APTech
ADVANCED PRESSURE TECHNOLOGY

SERIES AP 1700

TWO-STAGE, TIED DIAPHRAGM REGULATOR

Low Flow — High Pressure

- Regulator of choice for B_2H_6 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 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^3 (15.1 cm^3)
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^{-10} sccs
Outboard leakage	2 x 10^{-9} sccs He at 1,500 psig inlet pressure
Leakage across seat	4 x 10^{-8} sccs He at 1,000 psig inlet pressure
Installation	panel (optional)
Delivery pressure rise	0.05 psig per 100 psig source pressure drop

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	Hastelloy® alloy C-22®
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Vespel® optional)	PCTFE

All specifications subject to change without notice.

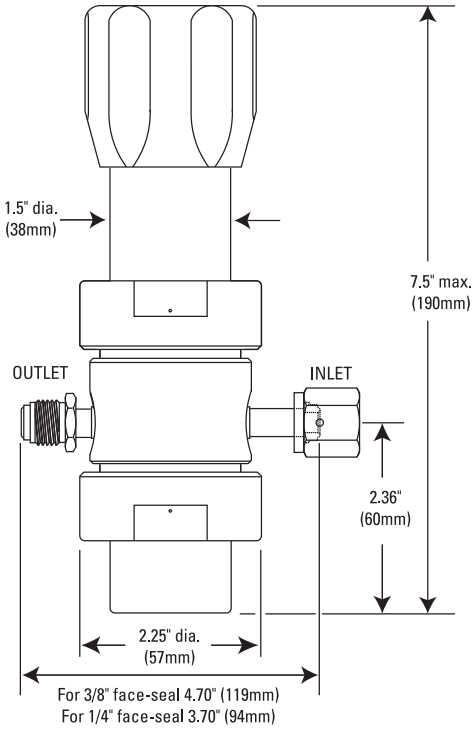
Hastelloy® C-22® Haynes Corporation Vespel® DuPont

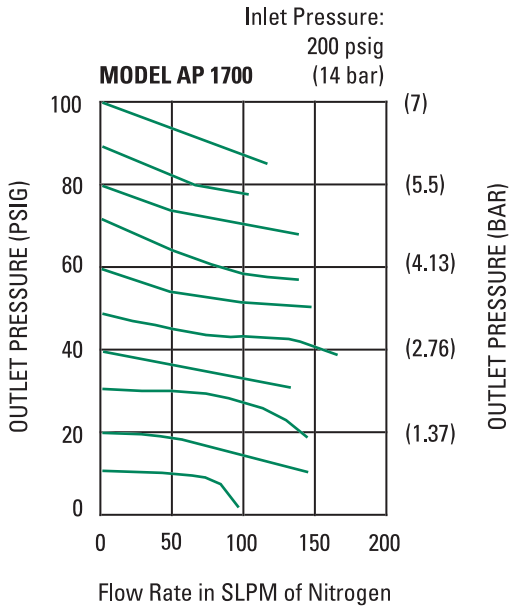
NOTE: AP Tech recommends monitoring the intermediate pressure (first stage outlet/second stage inlet) for safety. Please refere to product note 409 for further information.

ENGINEERING DATA — SERIES AP 1700 TWO STAGE REGULATOR

SERVICE AND SUPPORT BEYOND COMPARE

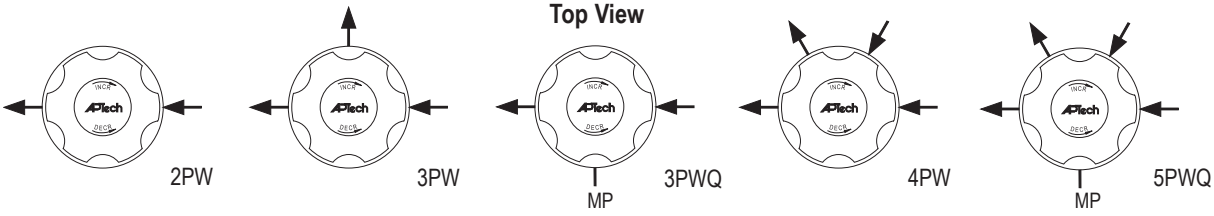
DIMENSIONAL INFORMATION





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

PORTING CONFIGURATIONS



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

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 µin. Ra max
- V = 7 µin. Ra max
- X = 5 µin. 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.