

# SERIES AP 1500

## TIED DIAPHRAGM REGULATOR

Low Flow — High Pressure

- 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  
HR option to 4,500 psig (310 bar)
- Flow rates—standard to 30 slpm (1 scfm)  
HF option to 120 slpm (4 scfm)
- Knob LOTO  
(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) HR option vacuum to 4,500 psig (310 bar)
Delivery pressure AP 1502	1 to 30 psig (0.07 to 2 bar)
AP 1506	2 to 60 psig (0.14 to 4 bar)
AP 1510	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 or 3/8 inch face seal or tube weld
Bonnet port	1/8 inch NPT
Flow coefficient (Cv)	0.09 (0.15 HF option)
Internal volume	0.51 in <sup>3</sup> (8.4 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
Inboard leakage	2 x 10 <sup>-10</sup> sccs
Outboard leakage	2 x 10 <sup>-9</sup> sccs He
Leakage across seat	4 x 10 <sup>-8</sup> sccs He
Installation	surface or panel (optional)
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).

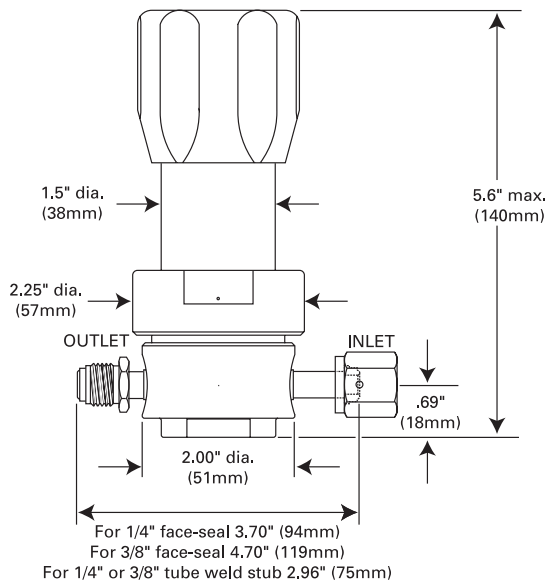
### Materials

Type of Service	Series AP 1500 S Noncorrosive	Series AP 1500 SH Corrosive	Series AP 1500 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 (Polyimide optional)	PCTFE	PCTFE

All specifications subject to change without notice.

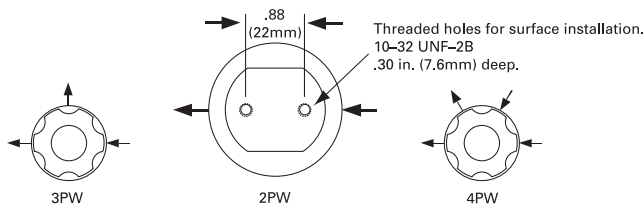
# ULTRACLEAN TECHNOLOGY BACKED BY SERVICE AND SUPPORT

## 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 1510SM 4PW FV4 FV4 40 1 P**

**AP 1510 | Series**  
 AP 1502 = 1-30 psig (.07 to 2 bar)  
 AP 1506 = 2-60 psig (.14 to 4 bar)  
 AP 1510 = 2-100 psig (.14 to 7 bar)

**S | Material**  
 S = Stainless steel (SS)  
 SH = SS/Ni-Cr-Mo alloy internals  
 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

**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  
 60 = 0-6000 psig/bar

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

**P | Options**

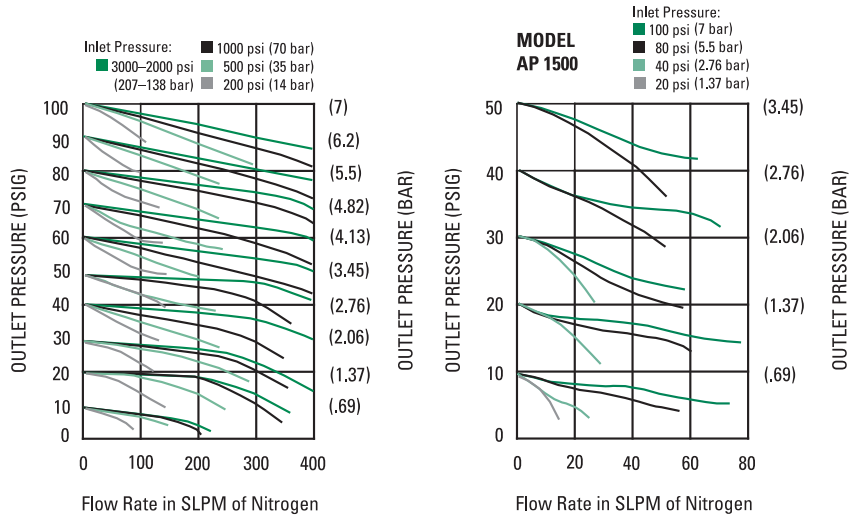
P = Panel installation\*\*  
 VS = Polyimide seat  
 HR = High inlet pressure\*\*\*  
 HF = High flow  
 SC = Short bonnet†  
 KL = Knob LOTO†

†KL should be ordered with SC option.

\*\*On panel mount option, bonnet port is not threaded. Panel hole 1.56" diameter.

\*\*\*HR option not available with 3/8 inch fittings, tube stubs, nor with HF 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.



**MODEL AP 1500 HF** Flow Curve at 150 psig Inlet Pressure

