



ADVANCED PRESSURE TECHNOLOGY

# SERIES AK 1000 SINGLE STAGE PRESSURE REGULATOR

QUALITY, RELIABILITY AND PERFORMANCE



- ◆ Vacuum to 3,500 psig (241 bar) inlet, 500 psig (35 bar) outlet
- ◆ Flow capacity\*  
0 to 100 slpm (0 to 3.5 scfm) HF Option
- ◆ Stainless Steel or Brass construction
- ◆ Ni-Cr-Mo alloy internals, 'SH' option, for added corrosion resistance
- ◆ 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
- ◆ Knob LOTO adjustment option  
(refer to AP KL data sheet)
- ◆ Diffusion resistant Stainless Steel diaphragm
- ◆ Installation and operating instructions available at [www.aptech-online.com](http://www.aptech-online.com)

## ENGINEERING DATA

### Operating Parameters

Source pressure	vacuum to 3,500 psig (241 bar) (AK1001 & TF 300 psig [21 bar] max)
Delivery pressure	AK 1001 0.5 to 10 psig (0.03 to 0.7 bar) AK 1002 1 to 30 psig (0.07 to 2 bar) AK 1010 2 to 100 psig (0.14 to 7 bar) AK 1020 5 to 200 psig (0.3 to 14 bar) AK 1030 5 to 300 psig (0.3 to 21 bar) AK 1050** 10 to 500 psig (0.7 to 35 bar)
Proof pressure	150% of operating pressures
Burst pressure	300% of operating pressures

### Other Parameters

Inlet/outlet ports	1/4" NPT; 1/4" & 3/8" compression (optional porting available)
Flow coefficient, Cv <sup>‡</sup>	0.09 (HF option 0.15)
Internal volume	0.49 in <sup>3</sup> (8 cm <sup>3</sup> )
Operating temperature	-40° to +160°F (-40° to +71°C)***
Leak rate	1 x 10 <sup>-9</sup> sccs
Supply pressure effect	0.25 psig per 100 psig source pressure change (HF 0.75 psi per 100 psig)

## MATERIALS OF CONSTRUCTION

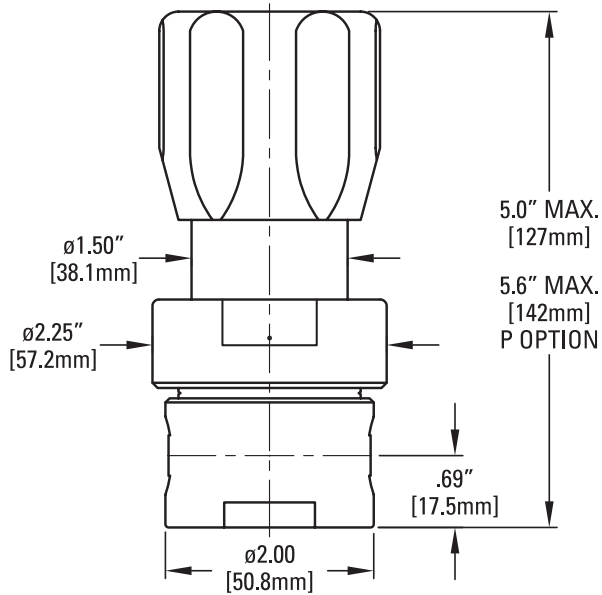
	<b>AK 1000B</b>	<b>AK 1000S</b>	<b>AK 1000SH</b>
Body	brass	SS 316L	SS 316L
Poppet and diaphragm	SS 316	SS 316	Ni-Cr-Mo alloy / UNS N06022
Seat	PCTFE (Polyimide, PTFE & PEEK Opt)	PCTFE (Polyimide, PTFE & PEEK Opt)	PCTFE (PTFE & PEEK Opt)
Bonnet	SS 303	SS 303	SS 303

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

\*\* AK 1050 and panel mount height dimension different

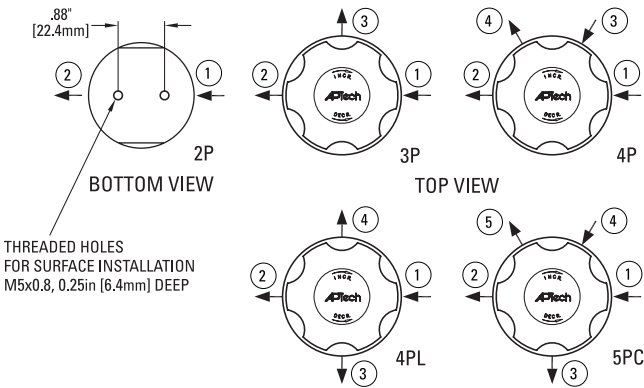
\*\*\* Optional temperature ranges available. Please contact factory. VS seat option 14° to 194°F (-10° to +90°C).

‡ 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.  
All specifications subject to change without notice.



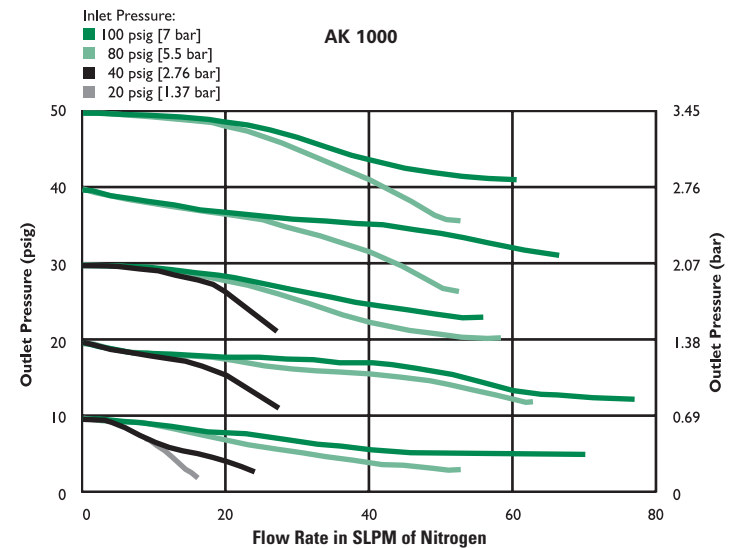
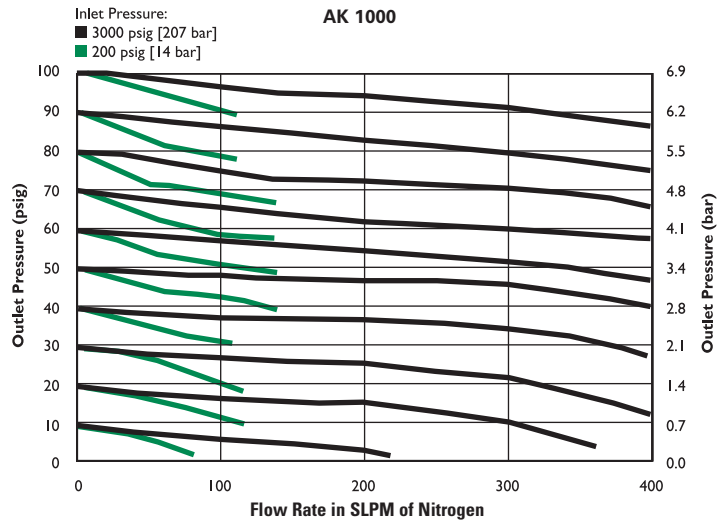
All dimensions in inches (mm).  
Metric dimensions are for reference only.

**Porting Configurations**



**NOTE:** Brass only available with 4PL or 5PC porting.

**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 1002 Series	S Material	3P Port Configuration	4 4 ① ② Ports	0 ③ ④ ⑤ Ports (Gauge/Accessory)	P Options
AK 1001= 0.5-10 psig (.03 to .7 bar) AK 1002= 1-30 psig (.07 to 2 bar) AK 1010= 2-100 psig (.14 to 7 bar) AK 1020= 5-200 psig (.3 to 14 bar) AK 1030= 5-300 psig (.3 to 21 bar) AK 1050= 10-500 psig (.7 to 35 bar)		2P = 2 Ports 3P = 3 Ports 4P = 4 Ports 4PL = 4 Ports 5PC = 5 Ports	4 = 1/4 inch NPT 4T = 1/4 inch compression 6T = 3/8 inch compression	0 = No gauge or device installed V3 = 30-0-30 psig/bar 1 = 30-0-100 psig/bar 2 = 0-200 psig/bar 10 = 0-1000 psig/bar 40 = 0-4000 psig/bar	P = Panel installation* CGA = Inlet fitting 320, 330, 350,580, 660, 678 VS = Polyimide seat PK = PEEK seat TF = PTFE seat** HF = High flow KL = Knob LOTO (refer to AP KL data sheet)
S = Stainless steel (SS) SH = SS with Ni-Cr-Mo alloy internals B = Brass					*Panel hole 1.42 diameter. **300 psig inlet rating.

**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 1010 S 2P 44 not AK 1010 S 2P 44 000.

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.