



ADVANCED PRESSURE TECHNOLOGY

# SERIES AK 1700 TWO STAGE PRESSURE REGULATOR SAFETY ASSURED TIED DIAPHRAGM DESIGN



- ◆ Vacuum to 3,500 psig (241 bar) inlet, 200 psig (14 bar) outlet (optional inlet 4,500 psig (310 bar))
- ◆ Flow capacity\* 0 to 15 slpm (0 to 0.5 scfm) 1 to 120 slpm (4 scfm) HF option
- ◆ Stainless Steel or Brass construction
- ◆ Knob LOTO (refer to AP KL data sheet)
- ◆ High leak integrity
- ◆ Machined from bar stock
- ◆ Poppet attached to diaphragm (tied diaphragm) improves positive shut off across the seat
- ◆ Optional accessories
- ◆ Cleaned for O2 service
- ◆ Two stage pressure reduction eliminates supply pressure effect
- ◆ Diffusion resistant Stainless Steel diaphragms
- ◆ 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) HR option vacuum to 4,500 psig (310 bar)**
Delivery pressure	AK 1702 1 to 30 psig (0.07 to 2 bar) AK 1710 2 to 100 psig (0.14 to 7 bar) AK 1720 5 to 200 psig (0.35 to 14 bar)
Proof pressure	150% of operating pressures
Burst pressure	300% of operating pressures

### Other Parameters

Inlet/outlet ports	1/4" NPT or compression
Flow coefficient, Cv	0.05 (0.07 HF option)
Internal volume	0.9 in <sup>3</sup> (15 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	0.05 psig per 100 psig source pressure change

## MATERIALS OF CONSTRUCTION

	<b>AK 1700B</b>	<b>AK 1700S</b>	<b>AK 1700SH</b>
Body	brass	SS 316L	SS 316L
Poppet and diaphragm	SS 316	SS 316	Ni-Cr-Mo alloy / UNS N06022
Seat	PCTFE****	PCTFE****	PCTFE****
Bonnet	SS 303	SS 303	SS 303

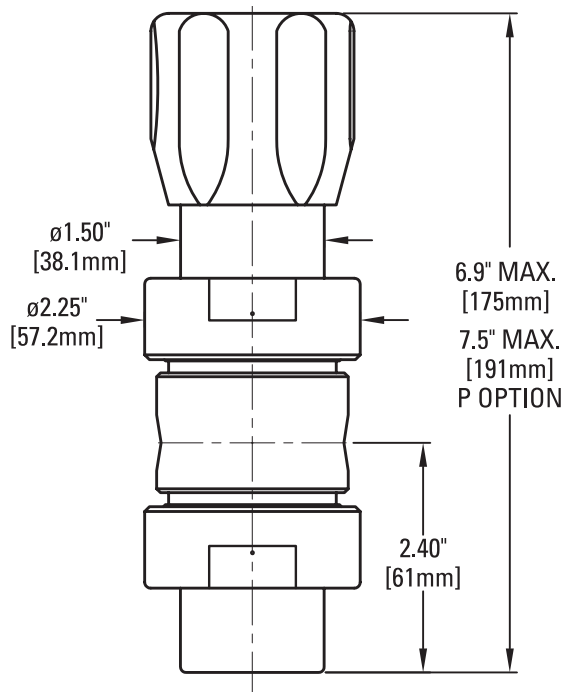
\*Flow rating based upon N2 @ 400 psig inlet, varying gas type and, or inlet/outlet pressures may effect rating.

\*\*HR option not available in brass.

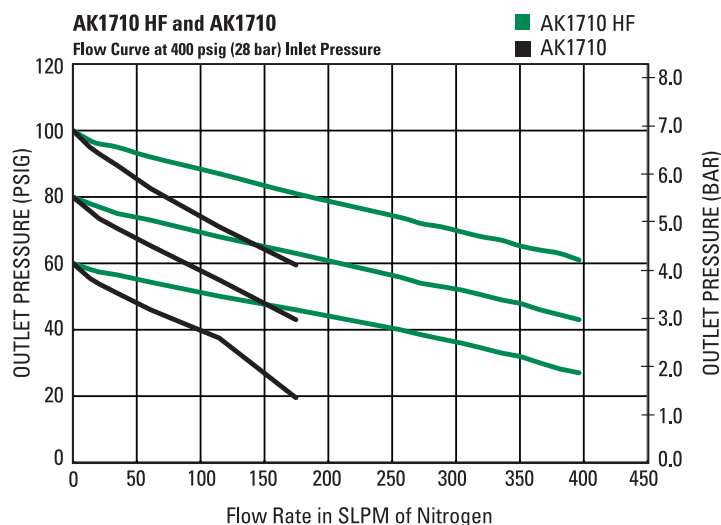
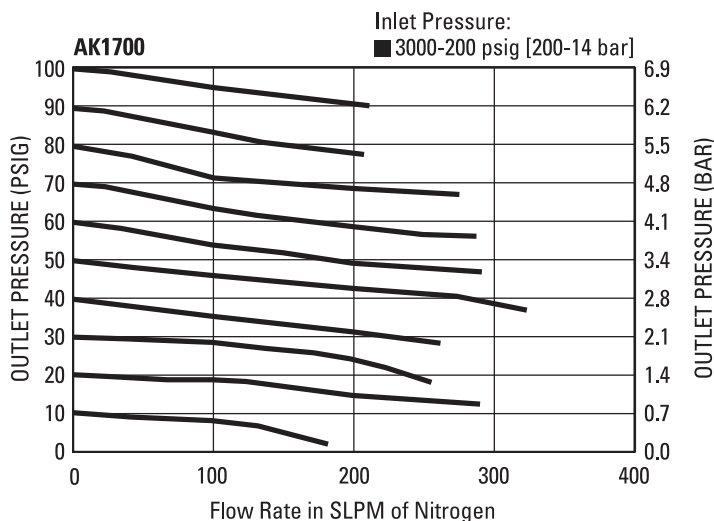
\*\*\*Optional temperature ranges available. Please consult factory. VS option 14° to 194°F (-10° to + 90°C).

\*\*\*\*Optional seat materials available, Polyimide and PEEK.

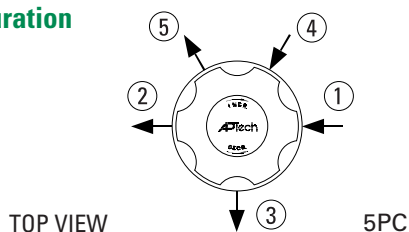
All specifications subject to change without notice.



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



### Porting Configuration



**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.

S		ORDERING INFORMATION					P
AK 1702 Series	Material	S Material	5PC Port Configuration	4 4 ① ② Ports	0 40 V3 ③ ④ ⑤ Ports (Gauge/Accessory)	P Options	
AK 1702 = 1-30 psig (.07 to 2 bar) AK 1710 = 2-100 psig (.14 to 7 bar) AK 1720 = 5-200 psig (.3 to 14 bar)*	S = Stainless steel (SS) SH = SS with Ni-Cr-Mo alloy internals B = Brass		5PC = 5 Ports	4 = 1/4 inch NPT 4T = 1/4 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 60 = 0-6000 psig/bar	VS = Polyimide seat PK = PEEK seat NT = First stage tied second stage free poppet* P = Panel installation** CGA = Inlet fitting 320, 330, 350, 580, 660, 678 HF = High flow HR = High inlet rating*** KL = Knob LOTO (refer to AP KL data sheet)	

\*NT option required for AK 1720.

\*\*Panel hole 1.42 diameter.

\*\*\*HR option not available in brass.

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.