APTech
ADVANCED PRESSURE TECHNOLOGY

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
- 15 µin. Ra max surface finish (10, 7 and 5 µin. optional)
- Cleaned, assembled and packaged for high purity semiconductor applications
- High flow (HF) option

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		4,000 psig (276 bar)
Burst pressure		8,000 psig (552 bar)

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^3 (13.5 cm^3)
Operating temperature	-40° to +160°F (-40° to +71°C)
Surface finish	15 µin. (0.4 µm) Ra max standard; 10 µin (0.25 µm); 7 µin (0.18 µm); and 5 µin (0.13 µm) 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	surface or panel (optional)
Delivery pressure rise	0.25 psig per 100 psig source pressure drop
HF	0.6 psig per 100 psig source pressure drop

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

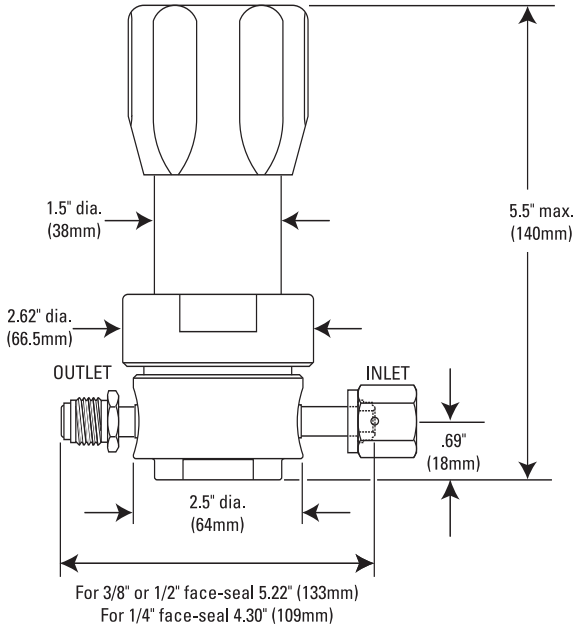
All specifications subject to change without notice.

Hastelloy® C-22® Haynes Corporation Vespel® DuPont

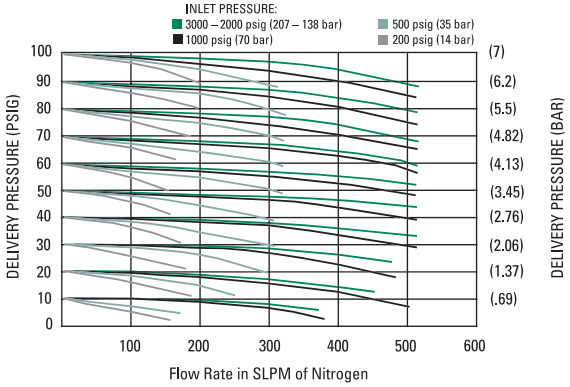
ENGINEERING DATA — SERIES AP 1900 TIED DIAPHRAGM REGULATOR

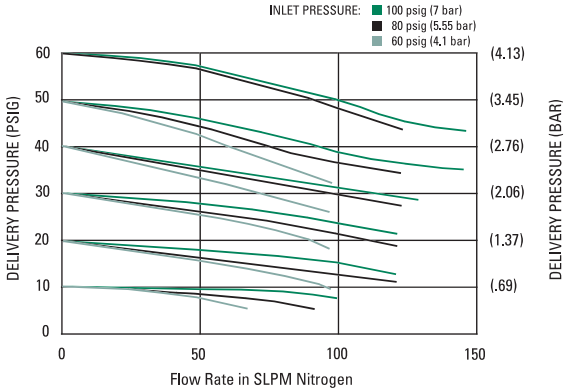
THE ULTIMATE IN ULTRACLEAN

DIMENSIONAL INFORMATION

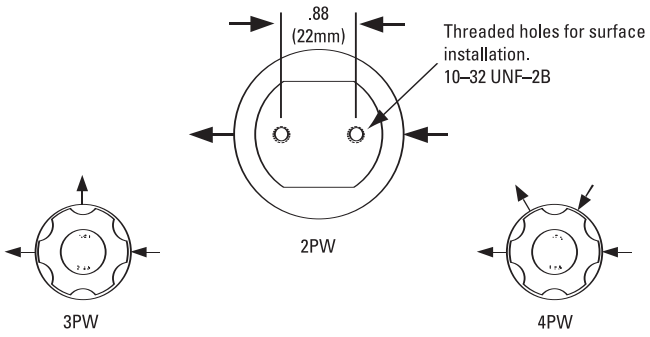


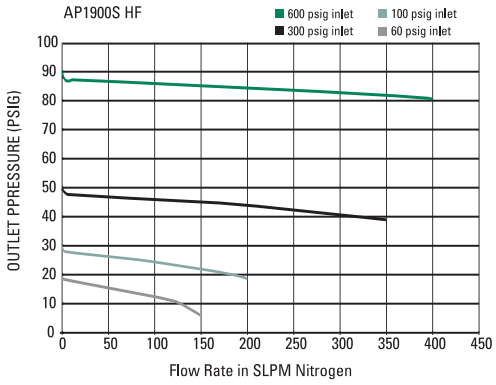
All dimensions in inches (mm). Metric dimensions are for reference only.





PORTING CONFIGURATIONS





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/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
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
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 = Vespel seat

** On panel mount option, bonnet port is not threaded. Panel hole 1.43" diameter.