



# 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](http://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 maximum rating
Burst pressure	AP 9000	400% of maximum rating

\*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) AP 9000	3.0
Internal volume	12 in <sup>3</sup> (197 cm <sup>3</sup> )
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
Inboard leakage	2 x 10 <sup>-10</sup> sccs He
Outboard leakage	2 x 10 <sup>-9</sup> sccs He
Leakage across the seat	4 x 10 <sup>-8</sup> sccs He
Supply pressure effect	
	AP 9000 3.7 psig per 100 psig source pressure change**

\*\*Refer to PN426 regarding supply pressure effect.

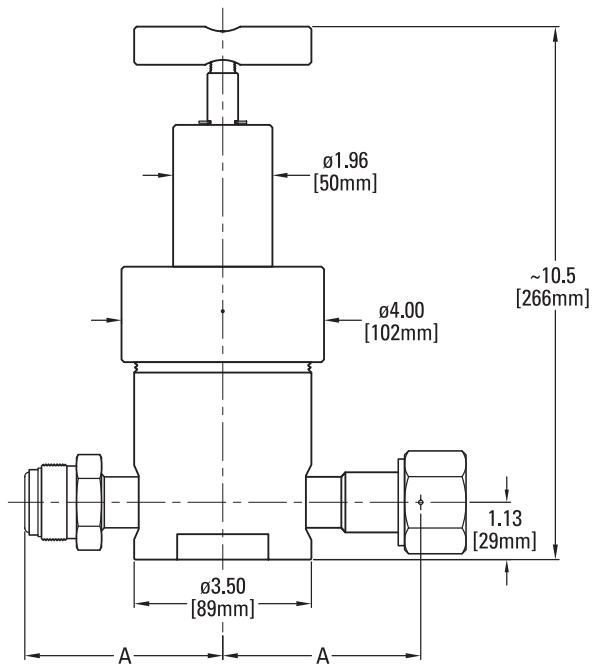
## Materials

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 ally / UNS R30003
Finish	electropolished and passivated

All specifications subject to change without notice.

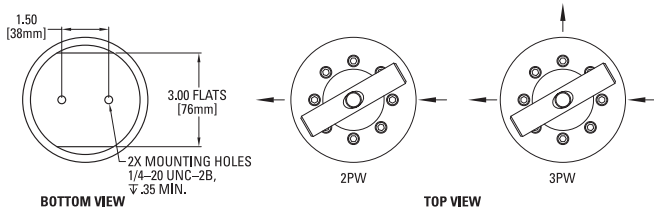
# SERVICE AND SUPPORT BEYOND COMPARE

## DIMENSIONAL INFORMATION



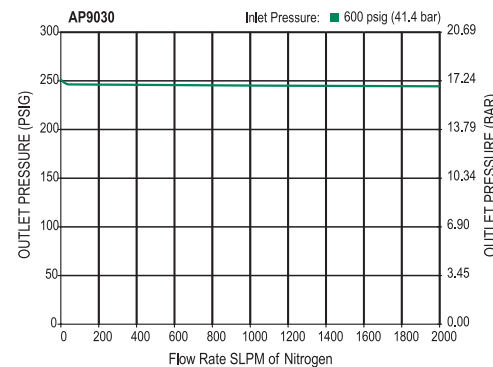
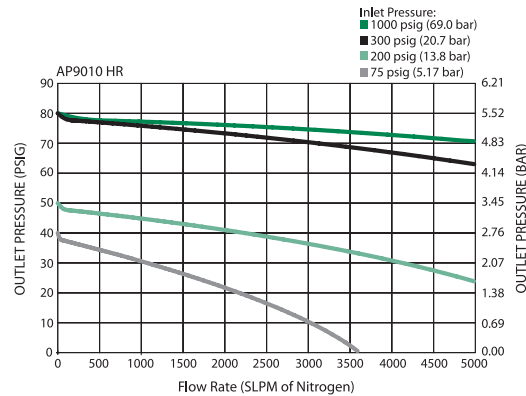
Please refer to AP 90PA and AP 91PA data sheet for dimensions of PA option

## PORTING CONFIGURATIONS



CONNECTION	A	
	in [± .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	
<b>AP 9000   Series</b>	AP 9010 = 5 – 100 psig (0.34 – 6.9 bar)	<b>MV8 MV8   Connections</b>
	AP 9030 = Fixed preset outlet pressure	<b>Inlet / Outlet</b>
	AP 90PA = Pneumatic actuation	FV8 = 1/2 inch face seal female
<b>SM   Material</b>	S = Stainless steel / 15 Ra max	MV8 = 1/2 inch face seal male
	SM = Stainless steel / 10 Ra max	TW8 = 1/2 inch tube weld
<b>2PW   Ports</b>	2PW = 2 ports	FV12* = 3/4 inch face seal female
	3PW = 3 ports	MV12* = 3/4 inch face seal male
		TW12 = 3/4 inch tube weld
		<small>*Caution: Verify mating fittings are of proper pressure rating for application.</small>
		<b>Delivery Gauge**</b>
		0 = no gauge
		1 = 30-0-100 psig/bar
		H = 30-0-160 psig/bar
		2 = 0-200 psig/bar
		<small>**Standard gauge port is 1/4 inch face seal male.</small>
		<b>VS HR   Required Options</b>
		VS*** = Polyimide seat
		HR*** = High inlet rating
		<small>***Both VS and HR suffixes are required and must be specified.</small>