

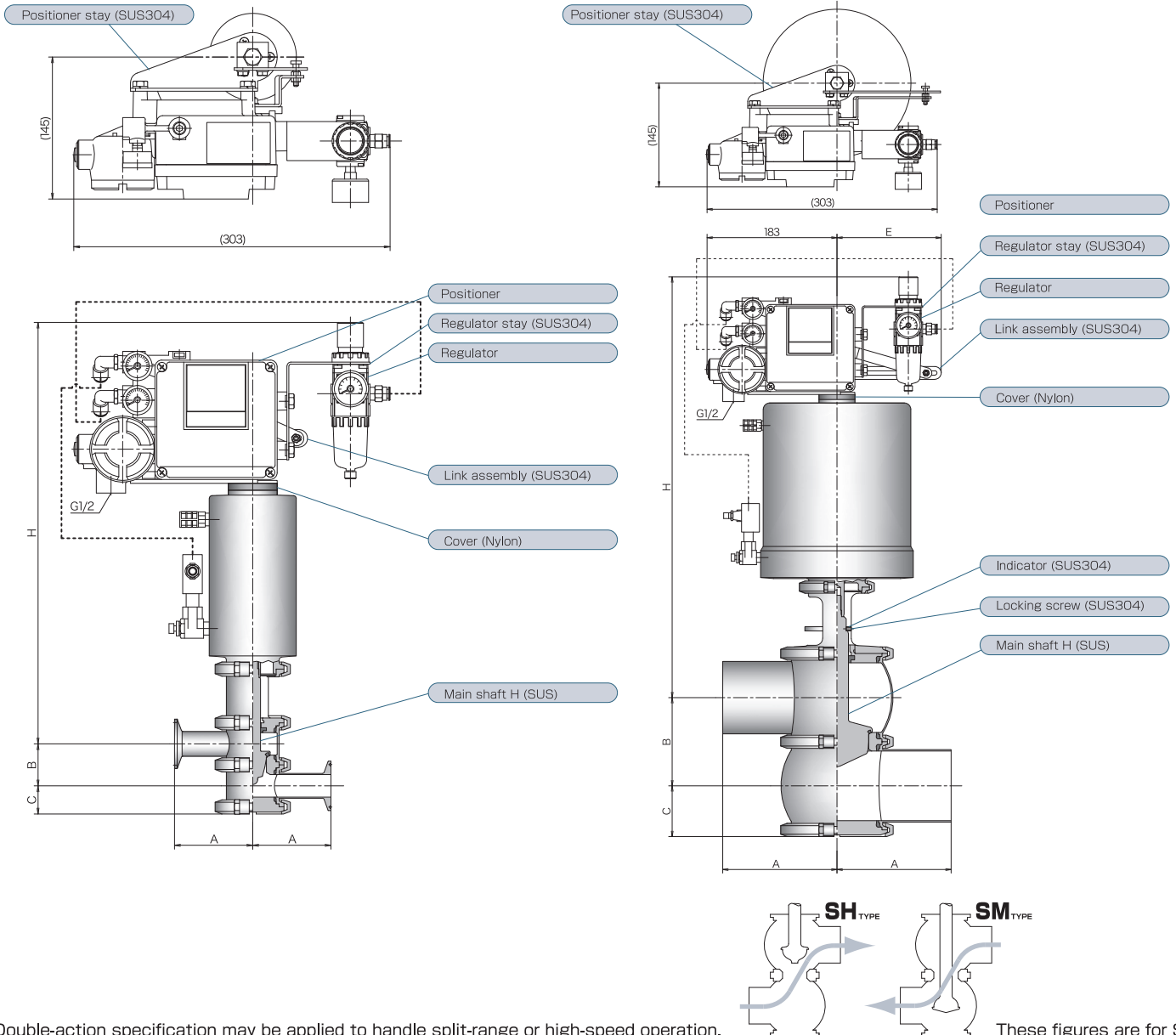


Hygienic
Control Valves

Control valve

SH type SM type

This valve is used for control of flow rate. Electro-pneumatic positioner is standard and a pneumatic-pneumatic positioner is also available as needed. Attachment is performed in upright position as a rule.



Double-action specification may be applied to handle split-range or high-speed operation.

These figures are for SH type.

SIZE	A	B	C	H
10A	80	34	24.3	492.8
15A	80	38.4	26.5	501.6
1S	80	43	28.8	510.8

SIZE	E	H	A ^{Note)}	B	C
1 1/2S	100	480	100	61.7	39.4
2S	100	486	120	73.8	45.4
2 1/2S	145	533	125	85.5	51.3
3S	145	580	140	98.3	57.7
4S	145	591	160	123.6	70.3
5S	145	643	200	169.8	97.4
6S	145	655	220	195.2	110.1

Note) ● H dimensions are when a standard cylinder with air pressure of 0.4MPa is used.
● When tube end is male, nut, clamp, or sanitary flange

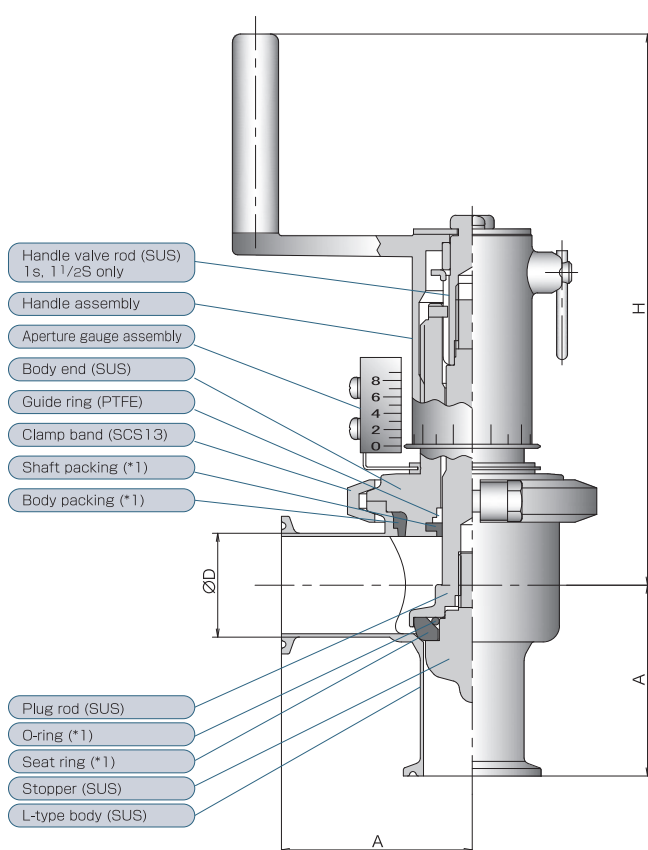
*When ordering control valves, please contact us.

Control valve

Flow control valve

WC type

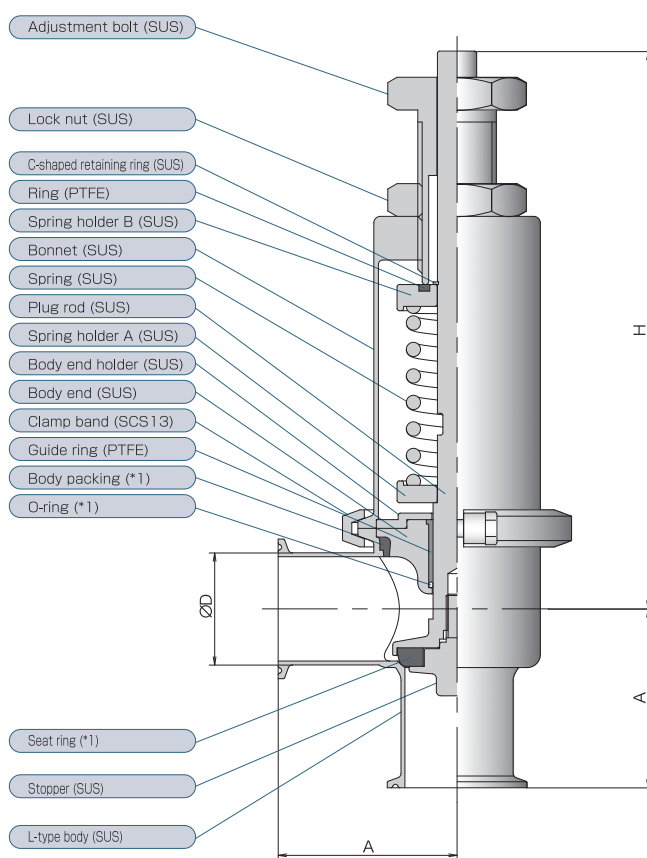
Use this valve as a throttle valve, etc. on the pump discharge side.
An aperture gauge is equipped as standard.



Relief valve

WR type

The standard settable pressure range is 0.1 MPa to 0.5 MPa.
If it is necessary to use the valves other than the standard pressure range, please contact us.



*1 Refer to "Characteristics of Packings, etc."

SIZE	H	A (Note)
1S	210	55
1 1/2S	201	70
2S	207	82
2 1/2S	214	105
3S	220	110

※ Only PTFE is used as the material for seat ring.
Note) When tube end is male, nut, or clamp.

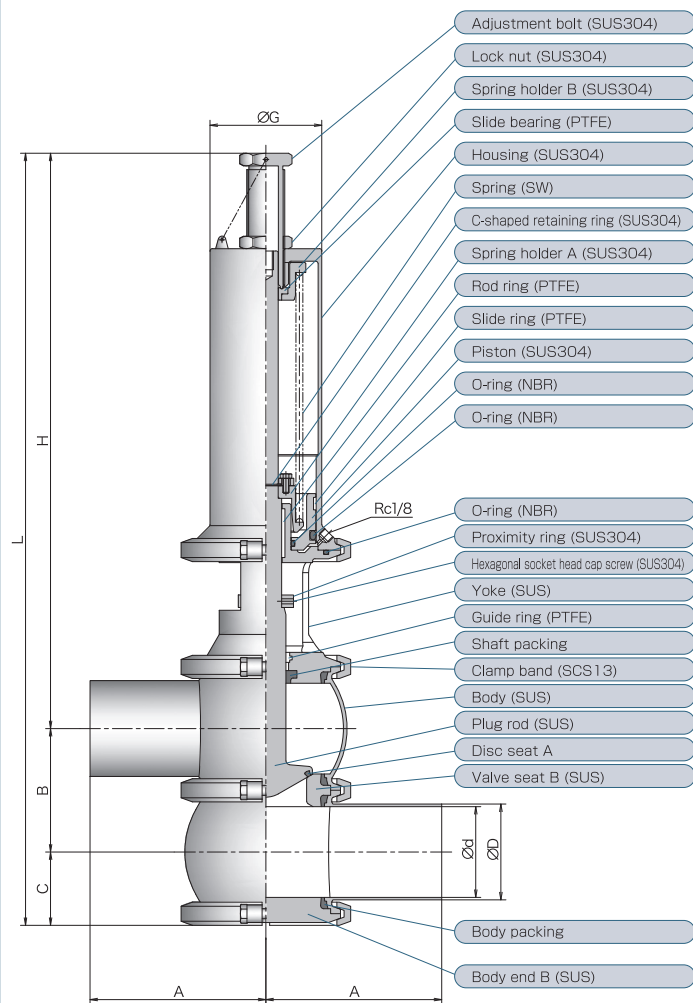
SIZE	H	A (Note)
1S	235	55
1 1/2S	240	70
2S	256	82
2 1/2S	280	105
3S	298	110

Note) When tube end is male, nut, or clamp.

Overflow valve

SH type

Use this valve for absorbing surging or as a check valve at the pump outlet. Use this valve also for preventing water hammer at the final blowing part. Liquid flows from bottom to top.



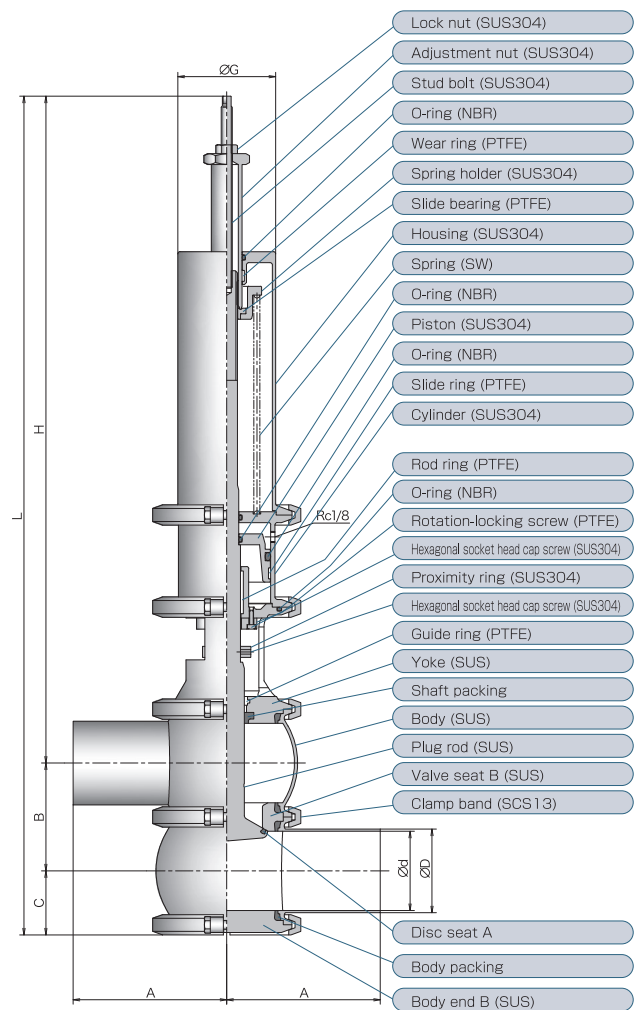
SIZE	D	d	A ^{Note)}	B	C	G	H	L
1 1/2S	38.1	35.7	100	61.7	39.4	76.3	413.9	514.9
2S	50.8	47.8	120	73.8	45.4	76.3	419.9	539.1
3S	76.3	72.3	140	98.3	57.7	89.1	456.7	612.5
4S	101.6	97.6	160	123.6	70.3	114.3	563.8	757.7

Note) ● When tube end is male, nut, clamp, or sanitary flange.
● Pressure is 0.1 to 0.2MPa as standard.

Overflow valve

SM type

Use this valve for absorbing surging or as a check valve at the pump outlet. Use this valve also for preventing water hammer at the final blowing part. Liquid flows from top to bottom.



SIZE	D	d	A ^{Note)}	B	C	G	H	L
1 1/2S	38.1	35.7	100	61.7	39.4	76.3	512.8	613.9
2S	50.8	47.8	120	73.8	45.4	76.3	518.9	638.1
3S	76.3	72.3	140	98.3	57.7	89.1	614.6	770.6
4S	101.6	97.6	160	123.6	70.3	114.3	738.8	932.7

Note) ● When tube end is male, nut, clamp, or sanitary flange.
● Pressure is 0.1 to 0.2MPa as standard.

Technical material

► Characteristics of packings (Excluding WC and WR type)

Item		Standard		Option		
Packing material		EPDM (Ethylene propylene rubber)	FKM (Fluororubber)	UC rubber (High-function fluororubber)	VMQ (Silicon rubber)	PTFE lining (Fluororesin lining)
Material code		E81	F8	F802	SE72	TL□
Color		Black	Black	Black	Gray	White
Resistance to liquid	Steam	◎	△	○	△	○
	Caustic soda	◎	△	○	△	◎
	Nitric acid	○	◎	◎	△	◎
	Acetic acid	○	○	◎	△	◎
	Sodium hypochlorite	○	○	◎	○	◎
	Peroxyacetic acid	△	×	○	○	◎
	Fragrance (Limonene, etc.)	×	○	○	×	◎
	Animal and vegetable oil	×	○	◎	○	◎
General characteristics	Resistance to heat	130℃	120℃	130℃	120℃	130℃
	Elasticity	○	○	○	○	△
	Intensity	○	△	○	△	○
Applicable size		10A~6S	10A~6S	10A~6S	10A~6S	10A~6S
Remarks	Part name	Disc seat	Disc seat	Disc seat	—	Disc seat
		Body packing	Body packing	Body packing	Body packing	Body packing
		Shaft packing	Shaft packing	Shaft packing	Shaft packing	Shaft packing
	Note	—	—	—	Combination in the case of packing material not specified with product symbols	•A special part is required. (Yoke, body end)
The Food Sanitation Law conformity test		Acceptable				
◎ Very good, ○ Good, △ Possible, × Impossible						

► Lubricant application specifications

Application specifications	Application range	Note
Standard specifications	Sliding seal part	—
Wetted surface lubrication Prohibited area	No application	Be sure to make the sliding packing area smooth with fresh water, etc.
Lubricant	NOK Klüber PARALIQ GTE 703*1 (NSF category H1)	

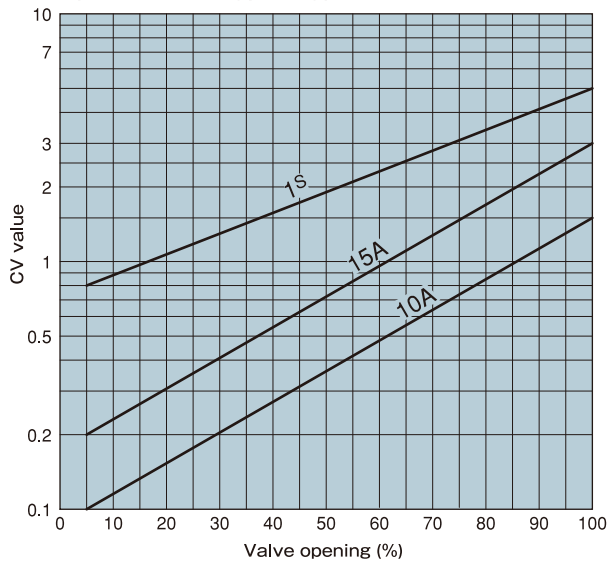
*1 Conforming to the Food Sanitation Law

► List for consumable parts

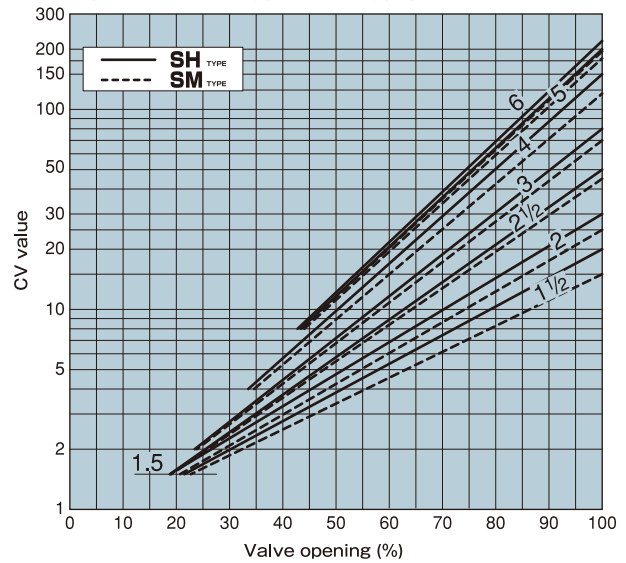
Code	Seat ring	Seat ring (PTFE)	Rod O-ring	Seat O-ring	Guide ring	Disc seat A	Shaft packing	Body packing	Guide ring	Guide ring (for quenching)
Size	A(L,K,J)SEATRING	AKSEATRING	O-RING	O-RING	WKPGR	SQPA	SQPS	SQBP	SQPGR	SQPGRC
10A·15A·1S	—	—	—	—	—	03—10	03—10	03—10	03—10	03—10
1	10	10	P—22	P—16	10	—	—	—	—	—
1 1/2	15	15	P—22	P—24	15	15—20	15—20	15—20	15—20	15—20
2	20	20	P—22	G—30	15—20	15—20	15—20	15—20	15—20	15—20
2 1/2	25	25	P—25	G—35	15—20	25	25—40	25	25—40	25—40
3	30	30	P—25	G—50	15—20	30	25—40	30	25—40	25—40
4	40	40	—	G—75	—	40	25—40	40	25—40	25—40
5	—	—	—	—	—	50—60	50—60	50—60	50—60	50—60
6	—	—	—	—	—	50—60	50—60	50—60	50—60	50—60
Remarks	For relief valve	For flow control valve	For relief valve	For flow control valve	For relief valve	—	—	—	For control valve	For overflow valve
						For control valve or overflow valve				

► Control valve characteristics table

- Standard: Equal percentage flow characteristic (10A to 1s SH type only)

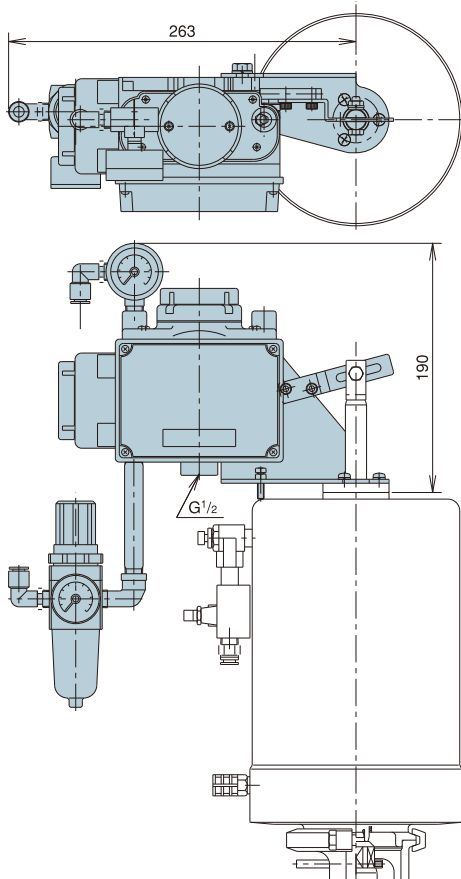


- Standard: Equal percentage flow characteristic (1.5s to 6s SH type or SM type)

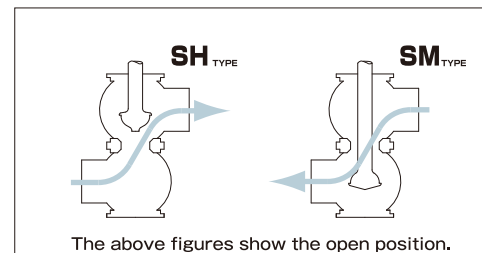


Option

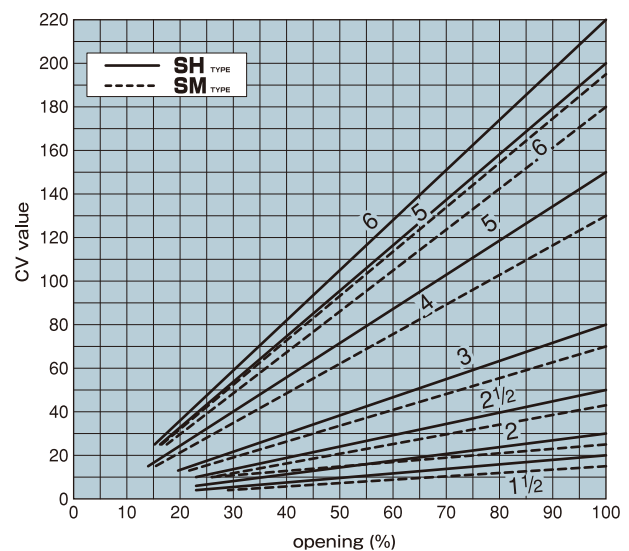
Electronic positioner is available.
This positioner has an automatic setup function.
(Zero point, span adjustment and dynamic characteristic are self-diagnosed and automatically set.)



- Check and adjust the zero point and span before operation.
- Set the original operation air pressure between 0.5MPa and 0.6MPa.
- Do not change the regulator set pressure.
- Since the valve seat pressure resistance is maintained as standard, the signal input value should be adjusted between 4.8mA and 19.2mA.
- Be sure to pass fluid in forward direction through the flow channel.



- Option: Linear characteristics shaft (1.5s to 6s, SH type or SM type)



Control valve type symbol table

Name	JIS material classification	Finish classification	Pipe end classification	Size classification	Product name/type
Symbol	3 0 4 · 3 1 6 L	0 P · 1 P	M · C · W	X X	
	①	②	③	④	⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Material classification (main body)

Category	Symbol	Material
Standard	304	SUS 304 (or equivalent)
Option	316L	SUS 316L (or equivalent)

③ Pipe end classification

Category	Symbol	Details
Standard	M	ISO male on both ends
	C	ISO clamp on both ends
Option	W	Weld
	N	ISO nut
	T	Sanitary flange (loose)

② Finish classification

Category	Symbol	Finish	
		Internal finish	External finish
Standard	0P	Pickling	Pickling and beads shot blast
	1P	#320 to #400 buff polished finish	Pickling and beads shot blast
Option	ODP	Pickling	#180 Hairline finish
	EP	Electrolytic polishing finish (Ra 0.2)	Pickling and beads shot blast

④ Size classification

Symbol	Size	Symbol	Size
03	10A	25	2 1/2S
04	15A	30	3S
10	1S	40	4S
15	1 1/2S	50	5S
20	2S	60	6S

⑤ Type Classification

Symbol	Valve operation	No. of main bodies	Remarks
SH	Bottom up	2	On-off valve
SM	Top down	2	On-off valve
WC	Flow control valve		
WR	Relief valve		

⑥ Drive classification

Category	Symbol	Details
Control valve	C	Automatic normal close
	O	Automatic normal open
	W	Automatic double action
Flow control valve Relief valve	M	Manual

⑦ Seat packing material
(For flow control valve/relief valve)

Symbol	Finish
E	Ethylene-propylene rubber
S	SE72 silicone rubber
V	Fluororubber
F	F802 UC rubber
T	PTFE

⑦ Packing material
(Shaft packing)

Symbol	Material
S	SE72 silicone rubber
V	Fluororubber
F	F802 UC rubber
E	Ethylene-propylene rubber

⑦ For control valve or overflow valve

Symbol	2A	2B	2C	2L	2T
Sketch					

⑧ Cylinder type (For control valve overflow valve)

Symbol	Type	Symbol	Type
08M	80M	08H	80H
10M	100M	10H	100H
13M	125M	13H	125H
15M	150M	15H	150H
20M	200M	20H	200H
25M	250M	25H	250H
Standard		Options	
OFV	For overflow valve		

M-typs : 0.39~ MPa Air (S)
H-typs : 0.69~ MPa Air (S)

⑨ Main body quantity and type (For control valve overflow valve)

Category	Symbol	Details	Proximity switch specifications	Remarks
Standard	D0	Without feedback	—	—
	JA	With stay for M12 proximity switch	—	Control valve 8A to 1S Overflow valve 1 1/2 S to 4S
	JB	With one M12 proximity switch on closed side	Ifm efector	
	J0	With stay for M18 proximity switch	—	Control valve 1 1/2 S ~ 4S
	J1	With one M18 proximity switch on closed side	Ifm efector	

⑩ Main body options
(For control valve/overflow valve)

Symbol	Details
0	No option
C	Shaft quenching

⑪ Cylinder options
(For control valve)

Symbol	Details
P	Mechanical positioner
Z	Electronic positioner



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