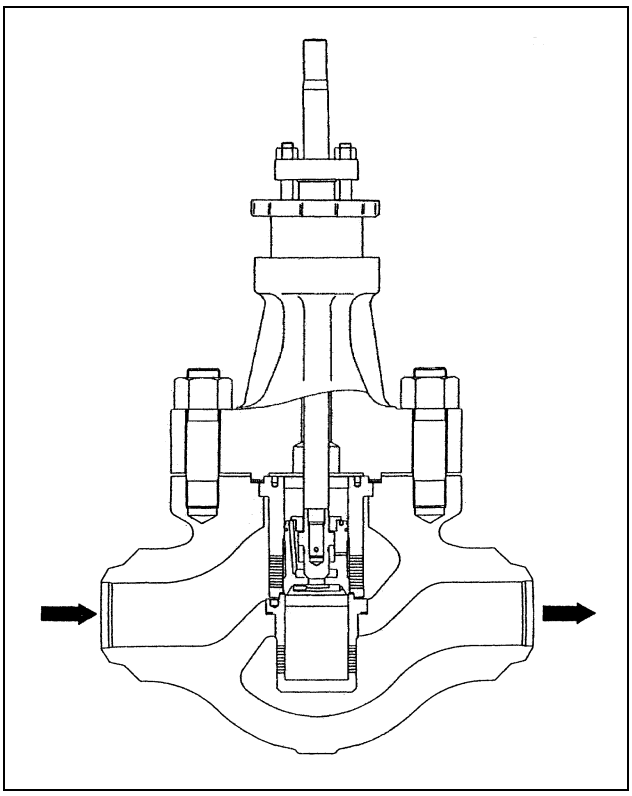
Special-Purpose Valve
Low-Noise Control Valve with Built-in Pilot Plug
Model EGVT

OVERVIEWS

The low-noise control valve with a built-in pilot plug (EGVT) offers enhanced performance of valve seat leakage and is used for high-pressure gaseous fluids. The valve plug has a built-in pilot plug that enables rapid valve operation and allows low valve operation force. The pilot plug uses a simple springless mechanism moved by inlet fluid pressure.

It is suitable for high-temperature, high-pressure steam turbines as a bypass control valve, auxiliary steam pressure reducing valve, or blow-off control valve.



SPECIFICATIONS

Body

Type
Straight through cast globe valve

Nominal size
4, 5, 6, 8 inches

Pressure rating
ANSI Classes 1500 and 2500*

*Note) *: Only valve sizes 4, 5 and 6 inches are available.*

End connection
Flanged end (RF)

Flanged end	Pressure rating	Standard
RF	JIS 63K	JIS B2217-1967
	ANSI Class 900, 1500, 2500	ANSI B16.5-1968
	JPI Class 900, 1500, 2500	JPI-7S-15-1993
RJ, LG	ANSI Class 900, 1500, 2500	ANSI B16.5-1968
	JPI Class 900, 1500, 2500	JPI-7S-15-1993

Welded end (BW)

Material
SCPH 21, SCPH 32

Bonnet
Plain bonnet (0 to +230 °C)
Extension bonnet (+230 to +566 °C)

Gland type
Bolted gland

Packing
Grease provided. Graphite packing is used.

Gasket

Type
Spiral-wound gasket

Material
Stainless steel (SUS316)

Trim

Valve plug
Cage guided built-in pilot plug
Linear (LV)

Cage
Multiple-orifice, single-stage variable-throttling, and multiple orifice, single-stage, fixed-throttling.

Material
SUS420J2 Stellite

Actuator

Type
Single acting diaphragm actuator
(Type HA or VA)

Action
Direct or reverse action

Diaphragm

Type HA
Cloth embedded ethylenepropylene rubber

Type VA
Cloth embedded chloroprene rubber

Spring range
80 to 240 kPa {0.8 to 2.4 kgf/cm^2}

Supply pressure

Type HA
270 to 390 kPa {2.8 to 4.0 kgf/cm^2}

Type VA
270 kPa {2.8 kgf/cm^2}

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

Note) With type VA, Rc1/4 adapter or 1/4NPT adapter is provided on Rc1/2 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 (installed to order)
Positioner, pressure regulator with filter, hand wheel, limit switch, solenoid valve, motion transmitter; booster relay, and others.

Note) For the optional accessories, refer to the specification sheets and installation drawings of respective accessories.

Additional Specifications
- Special inspections
  Flow characteristic inspection, material inspection (Material certificate), non-destructive inspections
- Double gland
- Copper-free treatment
- Special Air piping and joints

Performance

Rated Cv value
Refer to Table 1.

Inherent rangeability
30 : 1

Allowable differential pressure
Refer to Table 2 and Table 3.

Leakage specification
IEC 60534-4:1999 or JIS B 2005-4:2008
Class V

Hysteresis error
Within 1% of F.S. (with positioner)

Linearity
Within ±1% of F.S. (with positioner)

Installed position to piping
Refer to Figure 2.

Finish
Blue (Munsell 10B 5/10) or silver, or customer-specified color

Table 1 Cv value and travels

Nominal size (inch)		4		5		6		8	
Port size (inch)		3	4	4	5	5	6	6	8
Rated Cv value	ANSI 9000 ANSI 1500	50	88	88	135	135	200	200	350
	ANSI 2500	45	80	80	125	125	180	-	-
Rated travel (mm)		38		50		50		75	

Note) The tolerance for valve capacity is ±10% of the rated Cv value.

Flow characteristic

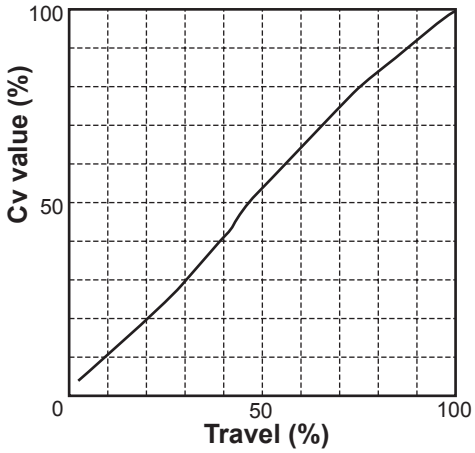


Figure 1 Flow characteristics

Note) The above graphs indicate typical flow characteristic.

Allowable differential pressure

Table 2 Air-to-close

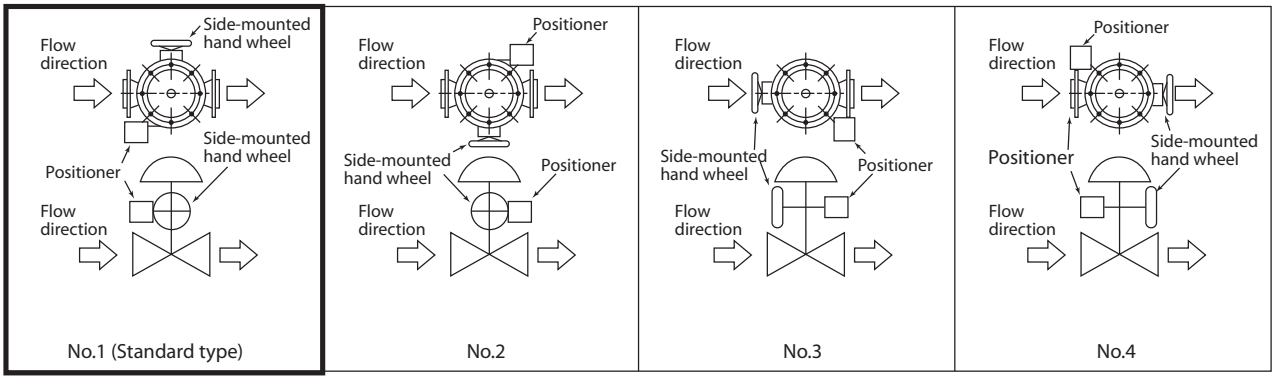
Pressure rating	Actuator	Supply pressure kPa {kgf/cm²}	Spring range kPa {kgf/cm²}	Differential pressure kPa {kgf/cm²} (by Nominal size)			
				4	5	6	8
ANSI 900 ANSI 1500	HA3D	390 {4.0}	80 to 240 {0.8 to 2.4}	12700 {130}	10800 {110}		
	HA4D	390 {4.0}		19600 {200}	18600 {190}	16700 {170}	12700 {130}
ANSI 2500	HA3D	390 {4.0}		18600 {190}	13700 {140}		
	HA4D	390 {4.0}		19600 {200}	19600 {200}	19600 {200}	

Table 3 Air-to-open

Pressure rating	Actuator	Supply pressure kPa {kgf/cm²}	Spring range kPa {kgf/cm²}	Differential pressure kPa {kgf/cm²} (by Nominal size)			
				4	5	6	8
ANSI 900 ANSI 1500	HA3R	270 {2.8}	80 to 240 {0.8 to 2.4}	6370 {65}	5390 {55}		
	HA4R	270 {2.8}		10800 {110}	9320 {95}	8340 {85}	6370 {65}
	VA5R	270 {2.8}		14700 {150}	12700 {130}	11300 {115}	8830 {90}
ANSI 2500	HA3R	270 {2.8}		9320 {95}	6860 {70}		
	HA4R	270 {2.8}		16000 {160}	11300 {115}	9810 {100}	
	VA5R	270 {2.8}		19600 {200}	16000 {150}	13200 {135}	

Note) 1) Can be used for modulating application using positioner or On-off application.

2) Take care that the maximum allowable differential pressure does not exceed the highest working pressure in ANSI B16, 34-1981



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

Figure 2 Actuator orientation

Please read the "Terms and Conditions" from the following URL before ordering or use:

http://www.azbil.com/products/bi/order.html

Specifications are subject to change without notice.

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