

# SERIES AP 1100

## ABSOLUTE REGULATOR

Low flow — sub-atmospheric pressure



- Single stage
- SS 316L VAR secondary remelt or super alloy construction
- Surface finish  
15 Ra max/10 Ra avg  
(10, 7 & 5 Ra max options)
- Only one nonmetallic seal (PCTFE) in the process stream
- Cleaned, assembled and packaged for high purity semiconductor applications
- Flow rate to 500 sccm
- Vacuum to 300 psig (21 bar) inlet, 100 torr to 10 psig (.7 bar) outlet
- Knob LOTO option
- Installation and operating instructions available at [www.aptech-online.com](http://www.aptech-online.com)

### Operating Parameters

Source pressure	vacuum to 300 psig (21 bar)
Delivery pressure AP 1101	100 mm Hg absolute to 10 psig
Proof pressure	150% of operating pressures
Burst pressure	300% of operating pressures

### Other Parameters

Inlet/outlet connectors	1/4 or 3/8 inch face seal or tube weld
Bonnet port	1/8 inch NPT
Flow coefficient (Cv) <sup>***</sup>	0.05
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. (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 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 300 psig inlet pressure
Leakage across seat	4 x 10 <sup>-8</sup> sccs He at 300 psig inlet pressure
Installation	surface or panel (optional)

\*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.

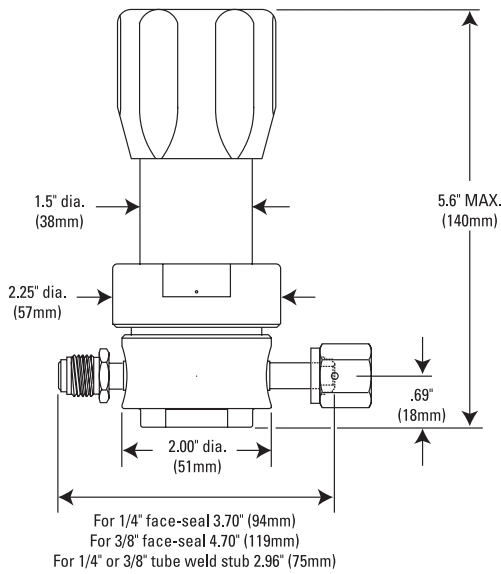
### Materials

Type of Service	Series AP 1100 S Noncorrosive	Series AP 1100 SH Corrosive (SHP** opt)	Series AP 1100 H 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	PCTFE	PCTFE

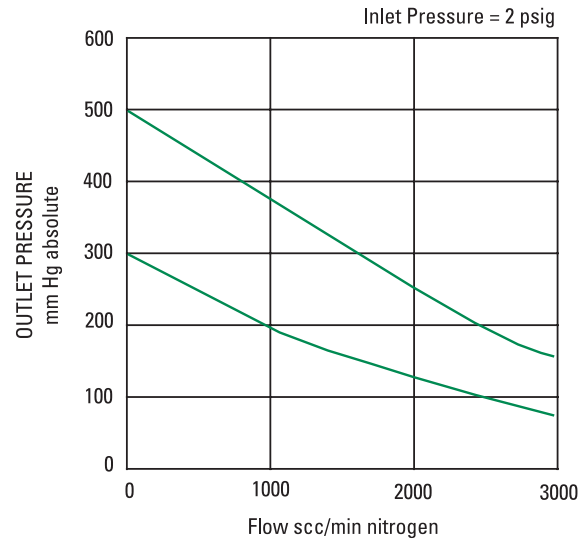
\*\*SHP option Ni-Cr-Mo alloy poppet and diaphragm only.  
All specifications subject to change without notice.

# ULTRACLEAN TECHNOLOGY BACKED BY SERVICE AND SUPPORT

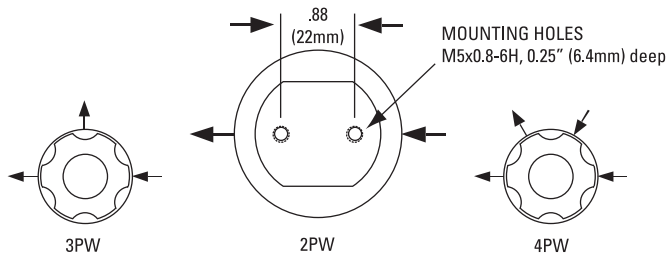
## DIMENSIONAL INFORMATION



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 1101SM 4PW FV4 FV4 V3 V3**

**AP 1101 | Series** AP 1101 = 100 mm Hg – 10 psig

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

**M | Surface Finish Options**  
M = 10  $\mu$ m. Ra max  
V = 7  $\mu$ m. Ra max  
X = 5  $\mu$ m. 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.

**V3 V3 | Gauges\* Source / Delivery**

0 = No gauge  
V3 = 30-0-30 psig/bar  
L = 30-0-60 psig/bar

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

**Options**

P = Panel installation\*\*  
SC = Short bonnet\*\*\*  
KL = Knob LOTO\*\*\*

\*\*On panel mount option, bonnet port is not threaded. Panel hole 1.56" diameter.  
\*\*\*KL should be ordered with SC option.

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.