



# SERIES AZ 14PAT

## TIED DIAPHRAGM REGULATOR

### PNEUMATIC ACTUATION

Intermediate to high flow applications

- Actuation control pressure isolated from process gas
- 100 psig outlet achieved with 80 psig control pressure or less
- Single stage
- Stainless steel 316L
- Cylinder or point of use specialty and bulk gases
- Flow rates to 400 slpm (21 scfm)
- Vacuum to 2,300 psig (158 bar) inlet
- 'Fail safe' normally closed (NC) actuation
- Installation and operating instructions available at [www.aptech-online.com](http://www.aptech-online.com) in the Tech Briefs section

### Operating Parameters

Source pressure	AZ 14PAT	vacuum to 2,300 psig (159 bar)
	AZ 14PATA	vacuum to 300 psig (21 bar)
	AZ 14PAT HR	vacuum to 3,000 psig (207 bar)*
Delivery pressure	AZ 14PAT	7 to 150 psig (0.5 to 10 bar)
	AZ 14PATA	100 mm Hg to 30 psig (2 bar)
Proof pressure		150% of operating pressures
Burst pressure		300% of operating pressures
Control pressure		150 psig (10 bar) maximum

\*HR option will not achieve rated outlet pressure at all inlet pressures.

### Other Parameters

Inlet/outlet connectors	1/4, 3/8 or 1/2 inch face seal or tube weld
Flow coefficient (Cv) <sup>‡</sup>	0.45
Control pressure port	1/8 inch NPT
Bonnet vent port	1/8 inch NPT
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	10 µin. (0.25 µm) Ra avg 25 µin. (0.62 µm) optional
Inboard leakage	2 x 10 <sup>-10</sup> sccs
Outboard leakage	2 x 10 <sup>-9</sup> sccs He
Leakage across seat	4 x 10 <sup>-8</sup> sccs He
Installation	surface
Supply pressure effect	1.6 psig per 100 psig source pressure change

\*\*VS option 14° to 194°F (-10° to +90°C).

<sup>‡</sup>A pressure regulator Cv is a nominal value which indicates the point of choked flow. Please refer to a flow curve or a recommendation guide for usable flow range.

### Materials

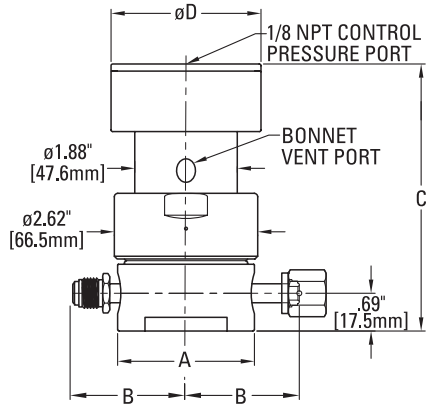
	Series AZ 14PAT S
Wetted Parts	
Body, nozzle	stainless steel 316L***
Diaphragm, poppet	Ni-Cr-Mo alloy / UNS N06022
Finish	electropolished and passivated
Seat	PCTFE (Polyimide optional)

\*\*\*Please refer to product note PN 414 regarding single melt 316L SS material.

All specifications subject to change without notice.

# ULTRACLEAN BY DESIGN

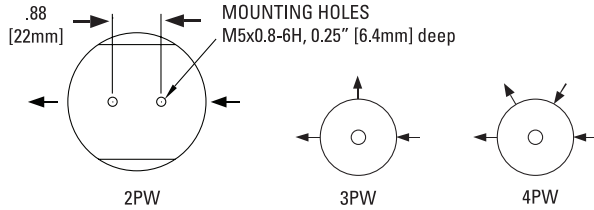
## DIMENSIONAL INFORMATION



FACE SEAL	A		B	
	inch	mm	inch	mm
1/4"	2.15±.01	55	2.50	64
3/8", 1/2"	2.61±.02	66	2.50	64
C		D		
14PA	4.9MAX	124	2.74	69.6
14PATA	4.7MAX	119	1.87	47.5

All dimensions in inches (mm). Metric dimensions are for reference only. All specifications subject to change without notice.

## 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

**AZ 14PATSQ 3PW FV4 FV4 1**

**AZ 14PAT | Series**

AZ 14PAT = 7-150 psig (.5 to 10 bar)  
AZ 14PATA = 100 mm Hg to 30 psig (2 bar)

**S | Material**

S = Stainless steel (SS)

**Q | Surface Finish Option**

Q = 25  $\mu\text{in}$ .

**3PW | 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

**1 | 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 = Polyimide seat  
HR = High inlet pressure\*\*

AP Tech has product options and variations which are not documented in data sheets. If you have a model number that is not defined by the ordering information, please consult the factory or your local representative.

\*\*Full rate outlet pressure may not be achieved at all inlet pressures.

