

SERIES AP 1400T

TIED DIAPHRAGM REGULATOR

Intermediate to high flow applications



- Single stage
- Stainless steel 316L VAR secondary remelt construction
- Absolute sub-atmospheric option, flow rate to 6 slpm
- Cylinder or point of use specialty and bulk gases
- Flow rates to 600 slpm (21 scfm)
- Vacuum to 2,300 psig (159 bar) inlet
- Designed and manufactured exclusively for UHP semiconductor applications
- Installation and operating instructions available at www.aptech-online.com in the Tech Briefs section

Operating Parameters

Source pressure	AP 1400T	vacuum to 2,300 psig (159 bar)
	AP 1400TA	vacuum to 300 psig (21 bar)
	AP 1400T HR	vacuum to 3,000 psig (207 bar)
Delivery pressure	AP 1402TA	100 mm Hg absolute to 30 psig (2 bar) (not available for HR)
	AP 1402T	1 to 30 psig (0.07 to 2 bar) (not available for HR)
	AP 1406T	1 to 60 psig (0.07 to 4 bar) (not available for HR)
	AP 1410T	2 to 100 psig (0.14 to 7 bar)
	AP 1415T*	5 to 150 psig (.34 to 10 bar)
Proof pressure		4,000 psig (276 bar); HR option 4,500 psig (310 bar)
Burst pressure		8,000 psig (552 bar); HR option 9,000 psig (620 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)	0.45
Internal volume	1.06 in ³ (17.4 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	surface or panel (optional)
Delivery pressure rise	1.6 psig per 100 psig source pressure drop

Materials

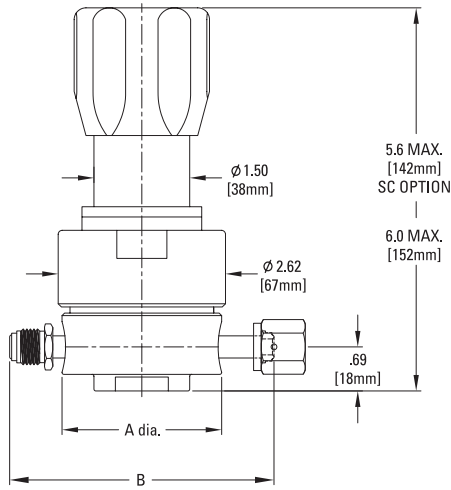
Type of Service	Series AP 1400T S Corrosive	Series AP 1400T SH Corrosive
Wetted Parts		
Body	SS 316L secondary remelt	SS 316L secondary remelt
Poppet and diaphragm	Hastelloy® C-22®	Hastelloy C-22
Nozzle	SS 316L	Hastelloy C-22
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Vespel® optional)	PCTFE

All specifications subject to change without notice.

*AP 1415T will not achieve full outlet pressure rating at all inlet pressures.

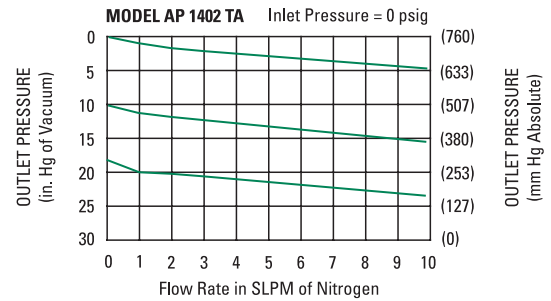
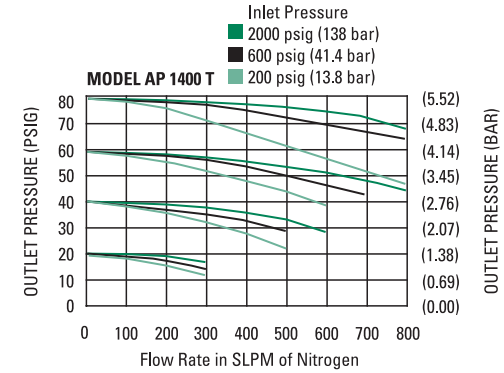
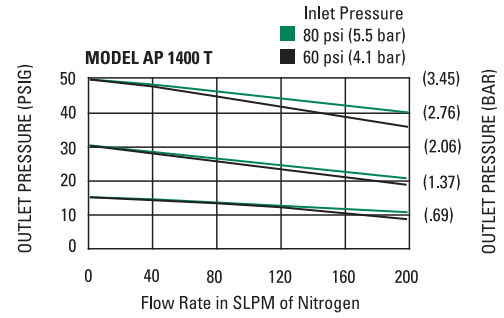
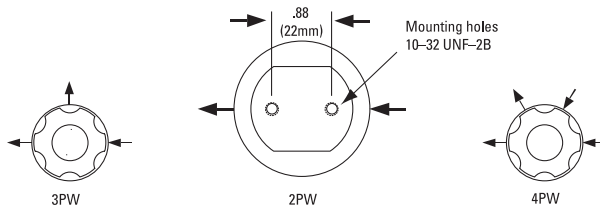
Hastelloy® C-22® Haynes Corporation

Vespel® DuPont



Face Seal	A	B
1/4" Male	2.00" (51 mm)	4.00" ±.02 (102 mm)
1/4" Female	2.00" (51 mm)	3.70" ±.02 (94 mm)
3/8"	2.50" (64 mm)	5.22" ±.03 (133 mm)
1/2"	2.50" (64 mm)	5.22" ±.03 (133 mm)

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



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.

Sample Order Number **AP 1402T SMA 3PW FV4 FV4 V3**

AP 1402T | Series
 AP 1402T = 1-30 psig (.07 to 2 bar)
 AP 1406T = 1-60 psig (.07 to 4 bar)
 AP 1410T = 2-100 psig (.14 to 7 bar)

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

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

A | Range Options
 A = 100 mm Hg absolute to 30 psig (2 bar) (AP 1402T option only)

3PW | Ports
 2PW = 2 ports butt weld face seal
 3PW = 3 ports butt weld face seal
 4PW = 4 ports butt weld face seal

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

V3 | Gauges Source / Delivery

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

Options

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

*SC option not available with 1402TA option.

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
 4 = 0-400 psig/bar
 10 = 0-1000 psig/bar
 40 = 0-4000 psig/bar

P = Panel installation ring
 VS = Vespel seat
 HR = High inlet pressure
 SC = Short, single piece bonnet*