

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 | 5 to 100 psig (0.34 to 7 bar) |
| | AP 9030 | Preset to 300 psig (21 bar) nominal at 800 psig (55 bar) inlet* |
| | AP 90PA | 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.

***A pressure regulator Cv is a nominal value which indicates the point of choked flow. Please refer to a flow curve or a recommendation guide for usable flow range.

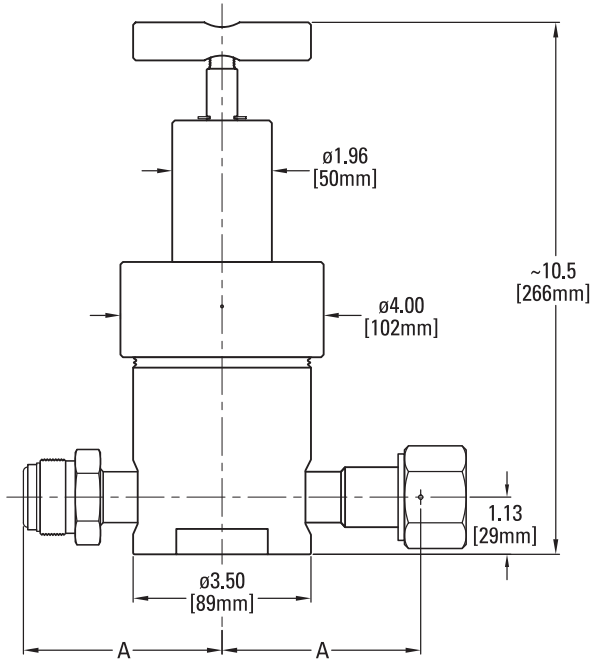
Materials

| 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.

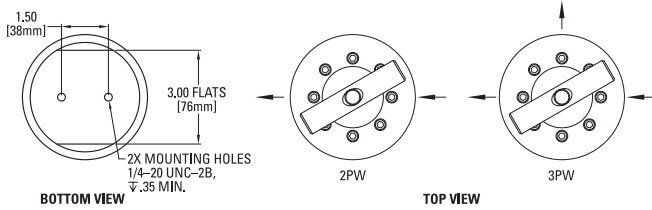
SERVICE AND SUPPORT BEYOND COMPARE

DIMENSIONAL INFORMATION



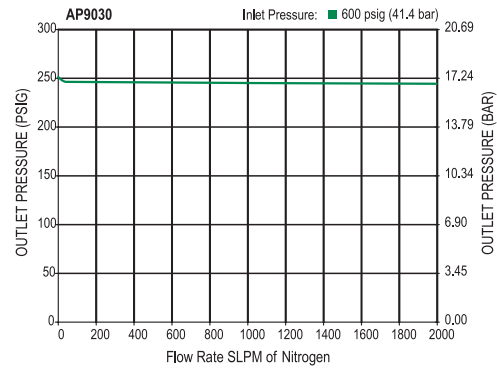
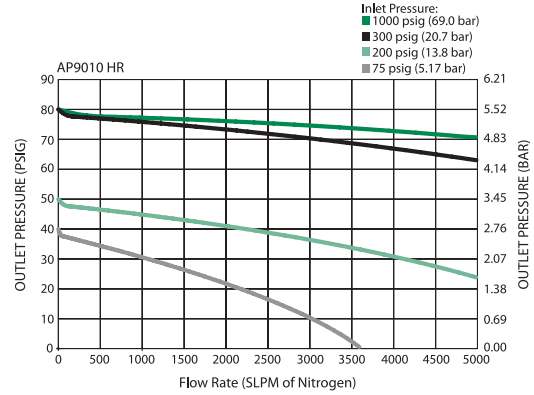
Please refer to AP 90PA and AP 91PA data sheet for dimensions of PA option

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 | Delivery Gauge** |
| | 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. | 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. |