



# Industrial Control Valves

Selection Guide



# 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.





Chemical plants



Petrochemical plants



Thermal power stations



Oil refineries



Steel mills



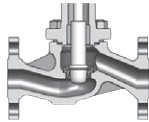
# Selection of Control Valve

Select the **appropriate valve.**

General-purpose valves

## Single seated valves

Basic and most versatile type of control valve

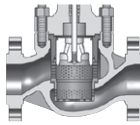


Model No. AGVB\_\_\_\_, AGVM\_\_\_\_  
ACT\_\_\_\_  
HLS\_\_\_\_, HTS\_\_\_\_  
HLC\_\_\_\_, HSC\_\_\_\_

P 6

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

For heavy-duty, high pressure and high differential pressure service



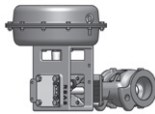
Model No. ADVB\_\_\_\_, ADVM\_\_\_\_, AC2\_\_\_\_  
ACP\_\_\_\_, HCB\_\_\_\_, HPC\_\_\_\_  
ACN\_\_\_\_, HCN\_\_\_\_, VDN\_\_\_\_

P 8

Large-port and high-flow valves

## Rotary valves

For processes requiring high capacity and wide control range



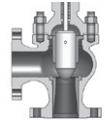
Model No. VFR\_\_\_\_

P 10

Angle/3-way valves

## Angle valves

For high differential pressure, slurry, or flashing service

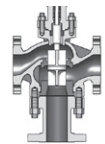


Model No. HAV\_\_\_\_, HAH\_\_\_\_, HAF\_\_\_\_  
HAL\_\_\_\_, VAU\_\_\_\_

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## 3-way valves

Fluid mixing/separating by a single valve



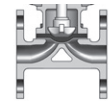
Model No. AMT\_\_\_\_, HDT\_\_\_\_

P 10

Special purpose valves

## Corrosion-resistant or abrasion-resistant valves

For operations and clean processes requiring corrosion-resistance or abrasion-resistance



Model No. VDD\_\_\_\_, VNP\_\_\_\_, HIT\_\_\_\_,  
HIC\_\_\_\_, HMC\_\_\_\_

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## Valves for the electric power market

For power generation facilities and special applications

Model No. EGVM\_\_\_\_, EAVM\_\_\_\_  
EGVT\_\_\_\_, EGWV\_\_\_\_  
EGVD\_\_\_\_, EAVD\_\_\_\_

Please contact us.

## Motorized valves

For fluid control without a compressed air supply



Model No. AGVB\_\_\_\_, AGVM\_\_\_\_  
HLS\_\_\_\_, HTS\_\_\_\_  
ACT\_\_\_\_

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## Select the **actuator type.**

### Diaphragm actuators

General-purpose, most frequently used type of actuator

Model No.	HA__ , HL__ PSA__ , VA5_
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P 14

### Cylinder actuators

For high-pressure, large-port valves

Model No.	PSA6R, PSA7R, DAP560, DAP1000, DAP1500 GOM__ _
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P 14

## Select the **accessories.**

### Positioners

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

Model No.	AVP__ _ , HTP__ _ VPE04__ , VPE05__ VPP02__ , VPP03__ , VPP08__ VPR02__
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P 16

### Air lock valve, pilot valve

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

Model No.	VF02/03/04 or OEM products
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P 18

### Regulators with filter

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

Model No.	KZ03__ _ or OEM products
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### Solenoid valves

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

Model No.	OEM products
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### Volume booster

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

Model No.	OEM products
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P 18

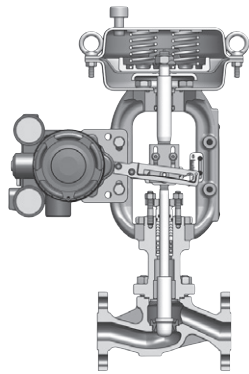
### Limit switches

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

Model No.	VCL5000 VCX7001, 1LX7001 VCX8001, 1LX8001
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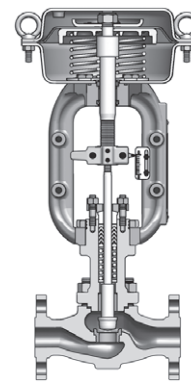
Structural drawing



Top guided single seated control valve

AGVB\_ / AGVM\_

Size	1/2" to 4"
Pressure rating	AGVB_ : ANSI/JPI 150, JIS10K AGVM_ : ANSI/JPI 300, JIS16K to 30K
End connection	Flanged : RF, FF Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	440CSS 316SS, 316SS with CoCr-A 316LSS, 316LSS with CoCr-A
Temperature range	-196 to 400°C
Leakage performance	Class IV, IV-S1, VI
Cv range	0.1 to 200
Range ability	20:1 to 50:1 (option 75:1)
Application	General-use process for petrochemical and chemical plant
Option	Low emission gland packing/ SIL3 capable
Specification sheet No.	SS2-AGV200-0001



Small-port single seated control valve

HLS\_ / HLC\_

Size	1/2" to 1"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 30K
End connection	Flanged : RF, FF, RJ Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	440CSS 316SS, 316SS with CoCr-A 316LSS, 316LSS with CoCr-A 329J1SS
Temperature range	-196 to 566°C
Leakage performance	Class IV, IV-S1, V, VI
Cv range	0.01 to 14
Range ability	20:1 to 50:1 (option 75:1)
Application	<ul style="list-style-type: none"> <li>General-use process for petrochemical and chemical plant</li> <li>flushing service</li> </ul>
Option	Bellow seal bonnet, steam jacket Low emission gland packing/ SIL3 capable
Specification sheet No.	SS2-8113-0200/0210

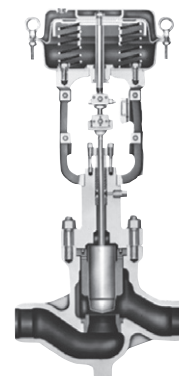
Structural drawing



Top guided single seated control valve

VST\_

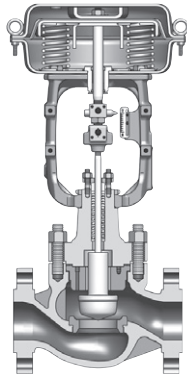
Size	5", 10", 12"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 30K
End connection	Flanged : RF, FF, RJ Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	440CSS 316SS, 316SS with CoCr-A 316LSS, 316LSS with CoCr-A
Temperature range	-101 to 520°C
Leakage performance	Class IV, IV-S1, V, VI
Cv range	99 to 1440
Range ability	30:1
Application	General-use process for petrochemical and chemical plant
Option	—
Specification sheet No.	SS2-8110-0300



Top guided high pressure single seated control valve

HPS\_

Size	1" to 3"
Pressure rating	ANSI/JPI 900 to 2500 JIS63K
End connection	Flanged : RF, RJ Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	440CSS 316SS, 316SS with CoCr-A
Temperature range	-5 to 566°C
Leakage performance	Class IV
Cv range	class 1500 or less: 0.25 to 110 class 2500: 0.25 to 75 50:1 (option 75:1)
Application	High temperature and high pressure steam of boiler and turbine unit for power plant and private power generation
Option	SIL3 Capable
Specification sheet No.	SS2-8113-0400



**Top guided single seated control valve**

HTS\_\_\_ / HSC\_\_\_

1-1/2" to 8"  
ANSI/JPI 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

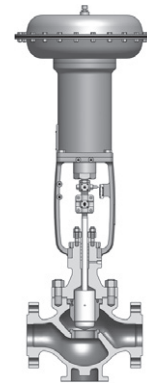
-196 to 566°C  
Class IV, IV-S1, V, VI

10 to 700

50:1 (option 75:1)

- 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  
JIS63K

Flanged : RF, RJ  
Welded : SW, BW

Carbon steel

440CSS  
SUS304 with CoCr-A

0 to 520°C

Class IV

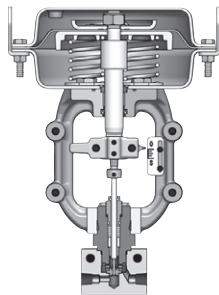
class 1500 or less : 56 to 315

class 2500 : 39 to 210

30:1

- 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  
JIS10K to 63K

Threaded : Rc, NPT  
Flanged : RF, RJ

Stainless steel

Solid 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

Single seated valves

Cage valves,  
Double seated valves,  
Low-noise valves

Rotary valves

Angle valves

3-way valves

Corrosion-resistant or  
abrasion-resistant valves

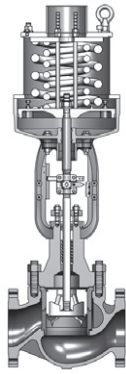
Motorized valves

Actuators

Accessories

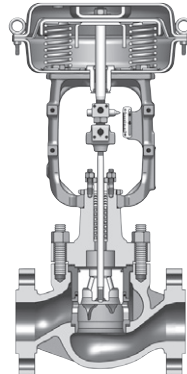
Special purpose valves

Structural drawing



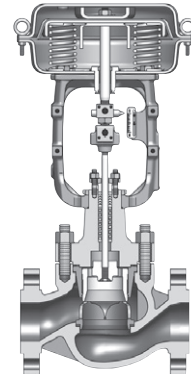
Low leakage pressure balanced cage type control valves

<b>Valve type</b>	AC2_ _ _
<b>Model No.</b>	
Size	6" to 24"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 30K
End connection	Flanged : RF, RJ Welded : BW
Body material	Carbon steel Stainless steel
Trim material	A351CF8M, SCS14A A351CF8M, SCS14A with CoCr-A SCS24
Temperature range	—
Leakage performance	Class V
Cv range	179 to 5920
Range ability	50:1
Application	• Flexible metal seat structure • high differential pressure process which needed low leakage performance
Option	Low emission gland packing/ SIL3 capable
Specification sheet No.	SS2-AC2001-0100



Pressure-balanced cage type control valve

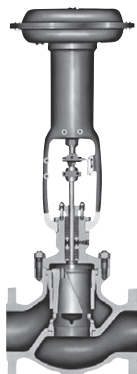
<b>Valve type</b>	ACP_ _ _
<b>Model No.</b>	
Size	1-1/2" to 8"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 40K
End connection	Flanged : RF, FF, RJ Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	A351CF8M A351CF8M with CoCr-A SCS24
Temperature range	-196 to 400°C
Leakage performance	Class IV
Cv range	10 to 795
Range ability	50:1 (option 75:1)
Application	General-use process for petrochemical and chemical plant
Option	Low emission gland packing/ SIL3 capable
Specification sheet No.	SS2-ACP110-0100



Pressure-balanced cage type control valve

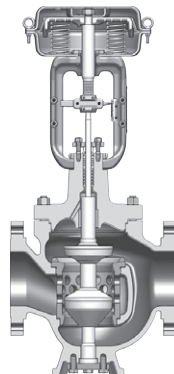
<b>Valve type</b>	HCB_ _ _
<b>Model No.</b>	
Size	1-1/2" to 8"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 40K
End connection	Flanged : RF, FF, RJ Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	SCS24 SCS14A with CoCr-A or Atomloy treatment SCS16A, SCS16A with CoCr-A
Temperature range	-196 to 566°C
Leakage performance	Class II, III, VI
Cv range	11 to 850
Range ability	50:1 (option 75:1)
Application	General-use process for petrochemical and chemical plant
Option	Bellows type bonnet, steam jacket Low emission gland packing/ SIL3 capable
Specification sheet No.	SS2-8113-1100

Structural drawing



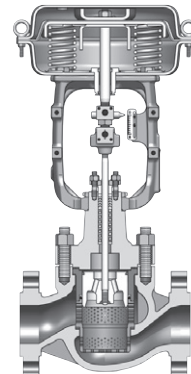
Cage type double seated control valve

<b>Valve type</b>	VDC_ _ _
<b>Model No.</b>	
Size	5", 10", 12"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 40K
End connection	Flanged : RF, FF, RJ
Body material	Carbon steel Stainless steel
Trim material	SCS24 SCS14A with Stellite or Atomloy treatment SCS16A, SCS16A with CoCr-A
Temperature range	-195 to 600°C
Leakage performance	Class II, VI
Cv range	99 to 1440
Range ability	30:1 (option 50:1)
Application	General-use process for petrochemical and chemical plant
Option	Bellows type bonnet, steam jacket SIL3 capable
Specification sheet No.	SS2-8110-1100



Top & bottom guided double seat control valve

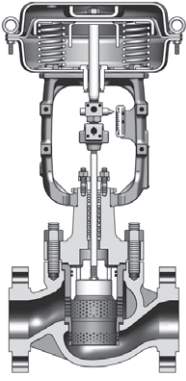
<b>Valve type</b>	ADVB_ _ _ / ADVM_ _ _
<b>Model No.</b>	
Size	6" to 12"
Pressure rating	ADVB: ANSI/JPI 150, JIS10K ADVM: ANSI/JPI 300, JIS16K to 30K
End connection	Flanged : RF
Body material	Carbon steel Stainless steel
Trim material	316SS, 316SS with CoCr-A 630SS
Temperature range	-45 to 400°C
Leakage performance	Class IV
Cv range	215 to 1580
Range ability	50:1
Application	• Top & bottom guided double seat structure • Hydrocarbon process for refinery and petrochemical plant
Option	Low emission gland packing
Specification sheet No.	SS2-ADV100-0100



Low-noise cage type control valve

<b>Valve type</b>	ACN_ _ _
<b>Model No.</b>	
Size	1-1/2" to 8"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 40K
End connection	Flanged : RF, FF, RJ Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	A351CF8M, A351CF8M with CoCr-A
Temperature range	-196 to 400°C
Leakage performance	Class IV
Cv range	11 to 580
Range ability	50:1
Application	• Multi-hole type 2-stage cage guided with seal ring • Noise reduction of compressed fluid (ex. steam, air, gases etc.)
Option	Low emission gland packing/ SIL3 capable
Specification sheet No.	SS2-ACN110-0100





**Low-noise cage type control valve**

HCN\_ \_ \_

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 III

11 to 580

25:1

- Multi-hole type 2-stage cage guided

- Noise reduction of compressed fluid (ex. steam, air, gases etc.)

Low emission gland packing/ SIL3 capable

SS2-8113-1110



**Large sized pressure balanced cage type control valve**

ALVB\_ \_ \_ / ALVM\_ \_ \_

14" to 20"

ALVB: ANSI/JPI 150, JIS10K  
ALVM: ANSI/JPI 300, JIS20K

Flanged : RF

Carbon steel

SCS24

-5 to 200°C

Class IV

1440 to 3970

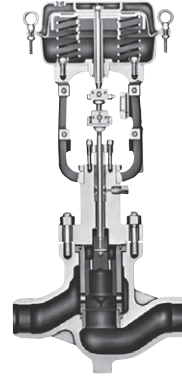
50:1

- Seal ring structure

- General-use process for petrochemical and chemical plant

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SS2-ALV100-0100



**Pressure balanced high-pressure cage type control valves**

HPC\_ \_ \_

1-1/2" to 8"  
ANSI/JPI 900 to 2500  
JIS63K

Flanged : RF, RJ  
Welded : SW, BW

Carbon steel

SCS24  
304SS with Atomloy treatment  
304SS with Stellite and Atomloy treatment

-5 to 566°C

Class III

Class 1500 or less : 12 to 700

Class 2500 : 12 to 520

50:1 (option 75:1)

- High temperature and high pressure steam of boiler and turbine unit for power plant and private power generation

SIL3 capable

SS2-8113-1200



**High pressure service cage type double seated control valves**

VDC\_ \_ \_

4", 5", 6"  
ANSI/JPI 900 to 2500  
JIS63K

Flanged : RF, RJ  
Welded : SW, BW

Carbon steel  
Stainless steel

SCS24  
SCS14A, SCS14A with CoCr-A  
SCS14A with Atomloy treatment  
SCS16A, SCS16A with CoCr-A

0 to 520°C

Class II, III

Class 1500 or less : 56 to 315

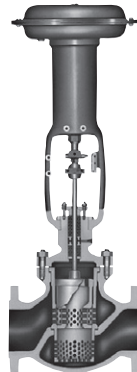
Class 2500 : 39 to 210

30:1 (option 50:1)

- High temperature and high pressure steam of boiler and turbine unit for power plant and private power generation

SIL3 capable

SS2-8110-1200



**Low-noise cage type double seated control valve**

VDN\_ \_ \_

10", 12"  
ANSI/JPI 150 to 600  
JIS10K to 40K

Flanged : RF, FF, RJ

Carbon steel  
Stainless steel

—

-195 to 600°C

—

600 to 860

25:1

- Multi-hole type 3-stage cage guided
- Noise reduction of compressed fluid (ex. steam, air, gases etc.)

—

SS2-8110-1300



**High pressure service low-noise cage type double seated control valve**

VDN\_ \_ \_

1-1/2" to 12"  
ANSI/JPI 900 to 2500  
JIS63K

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

Carbon steel  
Stainless steel

—

0 to 520°C

—

Class 1500 or less : 14 to 820

Class 2500 : 10 to 580

30:1

- Multi-hole type 3-stage cage guided
- Noise reduction of compressed fluid (ex. steam, air, gases etc.)

SIL3 capable

SS2-8110-1400

Single seated valves

Cage valves, Double seated valves, Low-noise valves

Rotary valves

Angle valves

3-way valves

Corrosion-resistant or abrasion-resistant valves

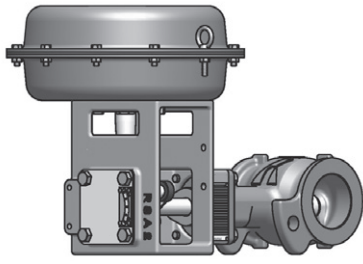
Motorized valves

Actuators

Accessories

Special purpose valves

**Structural drawing**



**Eccentric rotary control valve**

**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.

VFR\_ \_ \_

1" to 4"

ANSI/JPI 150, 300, 600\*

JIS10K, 20K, 30K\*, 40K\*

\* Size 2 in. or less

Wafer

Flanged : RF

Carbon steel

Stainless steel

SCS24

SCS14, SCS14 with CoCr-A

-60 to 350°C

Class IV

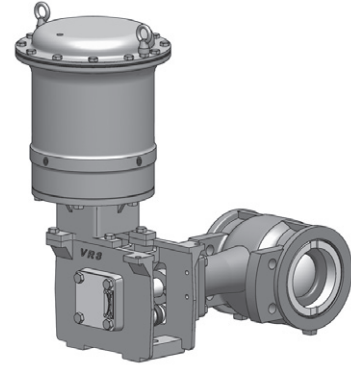
5.6 to 250

100:1

- High rangeability
- powder or high viscosity service

Multi-hole plate for anti-cavitation and low noise

SS2-VFR100-0200



**Eccentric rotary control valve**

VFR\_ \_ \_

6" to 12"

ANSI/JPI 150, 300

JIS10K, 20K

Wafer

Flanged : RF

Carbon steel

Stainless steel

SCS24

SCS14, SCS14 with CoCr-A

-60 to 350°C

Class IV

240 to 1900

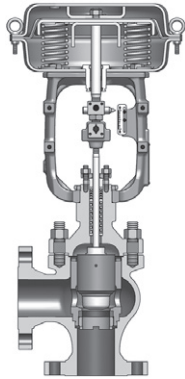
100:1

- High rangeability
- Powder or high viscosity service
- High differential pressure service

Multi-hole plate for anti-cavitation and low noise

SS2-VFR100-0100

**Structural drawing**



**Ceramic trim angle control valve**

**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.

HAF\_ \_ \_

1" to 4"

ANSI/JPI 150 to 600

JIS10K to 40K

Flanged : RF, FF, RJ

Carbon steel

Stainless steel

Cyaron ceraic, silicon carbide ceramic

0 to 425°C

Class IV

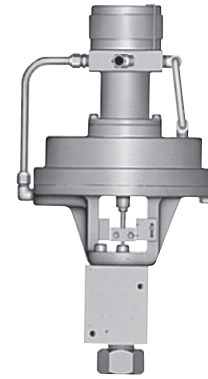
4 to 175

30:1

Hard slurry service

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SS2-8113-2620



**Super-high pressure angle control valve**

VAU\_ \_ \_

Please contact us

Max. pressure : 343MPa

Please contact us

Stainless steel

Solid CoCr-A

0 to 100°C

Class IV

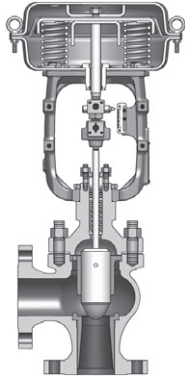
0.003 to 0.006 (ON-OFF 0.062)

—

Super high pressure and micro-flow control  
in Low density polyethylene plant

—

SS2-8110-2800



**Venturi throat type angle control valve**

HAV\_ \_ \_

1" to 6"  
ANSI/JPI 150 to 600  
JIS10K to 40K

Flanged : RF, FF, RJ

Carbon steel  
Stainless steel

440CSS  
316SS, 316SS with CoCr-A  
316LSS, 316LSS with CoCr-A

-50 to 425°C  
Class IV

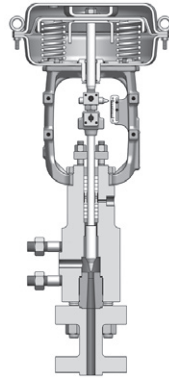
1 to 395

50:1 (option 75:1)

Slurry, high viscosity, flushing service

Bellows type bonnet, steam jacket

SS2-8113-2600



**High pressure service angle control valve**

HAH\_ \_ \_

3/4" to 1-1/2"

ANSI 2500

Flanged : RF, RJ

Forged carbon steel  
Stainless steel

440CSS  
316SS with CoCr-A

0 to 425°C  
Class IV

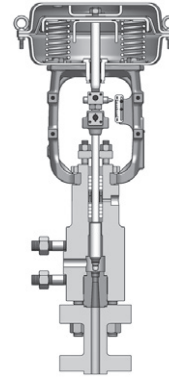
0.33 to 9

30:1 (option 50:1)

Abrasion service of high temperature  
and high pressure

—

SS2-HAH100-0100



**Labyrinth trim angle control valve**

HAL\_ \_ \_

3/4" to 1-1/2"

ANSI/JPI 900 to 2500

Flanged : RF, RJ

Forged carbon steel  
Stainless steel

440CSS

0 to 425°C  
Class IV

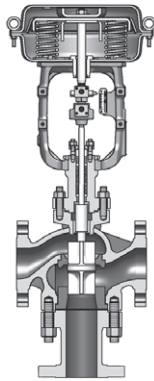
0.33 to 9

30:1 (option 50:1)

Labyrinth trim structure

Bellows type bonnet, steam jacket

SS2-8110-1100



**Three way control valve**

AMT\_ \_ \_

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

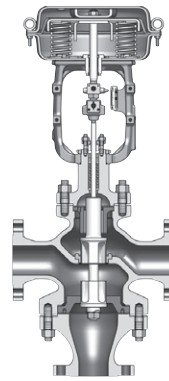
-17 to 350°C  
Class IV

6.3 to 360

30:1

- Mixing of fluid
- Diverting of low pressure fluid

SS2-AMT100-0100



**Three way control valve for diverting service**

HDT\_ \_ \_

3" to 6"  
ANSI/JPI 150, 300  
JIS10K, 20K

Flanged : RF, FF

Carbon steel  
Stainless steel

316SS, 316SS with CoCr-A  
316LSS, 316LSS with CoCr-A

0 to 425°C  
Class IV

70 to 270

30:1

Diverting of fluid

—

SS2-HDT110-0100

Single seated valves

Cage valves,  
Double seated valves,  
Low-noise valves

**Rotary valves**

**Angle valves**

**3-way valves**

Corrosion-resistant or  
abrasion-resistant valves

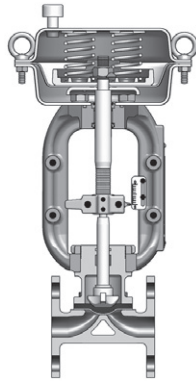
Motorized valves

Actuators

Accessories

Special purpose valves

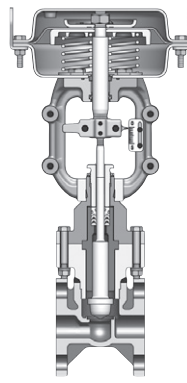
Structural drawing



**Weir diaphragm control valve**

VDD\_ \_ \_

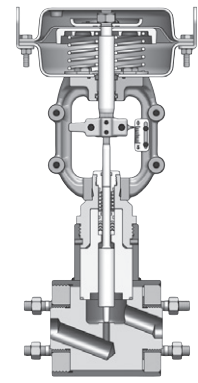
Size	1/2" to 4"
Pressure rating	ANSI 150 JIS10K
End connection	Flanged : RF (equivalent), FF
Body material	Body : FC200, lining : hard natural rubber, chloroprene Body : FCD-S, lining : PFA, ETFE Body : SCS13
Trim material	Diaphragm : natural rubber, chloroprene, PTFE, EPDM
Temperature range	-5 to 140°C
Leakage performance	Class VI
Cv range	3 to 295
Range ability	20:1
Application	<ul style="list-style-type: none"> <li>corrosion service as acid and alkaline</li> <li>Slurry service</li> </ul>
Option	—
Specification sheet No.	SS2-8110-0530



**Rigid PVC/polypropylene body single seated control valve**

VNP\_ \_ \_

Size	3/4" to 4"
Pressure rating	ANSI/JPI 150 JIS5K to 10K
End connection	Flanged : FF (RF)
Body material	Rigid PVC, polypropylene
Trim material	PTFE, glass-reinforced PTFE, rigid PVC, polypropylene
Temperature range	0 to 80°C
Leakage performance	Class IV
Cv range	1 to 35
Range ability	20:1 to 30:1
Application	corrosion service as acid and alkaline
Option	—
Specification sheet No.	SS2-8190-0100

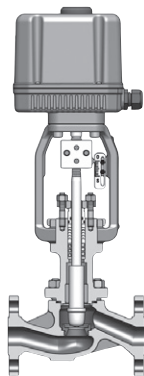


**Corrosion-resistant PTFE body control valve**

HIT\_ \_ \_

Size	3/4" to 2"
Pressure rating	ANSI 150 JIS10K
End connection	Stud bolts type
Body material	Body : PTFE Casing : 304SS
Trim material	PTFE
Temperature range	0 to 140°C
Leakage performance	Class IV
Cv range	1 to 35
Range ability	20:1 to 30:1
Application	corrosion service as acid and alkaline
Option	—
Specification sheet No.	SS2-8193-0200

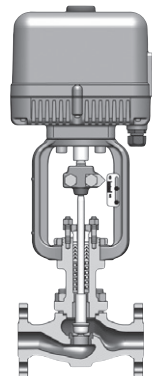
Structural drawing



**Electric top guided single seated control valve**

AGVB\_ \_ \_ / AGVM\_ \_ \_

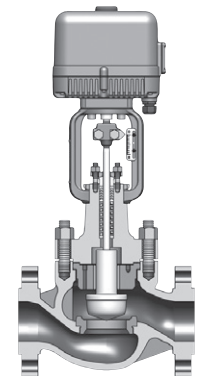
Size	1/2" to 2"
Pressure rating	AGVB : ANSI/JPI 150, JIS10K AGVM : ANSI/JPI 300, JIS16K to 30K
End connection	Flanged : RF, FF Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	440CSS 316SS, 316SS with CoCr-A 316LSS, 316LSS with CoCr-A
Temperature range	-196 to 400°C
Leakage performance	Class IV, VI
Cv range	0.1 to 50
Range ability	20:1 to 50:1 (option 75:1)
Application	flow control of saturated vapor, cold and hot water, etc.
Option	Low leakage gland packing system
Specification sheet No.	SS2-AGV200-0300



**Electric small-port single seated control valve**

HLS\_ \_ \_

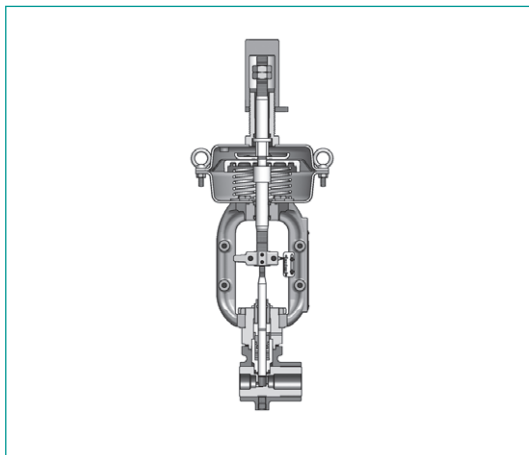
Size	1/2" to 1"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 30K
End connection	Flanged : RF, FF, RJ Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	440CSS 316SS, 316SS with CoCr-A 316LSS, 316LSS with CoCr-A 329J1SS
Temperature range	-196 to 566°C
Leakage performance	Class IV, VI
Cv range	0.01 to 14
Range ability	20:1 to 50:1 (option 75:1)
Application	flow control of saturated vapor, cold and hot water, etc.
Option	—
Specification sheet No.	SS2-8114-0200



**Electric top guided single seated control valve**

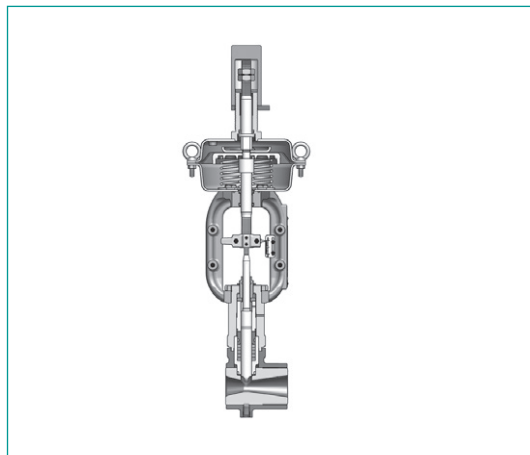
HTS\_ \_ \_

Size	1-1/2" to 8"
Pressure rating	ANSI/JPI 150 to 600 JIS10K to 30K
End connection	Flanged : RF, FF, RJ Welded : SW, BW
Body material	Carbon steel Stainless steel
Trim material	440CSS 316SS, 316SS with CoCr-A 316LSS, 316LSS with CoCr-A 329J1SS
Temperature range	-196 to 566°C
Leakage performance	Class IV, VI
Cv range	10 to 700
Range ability	50:1 (option 75:1)
Application	flow control of saturated vapor, cold and hot water, etc.
Option	—
Specification sheet No.	SS2-8114-0300



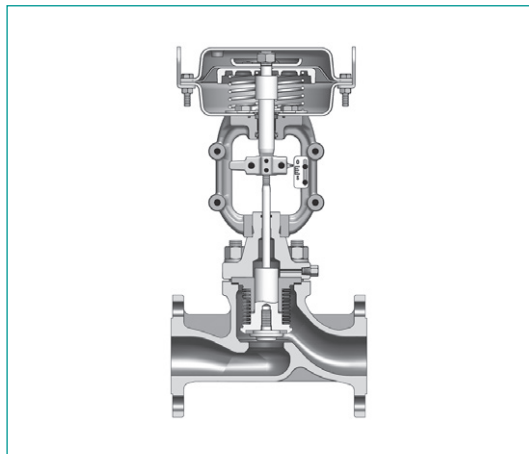
**Corrosion-resistant type small size ceramic control valve**

HMC_ _ _
1"
Max. pressure : 1960kPa
Wafer
Body : 99% Alumin ceramic, silicon carbide ceramic Casing : ductile cast iron, stainless steel
99% Alumin 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



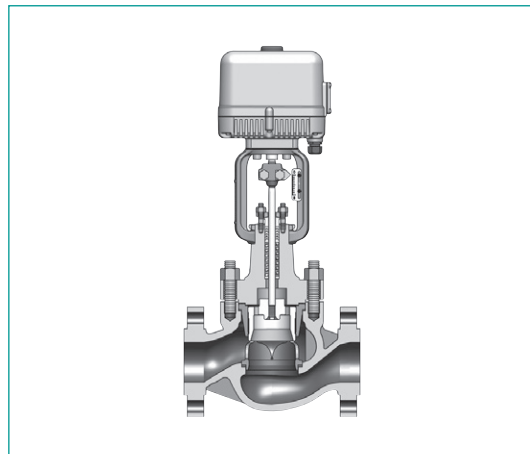
**Corrosion/abrasion-resistant type ceramic control valve**

HIC_ _ _
1" to 3"
Max. pressure : 1960kPa
Wafer
Body : 99% Alumin ceramic, silicon carbide ceramic Casing : ductile cast iron, stainless steel
99% Alumin 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

Single seated valves

Cage valves, Double seated valves, Low-noise valves

Rotary valves

Angle valves

3-way valves

Corrosion-resistant or abrasion-resistant valves

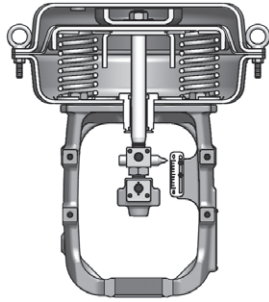
Motorized valves

Actuators

Accessories

Special purpose valves

Structural drawing



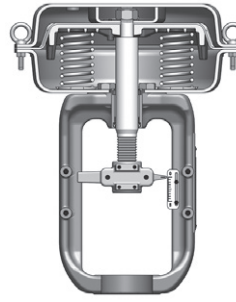
**Multispring diaphragm motor**

HA2\_ to HA4\_

Direct and reverse action  
25 to 75mm

Side mounted handwheel, top mounted handwheel  
140 to 390kPa [1.4 to 4.0kgf/cm<sup>2</sup>]  
No.SS2-8213-0500

- Single action
- Compact, lightweight



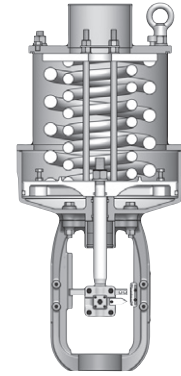
**Multispring diaphragm motor**

PSA2\_ to PSA4\_

Direct and reverse action  
14.3 to 38mm

Side mounted handwheel, top mounted handwheel  
140 to 390kPa [1.4 to 4.0kgf/cm<sup>2</sup>]  
No.SS2-PSA200-0100

- Single action
- Compact, lightweight



**Spring piston cylinder**

PSA6R

Reverse action  
20 to 100mm

Side mounted handwheel  
260 to 500kPa [2.6 to 5kgf/cm<sup>2</sup>]  
No.SS2-PSA100-0100

- Single action
- Compact, high power

Valve type

Model No.

Action

Stroke

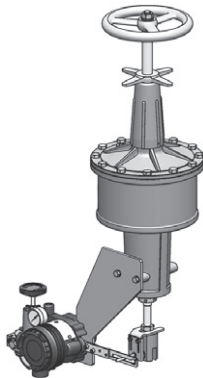
Manual operator

Air supply

Detailed data sheet

Features

Structural drawing



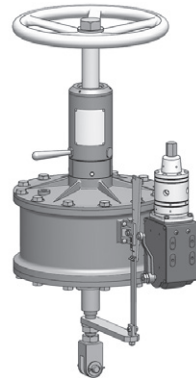
**Spring piston cylinder**

GOM83S to GOM124S

Direct action  
75 to 100mm

With manual handwheel  
140kPa [1.4kgf/cm<sup>2</sup>]  
No.SS2-8210-0200

- Single action
- Compact, long stroke



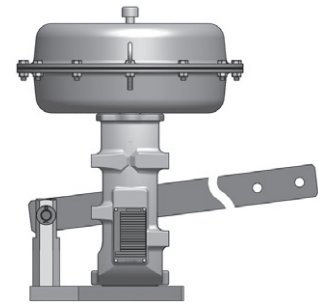
**Springless piston cylinder**

GOM64LM to 154LM

Direct and reverse action  
50, 100mm

With or without handwheel  
200kPa [2.0kgf/cm<sup>2</sup>]  
No.SS2-8210-0200

- Double action
- Compact, long stroke



**Multispring lever diaphragm motor**

HL2\_ to HL4\_

Direct and reverse action  
—

—  
140 to 390kPa [1.4 to 4.0kgf/cm<sup>2</sup>]  
No.SS2-8213-0510

- Single action
- Compact, lightweight

Valve type

Model No.

Action

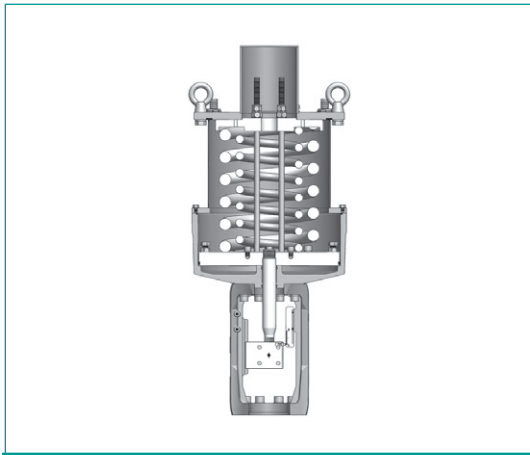
Stroke

Manual operator

Air supply

Detailed data sheet

Features



**High power spring cylinder**

PSA7R

Reverse action

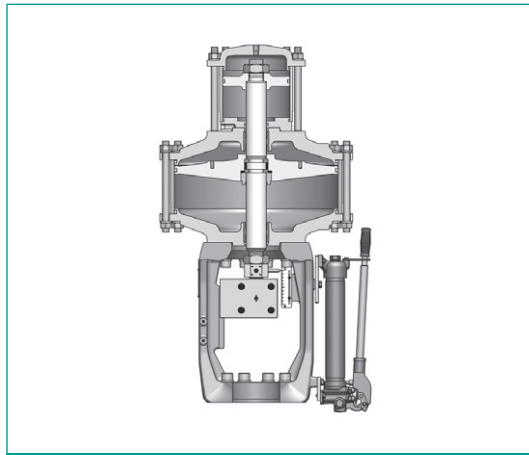
50 to 100mm

Side mounted handwheel

400kPa {4kgf/cm<sup>2</sup>}

No.SS2-PSA100-0100

- Single action
- High power, low supply pressure



**Springless piston cylinder**

DAP560, DAP1000, DAP1500

Direct and reverse action

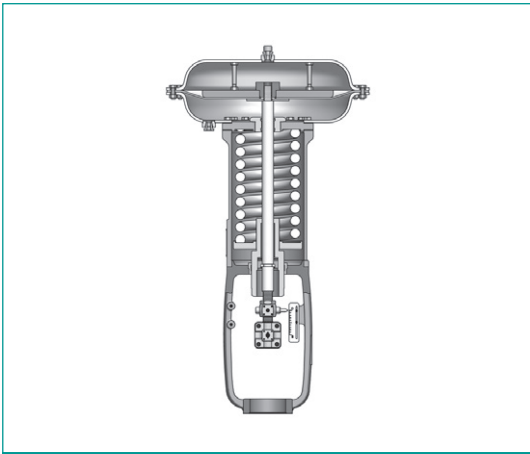
50 to 100mm

Hydraulic manual handle

200 to 700kPa {2 to 7kgf/cm<sup>2</sup>}

No.SS2-DAP100-0100

- Double action
- Compact, high power



**Spring diaphragm motor**

VA5D, VA5R

Direct and reverse action

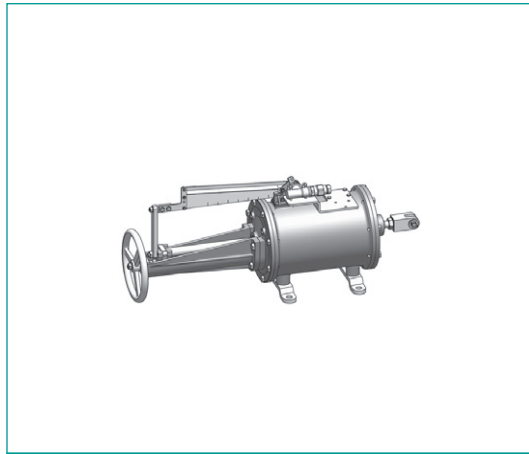
100mm

Side mounted handwheel, top mounted handwheel

140 to 270kPa {1.4 to 2.8kgf/cm<sup>2</sup>}

No.SS2-8210-0100

- Single action



**Springless piston cylinder**

GOM44L to GOM1510L

Direct and reverse action

100 to 250mm

With or without handwheel

200kPa {2.0kgf/cm<sup>2</sup>}

No.SS2-8210-0200

- Double action
- Compact, long stroke

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

Picture



**Smart ESD Device 700 Series**

AVP77\_ / AVP78\_ / AVP79\_

Input signal	4 to 20mADC, 0 to 20mADC, 0/24VDC
Stroke range	10 to 100mm (Linear), to 90° (Rotary)
Air supply pressure	140 to 700kPa {1.4 to 7.0 kgf/cm <sup>2</sup> }
Ambient temperature	-40 to +80°C
Detailed data sheet	No.SS2-AVP772-0100

- Single action/ Double action
- Partial Stroke Test (PST)
- Local User Interface (LUI) : Liquid crystal display and push buttons
- Certified for SIL (Safety Integrity Level) 3 Capable



**Smart Valve Positioner 700 Series**

AVP70\_

Input signal	4 to 20mADC, FOUNDATION Fieldbus
Stroke range	10 to 100mm (Linear), to 90° (Rotary)
Air supply pressure	140 to 700kPa {1.4 to 7.0kgf/cm <sup>2</sup> }
Ambient temperature	-40 to +80°C
Detailed data sheet	No.SS2-AVP702-0100/SS2-AVP703-0100

- Single action/Double action
- Valve signature and Stop Response Test
- Valve position transmitter function
- Communication : HART<sup>®</sup>7, FOUNDATION Fieldbus ITK6.1



**Smart Valve Positioner 300 Series**

AVP30\_

Input signal	4 to 20mADC, split range setting available
Stroke range	10 to 100mm (Linear), to 90° (Rotary)
Air supply pressure	140 to 700kPa {1.4 to 7.0kgf/cm <sup>2</sup> }
Ambient temperature	-40 to +80°C
Detailed data sheet	No.SS2-AVP300-0100

- Single action/Double action
- Compact, high performance, multifunctional
- Valve position transmitter function
- Easy zero/span adjustments, wide applicability

**Positioner type  
Model No.**

Input signal

Stroke range

Air supply pressure

Ambient temperature

Detailed data sheet

Features

Picture



**Smart Valve Positioner 200 Series**

AVP20\_

Input signal	4 to 20mADC, split range setting available
Stroke range	10 to 100mm (Linear), to 90° (Rotary)
Air supply pressure	140 to 700kPa {1.4 to 7.0kgf/cm <sup>2</sup> }
Ambient temperature	-40 to +80°C
Detailed data sheet	No.SS2-AVP200-0100

- Single action/Double action
- Anti-Vibration capabilities
- Valve position transmitter function
- 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 1.0kgf/cm <sup>2</sup> }
Stroke range	60°
Air supply pressure	340 to 490kPa {3.5 to 5.0kgf/cm <sup>2</sup> }
Ambient temperature	-20 to +70°C
Detailed data sheet	No.SS2-8310-0500

- 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 1.0kgf/cm <sup>2</sup> }
Stroke range	14 to 100mm
Air supply pressure	350 to 690kPa {3.6 to 7.0kgf/cm <sup>2</sup> }
Ambient temperature	-30 to +80°C
Detailed data sheet	No.SS2-8310-0600

- Single action
- For use with high-pressure actuators

**Positioner type  
Model No.**

Input signal

Stroke range

Air supply pressure

Ambient temperature

Detailed data sheet

Features





**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/cm<sup>2</sup>}  
14 to 100mm

200 to 690kPa {2.0 to 7.0kgf/cm<sup>2</sup>}  
-30 to +80°C

No.SS2-8310-0300

- 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 7kgf/cm<sup>2</sup>}  
-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/cm<sup>2</sup>}  
6 to 100mm

140 to 390kPa {1.4 to 4.0kgf/cm<sup>2</sup>}  
-25 to +60°C

No.SS2-8310-0200

- Single action
- Multipurpose

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



**Pneumatic positioner**

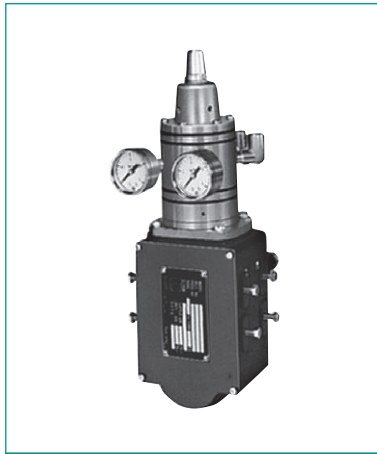
VPE04-\_/ VPE05-\_

20 to 98, 20 to 60, 60 to 98kPa  
{0.2 to 1.0, 0.2 to 0.6, 0.6 to 1.0kgf/cm<sup>2</sup>}  
6 to 25mm

140 to 390kPa {1.4 to 4.0kgf/cm<sup>2</sup>}  
-20 to +70°C

No.SS2-8310-0400

- 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/cm<sup>2</sup>}  
19 to 50mm

200kPa {2.0kgf/cm<sup>2</sup>}  
0 to +70°C

None

- For G-O-Motors



**Air pressure regulator with filter**

KZ03-\_-

Primary : Max.970kPa {9.9kgf/cm<sup>2</sup>}  
Secondary : 12 to 390kPa {0.12 to 4.0kgf/cm<sup>2</sup>} (KZ03-2)  
12 to 690kPa {0.12 to 7.0kgf/cm<sup>2</sup>} (KZ03-3)

-30 to +80°C

No.SS2-5190-0700

- Supplies clean, dry air under constant pressure

Structural drawing



Limit switch

VCL-5001-\_\_ / VCX-7001-\_\_ / 1LX7001-\_\_ / VCX-8001-\_\_ / 1LX8001-\_\_

VCL5001 : Center-neutral limit switch  
Explosion-Proof Switches Compliant with IEC Standards (de II CT6)  
1LX7001-\_\_ : Vertical explosion-proof switches  
VCX7001-\_\_ : 2-point detection explosion-proof switches  
-10 to 60°C

VCL5001 : No.SS2-CVG900-0200  
1LX7001-\_\_ LX7000 : No.SS2-CVG900-0400  
VCX7001-\_\_ VCX7000 : No.SS2-CVG900-0300

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

Valve type

Model No.

Input signal

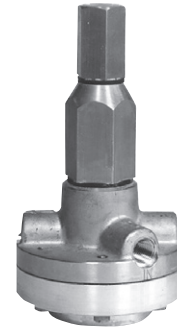
Stroke range

Air supply pressure

Ambient temperature

Detailed data sheet

Features



Air lock relay

VF02

MAX.690kPa {7kgf/cm<sup>2</sup>}

20 to 200kPa {0.2 to 2.0kgf/cm<sup>2</sup>}

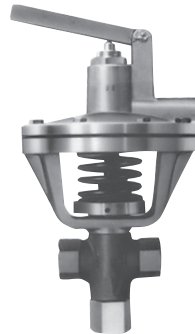
120 to 290kPa {1.2 to 3.0kgf/cm<sup>2</sup>}

-30 to +80°C

No.SS2-8310-0800

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

Structural drawing



Pneumatic relay (with manual reset)

VF03

490kPa {5kgf/cm<sup>2</sup>} or less

20 to 98kPa {0.2 to 1.0kgf/cm<sup>2</sup>} [MAX.250kPa {2.6kgf/cm<sup>2</sup>}]

40 to 80kPa {0.4 to 0.8kgf/cm<sup>2</sup>}

-30 to +80°C

No.SS2-8310-0800

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

Valve type

Model No.

Input signal

Stroke range

Air supply pressure

Ambient temperature

Detailed data sheet

Features



Pneumatic relay

VF04

490kPa {5kgf/cm<sup>2</sup>} or less

20 to 98kPa {0.2 to 1.0kgf/cm<sup>2</sup>} [MAX.250kPa {2.6kgf/cm<sup>2</sup>}]

40 to 80kPa {0.4 to 0.8kgf/cm<sup>2</sup>}

-30 to +80°C

No.SS2-8310-0800

- 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

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

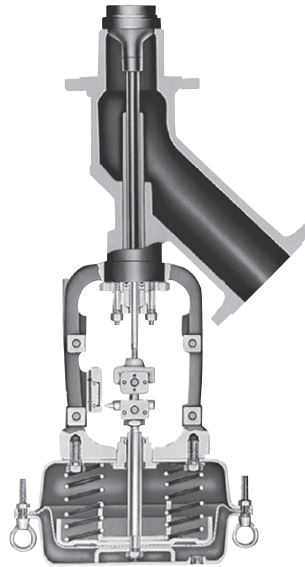
Accessories

Special purpose valves



Cage Valve for LNG (20 in.)

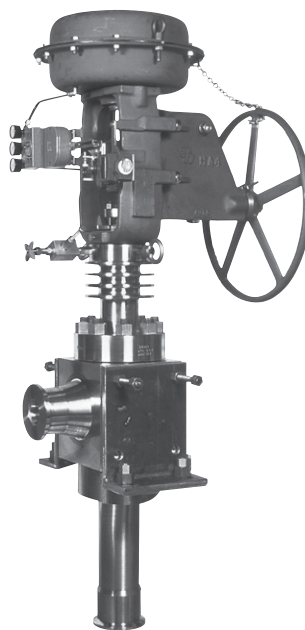
Model VDC\_ \_ \_



Bottom Plug Valve

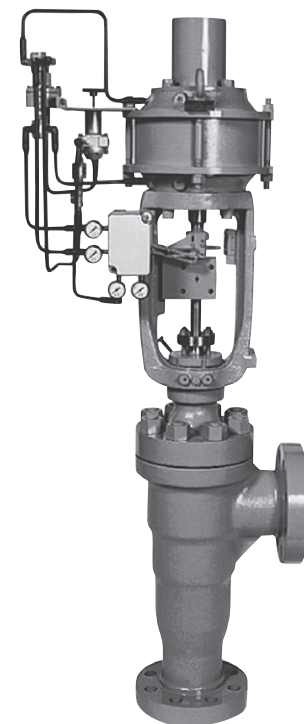


Super low-temperature Valve for Liquid Hydrogen



Let-down Valve for Coal Liquefaction

Model VAZ\_ \_ \_

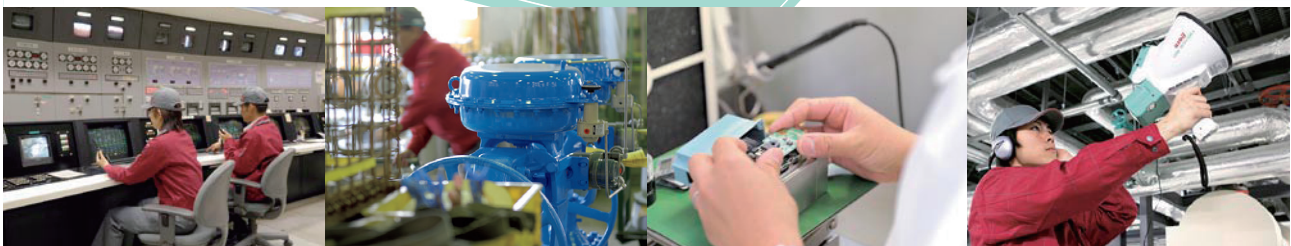
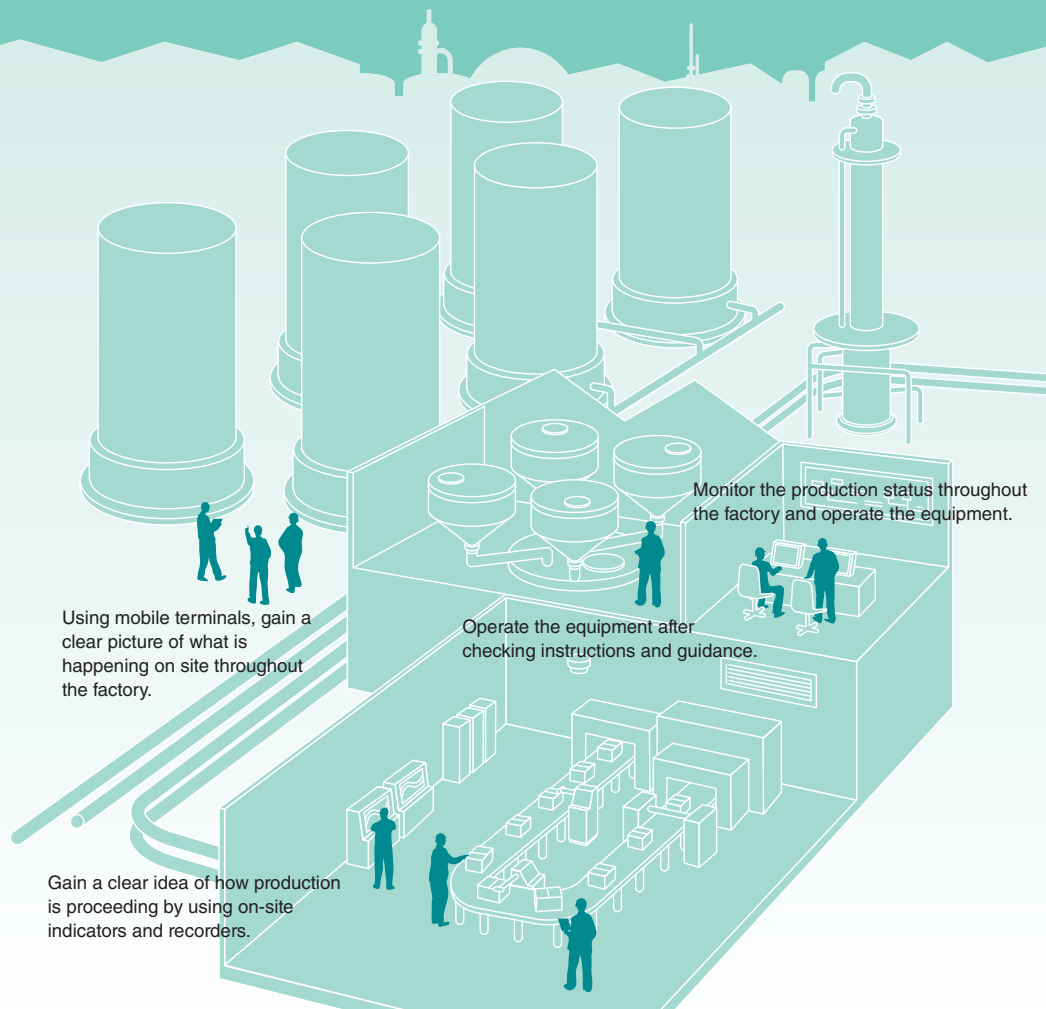


Minimum Flow Valve for Pumps

Model EAVM\_ \_ \_

# We create value together with customers at their site through *human-centered automation*.

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