### AXIAL FLOW VALVE

**General Information**

- Precise control, compact design
- Size: 1" ~ 72"
- Bore: Full or reduced (not piggable)
- Pressure: 150# ~ 2500#
- Temperature: -196°C ~ 538°C
- Connections: Wide choice on request
- Materials: Wide choice on request

**Applications**

- Used as:
  - Control valve
  - Choke (Joule Thompson) valve
  - Surge relief valve
  - Non-slam operation
- Applied in:
  - Oil and gas production
  - Process industries
  - Transmission, distribution and storage of fluids
- Used for wide range of fluids:
  - Crude oil to refined products
  - High gas-oil multiphase fluids
  - Natural gas (with contaminants - sand)
- Examples of application:
  - NAM Sappemeer
  - Petrobras Mexilhao
  - Petrobras Aracaju

**Characteristics**

- Small, compact design
- Opening and closing at full differential pressure
- Pressure balanced piston requiring a small actuator
- Bubble tight sealing
- Bi-directional
- Lower noise level than conventional valve types
- Vertical or horizontal orientation

**Precise control of:**

- Pressure
- Flow
- Temperature

**Unlimited choice of opening - flow characteristics:**

[Graph showing flow vs. opening characteristics]

**Flow Control Valve**

- Precise control, compact design

[Image of Axial Flow Control Valve]
### HOW AFV WORKS

**Open position**
The valve piston (yellow) is out of cage (red) holes area and full flow is reached.

**Controlling the flow**
By moving the piston some of the cage holes are closed and flow is controlled.

**Closed position**
After quarter turn of the stem, the piston blocks all the cage holes, the valve is closed and sealing.

Pressure left and right of piston are the same (balanced), hence a smaller actuator is needed.

### DESIGN STANDARDS

<table>
<thead>
<tr>
<th>Design</th>
<th>API 6D, ASME B16.34</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face to Face dimensions</td>
<td>API 6D, ASME B16.10, B16.47</td>
</tr>
<tr>
<td>Flanges</td>
<td>ASME B16.5, B16.25</td>
</tr>
<tr>
<td>Fire Safe</td>
<td>ISO 10497, API 6FA, BS 6755</td>
</tr>
<tr>
<td>Fugitive Emission</td>
<td>ISO 15848, TÜV,</td>
</tr>
<tr>
<td>Testing</td>
<td>API 598</td>
</tr>
<tr>
<td>Marking</td>
<td>CE, MSS-SP-25</td>
</tr>
<tr>
<td>Topworks</td>
<td>ISO 5210</td>
</tr>
</tbody>
</table>

### CONTROL SEAL BENEFITS

**Rotating stem**
Less friction, smaller / standard actuator - quarter turn
Avoids fugitive emissions

**Advanced body design with bonnet**
Faster fabrication, top entry, In-line maintenance

**Bubble tight sealing**
Up to ANSI FCI Class V or VI
Metal-to-metal or soft sealing
Fireproof execution possible

**Competitive price and delivery terms**

### PROJECT PRODUCTION

Control Seal is experienced to deliver Axial Flow Valve for special application as SwirlValve for SwirlSep separator. SwirlValve is a low shear valve that can be utilized as a choke valve and/or (level) control valve. The design of the valve trim enables swirling the flow (a vortex) created downstream of the valve.

**SwirlSep separator (product of FRAMES)**
The inline separator facilitates separation of the phases, like gas, liquid, and solids.

Materials on request.
Valves also available in DN/PN sizing.
Wide range of actuators and valve accessories such as positioners, limit switches, and solenoid valves on request.

### CONTACT US

info@controlseal.nl
sales@controlseal.nl
service@controlseal.nl
Farmsumerweg 43
P.O. box 330
9900AH Appingedam
the Netherlands
+31 596 652 222