



# SERIES AP 1700

## TWO-STAGE, TIED DIAPHRAGM REGULATOR

Low Flow — High Pressure

- Regulator of choice for B<sub>2</sub>H<sub>6</sub> cylinder applications
- SS 316L VAR secondary remelt construction
- Surface finish  
15 Ra max/10 Ra avg  
(10, 7 & 5 Ra max options)
- Vacuum to 3,500 psig (241 bar) inlet
- Cleaned, assembled and packaged for high purity semiconductor applications
- Two stage pressure reduction eliminates supply pressure effect
- 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 1702	1 to 30 psig (0.07 to 2 bar)
AP 1706	2 to 60 psig (0.14 to 4 bar)
AP 1710	2 to 100 psig (0.14 to 7 bar)
First stage pressure	175 psig (12 bar) nominal
Proof pressure	4,000 psig (276 bar)
Burst pressure	8,000 psig (552 bar)

### 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)	0.05
Internal volume	0.92 in <sup>3</sup> (15.1 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 at 1,500 psig inlet pressure
Leakage across seat	4 x 10 <sup>-8</sup> sccs He at 1,000 psig inlet pressure
Installation	panel (optional)
Delivery pressure rise	0.05 psig per 100 psig source pressure drop

### Materials

	Series AP 1700 S Noncorrosive	Series AP 1700 SH Corrosive
Type of Service		
Wetted Parts		
Body	SS 316L secondary remelt	SS 316L secondary remelt
Poppet, nozzle and diaphragm	SS 316L	Hastelloy® alloy C-22®
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Vespel® optional)	PCTFE

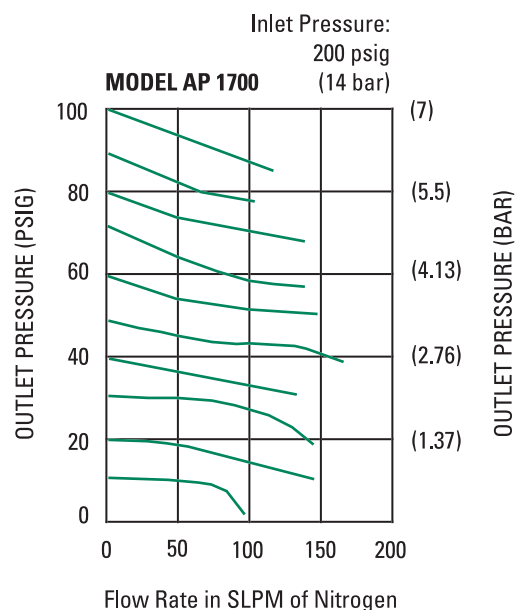
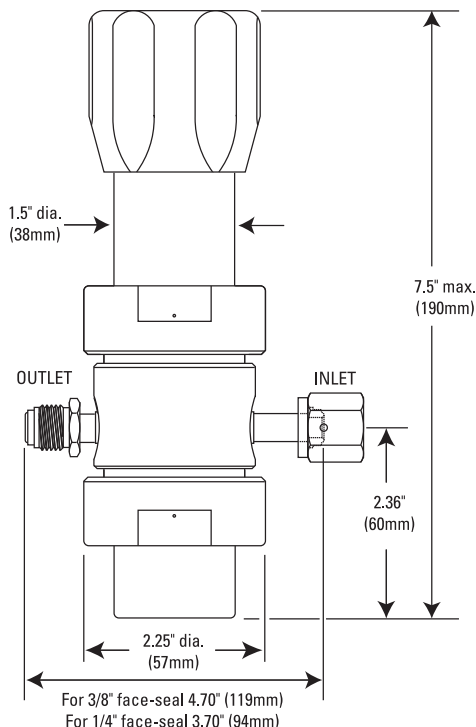
All specifications subject to change without notice.

Hastelloy® C-22® Haynes Corporation Vespel® DuPont

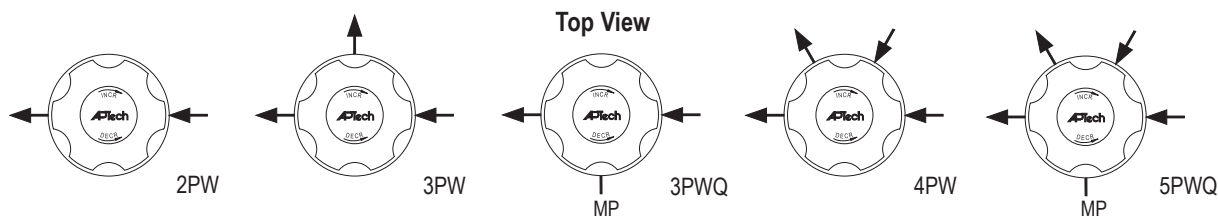
NOTE: AP Tech recommends monitoring the intermediate pressure (first stage outlet/second stage inlet) for safety. Please refer to product note 409 for further information.

# SERVICE AND SUPPORT BEYOND COMPARE

## DIMENSIONAL INFORMATION



## PORTING CONFIGURATIONS



MP=Monitor port, first stage outlet pressure (second stage inlet pressure)

**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 1702SM 4PW FV4 FV4 40 V3 P

### AP 1702 | Series

AP 1702 = 1-30 psig (0.07 to 2 bar)  
AP 1706 = 2-60 psig (.14 to 4 bar)  
AP 1710 = 2-100 psig (.14 to 7 bar)

### S | Material

S = Stainless steel (SS)  
SH = SS/Hastelloy internals

### 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  
3PWQ = 3 ports butt weld  
4PW = 4 ports butt weld  
5PWQ = 5 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 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 face seal female are available).

### P | Options

VS = Vespel seat  
P = Panel installation ring\*\*

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