



# 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



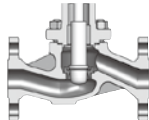
# Selection of Control Valve

Select the **appropriate valve.**

## General-purpose valves

### Single seated valves

Basic and most versatile type of control valve

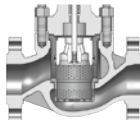


Model No.	AGVB_ _ _ , AGVM_ _ _
	ACT_ _ _
	HLS_ _ _ , HTS_ _ _
	HLC_ _ _ , HSC_ _ _

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

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



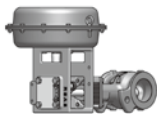
Model No.	ADVB_ _ _ , ADVM_ _ _ , AC2_ _ _
	ACP_ _ _ , HCB_ _ _ , HPC_ _ _
	ACN_ _ _ , HCN_ _ _ , VDN_ _ _

P 8

## Large-port and high-flow valves

### Rotary valves

For processes requiring high capacity and wide control range



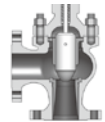
Model No.	VFR_ _ _
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P 10

## Angle/3-way valves

### Angle valves

For high differential pressure, slurry, or flashing service

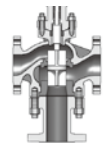


Model No.	HAV_ _ _ , HAH_ _ _ , HAF_ _ _
	HAL_ _ _ , VAU_ _ _

P 10

### 3-way valves

Fluid mixing/separating by a single valve

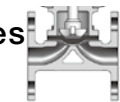


Model No.	AMT_ _ _ , HDT_ _ _
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### Corrosion-resistant or abrasion-resistant valves

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



Model No.	VDD_ _ _ , VNP_ _ _ , HIT_ _ _ ,
	HIC_ _ _ , HMC_ _ _

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## Special purpose valves

### Valves for the electric power market

For power generation facilities and special applications

Model No.	EGVM_ _ _ , EAVM_ _ _
	EGVT_ _ _ , EGWW_ _ _
	EGVD_ _ _ , EAVD_ _ _

Please contact us.

### Motorized valves

For fluid control without a compressed air supply



Model No.	AGVB_ _ _ , AGVM_ _ _
	HLS_ _ _ , HTS_ _ _
	ACT_ _ _

P 12

## Select the **actuator type**.

### Diaphragm actuators

General-purpose, most frequently used type of actuator

Model No.	HA_ _ , HL_ _ PSA_ _ , VA5_ _
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P14

### Cylinder actuators

For high-pressure, large-port valves

Model No.	PSA6R, PSA7R, DAP560, DAP1000, DAP1500
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P14

## 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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### Air lock valve, pilot valve

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

Model No.	OEM products
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P18

### 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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P18

### 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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P18

### Limit switches

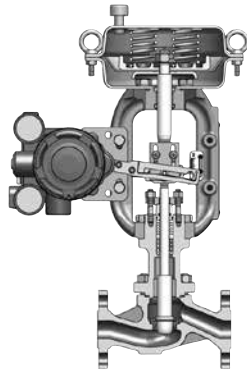
Added to the actuator in order to produce electric signals corresponding to the valve position (open/closed).

Model No.	VCL5000 VCX7001, 1LX7001 VCX8001, 1LX8001
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P18



## Structural drawing



## Top guided single seated control valve

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

1/2" to 4"

AGVB\_ \_ \_ : ANSI/JPI 150, JIS10K  
 AGVM\_ \_ \_ : ANSI/JPI 300, JIS16K 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 400°C  
 Class IV, IV-S1, VI

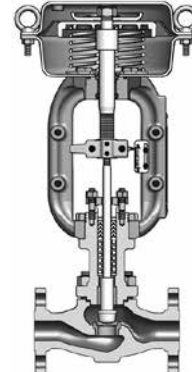
0.1 to 200

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



## Small-port single seated control valve

HLS\_ \_ \_ / HLC\_ \_ \_

1/2" to 1"

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

0.01 to 14

20:1 to 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  
 SS2-8113-0200/0210

## Structural drawing



## Top guided single seated control valve

VST\_ \_ \_

5", 10", 12"

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

-101 to 520°C  
 Class IV, IV-S1, V, VI

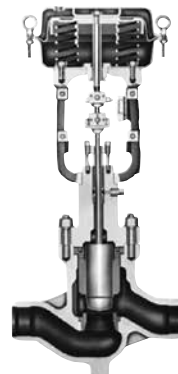
99 to 1440

30:1

General-use process for petrochemical and chemical plant

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SS2-8110-0300



## Top guided high pressure single seated control valve

HPS\_ \_ \_

1" to 3"

ANSI/JPI 900 to 2500  
 JIS63K

Flanged : RF, RJ  
 Welded : SW, BW

Carbon steel  
 Stainless steel

440CSS  
 316SS, 316SS with CoCr-A

-5 to 566°C

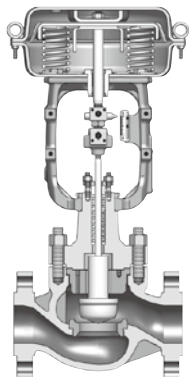
Class IV

class 1500 or less: 0.25 to 110  
 class 2500: 0.25 to 75  
 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

SS2-8113-0400

**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

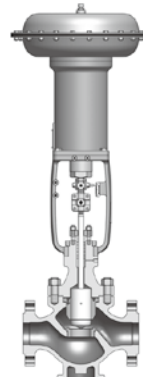
50:1 (option 75:1)

- 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

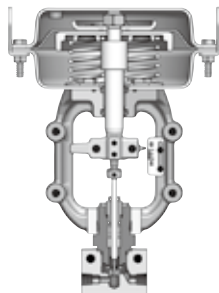
class 1500 or less : 56 to 315

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  
valves3-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

## Valve type

## Model No.

AC2\_ \_ \_

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

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Leakage performance

Class V

Cv range

179 to 5920

Range ability

50:1

Application

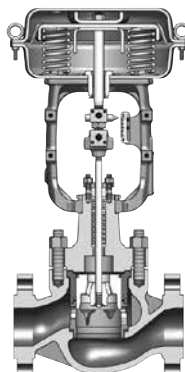
- Flexible metal seat structure
- high differential pressure process which needed low leakage performance

Option

Low emission gland packing/ SIL3 capable

Specification sheet No.

SS2-AC2001-0100



Pressure-balanced cage type control valve

ACP\_ \_ \_

1-1/2" to 8"

ANSI/JPI 150 to 600  
JIS10K to 40KFlanged : RF, FF, RJ  
Welded : SW, BWCarbon steel  
Stainless steelA351CF8M, SCS24  
A351CF8M with CoCr-A  
SCS24

-196 to 400°C

Class IV

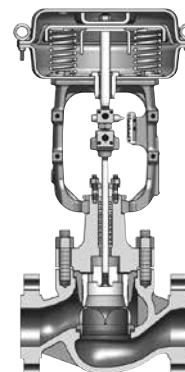
10 to 795

50:1 (option 75:1)

General-use process for petrochemical  
and chemical plant

Low emission gland packing/ SIL3 capable

SS2-ACP110-0100



Pressure-balanced cage type control valve

HCB\_ \_ \_

1-1/2" to 8"

ANSI/JPI 150 to 600  
JIS10K to 40KFlanged : RF, FF, RJ  
Welded : SW, BWCarbon steel  
Stainless steelSCS24  
SCS14A with CoCr-A or Atomloy treatment  
SCS16A, SCS16A with CoCr-A

-196 to 566°C

Class II, III, VI

11 to 850

50:1 (option 75:1)

General-use process for petrochemical  
and chemical plantBellows type bonnet, steam jacket  
Low emission gland packing/ SIL3 capable  
SS2-8113-1100

## Structural drawing



Cage type double seated control valve

VDC\_ \_ \_

5", 10", 12"

ANSI/JPI 150 to 600  
JIS10K to 40K

Flanged : RF, FF, RJ

Carbon steel  
Stainless steelSCS24  
SCS14A with Stellite or Atomloy treatment  
SCS16A, SCS16A with CoCr-A

-195 to 600°C

Class II, VI

99 to 1440

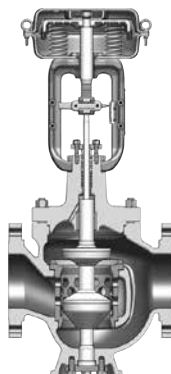
30:1 (option 50:1)

General-use process for petrochemical  
and chemical plant

Bellows type bonnet, steam jacket

SIL3 capable

SS2-8110-1100



Top &amp; bottom guided double seat control valve

ADVB\_ \_ \_ / ADVM\_ \_ \_

6" to 12"

ADVB: ANSI/JPI 150, JIS10K  
ADVM: ANSI/JPI 300, JIS16K to 30K

Flanged : RF

Carbon steel  
Stainless steel316SS, 316SS with CoCr-A  
630SS

-45 to 400°C

Class IV

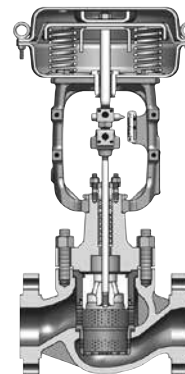
215 to 1580

50:1

- Top & bottom guided double seat structure
- Hydrocarbon process for refinery and petrochemical plant

Low emission gland packing

SS2-ADV100-0100



Low-noise cage type control valve

ACN\_ \_ \_

1-1/2" to 8"

ANSI/JPI 150 to 600  
JIS10K to 40KFlanged : RF, FF, RJ  
Welded : SW, BWCarbon steel  
Stainless steel

A351CF8M, A351CF8M with CoCr-A

-196 to 400°C

Class IV

11 to 580

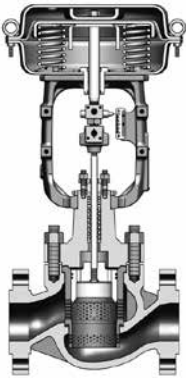
50:1

- Multi-hole type 2-stage cage guided with seal ring
- Noise reduction of compressed fluid (ex. steam, air, gases etc.)

Low emission gland packing/ SIL3 capable

SS2-ACN110-0100



**Low-noise cage type control valve**

HCN\_ \_ \_

1-1/2" to 8"  
ANSI/JPI 150 to 600  
JIS10K to 40KFlanged : RF, FF, RJ  
Welded : SW, BWCarbon steel  
Stainless steelSCS24  
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  
JIS63KFlanged : 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  
JIS63KFlanged : RF, RJ  
Welded : SW, BWCarbon 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

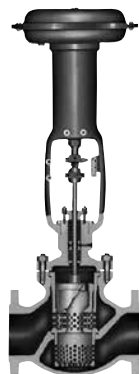
Class 2500 : 39 to 210

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

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-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  
JIS63KFlanged : RF, FF, RJ  
Welded : SW, BWCarbon 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

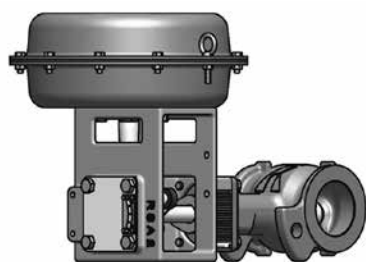
Motorized valves

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

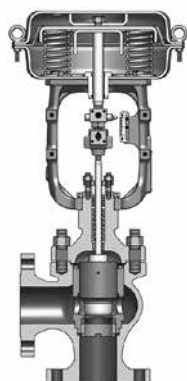
100:1

- 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

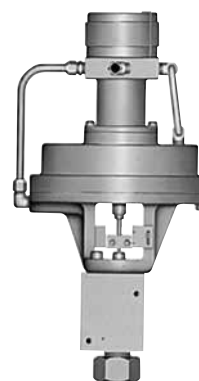
4 to 175

30:1

Hard slurry service

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SS2-8113-2620



## Super-high pressue angle control valve

VAU\_ \_ \_

Please contact us

Max. pressure : 343MPa

Please contact us

Stainless steel

Solid CoCr-A

0 to 100°C

Class IV

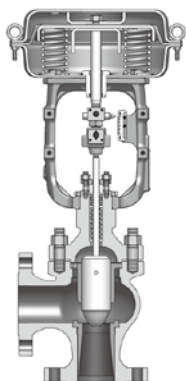
0.003 to 0.006 (ON-OFF 0.062)

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

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SS2-8110-2800

**Venturi throat type anglecontrol valve**

HAV \_ \_ \_

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

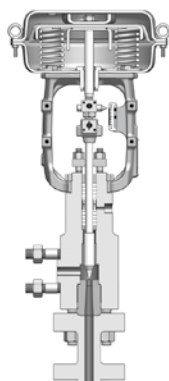
Flanged : RF, FF, RJ

Carbon steel  
Stainless steel440CSS  
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"

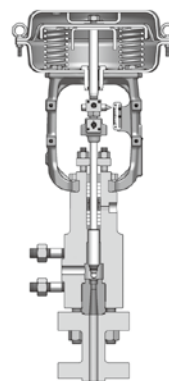
ANSI 2500

Flanged : RF, RJ

Forged carbon steel  
Stainless steel440CSS  
316SS with CoCr-A0 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

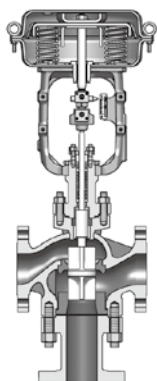
440CSS

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

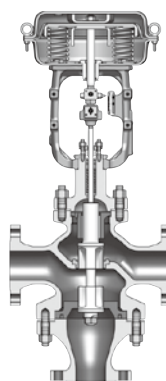
Flanged : RF, FF

Carbon steel  
Stainless steel316SS, 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 steel316SS, 316SS with CoCr-A  
316LSS, 316LSS with CoCr-A0 to 425°C  
Class IV

70 to 270

30:1

Diverting of fluid

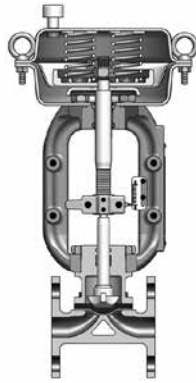
—  
SS2-HDT110-0100Single seated  
valvesCage valves,  
Double seated  
valves,  
Low-noise  
valves**Rotary  
valves****Angle  
valves****3-way  
valves**Corrosion-  
resistant or  
abrasion-  
resistant  
valvesMotorized  
valves

Actuators

Accessories

Special  
purpose  
valves

## Structural drawing



Weir diaphragm control valve

VDD\_ \_ \_

1/2" to 4"

ANSI 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

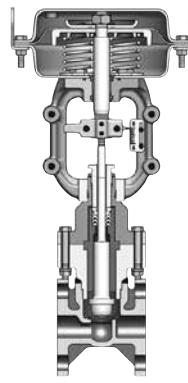
3 to 295

20:1

- corrosion service as acid and alkaline
- Slurry service

—

SS2-8110-0530



Rigid PVC/polypropylene body single seated control valve

VNP\_ \_ \_

3/4" to 4"

ANSI/JPI 150

JIS5K to 10K

Flanged : FF (RF)

Rigid PVC, polypropylene

PTFE, glass-reinforced PTFE, rigid PVC, polypropylene

0 to 80°C

Class IV

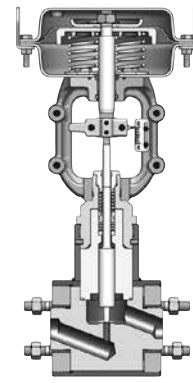
1 to 35

20:1 to 30:1

corrosion service as acid and alkaline

—

SS2-8190-0100



Corrosion-resistant PTFE body control valve

HIT\_ \_ \_

3/4" to 2"

ANSI 150

JIS10K

Stud bolts type

Body : PTFE  
 Casing : 304SS

PTFE

0 to 140°C

Class IV

1 to 35

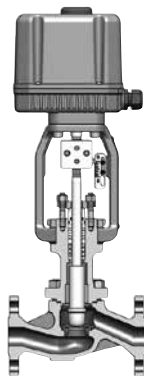
20:1 to 30:1

corrosion service as acid and alkaline

—

SS2-8193-0200

## Structural drawing



Electric top guided single seated control valve

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

1/2" to 2"

AGVB : ANSI/JPI 150, JIS10K

AGVM : ANSI/JPI 300, JIS16K 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 400°C

Class IV, VI

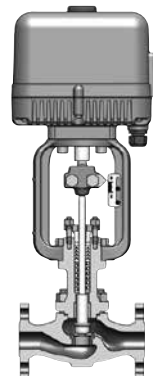
0.1 to 50

20:1 to 50:1 (option 75:1)

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

Low leakage gland packing system

SS2-AGV200-0300



Electric small-port single seated control valve

HLS\_ \_ \_

1/2" to 1"

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

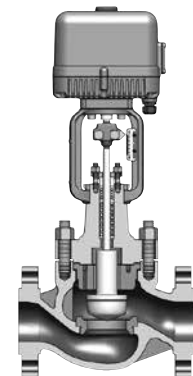
Class IV, VI

0.01 to 14

20:1 to 50:1 (option 75:1)  
 flow control of saturated vapor,  
 cold and hot water, etc.

—

SS2-8114-0200



Electric top guided single seated control valve

HTS\_ \_ \_

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

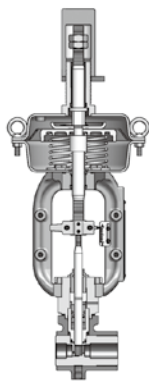
Class IV, VI

10 to 700

50:1 (option 75:1)  
 flow control of saturated vapor,  
 cold and hot water, etc.

—

SS2-8114-0300

**Corrosion-resistant type small size ceramic control valve**HMC \_ \_ \_  
1"

Max. pressure : 1960kPa

Wafer

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

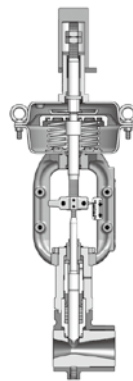
1 to 4

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

Wafer

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

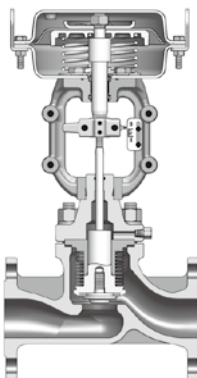
13 to 120

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

—

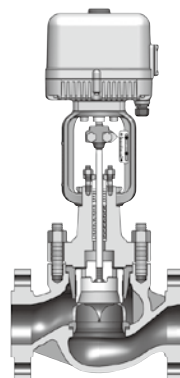
9 to 148

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

Single seated  
valvesCage valves,  
Double seated  
valves,  
Low-noise  
valves

Rotary valves

Angle  
valves3-way  
valves**Corrosion-  
resistant or  
abrasion-  
resistant  
valves****Motorized  
valves**

Actuators

Accessories

Special  
purpose  
valves



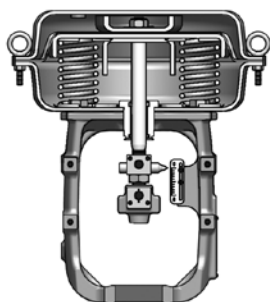
# Structural drawing

## Valve type

## Model No.

Action  
Stroke  
Manual operator  
Air supply  
Detailed data sheet

Features



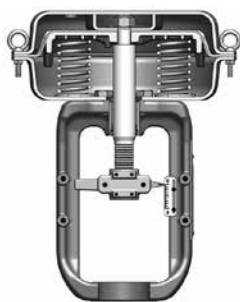
## Multispring diaphragm motor

### 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



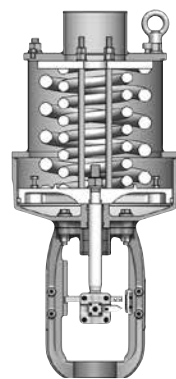
## Multispring diaphragm motor

### 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

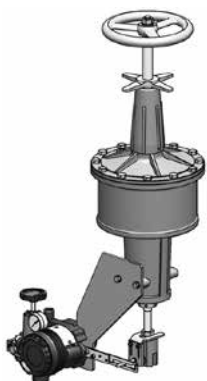
# Structural drawing

## Valve type

## Model No.

Action  
Stroke  
Manual operator  
Air supply  
Detailed data sheet

Features



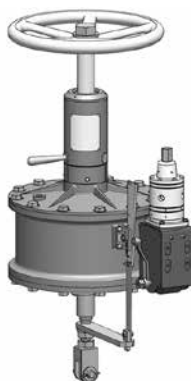
## Spring piston cylinder

### 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



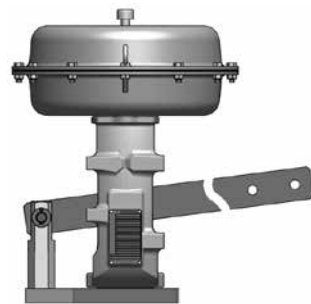
## Springless piston cylinder

### 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



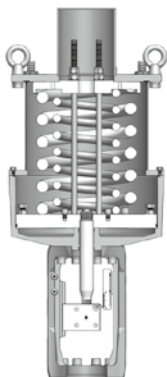
## Multispring lever diaphragm motor

### 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



### High power spring cylinder

PSA7R

Reverse action

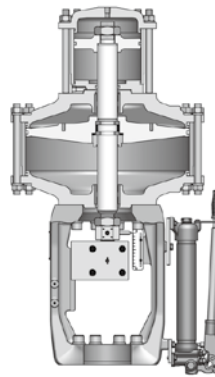
50 to 100mm

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

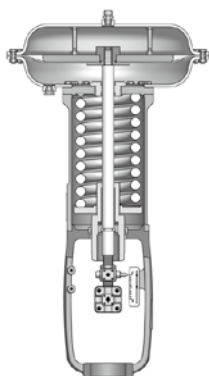
50 to 100mm

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

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

## Features

- 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\_

4 to 20mADC, FOUNDATION Fieldbus

10 to 100mm (Linear), to 90° (Rotary)

140 to 700kPa {1.4 to 7.0kgf/cm<sup>2</sup>}

-40 to +80°C

No.SS2-AVP702-0100/SS2-AVP703-0100

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



## Smart Valve Positioner 300 Series

AVP30\_

4 to 20mADC, split range setting available

10 to 100mm (Linear), to 90° (Rotary)

140 to 700kPa {1.4 to 7.0kgf/cm<sup>2</sup>}

-40 to +80°C

No.SS2-AVP300-0100

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

## Picture



## Smart Valve Positioner 200 Series

AVP20\_

4 to 20mADC, split range setting available

10 to 100mm (Linear), to 90° (Rotary)

140 to 700kPa {1.4 to 7.0kgf/cm<sup>2</sup>}

-40 to +80°C

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\_

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>}

60°

340 to 490kPa {3.5 to 5.0kgf/cm<sup>2</sup>}

-20 to +70°C

No.SS2-8310-0500

- Single action
- For small actuators on FloWing valves



## Pneumatic positioner

VPR08\_

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

350 to 690kPa {3.6 to 7.0kgf/cm<sup>2</sup>}

-30 to +80°C

No.SS2-8310-0600

- Single action
- For use with high-pressure actuators

## Positioner type

Input signal

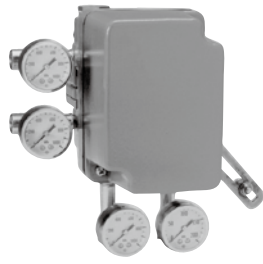
Stroke range

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

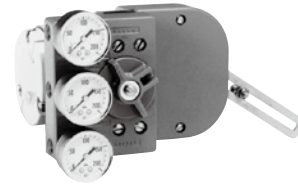
- For use with high-pressure actuators

**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

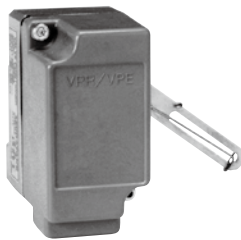
Corrosion-resistant or  
abrasion-resistant valves

Motorized valves

Actuators

Accessories

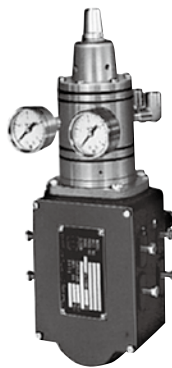
Special purpose valves

**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

### Valve type

### Model No.

Input signal

Stroke range

Air supply pressure

Ambient temperature

Detailed data sheet

Features



### Limit switch

VCL-5001- \_ \_ \_ / VCX-7001- \_ \_ \_ / 1LX7  
001- \_ \_ \_ / 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

## Structural drawing

### Valve type

### Model No.

Input signal

Stroke range

Air supply pressure

Ambient temperature

Detailed data sheet

Features



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

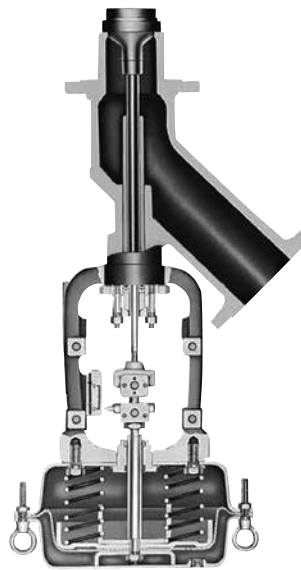
Accessories

Special purpose valves



Cage Valve for LNG (20 in.)

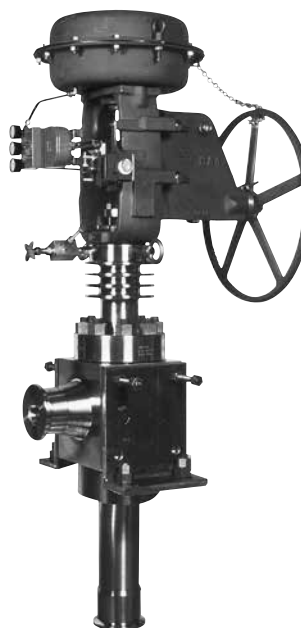
Model VDC\_ \_ \_



Bottom Plug Valve

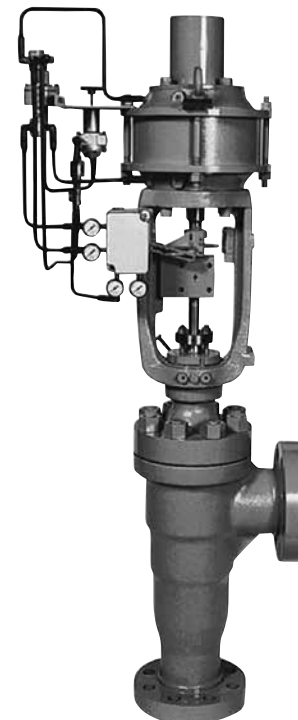


Super low-temperature Valve for Liquid Hydrogen



Let-down Valve for Coal Liquefaction

Model VAZ\_ \_ \_

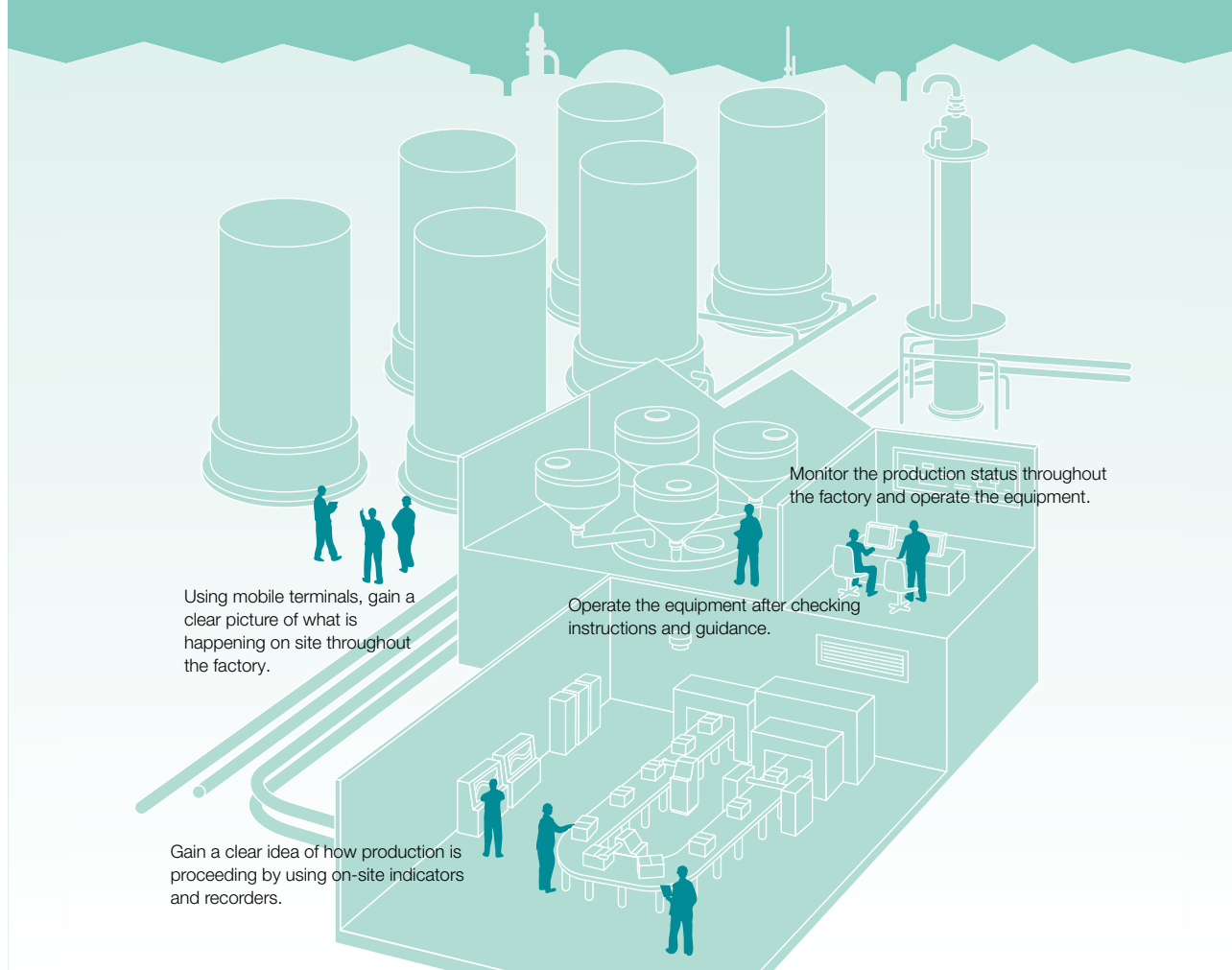


Minimum Flow Valve for Pumps

Model EAVM\_ \_ \_

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