



SERIES AP 9000 & AP 9100

BULK GAS REGULATORS

Ultraclean — Ultra High Flow

- Designed for house and specialty bulk gas delivery
- “Tied diaphragm” design with bellows sensing element
- Metal seal to atmosphere
- 316L stainless steel construction
- Source and line application
- Flow rates up to 5,000 slpm (175 scfm) of Nitrogen
- Hastelloy® C-22® internals standard
- AP 9000 vacuum to 1,700 psig (117 bar)
AP 9100 vacuum to 800 psig (55 bar)

Operating Parameters

| | | |
|-------------------|---------|---|
| Source pressure | AP 9000 | vacuum to 1700 psig (117 bar) |
| | AP 9100 | vacuum to 800 psig (55 bar) |
| | AP 9115 | vacuum to 250 psig (17.2 bar) |
| Delivery pressure | AP 9010 | 5 to 100 psig (0.34 to 6.9 bar) |
| | AP 9110 | 5 to 100 psig (0.34 to 6.9 bar) |
| | AP 9115 | 5 to 150 psig (0.34 to 10.3 bar) |
| | AP 9030 | Preset to 300 psig (20.7 bar) nominal at 800 psig (55 bar) inlet* |
| Proof pressure | AP 9000 | 2,550 psig (176 bar) |
| | AP 9100 | 2,550 psig (176 bar) |
| Burst pressure | AP 9000 | 6,800 psig (469 bar) |
| | AP 9100 | 6,800 psig (469 bar) |

*For other custom settings, consult the factory.

Other Parameters

| | |
|------------------------------|--|
| Inlet/outlet port connectors | 1/2, 3/4 or 1 inch face seal or tube weld |
| Bonnet port | 1/8 inch NPT |
| Flow coefficient (Cv) | AP 9000 3.0 |
| | AP 9100 4.0 |
| Internal volume | 12 in ³ (197 cm ³) |
| Operating temperature | -40° to +160°F (-40° to +71°C) |
| Surface finish | 15 µin Ra max / 10 µin. Ra avg. (0.4/0.25 µm) standard; 10 µin (0.25 µm); 7 µin (0.18 µm); and 5 µin (0.13 µm) Ra max optional |
| Inboard leakage | 2 x 10 ⁻¹⁰ sccs He |
| Outboard leakage | 2 x 10 ⁻⁹ sccs He at 300 psig inlet pressure |
| Leakage across the seat | 4 x 10 ⁻⁸ sccs He at 300 psig inlet pressure |
| Delivery pressure rise | AP 9000 3.7 psig per 100 psig source pressure drop |
| | AP 9100 5.4 psig per 100 psig source pressure drop |

Materials

| Series AP 9000 & AP 9100 | |
|--------------------------|--------------------------------|
| Wetted Parts | |
| Body, nozzle | Stainless Steel 316L |
| Seat | PCTFE (Vespel® optional) |
| Bellows, poppet | Hastelloy C-22 |
| Bonnet seal | Nickel 200, Silver Plated |
| Poppet spring | Elgiloy® |
| Finish | electropolished and passivated |

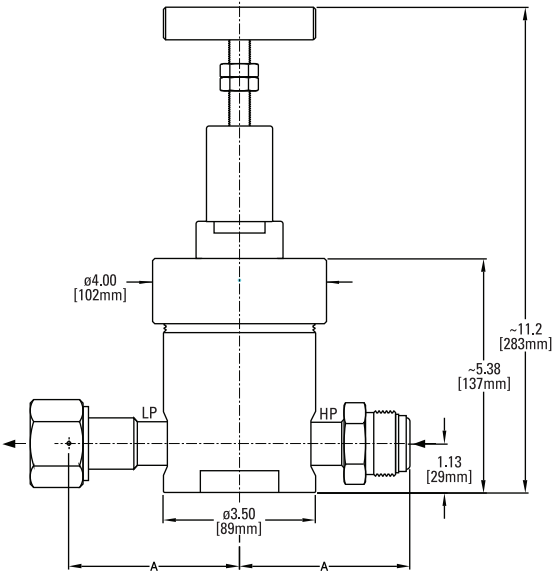
All specifications subject to change without notice.

Hastelloy® C-22® Haynes Corporation Vespel® DuPont Elgiloy® Elgiloy Corporation

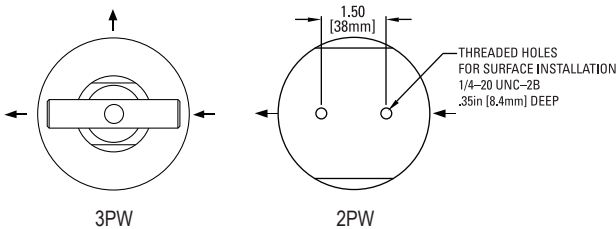
ENGINEERING DATA — SERIES AP 9000 & AP 9100 BULK GAS REGULATOR

SERVICE AND SUPPORT BEYOND COMPARE

DIMENSIONAL INFORMATION

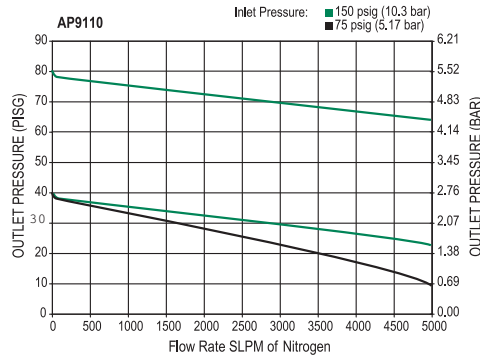
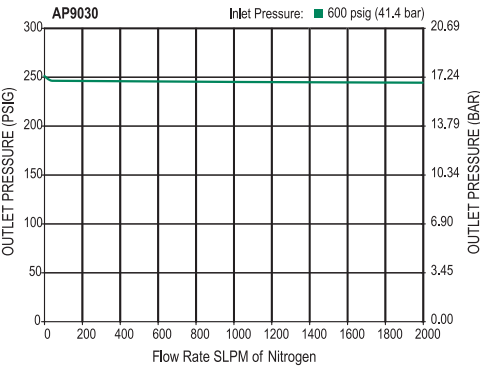
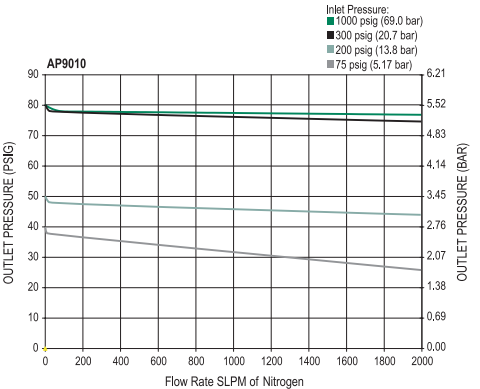


| CONNECTION | A | |
|-----------------|-------------|-------|
| | in [± .02] | mm |
| FV8, MV8 | 3.11 | 79 |
| FV12, MV12 | 3.64 | 92.5 |
| FV16, MV16 | 3.92 | 99.6 |
| TW8, TW12, TW16 | 4.75 | 120.7 |



All dimensions in inches (mm). Metric dimensions are for reference only.

PORTING CONFIGURATIONS



ORDERING INFORMATION

Sample Order Number

AP 9110SM 2PW TW16 TW16

AP 9110 | Series

AP 9010 = 5 – 100 psig (0.34 – 6.9 bar)
AP 9110 = 5 – 100 psig (0.34 – 6.9 bar)
AP 9115 = 5 – 150 psig (0.34 – 10.3 bar)
AP 9030 = Fixed preset outlet pressure

SM | Material

S = Stainless steel / 15 Ra max
SM = Stainless steel / 10 Ra max

2PW | Ports

2PW = 2 ports
3PW = 3 ports

TW16 TW16 | Connections
Inlet / Outlet

FV8 = 1/2 inch face seal female
MV8 = 1/2 inch face seal male
TW8 = 1/2 inch tube weld
FV12 = 3/4 inch face seal female
MV12 = 3/4 inch face seal male
TW12 = 3/4 inch tube weld
FV16 = 1 inch face seal female
MV16 = 1 inch face seal male
TW16 = 1 inch tube weld

Delivery
Gauge*

0 = no gauge
1 = 30-0-100 psig/bar
H = 30-0-160 psig/bar

Options

VS = Vespel seat