

# SERIES AP 1900

## TIED DIAPHRAGM REGULATOR

Intermediate Flow–High Pressure



- Single stage
- Stainless steel 316L VAR secondary remelt construction
- Large diaphragm for increased sensitivity and control
- Vacuum to 3,500 psig (241 bar) inlet
- Surface finish 15 Ra max/10 Ra avg (10, 7 & 5 Ra max options)
- Cleaned, assembled and packaged for high purity semiconductor applications
- High flow (HF) option
- 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)
Delivery pressure	AP 1901 1 to 10 psig (0.07 to .7 bar)
	AP 1902 1 to 30 psig (0.07 to 2 bar)
	AP 1906 2 to 60 psig (0.14 to 4 bar)
	AP 1910 2 to 100 psig (0.14 to 7 bar)
	AP 1915 5 to 150 psig (.34 to 10 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 (HF = 0.16)
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 1,000 psig inlet pressure
Installation	surface or panel (optional)
Supply pressure effect	0.25 psig per 100 psig source pressure change
	HF 0.6 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.

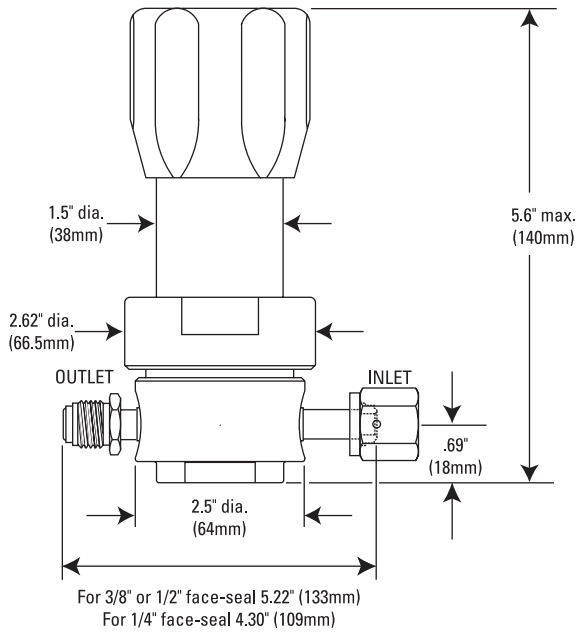
### Materials

Type of Service	Series AP 1900 S Noncorrosive	Series AP 1900 SH Corrosive
Wetted Parts		
Body	SS 316L secondary remelt	SS 316L secondary remelt
Poppet, 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.

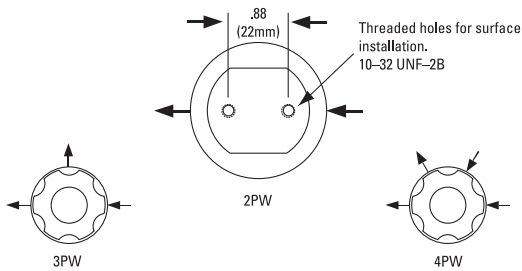
# THE ULTIMATE IN ULTRACLEAN

## 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 1902SM 4PW FV4 FV4 40 V3 P

### AP 1902 | Series

AP 1901 = 1-10 psig (.07 to .7 bar)  
 AP 1902 = 1-30 psig (.07 to 2 bar)  
 AP 1906 = 2-60 psig (.14 to 4 bar)  
 AP 1910 = 2-100 psig (.14 to 7 bar)  
 AP 1915 = 5-150 psig (.34 to 10 bar)

### S | Material

S = Stainless steel (SS)  
 SH = SS/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  
 FV8 = 1/2 inch face seal female  
 MV8 = 1/2 inch face seal male  
 Tube weld stub available

### 40 V3 | 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  
 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).

### P | Options

HF = High flow  
 P = Panel installation ring\*\*  
 VS = Polyimide seat  
 SC = Short bonnet\*\*\*  
 KL = Knob LOTO\*\*\*

\*\*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.

