



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 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) [‡] | 0.45 |
| Control pressure port | 1/8 inch NPT |
| Bonnet vent port | 1/8 inch NPT |
| Internal volume | 1.06 in ³ (17.4 cm ³) |
| 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 ⁻¹⁰ sccs |
| Outboard leakage | 2 x 10 ⁻⁹ sccs He |
| Leakage across seat | 4 x 10 ⁻⁸ 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).

[‡]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

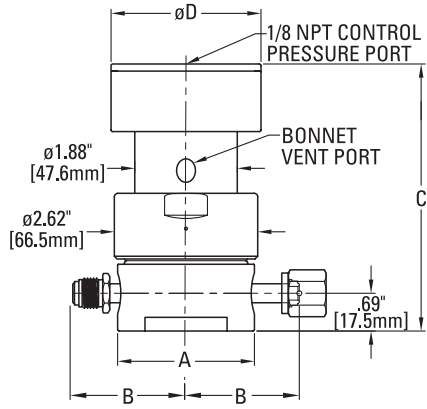
| | Series AZ 14PAT S |
|-------------------|--------------------------------|
| Wetted Parts | |
| Body, nozzle | stainless steel 316L*** |
| Diaphragm, poppet | Ni-Cr-Mo alloy / UNS N06022 |
| Finish | electropolished and passivated |
| Seat | PCTFE (Polyimide optional) |

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

All specifications subject to change without notice.

ULTRACLEAN BY DESIGN

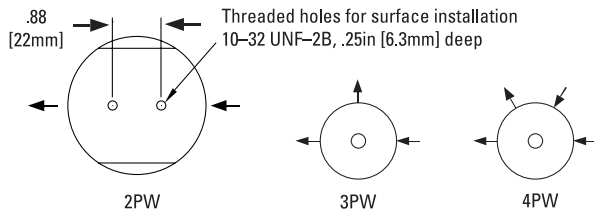
DIMENSIONAL INFORMATION



| 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 μ 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.

