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

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 in³ (15 cm³)
Operating temperature -40º to +160ºF (-40º to +71ºC)***
Leak rate 1 x 10⁻⁹ scccs
Supply pressure effect 0.05 psig per 100 psig source pressure change

Materials of Construction

<table>
<thead>
<tr>
<th></th>
<th>AK 1700B</th>
<th>AK 1700S</th>
<th>AK 1700SH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>brass</td>
<td>SS 316</td>
<td>SS 316</td>
</tr>
<tr>
<td>Poppet and diaphragm</td>
<td>SS 316</td>
<td>PCTFE****</td>
<td>Ni-Cr-Mo alloy / UNS N06022</td>
</tr>
<tr>
<td>Seat</td>
<td>PCTFE****</td>
<td>SS 316</td>
<td>PCTFE****</td>
</tr>
<tr>
<td>Bonnet</td>
<td>SS 303</td>
<td>SS 303</td>
<td>SS 303</td>
</tr>
</tbody>
</table>

*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 14º to 194ºF (-10º to +90ºC).
****Optional seat materials available, Polyimide and PEEK.

All specifications subject to change without notice.
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.

### Porting Configuration

![Porting Configuration Diagram](image)

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

### Ordering Information

<table>
<thead>
<tr>
<th>AK 1702 Series</th>
<th>S Material</th>
<th>5PC Port Configuration</th>
<th>4 Ports</th>
<th>0 Ports (Gauge/Accessory)</th>
<th>P Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK 1702 = 1-30 psig (.07 to 2 bar)</td>
<td>S = Stainless steel (SS)</td>
<td>5PC = 5 Ports</td>
<td>1/4 inch NPT</td>
<td>0 = No gauge or device installed</td>
<td>VS = Polymide seat</td>
</tr>
<tr>
<td>AK 1710 = 2-100 psig (.14 to 7 bar)</td>
<td>SH = SS with Ni-Cr-Mo alloy internals</td>
<td></td>
<td>1/4 inch compression</td>
<td>V3 = 30-0-30 psig/bar</td>
<td>PK = PEEK seat</td>
</tr>
<tr>
<td>AK 1720 = 5-200 psig (.3 to 14 bar)*</td>
<td>B = Brass</td>
<td></td>
<td></td>
<td>10 = 0-1000 psig/bar</td>
<td>NT = First stage tied second stage free poppet*</td>
</tr>
</tbody>
</table>

**Panel hole 1.42 diameter.**

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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.