APTech

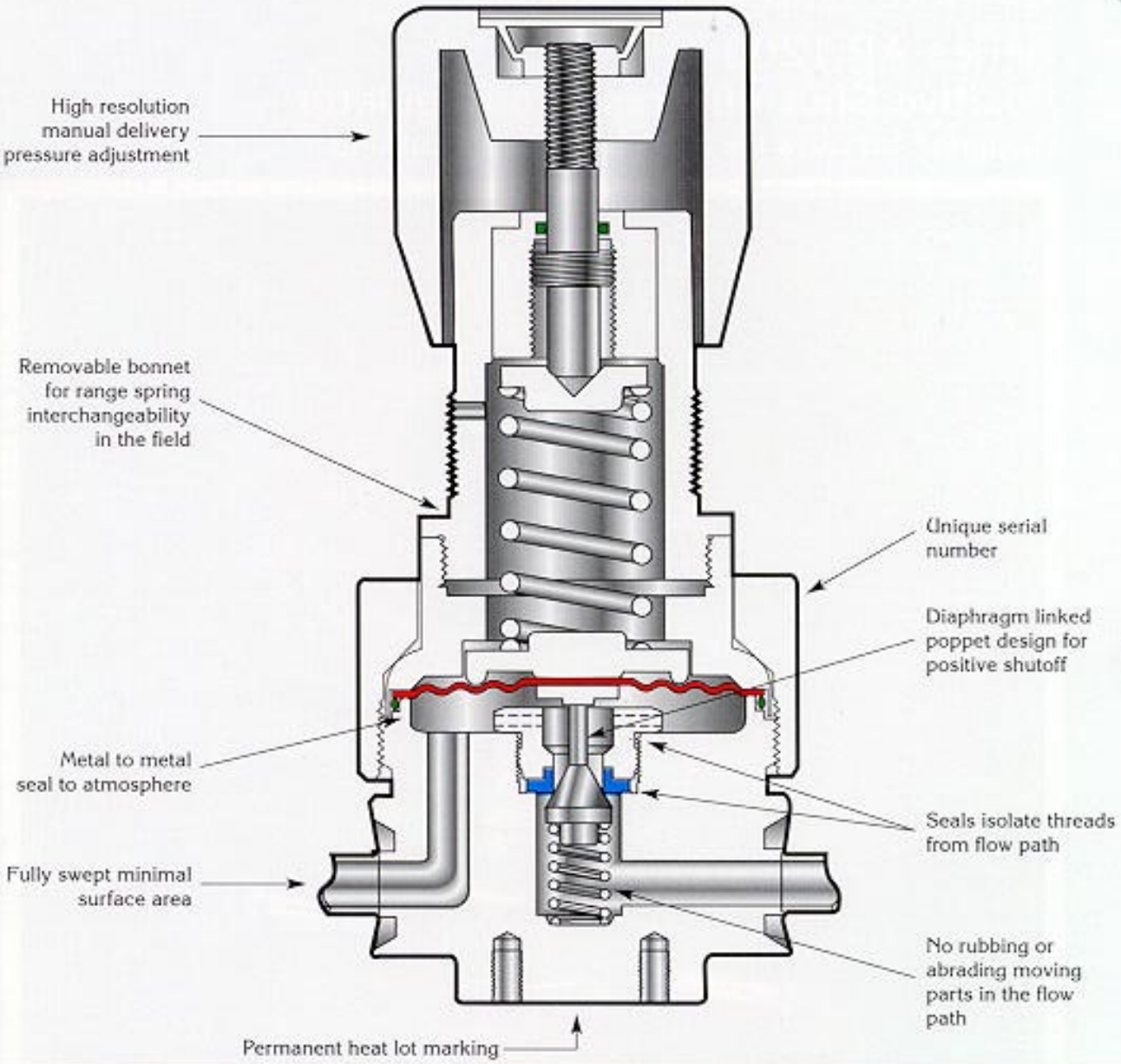
ADVANCED PRESSURE TECHNOLOGY

Series AP 1200
Positive Shut-off Pressure Regulator
Designed for ultra clean high flow applications

- Stainless steel 316L AOD/VAR construction
- High performance / High flow with low particle generation
- Flow rates to 1,000 slpm (35 scfm)
- Vacuum to 1,700 psig (117 bar)
- Designed and manufactured exclusively for UHP semiconductor applications

687 Technology Way / Napa, CA 94558 / Telephone (707) 259-0102 / Fax (707) 259-0117

Ultraclean technology backed by service and support



AP Tech Series AP 1200 – the ultimate in ultraclean high flow

The AP 1200 Series is a UHP regulator designed for high flow rates of bulk and specialty gases. It provides superior performance in both source cylinder cabinet and point of use applications. It also has the proven rugged reliability of all our "AP" Series regulators. The large flow capacity also helps minimize the troublesome cooling effect inherent with higher flow rates of liquid phase cylinder gases such as HCl. Its flow characteristics are excellent, even with very low inlet and outlet pressures.

Ultraclean design features, as noted in the drawing above, are combined with proper surface chemistries and the most advanced manufacturing techniques available. The net result is a regulator which contributes virtually no contamination to the gas stream.

Engineering data – Series AP 1200 Pressure Regulators

Operating parameters

Source pressure	vacuum to 1,700 psig (117 bar)
Delivery pressure (AP 1202)	1 to 30 psig (0.07 to 2 bar)
Delivery pressure (AP 1206)	1 to 60 psig (0.07 to 4 bar)
Delivery pressure (AP 1210)	2 to 100 psig (0.14 to 7 bar)
Proof pressure	2,550 psig (176 bar)
Burst pressure	8,000 psig (551 bar)

Other parameters

Inlet and outlet connectors	¼, ⅜ NPTF, ¼, ⅜, ½ face-seal or tube weld
Flow coefficient (Cv)	0.9
Internal volume	0.65 in^3 (10.6 cm^3)
Operating temperature	-40° to +160°F (-40° to +71°C)
Surface finish	10–15µin (0.25–0.38µm) standard 10µin (.25µm); 7µin (.18µm); and 5µin (.13µm) optional
Inboard leakage	2×10^{-10} sccs
Outboard leakage	2×10^{-9} sccs He at 1,500 psig inlet pressure
Leakage across seat	4×10^{-8} sccs He at 1,000 psig inlet pressure
Installation	surface or panel (optional)
Delivery pressure rise	3.5 psi per 100 inlet pressure drop

Materials

Type of Service	**Series AP 1200 S** Noncorrosive	**Series AP 1200 SH** Corrosive
Wetted Parts		
Body	stainless steel 316 L secondary remelt	stainless steel 316 L secondary remelt
Poppet, nozzle & diaphragm	stainless steel 316 L	Hastelloy® C-22
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Vespel® optional)	PCTFE
Non-wetted Parts		
Bonnet, cap, plate	nickel-plated brass	nickel-plated brass
O-ring	Viton®	Viton
Stem	brass	brass

All specifications subject to change without notice.
Higher temperature ratings available. Please consult factory.

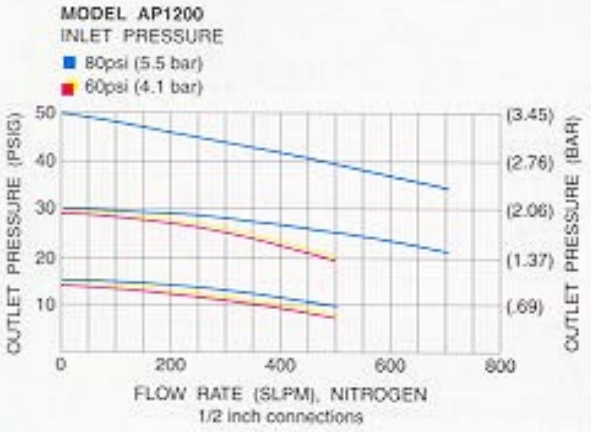
Hastelloy® Haynes Corporation
Viton® DuPont
Vespel® DuPont

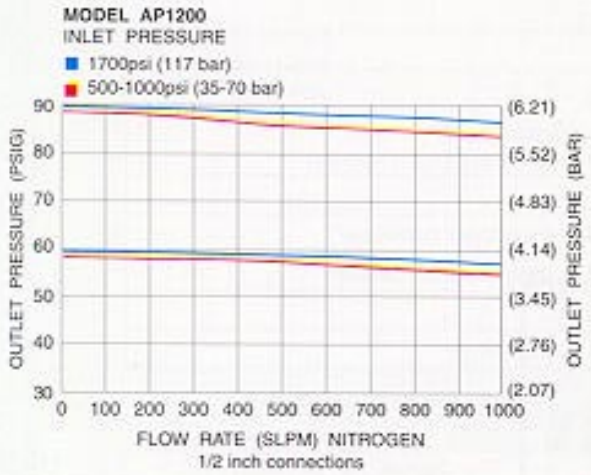
Cleaning and packaging

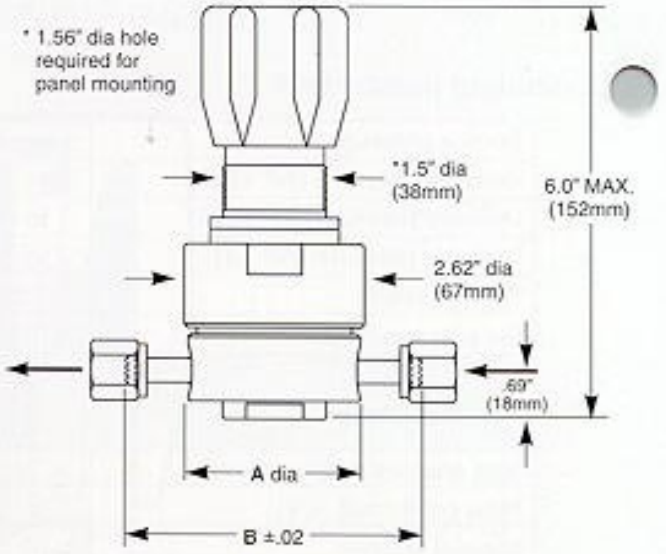
Cleaning is a multi-step process performed in a Class 100 clean room. Parts are ultrasonically cleaned with a wetting agent initially and then progressively with hot and cold DI water. Cleaned parts are then blown dry with ultra pure nitrogen prior to being baked completely dry in a nitrogen atmosphere.

Each regulator is then individually assembled, pressure tested, functionally tested and helium leak tested. Labels, including a unique serial number, are installed prior to products being double packaged under ultra pure nitrogen.

Uncompromising quality, performance and reliability from a company known for service and support.

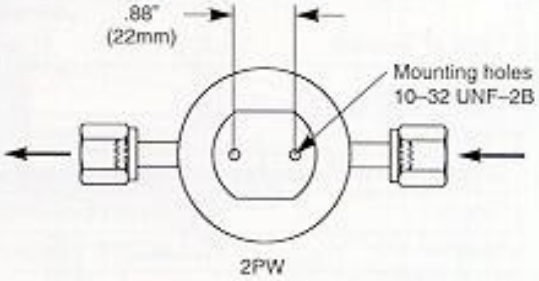


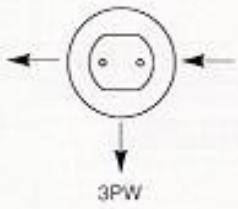


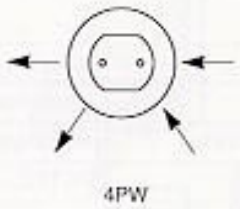


Face-Seal	A	B
1/4" Male	2.00" (51mm)	4.00" (102mm)
1/4" Female	2.00" (51mm)	3.70" (94mm)
3/8"	2.50" (64mm)	5.22" (133mm)
1/2"	2.50" (64mm)	5.22" (133mm)
3/4"	2.50" (64mm)	6.28" (160mm)

Porting Configuration (Bottom View)







ORDERING INFORMATION

Series AP 1200	S Material	M Surface Finish Options	3PW Ports	FV4 - FV4 Connections Inlet Outlet	40 - V3 Gauges** Source Delivery	P Options

AP1202 = 1-30 psi (.07 to 2 bar)
AP1206 = 2-60 psi (.14 to 4 bar)
AP1210 = 2-100 psi (.14 to 7 bar)

S = Stainless steel
SH = Stainless steel with Hastelloy internals

M = 10µ in. Ra
V = 7µ in. Ra
X = 5µ in. Ra

3P = 3 ports (1/4 NPTF)
2PW = 2 ports butt weld face-seal
3PW = 3 ports butt weld face-seal
4PW = 4 ports butt weld face-seal

4 = 1/4 inch NPT female
6 = 3/8 inch NPT female
FV4 = 1/4 inch face-seal female
MV4 = 1/4 inch face-seal male
(Tube weld stub available)

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
FV12 = 3/4 inch face-seal female
MV12 = 3/4 inch face-seal male

0 = No gauge
V3 = 30-0-30-psi/bar
L = 30-0-60 psi/bar
1 = 30-0-100 psi/bar
2 = 0-200 psi/bar
4 = 0-400 psi/bar
10 = 0-1000 psi/bar
40 = 0-4000 psi/bar

P = Panel installation ring*
CGA = Inlet fitting
320, 330, 350
580, 660, 678
VS = Vespel seat

** Welded gauge ports are always 1/4 inch face-seal male.