



# 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; HR option to 4,500 psig (310 bar)
- Higher flow HF option
- Two stage pressure reduction eliminates supply pressure effect
- 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) HR option vacuum to 4,500 psig (310 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) AP 1720NT 5 to 200 psig (0.35 to 14 bar)
First stage pressure	175 psig (12 bar) nominal
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)**	0.05 (0.07 HF option)
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 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	panel (optional)
Supply pressure effect	0.05 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

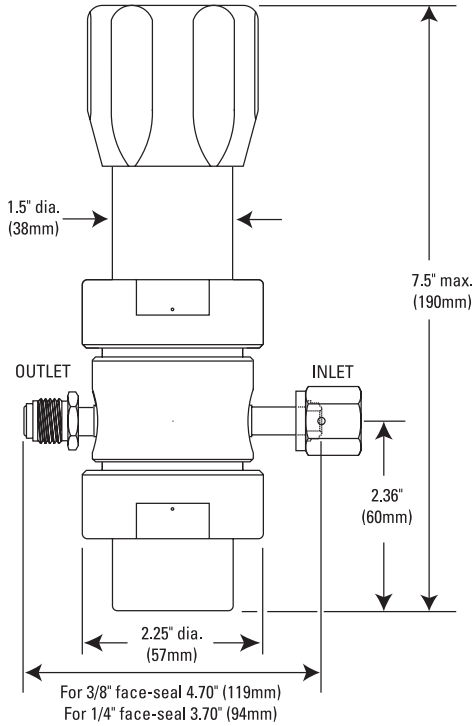
Type of Service	Series AP 1700 S Noncorrosive	Series AP 1700 SH Corrosive
Wetted Parts		
Body	SS 316L secondary remelt	SS 316L secondary remelt
Poppet, nozzle and diaphragm	SS 316L	Ni-Cr-Mo alloy / UNS N06022
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Polyimide optional)	PCTFE

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.

All specifications subject to change without notice.

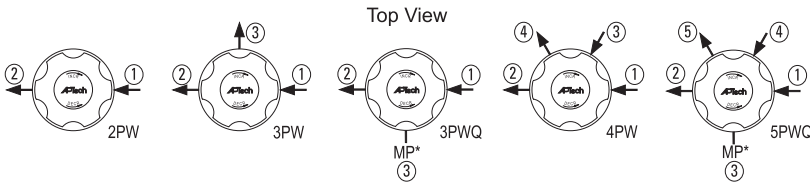
# SERVICE AND SUPPORT BEYOND COMPARE

## DIMENSIONAL INFORMATION



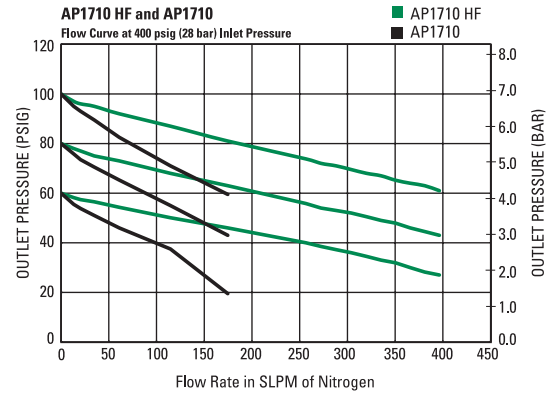
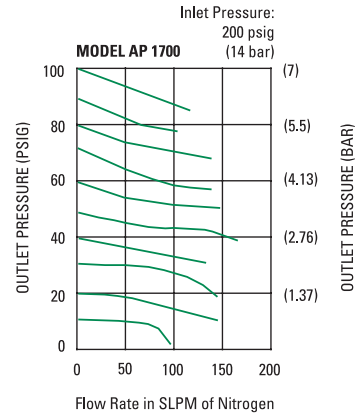
All dimensions in inches (mm). Metric dimensions are for reference only.

## PORTING CONFIGURATIONS



MP=Monitor port, first stage outlet pressure (second stage inlet pressure). Number at each port note order for specifying fitting type.

**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)  
 AP 1720 = 5-200 psig (.35 to 14 bar)\*

**S | Material**  
 S = Stainless steel (SS)  
 SH = SS/Hastelloy internals

**M | Surface Finish Options**  
 M = 10 µin. Ra max  
 V = 7 µin. Ra max  
 X = 5 µin. Ra max

**4PW | Ports**  
 2PW = 2 ports butt weld  
 3PW = 3 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  
 60 = 0-6000 psig/bar

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

**P | Options**  
 NT = First stage tied, second stage free poppet\*\*  
 VS = Polyimide seat  
 P = Panel installation ring\*\*\*  
 HR = High inlet pressure\*\*\*\*  
 HF = High flow  
 SC = Short bonnet†  
 KL = Knob LOTO‡

\*\*NT option required for AP 1720.

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

\*\*\*\*HR option not available with 3/8 inch fittings or tube stubs.

†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.**