

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

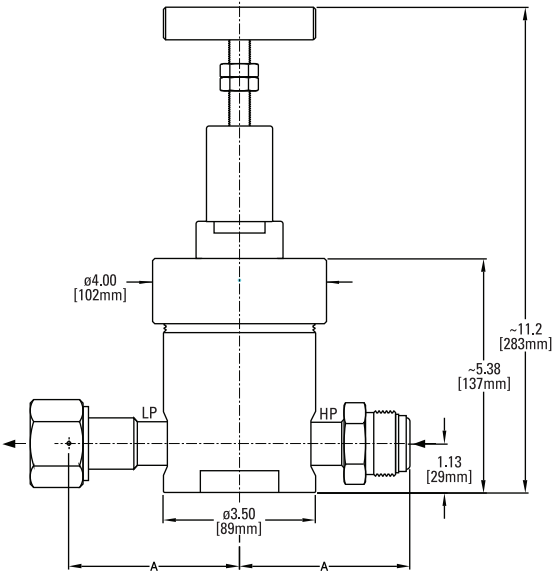
All specifications subject to change without notice.

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

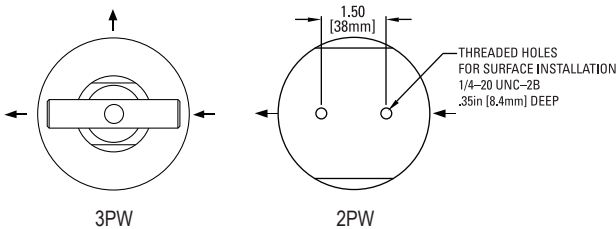
ENGINEERING DATA — SERIES AP 9000 & AP 9100 BULK GAS REGULATOR

SERVICE AND SUPPORT BEYOND COMPARE

DIMENSIONAL INFORMATION

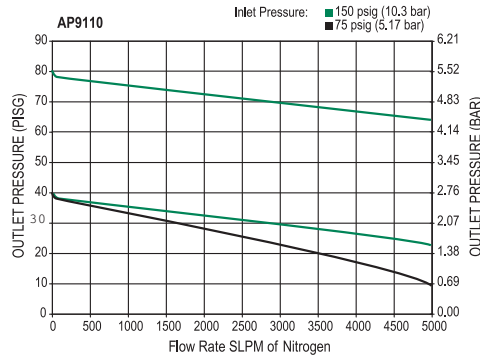
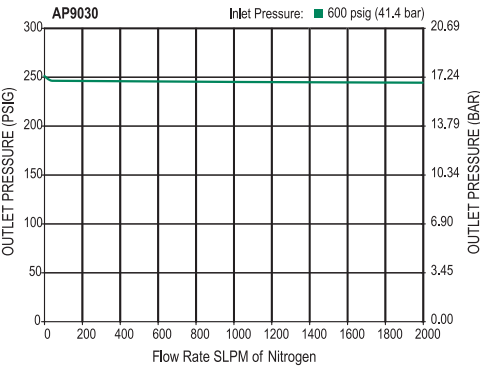
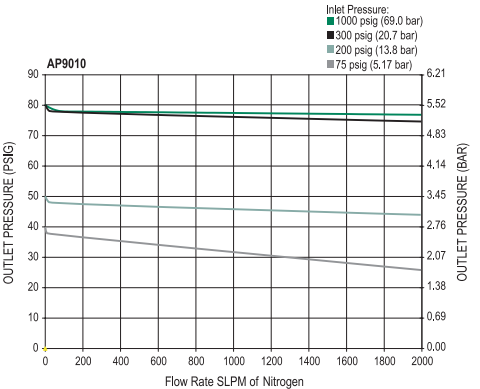


CONNECTION	A	
	in [± .02]	mm
FV8, MV8	3.11	79
FV12, MV12	3.64	92.5
FV16, MV16	3.92	99.6
TW8, TW12, TW16	4.75	120.7



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

*Standard gauge port is 1/4 inch
face seal male