

SERIES AP 9000 VS HR

BULK GAS REGULATOR
High Flow — High Inlet Rating



- Designed for specialty bulk gas delivery
- AP 9000 VS HR vacuum to 3,000 psig (207 bar)
- “Tied diaphragm” design with bellows sensing element
- Metal seal to atmosphere
- 316L stainless steel construction
- Pneumatic Actuation (PA) option
- Flow rates up to 4,000 slpm (140 scfm) of Nitrogen
- Ni-Cr-Mo alloy internals standard
- Installation and operating instructions available at www.aptech-online.com in the Tech Briefs section

Operating Parameters

Source pressure	AP 9000 VS HR	vacuum to 3,000 psig (207 bar)
Delivery pressure	AP 9010 AP 9030 AP 90PA	5 to 100 psig (0.34 to 7 bar) Preset to 300 psig (21 bar) nominal at 800 psig (55 bar) inlet* 7 to 100 psig (0.5 to 7 bar)
Proof pressure	AP 9000	150% of operating pressures
Burst pressure	AP 9000	300% of operating pressures

*For other custom pressure settings, consult the factory.

Other Parameters

Inlet/outlet port connectors	1/2 and 3/4 inch face seal or tube weld
Bonnet port	1/8 inch NPT
Flow coefficient (Cv)	3.0
Internal volume	12 in ³ (197 cm ³)
Operating temperature	-20° to +212°F (-29° to +100°C)
Surface finish	15 µin Ra max / 10 µin. Ra avg. (0.4/0.25 µm) standard; 10 µin (0.25 µm) Ra max optional Optional surface finishes meet or exceed 5 µin Ra average
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	3.7 psig per 100 psig source pressure change**

**Refer to PN426 regarding supply pressure effect.

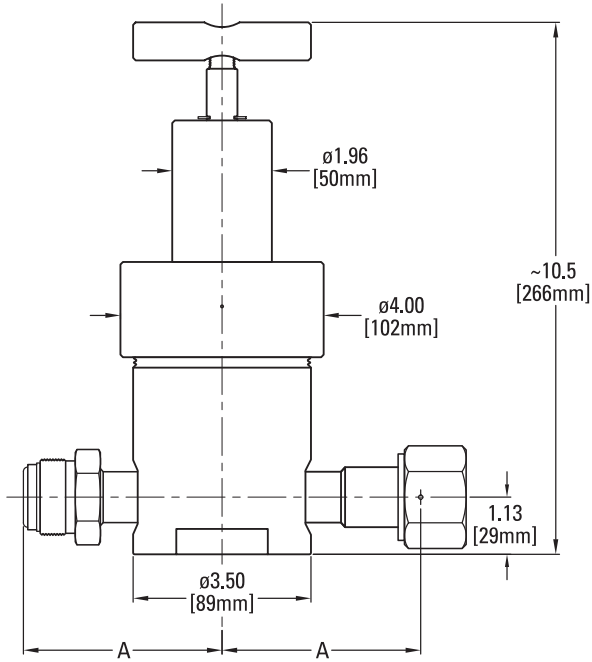
Materials

Wetted Parts	Series AP 9000 VS HR
Body, nozzle	Stainless Steel 316L
Seat	Polyimide (Polyimide required to achieve pressure rating)
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.

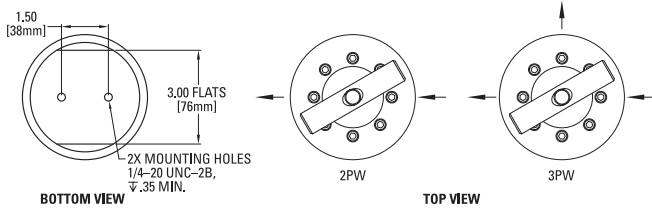
SERVICE AND SUPPORT BEYOND COMPARE

DIMENSIONAL INFORMATION



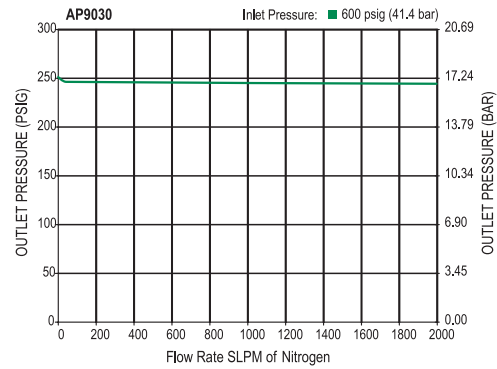
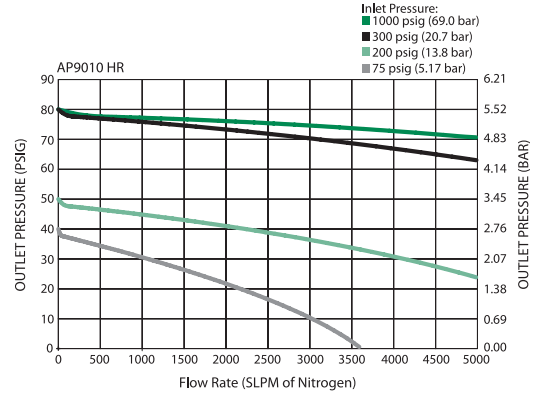
Please refer to AP 90PA and AP 91PA data sheet for dimensions of PA option

PORTING CONFIGURATIONS



CONNECTION	A	
	in [$\pm .02$]	mm
FV8, MV8	3.11	79
FV12, MV12	3.64	92.5
TW8, TW12	4.75	120.7

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



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 9010SM 2PW MV8 MV8 VS HR	
AP 9000 Series	AP 9010 = 5 – 100 psig (0.34 – 6.9 bar) AP 9030 = Fixed preset outlet pressure AP 90PA = Pneumatic actuation	MV8 MV8 Connections Inlet / Outlet
SM Material	S = Stainless steel / 15 Ra max SM = Stainless steel / 10 Ra max	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
2PW Ports	2PW = 2 ports 3PW = 3 ports	*Caution: Verify mating fittings are of proper pressure rating for application.
	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.	Delivery Gauge** 0 = no gauge 1 = 30-0-100 psig/bar H = 30-0-160 psig/bar 2 = 0-200 psig/bar
		**Standard gauge port is 1/4 inch face seal male.
		VS*** = Polyimide seat HR*** = High inlet rating
		***Both VS and HR suffixes are required and must be specified.