



# SERIES AP 14PAT

## TIED DIAPHRAGM REGULATOR PNEUMATIC ACTUATION

Intermediate to high flow applications

- Actuation control pressure isolated from process gas
- Single stage
- Stainless steel 316L VAR secondary remelt construction
- 100 psig outlet achieved with 80 psig control pressure or less
- Cylinder or point of use specialty and bulk gases
- Flow rates to 400 slpm
- Vacuum to 2,300 psig (159 bar) inlet
- Actuator 'fail safe' normally closed (NC)
- Installation and operating instructions available at [www.aptech-online.com](http://www.aptech-online.com) in the Tech Briefs section

### Operating Parameters

Source pressure	AP 14PAT AP 14PAT HR	vacuum to 2,300 psig (159 bar) vacuum to 3,000 psig (207 bar)*
Delivery pressure	AP 14PAT	7 to 150 psig (0.5 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)
Control pressure		150 psig (10 bar) maximum

### Other Parameters

Inlet/outlet connectors	1/4, 3/8 or 1/2 inch face seal or tube weld
Bonnet vent port	1/8 inch NPT
Control pressure port	1/8 inch NPT
Flow coefficient (Cv)	0.45
Internal volume	1.06 in <sup>3</sup> (17.4 cm <sup>3</sup> )
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 <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	surface
Delivery pressure rise	1.6 psig per 100 psig source pressure drop

### Materials

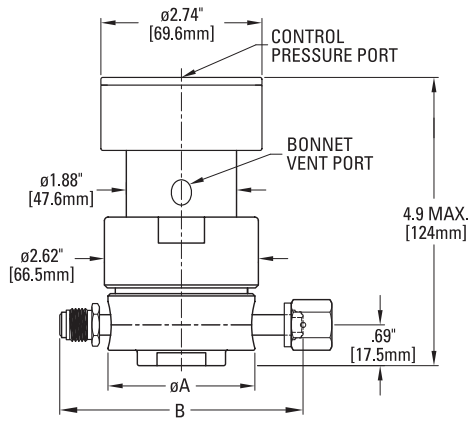
	Series AP 14PAT S Corrosive	Series AP 14PAT SH Corrosive
Type of Service		
Wetted Parts		
Body	SS 316L secondary remelt	SS 316L secondary remelt
Poppet and diaphragm	Hastelloy® C-22®	Hastelloy C-22
Nozzle	SS 316L	Hastelloy C-22
Finish	electropolished and passivated	electropolished and passivated
Seat	PCTFE (Vespel® optional)	PCTFE

All specifications subject to change without notice.  
\*HR option will not achieve rated outlet pressure at all inlet pressures.

Hastelloy® C-22® Haynes Corporation      Vespel® DuPont

# ULTRACLEAN BY DESIGN

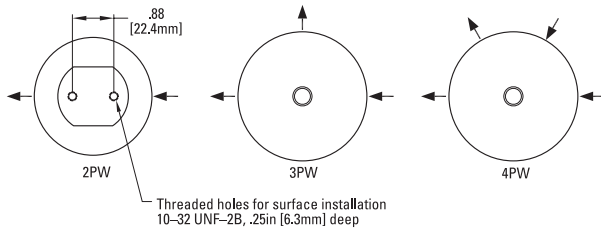
## DIMENSIONAL INFORMATION



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.

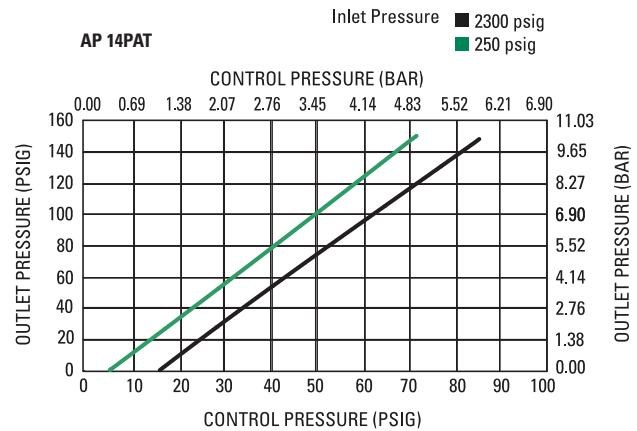
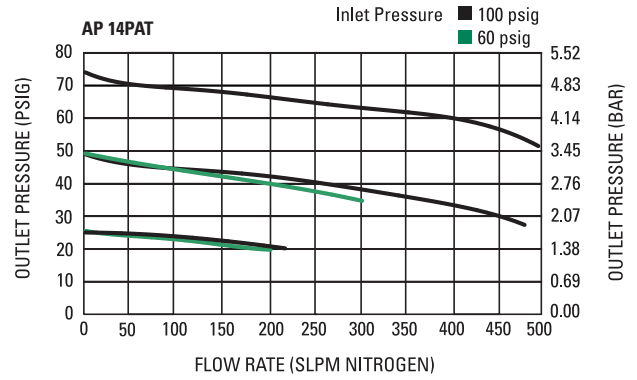
## PORTING CONFIGURATIONS



**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 14PATSM 3PW FV4 FV4 V3	
AP 14PAT   Series	AP 14PAT = 5-150 psig (.5 to 10 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	
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	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  Standard gauge ports are 1/4 inch face seal male. (1/4 inch face seal female are available).	
Options	VS = Vespel seat HR = High inlet pressure**  **Full rated outlet pressure may not be achieved at all inlet pressures.	



\*S equivalent to SHP – stainless steel with Hastelloy poppet and diaphragm