APTech
ADVANCED PRESSURE TECHNOLOGY

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
- Ni-Cr-Mo alloy internals standard
- AP 9000 vacuum to 1,700 psig (117 bar) AP 9100 vacuum to 800 psig (55 bar)
- Installation and operating instructions available at www.aptech-online.com in the Tech Briefs section

Operating Parameters

Source pressure	AP 9000	vacuum to 1700 psig (117 bar)*
	AP 9100	vacuum to 800 psig (55 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); 150 psig (10.3 bar) delivery pressure only achieved at 250 psig (17.2 bar) inlet pressure or less
	AP 9030	Preset to 300 psig (20.7 bar) nominal at 800 psig (55 bar) inlet**
Proof pressure	AP 9000 & 9100	150% of operating pressures
Burst pressure	AP 9000 & 9100	300% of operating pressures

*For 3,000 psig (207 bar) source rating refer to AP 9000 VS HR data sheet.
**For other custom pressure settings, consult the factory.
***Maximum delivery pressure not achievable at all inlet pressures.

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
	(Cv) 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
Leakage across the seat		4 x 10^{-8} sccs He
Supply pressure effect		
	AP 9000	3.7 psig per 100 psig source pressure change
	AP 9100	5.4 psig per 100 psig source pressure change

‡VS option 14° to 194°F (-10° to + 90°C).

Materials

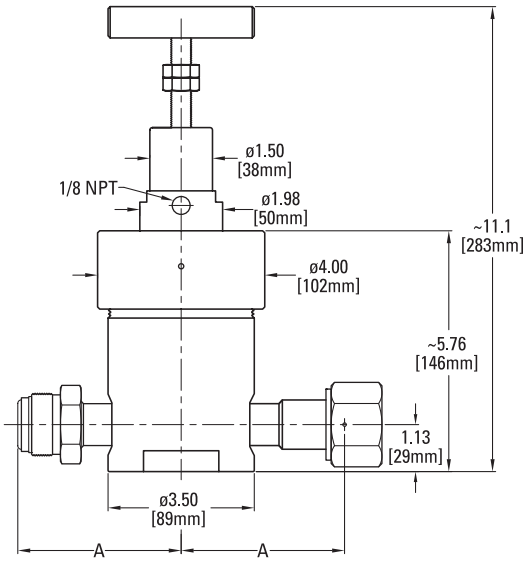
Wetted Parts	Series AP 9000 & AP 9100
Body, nozzle	Stainless Steel 316L
Seat	PCTFE (Polyimide optional)
Bellows, poppet	Ni-Cr-Mo alloy / UNS N06022
Bonnet seal	Stainless Steel 316
Poppet spring	Ni-Co alloy / UNS R30003
Finish	electropolished and passivated

All specifications subject to change without notice.

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

SERVICE AND SUPPORT BEYOND COMPARE

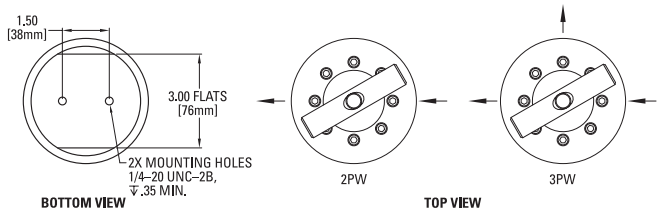
DIMENSIONAL INFORMATION

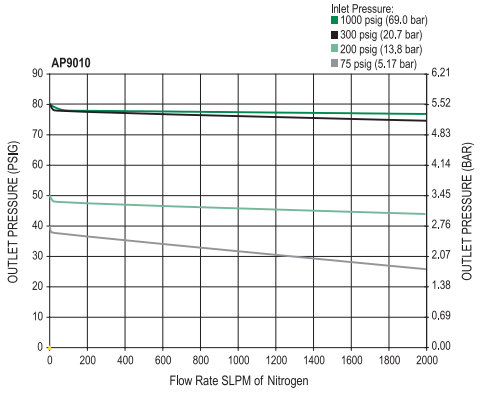


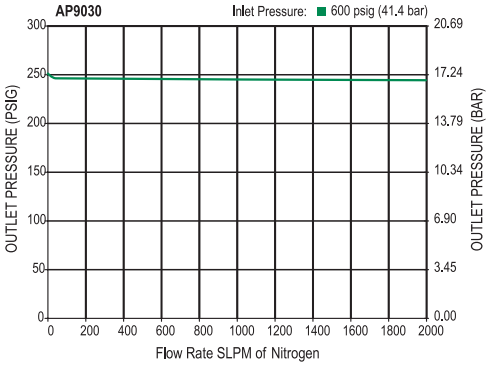
CONNECTION	A	
	in [± .02]	mm
FV8, MV8	3.11	79
FV12, MV12	3.64	92.5
FV16, MV16	3.92	99.6
TW8, TW12, TW16	4.75	120.7

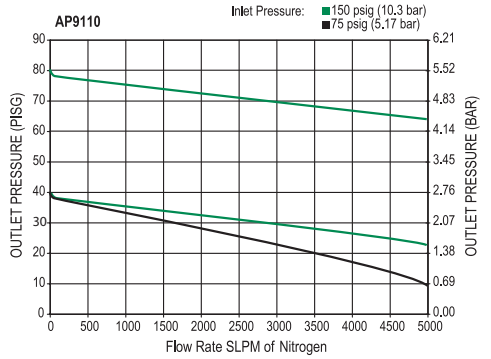
All dimensions are in inches. Metric dimensions (mm) are for reference only.

PORTING CONFIGURATIONS









CAUTION: Product selection is the sole responsibility of the user, regardless of any recommendations or suggestions made by the factory. The user shall make selections based upon their own analysis and testing with regard to function, material compatibility and product ratings. Proper installation, operation and maintenance are also required to assure safe, trouble free performance.

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

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

| Options

VS = Polyimide seat

AP Tech has product options and variations which are not documented in data sheets. If you have a model number that is not defined by the ordering information, please consult the factory or your local representative.