For control valves, count on azbil.

We have extensive experience in process automation at home and abroad.

For over 80 years, since we made Japan’s first domestically produced control valves in 1936, we have delivered products to a wide variety of process automation sites inside and outside Japan. The technology we have accumulated through our abundant experience in the field is the heritage of each newly developed product, and is utilized to make ever more advanced general-purpose control valves with higher performance and greater reliability.

In addition to general-purpose valves, we have developed a number of products for specific applications, such as high or low temperature, super high pressure, corrosion resistance, abrasion resistance, and environmental friendliness.

In recent years, in order to create added value for plant operation by improving maintenance efficiency, reducing plant operating costs, etc., we acted quickly to make our valve positioners smart. These smart valve positioners, when connected with our PLUG-IN Valstaff control valve maintenance support system, provide new benefits throughout the control valve life cycle, such as assistance in preparing an efficient maintenance plan.

As a comprehensive supplier of control valves, the azbil Group continues to provide customers with added value in a variety of areas.
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As a comprehensive supplier of control valves, the azbil Group continues to provide customers with added value in a variety of areas.

We have extensive experience in process automation at home and abroad.
Selection of Control Valve

Select the appropriate valve.

**Single seated valves**
Basic and most versatile type of control valve

- **Model No.**
  - AGVB, AGVM
  - ACT
  - HLS, HTS, HLC, HSC

**Angle valves**
For high differential pressure, slurry, or flashing service

- **Model No.**
  - HAV, HAH, HAF
  - HAL, VALU

**Cage valves, Double seated valves, and Low-noise valves**
For heavy-duty, high pressure and high differential pressure service

- **Model No.**
  - ADVB, ADVM
  - AC2
  - ACP, HCB, HPC
  - ACN, HCN, VDN

**3-way valves**
Fluid mixing/separating by a single valve

- **Model No.**
  - AMT, HDT

**Corrosion-resistant or abrasion-resistant valves**
For operations and clean processes requiring corrosion-resistance or abrasion-resistance

- **Model No.**
  - VDD, VNP
  - HIT, HIC, HMC

**Rotary valves**
For processes requiring high capacity and wide control range

- **Model No.**
  - VFR

**Valves for the electric power market**
For power generation facilities and special applications

- **Model No.**
  - EGVM, EAVM
  - EGVT, EGVW
  - EGVD, EAVD

**Motorized valves**
For fluid control without a compressed air supply

- **Model No.**
  - AGVB, AGVM
  - HLS, HTS
  - ACT
Select the **actuator type.**

### Diaphragm actuators
General-purpose, most frequently used type of actuator

<table>
<thead>
<tr>
<th>Model No.</th>
<th>HA__ , HL__</th>
<th>PSA__ , VA5__</th>
</tr>
</thead>
</table>

### Cylinder actuators
For high-pressure, large-port valves

<table>
<thead>
<tr>
<th>Model No.</th>
<th>PSA8R, PSA7R, DAP560, DAP1000, DAP1500 GOM:__</th>
<th></th>
</tr>
</thead>
</table>

Select the **accessories.**

### Positioners
Selected according to the operating conditions, including input signal, actuator, and atmospheres (waterproof, explosion-proof).

<table>
<thead>
<tr>
<th>Model No.</th>
<th>AVP:__ HTP:<strong>, VPE04:</strong>, VPE05:<strong>, VPP02:</strong>, VPP03:<strong>, VPP06:</strong></th>
</tr>
</thead>
</table>

### Air lock valve, pilot valve
If the air supply malfunctions these devices secure (lock) the valve position and control pneumatic circuit switchover.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>VF02/03/04 or OEM products</th>
</tr>
</thead>
</table>

### Regulators with filter
Using KZ03 as the basic model number, select low/high pressure type, connection type, etc.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>KZ03:__ or OEM products</th>
</tr>
</thead>
</table>

### Solenoid valves
If needed, this device controls switchover of the pneumatic circuit (signals or supply pressure) with electric signals (on-off).

<table>
<thead>
<tr>
<th>Model No.</th>
<th>OEM products</th>
</tr>
</thead>
</table>

### Volume booster
Used to make the pneumatic actuator operate more quickly or to reduce the delay of pneumatic signals.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>OEM products</th>
</tr>
</thead>
</table>

### Limit switches
Added to the actuator in order to produce electric signals corresponding to the valve position (open/closed).

<table>
<thead>
<tr>
<th>Model No.</th>
<th>VCL5000, VX7001,1LX7001, VX8001,1LX8001</th>
</tr>
</thead>
</table>
### General-purpose valves

| Valve type | Model No. | Size | Pressure rating | End connection | Body material | Trim material | Body material | Body material | Body material | Body material | Body material | Body material | Body material | Body material | Body material | Body material | Body material |
|------------|-----------|------|-----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| **Top guided single seated control valve** | AGVB_ _ _ / AGVM_ _ _ | 1/2” to 4” | ANSI/JPI 150, JIS10K | Flanged: RF, FF; Welded: SW, BW | Carbon steel | Stainless steel | 316LSS, 316LSS with CoCr-Al | -196 to 400°C | Class IV, IV-S1, VI | 0.1 to 200 | 20:1 to 50:1 (option 75:1) | General-use process for petrochemical and chemical plant | Low emission gland packing/ SIL3 capable | SS2-AGV200-0001 |

<table>
<thead>
<tr>
<th>Valve type</th>
<th>Model No.</th>
<th>Size</th>
<th>Pressure rating</th>
<th>End connection</th>
<th>Body material</th>
<th>Trim material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small-port single seated control valve</strong></td>
<td>HLS_ _ _ / HLC_ _ _</td>
<td>1/2” to 1”</td>
<td>ANSI/JPI 150 to 600</td>
<td>Flanged: RF, FF, RJ; Welded: SW, BW</td>
<td>Carbon steel</td>
<td>Stainless steel</td>
<td>316LSS, 316LSS with CoCr-Al</td>
<td>-196 to 566°C</td>
<td>Class IV, IV-S1, V, VI</td>
<td>0.01 to 14</td>
<td>20:1 to 50:1 (option 75:1)</td>
<td>• General-use process for petrochemical and chemical plant</td>
<td>• flushing service</td>
<td>Bellow seal bonnet, steam jacket</td>
<td>Low emission gland packing/ SIL3 capable</td>
<td>SS2-8113-0202/0210</td>
<td></td>
</tr>
</tbody>
</table>

### Single seated valves

<table>
<thead>
<tr>
<th>Valve type</th>
<th>Model No.</th>
<th>Size</th>
<th>Pressure rating</th>
<th>End connection</th>
<th>Body material</th>
<th>Trim material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
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<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top guided single seated control valve</strong></td>
<td>VST_ _ _</td>
<td>5”, 10”, 12”</td>
<td>ANSI/JPI 150 to 600</td>
<td>Flanged: RF, RJ; Welded: SW, BW</td>
<td>Carbon steel</td>
<td>Stainless steel</td>
<td>316LSS, 316LSS with CoCr-Al</td>
<td>-196 to 520°C</td>
<td>Class IV, IV-S1, V, VI</td>
<td>99 to 1440</td>
<td>30:1</td>
<td>General-use process for petrochemical and chemical plant</td>
<td></td>
<td>SS2-8110-0300</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Valve type</th>
<th>Model No.</th>
<th>Size</th>
<th>Pressure rating</th>
<th>End connection</th>
<th>Body material</th>
<th>Trim material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
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<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
<th>Body material</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top guided high pressure single seated control valve</strong></td>
<td>HPS_ _ _</td>
<td>1” to 3”</td>
<td>ANSI/JPI 800 to 2500</td>
<td>Flanged: RF, RJ; Welded: SW, BW</td>
<td>Carbon steel</td>
<td>Stainless steel</td>
<td>316LSS, 316LSS with CoCr-Al</td>
<td>-5 to 566°C</td>
<td>Class IV</td>
<td>class 1500 or less: 0.25 to 110 class 2500: 0.25 to 75 50:1 (option 75:1)</td>
<td>High temperature and high pressure steam of boiler and turbine unit for power plant and private power generation</td>
<td>SIL3 Capable</td>
<td>SS2-8113-0400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
General-purpose valves

Single seated valves

Top guided single seated control valve

**HTS** / **HSC**

- 1/2” to 8”
- ANSI/JPI: 150 to 600
- JIS: 10K to 30K
- Flanged: RF, FF, RJ
- Welded: SW, BW
- Carbon steel
- 316SS, 316LSS, 316LSS with CoCr-A
- -196 to 566°C
- Class IV, IV-SI, V, VI

**Specifications**
- General-use process for petrochemical and chemical plant
- Flushing service
- Bellow seal bonnet, steam jacket
- Low emission gland packing/ SIL3 capable
- SS2-8113-0300/0310

High-pressure service top guided single seated control valve

**VST**

- 4”, 5”, 6”
- ANSI/JPI: 900 to 2500
- JIS: 30K
- Flanged: RF, RJ
- Welded: SW, BW
- Carbon steel
- 440CSS
- SUS304 with CoCr-A
- 0 to 520°C
- Class IV
- Class 1500 or less: 56 to 315
- Class 2500: 39 to 210
- 30:1

**Specifications**
- High temperature and high pressure steam of boiler and turbine unit for power plant and private power generation
- SS2-8110-0400

Micro-flow control valve

**VSM**

- Threaded: NPT (Rc) 1/4”, 1/2”, Flanged: 1/2”, 3/4”, 1”
- ANSI/JPI: 150 to 2500
- JIS: 10K to 63K
- Flanged: RF, NPT
- Stainless steel
- 304SS, 304SS with CoCr-A
- -30 to 400°C
- Class IV
- 0.001 to 0.63
- 20:1 to 30:1
- Needle type plug
- Addition process of chemical and perfume
- SS2-8110-0600
Industrial Control Valves

### General-purpose valves

**Cage valves, Double seated valves, Low-noise valves**

#### Structural drawing

**Valve type**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Size</th>
<th>Pressure rating</th>
<th>End connection</th>
<th>Body material</th>
<th>Trim material</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC2_ _ _</td>
<td>6&quot; to 24&quot;</td>
<td>ANSI/JPI 150 to 600</td>
<td>Flanged : RF, RJ, Welded : BW</td>
<td>Carbon steel, Stainless steel</td>
<td>A351CF8M, SCS14A, A351CF8M, SCS14A with CoCr-Alloy treatment</td>
</tr>
<tr>
<td>ACP_ _ _</td>
<td>1-1/2&quot; to 8&quot;</td>
<td>ANSI/JPI 150 to 600</td>
<td>Flanged : RF, FF, RJ, Welded : SW, BW</td>
<td>Carbon steel, Stainless steel</td>
<td>A351CF8M, SCS14A with CoCr-Alloy treatment</td>
</tr>
<tr>
<td>HCB_ _ _</td>
<td>1-1/2&quot; to 8&quot;</td>
<td>ANSI/JPI 150 to 600</td>
<td>Flanged : RF, FF, RJ, Welded : SW, BW</td>
<td>Carbon steel, Stainless steel</td>
<td>SCS24, SCS14A with CoCr-Alloy treatment</td>
</tr>
</tbody>
</table>

**Specification sheet No.**

- SS2-AC2001-0100
- SS2-ACP110-0100
- SS2-ADV2001-0100

#### Valve type

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Size</th>
<th>Pressure rating</th>
<th>End connection</th>
<th>Body material</th>
<th>Trim material</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDC_ _ _</td>
<td>6&quot;, 10&quot;, 12&quot;</td>
<td>ANSI/JPI 150 to 600</td>
<td>Flanged : RF, FF, RJ</td>
<td>Carbon steel, Stainless steel</td>
<td>SCS24, SCS14A with Stellite or Atomloy treatment</td>
</tr>
<tr>
<td>ADVB_ _ _ / ADVM_ _ _</td>
<td>6&quot; to 12&quot;</td>
<td>ANSI/JPI 150 to 300</td>
<td>Flanged : RF</td>
<td>Carbon steel, Stainless steel</td>
<td>316SS, 316SS with CoCr-Alloy treatment</td>
</tr>
<tr>
<td>ACN_ _ _</td>
<td>1-1/2&quot; to 8&quot;</td>
<td>ANSI/JPI 150 to 600</td>
<td>Flanged : RF, FF, RJ, Welded : SW, BW</td>
<td>Carbon steel, Stainless steel</td>
<td>A351CF8M, A351CF8M with CoCr-Alloy treatment</td>
</tr>
</tbody>
</table>

**Specification sheet No.**

- SS2-AC2001-0100
- SS2-ADV110-0100
- SS2-8113-1100

#### Cage valves, Double seated valves, Low-noise valves

- Low leakage pressure balanced cage type valves
- Pressure-balanced cage type control valve
- Pressure-balanced cage type control valve

- Cage type double seated control valve
- Top & bottom guided double seat control valve
- Low-noise cage type control valve

- Low leakage pressure balanced cage type control valves
- Pressure-balanced cage type control valve
- Pressure-balanced cage type control valve

- Low leakage pressure balanced cage type control valves
- Pressure-balanced cage type control valve
- Pressure-balanced cage type control valve

- Cage type double seated control valve
- Top & bottom guided double seat control valve
- Low-noise cage type control valve

- Cage type double seated control valve
- Top & bottom guided double seat control valve
- Low-noise cage type control valve

- Cage type double seated control valve
- Top & bottom guided double seat control valve
- Low-noise cage type control valve

- Cage type double seated control valve
- Top & bottom guided double seat control valve
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- Top & bottom guided double seat control valve
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- Low-noise cage type control valve

- Cage type double seated control valve
- Top & bottom guided double seat control valve
- Low-noise cage type control valve
## General-purpose valves

### Cage valves, Double seated valves, Low-noise valves

<table>
<thead>
<tr>
<th>Type</th>
<th>Code</th>
<th>Size</th>
<th>Standard</th>
<th>Flange Type</th>
<th>Material</th>
<th>Temperature</th>
<th>Class</th>
<th>Pressure</th>
<th>Ratio</th>
<th>Special Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-noise cage type control valve</td>
<td>HCN</td>
<td>1-1/2&quot; to 8&quot;</td>
<td>ANSI/JPI 150 to 600 JIS10K to 40K</td>
<td>RF, FF, RJ</td>
<td>Carbon steel</td>
<td>-196 to 566°C</td>
<td>Class III</td>
<td>11 to 580°F</td>
<td>25:1</td>
<td>Multi-hole type 2-stage cage guided, Noise reduction of compressed fluid (ex. steam, air, gases etc.) Low emission gland packing, SIL3 capable</td>
</tr>
<tr>
<td>Large sized pressure balanced cage type control valve</td>
<td>ALVB</td>
<td>14&quot; to 20&quot;</td>
<td>ANSI/JPI 150, JIS10K</td>
<td>RF</td>
<td>Carbon steel</td>
<td>-5 to 200°C</td>
<td>Class IV</td>
<td>1440 to 3970</td>
<td>50:1</td>
<td>General-use process for petrochemical and chemical plant</td>
</tr>
<tr>
<td>Pressure balanced high-pressure cage type control valves</td>
<td>HPC</td>
<td>1-1/2&quot; to 8&quot;</td>
<td>ANSI/JPI 150 to 2500 JIS63K</td>
<td>RF, RJ</td>
<td>Carbon steel</td>
<td>-5 to 566°C</td>
<td>Class III</td>
<td>12 to 700°F</td>
<td>50:1 (option 75:1)</td>
<td>High temperature and high pressure steam of boiler and turbine unit for power plant and private power generation, SIL3 capable</td>
</tr>
<tr>
<td>High pressure service cage type double seated control valve</td>
<td>VDC</td>
<td>4&quot;, 5&quot;, 6&quot;</td>
<td>ANSI/JPI 900 to 2500 JIS64</td>
<td>RF, RJ</td>
<td>Carbon steel</td>
<td>0 to 350°C</td>
<td>Class II, III</td>
<td>56 to 315°F</td>
<td>30:1 (option 50:1)</td>
<td>High temperature and high pressure steam of boiler and turbine unit for power plant and private power generation, SIL3 capable</td>
</tr>
<tr>
<td>Low-noise cage type double seated control valve</td>
<td>VDN</td>
<td>10&quot;, 12&quot;</td>
<td>ANSI/JPI 150 to 600 JIS10K to 40K</td>
<td>RF, FF, RJ</td>
<td>Carbon steel</td>
<td>-195 to 600°C</td>
<td>SIL3 capable</td>
<td>600 to 860°F</td>
<td>25:1</td>
<td>Multi-hole type 3-stage cage guided, Noise reduction of compressed fluid (ex. steam, air, gases etc.)</td>
</tr>
<tr>
<td>High pressure service low-noise cage type double seated control valve</td>
<td>VDN</td>
<td>1-1/2&quot; to 12&quot;</td>
<td>ANSI/JPI 900 to 2500 JIS64</td>
<td>RF, RJ</td>
<td>Carbon steel</td>
<td>0 to 520°C</td>
<td>Class II, III</td>
<td>14 to 820°F</td>
<td>30:1 (option 50:1)</td>
<td>Multi-hole type 3-stage cage guided, Noise reduction of compressed fluid (ex. steam, air, gases etc.)</td>
</tr>
</tbody>
</table>

---

**Industrial Control Valves**

- Single seated valves
- Cage valves, Double seated valves, Low-noise valves
- Rotary valves
- Angle valves
- 3-way valves
- Corrosion-resistant or abrasion-resistant valves
- Motorized valves
- Actuators
- Accessories
- Special purpose valves

---

Industrial Control Valves 9
Valve type
Model No.
Size
Pressure rating
End connection
Body material
Trim material
Temperature range
Leakage performance
Cv range
Range ability
Application
Option
Specification sheet No.

**Valve type**

**Model No.**

**Size**

**Pressure rating**

**End connection**

**Body material**

**Trim material**

**Temperature range**

**Leakage performance**

**Cv range**

**Range ability**

**Application**

**Option**

**Specification sheet No.**

---

**Eccentric rotary control valve**

- **VFR**
  - **Size:** 1 to 4 in.
  - **Pressure rating:** ANSI/JPI 150, 300, 600 psi
  - **End connection:** Flanged: RF
  - **Body material:** Carbon steel
  - **Temperature range:** -60 to 350°C
  - **Leakage performance:** Class IV
  - **Cv range:** 5.6 to 250
  - **Range ability:** 100:1
  - **Application:** Powder or high viscosity service
  - **Option:** Multi-hole plate for anti-cavitation and low noise
  - **Specification sheet No.:** SS2-VFR100-0100

---

**Ceramic trim angle control valve**

- **HAF**
  - **Size:** 1 to 4 in.
  - **Pressure rating:** ANSI/JPI 150 to 600 psi
  - **End connection:** Flanged: RF, FF, RJ
  - **Body material:** Carbon steel
  - **Temperature range:** 0 to 425°C
  - **Leakage performance:** Class IV
  - **Cv range:** 4 to 175
  - **Range ability:** 30:1
  - **Application:** Hard slurry service
  - **Option:** SS2-8113-2620

---

**Super-high pressure angle control valve**

- **VAU**
  - **Size:** 6 to 12 in.
  - **Pressure rating:** Please contact us
  - **Body material:** Stainless steel
  - **Temperature range:** 0 to 100°C
  - **Leakage performance:** Class IV
  - **Cv range:** 0.003 to 0.006 (ON-OFF 0.062)
  - **Range ability:** —
  - **Application:** Super high pressure and micro-flow control in low density polyethylene plant
  - **Option:** SS2-8110-2800

---

**Valve type**

**Model No.**

**Size**

**Pressure rating**

**End connection**

**Body material**

**Trim material**

**Temperature range**

**Leakage performance**

**Cv range**

**Range ability**

**Application**

**Option**

**Specification sheet No.**
Rotary valves/Angle valves/3-way valves

### Rotary valves

1" to 6"
ANSI/JPI 150 to 300
JIS10K to 40K
Flanged : RF, FF, RJ
Carbon steel
Stainless steel
316SS, 316SS with CoCr-A
316LSS, 316LSS with CoCr-A
-50 to 425°C
Class IV
1 to 395
50:1 (option 75:1)
Slurry, high viscosity, flushing service
Bellow type bonnet, steam jacket
SS2-8113-2600

### Angle valves

1" to 6"
ANSI/JPI 150, 300
JIS10K to 30K
Flanged : RF, FF
Carbon steel
Stainless steel
316SS, 316SS with CoCr-A
316LSS, 316LSS with CoCr-A
-17 to 360°C
Class IV
6.3 to 360
30:1
- Mixing of fluid
- Diverting of low pressure fluid
SS2-AMT100-0100

### 3-way valves

1" to 6"
ANSI/JPI 300
JIS10K to 30K
Flanged : RF, FF
Forged carbon steel
Stainless steel
316SS, 316SS with CoCr-A
316LSS, 316LSS with CoCr-A
0 to 425°C
Class IV
0.33 to 9
30:1
Labyrinth trim structure
Bellow type bonnet, steam jacket
SS2-HAH100-0100

### Corrosion-resistant or abrasion-resistant valves

SS2-HAH100-0100

### Motorized valves

SS2-HAT110-0100
### Special purpose valves

**Corrosion-resistant or abrasion-resistant valves/Motorized valves**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VDD_ _ _</td>
<td>Weir diaphragm control valve</td>
<td>SS2-8110-0630</td>
</tr>
<tr>
<td>VNP_ _ _</td>
<td>Rigid PVC/polypropylene body single seated control valve</td>
<td>SS2-8190-0100</td>
</tr>
<tr>
<td>HIT_ _ _</td>
<td>Corrosion-resistant PTFE body control valve</td>
<td>SS2-8193-0200</td>
</tr>
</tbody>
</table>

**AGVB_ _ _ / AGVM_ _ _**
- 1/2" to 2"
- ANS/UP: 150, JIS10K
- Flanged : RF (equivalent), FF
- Body : FC200, lining : hard natural rubber, chloroprene
- Body : FCD-S, lining : PFA, ETFE
- Body : SCS13
- Diaphragm : natural rubber, chloroprene, PTFE, EPDM
- -5 to 140°C
- Class VI
- 3 to 295
- 20:1
- • corrosion service as acid and alkaline
- • Slurry service
- SS2-AGV200-0300

**AGVM :**
- ANSI/UP 300, JIS10K to 30K
- Flanged : RF, FF
- Welded : SW, BW
- Carbon steel
- Stainless steel
- 440CSS
- 316SS, 316SS with CoCr-A
- 316LSS, 316LSS with CoCr-A
- -196 to 566°C
- Class IV, VI
- 0.01 to 35
- 20:1 to 50:1 (option 75:1)
- flow control of saturated vapor, cold and hot water, etc.
- Low leakage gland packing system
- SS2-AGV214-0300

**HLS_ _ _**
- 1/2" to 1"
- ANSI/UP: 150 to 600
- JIS10K to 30K
- Flanged : RF, FF, RJ
- Welded : SW, BW
- Carbon steel
- Stainless steel
- 440CSS
- 316SS, 316SS with CoCr-A
- 316LSS, 316LSS with CoCr-A
- 329J1SS
- -196 to 566°C
- Class IV, VI
- 0.01 to 14
- 20:1 to 50:1 (option 75:1)
- flow control of saturated vapor, cold and hot water, etc.
- SS2-8114-0300

**HTS_ _ _**
- 1-1/2" to 8"
- ANSI/UP: 150 to 600
- JIS10K to 30K
- Flanged : RF, RJ
- Welded : SW, BW
- Carbon steel
- Stainless steel
- 440CSS
- 316SS, 316SS with CoCr-A
- 316LSS, 316LSS with CoCr-A
- 329J1SS
- -196 to 566°C
- Class IV, VI
- 10 to 700
- 50:1 (option 75:1)
- flow control of saturated vapor, cold and hot water, etc.
- SS2-8114-0300

**Electric top guided single seated control valve**
- Electric top guided single seated control valve
- Electric small-port single seated control valve
- Electric top guided single seated control valve
Special purpose valves

**Corrosion-resistant type small size ceramic control valve**

**HMC_ _ _**

1”

Max. pressure : 1960kPa

**Water**

Body : 99% Aluminum ceramic, silicon carbide ceramic
Casing : ductile cast iron, stainless steel

99% Aluminum ceramic, silicon carbide ceramic

0 to 200°C
Less than 2.0% of maximum valve capacity
1 to 4

30:1

Hard slurry service as flue-gas desulfurization, drainage, dissolving pulp slurry, and alumina refining unit

---

SS2-8193-0310

**Corrosion-/abrasion-resistant type ceramic control valve**

**HIC_ _ _**

1” to 3”

Max. pressure : 1960kPa

**Water**

Body : 99% Aluminum ceramic, silicon carbide ceramic
Casing : ductile cast iron, stainless steel

99% Aluminum ceramic, silicon carbide ceramic

0 to 200°C
Less than 1.0 to 1.5% of maximum valve capacity
13 to 120

30:1

Hard slurry service as flue-gas desulfurization, drainage, dissolving pulp slurry, and alumina refining unit

---

SS2-8193-0300

**BIOBATCH valve**

**VSB_ _ _**

20 to 100mm

JIS10K

Flanged : RF

Stainless steel

316SS

0 to 200°C

---

9 to 148

20:1 to 30:1

- Clean process as pharmaceuticals and semiconductor
- Batch control of fermentation process

---

SS2-8190-0500

**Electric pressure-balanced cage type control Valve**

**HCB_ _ _**

1-1/2” to 8”

ANSI/JPI 150 to 600
JIS10K to 40K

Flanged : RF, FF, RJ
Welded : SW, BW

Carbon steel
Stainless steel
SCS24
SCS14A, SCS14A with CoCr-A
SCS14A with Atomloy treatment

-196 to 566°C

Class II, III, VI

11 to 850

50:1 (option 75:1)

flow control of saturated vapor, cold and hot water, etc.

---

SS2-8114-1100
### Actuators

#### Model No.

<table>
<thead>
<tr>
<th>Valve type</th>
<th>Action</th>
<th>Stroke</th>
<th>Manual operator</th>
<th>Air supply</th>
<th>Detailed data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multispring diaphragm motor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HA2_ to HA4_</td>
<td>Direct and reverse action</td>
<td>25 to 75mm</td>
<td>Side mounted handwheel</td>
<td>Side mounted handwheel</td>
<td>No.SS2-8213-0500</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td><strong>PSA2_ to PSA4_</strong></td>
<td>Direct and reverse action</td>
<td>14.3 to 38mm</td>
<td>Side mounted handwheel</td>
<td>Side mounted handwheel</td>
<td>No.SS2-PSA200-0100</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td><strong>Spring piston cylinder</strong></td>
<td></td>
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</tr>
<tr>
<td>PSA6R</td>
<td>Reverse action</td>
<td>20 to 100mm</td>
<td>Side mounted handwheel</td>
<td>Side mounted handwheel</td>
<td>No.SS2-PSA100-0100</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Spring piston cylinder</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>GOM83S to GOM124S</td>
<td>Direct action</td>
<td>75 to 100mm</td>
<td>With manual handwheel</td>
<td>With manual handwheel</td>
<td>No.SS2-8210-0200</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Springless piston cylinder</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOM64LM to 154LM</td>
<td>Direct and reverse action</td>
<td>50 to 100mm</td>
<td>With or without handwheel</td>
<td>With or without handwheel</td>
<td>No.SS2-8210-0200</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td><strong>Multispring lever diaphragm motor</strong></td>
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</tr>
<tr>
<td>HL2_ to HL4_</td>
<td>Direct and reverse action</td>
<td>—</td>
<td></td>
<td></td>
<td>No.SS2-8213-0510</td>
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<td></td>
</tr>
</tbody>
</table>

#### Features

- Single action
- Compact, lightweight
- Compact, high power
- Compact, long stroke
<table>
<thead>
<tr>
<th><strong>High power spring cylinder</strong></th>
<th><strong>Springless piston cylinder</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PSA7R</strong></td>
<td><strong>DAP560, DAP1000, DAP1500</strong></td>
</tr>
<tr>
<td>Reverse action</td>
<td>Direct and reverse action</td>
</tr>
<tr>
<td>50 to 100mm</td>
<td>50 to 100mm</td>
</tr>
<tr>
<td>Side mounted handwheel</td>
<td>Hydraulic manual handle</td>
</tr>
<tr>
<td>400kPa (4kgf/cm²)</td>
<td>200 to 700kPa (2 to 7kgf/cm²)</td>
</tr>
<tr>
<td>No SS2-PSA100-0100</td>
<td>No SS2-DAP100-0100</td>
</tr>
</tbody>
</table>

- Single action
- High power, low supply pressure
- Double action
- Compact, high power

<table>
<thead>
<tr>
<th><strong>Spring diaphragm motor</strong></th>
<th><strong>Springless piston cylinder</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VASD, VASR</strong></td>
<td><strong>GOM44L to GOM1510L</strong></td>
</tr>
<tr>
<td>Direct and reverse action</td>
<td>Direct and reverse action</td>
</tr>
<tr>
<td>100mm</td>
<td>100 to 250mm</td>
</tr>
<tr>
<td>Side mounted handwheel, top mounted handwheel</td>
<td>With or without handwheel</td>
</tr>
<tr>
<td>140 to 270kPa (1.4 to 2.8kgf/cm²)</td>
<td>200kPa (2kgf/cm²)</td>
</tr>
<tr>
<td>No SS2-8210-0100</td>
<td>No SS2-8210-0200</td>
</tr>
</tbody>
</table>

- Single action
- Compact, long stroke
### Smart Valve Positioner 700 Series

**AVP70**
- Input signal: 4 to 20mA, FOUNDATION Fieldbus
- Stroke range: 10 to 100mm (Linear), to 90° (Rotary)
- Air supply pressure: 140 to 700kPa (1.4 to 7.0 kgf/cm²)
- Ambient temperature: -40 to +80°C
- Features:
  - Single action/Double action
  - Partial Stroke Test (PST)
  - Valve signature and Stop Response Test
  - Communication: HART®, FOUNDATION Fieldbus, ITK6.1

### Smart Valve Positioner 300 Series

**AVP30**
- Input signal: 4 to 20mA, split range setting available
- Stroke range: 10 to 100mm (Linear), to 90° (Rotary)
- Air supply pressure: 140 to 700kPa (1.4 to 7.0 kgf/cm²)
- Ambient temperature: -40 to +80°C
- Features:
  - Single action/Double action
  - Partial Stroke Test (PST)
  - Easy zero/span adjustments, wide applicability

### Smart Valve Positioner 200 Series

**AVP20**
- Input signal: 4 to 20mA, split range setting available
- Stroke range: 10 to 100mm (Linear), to 90° (Rotary)
- Air supply pressure: 140 to 700kPa (1.4 to 7.0 kgf/cm²)
- Ambient temperature: -40 to +80°C
- Features:
  - Single action/Double action
  - Anti-vibration capabilities
  - Easy zero/span adjustments, wide applicability

### Pneumatic positioner

**VPR02** / **VPR03**
- Input signal: 20 to 98, 20 to 60, 60 to 98kPa (0.2 to 1.0, 0.2 to 0.6, 0.6 to 1.0 kgf/cm²)
- Stroke range: 60°
- Air supply pressure: 340 to 490kPa (3.4 to 5.0 kgf/cm²)
- Ambient temperature: 20 to +70°C
- Features:
  - Single action
  - For small actuators on FloWing valves

### Pneumatic positioner

**VPR08**
- Input signal: 20 to 98, 20 to 60, 60 to 98kPa (0.2 to 1.0, 0.2 to 0.6, 0.6 to 1.0 kgf/cm²)
- Stroke range: 14 to 100mm
- Air supply pressure: 350 to 690kPa (3.5 to 7.0 kgf/cm²)
- Ambient temperature: 30 to +80°C
- Features:
  - Single action
  - For use with high-pressure actuators
Double action, pneumatic positioner
VPP02-_ / VPP03-_  
20 to 98, 20 to 60, 60 to 98kPa  
(0.2 to 1.0, 0.2 to 0.6, 0.6 to 1.0kgf/cm²)  
14 to 100mm  
200 to 690kPa (2.0 to 7.0kgf/cm²)  
-30 to +80°C  
No SS2-E310-0200
- Single action
- For use with high-pressure actuators

Smart Valve positioner for rotary valve
SVX10_  
4 to 20mADC, split range setting available to 90° (Rotary)  
140 to 700kPa (1.4 to 7.0kgf/cm²)  
-40 to +80°C  
No SS2-SVX100-0100
- Single action
- Double action
- Communication: HART®
- Easy zero/span adjustments

Pneumatic positioner
HTP-_ _  
20 to 98, 20 to 60, 60 to 98kPa  
(0.2 to 1.0, 0.2 to 0.6, 0.6 to 1.0kgf/cm²)  
6 to 100mm  
140 to 390kPa (1.4 to 4.0kgf/cm²)  
-25 to +60°C  
No SS2-E310-0200
- Single action
- Multipurpose

Pneumatic positioner
VPE04-_ / VPE05-_  
20 to 98, 20 to 60, 60 to 98kPa  
(0.2 to 1.0, 0.2 to 0.6, 0.6 to 1.0kgf/cm²)  
6 to 25mm  
140 to 390kPa (1.4 to 4.0kgf/cm²)  
-20 to +70°C  
No SS2-E310-0400
- Single action
- Multipurpose for small actuators

Double action, pneumatic positioner
GOP_-  
20 to 98, 20 to 60, 60 to 98kPa  
(0.2 to 1.0, 0.2 to 0.6, 0.6 to 1.0kgf/cm²)  
19 to 50mm  
200kPa (2.0kgf/cm²)  
0 to +70°C  
None
- For G-O-Motors

Air pressure regulator with filter
KZ03-_ _  
Primary: Max. 970kPa (9.9kgf/cm²)  
Secondary: 12 to 390kPa (0.12 to 4.0kgf/cm²) (KZ03-2)  
12 to 690kPa (0.12 to 7.0kgf/cm²) (KZ03-3)  
-30 to +80°C  
No SS2-E310-0700
- Supplies clean, dry air under constant pressure
### Limit switch

**VCL-5001-__ / VCX-7001-__ / 1LX7-__**

- **Input signal**: explosion-proof switches compliant with IEC Standards (IEC II CT6)
- **Stroke range**: vertical explosion-proof switches
- **Air supply pressure**: 120 to 290 kPa (1.2 to 3.0 kgf/cm²)
- **Ambient temperature**: -30 to +80°C
- **Model No.**: SS2-8310-0800

**Features**
- Verifying the fully opened or fully closed position of control valve

### Air lock relay

**VF02**

- **Input signal**: 490 kPa (5 kgf/cm²) or less
- **Stroke range**: 20 to 30 kPa (0.2 to 0.3 kgf/cm²) [MAX: 250 kPa (2.6 kgf/cm²)]
- **Air supply pressure**: 40 to 80 kPa (0.4 to 0.8 kgf/cm²)
- **Ambient temperature**: -30 to +80°C

**Model No.**: SS2-8310-0800

**Features**
- In case of air pressure failures, relay maintains at the pre-failure level the air pressure to the actuator

### Pneumatic relay (with manual reset)

**VF03**

- **Input signal**: 490 kPa (5 kgf/cm²) or less
- **Stroke range**: 20 to 30 kPa (0.2 to 0.3 kgf/cm²) [MAX: 250 kPa (2.6 kgf/cm²)]
- **Air supply pressure**: 40 to 80 kPa (0.4 to 0.8 kgf/cm²)
- **Ambient temperature**: -30 to +80°C

**Model No.**: SS2-8310-0800

**Features**
- Combines compact 3-way on/off valve and diaphragm motor with reset mechanism
- For specialized on/off switching with both automatic and manual operations

### Pneumatic relay

**VF04**

- **Input signal**: 490 kPa (5 kgf/cm²) or less
- **Stroke range**: 20 to 30 kPa (0.2 to 0.3 kgf/cm²) [MAX: 250 kPa (2.6 kgf/cm²)]
- **Air supply pressure**: 40 to 80 kPa (0.4 to 0.8 kgf/cm²)
- **Ambient temperature**: -30 to +80°C

**Model No.**: SS2-8310-0800

**Features**
- Combines 3-way on/off valve used to switch signal air lines based on balance between supply pressure on upper diaphragm and force of preset spring
**Special purpose valves**

- **Cage Valve for LNG (20 in.)**
  Model VDC

- **Bottom Plug Valve**

- **Super low-temperature Valve for Liquid Hydrogen**

- **Let-down Valve for Coal Liquefaction**
  Model VAZ

- **Minimum Flow Valve for Pumps**
  Model EAVM

**Industrial Control Valves**

- Single seated valves
- Cage valves, Double seated valves, Low-noise valves
- Rotary valves
- Angle valves
- 3-way valves
- Corrosion-resistant or abrasion-resistant valves
- Motorized valves
- Actuators
- Accessories
- Special purpose valves
We create value together with customers at their site through **human-centered automation**.

We solve issues in a wide array of industries, from oil refining, chemical, iron and steel, pulp and paper to automobiles, electrical/electronic, semiconductor, and foods and beverages, through the provision of products, solutions, instrumentation, engineering and maintenance service to support optimal operation of the customers’ facilities throughout their lifecycle. Collaborating with people involved in production, we develop advanced measurement and control technologies, and strive to realize a production site where workers can develop their own skills in safety, thus creating new value for our customers.

Using mobile terminals, gain a clear picture of what is happening on site throughout the factory.

Operate the equipment after checking instructions and guidance.

Monitor the production status throughout the factory and operate the equipment.

Gain a clear idea of how production is proceeding by using on-site indicators and recorders.

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