



# SERIES AP 10PA

## PNEUMATICALLY ACTUATED PRESSURE REGULATOR

Low Flow — High Pressure

- Actuation control pressure isolated from process gas by two seals
- Single stage
- SS 316L VAR secondary remelt or super alloy construction
- Cleaned, assembled and packaged for high purity semiconductor applications
- Surface finish  
15 Ra max/10 Ra avg  
(10, 7 & 5 Ra max options)
- Vacuum to 3,500 psig (241 bar) inlet
- 100 psig outlet achieved with 80 psig control pressure or less
- Actuator 'fail safe' normally closed (NC)
- Installation and operating instructions available at [www.aptech-online.com](http://www.aptech-online.com)

### Operating Parameters

|                   |         |                                |
|-------------------|---------|--------------------------------|
| Source pressure   |         | vacuum to 3,500 psig (241 bar) |
| Delivery pressure | AP 10PA | 7 to 150 psig (0.5 to 10 bar)  |
| Proof pressure    |         | 150% of operating pressures    |
| Burst pressure    |         | 300% of operating pressures    |
| Control pressure  |         | 150 psig (10 bar) maximum      |

### Other Parameters

|                          |   |
|--------------------------|---|
| Inlet/outlet connectors  | 1/4 or 3/8 inch face seal or tube weld  |
| Control pressure port    | 1/8 inch NPT  |
| Bonnet vent port         | 1/8 inch NPT  |
| Flow coefficient (Cv)*** | 0.09 (0.15 HF option)   |
| Internal volume          | 0.49 in <sup>3</sup> (8 cm <sup>3</sup> )   |
| Operating temperature    | -40° to +160°F (-40° to +71°C)*   |
| Surface finish           | 15 µin Ra max / 10 µin. Ra avg.<br>(0.4/0.25 µm) standard; 10 µin (0.25 µm);<br>7 µin (0.18 µm); and 5 µin (0.13 µm) Ra max optional<br>Optional surface finishes meet or exceed 5 µin Ra average |
| Inboard leakage          | 2 x 10 <sup>-10</sup> sccs  |
| Outboard leakage         | 2 x 10 <sup>-9</sup> sccs He at 1,500 psig inlet pressure   |
| Leakage across seat      | 4 x 10 <sup>-8</sup> sccs He at 1,000 psig inlet pressure   |
| Installation             | surface   |
| Supply pressure effect   | 0.25 psig per 100 psig source pressure change   |
| HF                       | 0.75 psig per 100 psig source pressure change   |

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

\*\*\*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.

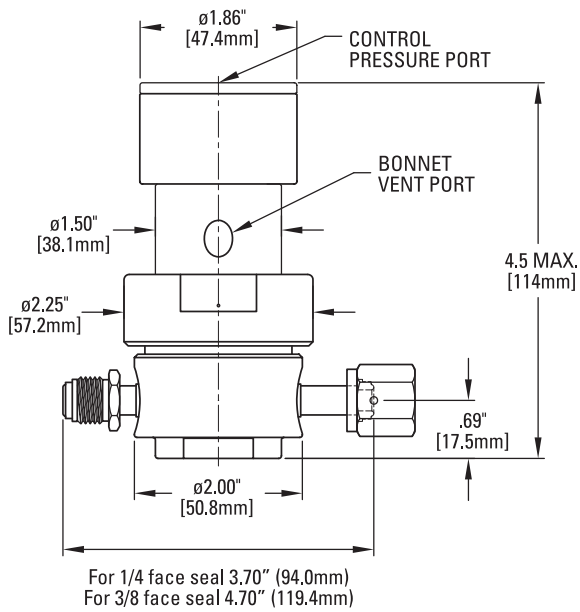
### Materials

| Type of Service           | Series AP 10PA S<br>Noncorrosive | Series AP 10PA SH<br>Corrosive (SHP option)** | Series AP 10PA H<br>Corrosive |
|---------------------------|----------------------------------|---|-------------------------------|
| Wetted Parts              |                                  |   |                               |
| Body                      | SS 316L secondary remelt         | SS 316L secondary remelt                      | Ni-Cr-Mo alloy / UNS N06022   |
| Poppet, nozzle, diaphragm | SS 316L                          | Ni-Cr-Mo alloy / UNS N06022                   | Ni-Cr-Mo alloy / UNS N06022   |
| Finish                    | electropolished and passivated   | electropolished and passivated                | electropolished               |
| Seat                      | PCTFE (Polyimide optional)       | PCTFE   | PCTFE                         |

\*\*SHP option Ni-Cr-Mo alloy poppet and diaphragm only.  
All specifications subject to change without notice.

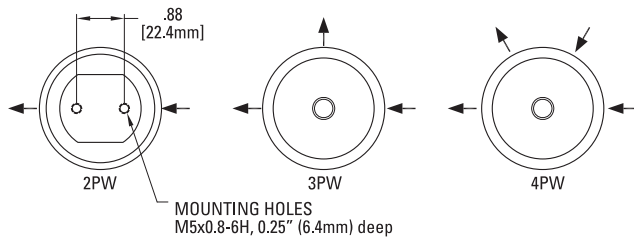
# ULTRACLEAN TECHNOLOGY BACKED BY SERVICE AND SUPPORT

## DIMENSIONAL INFORMATION



All dimensions in inches (mm). Metric dimensions 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 10PASM 4PW FV4 FV4 40 1**

**AP 10PA | Series** AP 10PA = 7-150 psig (.5 to 10 bar)

**S | Material**

- S = Stainless steel (SS)
- SH = SS/Ni-Cr-Mo alloy internals
- SHP = SS/Ni-Cr-Mo alloy poppet diaphragm
- H = Ni-Cr-Mo alloy

**M | Surface Finish Options**

- M = 10  $\mu$ in. Ra max
- V = 7  $\mu$ in. Ra max
- X = 5  $\mu$ in. Ra max

**4PW | Ports**

- 2PW = 2 ports butt weld
- 3PW = 3 ports butt weld
- 4PW = 4 ports butt weld

**FV4 FV4 | Connections Inlet / Outlet**

- FV4 = 1/4 inch face seal female
- MV4 = 1/4 inch face seal male
- FV6 = 3/8 inch face seal female
- MV6 = 3/8 inch face seal male

Tube weld stub available

**40 1 | Gauges\* Source / Delivery**

- 0 = No gauge
- V3 = 30-0-30 psig/bar
- L = 30-0-60 psig/bar
- 1 = 30-0-100 psig/bar
- 2 = 0-200 psig/bar
- 4 = 0-400 psig/bar
- 10 = 0-1000 psig/bar
- 40 = 0-4000 psig/bar

\* Standard gauge ports are 1/4 inch face seal male (1/4 inch female available).

**Options**

- VS = Polyimide seat
- HF = High flow
- SC = Short bonnet

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.

