Single Stage Regulator for Ultra High Purity

Low to intermediate flow

Series AZ1000

- **For UHP gas delivery**
- **High inlet pressure type: Max. 3500 psig (24.1 MPa)**
- **Flow capacity Standard: to 30 slpm**
  HF (option): to 120 slpm
- **Body material: 316L SS**
- **Hastelloy internals available for corrosion resistance**

How to Order

Port Number ① ② ③ ④

AZ10 [01] [S] [ ] [2PW] [FV4] [FV4] [ ] [ ] [ ] [ ] [ ] [ ]

Delivery pressure

Code	Delivery pressure
01	1 to 10 psig (0.007 to 0.07 MPa)
02	1 to 30 psig (0.007 to 0.2 MPa)
06	2 to 60 psig (0.014 to 0.4 MPa)
10	2 to 100 psig (0.014 to 0.7 MPa)
15	5 to 150 psig (0.034 to 1.0 MPa)

Material

Code	Body	Poppet	Diaphragm	Nozzle
S	316L SS	316L SS	316L SS	316L SS
SHP		Hastelloy® C-22	Hastelloy® C-22	

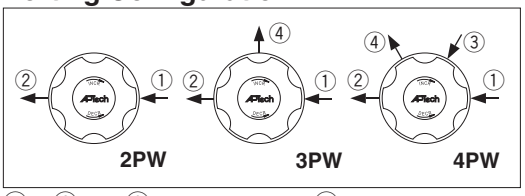
Surface finish

Code	Surface finish Ra
No code	10 µin. (0.25 µm) Standard
Q	25 µin. (0.62 µm)

Ports

Code	Ports
2PW	2 ports
3PW	3 ports
4PW	4 ports

Porting Configuration



①IN ②OUT ③Gauge port (Inlet) ④Gauge port (Outlet)

Connections (Inlet①, Outlet②)

Code	Connections
FV4	1/4 inch face seal (Female)
MV4	1/4 inch face seal (Male)
FV6	3/8 inch face seal (Female)
MV6	3/8 inch face seal (Male)
TW6	3/8 inch tube weld

Gauge port (Inlet③, Outlet④)

Code	Pressure gauge ∗1)	
	psig/bar unit	MPa unit
No code	No gauge port	
0	No pressure gauge (Connections: 1/4 inch face seal male)	
V3	-30 in.Hg to 30 psig	-0.1 to 0.2 MPa
L	-30 in.Hg to 60 psig	-0.1 to 0.4 MPa
1	-30 in.Hg to 100 psig	-0.1 to 0.7 MPa
H	-30 in.Hg to 160 psig	-0.1 to 1.1 MPa
2	0 to 200 psig	0 to 1.4 MPa
4	0 to 400 psig	0 to 3 MPa
10	0 to 1000 psig	0 to 7 MPa
40	0 to 4000 psig	0 to 28 MPa

∗1) Refer to gauge guide (P.94) for gauge specifications.

Sample Order Number

	Port ①	②	③	④		
AZ1001S	2PW	FV4	FV4			
	3PW	FV4	FV4		V3	MPA
	4PW	FV4	FV4	1	V3	MPA

Bonnet option

Code	Bonnet
No code	Standard
P	Panel installation ∗6)
BP	Bonnet port (NPT 1/8 inch)

∗6) Panel mounting hole: dia. 1.56 inch (39.6 mm).

Option

Code	Specification
No code	Standard (Cv: 0.09)
HF	High flow (Cv: 0.15)

Seat material

Code	Material
No code	PCTFE (Standard)
VS	Vespel® ∗3)
TF	PTFE ∗4) ∗5)

∗3) Not available with SHP material.
∗4) PTFE recommended for applications such as within a process tool.
∗5) Source pressure rating is limited to 300 psig (2.1 MPa) or less.

Pressure gauge unit ∗2)

Code	Unit
No code	psig/bar
MPA	MPa

∗2) Pressure gauge unit MPa or psig/bar selectable. However under Japanese regulation, only MPa is available in Japan.

Specifications

Operating Parameters		AZ1001	AZ1002	AZ1006	AZ1010	AZ1015
Delivery pressure		1 to 10 psig (0.007 to 0.07 MPa)	1 to 30 psig (0.007 to 0.2 MPa)	2 to 60 psig (0.014 to 0.4 MPa)	2 to 100 psig (0.014 to 0.7 MPa)	5 to 150 psig (0.034 to 1.0 MPa)
Gas		Select compatible materials of construction for the gas				
Source pressure		Vacuum to 300 psig (2.1 MPa)	Vacuum to 3500 psig (24.1 MPa) ∗1)			
Proof pressure (Inlet)		5000 psig (34.5 MPa)				
Burst pressure		10000 psig (69 MPa)				
Ambient and operating temperature		–40 to 160°C (–40 to 71°C) (No freezing) ∗2)				
Cv		0.09				
Leak rate	**Inboard leakage**	2×10^{-11} Pa·m³/sec				
	Outboard leakage	2×10^{-10} Pa·m³/sec ∗3)				
Across the seat leak		4×10^{-9} Pa·m³/sec ∗4)				
Surface finish		Ra 10 µin. (0.25 µm) Option: 25 µin. (0.62 µm)				
Connections		Face seal, Tube weld				
Supply pressure effect		0.38 pisg (0.0026 MPa) rise in delivery pressure per 100 psig (0.7 MPa) source pressure drop				
Installation		Bottom mount (Option: panel mount)				
Internal volume		0.49 in³ (8 cm³)				
Mass		2.76 lbs (1.25 kg) ∗5)				

∗1) Max 300 psig (2.1MPa) for PTFE seat.
∗2) 14 to 194°F (–10 to 90°C) for Vespel® seat.
∗3) Tested with Helium gas inlet pressure 1500 psig (10.5 MPa).
∗4) Tested with Helium gas inlet pressure 1000 psig (7 MPa).
∗5) Mass, including individual boxed weight, may vary depending on connections or options.

Option

High flow

Higher flow capacity with internal changes only, no change in external dimensions. Changes from the standard type are:

Option	Other Parameters	AZ1001	AZ1002	AZ1006	AZ1010	AZ1015
HF	Cv	0.15				
	Supply pressure effect	0.75 psig (0.0052 MPa) rise in delivery pressure per 100 psig (0.7 MPa) source pressure drop				

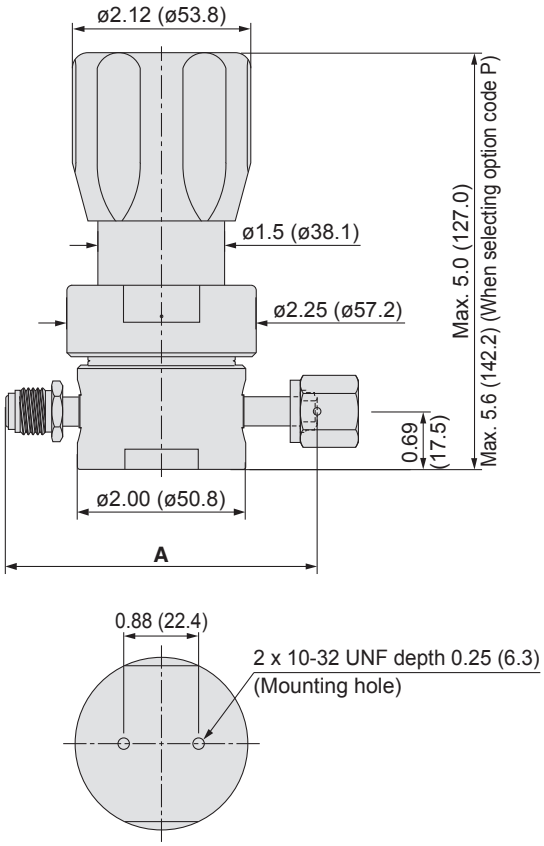
Wetted Parts Material

Wetted Parts	S	SHP
Body	316L SS	
Surface finish	Electropolish + Passivation	
Poppet	316L SS	Hastelloy® C-22
Diaphragm	316L SS	Hastelloy® C-22
Nozzle	316L SS	
Seat	PCTFE (Option: Vespel®, PTFE)	PCTFE (Option: PTFE)

Dimensions

inch (mm)

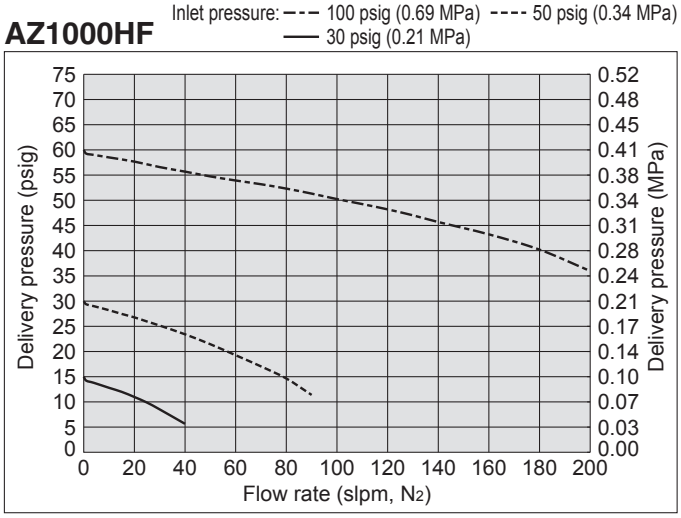
AZ1000



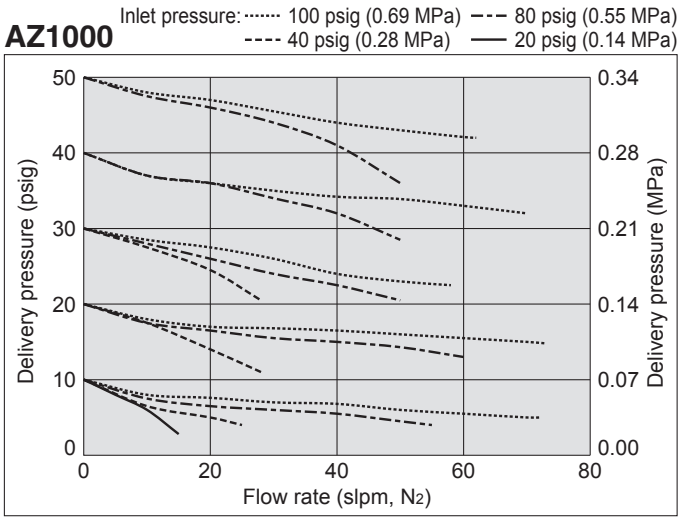
Connections	A	
	inch	(mm)
FV4	3.70	(94.0)
MV4		
FV6	4.70	(119.4)
MV6		
TW6	2.96	(75.2)

Flow Characteristics

AZ1000HF



AZ1000



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Vespel® is a registered trademark of DuPont.

Single Stage Regulator for Ultra High Purity

High flow (Tied-diaphragm)

Series AZ1200

- **For UHP gas delivery**
- **High inlet pressure type Standard: Max. 1700 psig (11.7 MPa)**
  HR (option): Max. 3000 psig (20.7 MPa)
- **Flow capacity Standard to 800 slpm**
  HF (option): to 1000 slpm
  FC (option): to 1500 slpm
- **Body material: 316L SS**
- **Hastelloy internals available for corrosion resistance**

How to Order

Port Number ① ② ③ ④

AZ12 [02] [S] [ ] [2PW] [FV8] [FV8] [ ] [ ] [ ] [ ] [ ] [ ]

Delivery pressure

Code	Delivery pressure
02	1 to 30 psig (0.007 to 0.2 MPa)
06	2 to 60 psig (0.014 to 0.4 MPa)
10	2 to 100 psig (0.014 to 0.7 MPa)
15	5 to 150 psig (0.034 to 1.0 MPa)
25	Preset to 250 psig (1.7 MPa (Preset))

Material

Code	Body	Poppet	Diaphragm
S	316L SS	316L SS	Hastelloy® C-22
SHP		Hastelloy® C-22	

Surface finish

Code	Surface finish Ra
No code	10 µin. (0.25 µm) Standard
Q	25 µin. (0.62 µm)

Ports

Code	Ports
2PW	2 ports
3PW	3 ports
4PW	4 ports

Connections (Inlet①, Outlet②)

Code	Connections
FV4	1/4 inch face seal (Female)
MV4	1/4 inch face seal (Male)
FV6	3/8 inch face seal (Female)
MV6	3/8 inch face seal (Male)
TW6	3/8 inch tube weld
FV8	1/2 inch face seal (Female)
MV8	1/2 inch face seal (Male)
TW8	1/2 inch tube weld

Gauge port (Inlet③, Outlet④)

Code	Pressure gauge ∗1)	
	psig/bar unit	MPa unit
No code	No gauge port	
0	No pressure gauge (Connections: 1/4 inch face seal male)	
V3	-30 in.Hg to 30 psig	-0.1 to 0.2 MPa
L	-30 in.Hg to 60 psig	-0.1 to 0.4 MPa
1	-30 in.Hg to 100 psig	-0.1 to 0.7 MPa
H	-30 in.Hg to 160 psig	-0.1 to 1.1 MPa
2	0 to 200 psig	0 to 1.4 MPa
4	0 to 400 psig	0 to 3 MPa
10	0 to 1000 psig	0 to 7 MPa
40	0 to 4000 psig	0 to 28 MPa

∗1) Refer to gauge guide (P.94) for gauge specifications.

Bonnet option

Code	Bonnet
No code	Standard
P	Panel installation∗6)
BP	Bonnet port (NPT 1/8 inch)

∗6) Panel mounting hole: dia. 1.56 inch (39.6 mm).

Option

Code	Specification
No code	Standard (Cv: 0.9)
HF	High flow (Cv: 1.1)
FC	Force compensation (Cv: 0.65) ∗4)∗5)
HR	High inlet pressure (Max. inlet pressure 3000 psig (20.7 MPa)) ∗4)

∗4) FC and HR options are not available with AZ1202, AZ1206 and AZ1225.
∗5) FC option is available with 1/2 inch face seal or 1/2 inch tube weld.

Seat material

Code	Material
No code	PCTFE (Standard)
VS	Vespel® ∗3)

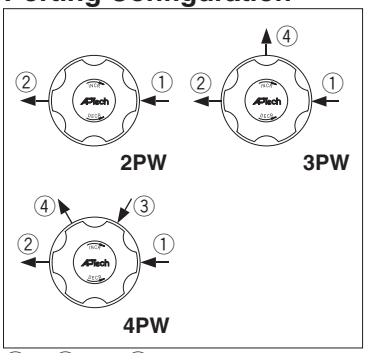
∗3) Not available with SHP material.

Pressure gauge unit ∗2)

Code	Unit
No code	psig/bar
MPA	MPa

∗2) Pressure gauge unit MPa or psig/bar selectable. However under Japanese regulation, only MPa is available in Japan.

Porting Configuration



①IN ②OUT ③Gauge port (Inlet)
④Gauge port (Outlet)

Sample Order Number

	Port	①	②	③	④		
AZ1210S	2PW	FV8	FV8				
	3PW	FV8	FV8			0	
	3PW	FV8	FV8			1	MPA
	4PW	FV8	FV8	40		1	MPA

Specifications

Operating Parameters		AZ1202	AZ1206	AZ1210	AZ1215	AZ1225
Delivery pressure		1 to 30 psig (0.007 to 0.2 MPa)	2 to 60 psig (0.014 to 0.4 MPa)	2 to 100 psig (0.014 to 0.7 MPa)	5 to 150 psig (0.034 to 1.0 MPa) (Source pressure 1000 psig or less) ∗1)	Preset to 250 psig (1.7 MPa) ∗2)
Gas		Select compatible materials of construction for the gas				
Source pressure		Vacuum to 1700 psig (11.7 MPa)				
Proof pressure (Inlet)		2550 psig (17.6 MPa)				
Burst pressure		8000 psig (55.2 MPa)				
Ambient and operating temperature		–40 to 160°F (–40 to 71°C) (No freezing) ∗3)				
Cv		0.65				
Leak rate	**Inboard leakage**	2×10^{-11} Pa·m³/sec				
	Outboard leakage	2×10^{-10} Pa·m³/sec ∗4)				
Across the seat leak		4×10^{-9} Pa·m³/sec ∗5)				
Surface finish		Ra 10 µin.(0.25 µm) Option: 25 µin.(0.62 µm)				
Connections		Face seal, Tube weld				
Supply pressure effect		3.5 psig (0.024 MPa) rise in delivery pressure per 100 psig (0.7 MPa) source pressure drop				
Installation		Bottom mount (Option: panel mount)				
Internal volume		1.07 in³ (17.6 cm³)				
Mass		4.4 lbs (2.0 kg) ∗6)				

∗1) Source pressure above 1000 psig (6.9 MPa) decreases maximum delivery pressure to less than 150 psig (1 MPa) due to supply pressure effect. When the source pressure is 1700 psig (11.7 MPa), achievable delivery pressure is around 125 psig (0.86 MPa) (HF and FC option 120 psig (0.83 MPa)).
∗2) 250 psig outlet pressure preset at 800 psig (5.5MPa) inlet pressure. Custom inlet/outlet pressure settings available. Please contact SMC.
∗3) 14 to 194°F (–10 to 90°C) for Vespel® seat.
∗4) Tested with Helium gas inlet pressure 1500 psig (10.5 MPa).
∗5) Tested with Helium gas inlet pressure 1000 psig (7 MPa).
∗6) Mass, including individual boxed weight, may vary depending on connections or options.

Options

1. High flow

Higher flow capacity with internal changes only, no change in external dimensions. Changes from the standard type are:

Option	Other Parameters	AZ1202	AZ1206	AZ1210	AZ1215	AZ1225
HF	Cv	1.1				
	Supply pressure effect	4.2 psig (0.029 MPa) rise in delivery pressure per 100 psig (0.7 MPa) source pressure drop				

2. Force compensation

Force compensation feature added to HF option and has wider flow capacity than HF option.
Changes from the standard type are:

Option	Other Parameters	AZ1210	AZ1215
FC	Source pressure	Vacuum to 300 psig (2.1 MPa)	
	Cv	0.65	
	Supply pressure effect	4.2 psig (0.029 MPa) rise in delivery pressure per 100 psig (0.7 MPa) source pressure drop	
	Connections	1/2 inch face seal 1/2 inch tube weld	

3. High inlet pressure

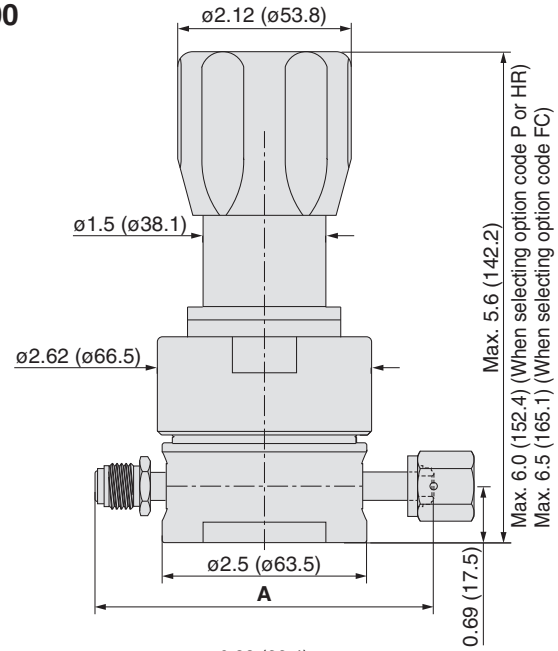
Changes from the standard type are:

Option	Other Parameters	AZ1210	AZ1215
HR	Source pressure	Vacuum to 3000 psig (20.7 MPa)	
	Proof pressure (Inlet)	4500 psig (31 MPa)	
	Burst pressure	9000 psig (62 MPa)	

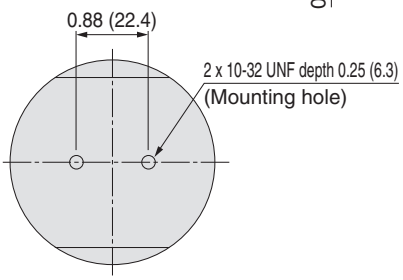
Dimensions

inch (mm)

AZ1200



Connections	A inch	A (mm)
FV4	4.30	(109.2)
MV4		
FV6	5.22	(132.6)
MV6		
TW6	4.00	(101.6)
FV8	5.22	(132.6)
MV8		
TW8	4.34	(110.2)



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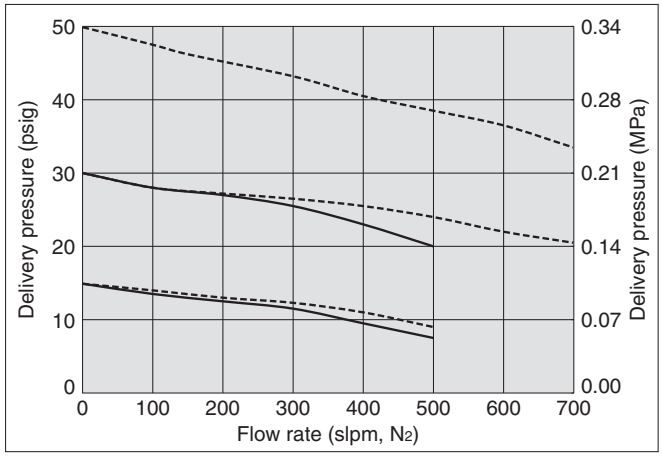
Wetted Parts Material

Wetted Parts	S	SH
Body	316L SS	
Surface finish	Electropolish + Passivation	
Poppet	316L SS	Hastelloy® C-22
Diaphragm	Hastelloy® C-22	
Nozzle	316L SS	
Seat	PCTFE (Option: Vespel®)	PCTFE

Flow Characteristics

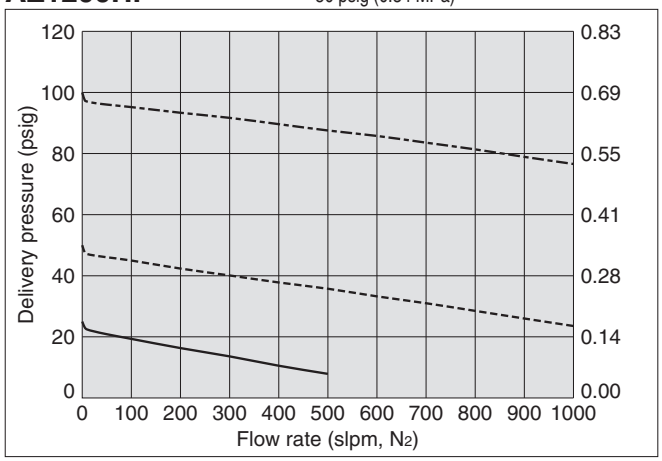
AZ1200

Inlet pressure: ---- 80 psig (0.55 MPa) —— 60 psig (0.41 MPa)
1/2 inch connections *)



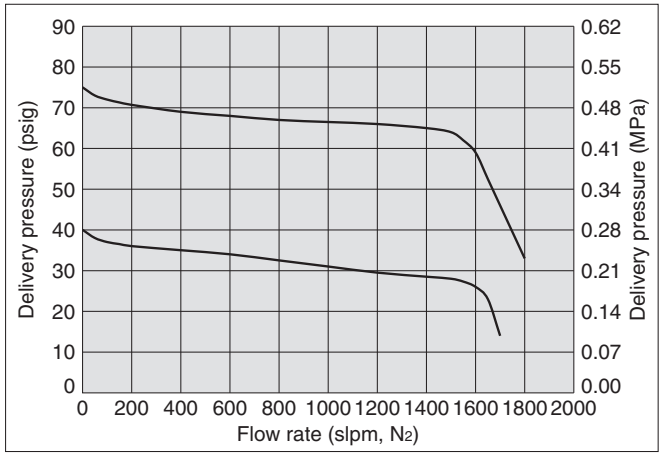
AZ1200HF

Inlet pressure: --- 150 psig (1.0 MPa) ---- 100 psig (0.69 MPa)
—— 50 psig (0.34 MPa)



AZ1200FC

Inlet pressure: 150 psig (1.0 MPa)
3/4 inch connections *)



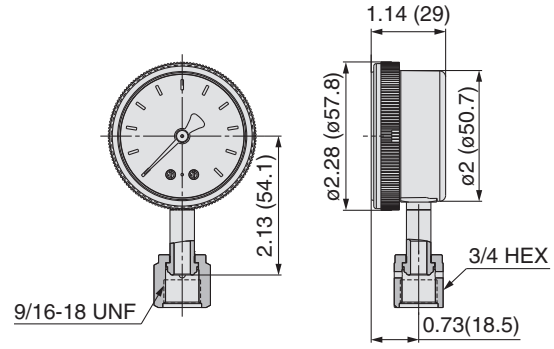
*) If connection size differs, flow characteristics also differ.

Regulator
Pressure Gauges Guide

For AP/SL/AZ series (Installed before shipment *1) / Order separately)

Specifications

Installation		Lower mount
Gas		Select compatible materials of construction for the gas
Connections		1/4 inch face seal (Female)
Temperature range		–40 to 140°F (–40 to 60°C) (No freezing)
Accuracy		25% to 75% of the scale: ±1%F.S. Other than above: ±2%F.S. (ASME B40.1 Grade A)
Cleanliness		ASME B40.1 level IV
No oil		No oil
Material	**Case**	Stainless steel
	Window	Polycarbonate
	Socket	316L SS
	Bourdon tube	316L SS



inch (mm)

Model

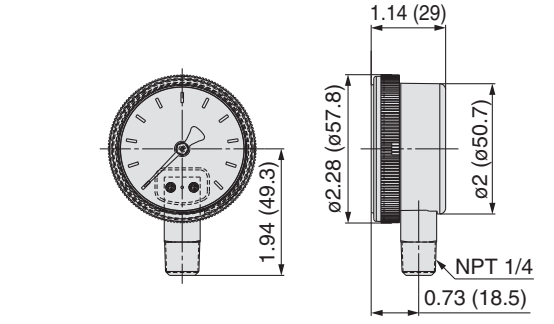
Regulator Code *2) gauge port	Regulator Code *2) unit	Pressurerange	Unit	Part number *3)
V3	**(No code)**	-30 in.Hg to 30 psig	psig/bar *4)	**00-83000023**
L		-30 in.Hg to 60 psig		**00-83000026**
1		-30 in.Hg to 100 psig		**00-83000021**
H		-30 in.Hg to 160 psig		**00-83000116**
2		0 to 200 psig		**00-83000020**
4		0 to 400 psig		**00-83000007**
10		0 to 1000 psig		**00-83000022**
40		0 to 4000 psig		**00-83000024**
V3	**MPA**	-0.1 to 0.2 MPa	MPa	**00-83000304**
L		-0.1 to 0.4 MPa		**00-83000305**
1		-0.1 to 0.7 MPa		**00-83000300**
H		-0.1 to 1.1 MPa		**00-83000297**
2		0 to 1.4 MPa		**00-83000299**
4		0 to 3 MPa		**00-83000301**
10		0 to 7 MPa		**00-83000302**
40		0 to 28 MPa		**00-83000303**

For AK/BP series (Installed before shipment / Order separately)

Stainless steel / Lower mount

Specifications

Installation		Lower mount
Gas		Select compatible materials of construction for the gas
Connections		NPT 1/4 inch
Temperature range		–40 to 140°F (–40 to 60°C) (No freezing)
Accuracy		25% to 75% of the scale: ±2%F.S. Other than above: ±3%F.S. (ASME B40.1 Grade B or better)
Cleanliness		ASME B40.1 level IV
No oil		No oil
Material	**Case**	Stainless steel
	Window	Polycarbonate
	Socket	316L SS
	Bourdon tube	316L SS



inch (mm)

Model

Regulator Code *2) material	Regulator Code *2) gauge port	Regulator Code *2) unit	Pressure range	Unit	Part number *3)
S **SH**	**V15**	**(No code)**	-30 in.Hg to 15 psig	psig/bar *4)	**00-83000102**
	V3		-30 in.Hg to 30 psig		**00-83000184**
	L		-30 in.Hg to 60 psig		**00-83000181**
	1		-30 in.Hg to 100 psig		**00-83000182**
	H		-30 in.Hg to 160 psig		**00-83000196**
	V2		-30 in.Hg to 200 psig		**00-83000033**
	2		0 to 200 psig		**00-83000193**
	4		0 to 400 psig		**00-83000194**
	10		0 to 1000 psig		**00-83000187**
	30		0 to 3000 psig		**00-83000234**
	40		0 to 4000 psig		**00-83000183**
	V15	**MPA**	-0.1 to 0.1 MPa	MPa	**00-83000287**
	V3		-0.1 to 0.2 MPa		**00-83000288**
	L		-0.1 to 0.4 MPa		**00-83000289**
	1		-0.1 to 0.7 MPa		**00-83000290**
	H		-0.1 to 1.1 MPa		**00-83000291**
	V2		-0.1 to 1.4 MPa		**00-83000292**
	2		0 to 1.5 MPa		**00-83000286**
	4		0 to 3 MPa		**00-83000285**
	10		0 to 7 MPa		**00-83000284**
	30		0 to 21 MPa		**00-83000283**
	40		0 to 28 MPa		**00-83000282**

*1) If one prefers shipment with the pressure gauges installed on the regulator, the material of gasket to be used on the connections will be Nickel (no plated). Please contact SMC for details if one prefers changing this material.
*2) When pressure gauge needs to be assembled with regulator when shipment, put this code as gauge port in How to Order.

Process Gas Equipment / Regulator Specific Product Precautions

Be sure to read before handling. Refer to back cover for Safety Instructions and P. 145 and 146 and the "Operation Manual" for common precautions. Operation manual is available from the SMC web site. http://www.smcworld.com

Selection

⚠ Warning

1. Confirm the specifications.

When selecting the product, confirm the operating conditions, such as type of gas, operating pressure (inlet and outlet), flow rate, operating temperature etc., and use within the operating range specified in the catalog. The product may not be suitable for use with specific gases and applications/ environments. Check the compatibility of the product materials with the process gas.

Design the equipment and select the product by understanding the characteristics of gas.

2. Confirm allowable pressure of any pressure gauges.

When installing a pressure gauge to the product, operating pressure should not exceed the maximum allowable pressure of the pressure gauge.

Mounting

⚠ Warning

1. Confirm the mounting direction of the product.

The high pressure (inlet) port is labeled with an "HP" mark and the low pressure (outlet) port is labeled with an "LP" mark. In the case of two stage regulator, the monitor port of first stage outlet pressure is labeled with "MP" mark.

Make sure to connect the port labeled with "HP" mark, to the high pressure. If any of the ports, other than "HP", are connected to the high pressure, it may cause damage or gas leakage.

2. After installation, check internal leakage (leakage across seat) of the product.

Check internal leakage (leakage across seat) with inert gases such as nitrogen, etc., and select the most appropriate test method depending on the application. The following procedures are an example of how a test may be performed. It is intended as an overview and not as an all inclusive description.

1) Rotate the adjustment wheel counterclockwise (DECR) completely to relieve spring force. Then gradually open the valve at inlet side to supply gas to the regulator.
2) Close the valves on the inlet and outlet side and hold for at least 10 minutes. Then confirm the outlet pressure.
3) Rotate the adjustment wheel clockwise (INCR) until the outlet pressure reaches the outlet pressure setting. Then hold for at least 10 minutes and confirm the outlet pressure.

If outlet pressure continues increasing in steps 2) and 3) above, the regulator may have internal leakage (leakage across seat) and you should stop using the regulator immediately and contact SMC or sales representative.

3. Purge hazardous gases from system before removing regulator from system.

Before removing regulators from system, fully open regulator by turning adjustment wheel clockwise (INCR), and follow proper procedures to flush system with inert gas such as nitrogen to remove any residual hazardous gases.

Maintenance

⚠ Warning

1. If a regulator requires repair, contact SMC.

Operation

⚠ Warning

1. Do not use the regulator as shutoff valve or safety valve.

2. Do not rotate the adjustment wheel counterclockwise (DECR) under no flow conditions.

If the adjustment wheel is rotated counterclockwise (DECR) under no flow conditions but there is residual pressure remaining in outlet side, it may cause damage to the regulator. Decreasing of the setting pressure should be done under flow conditions.

3. Do not pressurize the regulator from outlet side. If high pressure, which exceeds the setting pressure, is supplied from outlet side, it may cause damage to the regulator.

4. Supply gas to the regulator.

Rotate the adjustment wheel counterclockwise (DECR) completely to relieve spring force. Then, gradually open the valve at inlet side to supply gas to the regulator. When operating the valve, do not stand in front of the regulator and pressure gauge. If the valve at inlet side is opened rapidly, high pressure gas might be supplied into outlet side of the regulator and it may cause severe damage or burst the device.

5. Adjust pressure.

When rotating the adjustment wheel clockwise (INCR), outlet pressure will increase.

In order to adjust precisely, the wheel should be adjusted at the desired flow conditions.

6. Decreasing the setting pressure under flow conditions.

When decreasing the setting pressure, make sure to open the valve at outlet side to keep flow conditions. When rotating the adjustment wheel counterclockwise (DECR) under flow conditions, setting pressure will decrease.

7. Stop using the regulator immediately if resonance occurs.

Loud audible noise as well as vibration of device or fluctuation of outlet pressure (resonance) may occur depending on operating conditions etc. If this situation occurs, stop using the regulator immediately and contact SMC or sales representative.

Process Gas Equipment / Back Pressure Regulator Specific Product Precautions

Be sure to read before handling. Refer to back cover for Safety Instructions and P. 145 and 146 and the "Operation Manual" for common precautions. Operation manual is available from the SMC web site. http://www.smcworld.com

Selection

⚠ Warning

1. Confirm the specifications.

When selecting the product, confirm the operating conditions, such as type of gas, operating pressure (inlet and outlet), flow rate, operating temperature etc., and use within the operating range specified in the catalog. Verify flow capacity of regulator and vent or return line, are large enough to vent off gas source without creating excessive backpressure. The product may not be suitable for use with specific gases and applications/environments. Check the compatibility of the product materials with the process gas.
Design the equipment and select the product by understanding the characteristics of gas.

2. Confirm allowable pressure of any pressure gauges.

When installing pressure gauges to the product, operating pressure should not exceed the maximum allowable pressure of the pressure gauge.

Mounting

⚠ Warning

1. Confirm the mounting direction of the product.

The high pressure (inlet) port is labeled with an "IN" mark and the low pressure (outlet) port is labeled with an "OUT" mark. Make sure to connect the port labeled with "IN" mark, to the high pressure. If any of the ports, other than "IN", is connected to the high pressure, it may cause damage or gas leakage.

Maintenance

⚠ Warning

1. If a back pressure regulator requires repair, contact SMC.

Operation

⚠ Warning

1. Do not use the back pressure regulator as shutoff valve or safety valve.

2. Pressure control

1) Rotate the adjustment wheel counterclockwise completely to relieve spring force.
2) Partially open the valve at inlet side to supply gas to the back pressure regulator.
3) Increase the inlet pressure to the setting pressure by rotating the adjustment wheel clockwise.
4) Continue opening the valve at inlet side monitoring the inlet pressure. When the inlet pressure increases above the setting pressure, rotate the adjustment wheel counterclockwise to relieve the inlet pressure to the setting pressure.
5) Open the valve at inlet side completely and confirm that the inlet pressure reaches the setting pressure.

3. Decreasing the setting pressure.

When decreasing the setting pressure, make sure to gradually rotate the adjustment wheel counterclockwise until the inlet pressure reaches the setting pressure.

4. Stop using the regulator immediately if resonance occurs.

Loud audible noise as well as vibration of device or fluctuation of outlet pressure (resonance) may occur depending on operating conditions, etc. If this situation occurs, stop using the regulator immediately and contact SMC or sales representative.