



ADVANCED PRESSURE TECHNOLOGY

SERIES AK 100 SINGLE STAGE PRESSURE REGULATOR COMPACT DESIGN FOR INSTRUMENTATIONS

- ◆ Vacuum to 3,000 psig (207 bar) inlet, 150 psig (10 bar) outlet
- ◆ Flow capacity* to 30 slpm (1 scfm)
- ◆ Stainless Steel construction
- ◆ High leak integrity
- ◆ Machined from bar stock
- ◆ Optional accessories
- ◆ Fine adjustment control (six turns of the knob from off to wide open)
- ◆ Cleaned for O2 service
- ◆ Field repairable
- ◆ Diffusion resistant Stainless Steel diaphragm
- ◆ Installation and operating instructions available at www.aptech-online.com in the Tech Briefs section



ENGINEERING DATA

Operating Parameters

| | |
|-------------------|---|
| Source pressure | vacuum to 3,000 psig (207 bar) |
| AK 101 | vacuum to 300 psig (21 bar) max |
| Delivery pressure | |
| AK 101A | 100 mm Hg absolute to 10 psig (0.7 bar) |
| AK 101 | 0.5 to 10 psig (0.03 to 0.7 bar) |
| AK 102 | 1 to 30 psig (0.07 to 2 bar) |
| AK 110 | 2 to 100 psig (0.14 to 7 bar) |
| AK 115 | 5 to 150 psig (0.2 to 10 bar) |
| Proof pressure | 150% of maximum rating |
| Burst pressure | 300% of maximum rating |

Other Parameters

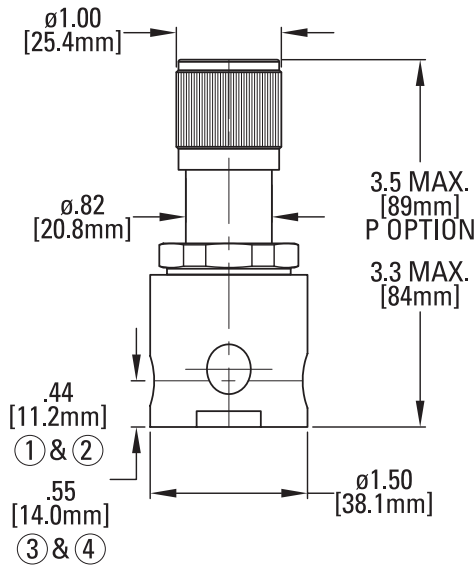
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|------------------------|--|
| Inlet/outlet ports | 1/8" and 1/4" NPT; 1/4" compression (optional porting available) |
| Flow coefficient, Cv** | 0.04 |
| Internal volume | 0.23 in ³ (3.7 cm ³) |
| Operating temperature | -40° to +160°F (-40° to +71°C) |
| Leak rate | 1 x 10 ⁻⁹ sccs |
| Supply pressure effect | 0.4 psig per 100 psig source pressure change |

MATERIALS OF CONSTRUCTION

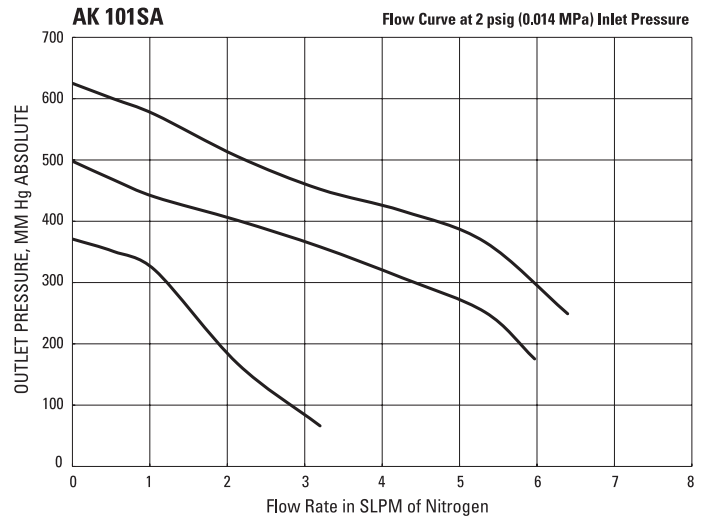
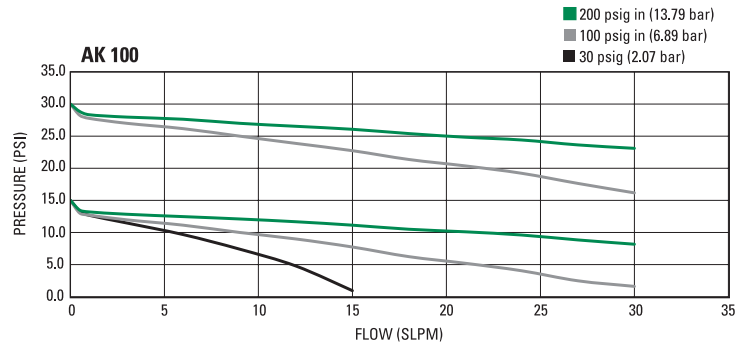
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|----------------------|-----------------------|
| | AK 100S |
| Body | SS 316L |
| Poppet and diaphragm | SS 316 |
| Seat | PCTFE (Polyimide opt) |
| Bonnet | SS 303 |

* Flow rating based upon N2 @ 100 psig inlet, varying gas type and, or inlet/outlet pressures may effect rating.

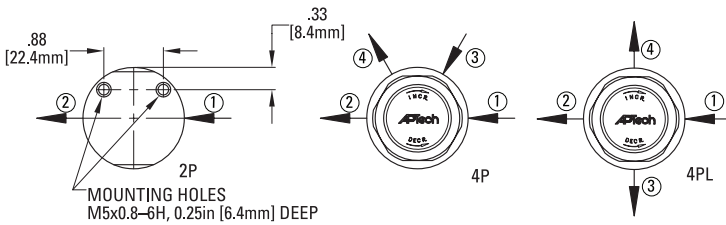
** A pressure regulator Cv is a nominal value which indicates the point of choked flow. Please refer to a flow curve or a recommendation guide for usable flow range. All specifications subject to change without notice.



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



Porting Configurations



4PL available 1/8 and 1/4 inch.
4P only available 1/4 inch.
Ports 3 and 4 always 1/8 inch.

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

| AK 102 Series | S Material | 4PL Port Configuration | 4 1, 4 2 Ports | 0 0 3, 0 4 Ports (Accessory) | P Options |
|---|------------|-------------------------------|---|---|---|
| AK 101 = 0.5-10 psig (.03 to .7 bar) AK 102 = 1-30 psig (.07 to 2 bar) AK 110 = 2-100 psig (.14 to 7 bar) AK 115 = 5-150 psig (.2 to 10 bar) | | 4P = 4 Ports 4PL = 4 Ports | 2 = 1/8 inch NPT 4 = 1/4 inch NPT 4T = 1/4 inch compression | 0 = No accessory installed Gauges not available. | P = Panel installation* VS = Polyimide seat |
| S = Stainless steel (SS) SA = Stainless steel (SS) absolute outlet range | | | NOTE: Designators required for all ports, but "0" not required if there isn't a port. A 2P has designators only for 1 & 2 ports, as example AK 101 S 2P 44 not AK 101 S 2P 44 000. | | *Refer to installation and operating instructions for panel mounting. |

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.