm:	Hastelloy® C276
Inlet / Outlet connection:	1/4"NPT
Temperature range:	-30°C to +74°C
Leak rate:	1x10 ⁻⁸ mbar l/s He
Orifice:	Φ3.2mm
Weight:	0.3kg



Dimensions (mm)



Ordering Information

VDV2 - C - M4- F4

Body Material

S: 316L

C: Chrome Plated Brass

Inlets / Outlets

F4: 1/4"NPT(F)

M4: 1/4"NPT(M)

Diaphragm Valve

VDV30 Series

Product Features

- High Pressure Diaphragm valve
- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Inlet pressure max. 300 bar
- Left or Right lever direction for shutoff
- Wide range of inlets / outlets
- Metal-to-metal sealing to atmosphere
- Tested for use with oxygen



Handle switch

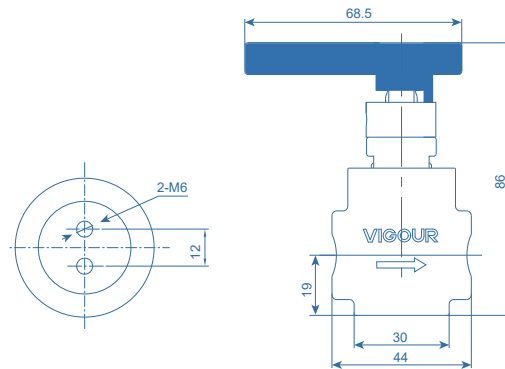
Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



Hand wheel Switch

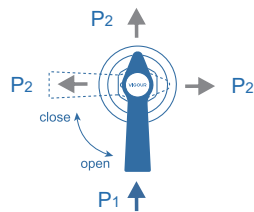
Dimensions (mm)



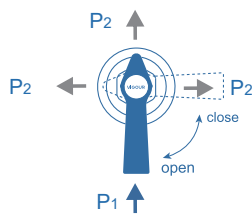
Technical Data

Type:	Diaphragm valve
Inlet pressure:	max. 300 bar (60 bar option)
Materials	
Body:	see ordering info
seat:	PEEK
Diaphragm:	Elgiloy®
Filter:	SS316L
Inlet / Outlet connection:	1/4"NPT(F)
Temperature range:	-30°C to 74°C
Leak rate:	1x10 ⁻⁸ mbar l/s He
Orifice:	Φ2.7mm
Weight:	0.5kg

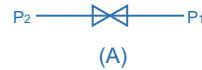
Schematic Drawing



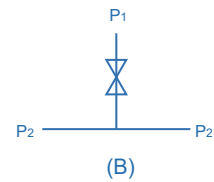
Right Lever for Shutoff (standard)



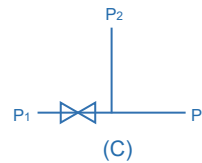
Left Lever for Shutoff (option)



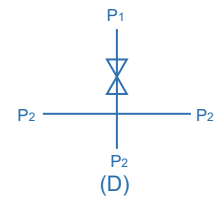
(A)



(B)



(C)



(D)

Ordering Information

VDV 30- C - A - F4 - F4 - L - 60

Body Material

S: 316L

C: Chrome Plated Brass

Type

A: 2 Ports

B: 3 Ports

C: 3 Ports

D: 4 Ports

Inlets / Outlets

F4: 1/4"NPT(F)

F4: 1/4"NPT(F)

Inlet Pressure

None: 300bar

60: 60bar

Lever

None: Right lever for Shutoff

L: Left lever for Shutoff

W: Hand Wheel Shutoff

Diaphragm Valve

VDV31 Series

Product Features

- High Pressure Diaphragm valve
- Stainless steel 316L for corrosive gases
- Inlet pressure max. 300 bar
- Left or Right lever direction for shutoff
- Wide range of inlets / outlets
- Metal-to-metal sealing to atmosphere

Typical Applications

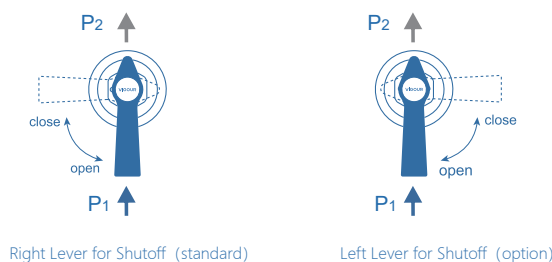
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Technical Data

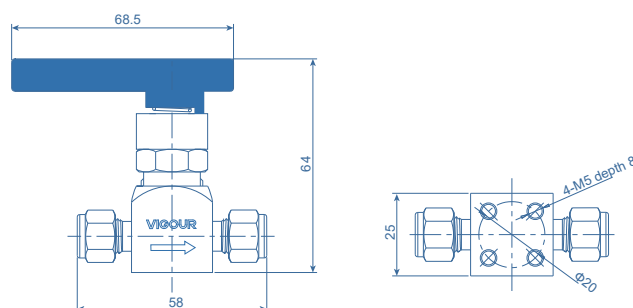
Type:	Diaphragm valve
Inlet pressure:	max. 300 bar (60 bar option)
Materials	
Body:	see ordering info
seat:	PCTFE
Diaphragm:	Elgiloy®
Filter:	SS316L
Inlet / Outlet connection:	see ordering info
Temperature range:	-30°C to +74°C
Leak rate:	1x10 ⁻⁸ mbar l/s He
Orifice:	Φ2.7mm
Weight:	0.2kg



Schematic Drawing



Dimensions (mm)



Ordering Information

VDV 31 - S - 04 - 04 - L

Material

S: 316L

Inlets / Outlets

M4: 1/4"NPT(M)

02: 1/8"Tube fitting

04: 1/4"Tube fitting

6M: 6mm Tube fitting

8M: 8mm Tube fitting

Lever

None: Right lever for Shutoff

L: Left lever for Shutoff

Product Features

- Brass chrome plated body for inert, reactive, flammable and oxidizing gas and mixtures up to grade 6.0
- Stainless steel 316L body for corrosive gases
- Suitable for inlet pressure up to 40 bar
- Wide range of inlets / outlets
- Metal-to-metal sealing to atmosphere
- Tested for use with oxygen

Typical Applications

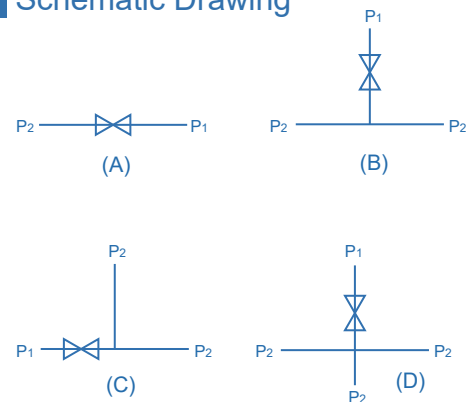
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



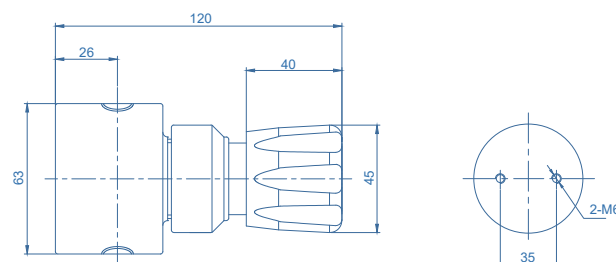
Technical Data

Type:	Diaphragm valve
Inlet pressure:	max. 40 bar
Materials	
Body:	see ordering info
seat:	PCTFE
Diaphragm:	Hastelloy® C276
Filter:	SS316L
Inlet / Outlet connection:	see ordering info
Temperature range:	-30°C to +74°C
Leak rate:	1x10 ⁻⁸ mbar l/s He
Orifice:	Φ8mm
Weight:	0.8kg

Schematic Drawing



Dimensions (mm)



Ordering Information

VDV8 - C - A - F6 - F6

Body Material

S: 316L

C: Chrome Plated Brass

Type

A: 2 Ports

B: 3 Ports

C: 3 Ports

D: 4 Ports

Inlets / Outlets

F6: 3/8"NPT(F)

F8: 1/2"NPT(F)

Ball Valve

VBV1 Series

Product Features

- Bi-directional flow (fully opened or fully closed)
- Directional handle indicating on-off position
- Allow for panel mounting
- Single piece ball stem to eliminate backlash
- One piece body to eliminate multiple seal points
- Unique, top-loaded capsule packing allows reliable switching
- Tested for use with oxygen

Typical Applications

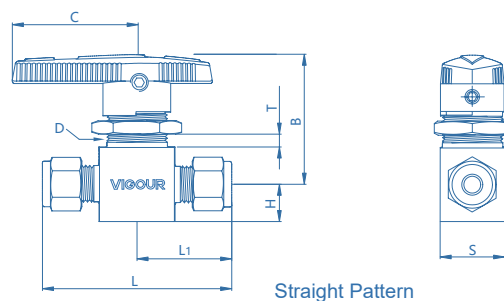
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment



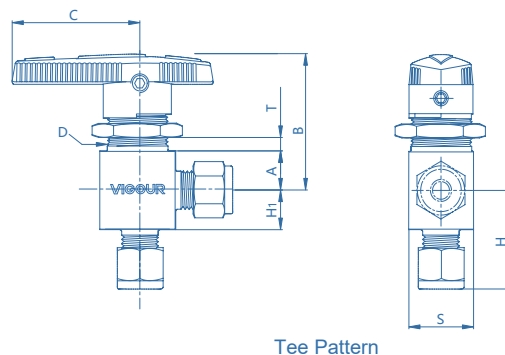
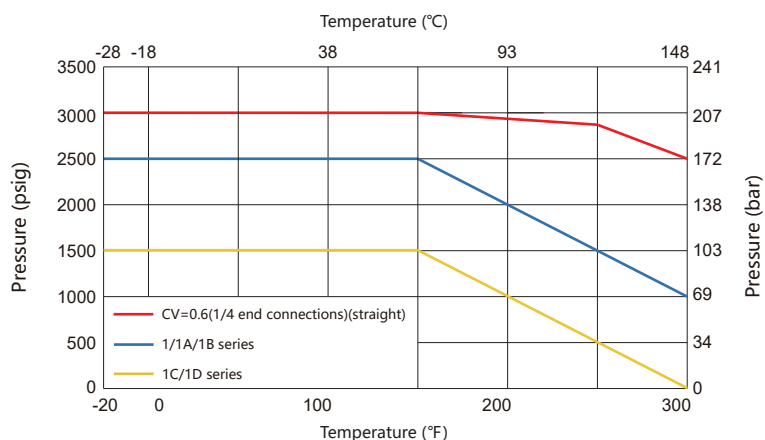
Technical Data

Type:	Ball valve
Pressure Rating:	max. 206 bar
Materials	
Body:	316
seat:	PTFE
Temperature range:	-54°C to 148°C
Leak rate:	0.1std cc/min@1000psig(69bar) N_2
Orifice:	$\Phi 2.4 \sim 10.3$ mm(according to end connections)

Schematic Drawing



Pressure vs. Temperature



Dimensions

End Connections		Cv		Ordering Number	Orifice in.	Dimensions, in.(mm)										
Inlet/Outlet	Size	Cv	Angl			L	L1	H1	A	H	C	T	D	B	S	
Fractional tube fittings	1/16 in.	0.10	—	SS-VBV1-01-01	0.052 (1.32)	1.68 (42.7)	0.84 (21.3)	—	0.34 (8.6)	0.28 (7.1)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.36 (34.5)	0.58 (14.7)	
	1/8 in.	0.20	0.15	SS-VBV1-02-02	0.093 (2.36)	2.01 (51.1)	1.01 (25.7)	0.97 (24.6)								
	1/4 in.	0.60	0.35	SS-VBV1A-04-04	0.125 (3.18)	2.21 (56.1)	1.10 (27.9)	1.07 (27.2)								
		1.4	0.90	SS-VBV1B-04-04	0.187 (4.75)	2.36 (59.9)	1.18 (30)	1.17 (29.7)	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.56 (39.6)	0.78 (19.8)	
	3/8 in.	1.5	0.90	SS-VBV1B-06-06	0.187 (4.75)	2.58 (65.5)	1.29 (32.8)									
		6.0	2.0	SS-VBV1C-06-06	0.281 (7.14)	3.05 (77.5)	1.52 (38.6)	1.43 (36.3)	0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1-1/8 (28.6)	2.07 (52.6)	1.12 (28.4)	
	1/2 in.	6.3	4.6	SS-VBV1D-08-08	0.406	3.92 (99.6)	1.96 (49.8)	1.74 (44.2)	0.69 (17.5)		3.00 (76.2)		1-1/2 (38.1)	2.43 (61.7)	1.5 (38.1)	
	3/4 in.	6.4	3.8	SS-VBV1D-12-12	0.406											
Metric tube fittings	3mm	0.20	0.15	SS-VBV1-3M-3M	0.093 (2.36)	2.01 (51.1)	1.01 (25.7)	0.97 (24.6)	0.34 (8.6)	0.28 (7.1)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.38 (34.5)	0.58 (14.7)	
	6mm	0.60	0.35	SS-VBV1A-6M-6M	0.125 (3.18)	2.21 (56.1)	1.10 (27.9)	0.97 (24.6)								
		1.4	0.90	SS-VBV1B-6M-6M	0.187 (4.75)	2.39 (60.7)	1.20 (30.5)	1.17 (29.7)	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.56 (39.6)	0.78 (19.8)	
	8mm	1.5	0.90	SS-VBV1B-8M-8M	0.187 (4.75)	2.46 (62.5)	1.23 (31.2)	1.2 (30.5)								
	10mm	6.0	2.0	SS-VBV1C-10M-10M	0.281 (7.14)	3.07 (78.0)	1.53 (38.9)	1.43 (36.9)	0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1-1/8 (28.6)	2.07 (52.6)	1.12 (28.4)	
	12mm	12	4.6	SS-VBV1D-12M-12M	0.406 (10.3)	3.92 (99.6)	1.96 (49.8)	1.74 (44.2)	0.69 (17.5)		3.00 (76.2)		1-1/2 (38.1)	2.43 (61.7)	1.50 (38.1)	
Female NPT	1/8 in.	0.50	0.30	SS-VBV1A-F2-F2	0.125 (3.18)	1.62 (41.1)	0.81 (20.6)		0.34 (8.6)	0.28 (9.7)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.36 (34.5)	0.58 (14.7)	
		1.2	0.70	SS-VBV1B-F2-F2	0.187 (4.75)	2.00 (50.8)	1.00 (25.4)		0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.56 (39.6)	0.78 (19.8)	
	1/4 in.	0.90	0.75	SS-VBV1B-F4-F4	0.187 (4.75)	2.06 (52.3)	1.03 (26.2)									
		3.0	1.7	SS-VBV1C-F4-F4	0.281 (7.14)	2.50 (63.5)	1.25 (31.8)		0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1-1/8 (28.6)	2.07 (52.6)	1.12 (28.4)	
	3/8 in.	2.6	1.5	SS-VBV1D-F6-F6									1.56 (39.6)			
	1/2 in.	6.3	3.5	SS-VBV1D-F8-F8	0.406 (10.3)	3.12 (79.2)	1.56 (39.6)		0.69 (17.5)		3.00 (76.2)					

Dimensions shown with tube fitting unts finger-tight.

Ordering Information

SS - VBV1 - 04-04 - A

Material

SS: 316

Series

VBV1: see above table
 VBV1A: see above table
 VBV1B: see above table
 VBV1C: see above table
 VBV1D: see above table

Option

None: Straight pattern
 A: Angle pattern

End Connections

Fractional tube fittings: see above table
 Metric tube fittings: see above table
 Female NPT: see above table

Ball Valve

VBV2 Series

Product Features

- Bi-directional flow (fully opened or fully closed)
- Directional handle indicating on-off position
- Allow for panel mounting
- Single piece ball stem to eliminate backlash
- One piece body to eliminate multiple seal points
- Unique, top-loaded capsule packing allows reliable switching
- Tested for use with oxygen

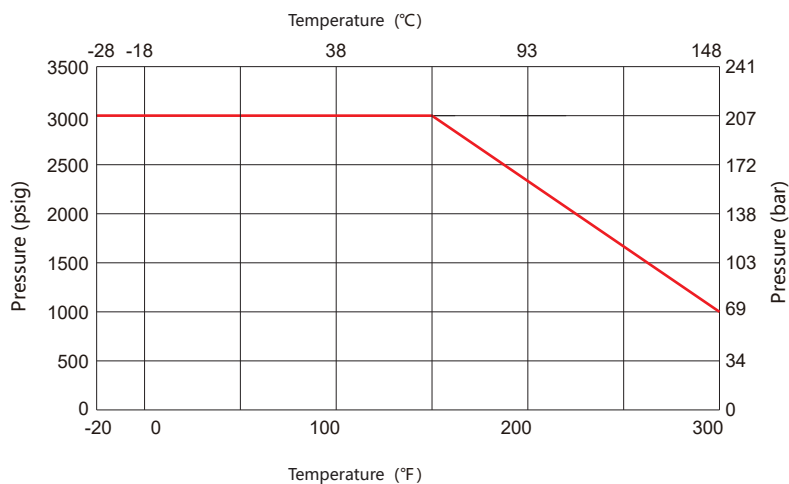
Typical Applications

- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

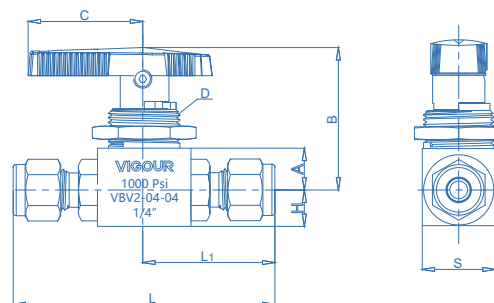
Technical Data

Type:	Ball valve
Pressure Rating:	68 / 206 bar
Materials	
Body:	316
seat:	PTFE
Temperature range:	-54°C to 148°C
Leak rate:	0.1std cc/min@1000psig(69bar)N ₂
Orifice:	Φ2.4~10.3 mm(according to end connections)

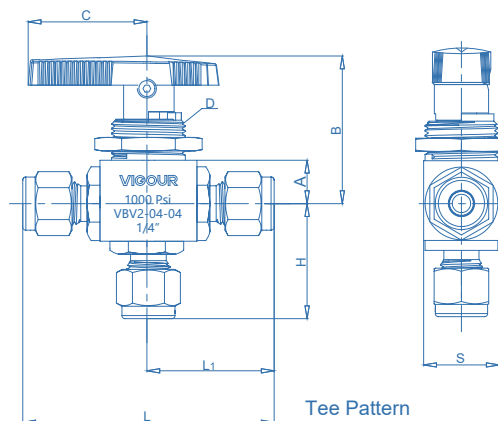
Pressure vs. Temperature



Dimensions (mm)



Straight Pattern



Tee Pattern

Dimensions

End Connections	End Connections Size	Ordering Number	Orifice in.(mm)	Dimensions, in.(mm)							
				L	L1	H	A	B	C	D	S
Straight-through type											
Fractional tube fittings	1/8 in.	SS-VBV2-02-02	0.087 (2.2)	2.39 (60.8)	1.20 (30.4)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	1.15 (29.3)	0.55 (14)	0.79x0.79 (20x20)
	1/4 in.	SS-VBV2-04-04	0.189 (4.8)	2.53 (64.3)	1.27 (32.15)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	1.15 (29.3)	0.55 (14)	0.79x0.79 (20x20)
	3/8 in.	SS-VBV2-06-06	0.197 (5.0)	2.74 (69.6)	1.37 (34.8)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	1.15 (29.3)	0.55 (14)	0.79x0.79 (20x20)
	1/2 in.	SS-VBV2-08-08	0.354 (9.0)	3.25 (82.5)	1.62 (41.25)	0.49 (12.5)	0.49 (12.5)	1.68 (42.7)	1.56 (39.6)	0.75 (19)	0.98x0.98 (25x25)
Metric tube fittings	3mm	SS-VBV2-3M-3M	0.087 (2.2)	2.43 (61.8)	1.22 (30.9)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	1.15 (29.3)	0.55 (14)	0.79x0.79 (20x20)
	6mm	SS-VBV2-6M-6M	0.189 (4.8)	2.57 (65.3)	1.29 (32.65)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	1.15 (29.3)	0.55 (14)	0.79x0.79 (20x20)
	8mm	SS-VBV2-8M-8M	0.197 (5.0)	2.65 (67.3)	1.34 (33.65)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	1.15 (29.3)	0.55 (14)	0.79x0.79 (20x20)
	10mm	SS-VBV2-10M-10M	0.197 (5.0)	2.82 (71.6)	1.41 (35.8)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	1.15 (29.3)	0.55 (14)	0.79x0.79 (20x20)
	12mm	SS-VBV2-12M-12M	0.354 (9.0)	3.29 (83.5)	1.64 (41.75)	0.49 (12.5)	0.49 (12.5)	1.68 (42.7)	1.56 (39.6)	0.75 (19)	0.98x0.98 (25x25)
male thread	1/8 in.	SS-VBV2-02-M2	0.087 (2.2)	1.81 (46)	0.90 (23)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	0.75 (19)	0.55 (14)	0.79x0.79 (20x20)
	1/4 in.	SS-VBV2-04-M4	0.189 (4.8)	2.21 (56)	1.10 (28)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	0.75 (19)	0.55 (14)	0.79x0.79 (20x20)
	3/8 in.	SS-VBV2-06-M6	0.197 (5.0)	2.29 (58)	1.14 (29)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	0.75 (19)	0.55 (14)	0.79x0.79 (20x20)
	1/2 in.	SS-VBV2-08-M8	0.354 (9.0)	2.88 (73)	1.44 (36.5)	0.49 (12.5)	0.49 (12.5)	1.68 (42.7)	0.98 (24.8)	0.75 (19)	0.98x0.98 (25x25)
female thread	1/8 in.	SS-VBV2-02-F2	0.087 (2.2)	1.81 (46)	0.90 (23)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	0.75 (19)	0.55 (14)	0.79x0.79 (20x20)
	1/4 in.	SS-VBV2-04-F4	0.189 (4.8)	2.21 (56)	1.10 (28)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	0.75 (19)	0.55 (14)	0.79x0.79 (20x20)
	3/8 in.	SS-VBV2-06-F6	0.197 (5.0)	2.29 (58)	1.14 (29)	0.39 (10)	0.37 (9.5)	1.32 (33.6)	0.75 (19)	0.55 (14)	0.79x0.79 (20x20)
	1/2 in.	SS-VBV2-08-F8	0.354 (9.0)	2.88 (73)	1.44 (36.5)	0.49 (12.5)	0.49 (12.5)	1.68 (42.7)	0.98 (24.8)	0.75 (19)	0.98x0.98 (25x25)
Tee type											
Fractional tube fittings	1/8 in.	SS-VBV2-02-02-T	0.19 (4.8)	2.51 (63.8)	1.26 (31.9)	1.45 (36.9)	0.43 (11)	1.50 (38)	1.18 (30)	0.55 (14)	0.87 (22)
	1/4 in.	SS-VBV2-04-04-T	0.19 (4.8)	2.65 (67.3)	1.33 (33.7)	1.53 (38.8)	0.43 (11)	1.50 (38)	1.18 (30)	0.55 (14)	0.87 (22)
	3/8 in.	SS-VBV2-06-06-T	0.19 (4.8)	2.83 (72)	1.42 (36)	1.61 (41)	0.43 (11)	1.50 (38)	1.18 (30)	0.55 (14)	0.87 (22)
Metric tube fittings	3mm	SS-VBV2-3M-3M-T	0.19 (4.8)	2.50 (63.4)	1.25 (31.7)	1.49 (36.8)	0.43 (11)	1.50 (38)	1.18 (30)	0.55 (14)	0.87 (22)
	6mm	SS-VBV2-6M-6M-T	0.19 (4.8)	2.67 (67.8)	1.33 (33.7)	1.54 (39)	0.43 (11)	1.50 (38)	1.18 (30)	0.55 (14)	0.87 (22)
	8mm	SS-VBV2-8M-8M-T	0.19 (4.8)	2.76 (70.1)	1.38 (35)	1.58 (40.1)	0.43 (11)	1.50 (38)	1.18 (30)	0.55 (14)	0.87 (22)
	10mm	SS-VBV2-10M-10M-T	0.19 (4.8)	2.89 (73.5)	1.44 (36.5)	1.65 (42)	0.43 (11)	1.50 (38)	1.18 (30)	0.55 (14)	0.87 (22)

Ordering Information

SS - VBV2 - 04-04 - T - L

Material

SS: 316

End Connections

Fractional tube fitting: see above table

Metric tube fittings: see above table

Fractional NPT: see above table

Pressure

L: 1000 psi

H: 3000 psi

Option

None: Straight-through type

T: Tee type

Ball Valve

VBV3 Series

Product Features

- Bi-directional flow (fully opened or fully closed)
- Directional handle indicating on-off position
- Low operating torque
- Encapsulated seat
- Single piece ball stem to eliminate backlash
- One piece body to eliminate multiple seal points.
- Unique, top-loaded capsule packing allows reliable switching
- Tested to use with oxygen



Yellow handle



Butterfly handle



Short handle

Typical Applications

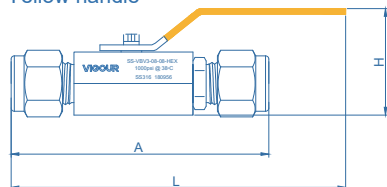
- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Technical Data

Type:	Yellow handle / Butterfly handle / Short handle	
Pressure:	68 bar @ 38°C	
Material		
Body:	316	
Seat:	PTFE	
Orifice:	6mm/1/4"Tube fitting, 1/4NPT	Φ5mm
	10mm/3/8"Tube fitting	Φ7 mm
	12mm/1/2"Tube fitting, 1/2NPT	Φ9 mm
Weight:	6mm/1/4"Tube fitting, 1/4NPT	0.13 kg (Yellow handle and Butterfly handle), 0.1 kg (Short handle)
	10mm/3/8"	0.22 kg (Yellow handle and Butterfly handle), 0.16 kg (Short handle)
	12mm/1/2"Tube fitting, 1/2NPT	0.35 kg (Yellow handle and Butterfly handle), 0.26 kg (Short handle)
Temperature range:	-42°C to +204°C	
Leak rate:	0.1 std cc/min	

Dimensions (mm)

Yellow handle

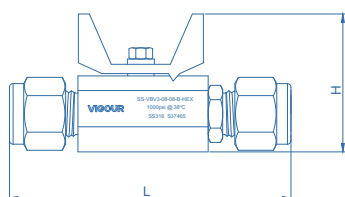


Yellow handle

Table of dimension parameters

End Connections	Dimensions (mm)		
in.	A	L	H
1/4" Tube Fitting	80	96.5	38.5
3/8" Tube Fitting	90	122.5	48.5
1/2" Tube Fitting	100	128	52.5
3/4" Tube Fitting	107	152.5	58.2
1" Tube Fitting	132	165	63.2

Butterfly handle

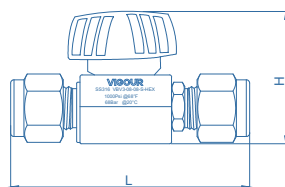


Butterfly handle

Table of dimension parameters

End Connections	Dimensions (mm)	
in.	L	H
1/4" Tube Fitting	80	33
3/8" Tube Fitting	90	41.5
1/2" Tube Fitting	100	49
3/4" Tube Fitting	107	52.4
1" Tube Fitting	132	61.4

Short handle



Short handle

Table of dimension parameters

End Connections	Dimensions (mm)	
in.	L	H
1/4" Tube Fitting	70.5	41
3/8" Tube Fitting	77.6	45.2
1/2" Tube Fitting	90.6	53.7
3/4" Tube Fitting	107.3	62.9

Ordering Information

SS - VBV3 - 06 - 06 - B - HEX

Body Material

SS: 316

Inlets / Outlets

04: 1/4"Tube fitting
 06: 3/8"Tube fitting
 08: 1/2"Tube fitting
 12: 3/4"Tube fitting
 16: 1"Tube fitting (only for butterfly and yellow handle type)
 6M: 6mm Tube fitting
 10M: 10mm Tube fitting
 12M: 12mm Tube fitting
 F4: 1/4"NPT(F)
 F8: 1/2"NPT(F)
 F12: 3/4"NPT(M) (only for butterfly and yellow handle type)
 F16: 1"NPT(M) (only for butterfly and yellow handle type)

Handle Option

None: Yellow handle
 B: Butterfly handle
 S: Short handle

Ball Valve

VBV4 Series

Product Features

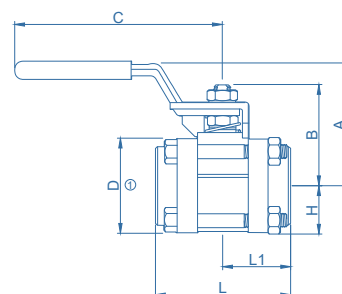
- Stainless steel, carbon steel materials
- Wide selection of seat materials, PTFE is standard
- On-off (2-way) valves
- Compensating seat design
- Live-loaded, two-piece stem packing
- Quarter-turn actuation
- Variety of end connections in 1/8 to 2 in. and 6 to 25 mm sizes
- Optional vent porting



Pressure-Temperature Ratings

Series	VBV4A /4B /4C	VBV4D /4E	VBV4A /4B /4C /4D /4E
Material	316		304
Temperature, °F(°C)	Working Pressure, psig (bar)		
-20 A17(-28) to 100 (37)	2200 (151)	1500 (103)	2200 (151)
150 (65)	1850 (127)	1210 (83.3)	1850 (127)
200 (93)	1500 (103)	930 (64.0)	1500 (103)
300 (148)	800 (55.1)	780 (53.7)	800 (55.1)
350 (176)	560 (38.5)	560 (38.5)	560 (38.5)
400 (204)	330 (22.7)	330 (22.7)	330 (22.7)

Schematic Drawing



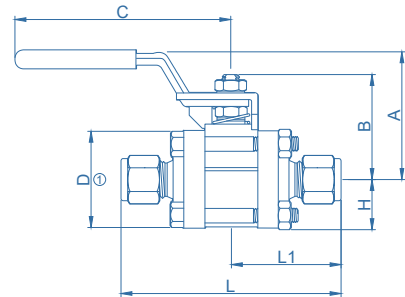
Dimensions (mm)

Female NPT End Connections

Size in.	Ordering Number	Orifice in.(mm)	Cv	Dimensions, in.(mm)						
				L	L1	A	B	H	C	D ①
1/4"	SS-VBV4A-F4	0.433(11)	3.8	2.26(57.5)	1.13(28.8)	1.89(48)	1.55(39.3)	0.69(17.4)	4.09(104)	1.37(34.8)
3/8"	SS-VBV4B-F6	0.492(12.5)	12	2.32(59)	1.16(29.5)	1.89(48)	1.55(39.3)	0.69(17.4)	4.09(104)	1.37(34.8)
1/2"	SS-VBV4B-F8	0.591(15)	12	2.52(64)	1.26(32)	1.97(50)	1.62(41.2)	0.89(22.7)	4.33(110)	1.79(45.4)
3/4"	SS-VBV4C-F12	0.787(20)	31	2.8(71)	1.4(35.5)	2.09(53)	1.81(46)	0.99(25.2)	4.33(110)	1.98(50.4)
1"	SS-VBV4C-F16	0.984(25)	38	3.27(83)	1.63(41.5)	2.68(68)	2.22(56.5)	1.11(28.2)	5.71(145)	2.22(56.4)
1-1/4"	SS-VBV4D-F20	1.26(32)	90	3.86(98)	1.93(49)	2.87(73)	2.44(62)	1.28(32.4)	5.71(145)	2.55(64.8)
1-1/2"	SS-VBV4D-F24	1.496(38)	100	4.25(108)	2.13(54)	3.39(86)	3.07(78)	1.46(37.2)	7.09(180)	2.93(74.4)
2"	SS-VBV4E-F32	1.969(50)	130	4.96(126)	2.48(63)	3.7(94)	3.41(86.5)	1.81(45.9)	7.09(180)	3.61(91.8)

① Height and width of B through E series flanges; Height of A series flange is 1.59 in. (40.4 mm); Width is D dimension.

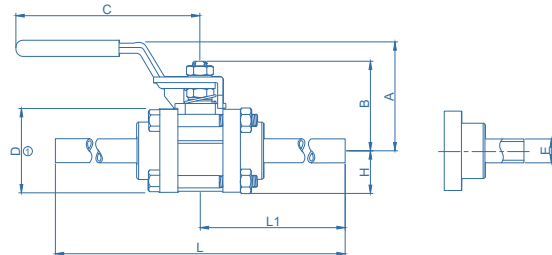
Ball Valve VBV4 Series



Tube Fitting End Connections

Size in.	Ordering Number	Orifice in.(mm)	Cv	Dimensions, in.(mm)						
				L	L1	A	B	H	C	D ①
1/4"	SS-VBV4A-04	0.181(4.6)	1.2	3.39(86)	1.69(43)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
3/8"	SS-VBV4A-06	0.305(7.75)	3.8	3.43(87)	1.71(43.5)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
1/2"	SS-VBV4B-08	0.370(9.4)	7.5	3.64(92.4)	1.82(46.2)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
3/4"	SS-VBV4B-12	0.620(15.75)	13.6	4.08(103.6)	2.04(51.8)	2.83(72)	2.04(51.8)	0.99(25.2)	3.62(92)	1.98(50.4)
1"	SS-VBV4C-16	0.787(20)	40	4.53(115)	2.26(57.5)	2.85(72.5)	2.07(52.6)	1.02(26)	3.62(92)	2.05(52)
6mm	SS-VBV4A-6M	0.189(4.8)	1.2	3.43(87)	1.71(43.5)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
8mm	SS-VBV4A-8M	0.252(6.4)	2.5	3.46(88)	1.73(44)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
10mm	SS-VBV4A-10M	0.315(8)	3.8	3.43(87)	1.71(43.5)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
12mm	SS-VBV4B-12M	0.370(9.4)	7.5	3.62(92)	1.81(46)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
18mm	SS-VBV4B-18M	0.591(15)	13.6	4.09(104)	2.05(52)	2.83(72)	2.04(51.8)	0.99(25.2)	3.62(92)	1.98(50.4)
25mm	SS-VBV4C-25M	0.787(20)	40	4.52(114.8)	2.26(57.4)	2.85(72.5)	2.07(52.6)	1.02(26)	3.62(92)	2.05(52)

① Height and width of B through E series flanges. Height of A series flange is 1.59 in. (40.4 mm); Width is D dimension.



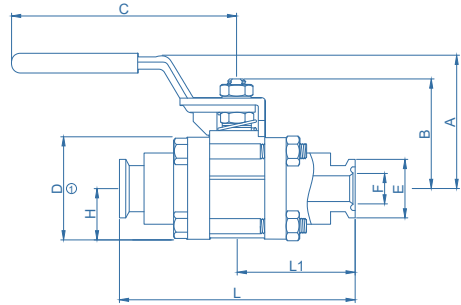
Tube Extension End Connections

Size in.	Wall thickness	Ordering Number	Orifice in.(mm)	Cv	Dimensions, in.(mm)							
					E	L	L1	A	B	H	C	D ①
1/4"	0.035	SS-VBV4A-TW4T35	0.181(4.6)	1.1	0.250(6.4)	2.83(72)	1.42(36)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
3/8"	0.035	SS-VBV4A-TW6T35	0.305(7.75)	3.8	0.375(9.5)	2.83(72)	1.42(36)	2.74(69.5)	1.95(49.5)	0.81(20.7)	3.62(92)	1.63(41.4)
1/2"	0.049	SS-VBV4A-TW8T49	0.370(9.4)	7.2	0.500(12.7)	4.92(125)	2.46(62.5)	1.97(50)	1.62(41.2)	0.89(22.7)	4.33(110)	1.79(45.4)
1/2"	0.065	SS-VBV4B-TW8T65	0.370(9.4)	6.1	0.500(12.7)	4.92(125)	2.46(62.5)	1.97(50)	1.62(41.2)	0.89(22.7)	4.33(110)	1.79(45.4)
3/4"	0.065	SS-VBV4C-TW12T65	0.620(15.75)	18	0.750(19.1)	5.59(142)	2.80(71)	2.09(53)	1.81(46)	0.99(25.2)	4.33(110)	1.98(50.4)
1"	0.065	SS-VBV4D-TW16T65	0.870(22.1)	36	1.000(25.4)	6.38(162)	3.19(81)	2.68(68)	2.20(56)	1.11(28.2)	5.71(145)	2.22(56.4)
1-1/2"	0.065	SS-VBV4D-TW24T65	1.370(34.8)	100	1.500(38.1)	7.17(182)	3.58(91)	3.39(86)	2.95(75)	1.46(37.2)	7.09(180)	2.93(74.4)
2"	0.065	SS-VBV4E-TW32T65	1.870(47.5)	130	2.000(50.1)	7.60(193)	3.80(96.5)	3.70(94)	3.41(86.5)	1.81(45.9)	7.09(180)	3.61(91.8)

① Height and width of B through E series flanges. Height of A series flange is 1.59 in. (40.4 mm); Width is D dimension.

Ball Valve

VBV4 Series



Sanitary Fitting End Connections

Size in.	Ordering Number	Orifice in.(mm)	Cv	Dimensions, in.(mm)								
				E	F	L	L1	A	B	H	C	D ①
TS Series (ASME-BPE)												
1/2"	SS-VBV4B-TSC8	0.370(9.4)	7.5	0.98(25)	0.37(9.4)	3.54(90)	1.77(45)	1.97(50)	1.62(41.2)	0.89(22.7)	4.33(110)	1.79(45.4)
3/4"	SS-VBV4C-TSC12	0.620(15.75)	15	0.98(25)	0.62(15.7)	3.54(90)	1.77(45)	2.09(53)	1.81(46)	0.99(25.2)	4.33(110)	1.98(50.4)
1"	SS-VBV4E-TSC16	0.870(22.1)	42	1.99(50.5)	0.87(22.1)	3.94(100)	1.97(50)	2.68(68)	2.20(56)	1.11(28.2)	5.71(145)	2.22(56.4)
1-1/2"	SS-VBV4B-TSC24	1.370(34.8)	100	1.99(50.5)	1.37(34.8)	4.92(125)	2.46(62.5)	3.39(86)	3.07(78)	1.46(37.2)	7.09(180)	2.93(74.4)
2"	SS-VBV4D-TSC32	1.870(47.5)	130	2.52(64)	1.87(47.5)	5.91(150)	2.95(75)	3.70(94)	3.41(86.5)	1.81(45.9)	7.09(180)	3.61(91.8)
SC Series (ISO2852 Standard)												
1/2"	SS-VBV4B-SC8	0.591(15)	7.1	1.34(34)	0.63(16)	3.54(90)	1.77(45)	1.97(50)	1.62(41.2)	0.89(22.7)	4.33(110)	1.79(45.4)
3/4"	SS-VBV4C-SC12	0.787(20)	13.2	1.34(34)	0.79(20)	3.54(90)	1.77(45)	2.09(53)	1.81(46)	0.99(25.2)	4.33(110)	1.98(50.4)
1"	SS-VBV4E-SC16	0.984(25)	42	1.99(50.5)	1.02(26)	3.94(100)	1.97(50)	2.68(68)	2.20(56)	1.11(28.2)	5.71(145)	2.22(56.4)
1-1/2"	SS-VBV4B-SC24	1.496(38)	100	1.99(50.5)	1.50(38)	4.92(125)	2.46(62.5)	3.39(86)	3.07(78)	1.46(37.2)	7.09(180)	2.93(74.4)
2"	SS-VBV4D-SC32	1.969(50)	130	2.52(64)	1.97(50)	5.91(150)	2.95(75)	3.70(94)	3.41(86.5)	1.81(45.9)	7.09(180)	3.61(91.8)

① Height and width of B through E series flanges. Height of A series flange is 1.59 in. (40.4 mm); Width is D dimension.

Ordering Information

SS - VBV4A - 06 - Options

Body Material

SS: 316
S4: 304

Series

A: A series
B: B series
C: C series
D: D series
E: E series

Seal Material

Intensive PTFE
Intensive PEEK
More material, please contact factory

End Connections

Tube fitting: see above tables
Female NPT: see above tables
Tube weld: see above tables
Sanitary: see above tables

Alumimum Cylinder Valve

VCV-16 Series

Product Features

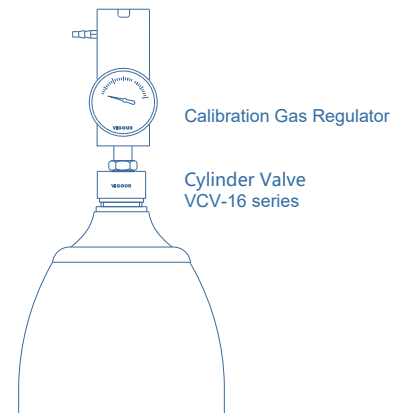
- Disposable Calibration Gas Cylinder Valve
- Brass chrome plated body or stainless steel body

Typical Applications

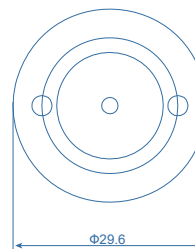
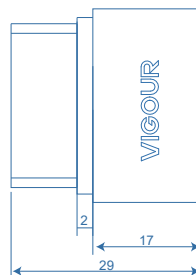
- Designed for calibration applications.

Technical Data

Inlet pressure:	max. 200 bar
Body material:	see ordering info
Inlet connection:	1"-14UNF/3/4"-16UNF
Outlet connection:	5/8"-18UNF
Leak rate:	Bubble-tight
Temperature range:	-20°C to +70°C
Weight:	0.10kg



Dimensions (mm)



Ordering Information

VCV - 16 S - 40 - A

Body Material

S: 316L

C: Chrome Plated Brass

Inlet pressure

40: 40 bar

200: 200 bar

Inlet connection

None: 1"-14UNF

A: 3/4"-16UNF

Needle Valve

VNV Series

Product Features

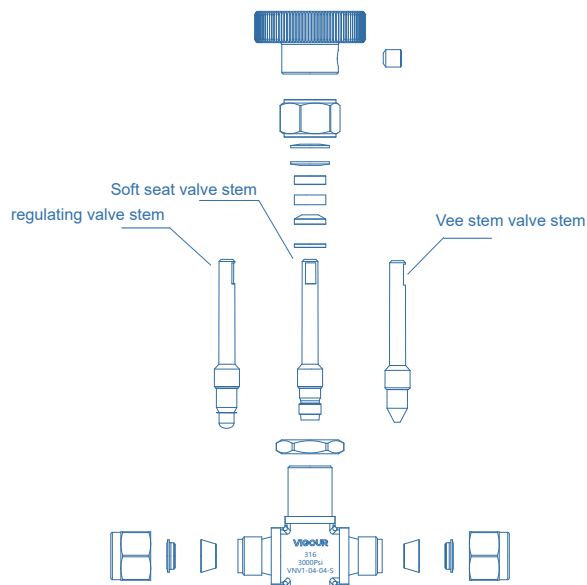
- Live-loaded packing system
- Vee stem, regulating stem, soft-seat stem are optional
- Compact design
- Panel mounting
- Straight, angle, and cross flow patterns
- Working pressure up to 345 bar

Typical Applications

- Component Testing
- Calibration Systems
- Laboratory Pressure Control
- High Pressure Sampling Systems
- Service & Test Equipment

Technical Data

Type:	Needle valve
Inlet pressure P1:	max. 345 bar
Material	
Body:	see ordering info
Seat:	PCTFE
Filter:	316
Inlets / Outlets:	see ordering info
Temperature range:	-54°C to +232°C
Leak rate:	0.1 cc/min
Orifice:	see ordering info
Weight:	0.1kg



Ordering Information

SS - VNV0 - 06 - 06 - V - A

Body Material

SS: 316

Series

0: VNV0 series

1: VNV1 series

2: VNV2 series

Inlets / Outlets

Fractional tube fitting: see below table

Metric tube fitting: see below table

Femal NPT: see below table

Male NPT: see below table

Type

None: straight

A: angle

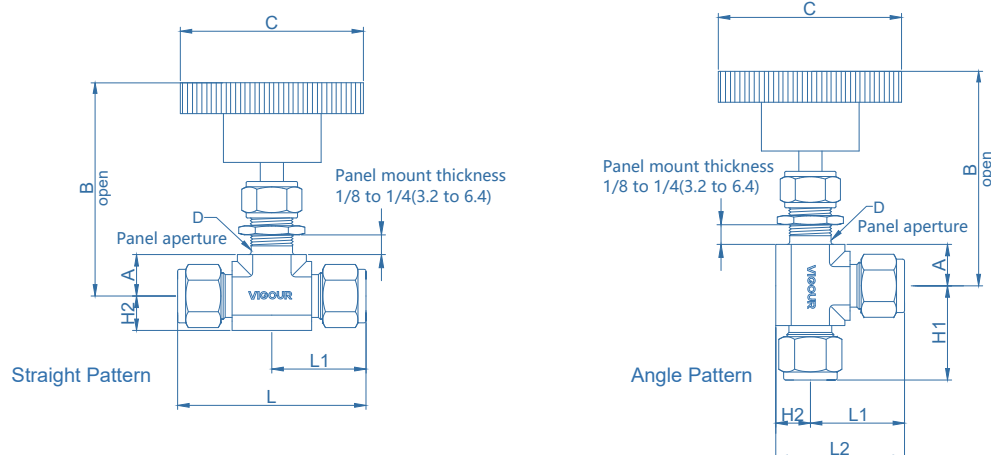
Stem Option

V: Vee stem

R: Regulating stem

S: Soft-seat stem

Dimensions (mm)



Size in.(mm)	Ordering Number	Orifice in.	Cv	Dimensions, in.(mm)								
				L	L1	H1	L2	A	H2	C	D	B
Fractional tube fittings												
1/8	SS-VNV0-02-02	0.080 (2.0)	0.09	1.94 (49.3)	0.98 (24.9)	1.29 (32.8)	0.44 (11.2)	0.31 (7.9)	1 (25.4)	0.47 (11.9)	2.28 (57.9)	
1/4	SS-VNV1-04-04	0.172 (4.4)	0.37	2.27 (57.6)	1.13 (28.7)	1.51 (38.4)		0.38 (9.7)	1.38 (35.1)	0.53 (13.5)	2.50 (63.5)	
3/8	SS-VNV1-06-06	0.250 (6.4)	0.73	2.58 (65.5)	1.29 (32.8)	1.79 (45.5)	0.55 (14.0)	0.50 (12.7)	1.88 (47.8)	0.78 (19.8)	2.97 (75.4)	
1/2	SS-VNV1-08-08			2.80 (71.1)	1.40 (35.6)	1.90 (48.3)						
1/2	SS-VNV2-08-08	0.375 (9.5)	1.80	3.80 (96.5)	1.90 (48.3)	2.65 (67.3)	0.75 (19.1)	3.00 (76.2)	1.03 (26.2)	3.91 (99.3)		
3/4	SS-VNV2-12-12											
Metric tube fittings												
3mm	SS-VNV0-3M-3M	0.080 (2.0)	0.09	1.94 (49.3)	0.98 (24.9)	1.29 (32.8)	0.44 (11.2)	0.31 (7.9)	1.00 (25.4)	0.48 (12.2)	2.28 (57.9)	
6mm	SS-VNV1-6M-6M	0.172 (4.4)	0.37	2.27 (57.6)	1.13 (28.7)	1.51 (38.4)		0.38 (9.7)	1.38 (35.1)	0.53 (13.5)	2.50 (63.5)	
8mm	SS-VNV1-8M-8M			2.34 (59.4)	1.17 (29.7)	1.54 (39.1)	0.55 (14.0)	0.50 (12.7)	1.88 (47.8)	0.78 (19.8)	2.97 (75.4)	
10mm	SS-VNV1-10M-10M	0.250 (6.4)	0.73	2.60 (66.0)	1.30 (33.0)	1.80 (45.7)						
12mm	SS-VNV1-12M-12M			2.80 (71.1)	1.40 (35.6)	1.90 (48.3)						
Female NPT												
1/8	SS-VNV0-F2-F2	0.080 (2.0)	0.09	1.88 (47.8)	0.94 (23.9)	1.25 (31.8)	0.44 (11.2)	0.31 (7.9)	1.00 (25.4)	0.47 (11.9)	2.28 (57.9)	
1/8	SS-VNV1-F2-F2	0.172 (4.4)	0.37	1.62 (41.1)	0.81 (20.6)	1.19 (30.2)		0.38 (9.7)	1.38 (35.1)	0.53 (13.5)	2.50 (63.5)	
1/4	SS-VNV1-F4-F4	0.250 (6.4)	0.73	2.12 (53.8)	1.06 (26.9)	1.56 (39.6)	0.55 (14.0)	0.50 (12.7)	1.88 (47.8)	0.78 (19.8)	2.97 (75.4)	
3/8	SS-VNV2-F6-F6	0.375 (9.5)	1.80	3.00 (76.2)	1.50 (38.1)	2.25 (57.2)	0.75 (19.1)	3.00 (76.2)	1.03 (26.2)	3.88 (98.6)		
1/2	SS-VNV2-F8-F8											
Male NPT												
1/8	SS-VNV0-M2-M2	0.080 (2.0)	0.09	1.50 (38.1)	0.75 (19.1)	1.06 (26.9)	0.44 (11.2)	0.31 (7.9)	1.00 (25.4)	0.47 (11.9)	2.28 (57.9)	
1/8	SS-VNV1-M2-M2	0.172 (4.4)	0.37	1.62 (41.1)	0.81 (20.6)	1.19 (30.2)		0.38 (9.7)	1.38 (35.1)	0.53 (13.5)	2.50 (63.5)	
1/4	SS-VNV1-M4-M4	0.250 (6.4)		1.97 (50.0)	0.98 (24.9)	1.36 (34.5)	0.55 (14.0)	0.50 (12.7)	1.88 (47.8)	0.78 (19.8)	2.97 (75.4)	
3/8	SS-VNV1-M6-M6	0.375 (9.5)	0.73	2.25 (62.5)	1.12 (28.4)	1.62 (41.1)						
1/2	SS-VNV2-M8-M8		1.80	3.00 (76.2)	1.50 (38.1)	2.25 (57.2)	0.75 (19.1)	3.00 (76.2)	1.03 (26.2)	3.88 (98.6)		

Check Valve

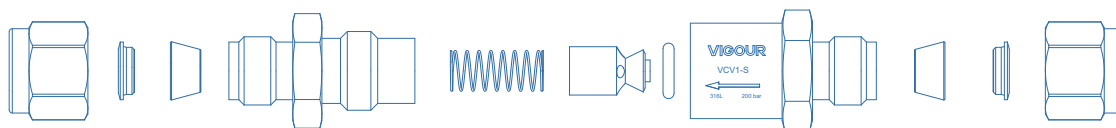
VCV1 Series

Product Features

- Compact designed check valves
- EPDM O-ring are standard (option: Viton®)
- Pressure rating: 206 bar

Typical Applications

- Designed for instrumentation panels and systems



Technical Data

Working pressure:	206 bar
Cracking pressure:	1 psi
Body material:	see ordering info
Inlet / Outlet connection:	see ordering info
O-ring:	EPDM standard Viton® option
Leak rate:	Bubble-tight

Ordering Information

VCV1 - S - 04 - 04 - E - N2

Material

S: 316L

Inlets / Outlets

Type of Gas

Please specify type of gas

O-raing

E: EPDM

V: Viton®

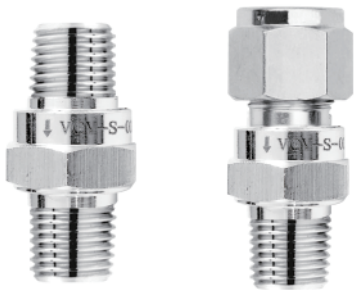
02: 1/8" Tube fitting	3M: 3mm Tube fitting	F2: 1/8" NPT(F)	M2: 1/8" NPT(M)	MV4: 1/4" Face Seal (M)
04: 1/4" Tube fitting	6M: 6mm Tube fitting	F4: 1/4" NPT(F)	M4: 1/4" NPT(M)	MV8: 1/2" Face Seal (M)
06: 3/8" Tube fitting	8M: 8mm Tube fitting	F6: 3/8" NPT(F)	M6: 3/8" NPT(M)	
08: 1/2" Tube fitting	10M: 10mm Tube fitting	F8: 1/2" NPT(F)	M8: 1/2" NPT(M)	
12: 3/4" Tube fitting	12M: 12mm Tube fitting	F12: 3/4" NPT(F)	M12: 3/4" NPT(M)	
16: 1" Tube fitting	20M: 20mm Tube fitting	F16: 1" NPT(F)	M16: 1" NPT(M)	

Product Features

- Compact designed check valves
- Viton® (FKM) O-ring are standard (option: Kalrez® (FFKM))
- Pressure rating: 413 bar
- Cracking pressure: 0.06 bar

Typical Applications

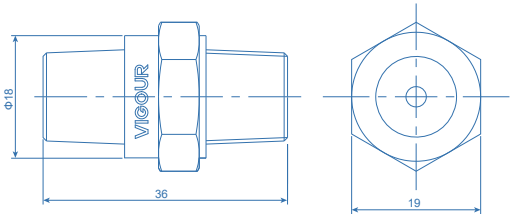
- Designed for instrumentation panels and systems



Technical Data

Working pressure:	413 bar
Cracking pressure:	0.06 bar
Body material:	316L / Chrome plated brass
Inlet / Outlet connection:	see ordering info
O-ring:	EPDM standard Viton® option
Leak rate:	Bubble-tight

Dimensions (mm)



Ordering Information

VCV2 - S - M4 - M4 - E - N2

Material

S: 316L

C: Chrome plated brass

Inlets

M4: 1/4" NPT(M)

F4: 1/4" NPT(F)

O4: 1/4" Tube fitting *

*For the 1/4" tube fitting option, only the 316L body material can be selected.

Type of Gas

Please specify type of gas

O-raing

E: EPDM

V: Viton®

Outlets

M4: 1/4" NPT(M)

Check Valve

VCVH Series

Product Feature

- Compact check valve
- O-ring Materials: VITON® standard, EPDM optional
- working pressure: Max. 413 bar
- Opening pressure: 0.02 / 0.06bar
- Inlet/outlet connection: NPT thread / NPT tube fitting

Typical Applications

- Designed for instrument panels and systems
- Hydrogen energy
- High-flow applications

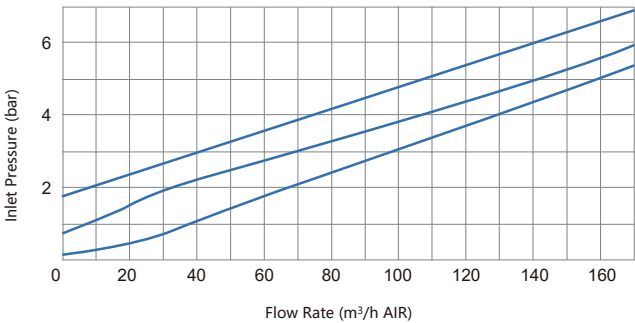
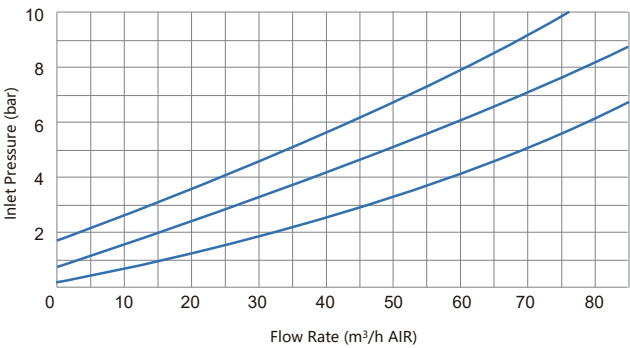
Technical Data

Working pressure:	Max. 413 bar
Opening pressure:	0.02 / 0.06 bar
Parent material:	see ordering info
Inlet/outlet connection:	see ordering info
O-ring:	Viton® (standard) EPDM (optional)
Leakage rate:	Bubble-tight



Minimum open reset pressure		Reset pressure
psi(bar)		
1/3 (0.03)	3 (0.21) under	6 (0.42) under
1 (0.07)	4 (0.28) under	5 (0.35)
5 (0.35)	3~9 (0.21~0.63)	2 (0.14)
10 (0.69)	7~15 (0.49~1.1)	3 (0.21)
25 (1.8)	20~30 (1.4~2.1)	17 (1.21)

Flow Chart



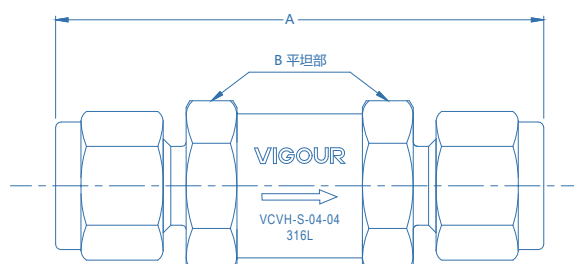
The rating is based on fluorocarbon FKM seals.

Material	316 SS	
Series	04 / 08	12 / 16
Temperature, °C(°F)	Work pressure, psig (bar)	
-28 (-20) to 37 (100)	6000 (413)*	5000 (344)*
93 (200)	5160 (355)	4290 (295)
121 (250)	4910 (338)	4080 (281)
148 (300)	4660 (321)	3875 (266)
204 (400)	4280 (294)	3560 (245)

*For detailed information on the pressure ratings of valves with compression tube fitting end connections, refer to the VIGOUR Compression Tube Data.

*The pressure rating may be limited by the end connection.

Dimensions (mm)



End connection		Below 37°C (100°F) pressure rating psig (bar)	Order number	Dimensions in. (mm)	
Type	Size			A	B
Tube Fitting	1/8"	6000 (413)	VCVH-S-02-02	2.27 (57.7)	11/16
	1/4"		VCVH-S-04-04	2.43 (61.7)	
	3/8"		VCVH-S-06-06	2.75 (69.9)	1
	1/2"		VCVH-S-08-08	2.96 (75.2)	
	3/4"	1000 (70)	VCVH-S-12-12	3.52 (89.4)	1-5/8
	1"		VCVH-S-16-16	3.88 (98.6)	
NPT (F)	1/4"	6000 (413)	VCVH-S-F4-F4	2.13 (54.1)	11/16
	3/8"		VCVH-S-F6-F6	2.55 (64.8)	1
	1/2"		VCVH-S-F8-F8	3.03 (77.0)	1-1/16

Ordering Information

VCVH - S - 04 - 04 - E - 1

Materials

S: 316L

Inlet / Outlet Connection

02: 1/8" Tube Fitting
04: 1/4" Tube Fitting
06: 3/8" Tube Fitting
08: 1/2" Tube Fitting
12: 3/4" Tube Fitting
16: 1" Tube Fitting
F4: 1/4" NPT(F)
F6: 3/8" NPT(F)
F8: 1/2" NPT(F)

Opening pressure

1: 0.06 bar (1psig)
1/3: 0.02 bar (1/3 psig)

O-ring

None: Viton®
E: EPDM

Relief Valve

VSV1 Series

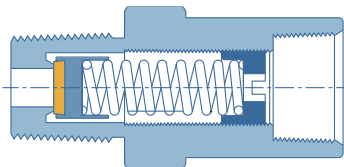
Product Features

- Relief valve for low pressure service
- Factory tested for proper set and resealing performance
- Tested for proof and burst



Technical Data

Set pressure:	1~50 bar
Body material:	see ordering info
Inlets / Outlets:	1/4"NPT(M) / 1/4"NPT(F)
Seal Material:	Viton®(FKM) standard Kalrez®(FFKM) option
Leak rate:	Bubble-tight
Temperature range:	-30°C to +74°C
Weight:	0.05kg



Ordering Information

VSV1 - S - 16 - N₂

Body Material

- S: 316L
- C: Chrome Plated Brass
- B: Brass

Pressure

- 6: 1 to 6 bar
- 16: 6 to 16 bar
- 26: 16 to 26 bar
- 36: 26 to 36 bar
- 50: 50 to 50 bar

Type of Gas

Please specify type of gas

Product Features

- Liquid or gas service
- Set pressures from 0.7~400 bar
- 1/4 and 1/2 in. and 6 to 12mm end connections
- Identifying colored springs for each pressure range
- SS 316L construction



Technical Data

Pressure-Temperature Ratings

Series	VSV 2			VSV 2A			VSV 2B & VSV 2C						
Inlet Pressure	6000 psig (413 bar)			6000 psig (413 bar)			300 psig (20.6 bar)						
Outlet Pressure	1500 psig (103 bar)			2500 psig (172 bar)			225 psig (15.5bar)						
Set pressure	50 to 6000 psig (3.4 to 413 bar)			50 to 1500 psig (3.4 to 103 bar)			10 to 225 psig (0.7 to 15.5 bar)						
Seal Material	FKM	NBR	EPDM	FKM	NBR	EDPM	FKM	NBR	EPDM				
Temperature °F(°C)	Maximum Set Pressure, psig (bar)												
-40 (-40)	——	——	——	——	——	——	——	——	——				
-30 (-34)													
-10 (-23)													
0 (-17)													
10 (-12)													
25 (-4)	6000 (413)	6000 (413)	6000 (413)	1500 (103)	1500 (103)	1500 (103)	225 (15.5)	225 (15.5)	225 (15.5)				
30 (-1)													
40 (4)													
50 (10)													
70 (20)													
150 (65)	5580 (384)	5580 (384)	5580 (384)	1500 (103)	1500 (103)	1500 (103)	225 (15.5)	225 (15.5)	225 (15.5)				
200 (93)	5160 (355)	5160 (355)	5160 (355)										
250 (121)	4910 (338)	4910 (338)	4910 (338)										
275 (135)	——	——	——							——	——	——	——
300 (148)													

Testing

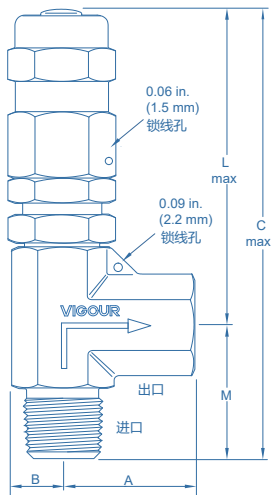
Every relief valve is tested for set and resealing performance

Series	Test Set Pressure, psig (bar)	Minimum Resealing Pressure as a Percentage
VSV 2B	10 to 20 (0.7 to 1.3)	50
VSV 2C	175 to 225 (12.0 to 15.5)	91
VSV 2	100 to 200 (6.8 to 13.7)	50
VSV 2A	850 to 1000 (58.5 to 68.9)	84

Proportional Relief Valve

VSV2 Series

Dimensions (mm)



Dimensions shown with tube fitting nuts finger-tight.

Low-Pressure Valves

- Service up to (20 bar)
- One spring for the full set pressure range
- Valves available factory-set to a specified set pressure

End Connections		Ordering Number	Dimensions, in. (mm)				
Inlet / Outlet	Size		L	M	A	B	C
VSV 2B Series: 0.19 in. (4.8 mm) fully open orifice (set pressure range: 10~225 psig)							
Tube fittings	1/4 in.	VSV2B-S-*-04-04	2.70 (68.6)	1.44 (36.6)	1.60 (40.6)	0.43 (10.9)	4.14 (105)
	6mm	VSV2B-S-*-6M-6M					
	8mm	VSV2B-S-*-8M-8M					
Male NPT / Tube fitting	1/4 in.	VSV2B-S-*-F4-04		1.19 (30.2)	1.60 (40.6)		3.89 (98.8)
Male NPT / Female NPT	1/4 in.	VSV2B-S-*-M4-F4		1.19 (30.2)	1.17 (29.7)		3.89 (98.8)
VSV 2C Series: 0.25 in. (6.4 mm) fully open orifice (set pressure range: 10~225 psig)							
Tube fitting	1/2 in.	VSV2C-S-*-08-08	4.09 (104)	1.83 (46.5)		0.50 (12.7)	5.92 (150)
	12mm	VSV2C-S-*-12M-12M					
Male NPT / Tube fitting	1/2 in.	VSV2C-S-*-M8-08		1.43 (36.3)	1.83 (46.5)		5.52 (140)
Male NPT / Female NPT	1/2 in.	VSV2C-S-*-M8-F8		1.43 (36.3)	1.43 (36.3)		5.52 (140)

* set pressure, the desinator accroding to the ordering information

Proportional Relief Valve VSV2 Series

High-Pressure Valves

- Service up to 6000 psig (400 bar)
- Multiple springs for a selection of set pressure ranges
- Valves available factory-set to a specified set pressure

End Connections		Ordering Number	Dimensions, in. (mm)				
Inlet / Outlet	Size		L	M	A	B	C
VSV 2 Series: 0.14 in. (3.6 mm) fully open orifice (set pressure range: 50~6000 psig)							
Tube fittings	1/4 in.	VSV2-S-*-04-04	2.70 (68.6)	1.44 (36.6)	1.60 (40.6)	0.43 (10.9)	4.14 (105)
	6mm	VSV2-S-*-6M-6M					
	8mm	VSV2-S-*-8M-8M					
Male NPT / Tube fitting	1/4 in.	VSV2-S-*-M4-04		1.19 (30.2)	1.60 (40.6)		3.89 (98.8)
Male NPT / Female NPT	1/4 in.	VSV2-S-*-M4-F4		1.19 (30.2)	1.17 (29.7)		3.89 (98.8)
VSV 2A Series: 0.25 in. (6.4 mm) fully open orifice (set pressure range: 50~1500 psig)							
Tube fittings	1/2 in.	VSV2A-S-*-08-08	4.09 (104)	1.83 (46.5)		0.50 (12.7)	5.92 (150)
	12mm	VSV2A-S-*-12M-12M					
Male NPT / Tube fitting	1/2 in.	VSV2A-S-*-M8-08		1.43 (36.3)	1.83 (46.5)		5.52 (140)
Male NPT / Female NPT	1/2 in.	VSV2A-S-*-M8-F8		1.43 (36.3)	1.43 (36.3)		5.52 (140)

* set pressure, the desinator accroding to the orering information.

Ordering Information

SS - VSV2 - 50 - 04 - 04 - B

Body Material

SS: 316
S4: 304

Series

2: VSV2 series
2A: VSV2A series
2B: VSV2B series
2C: VSV2C series

Set Pressure

3.5: 0.7 to 3.5 bar
25: 3.5 to 25 bar
50: 25 to 50 bar
100: 50 to 100 bar
150: 100 to 150 bar
200: 150 to 200 bar
250: 200 to 250 bar
350: 250 to 350 bar
400: 350 to 400 bar

Seal Material

None: FKM
B: NBR
E: EPDM
N: CR
Z: Kalrez®

Inlets / Outlets

Tube fitting: see above tables
NPT threads: see above tables

Flashback Arrestor

VFB50 Series

Product Features

- Flashback arrestors are designed for oxygen, hydrogen and other flammable or fuel gases.
- Standard with NPT or Tube fitting inlet and outlet connections make it easy to adapt in various applications.
- Complete with check valve
- 316L sintered elements

Technical Data

Inlet pressure :	max. 20 bar
Materials	
Body :	Chrome Plated Brass
O-ring :	Viton® (FKM)
Inlets / Outlets :	see ordering info

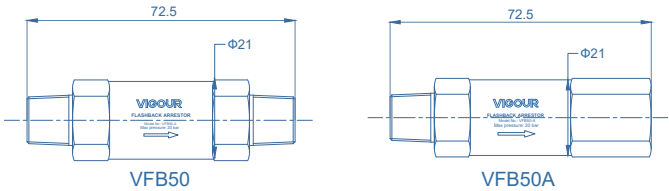


VFB50

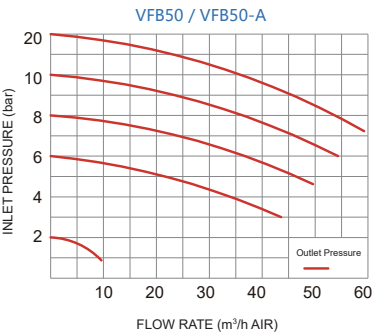


VFB50-A

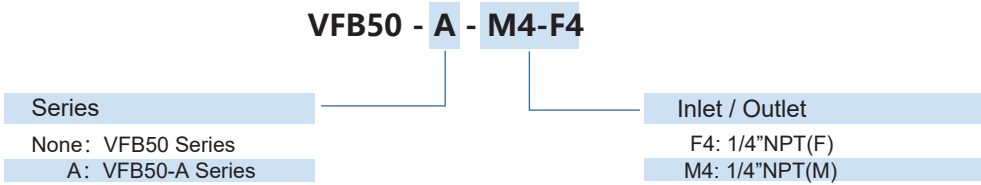
Dimensions (mm)



Flow Chart



Ordering Information



Flashback Arrestor VFB100 Series

Product Features

- Flashback arrestors are designed for oxygen, hydrogen and other flammable or fuel gases.
- Standard with NPT or Tube fitting inlet and outlet connections make it easy to adapt in various applications.
- Complete with check valve
- 316L sintered elements

Technical Data

Inlet pressure:	max. 20 bar
Materials	
Body:	SS 316L
O-ring:	Viton® (FKM)
Inlets / Outlets:	see ordering info

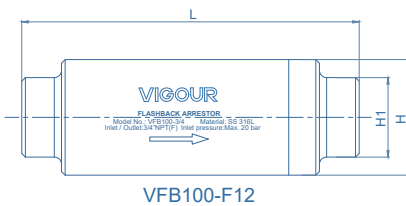


VFB100-F12

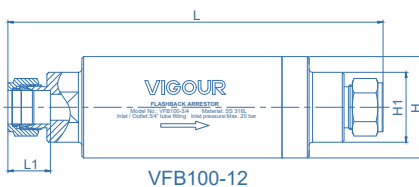


VFB100-12

Dimensions (mm)



VFB100-F12



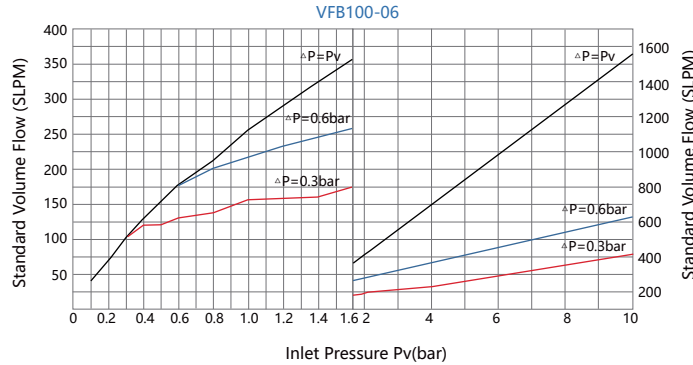
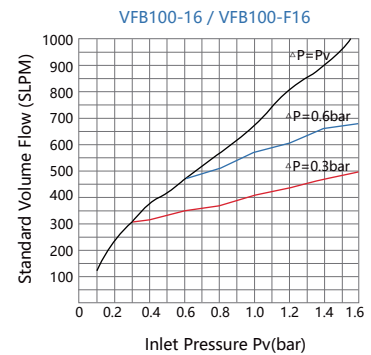
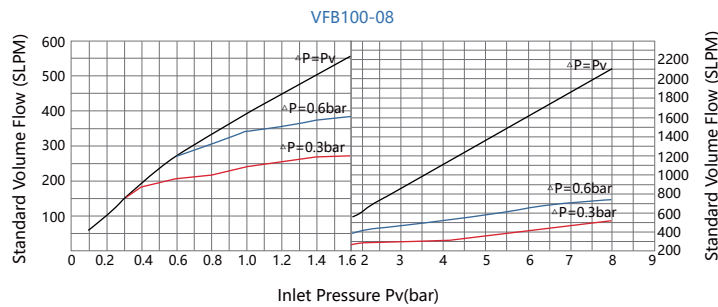
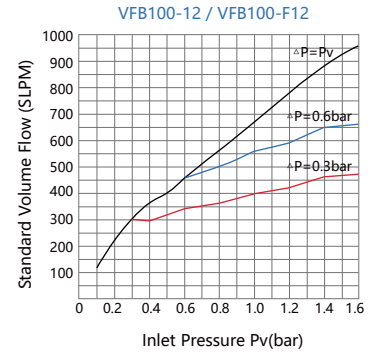
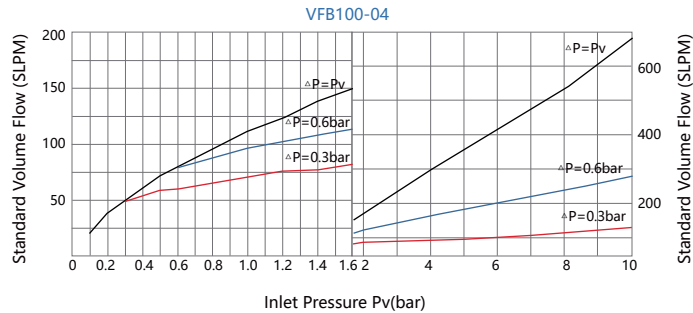
VFB100-12

End Connections		Ordering Number	Dimension (mm)		
Inlet/Outlet	Size		L	H	H1
Female NPT	3/4"	VFB100-F12	170	Φ58	Φ40
	1"	VFB100-F16	170	Φ58	Φ45

End Connections		Ordering Number	Dimension (mm)			
Inlet/Outlet	Size		L	L1	H	H1
Tube Fitting	1/4"	VFB100-04	127	14.8	Φ32	Φ25
	3/8"	VFB100-06	130	15.9	Φ32	Φ25
	1/2"	VFB100-08	146	22.6	Φ35	Φ30
	3/4"	VFB100-12	215	24.3	Φ58	Φ40
	1"	VFB100-16	222	30.8	Φ58	Φ45

Flashback Arrestor VFB100 Series

Flow Chart



Ordering Information

VFB100 - 04

Inlets / Outlets

F4: 1/4" NPT(F)	04: 1/4" Tube Fitting
F6: 3/8" NPT(F)	06: 3/8" Tube Fitting
F8: 1/2" NPT(F)	08: 1/2" Tube Fitting
F12: 3/4" NPT(F)	12: 3/4" Tube Fitting
F16: 1" NPT(F)	16: 1" Tube Fitting

Flashback Arrestor VFB200 Series

Product Features

- VFB100 series arresters are connected in series
- Stainless steel fire stop tube with large surface structure
- Heat-sensitive on-off valves automatically cut off the air supply before the temperature reaches dangerous levels
- Configuration of one-way function to prevent the reverse flow of air to form explosive gas mixture



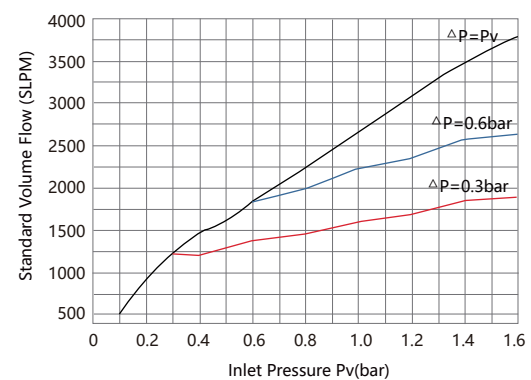
Technical Data

Materials

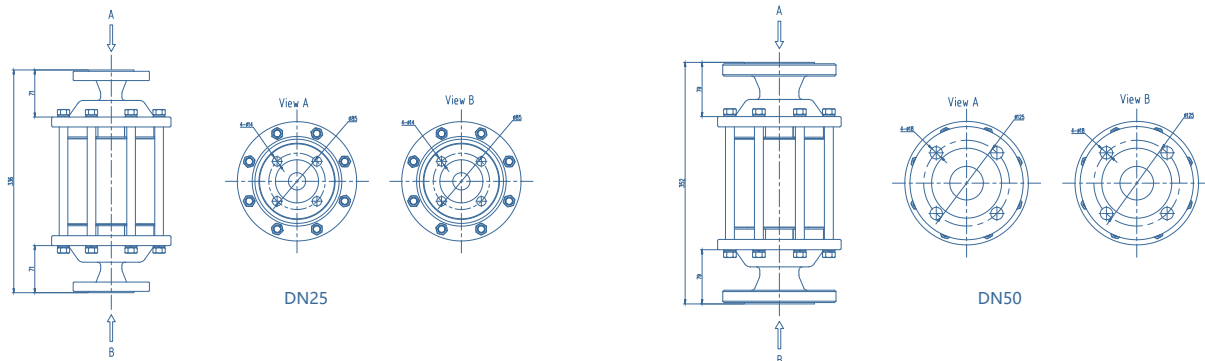
Body:	SS 316L
O-ring:	Viton®(FKM)
Inlets / Outlets:	see ordering info

Gas Type	Max. working Pressure
Acetylene (A)	1.5 bar
Natural gas (M)	5.0 bar
LPG (P)	3.5 bar
Hydrogen (H)	4.0 bar
Ethylene (E)	4.0 bar
Oxygen (O)	10.0 bar

Flow Chart



Dimensions (mm)



Ordering Information

VFB200 - DN25 - CV

Inlets / Outlets

DN25: DN25 Flange
DN50: DN50 Flange

Check Valves

CV: Includes check valve
WCV: Without check valve

* Other connection standard, consult factory.

Filter

VF Series

Product Features

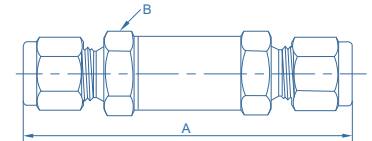
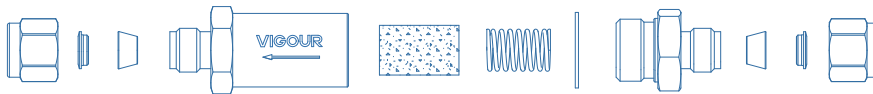
- The VF Series is an In-Line filtration device
- Filter material: 316L
- Pressure: Max. 206bar
- Filter Rating: 5µm standard, more option see below table.

Flow Rate

Element Nominal Pore Size µm	Inlet Pressure ① psig (bar)		
	5 (0.34)	10 (0.68)	15 (1.0)
	Air Flowstd, std ft ³ /min (std L/min) for 1/8" end connections		
0.2	0.01 (0.3)	0.02 (0.6)	0.05 (1.4)
2	0.20 (5.6)	0.40 (11)	0.60 (17)
5	0.40 (11)	0.60 (17)	0.9 (25)
10	0.50 (14)	0.9 (25)	1 (28)
20	1 (28)	1.7 (47)	2 (56)



In-line Type



Dimensions (mm)

End Connections		Ordering Number	Dimensions in. (mm)		
Inlet / Outlet	Size		Aperture Size	A	B
Tube Fitting	1/8 in.	VF-S-02-02	0.094 (2.39)	2.33 (59.2)	3/4 (19.0)
	1/4 in.	VF-S-04-04	0.187 (4.75)	2.42 (61.56)	3/4 (19.0)
	3/8 in.	VF-S-06-06	0.281 (7.14)	3.18 (80.8)	3/4 (19.0)
	1/2 in.	VF-S-08-08	0.406 (10.3)	3.37 (85.6)	4/5 (22)
	3mm	VF-S-3M-3M	0.094 (2.39)	2.87 (72.9)	3/4 (19.0)
	6mm	VF-S-6M-6M	0.187 (4.75)	3.01 (76.7)	3/4 (19.0)
Female NPT	1/8 in.	VF-S-F2-F2	0.094 (2.39)	2.16 (54.9)	9/16 (14.3)
	1/4 in.	VF-S-F4-F4	0.187 (4.75)	2.63 (67)	3/4 (19.0)
Male NPT	1/4 in.	VF-S-M4-M4	0.187 (4.75)	2.63 (67)	3/4 (19.0)
Face Seal Female	1/4 in.	VF-S-MV4-MV4	0.187 (4.75)	2.87 (73)	3/4 (19.0)
	1/2 in.	VF-S-MV8-MV8	0.406 (10.3)	3.49 (88.6)	1 (25.4)

Ordering Information

VF - S - 04 - 04 - 2

Nominal Pore Size

0.2: 0.2 µm
2: 2 µm
5: 5 µm
10: 10 µm
20: 20 µm

Material

S: 316L
C: Chrome Plated Brass

Inlets / Outlets

02: 1/8" Tube fitting	3M: 3mm Tube fitting	F2: 1/8" Female NPT	M4: 1/4" Male NPT
04: 1/4" Tube fitting	6M: 6mm Tube fitting	F4: 1/4" Female NPT	M8: 1/2" Male NPT
06: 3/8" Tube fitting	8M: 8mm Tube fitting	F6: 3/8" Female NPT	MV4: 1/4" Face seal female
08: 1/2" Tube fitting	10M: 10mm Tube fitting	F8: 1/2" Female NPT	MV8: 1/2" Face seal female
12: 3/4" Tube fitting	12M: 12mm Tube fitting	F12: 3/4" Female NPT	
16: 1" Tube fitting	20M: 20mm Tube fitting	F16: 1" Female NPT	

Product Features

- Pressure: Max. 413bar
- Filter material: 316L
- Filter Rating: 5µm standard, more option see below table.

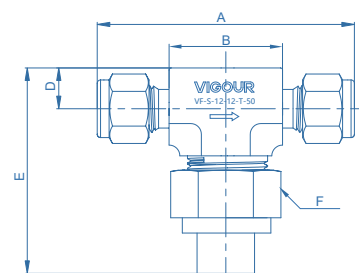
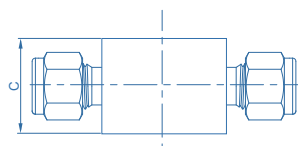
Flow Rate

Element Nominal Pore Size µm	Inlet Pressure ① psig (bar)		
	5 (0.34)	10 (0.68)	15 (1.0)
	Air Flowstd, std ft3/min (std L/min) for 1/8" end connections		
2	0.20 (5.6)	0.40 (11)	0.60 (17)
5	0.40 (11)	0.60 (17)	0.9 (25)
50	1.4 (40)	1.8 (51)	2 (57)
80	1.6 (45)	2.0 (57)	2.3 (65)

① Outlet is discharged to atmosphere



Tee Type



Dimensions (mm)

End Connections		Ordering Number	Dimensions, in.(mm)						
Inlet/Outlet	Size		bore diameter	A	B	C	D	E	F
Tube fitting	1/8 in.	VF-S-02-02-T	0.094 (2.39)	2.25 (57.4)	1.06 (26.9)	1.10 (28)	0.38 (9.7)	1.77 (45)	1 (25.4)
	1/4 in.	VF-S-04-04-T	0.174 (4.41)	2.45 (62.4)	1.06 (26.9)				
	3/8 in.	VF-S-06-06-T	0.213 (5.41)	2.84 (72.1)	1.32 (33.5)				
	1/2 in.	VF-S-08-08-T	0.250 (6.35)	3.04 (77.2)	1.31 (33.3)	1.13 (28.7)	0.47 (12)	2.22 (56.5)	1-1/8 (28)
	6mm	VF-S-6M-6M-T	0.172 (4.36)	2.46 (62.5)	1.06 (26.9)	1.10 (28)	0.38 (9.7)	1.87 (47.5)	
	8mm	VF-S-8M-8M-T	0.213 (5.41)	2.84 (72.1)	1.38 (35.1)	1.13 (28.7)	0.46 (11.7)	2.20 (55.9)	1-1/8 (28)
	10mm	VF-S-10M-10M-T	0.250 (6.35)	2.86 (72.6)	1.32 (33.5)				
	12mm	VF-S-12M-12M-T		3.04 (77.2)	1.31 (33.3)				
Male NPT	1/8 in.	VF-S-F2-F2-T	0.174 (4.41)	2.00 (50.8)	1.00 (25.4)	1.00 (25.4)	0.38 (9.7)	1.87 (47.5)	1 (25.4)
	1/4 in.	VF-S-F4-F4-T		2.13 (54.1)					
Female NPT	1/4 in.	VF-S-M4-M4-T	0.174 (4.41)	2.13 (54.1)	1.00 (25.4)	1.00 (25.4)	0.38 (9.7)	1.87 (47.5)	1 (25.4)
	3/8 in.	VF-S-M6-M6-T	0.250 (6.35)	2.38 (60.5)	1.25 (31.8)	1.13 (28.7)	0.46 (11.7)	2.20 (55.9)	1-1/8 (28)
	1/2 in.	VF-S-M8-M8-T		2.75 (69.9)					

Ordering Information

VF - S - 04 - 04 - T - 2

Material

S: 316L

C: Chrome Plated Brass

Inlets / Outlets

Tube fitting: see above tables

NPT threads: see above tables

Nominal Pore Size

2: 2 µm

5: 5 µm

50: 50 µm

80: 80 µm

Type

T: Tee type

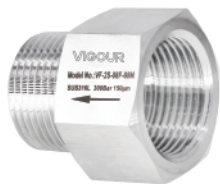
Filter

VF-25 Series

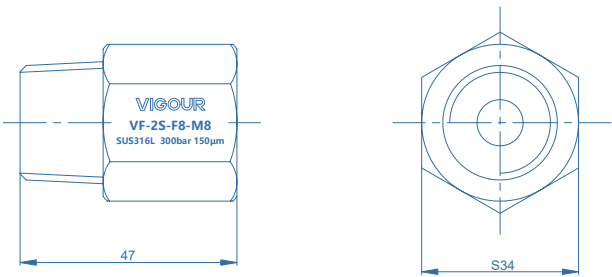
Strainers for pipelines used in systems to protect system components from fluid particles and contaminants.

Product Features

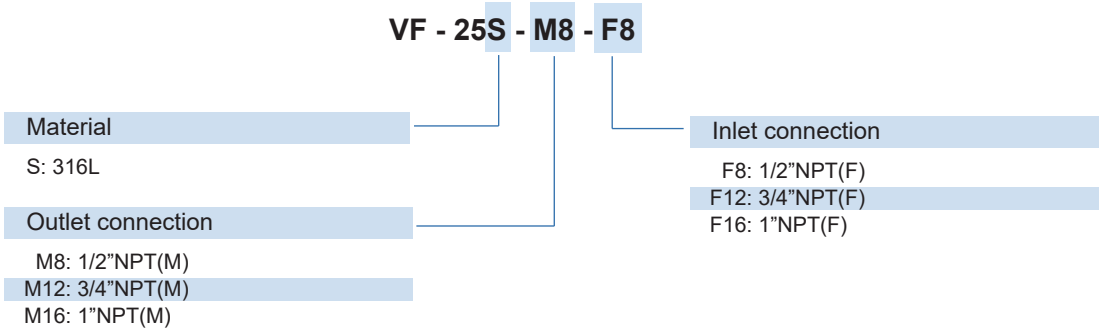
- VF series pipeline filter
- Pressure: Max. 300bar
- Filter material: 316L
- Filter Rating: 5µm standard



Dimensions (mm)



Ordering Information



Product Features

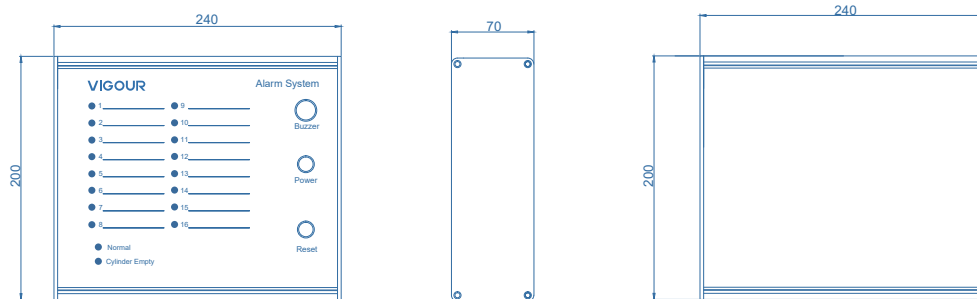
- Alarm unit come in 8 or 16 channel version
- For connection of 8 or 16 digital input signals such as contact pressure gauges or pressure switches suitable for transducers in accordance to NAMUR specifications
- All channels are individually programmable as normally closed or normally open contact
- Delay mode (2 sec.) is integrated for all channels
- Potential-free output RS-485
- Visible alarm
- Acooustic alarm
- Aluminum housing for wall mounting



Technical Data

Supply voltage:	AC220V(110V)/50Hz
Power consumption:	10W
Input signal:	switch signal
Input capacity:	8/16 channels
Output contact:	2
Output voltage:	DC 12V
Output current:	3A
Communication interface:	RS-485(option)
Dimensions:	240*200*70mm

Dimensions (mm)



Ordering Information

VAS100 - 8 - 110 - RS

Input Capacity

8: 8 channels
16: 16 channels

communication interface

None: standard
RS: RS-485

Supply Voltage

None: AC220V
110: AC110V

Alarm System

VAS200 Series

Product Features

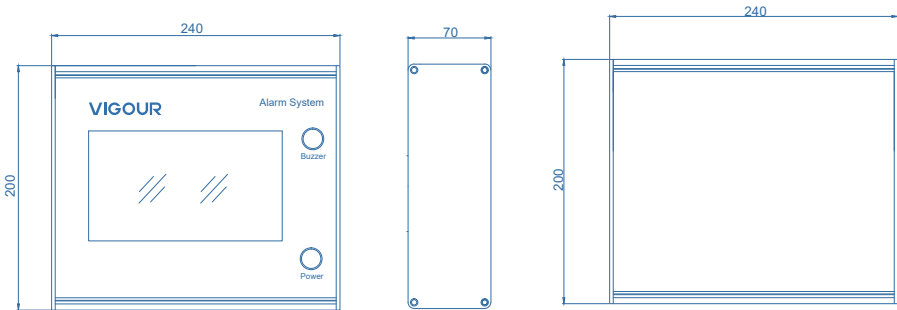
- Real-time display of gas pressure numerical display
- High and low voltage alarm function
- The color of the value box changes to red when warning, and there is a buzzer alarm
- There is a trunk line. Action output signal for pressure alarm
- High and low alarm values can be set according to field requirements
- Realized real-time count automatically saved
- With gas curve analysis function
- Alarm fault signal automatically saved



Technical Data

Type of monitoring:	unrestricted
Supply voltage:	AC220V(110V) / 50Hz
Power consumption:	30W
Input capacity:	max. 20 channels
Input signal:	4-20 mA
Output contact:	2
Output voltage:	DC 24V
Output current:	3A
Communication interface:	RS485
Touch screen size:	7 inch (6~16 channels) / 10 inch (20 channels)
Dimensions:	240x200x70 mm

Dimensions (mm)



Ordering Information

VAS200 - 8 - 110 - MS

Input Capacity

- 6: 6 channels
- 8: 8 channels
- 12: 12 channels
- 16: 16 channels
- 20: 20 channels (10 inch)

communication interface

- None: RS-485
- MS: Send alarm message

Supply Voltage

- None: AC220V
- 110: AC110V

Product Features

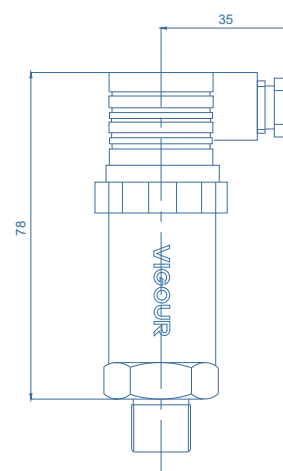
- High precision
- Stainless steel construction
- Repeatability, reliability, and stability
- Anti-interference
- NC or NO contacts, easy installation
- Vibration and shock resistance



Technical Data

Pressure range:	0~25 Mpa
Supply voltage:	DC 24V / 12V
Output contact:	NO / NC
Temperature:	-20°C to +80°C
Accuracy:	0.5% FS
Ingress protection:	IP65
Connection:	1/4"NPT(M)
Electrical connection:	Mini Hirschmann
Body Material:	304 / 316
Diaphragm:	Ceramic
Junction box:	Plastic

Dimensions (mm)



Ordering Information

VSW - S - 200

Material

S4: 304

S: 316

Pressure

60: 60 bar

100: 100 bar

200: 200 bar

250: 250 bar

Pressure Transmitter

VPT Series

Product Features

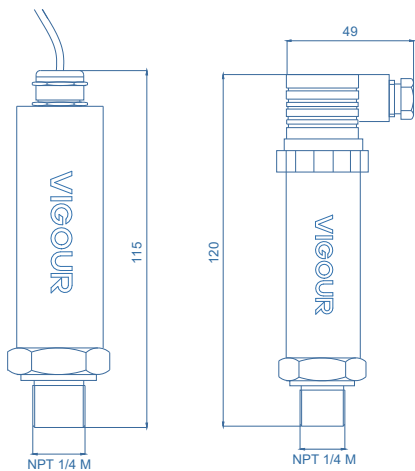
- High precision
- Stainless steel construction
- SS 316L diaphragm
- Available with a variety of output signals
- Broad selection of pressure ranges, pressure references: gauge (vacuum, positive) and absolute
- Repeatability, reliability, and stability
- Anti-interference
- Vabration and shock resistance



Technical Data

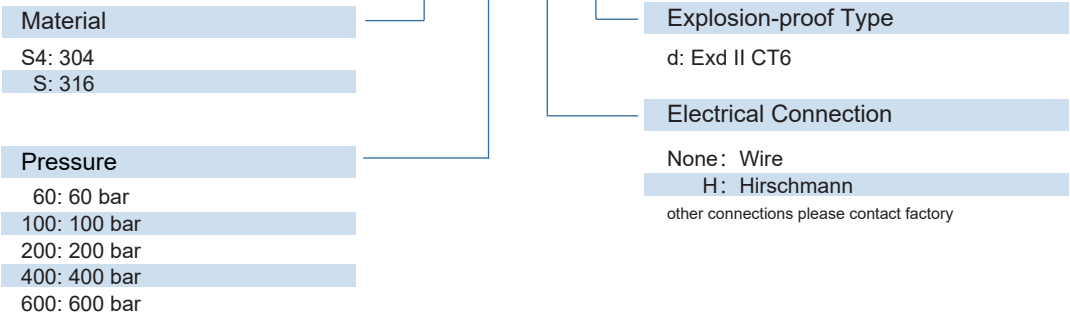
	Standard model	Explosion-proof model
Pressure range:	0~0.6 bar 0~600 bar	0~5 bar 0~600 bar
Supply voltage:	DC 12V~24V	DC 12V~24V
Output signal:	4~20 mA	4~20 mA
Ambient Temperature:	-20°C to +85°C	-20°C to +85°C
Accuracy:	±0.35% FS (5-100 bar) ±0.5% FS (others)	±0.35% FS (5-100 bar) ±0.5% FS (others)
Zero point shift:	±0.02% FS	±0.02% FS
Sensitivity shift:	±0.015% FS	±0.015% FS
Response time:	≤2.5 ms	≤2.5 ms
Diaphragm:	316L	316L
Shell:	304 / 316	304 / 316
Explosion-proof:	---	Exd II CT6
Electrical connection:	Wire / Hirschmann	Wire
connection:	1/4"NPT(M)	1/4"NPT(M)

Dimensions (mm)



Ordering Information

VPT - S - 200 - H - d



Product Features

- Pressure gauges are designed for general and laboratory applications involving the measurement of compressed gases compatible with the materials of construction.
- Gauges are used to monitor pressure of regulators and system
- Tested for use with oxygen

Technical Data

Body Material:	see ordering info
Type:	Radial or axial direction
Working Temperature:	-40°C to +60°C
Nominal diameter:	2"
Connection:	1/4"NPT(M)
Scale:	bar / psig
Window:	Laminated safety glass
Switching accuracy:	±2.5%
Material of connection:	see ordering info

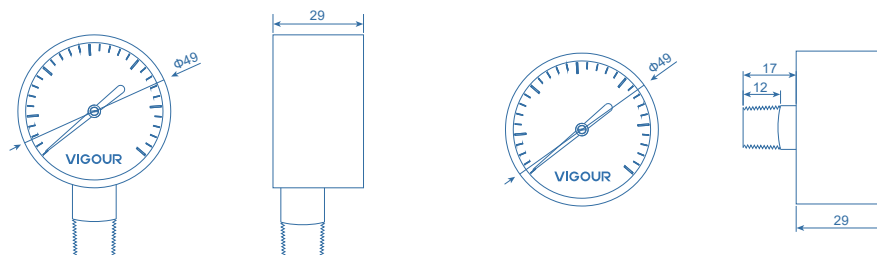


VG Series



VR Series

Dimensions (mm)



Ordering Information

VG 20 S - 400 - M4

Series

G: radial direction

R: axial direction

Material

S: 316L

C: Chrome Plated Brass

Inlet connection

M4: 1/4"NPT(M)

Pressure Range

1.6B: 0~1.6bar / 0~23psig	150B: 0~150bar / 0~2000psig
2.5B: 0~2.5bar / 0~30psig	250B: 0~250bar / 0~3500psig
4B: 0~4bar / 0~60psig	315B: 0~315bar / 0~4500psig
6B: 0~6bar / 0~86psig	400B: 0~400bar / 0~5800psig
10B: 0~10bar / 0~140psig	V1.6B: -1~1.6bar / 30 in Hg VAC~23psig
16B: 0~16bar / 0~230psig	V2.5B: -1~2.5bar / 30 in Hg VAC~30psig
25B: 0~25bar / 0~350psig	V4B: -1~4bar / 30 in Hg VAC~60psig
35B: 0~35bar / 0~500psig	V6B: -1~6bar / 30 in Hg VAC~86psig
60B: 0~60bar / 0~860psig	V10B: -1~10bar / 30 in Hg VAC~140psig
100B: 0~100bar / 0~1500psig	V16B: -1~16bar / 30 in Hg VAC~230psig

Contact Gauge

VG20SE Series

Product Features

- Contact gauge (KI) with inductance contact
- For monitoring gas supply pressure and shortage
- For inert, combustible, oxidizing, and corrosive gases and gas mixtures
- Line 0.5m
- With NAMUR sensor
- Set point adjustable over 0~24% of scale
- Tested for use with oxygen

Typical Applications

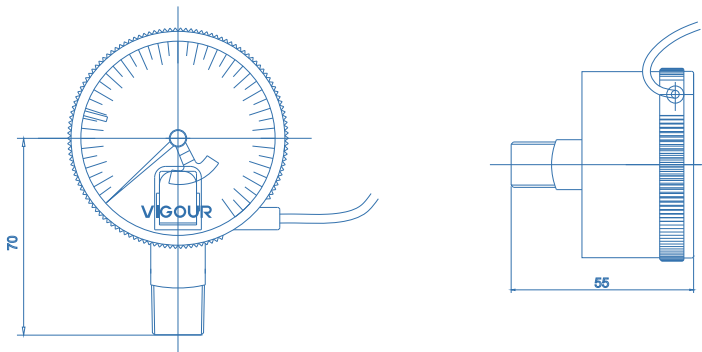
Gas panels may be optionally equipped with contact pressure gauges. Contact pressure gauges combine the advantages of in situ readings with the demands of electrical signal transmissions. In combination with signal boxes, this creates visual and acoustic warning signals in the case of pressure drop and the monitoring of line pressure according to adjustable thresholds.



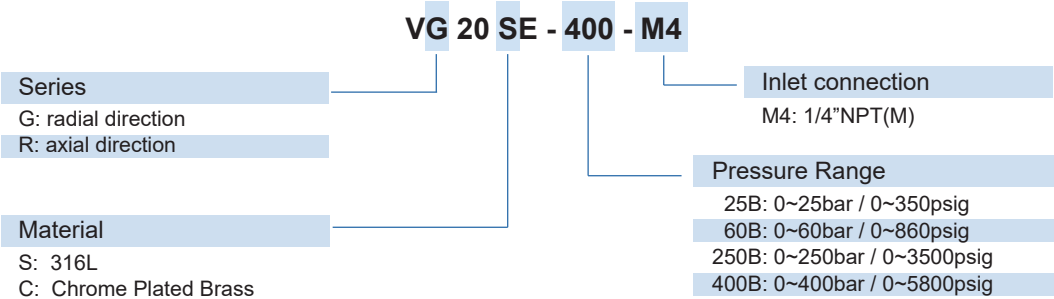
Technical Data

Dual scale:	bar / psi
Connection:	1/4"NPT(M)
Size:	2"
Accuracy:	±2.5%
Body Material:	316L
Switching function:	NC
Outlet type:	NAMUR
Temperature:	-25~100°C

Dimensions (mm)



Ordering Information

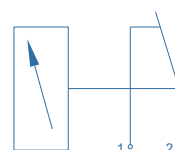


Product Features

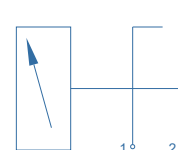
- Contact pressure gauges with digital signal
- Set point adjustable over 10-90% of scale
- Double scale bar / psig
- c/w 2 meters of cable
- Tested for use with oxygen

Technical Data

Body Material:	316L
Working Voltage:	180 / 130 VDC
Max. Voltage:	200 VDC
Max. ON / OFF amperage:	0.5A
Contact power:	10W
Contact Current (initial):	150 mΩ
Contact Capacitance:	0.2 pF
Insulation resistance:	10 ¹⁰ Ω
Frequency:	5.2 kHz
Working Temperature:	-40°C~ 125°C
Nominal diameter:	63mm
Connection:	1/4"NPT
Length of cable:	2 meters
Scale:	bar / psig
Window:	Laminated safety glass
Switching accuracy:	+/- 2.5% of full scale
Weight:	0.375 kg

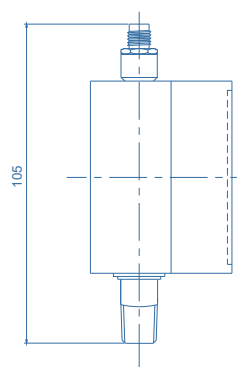
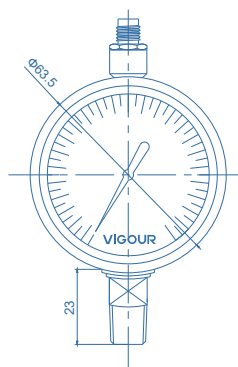


Normally Closed (standard)



Normally Open (option)

Dimensions (mm)



Ordering Information

VG25SE - 400 - NO

Pressure Range

25: 0~25bar / 0~350psig
 60: 0~60bar / 0~860psig
 250: 0~250bar / 0~3500psig
 400: 0~400bar / 0~5800psig

Status

None: Normally Closed
 NO: Normally Open

Sampling Cylinder

VSC Series

Sampling Cylinders permit the extraction of a sample from a remote process location and provide safe containment for storage and transportation to the laboratory for analysis. Some applications include hydrocarbon sampling in refineries, gas sampling in chromatography and condensate sampling in fossil-fuel and nuclear-power plants. In similar applications, petrochemical facilities and gas processing plants utilize sample cylinders. Pressure surge accumulators or reaction vessels are other common uses for sample cylinders.

Product Features

- Sampling Cylinders permit the extraction of a sample from a remote process location and provide safe containment for storage and transportation to the laboratory for analysis.
- Working pressure up to 345 bar
- 304 and 316L stainless steel materials resist inter granular corrosion



"A"Type: Single-ended



"B"Type: Double-ended



Ordering Information

VSC - A - S - 35 - F4 - F4 - 150 - E					
Type	A	S	35	F4	
A: single-ended type					
B: double-ended type					
Material	S	35	F4	F4	
S4: 304					
S: 316L					
Pressure Range	35	F4	F4	150	
35: 35bar / 500 psig					
125: 125bar / 1800 psig					
345: 345bar / 5000 psig					
Inlets / Outlets	F4	F4	150	E	
F4: 1/4" NPT(F)					
F6: 3/8" NPT(F)					
F8: 1/2" NPT(F)					
Option	E	150	E	Option	
None: mechanical buffing					
P: PTFE particle coating					
E: electropolishing					
Internal Volume	150	E	Option	Internal Volume	
100: 100 ml					
150: 150 ml					
250: 250 ml	E	Option	Internal Volume		
300: 300 ml					
500: 500 ml					
1000: 1000 ml	Option	Internal Volume	Option		
1500: 1500 ml					
2000: 2000 ml					

* Other configuration, consult factory.

* Other configuration, consult factory.

Single Cylinder Wall Bracket

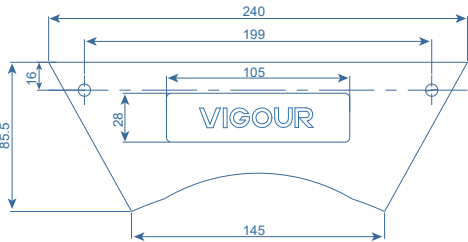
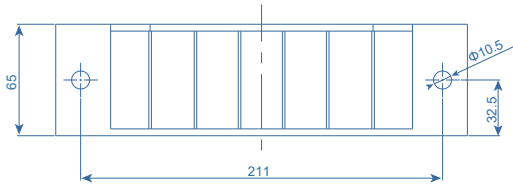
VWB Series

Product Features

- Single cylinder wall mount
- Bracket material: ABS / aluminum (option)
- Braid material: Polyester fabric / 304 chain (option)



Dimensions (mm)



Ordering Information

VWB - AL

Type

- None: ABS Scaffold and Polyester fabric binding
AL: aluminum Bracket and 304 chain

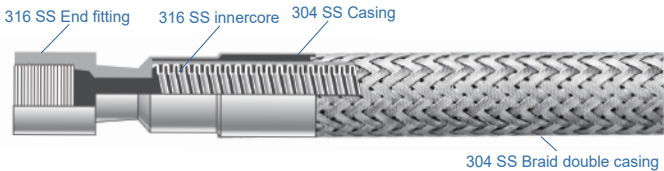
Pigtail

VPS / VPF Series

Product Features

- Flexible connection of metal hose
- Inner tube material available 316L or PTFE
- Inlet pressure: max. 300bar (VPS Series)
- Tested for use with oxygen

Schematic Drawing



VPS Series



VPF Series



VPS Series

Ordering Information

VPF - 1/4 - 10 - F4 - F4 - D - L

Type
F: polytef
S: 316 SST
Orifice
1/4: 1/4"
1/8: 1/8"
Length
5: 500 mm
6: 600 mm
10: 914 mm
20: 2000 mm
30: 3000 mm
50: 5000 mm

Type
None: Stainless steel fence
L: Stainless steel anti-swing rope
Option
None: Single layer braided net
D: Double woven net
Outlet Connections
F4: 1/4"NPT(F)
M4: 1/4"NPT(M)
04: 1/4"Tube fitting
TB4: 1/4" TUBE
TB8: 1/2" TUBE
Inlet Connections
F4: 1/4"NPT(F)
CGA***: Cylinder connection
BSP***: BSP Cylinder connection
DIN***: DIN Cylinder connection

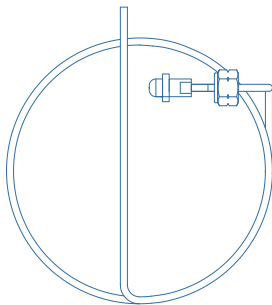
Product Features

- Metal ring pipe connection
- Inlet pressure: max. 414 bar (6000 psig)
- Processed by VTUBE series stainless steel BA tube
- Tested for use with oxygen

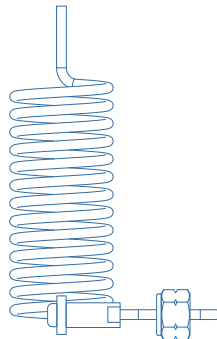


VPG Series

Schematic Drawing



VPG Series



VPP Series



VPP Series

Ordering Information

VPP - 1/4 - 10 - TB - 04

Type

P: pigtail 316 SST
(bending diameter 67mm)
G: pigtail 316 SST
(bending diameter 240mm)

Orifice

1/4: 1/4"
6: 6mm

Length

10: 3000 mm

Outlet Connections

F4: 1/4"NPT(F)
M4: 1/4"NPT(M)
04: 1/4"Tube fitting
TB: tube

Inlet Connections

TB: tube
CGA***: CGA cylinder connection
BSP***: BSP cylinder connection
DIN***: DIN cylinder connection

Heater

VM-11 Series

Product Features

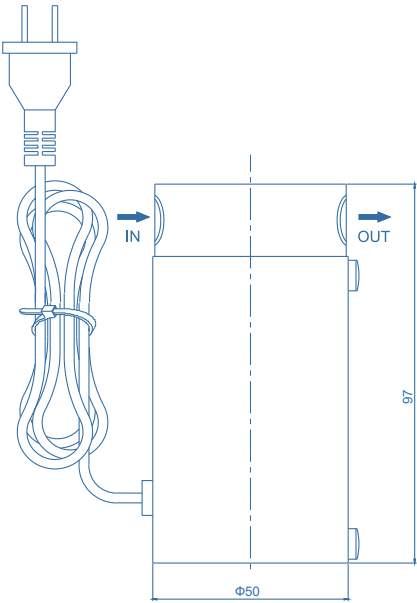
- Gas heater
- Suitable for high purity CO2 and N2O gas
- Easy maintenance and replacement of heating elements

Technical Data

Material:	Chrome Plated Brass / 316L
Working Pressure:	max. 300bar
Thread:	1/4"NPT(F)
Voltage:	110V/220V
Power:	190W
Heating:	45~60°C



Dimensions (mm)



Ordering Information

VM - 11 S - 220 - GB

Material

C: Chrome Plated Brass

S: 316L

Voltage

110: 110V 190W

220: 220V 190W

Supply standard

GB: China

DIN: Germany

CGA: USA

BSP: British

Product Features

- Seamless steel tube
- Material: 316L (standard); 304 (option)
- AP/BA/EP level optional
- Good welding performance
- Good internal and external surface finish and tolerance control
- Strictly control the ovality, concentricity and hardness of steel pipe
- Ensure high cleanliness inside steel pipe
- Equipped with protective polyethylene plug cap
- Standard length: 4/6 m



dimensional tolerance

product	Dimensions	outside diameter tolerance mm	thickness
AP standard instrument tube	1/8" ~ 1"	± 0.10 mm	± 10
	3mm ~ 25mm	± 0.10 mm	± 10
BA / EP bright annealing pipe	1/4" ~ 1"	± 0.08 mm	± 10
	6mm ~ 25mm	± 0.08 mm	± 10

*: Pipe OD < 6mm in accordance with ASTM A632

Ordering Information

Pipe OD inch	1/8"		1/4"		3/8"		1/2"			3/4"					1"	
Thickness inch	0.028"	0.035"	0.049"	0.035"	0.049"	0.065"	0.035"	0.049"	0.065"	0.049"	0.065"	0.083"	0.095"	0.105"	0.065"	0.98
Weight kg/m	0.04	0.12	0.16	0.19	0.26	0.33	0.26	0.36	0.46	0.55	0.72	0.90	1.01	1.10	0.083"	1.23

Pipe OD mm	3	6	9	10	12			14	16		18		20	22	25	
Thickness mm	0.71	1.00	1.50	1.00	1.50	1.00	1.50	2.00	2.00	2.50	1.50	2.00	1.50	2.00	2.00	2.00
Weight kg/m	0.04	0.13	0.17	0.18	0.24	0.23	0.32	0.28	0.40	0.50	0.60	0.72	0.54	0.70	0.62	0.80

*: For other specifications and materials, please contact the manufacturer.

VTUBE - BA - 1/4"×0.035" - 316L

Steel grade

AP: AP grade

BA: BA grade

EP: EP grade

Pipe OD x Thickness

According to the parameter table

Steel pipe material

316L: SS316L (standard)

304: SS304

Quick Connection

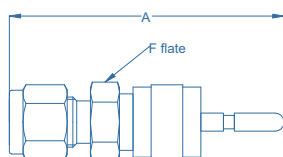
VQC Series

Product Features

- No twisting, turning, or wrenching necessary
- Single-end shutoff, double-end shutoff models
- Materials: 316L
- Stem insert requires just one O-ring seal, yet improves O-ring containment.
- Locking claw mechanism with large contact area retains stem
- Push-to-connect coupling enables quick, easy operation
- Wide variety of options, including keyed quick-connects, are available
- Heavy-duty sleeve shields open end of body



Dimensions (mm)



Tube fitting



Fitting Size	Ordering Number		Flow Coefficient (Cv)			Dimensions, in. (mm)		
	SESO	DESO	SESO	DESO	Full Flow	A		F, in.
						SESO	DESO	
Dimensions, in. (mm)								
1/8	S6-VQC4-S-02	S6-VQC4-D-02 ^①	0.08	0.08	0.08	2.32 (58.9)	2.77 (70.4)	5/8
1/4	S6-VQC4-S-04	S6-VQC4-D-04	0.3	0.2	0.4	2.36 (59.9)	2.42 (61.5)	5/8
3/8	S6-VQC6-S-06	S6-VQC6-D-06	1.0	0.5	1.5	2.52 (64.0)	2.64 (67.1)	3/4
1/2	S6-VQC8-S-08	S6-VQC8-D-08	2.4	1.5	3.3	2.96 (75.2)	3.16 (80.3)	15/16
Dimensions, (mm) in.								
6	S6-VQC4-S-6M	S6-VQC4-D-6M	0.3	0.2	0.4	59.9 (2.36)	61.5 (2.42)	5/8
10	S6-VQC6-S-10M	S6-VQC6-D-10M	1.0	0.5	1.5	67.3 (2.65)	70.4 (2.77)	3/4
12	S6-VQC8-S-12M	S6-VQC8-D-12M	2.4	1.5	3.3	75.2 (2.96)	80.3 (3.16)	15/16

Dimensions shown with tube fitting nuts finger-tight.

^① S6-VQC4-D-02 is a two-piece assembly.

Male pipe threads



Fitting Size	Ordering Number		Flow Coefficient (Cv)			Dimensions, in. (mm)		
	SESO	DESO	SESO	DESO	Full Flow	A		F
						SESO	DESO	
Male NPT								
1/8	S6-VQC4-S-M2	S6-VQC4-D-M2	0.3	0.2	0.4	2.07 (52.6)	2.13 (54.1)	5/8
1/4	S6-VQC4-S-M4	S6-VQC4-D-M4	0.3	0.2	0.4	2.22 (56.4)	2.28 (57.9)	5/8
3/8	S6-VQC6-S-M6	S6-VQC6-D-M6	0.8	0.5	1.6	2.35 (59.7)	2.47 (62.7)	3/4
1/2	S6-VQC8-S-M8	S6-VQC8-D-M8	2.0	1.3	3.1	2.84 (72.1)	3.04 (77.2)	15/16

Female pipe threads



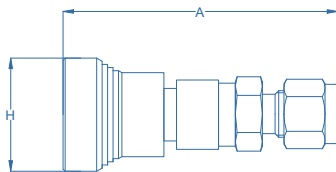
Fitting Size	Ordering Number		Flow Coefficient (Cv)			Dimensions, in. (mm)		
	SESO	DESO	SESO	DESO	Full Flow	A		F
						SESO	DESO	
Female NPT								
1/8	S6-VQC4-S-F2	S6-VQC4-D-F2	0.3	0.2	0.4	2.01 (51.1)	2.07 (52.6)	5/8
1/4	S6-VQC4-S-F4	S6-VQC4-D-F4	0.3	0.2	0.4	2.26 (57.4)	2.32 (58.9)	3/4
3/8	S6-VQC6-S-F6	S6-VQC6-D-F6	0.8	0.5	1.6	2.35 (59.7)	2.47 (62.7)	7/8
1/2	S6-VQC8-S-F8	S6-VQC8-D-F8	2.0	1.3	3.1	2.82 (71.6)	3.02 (76.7)	15/16

Insertion Depth

To calculate overall length in the coupled position, subtract the insertion depth from any overall stem and body combination length.

Series	Depth, in. (mm)	
	SESO	DESO
VQC4	1.09 (27.7)	1.15 (29.2)
VQC6	1.18 (30.0)	1.30 (33.0)
VQC8	1.48 (37.6)	1.68 (42.7)

Dimensions (mm)



Tube fitting



Fitting Size	Ordering Number	Dimensions, in. (mm)	
		A	H
Dimensions, in. (mm)			
1/8	S6-VQC4-B-02	2.26 (57.4)	0.91 (23.1)
1/4	S6-VQC4-B-04	2.30 (58.4)	0.91 (23.1)
3/8	S6-VQC6-B-06	2.58 (65.5)	1.03 (26.2)
1/2	S6-VQC8-B-08	3.09 (78.5)	1.21 (30.7)
Dimensions, (mm) in.			
6	S6-VQC4-B-6M	58.4 (2.30)	23.1 (0.91)
10	S6-VQC6-B-10M	68.1 (2.68)	26.2 (1.03)
12	S6-VQC8-B-12M	78.5 (3.09)	30.7 (1.21)

Male pipe threads



Pipe Size in.	Ordering Number	Dimensions, in. (mm)	
		A	H
Male NPT			
1/8	S6-VQC4-B-M2	2.01 (51.1)	0.91 (23.1)
1/4	S6-VQC4-B-M4	2.16 (54.9)	0.91 (23.1)
	S6-VQC6-B-M4	2.38 (60.5)	1.03 (26.2)
3/8	S6-VQC6-B-M6	2.38 (60.5)	1.03 (26.2)
1/2	S6-VQC8-B-M8	2.97 (75.4)	1.21 (30.7)

Female pipe threads



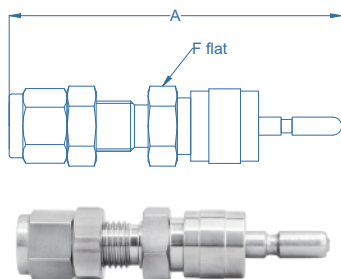
Pipe Size in.	Ordering Number	Dimensions, in. (mm)	
		A	H
Female NPT			
1/8	S6-VQC4-B-F2	2.16 (54.9)	0.91 (23.1)
1/4	S6-VQC4-B-F4	2.42 (61.5)	0.91 (23.1)
	S6-VQC6-B-F4	2.54 (64.5)	1.03 (26.2)
3/8	S6-VQC6-B-F6	2.57 (65.3)	1.03 (26.2)
1/2	S6-VQC8-B-F8	3.22 (81.8)	1.21 (30.7)

Quick Connection

VQC Series

Bulkhead Stems

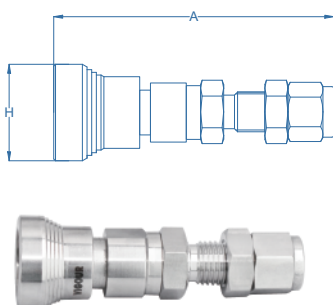
Tube Fitting



Fitting Size	Ordering Number		Dimensions				
			A		F	Max Panel Thickness	Min Panel Hole Dia
	SESO	DESO	SESO	DESO			
Dimensions, in. (mm)							
1/4	S6-VQC4-BS-04	S6-VQC4-BD-04	2.74 (69.6)	2.80 (71.1)	5/8	0.25 (6.4)	15/32 (11.9)
3/8	S6-VQC6-BS-06	S6-VQC6-BD-06	2.92 (74.2)	3.07 (78.0)	3/4	0.27 (6.9)	19/32 (15.1)
1/2	S6-VQC8-BS-08	S6-VQC8-BD-08	3.43 (87.1)	3.63 (92.2)	15/16	0.26 (6.6)	25/32 (19.8)
Dimensions, in. (mm)							
6	S6-VQC4-BS-6M	S6-VQC4-BD-6M	69.6 (2.74)	71.1 (2.80)	16	6.4 (0.25)	11.5 (29/64)
10	S6-VQC6-BS-10M	S6-VQC6-BD-10M	77.7 (3.06)	78.7 (3.10)	22	6.9 (0.27)	16.7 (21/32)
12	S6-VQC8-BS-12M	S6-VQC8-BD-12M	87.1 (3.43)	92.2 (3.63)	24	6.6 (0.26)	19.6 (49/64)

Bulkhead Bodies

Tube Fitting



Fitting Size	Ordering Number	Dimensions		Max Panel Thickness	Min Panel Hole Dia
		A	H		
Dimensions, in. (mm)					
1/4	S6-VQC4-BB-04	2.67 (67.8)	0.91 (23.1)	0.25 (6.4)	15/32 (11.9)
3/8	S6-VQC6-BB-06	2.98 (75.7)	1.03 (26.2)	0.27 (6.9)	19/32 (15.1)
1/2	S6-VQC8-BB-08	3.56 (90.4)	1.21 (30.7)	0.26 (6.6)	25/32 (19.8)
Dimensions, in. (mm)					
6	S6-VQC4-BB-6M	67.8 (2.67)	23.1 (0.91)	6.4 (0.25)	11.9 (15/32)
10	S6-VQC6-BB-10M	75.9 (2.99)	26.2 (1.03)	6.9 (0.27)	16.7 (21/32)
12	S6-VQC8-BB-12M	90.4 (3.56)	30.7 (1.21)	6.6 (0.26)	19.6 (49/64)

Keyed Series

Keyed quick-connectors provide a positive mechanical lockout system to prevent accidental intermixing of different lines in multifluid or multipressure systems.



Product Features

- Keyed quick connectors will not interchange with any other keyed quick connectors
- If an attempt is made to couple unlike keys, the valve system will not open.
- Stems and bodies are color coded and numbered for easy identification.

Key Color	Key Number	QC4		QC6		QC8	
		Body	Stem	Body	Stem	Body	Stem
Black	K1	0.96 (24.4)	0.82 (20.8)	1.13 (28.7)	0.99 (25.1)	1.26 (32.0)	1.10 (27.9)
Orange	K2	0.99 (25.1)	0.85 (21.6)	1.16 (29.5)	1.02 (25.9)	1.29 (32.8)	1.14 (29.0)
Green	K3	1.02 (25.9)	0.88 (22.4)	1.19 (30.2)	1.05 (26.7)	1.32 (33.5)	1.17 (29.7)
Yellow	K4	1.05 (26.7)	0.91 (23.1)	1.22 (31.0)	1.08 (27.4)	1.35 (34.3)	1.20 (30.5)
Blue	K5	1.08 (27.4)	0.94 (23.9)	1.24 (31.5)	1.11 (28.2)	1.38 (35.1)	1.23 (31.2)
White	K6	1.11 (28.2)	0.97 (24.6)	1.28 (32.5)	1.14 (29.0)	1.41 (35.8)	1.26 (32.0)
Purple	K7	1.14 (29.0)	1.00 (25.4)	1.31 (33.3)	1.17 (29.7)	1.44 (36.6)	1.29 (32.8)
Brown	K8	1.17 (29.7)	1.03 (26.2)	1.34 (34.0)	1.20 (30.5)	1.47 (37.3)	1.32 (33.5)

To order, add a key number to a quick-connector ordering number. Example: S6-VQC4-B-F2K1

Product Feature

- Insulation joints can protect monitoring instruments from the influence of electric current.
- The valve body is made of 316 stainless steel.
- The molded thermoplastic insulating material features excellent electrical resistance, chemical resistance, UV resistance, and low water absorption, maintaining dielectric strength and integrity under a wide range of operating and climatic conditions.
- Connected by compression fittings.
- Rated pressure: 5000 psig (344 bar).
- Temperature rating: -40 to 200°F (-40 to 93°C).

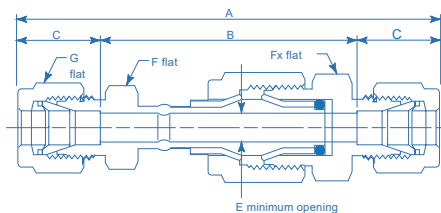


Technical Data

Materials

Body:	316L
Insulator:	A-PI
O-ring:	FKM-GLT
Seal:	PTFE

Dimensions (mm)



End Connection			Ordering Number	Dimensions, (mm)						
Inlet / Outlet	Size, in.			A	B	C	E	F	Fx	G
Tube fitting	3/8"	3/8"	VDF-S-06-06	99.6	65.8	16.8	7.1	16	20	17

Ordering Example

VDF - S - 06 - 06

Materials

S: 316L

End Connection

06: 3/8" Tube fitting

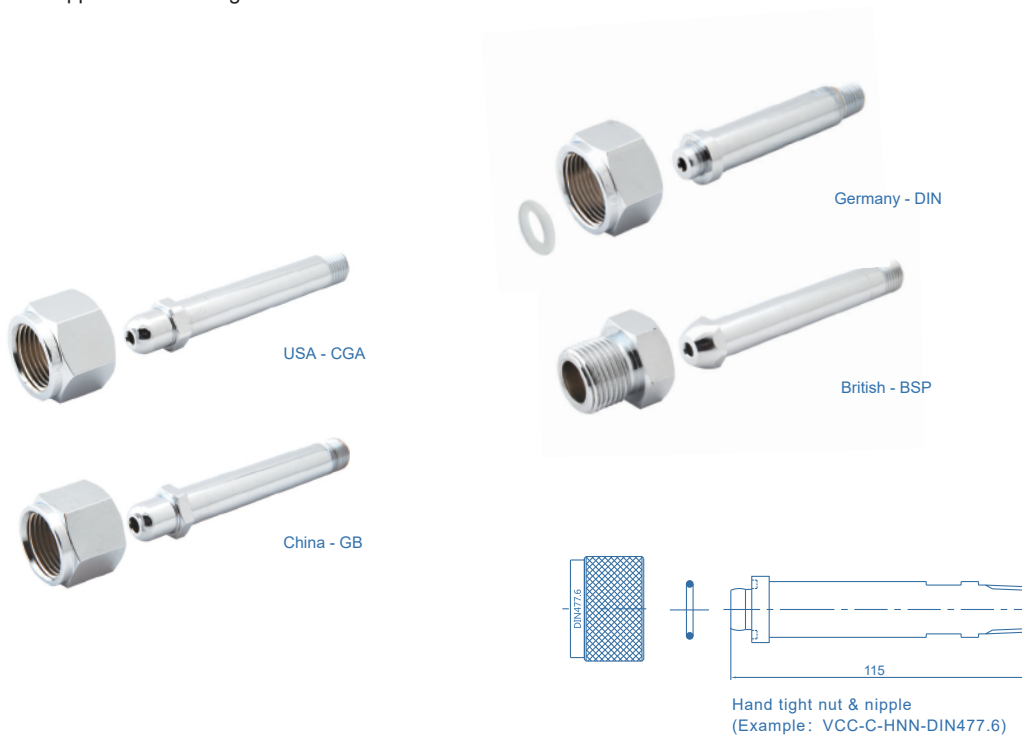
*For more end connections, please contact the manufacturer.

Cylinder Connection

VCC Series

Product Features

- Cylinder Connections
- Connect to a cylinder valve
- 1/4"NPT male / 6mm tube fitting / 6mm OD tube connection
- Maximum working pressure 200 bar standard
- All connection are supplied with sealing washer



Ordering Information

VCC - C - N - CGA580 - 6M

Material

S: 316L
C: Chrome Plated Brass
B: Brass

Parts

N: Nut
NN: Nut + Nipple
HN: Hand tight nut
HNN: Hand tight nut + Nipple
G: Gasket
P: Plug

Inlet Connection

None: 1/4"NPT(M)
6M: 6mm Tube fitting
TW6M: 6mm Weld tube
TW4: 1/4"Weld tube

Cylinder Connection

Detailed description of the cylinder connection including the relevant standard and number of the connection

Technical Data

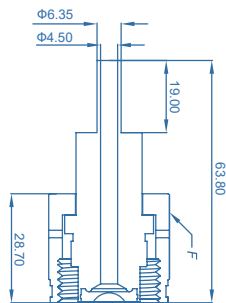
Material	
Nuts	SS 316
Caps	SS 316L
Valve deck	SS 316L
Gasket	Stainless

* For other materials, please contact the distributor.

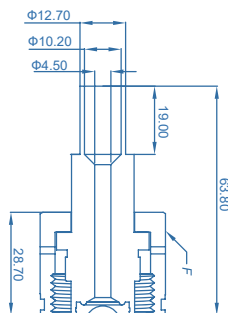


Nut, Nipple and Nickel Gasket Assembly

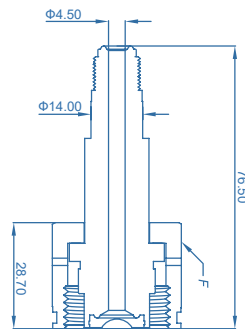
CGA / DISS Number	End Connection	F Hex Flat in.
632 ~ 642	1/4"Weld Tube	1-1/4
	1/2"Weld Tube	
	1/4"Face Seal Male	
	1/4"NPT(M)	
712 ~ 728	1/4"Weld Tube	1-3/8
	1/2"Weld Tube	
	1/4"Face Seal Male	
	1/4"NPT(M)	



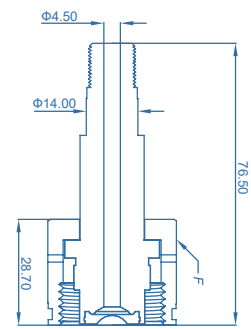
1/4"Weld Tube



1/2"Weld Tube



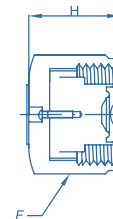
1/4"Face Seal Male



1/4"NPT(M)

Caps

CGA / DISS Number	Ordering Number	Material	F Hex Flat in.	H Length in.	Gas Tight
632 ~ 642	CGA-DISS-C-63	Stainless Steel	1-1/4	0.98	Yes
712 ~ 728	CGA-DISS-C-71	with Nickel gasket	1-3/8		

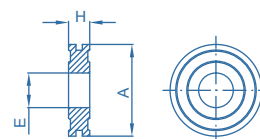


Cylinder Connection

CGA DISS Series

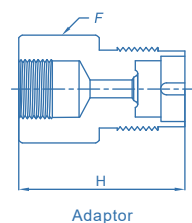
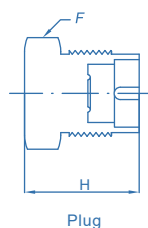
Gaskets

Material	Ordering Number	A	H	E
Nickle	CGA-DISS-G-NI	0.56	0.105	0.21
PCTFE	CGA-DISS-G-PC		0.125	



Plugs and Adapters

CGA / DISS Number	Ordering Number	End Connection	H Overall Length	F Hex Flat in.
632 ~ 642	CGA-DISS-BP-63	Plug	1.53	1-1/8
	CGA-DISS-A-F4-63	1/4"NPT(F)	1.85	
712 ~ 718	CGA-DISS-BP-71	Plug	1.53	1-1/4
	CGA-DISS-A-F4-71	1/4"NPT(F)	1.85	
720 ~ 728	CGA-DISS-BP-72	Plug	1.53	1-1/4
	CGA-DISS-A-F4-72	1/4"NPT(F)	1.85	



Ordering Information

CGA-DISS- NNG - CGA632 - TW4 - Ni

Parts Code

N: Nut
P: Plug
NNG: Nut+Nipple, Gasket

CGA Number

CGA632	CGA642	CGA720
CGA634	CGA712	CGA722
CGA636	CGA714	CGA724
CGA638	CGA716	CGA726
CGA640	CGA718	CGA728

Gasket Material

Ni: Nickle
PC: PCTFE

End Connection

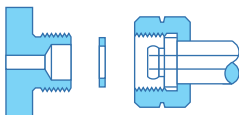
MV4: 1/4" Face seal male
TW4: 1/4" Weld Tube
TW8: 1/2" Weld Tube
M4: 1/4" NPT(M)

* For other materials, please contact the distributor.

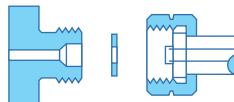
Product Features

- DIN 477.1 cylinder connections
- Connect to a cylinder valve
- 1/4 NPT male connection
- All connection are supplied with sealing washer

Type	Threads	Material	Gases
DIN 477.1	W21.8×1/14" LH	Brass Chrome-plated	N ₂ , CH ₄ , C ₃ H ₈ , C ₄ H ₁₀ , C ₂ H ₄ O
DIN 477.3	φ15.3×φ7.5	Brass Chrome-plated	C ₂ H ₂
DIN 477.5	W1"×1/8" LH	Brass Chrome-plated	CO
DIN 477.6	W21.8×1/14"	Brass Chrome-plated	Ar, He, CO ₂ , NH ₃
DIN 477.7	G5/8"	Brass Chrome-plated	SO ₂
DIN 477.8	W1"×1/8"	Brass Chrome-plated	Cl ₂ , COCl ₂
DIN 477.9	G3/4"	Brass Chrome-plated	O ₂
DIN 477.10	W24.32×1/14"	Brass Chrome-plated	N ₂
DIN 477.11	G3/8"	Brass Chrome-plated	N ₂ O
DIN 477.13	G5/8"	Brass Chrome-plated	Air
DIN 477.14	M19×1.5LH	Brass Chrome-plated	Test gas (with oxygen<21%)
DIN 477.1	W21.8×1/14" LH	316L	N ₂ , CH ₄ , C ₃ H ₈ , C ₄ H ₁₀ , C ₂ H ₄ O
DIN 477.3	φ15.3×φ7.5	316L	C ₂ H ₂
DIN 477.5	W1"×1/8" LH	316L	CO
DIN 477.6	W21.8×1/14"	316L	Ar, He, CO ₂ , NH ₃
DIN 477.7	G5/8"	316L	SO ₂
DIN 477.8	W1"×1/8"	316L	Cl ₂ , COCl ₂
DIN 477.9	G3/4"	316L	O ₂
DIN 477.10	W24.32×1/14"	316L	N ₂
DIN 477.11	G3/8"	316L	N ₂ O
DIN 477.13	G5/8"	316L	Air
DIN 477.14	M19×1.5LH	316L	Test gas (with oxygen<21%)

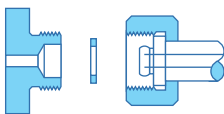


DIN 1 21.8 mmx1/14" -LH EXT.
Flat Seal with Gasket

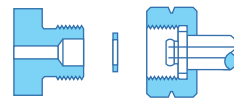


DIN 5 1" -LH EXT.
Flat Seal with Gasket

DIN 8 1" -RH EXT.
Flat Seal with Gasket



DIN 10 24.32mmx1/14" -RH EXT.
Flat Seal with Gasket



DIN 14 M 19x1.5mm -LH EXT.
Flat Seal with Gasket

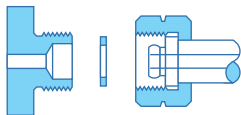
Cylinder Connection

DIN 477.1

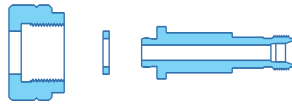
Product Features

- DIN 477.1 cylinder connections
- Connect to a cylinder valve
- 6mm tube fitting connection
- All connection are supplied with sealing washer

Type	Threads	Material	Gases
DIN 477.1	W21.8×1/14" LH	316L	N ₂ , CH ₄ , C ₃ H ₈ , C ₄ H ₁₀ , C ₂ H ₄ O
DIN 477.5	W1"×1/8" LH	316L	CO
DIN 477.6	W21.8×1/14"	316L	Ar, He, CO ₂ , NH ₃
DIN 477.7	G5/8"	316L	SO ₂
DIN 477.8	W1"×1/8"	316L	Cl ₂ , COCl ₂
DIN 477.9	G3/4"	316L	O ₂
DIN 477.10	W24.32×1/14"	316L	N ₂
DIN 477.11	G3/8"	316L	N ₂ O
DIN 477.13	G5/8"	316L	Air
DIN 477.14	M19×1.5LH	316L	Test gas (with oxygen<21%)



DIN 1 21.8 mmx1/14" -LH EXT.
Flat Seal with Gasket



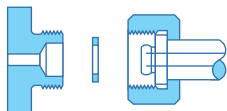
DIN 5 1" -LH EXT.
Flat Seal with Gasket

DIN 8 1" -RH EXT.
Flat Seal with Gasket

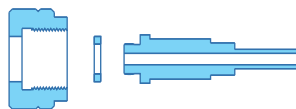
Product Features

- DIN 477.1 cylinder connections
- Connect to a cylinder valve
- 6mm tube fitting connection
- All connection are supplied with sealing washer

Type	Threads	Material	Gases
DIN 477.1	W21.8×1/14" LH	316L	N ₂ , CH ₄ , C ₃ H ₈ , C ₄ H ₁₀ , C ₂ H ₄ O
DIN 477.5	W1"×1/8" LH	316L	CO
DIN 477.6	W21.8×1/14"	316L	Ar, He, CO ₂ , NH ₃
DIN 477.7	G5/8"	316L	SO ₂
DIN 477.8	W1"×1/8"	316L	Cl ₂ , COCl ₂
DIN 477.9	G3/4"	316L	O ₂
DIN 477.10	W24.32×1/14"	316L	N ₂
DIN 477.11	G3/8"	316L	N ₂ O
DIN 477.13	G5/8"	316L	Air
DIN 477.14	M19×1.5LH	316L	Test gas (with oxygen<21%)



DIN 10 24.32mmx1/14" -RH EXT.
Flat Seal with Gasket

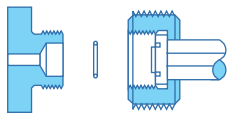


DIN 14 M 19x1.5mm -LH EXT.
Flat Seal with Gasket

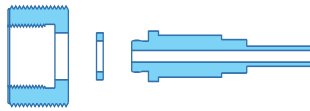
Product Features

- DIN 477.1 cylinder connections
- Hand-tight type
- Connect to a cylinder valve
- 1/4" NPT male connection
- All connection are supplied with O-ring

Type	Threads	Material	Gases
DIN 477.1	W21.8×1/14" LH	316L	N ₂ , CH ₄ , C ₃ H ₈ , C ₄ H ₁₀ , C ₂ H ₄ O
DIN 477.6	W21.8×1/14"	316L	Ar, He, CO ₂ , NH ₃
DIN 477.9	G3/4"	316L	O ₂
DIN 477.10	W24.32×1/14"	316L	N ₂
DIN 477.14	M19×1.5LH	316L	测试气体(含氧<21%)



DIN 10 24.32mmx1/14" -RH EXT.
Flat Seal with Gasket

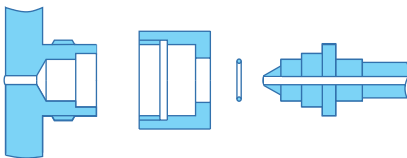


DIN 14 M 19x1.5mm -LH EXT.
Flat Seal with Gasket

Product Features

- DIN 477.1 cylinder connections
- Connect to a cylinder valve
- 1/4" NPT male connection
- All connection are supplied with O-ring

Type	Threads	Material	Gases
DIN 477.54	W30×2	316L	not flammable, non poisonous and not oxidizing gases and gas mixtures
DIN 477.55	W30×2	316L	not flammable, poisonous and oxidizing gases and gas mixtures
DIN 477.56	W30×2	316L	pressurized air
DIN 477.57	W30×2LH	316L	flammable, not poisonous gases and gas mixtures
DIN 477.58	W30×2LH	316L	flammable, poisonous and oxidizing or not oxidizing gases and gas mixtures
DIN 477.59	W30×2	316L	oxygen and oxidizing, non poisonous, not oxidizing gases and gas mixtures



Cylinder Connection

DIN 477.1 Gaskets / DIN 477.5 O-ring

Gaskets



DIN477.1

Threads	Material
DIN477.1 DIN477.6 DIN477.7	Teflon® (PCTFE)
DIN477.5 DIN477.8	Teflon® (PCTFE)
DIN477.9 DIN477.10 DIN477.13	Teflon® (PCTFE)

O-ring



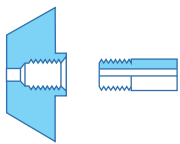
DIN477.5

Type	Material
φ7.66×φ1.78	VITON

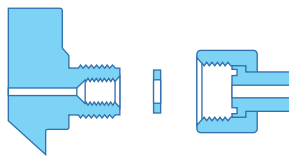
Product Features

- CGA cylinder connections
- Connect to a cylinder valve
- 1/4" NPT male connection (CGA180 1/8NPT)

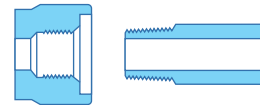
Type	Threads	Material	Gases
CGA160	1/8" -27 NGT-RH-INT	Brass Chrome-plated	Phosgene
CGA180	.625"-18UNF RH EXT	Brass Chrome-plated	Small cylinder-Non corrosive gases
CGA300	.825"-14 NGO RH EXT	Brass Chrome-plated	C ₂ H ₂
CGA320	.825"-14 NGO RH EXT	Brass Chrome-plated	CO ₂
CGA326	.825"-14 NGO RH EXT	Brass Chrome-plated	N ₂ O
CGA346	.825"-14 NGO RH EXT	Brass Chrome-plated	Air
CGA350	.825"-14 NGO LH EXT	Brass Chrome-plated	H ₂ , CH ₄ , CO
CGA510	.885"-14 NGO LH INT	Brass Chrome-plated	C ₂ H ₂ , C ₃ H ₈ , C ₄ H ₁₀ , C ₂ H ₄ O
CGA540	.903"-14 NGO RH EXT	Brass Chrome-plated	O ₂
CGA580	.965"-14 NGO RH INT	Brass Chrome-plated	N ₂ , Ar, He
CGA590	.965"-14 NGO LH INT	Brass Chrome-plated	Air, He
CGA660	1.03"-14 RH EXT	Brass Chrome-plated	CO ₂ , Cl ₂
CGA180	.625"-18UNF RH EXT	316L	mall cylinder-Non corrosive gases
CGA300	.825"-14 NGO RH EXT	316L	C ₂ H ₂
CGA320	.825"-14 NGO RH EXT	316L	CO ₂
CGA326	.825"-14 NGO RH EXT	316L	N ₂ O
CGA346	.825"-14 NGO RH EXT	316L	Air
CGA350	.825"-14 NGO LH EXT	316L	H ₂ , CH ₄ , CO
CGA510	.885"-14 NGO LH INT	316L	C ₂ H ₂ , C ₃ H ₈ , C ₄ H ₁₀ , C ₂ H ₄ O
CGA540	.903"-14 NGO RH EXT	316L	O ₂
CGA580	.965"-14 NGO RH INT	316L	N ₂ , Ar, He
CGA590	.965"-14 NGO LH INT	316L	Air, He
CGA660	1.03"-14 RH EXT	316L	CO ₂ , Cl ₂



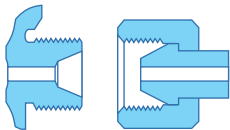
CGA 160 1/8" -27 NGT RH INT.



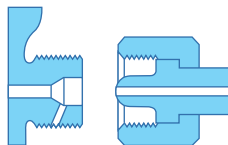
CGA 180 .625" -18 UNF 2A RH EXT.
with Gasket



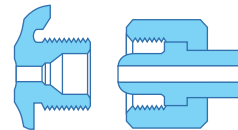
CGA 240 3/8" -18 NGT -RH INT.



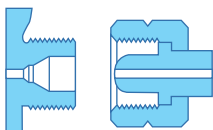
CGA 300 .825" -14 NGO RH EX.



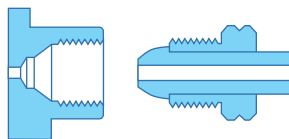
CGA 326 .825" -14 RH EXT.



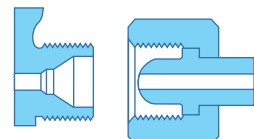
CGA 346 .825" -14 NGO.



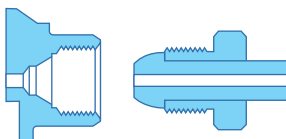
CGA 350 .825" -14 LH EXT.



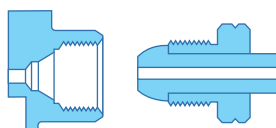
CGA 510 .885" -14 LH INT.



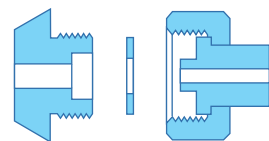
CGA 540 .903" -14 RH .



CGA 580 .965" -14 RH INT.



CGA 590 .965" -14 NGO LH INT.



CGA 660 1.03" -14
with Gasket

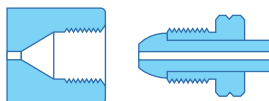
Cylinder Connection

BSP

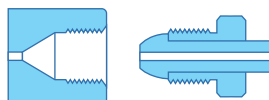
Product Features

- BSP cylinder connections
- Connect to a cylinder valve
- 1/4" NPT male connection
- All connection are supplied with sealing washer (not required for BS3 or BS4)

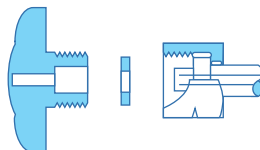
Type	Threads	Material	Gases
BS341-2	G5/8"LH	Brass Chrome-plated	H ₂ , CH ₄ , C ₂ H ₂
BS341-3	G5/8'	Brass Chrome-plated	Air, N ₂ , Ar, He, O ₂
BS341-4	G5/8"LH	Brass Chrome-plated	CO, C ₃ H ₈ , C ₄ H ₁₀
BS341-6	G5/8"A	Brass Chrome-plated	Cl ₂
BS341-7	G5/8"ALH	Brass Chrome-plated	C ₂ H ₄ O
BS341-8	0.860"×14TPI	Brass Chrome-plated	CO ₂
BS341-10	G1/2"A	Brass Chrome-plated	NH ₃ , SO ₂
BS341-13	11/16"×20TPI	Brass Chrome-plated	N ₂ O
BS341-14	G3/8"	Brass Chrome-plated	BCl ₃ , BF ₃ , CCl ₂ O, Cl
BS341-15	G3/8"LH	Brass Chrome-plated	COS, H ₂ S
BS341-2	G5/8"LH	316L	H ₂ , CH ₄ , C ₂ H ₂
BS341-3	G5/8'	316L	Air, N ₂ , Ar, He, O ₂
BS341-4	G5/8"LH	316L	CO, C ₃ H ₈ , C ₄ H ₁₀
BS341-6	G5/8"A	316L	Cl ₂
BS341-7	G5/8"ALH	316L	C ₂ H ₄ O
BS341-8	0.860"×14TPI	316L	CO ₂
BS341-10	G1/2"A	316L	NH ₃ , SO ₂
BS341-13	11/16"×20TPI	316L	N ₂ O
BS341-14	G3/8"	316L	BCl ₃ , BF ₃ , CCl ₂ O, Cl
BS341-15	G3/8"LH	316L	COS, H ₂ S



BS No 2 5/8" BSP LH INT.
BS No 4 5/8" BSP LH INT.

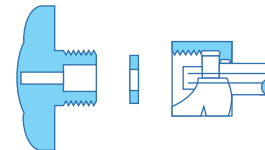


BS No 3 5/8" BSP RH INT.



BS No 6 5/8" BSP RH EXT.
Flat Seal with Gasket

BS No 8 0.86 BSW RH EXT.
Flat Seal with Gasket



BS No 14 3/8" BSP RH EXT.
Flat Seal with Gasket

BS No 15 3/8" BSP LH EXT.
Flat Seal with Gasket

Product Features

- GB cylinder connections
- Connect to a cylinder valve
- 1/4" NPT male connection

Type	Material	Gases
G5/8(F)	Brass Chrome-plated	Air, N ₂ , Ar, He, O ₂ , CO ₂ , N ₂ O, SO ₂
W21.8×1/14"LH(F)	Brass Chrome-plated	H ₂ , CH ₄ , CO, C ₄ H ₁₀ , C ₂ H ₄ O, COCl ₂
G1/2(F)	Brass Chrome-plated	NH ₃
M22×1.5LH(M)	Brass Chrome-plated	C ₃ H ₈
W21.8×1/14"RH(F)	Brass Chrome-plated	Mix Gas
G5/8(F)	316L	Air, N ₂ , Ar, He, O ₂ , CO ₂ , N ₂ O, SO ₂
W21.8×1/14"LH(F)	316L	H ₂ , CH ₄ , CO, C ₄ H ₁₀ , C ₂ H ₄ O, COCl ₂
G1/2(F)	316L	NH ₃
M22×1.5LH(M)	316L	C ₃ H ₈
W21.8×1/14"RH(F)	316L	Mix Gas

Product Features

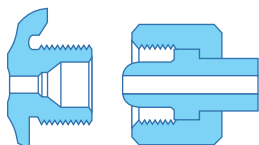
- GB cylinder connections
- Connect to a cylinder valve
- 1/4" tube fitting

Type	Material	Gases
G5/8(F)	316L	Air, N ₂ , Ar, He, O ₂ , CO ₂ , N ₂ O, SO ₂
W21.8×1/14"LH(F)	316L	H ₂ , CH ₄ , CO, C ₄ H ₁₀ , C ₂ H ₄ O, COCl ₂
G1/2(F)	316L	NH ₃
M22×1.5LH(M)	316L	C ₃ H ₈
W21.8×1/14"RH(F)	316L	Mix Gas

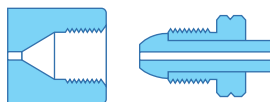
Product Features

- GB cylinder connections
- Connect to a cylinder valve
- 6mm tube fitting

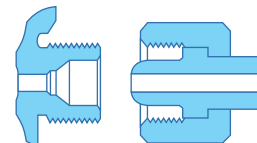
Type	Material	Gases
G5/8(F)	316L	Air, N ₂ , Ar, He, O ₂ , CO ₂ , N ₂ O, SO ₂
W21.8×1/14"LH(F)	316L	H ₂ , CH ₄ , CO, C ₄ H ₁₀ , C ₂ H ₄ O, COCl ₂
G1/2(F)	316L	NH ₃
M22×1.5LH(M)	316L	C ₃ H ₈
W21.8×1/14"RH(F)	316L	Mix Gas



G5/8



M22×1.5LH



W21.8RH

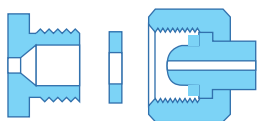
Cylinder Connection

JIS

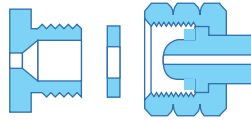
Product Features

- JIS cylinder connections
- Connect to a cylinder valve
- 1/4"NPT male connection
- All connection are supplied with sealing washer

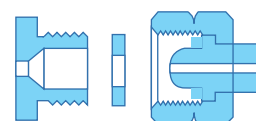
Type	Material	Gases
W22RH	Brass Chrome-plated	Ar, N ₂ , O ₂ , Xe, Ne, CO ₂ , Kr, CF ₄
W21LH	Brass Chrome-plated	He
W22LH	Brass Chrome-plated	H ₂ , CO, CH ₄ , C ₂ H ₆ , C ₂ H ₄ , SiH ₄
W23RH	Brass Chrome-plated	O ₂
W22.5LH	Brass Chrome-plated	LPG
W26RH	Brass Chrome-plated	Cl ₂ , HCl, Kr, CCl ₂ F ₂ , CHClF ₂
W27RH	Brass Chrome-plated	N ₂ O
York	Brass Chrome-plated	C ₂ H ₂
W22RH	316L	Ar, N ₂ , O ₂ , Xe, Ne, CO ₂ , Kr, CF ₄
W21LH	316L	He
W22LH	316L	H ₂ , CO, CH ₄ , C ₂ H ₆ , C ₂ H ₄ , SiH ₄
W23RH	316L	O ₂
W22.5LH	316L	LPG
W26RH	316L	Cl ₂ , HCl, Kr, CCl ₂ F ₂ , CHClF ₂
W27RH	316L	N ₂ O
York	316L	C ₂ H ₂



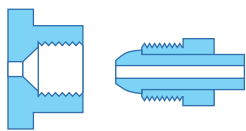
W22RH



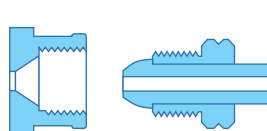
W21LH



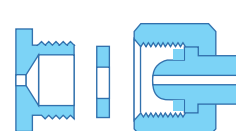
W22LH



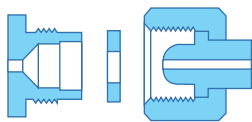
W23RH



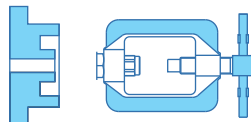
W22.5LH



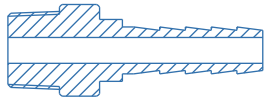
W26RH



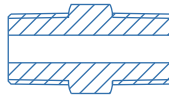
W27RH



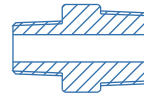
York



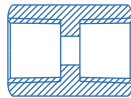
VAD-M4-H8M



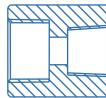
VAD-M4-M4



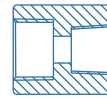
VAD-M4-M2



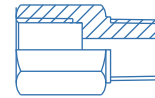
VAD-F4-F4



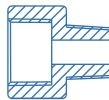
VAD-F4-F2



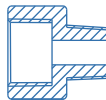
VAD-F8-F4



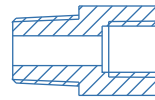
VAD-M4-F4



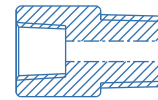
VAD-M4-F8



VAD-M4-F8



VAD-M8-F4



VAD-M6-F4

S - VAD - F4

Material

B: Brass
C: Brass Chrome-plated
S: SS 316L

Type

VAD: Plugs and Adaptors
VPN: NPT Plugs

Inlets / Outlets

F2: 1/8"NPT(F)
F4: 1/4"NPT(F)
F6: 3/8"NPT(F)
F8: 1/2"NPT(F)
M2: 1/8"NPT(M)
M4: 1/4"NPT(M)
M6: 3/8"NPT(M)
M8: 1/2"NPT(M)

Tube Fitting



SS-VMC Series
Male Connector



SS-VMC Series
Male Connector



SS-VMC Series
Male Connector



SS-VFC Series
Female Connector



SS-VME Series
Male Elbow



SS-VME Series
Male Elbow



SS-VME Series
Male Elbow



SS-VFE Series
Female Elbow



SS-VUE Series
Union Elbow



SS-VRUE Series
Reducing Union Elbow



SS-VWE Series
Male Pipe Weld Elbow



SS-VRE Series
Reducing Elbow



SS-VUT Series
Union Tee



SS-VRT Series
Reducing Tee



SS-VRT Series
Reducing Tee



SS-VMRT Series
Male Run Tee



SS-VMRT Series
Male Run Tee



SS-VMRT Series
Male Run Tee



SS-VFRT Series
Female Run Tee



SS-VFRT Series
Female Run Tee



SS-VMBT Series
Male Branch Tee



SS-VMBT Series
Male Branch Tee



SS-VMRT Series
Male Branch Tee



SS-VBU Series
Bulkhead Union



SS-VBFC Series
Bulkhead Female Connector



SS-VBMC Series
Bulkhead Male Connector



SS-VBR Series
Bulkhead Reducer



SS-VRBU Series
Bulkhead Reducing Union



SS-VFA Series
Female Adapter Tube to Pipe



SS-VMA Series
Male Adapter Tube to Pipe



SS-VMA Series
Male Adapter Tube to Pipe



SS-VMA Series
Male Adapter Tube to Pipe



SS-VU Series
Union



SS-VRU Series
Reducing Union



SS-VTO Series
Reducer



SS-VRPC Series
Reducing Port Connector



SS-VPC Series
Port Connector



SS-VWC Series
Male Pipe Weld Connector



SS-VWA Series
Weld Adapter Tube to Pipe



SS-VSWA Series
Socket Weld Adapter

Material Compatibility

			
SS-VSWC Series Tube Socket Welded Connector	VTW Series Tube Welded Long Elbow	VTW Series Tube Welded Reducing Elbow	VTW Series Tube Welded Long Tee
			
VTW Series Tube Socket Weld Union	VTW Series Tube Socket Weld Union	SS-VUC Series Union Cross	SS-VC Series Cap
			
SS-VP Series Plug	SS-VN Series Nut	SS-VBF Series Back Ferrule	SS-VFF Series Front Ferrule

* Please refer to the Tube fitting catalogue for details, thank you!

Key To Material Compatibility

- 1 - Satisfactory for use with the intended gas
- 2 - Unsatisfactory for use with the intended gas
- 3 - Insufficient data available to determine compatibility with the intended gas
- 4 - Satisfactory with brass having a low copper content
- 5 - Satisfactory with acetylene, however, cylinder gas is dissolved in a solvent (generally acetone) which may be incompatible with these elastomers
- 6 - Satisfactory with brass, except where acetylene or acetylides are present
- 7 - Generally unsatisfactory, except where specific use conditions have proven acceptable
- 8 - Satisfactory below 3000 psig (206.9 bar) where gas velocities do not exceed 30 ft./sec.
- 9 - Compatibility depends on condition of use

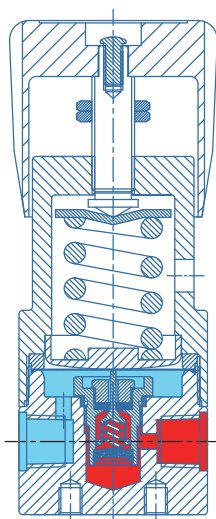
* For reference only

COMPATIBILITY GUIDE		MATERIALS OF CONSTRUCTION										
		METALS					PLASTICS		ELASTOMERS			
Common Name	Chemical Formula	Brass	Stainless Steel	Aluminum	Zinc	Copper	PCTFE	Teflon®	Viton®	Buna-N	Neoprene	Polyurethane
Acetylene	C ₂ H ₂	4	1	3	2	2	1	1	5	5	5	
Air	-	1	1	1	1	1	1	1	1	1	1	1
Allene	C ₃ H ₄	1	1	1	3	2	1	1	1	1	1	3
Ammonia	NH ₃	2	1	1	2	2	1	1	2	1	1	2
Argon	Ar	1	1	1	1	1	1	1	1	1	1	1
Arsine	AsH ₃	1	1	7	3	1	1	1	1	1	1	2
Boron Trichloride	BCl ₃	2	1	2	3	1	1	1	3	3	3	3
Boron Trifluoride	BF ₃	1	1	1	3	1	1	1	3	3	3	3
1,3-Butadiene	C ₄ H ₆	1	1	1	1	1	1	1	1	2	1	2
Butane	C ₄ H ₁₀	1	1	1	1	1	1	1	1	1	1	1
1-Butene	C ₄ H ₈	1	1	1	1	1	1	1	1	1	1	1
cis-2-Butene	C ₄ H ₈	1	1	1	1	1	1	1	1	1	1	1
trans-2-Butene	C ₄ H ₈	1	1	1	1	1	1	1	1	1	1	1
Carbon Dioxide	CO ₂	1	1	1	1	1	1	1	1	1	1	2
Carbon Monoxide	CO	1	1	1	1	1	1	1	3	1	1	1
Carbonyl Sulfide	COS	1	1	1	3	1	1	1	1	3	3	3
Chlorine	Cl ₂	2	1	2	2	2	1	1	1	2	2	2
Deuterium	D ₂	1	1	1	1	1	1	1	1	1	1	1
Diborane	B ₂ H ₆	1	1	2	3	1	1	1	3	3	3	3
Dichlorosilane	H ₂ SiCl ₂	3	1	3	3	3	1	1	3	3	3	3
Dimethyl Ether	C ₂ H ₆ O	1	1	1	1	1	1	1	1	1	1	3
Ethane	C ₂ H ₆	1	1	1	1	1	1	1	1	1	1	1
Ethyl Acetylene	C ₄ H ₆	3	1	1	3	2	1	1	1	3	1	3
Ethyl Chloride	C ₂ H ₅ Cl	1	1	2	3	1	1	1	1	1	1	2
Ethylene	C ₂ H ₄	1	1	1	1	1	1	1	1	1	1	3
Ethylene Oxide*	C ₂ H ₄ O	6	1	7	3	2	1	1	2	2	2	2
Ethylene Oxide/Carbon Dioxide Mixtures*	R ₃	1	3	3	2	1	1	2	2	2	2	
Ethylene Oxide/Halocarbon Mixtures*	R ₃	1	3	3	2	1	1	2	2	2	2	
Ethylene Oxide/HCFC-124	R ₃	1	3	3	2	1	1	2	2	2	2	
Halocarbon 11	CCl ₃ F	1	1	7	3	1	1	1	1	1	2	2
Halocarbon 12	CCl ₂ F ₂	1	1	7	3	1	1	1	1	1	1	1
Halocarbon 13	CClF ₃	1	1	7	3	1	1	1	1	1	1	1
Halocarbon 13B1	CBF ₃	1	1	7	3	1	1	1	1	1	1	1
Halocarbon 14	CF ₄	1	1	7	3	1	1	1	1	1	1	1

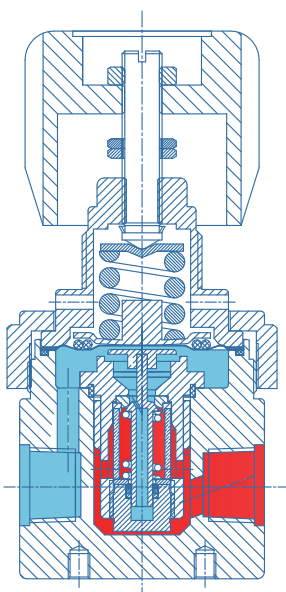
Material Compatibility

COMPATIBILITY GUIDE		MATERIALS OF CONSTRUCTION										
		METALS					PLASTICS		ELASTOMERS			
Common Name	Chemical Formula	Brass	Stainless Steel	Aluminum	Zinc	Copper	PCTFE	Teflon®	Viton®	Buna-N	Neoprene	Polyurethane
Halocarbon 21	CHCl ₂ F	1	1	7	3	1	1	1	2	2	1	1
Halocarbon 22	CHClF ₂	1	1	7	3	1	1	1	2	2	1	2
Halocarbon 23	CHF ₃	1	1	7	3	1	1	1	3	3	3	1
Halocarbon 113	CCl ₂ FCClF ₂	1	1	7	2	1	1	1	1	1	1	1
Halocarbon 114	C ₂ Cl ₂ F ₄	1	1	7	3	1	1	1	1	1	1	1
Halocarbon 115	C ₂ ClF ₅	1	1	7	3	1	1	1	1	1	1	1
Halocarbon 116	C ₂ F ₆	1	1	7	3	1	1	1	3	3	3	1
Halocarbon 142B	C ₂ H ₃ ClF ₂	1	1	7	3	1	1	1	2	1	1	1
Halocarbon 152A	C ₂ H ₄ F ₂	1	1	7	3	1	1	1	2	1	1	1
Halocarbon C-318	C ₂ F ₈	1	1	7	3	3	1	1	1	1	1	1
Halocarbon 502	CHClF ₂ /CClF ₂ -CF ₃	3	1	7	3	3	1	1	1	1	1	1
Halocarbon 1132A	C ₂ H ₂ F ₂	1	1	7	3	1	3	1	3	3	3	1
Helium	He	1	1	1	1	1	1	1	1	1	1	1
Hydrogen	H ₂	1	1	1	1	1	1	1	1	1	1	1
Hydrogen Chloride	HCl	2	1	2	2	2	1	1	1	2	2	2
Hydrogen Sulfide	H ₂ S	2	1	1	3	3	1	1	2	1	1	1
Isobutane	C ₄ H ₁₀	1	1	1	1	1	1	1	1	1	1	1
Isobutylene	C ₄ H ₈	1	1	1	3	1	1	1	1	1	1	3
Isopentane	C ₅ H ₁₂	1	1	1	1	1	1	1	1	1	1	1
Krypton	Kr	1	1	1	1	1	1	1	1	1	1	1
Methane	CH ₄	1	1	1	1	1	1	1	1	1	1	1
Methyl Chloride	CH ₃ Cl	1	1	2	2	1	1	1	1	2	2	2
Methyl Mercaptan	CH ₃ SH	1	1	2	3	2	1	1	3	3	1	3
Neon	Ne	1	1	1	1	1	1	1	1	1	1	1
Nitric Oxide	NO	2	1	1	3	1	1	1	3	3	1	3
Nitrogen	N ₂	1	1	1	1	1	1	1	1	1	1	1
Nitrogen Dioxide	NO ₂	3	1	1	3	3	1	1	2	2	2	2
Nitrous Oxide	N ₂ O	1	1	1	1	1	1	1	1	1	1	1
Oxygen	O ₂	1	8	7	1	1	1	1	9	9	9	1
Perfluoropropane	C ₃ F ₈	1	1	1	3	1	1	1	3	1	1	3
Phosphine	PH ₃	3	1	1	3	3	1	1	3	3	3	3
Phosphorous Pentafluoride	PF ₅	3	1	3	3	3	1	1	3	3	3	3
Propane	C ₃ H ₈	1	1	1	1	1	1	1	1	1	1	1
Propylene	C ₃ H ₆	1	1	1	1	1	1	1	1	2	2	2
Propylene Oxide	C ₃ H ₆ O	3	1	3	3	3	1	1	2	2	2	2
Refrigerant Gases	See Halocarbons											
Silane	SiH ₄	1	1	1	3	1	1	1	1	1	1	1
Silicon Tetrachloride	SiCl ₄	3	1	2	3	3	1	1	3	3	3	3
Silicon Tetrafluoride	SiF ₄	1	1	1	3	1	1	1	1	1	1	1
Sulfur Dioxide	SO ₂	2	1	1	2	2	1	1	1	2	2	1
Sulfur Hexafluoride	SF ₆	1	1	1	3	1	1	1	1	1	1	1
Trichlorosilane	HSiCl ₃	3	1	2	3	3	1	1	3	3	3	3
Vinyl Methyl Ether	C ₃ H ₆ O	1	1	1	3	2	1	1	3	3	3	3
Xenon	Xe	1	1	1	1	1	1	1	1	1	1	1

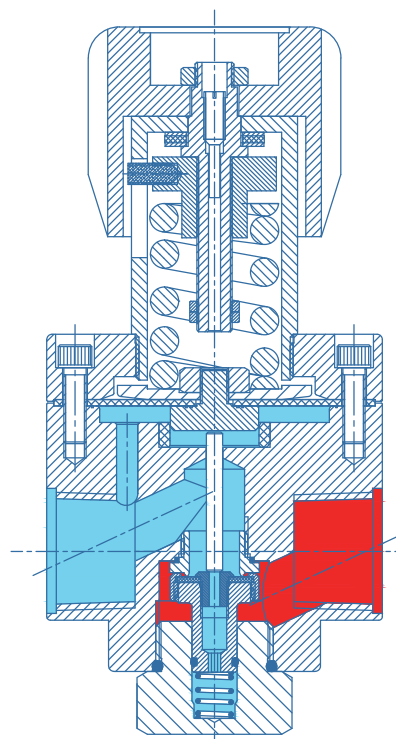
Schematic diagram of product structure



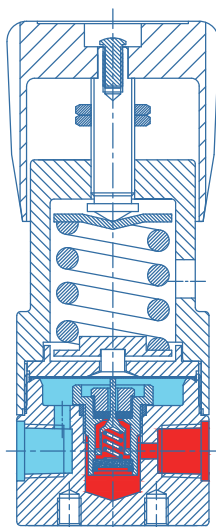
VSR-1E Series



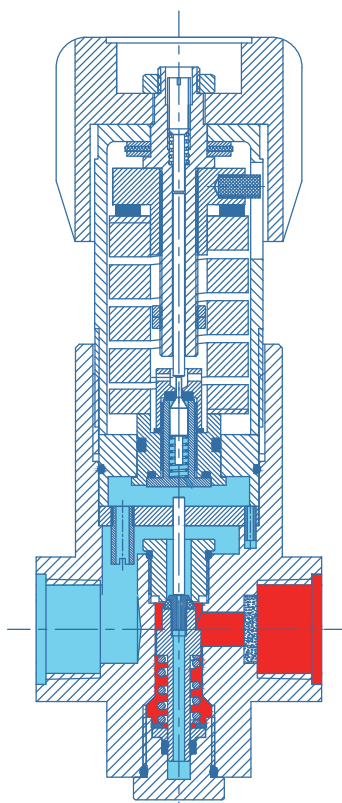
VSR-3 Series



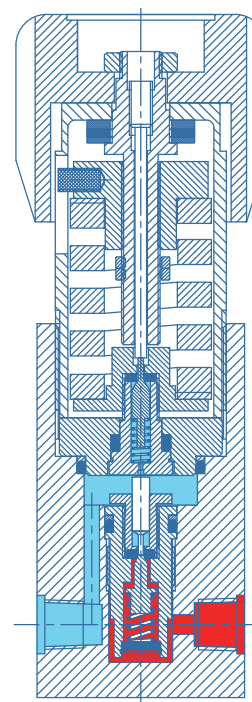
VSR-4 Series



VSR-6E Series

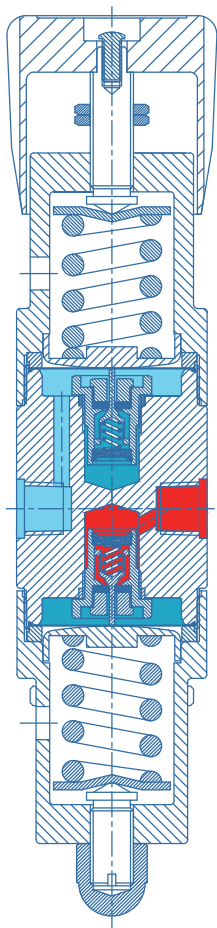


VSR-7 Series

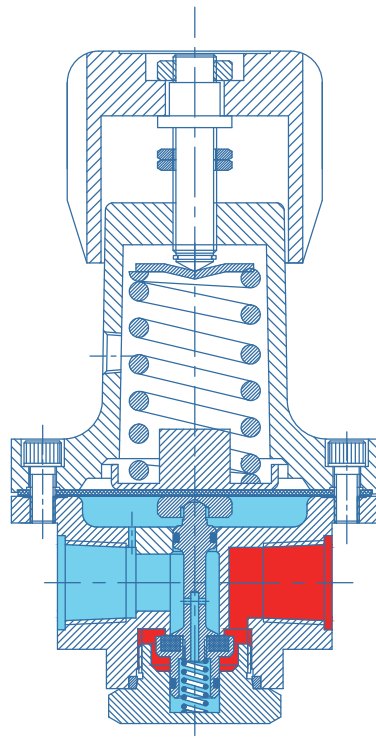


VSR-8 Series

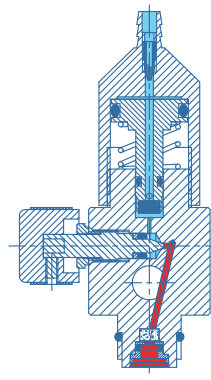
Schematic diagram of product structure



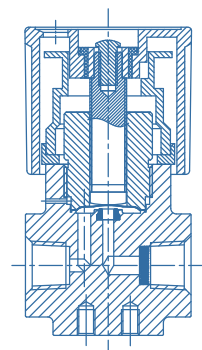
VSR-11E Series



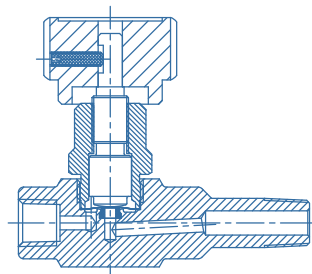
VSR-12L Series



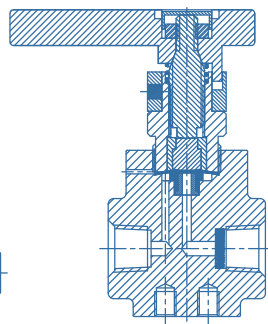
VSR-15 Series



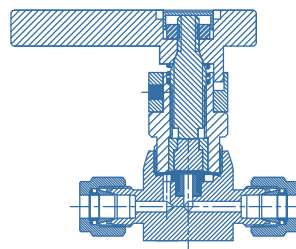
VDV1 Series



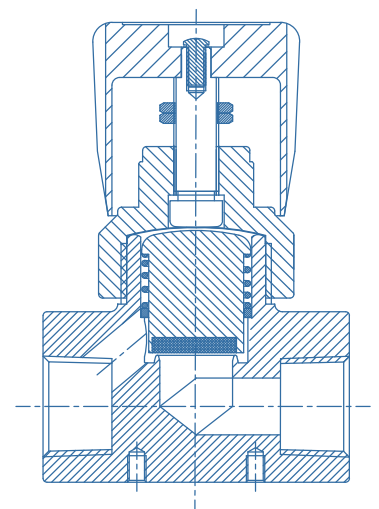
VDV2 Series



VDV30 Series



VDV31 Series



VDV8 Series

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