

# SERIES AP 1600

## SINGLE STAGE REGULATOR

Low to intermediate flow



- High sensitivity
- Stainless steel 316L VAR secondary remelt construction
- Cleaned, assembled and packaged for high purity semiconductor applications
- Vacuum to 3,500 psig (241 bar) inlet
- Surface finish 15 Ra max/10 Ra avg (10, 7 & 5 Ra max options)
- Flow rates to 120 slpm
- Knob LOTO option (refer to AP KL data sheet)
- Installation and operating instructions available at [www.aptech-online.com](http://www.aptech-online.com) in the Tech Briefs section

### Operating Parameters

Source pressure	vacuum to 3,500 psig (241 bar); for AP 1601, 100 psig (7 bar)
Delivery pressure AP 1601	1 to 10 psig (0.07 to 0.7 bar)
AP 1602	1 to 30 psig (0.07 to 2 bar)
AP 1606	2 to 60 psig (0.14 to 4 bar)
AP 1610	2 to 100 psig (0.14 to 7 bar)
Proof pressure	150% of operating pressures
Burst pressure	300% of operating pressures

### Other Parameters

Inlet/outlet connectors	1/4, 3/8 or 1/2 inch face seal or tube weld
Bonnet port	1/8 inch NPT
Flow coefficient (Cv)**	0.13
Internal volume	0.82 in <sup>3</sup> (13.5 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 1,500 psig inlet pressure
Leakage across seat	4 x 10 <sup>-8</sup> sccs He at 500 psig inlet pressure
Installation	surface or panel (optional)
Supply pressure effect	0.25 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.

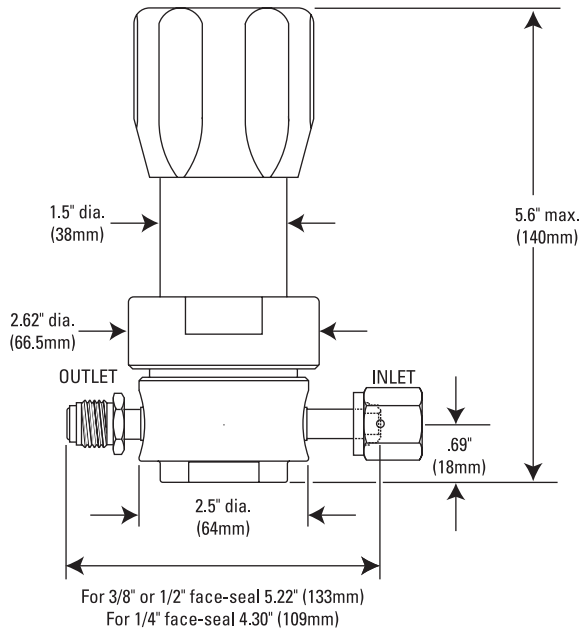
### Materials

Type of Service	Series AP 1600 S Noncorrosive	Series AP 1600 SH Corrosive
Wetted Parts		
Body	SS 316L secondary remelt	SS 316L secondary remelt
Poppet, nozzle and diaphragm	SS 316L	Ni-Cr-Mo alloy / UNS N06022
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Polyimide optional)	PCTFE

All specifications subject to change without notice.

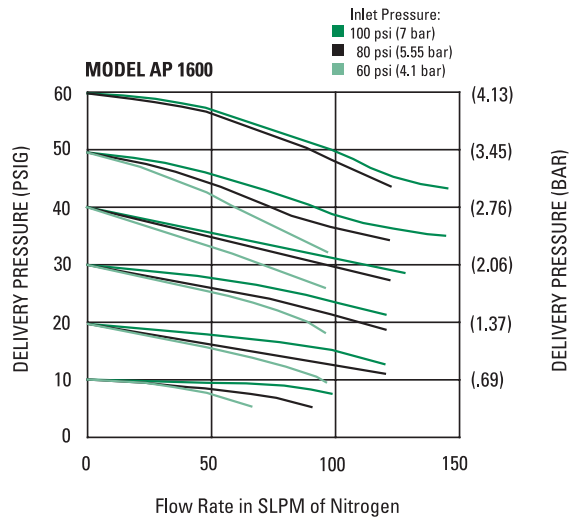
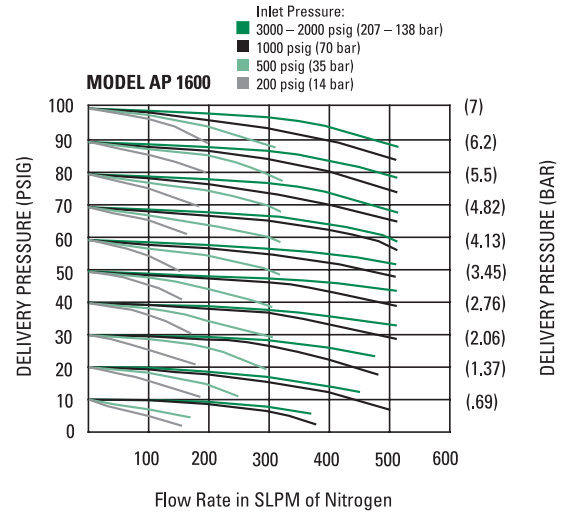
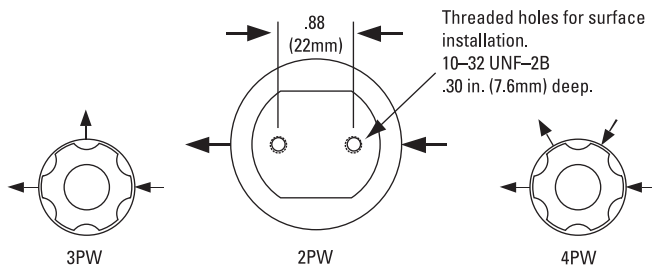
# SERVICE AND SUPPORT BEYOND COMPARE

## 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 1602SM 4PW FV4 FV4 40 V3 P**

<b>AP 1602</b>   Series	AP 1601 = 1-10 psig (.07 to .7 bar) AP 1602 = 1-30 psig (.07 to 2 bar) AP 1606 = 2-60 psig (.14 to 4 bar) AP 1610 = 2-100 psig (.14 to 7 bar)
<b>S</b>   Material	S = Stainless steel (SS) SH = SS/Ni-Cr-Mo alloy internals
<b>M</b>   Surface Finish Options	M = 10 μin. Ra max V = 7 μin. Ra max X = 5 μin. Ra max
<b>4PW</b>   Ports	2PW = 2 ports butt weld 3PW = 3 ports butt weld 4PW = 4 ports butt weld

<b>FV4 FV4</b>   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
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<b>40 V3</b>   Gauges* Source / Delivery	0 = No gauge V3 = 30-0-30 psig/bar L = 30-0-60 psig/bar 1 = 30-0-100 psig/bar 10 = 0-1000 psig/bar 40 = 0-4000 psig/bar
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\*Standard gauge ports are 1/4 inch face seal male (1/4 inch female available).

<b>P</b>   Options	P = Panel installation** VS = Polyimide seat SC = Short bonnet*** KL = Knob LOTO***
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\*\*On panel mount option, bonnet port is not threaded. Panel hole 1.43" 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.