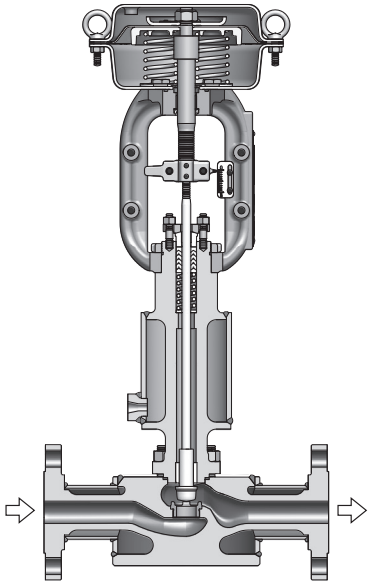
Smart-Port Single Seated Control Valves with Steam Jacket

Model HLS_ _ _

OVERVIEW

Model HLS_ _ _ Small-Port Single Seated Control Valves with Steam Jacket are designed for heavy duty service requiring high adiathermic capability.
The compact valve body, having an S-shape flow passage that features low pressure loss, allows a large flow capacity, rangeability, and high accuracy flow characteristics.
The valve plugs are available in a wide range of Cv values.
The flow shutoff performance complies with the ANSI Standards. The actuator integrated with simplest mechanisms utilizes a compact yet powerful diaphragm actuator leaded with multiple springs.
The model HLS control valves are widely applicable for reliable control of small flows in high or low temperature, high pressure process lines.



Drawing : Body with full jacket and bonnet with jacket

SPECIFICATIONS

Body

Type

Straight-through, cast globe valve

Nominal size

1/2, 3/4, 1, 2 inch
(Flange connection size for full-jacket type: 2 inches)

Pressure rating and end connection

Flanged end:

Connection type	Pressure rating	Applicable standard
RF	JIS10K, 16K, 20K	JIS B2210-1984
	ANSI Class 150, 300	ANSI B16.5-1981
	JPI Class 150, 300	JPI-7S-15-1993

Material

For body/trim material combinations and operating temperature ranges, refer to Table 1.

Jacket type

Body, Full-jacket, semi-jacket*
Bonnet; Without jacket, with jacket*

Note) The following structural combinations (*) are Used for the jacket.

Jacket	Location	Type
Semi-jacket	Body	1
	Body, bonnet	2
Full-jacket	Body	3
	Body, bonnet	4

Jacket connection size

Jacket connection and Pressure rating

Connection type	Pressure rating	Applicable standard
Flanged end RF	JIS 10K, 16K, 20K	JIS B2210-1984
	ANSI Class 150, 300	ANSI B16.5-1981
	JPI Class 150, 300	JPI-7S-15-1993

Threaded end Rc, NPT

Jacket Operating pressure
981 kPa {10 kgf/cm^2} or less

Jacket Operating temperature
350°C or less

Jacket Material
SS400, SUS304

Note) Drain plug is provided as a standard at the jacket.

Bonnet

Plain bonnet	0 to 230 °C
Extension bonnet type1	230 to 566 °C
Bellows bonnet	Temperature and pressure ranges, refer to Fig. 2

Note) Take care not to exceed the operating temperature ranges of specified for respective materials.

Gland Type
Bolted gland

Packing / Grease
Grease not provided; When V shaped PTFE packing or PTFE yarn packing is used.
Grease provided; When graphite packing is used.

Gasket
Type; Flat type, serrated type
Material; SUS316, SUS316L, SUS329J1, copper, aluminum

Note) PTFE: Polytetrafluoroethylene

Note: Sizing
When the flow rates are small, a laminar flow is formed at the vena contractra of the valve if the fluid viscosity is relatively small or the differential pressure is high.Valve capacity is defined on the assumption that the flow at the vena contracta is turbulent. For this reason, valve capacity at the vena contractra is calculated large unless the Cv value calculation formula is corrected to the logical dimensions, which may produce a valve capacity insufficient for the application.Refer to the Instrumentation Bulletin No.ID2-8000-3800 correcting Cv calculations based on fluid viscosity, and refer to No. PD2-8110-0500 for valves with such micro Cv values as 0.01, 0.04 or 0.1.

Trim

Valve plug
Single seated, Contoured type plug

- Metal seat
  (For flow characteristics, refer to Figure 1 and 2.)
  - Equal percentage (%CF)
  - Linear (LCF)

Single seated, Quick opening type plug

- Metal (CoCr-A) seat (QS)

Note) For rated Cv 0.01 to 0.1, cage guided plug design.

Material
For body/trim material combinations and operating temperature ranges, refer to Table 1.

Note) For fluid conditions requiring CoCr-A, refer to Figure 3.

Actuator

Type
Single acting diaphragm actuator (Model PSA, HA)

Action
Direct or reverse action

Diaphragm material
Cloth embedded ethylene propylene rubber

Spring range
20 to 98 kPa {0.2 to 1.0 kgf/cm^2} or
80 to 240 kPa {0.8 to 2.4 kgf/cm^2}

Supply pressure
120 to 390 kPa {1.2 to 4.0 kgf/cm^2}

Note) Allowable differential pressure varies depending on spring range and air supply pressure.

Air connection
Rc1/4 or 1/4NPT internal thread

Ambient temperature
-30 to +70°C

Valve action

- Air-to-close (Direct action actuator is combined.)
- Air-to-open (Reverse action actuator is combined.)

Optional accessories
Positioner*, pressure regulator with filter, hand wheel*, limit switch, solenoid valve, motion transmitter, booster relay, lock-up valve, and others.

Note) 1. For the optional items, refer to the specification sheets and installation drawing of respective accessories.
2. Accessories with the asterisk mark (*) are selected from among the following types depending on the actuators to be combined.

Actuator	Positioner		Hand wheel	
	P/P	I/P	Top	Side
PSA1_	VPE_ _ HTP-_ _	AVP70_ AVP30_	Mounted	Mounted
HA2_	HTP-_ _	AVP20_		

Additional specifications (by special order)

- Special inspection
  Flow characteristics inspection, material inspection (Material certificate), non-destructive inspection, steam inspection
- Double gland
- Oil/water free treatment
- Copper free treatment
- York material SCPH2 (Yoke material of PSA1 is SCPH2 as standard)
- Stainless steel (SUS304) atmosphere-exposed nuts and bolts
- Special air piping and joint
- Sand-/dust-preventive measure
- Saline damage countermeasure
- Cold-area use specification
- Tropical area use specification
- Vacuum service

Performance

Rated Cv value

Refer to Table 2 on page 4.

Flow characteristics

Refer to Figure 1 and 2 on page 4.

Inherent rangeability

Refer to Table 2.
(Rangeability 75 : 1 is available as option for rated Cv larger than 1.0)

Allowable differential pressure

Refer to Table 3, 4, 5 and 6.

Leakage specification

- Contoured type plug
  IEC 60534-4:2006 or JIS B 2005-4:2008
  <Metal seat>
  Standard.....Class IV: Leakage less than 0.01% of maximum valve capacity.
  Option.....Leakage less than 0.001% of maximum valve capacity.
- Quick opening plug
  <Metal CoCr-A seat>
  Leakage less than 0.00001% of maximum valve capacity.

Hysteresis error

	PSA1_	HA2_
Without positioner	Within 5% F.S.	Within 3% F.S.
With positioner	Within 1% F.S.	Within 1% F.S.

Linearity

	PSA1_	HA2_
Without positioner	± 5% F.S.	± 5% F.S.
With positioner	VPE_-_ _: ±3% F.S. AVP_ _ _ : ± 2% F.S.	± 1% F.S.

Note) When positioner is not provided, operating performance may vary depending on types of packings used.

Table 1. Body/trim material combinations and operating temperature ranges (°C)

Trim material \ Body material	JIS	SCPH2	SCS13A	SCS14A
	ASTM	A216WCB	A351CF8	A351CF8M
JIS	SUS304	0 to 300	0 to 300	——
JIS	SUS316	0 to 300	0 to 300	0 to 300
JIS	SUS304L	——	0 to 300	——
JIS	SUS316L	——	0 to 300	0 to 300
JIS	SUS329J1	——	——	0 to 300
JIS	SUS304 CoCr-A	0 to 425	0 to 550	——
JIS	SUS304 CoCr-A face	0 to 425	0 to 550	——
JIS	SUS 316 CoCr-A face	0 to 425	0 to 550	0 to 550
JIS	SUS316 CoCr-A	0 to 425	0 to 550	0 to 550
JIS	SUS304L CoCr-A	——	0 to 550	——
JIS	SUS316 CoCr-A	——	0 to 450	0 to 450
JIS	SUS329J1 CoCr-A	——	——	0 to 550

Note) " ▭ " shows standard combination of valve body and trim materials.

Dimensions

Refer to Figure 5, Table 12 and Table 13.

Weight

Refer to Table 14 and Table 15.

Actuator orientation

Refer to Figure 6.

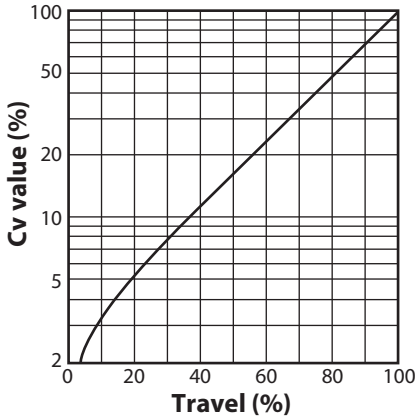
Finish

Blue (Munsell 10B5/10) or silver, or other specified colors.

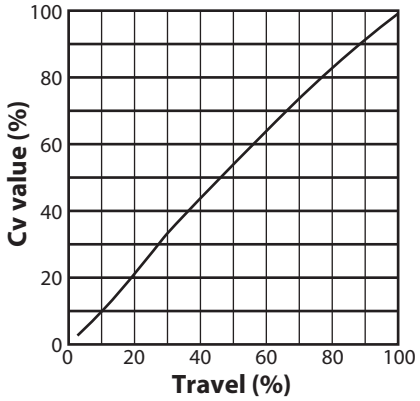
Table 2. Cv value, travel and inherent rangeability

Plug type, characteristics / Rated travel (mm) / Rated Cv value				0.01	0.04	0.1	0.16	0.25	0.4	0.63	1.0	1.6	2.5	4.0	6.3	10	14
Contoured type	Metal seat	Equal percentage (%CF)	14.3	—	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Linear (LCF)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Quick-opening type	Metal (CoCr-A) seat (QS)		6.0	—	—	—	—	—	—	—	—	—	—	—	—	✓	✓
Inherent rangeability				20:1	25:1		20:1			30:1	50:1						
Connection size (inches)		1/2		←													
		3/4		←													
		1		←													

Note) "✓" denotes production ranges.



a. Equal percentage characteristics (%CF metal seat)



b. Linear characteristics (LCF metal seat)

Figure 1. Flow characteristics: Contoured type

Note) The above graphs indicate typical flow characteristics.

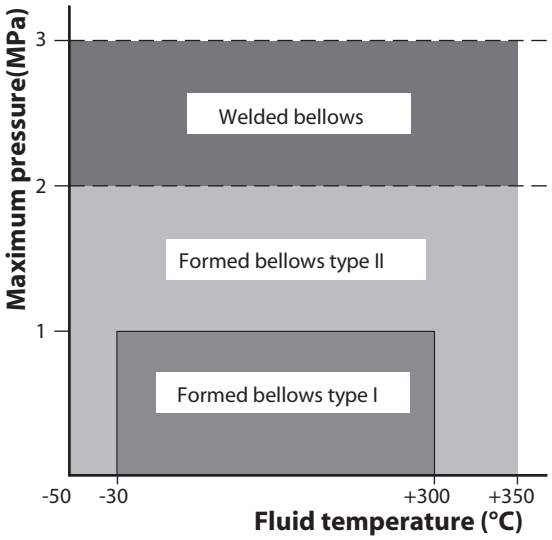


Figure 2. Bellows Type by Temperature and Pressure Ranges

Note) Bellows type are classified into Formed bellows type I, II and welded bellows by temperature and pressure ranges. Please refer to No. SS2-BSL100-0100 about detail of bellows specification.

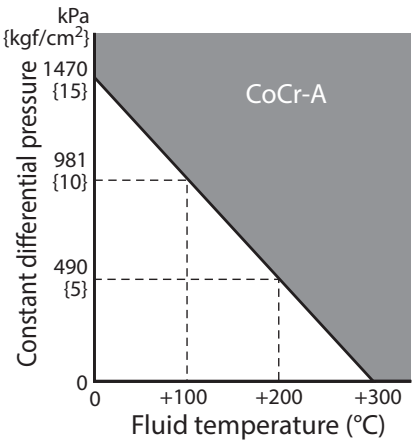


Figure 3. Temperature and normal differential pressure ranges requiring CoCr-A

Note) 1. When cavitation service, oil prohibitive service, or retention of valve-close performance is required, use of CoCr-A is recommended regardless of temperature or differential pressure.

2. When rated Cv value is 0.16 or lower, CoCr-A faced valve plugs are standard.

Table 3. Gland packing

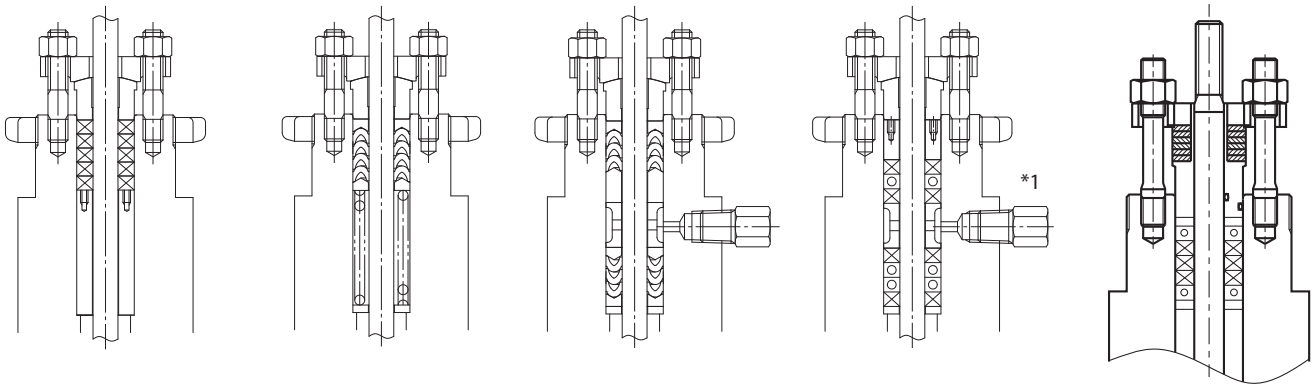
According to your application, select appropriate type of gland packing from the following:

Application	Packing Type	Fluid temperature range Maximum working pressure
General use (Various chemical, acid and alkali)	PTFE fiber yarn packing with carbon fiber core packing [P4519]	-17 to +230 °C 10MPa Max.
General use or oil free (Various chemical, acid and alkali)	V shaped pure PTFE packing [Pure PTFE]	-196 to + 230 °C 10MPa Max.
Vacuum and General use or oil free (Various chemical, acid and alkali)	V shaped pure PTFE packing (Dir. + Rev.) [Pure PTFE (Dir. + Rev.)]	-196 to +230 °C 10MPa Max.
Low or standard temperature (Various chemical, acid and alkali, LNG, etc.)	V shaped pure PTFE packing + PTFE fiber yarn packing or PTFE braided packing [Pure PTFE +PTFE fiber]	-196 to +230 °C 10MPa Max.
High temperature	Expanded graphite packing + Expanded graphite yarn packing *1 [P6610CH+P6528]	+230 to +500 °C 43MPa Max.
	Expanded graphite packing + Carbon fiber reinforced expanded graphite packing *1 [P6610CH+M8590]	+500 to +566 °C 43MPa MAX.
Measures against VOC *2 exhaust regulation [ISO15848-1 compliant low emission packing system]	Packing with Live Load structure *3	-17 to +350 °C 15.5 MPa Max.

*1. *Grease provided*
It cannot be applied to PSA1 actuator (spring range 20 to 98 kPa).

*2. *Volatile Organic Compound*

*3. *Refer to special spec sheet No.SS2-SSL100-0100 about detail of Low emission gland packing.*



For general use [P4519]

For general use or oil free [V shaped pure PTFE]

For vacuum and general use or oil free [V shaped pure PTFE (Dir.+Rev.)]

For high temperature [P6610CH+P6528]
*1 Grease provided by lubricator

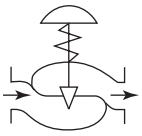
Measures against VOC exhaust regulation [Packing with Live Load structure]

Figure 4. Gland Packing structure

Allowable differential pressure

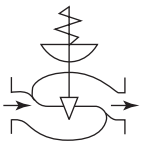
Contoured-type metal seat (%CF, LCF) : PTFE packing

Table 4. Air-to-close



Actuator Model	Supply pressure kPa{kgf/cm²}	Spring range kPa{kgf/cm²}	Positioner	Differential pressure {by Cv value} kPa {kgf/cm²}									
				Below 0.25	0.4	0.63	1.0	1.6	2.5	4.0	6.3	10	14
PSA1D	140 {1.4}	20 to 98 {0.2 to 1.0}	△	3920* {40.0} 5100 {52.0}	3040 {31.0}	3040 {31.0}	1570 {16.0}	1570 {16.0}	981 {10.0}	981 {10.0}	550 {5.6}	410 {4.2}	250 {2.6}
	160 {1.6}	20 to 98 {0.2 to 1.0}	✓	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	2740 {28.0}	2060 {21.0}	1270 {13.0}
	390 {4.0}	80 to 240 {0.8 to 2.4}	✓	——	——	——	——	——	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3820 {39.0}
HA2D	140 {1.4}	20 to 98 {0.2 to 1.0}	△	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3200 {32.6}	3200 {32.6}	1960 {20.0}	1960 {20.0}	1070 {10.9}	800 {8.2}	490 {5.0}
	160 {1.6}	20 to 98 {0.2 to 1.0}	✓	——	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920 {40.0}	2470 {25.2}
	390 {4.0}	80 to 240 {0.8 to 2.4}	✓	——	——	——	——	——	——	——	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}

Table 5. Air-to-open



Actuator Model	Supply pressure kPa{kgf/cm²}	Spring range kPa{kgf/cm²}	Positioner	Differential pressure {by Cv value} kPa {kgf/cm²}									
				Below 0.25	0.4	0.63	1.0	1.6	2.5	4.0	6.3	10	14
PSA1R	140 {1.4}	20 to 98 {0.2 to 1.0}	△	3920* {40.0} 5100 {52.0}	3040 {31.0}	3040 {31.0}	1570 {16.0}	1570 {16.0}	981 {10.0}	981 {10.0}	550 {5.6}	410 {4.2}	250 {2.6}
	270 {2.8}	80 to 240 {0.8 to 2.4}	✓	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3820 {39.0}	2840 {29.0}	1760 {18.0}
HA2R	140 {1.4}	20 to 98 {0.2 to 1.0}	△	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3200 {32.6}	3200 {32.6}	1960 {20.0}	1960 {20.0}	1070 {10.9}	800 {8.2}	490 {5.0}
	270 {2.8}	80 to 240 {0.8 to 2.4}	✓	——	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920* {40.0} 5100 {52.0}	3920 {40.0} 5100 {52.0}	3430 {35.0}

Note) 1. " ▭ " *shows a model with a standard actuator.*

2. ✓*: Positioner is necessary,* △*: Can be operated either with or without positioner.*

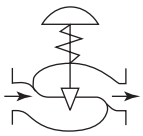
3. *Take care not to cause the maximum allowable differential pressure to exceed the maximum operating pressure designated by ANSI B 16. 34-1981 or JIS B2201-1984.*

4. *The upper figures denote the operating allowable differential pressure; the lower denote allowable differential pressure at full closure.*

5. *The operating allowable differential pressure with an asterisk(*) should be read as 2940 kPa {30 kgf/cm²}, for liquid application. For the liquid application involving differential pressure of more than 2940kPa {30kgf/cm²}, use the HLC-type cage trim (%CC, LCC). (Refer to the Specification sheet No.SS2-HLC110-0100)*

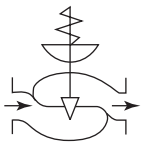
Quick-opening type metal (CoCr-A) seat (QS)

Table 6. Air-to-close



Actuator Model	Supply pressure kPa {kgf/cm²}	Spring range kPa {kgf/cm²}	Differential pressure kPa {kgf/cm²}	
			Cv=10	Cv=14
PSA1D	140 {1.4}	20 to {0.2 to }	720 {7.3}	490 {5.0}
	290 {3.0}	20 to 52 {0.2 to 0.53}	2000 {20.0}	1800 {18.0}
HA2D	140 {1.4}	20 to 52 {0.2 to 0.53}	1430 {14.6}	1300 {13.0}
	290 {3.0}	20 to 52 {0.2 to 0.53}	3900 {40.0}	3600 {37.0}

Table 7. Air-to-open



Actuator Model	Supply pressure kPa {kgf/cm²}	Initial spring compression kPa {kgf/cm²}	Differential pressure kPa {kgf/cm²}	
			Cv=10	Cv=14
PSA1R	140 {1.4}	40 {0.4}	330 {3.4}	290 {3.0}
	270 {2.8}	80 {0.8}	670 {6.8}	590 {6.0}
HA2R	140 {1.4}	40 {0.4}	660 {6.7}	590 {6.0}
	270 {2.8}	80 {0.8}	1320 {13.5}	1190 {12.1}

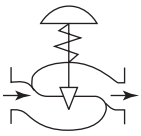
Note) 1. " ▭ " shows a model with a standard actuator.

2. Take care not to cause the maximum allowable differential pressure to exceed the maximum operating pressure designated by ANSI B16. 34-1981, or JIS B2201-1984.

CV3000 Series Small-Port Single Seated Control Valves (Model : HLS)

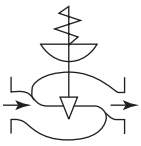
Contoured type metal seat (%CF, LCF) : Graphite packing "P6610CH+P6528"(+230 to +500 °C)

Table 8. Air-to-close



Actuator Model	Supply Pressure kPa{kgf/cm²}	Spring range kPa{kgf/cm²}	Positioner	Differential pressure {by Cv value} kPa {kgf/cm²}										
				Below 0.1	0.16 to 0.25	0.4	0.63	1.0	1.6	2.5	4.0	6.3	10	14
HA2D	390 {4.0}	80 to 240 {0.8 to 2.4}	✓	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}
				9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	6240 {63.6}

Table 9. Air-to-open



Actuator Model	Supply Pressure kPa{kgf/cm²}	Spring range kPa{kgf/cm²}	Positioner	Differential pressure {by Cv value} kPa {kgf/cm²}										
				Below 0.1	0.16 to 0.25	0.4	0.63	1.0	1.6	2.5	4.0	6.3	10	14
HA2R	270 {2.8}	80 to 240 {0.8 to 2.4}	✓	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	2710 {27.6}
				9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	5900 {60.1}	4400 {44.8}	

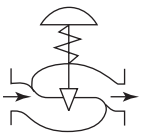
Note) 1. ✓: Positioner is necessary.

2. Take care not to cause the maximum allowable differential pressure to exceed the maximum operating pressure designated by JIS B 2201-1984 or ANSI B 16.34-1981.

3. The upper figures denote the operating allowable differential pressure; the lower denote allowable differential pressure.

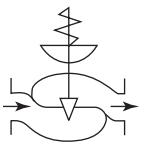
Contoured type metal seat (%CF, LCF) : Graphite packing "P6610CH+M8590"(+500 to +560 °C)

Table 10. Air-to-close



Actuator Model	Supply Pressure kPa{kgf/cm²}	Spring range kPa{kgf/cm²}	Positioner	Differential pressure {by Cv value} kPa {kgf/cm²}										
				Below 0.1	0.16 to 0.25	0.4	0.63	1.0	1.6	2.5	4.0	6.3	10	14
HA2D	390 {4.0}	80 to 240 {0.8 to 2.4}	✓	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}
				9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9450 {96.3}	5840 {59.5}

Table 11. Air-to-open



Actuator Model	Supply Pressure kPa{kgf/cm²}	Spring range kPa{kgf/cm²}	Positioner	Differential pressure {by Cv value} kPa {kgf/cm²}										
				Below 0.1	0.16 to 0.25	0.4	0.63	1.0	1.6	2.5	4.0	6.3	10	14
HA2R	270 {2.8}	80 to 240 {0.8 to 2.4}	✓	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3920* {40.0}	3750 {38.2}	2310 {23.5}
				9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9810 {100}	9260 {94.4}	5020 {51.1}		

Note) 1. ✓: Positioner is necessary.

2. Take care not to cause the maximum allowable differential pressure to exceed the maximum operating pressure designated by JIS B 2201-1984 or ANSI B 16.34-1981.

3. The upper figures denote the operating allowable differential pressure; the lower denote allowable differential pressure

DIMENSIONS

Table 12. Face-to-face dimensions [Unit: mm]

Nominal size (inch)	A			
	Semi-jacket type		Full-jacket type	
	JIS 10K RF ANSI 150RF JPI 150RF	JIS 16K RF JIS 20K RF ANSI 300RF JPI 300RF	JIS 10K RF ANSI 150RF JPI 150RF	JIS 16K RF JIS 20K RF ANSI 300RF JPI 300RF
1/2, 3/4, 1	184	197	320*	330*

Note): Flange size of full-jacket type is 2 inches regardless of its nominal size. Those dimensions suit to that of 2 inches sized valve.*

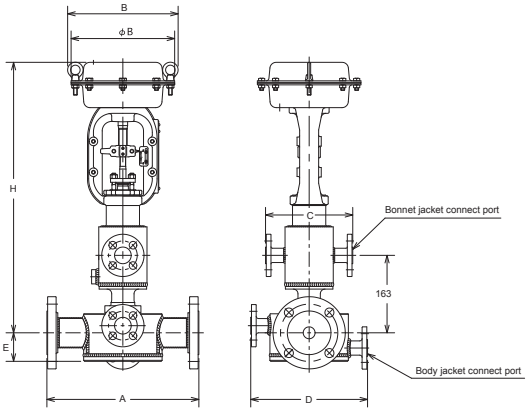


Figure 5. Face-to-face and external dimensions

Table 13. External dimensions [Unit: mm]

Actuator Model.	H			ϕB	B	C		D		E
	Plain bonnet	Extension bonnet Type 1	Bellows bonnet			Threaded type	Flanged type	Threaded type	Flanged type	
PSA1D,R	456	606	576	218	230	142	180	180	246	65
HA2D,R	490	640	608	267	281					

Note) "H" dimensions are applicable when a hand wheel is not provided. When a top-mounted hand wheel actuator is used, add the dimensions of hand wheel specified on Specification Sheets (No.SS2-8213-0500).

Weight

Table 14. Semi-jacket type [Unit: kg]

End connection (inch)	Actuator Model	Jacket connection	JIS 10K, ANSI 150, JPI 150		JIS 16K, JIS 20K, ANSI 300, JPI 300	
			Plain bonnet	Extension type bonnet	Plain bonnet	Extension type bonnet
1/2, 3/4, 1	PSA1D,R	Threaded end	17	20	18	21
		Flanged end	19	23	20	24
	HA2D,R	Threaded end	24	27	25	28
		Flanged end	26	30	27	31

Table 15. Full-jacket type [Unit: kg]

End connection (inch)	Actuator Model	Jacket connection	JIS 10K, ANSI 150, JPI 150		JIS 16K, JIS 20K, ANSI 300, JPI 300	
			Plain bonnet	Extension type bonnet	Plain bonnet	Extension type bonnet
1/2, 3/4, 1	PSA1D,R	Threaded end	27	30	29	32
		Flanged end	29	33	31	35
	HA2D,R	Threaded end	34	37	36	39
		Flanged end	36	40	38	42

Note) Flange size of full-jacket type is 2 inches regardless of its nominal size.

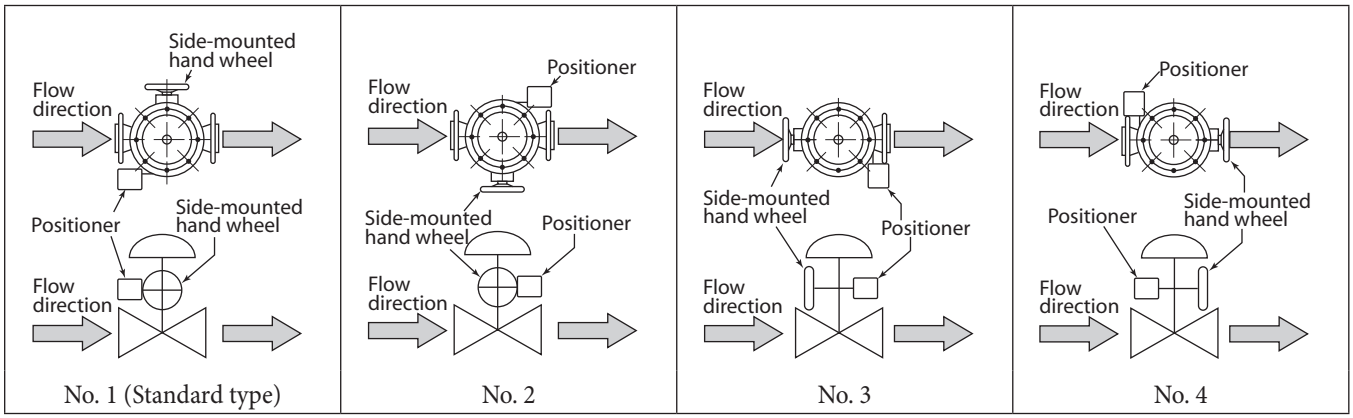


Figure 6. Actuator orientation

Note) 1. Indicate by position number when installation other than the standard type is required.

Ordering information

When ordering, please specify;

1) Model number: HLS
2) Nominal size × Cv required
3) Type and rating of end connections
4) Body and trim material, necessity of hardening
5) Type of bonnet
6) Jacket type, rating, connection, material
7) Valve and plug characteristics
8) Type of actuator, air to diaphragm
9) Valve action (direct or reverse)
10) Accessories (positioner, hand wheel, pressure regulator etc.)
11) Special requirement of degreasing, free from copper and etc.
12) Name of flow medium
13) Normal flow and maximum required flow
14) Pressure of flow medium, upstream and downstream pressure at maximum and minimum, required flow
15) Temperature and specific gravity of flow medium
16) Viscosity of flow medium, inclusive or exclusive of slurry

Note

Note

Please read “Terms and Conditions” from the following URL before ordering and use.

https://www.azbil.com/products/factory/order.html

Specifications are subject to change without notice.

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