360 Goddard, Irvine, CA 92618 U.S.A.
Tel: 1-949-407-8897   Email: sales@valves-fittings.com
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AV-6 SANITARY REGULATING VALVES

SANITARY REGULATING VALVE

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APPLICATIONS

AV-6 Sanitary Regulating valve is a proportional valve to control the flow, it is widely used in the dairy, food, beverage, pharmacy and chemical industries. The most important applications are the pressure control, flow control, level gauge.

WORKING PRINCIPLE

The position of tapered plug is adjusted by positioner to realize the control of flow rate. An intelligent process controller can also be used to control the position and flow rate.

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WORK LOCATION CAN BE PROGRAMMED

• Connect the external components to input standard signal (such as a sensor), 0/4-20mA, 0-5/10V.

• Internal controller integrated into the positioning.

• Send signal to form a keyboard.

DESIGN AND FUNCTION

• According to the 3A sanitary design

• Normally closed (standard)

• With equal percentage adjusting shaft

• 360 dgree adjustable body

• The compact design

DOUBLE FUNCTION ORIENTATION

• PD: position controller

• PID: process controller

• Easy assembly and disassembly.

• Standard connection: Butt-weld, Sanitary Clamp, Thread.

TECHNICAL

• Product wetted parts: AISI316L (1.4404)

• Other steel parts: AISI304 (1.4301)

• Seals: EPDM, comply with FDA177.2600.

• Internal surface finish: Ra≤0.6 μm

• The body with heat jacket (option)

• Shaft sterilization/cleaning (option)

• Actuator with higher pressure (option)

• Seals can be NBR/FPM (option)

CIP inlet   ⇨   ⇨ CIP outlet

ASEPTIC REGULATING VALVE

• It has the functions of a standard regulating valve.

• The shaft can be liquid cleaned or steam barried, ensures a clean stem.

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TECHNICAL SPECIFICATIONS

- Size available from DN25-DN100, 1"-4".
- Working temperature: 14°F to 248°F (- 10℃ to + 120℃), EPDM. 284°F (140℃) SIP, max. 30 min.
- Working pressure: 145 psi (10bar).
- Compressed air pressure: 87-116 psi (6-8 bar)
- Air connection: G1/8" (BSP)
- 24 V DC voltage
- Process signal: 4...20 mA, 0...10V (optional)

HEAT INSULATION TYPE REGULATING VALVE

- Heat jacket design through steam cycle to achieve the purpose of heat keeping

Outlet

Inlet
Heat medium

DIAPHRAGM-ASEPTIC REGULATING VALVE

- This valve has the same technique characteristics as the as Divert Seat Valve.
- A PTFE diaphragm insulates valve from the inside and outside
- Diaphragm's damage can be viewed through leakage cavity.

A leak detector

30 Type

20 Type
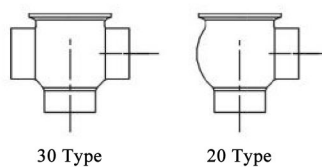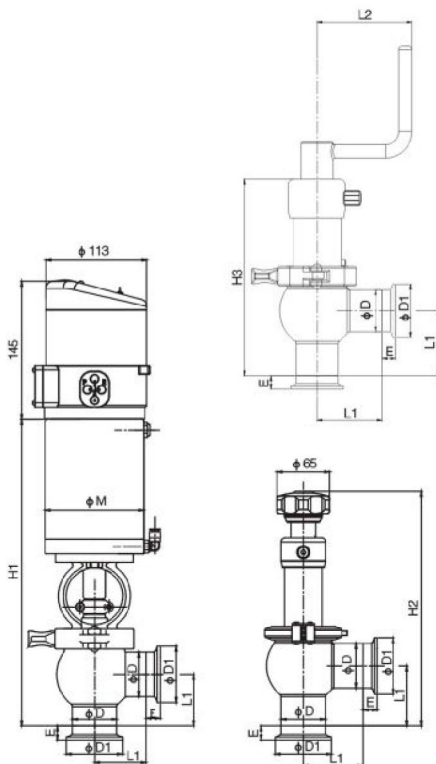
Air Consumption (L/One cycle)

SIZE	Spring/air	Air/air
88	0.12	0.24
113	0.21	0.42
132	0.45	0.90
180	1.00	2.00

Regulating Valve

Units in mm

SIZE	H1	H2	H3	D	D1	L1	L2	M 6bar	10bar	E	(kg)
DN25	298	236	180	28	50.5	50	86	88	113	12.7	5
DN32	298	236	180	34	50.5	55	86	88	113	12.7	5
DN40	298	236	180	40	50.5	60	86	88	113	12.7	5
DN50	359	258	210	52	64	70	86	113	132	12.7	7
DN65	405	300	245	70	91	99	86	132	180	12.7	13
DN80	405	300	245	85	106	99	86	132	180	12.7	13
DN100	484	300	280	104	119	114	86	180	-	15.8	15

Regulating Valve

SIZE	H1	H2	H3	D	D1	L1	L2	M 6bar	10bar	E	(kg)
1"	298	236	180	25.4	50.5	50	86	88	113	12.7	5
1.25"	298	236	180	31.8	50.5	55	86	88	113	12.7	5
1.5"	298	236	180	38.1	50.5	60	86	88	113	12.7	5
2"	359	258	210	50.8	64	70	86	113	132	12.7	7
2.5"	376	270	224	63.5	77.5	80	86	132	180	12.7	13
3"	405	300	245	76.2	91	99	86	132	180	12.7	13
4"	484	330	280	101.6	119	114	86	180	-	15.8	15

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FLOW RATE FACTOR(Kv)

Refer to the following formula and flow coefficient value to choose the suitable regulating valve for specific gravity is 1.0 water and other products:

$$Kv= \frac{Q}{\sqrt{\Delta P}}$$

For specific gravity is not 1.0 products:

$$Kv= \frac{Q}{\sqrt{\Delta P/SG}}$$

How to use the date sheet to choose the valve size

To calculate the specific application of Kv factor, select the most close to 50% of the curve.

How to use the date sheet to choose the valve size

To calculate the specific application of Kv factor, in the next page to find the factor. Select the most close to 50% stroke curve.

Kv calculation example:

Valve size suit for the watr flow 60m³/h

Inlet pressure 3 bar
Outlet pressure 1.5 bar

Answer: inlet pressure (A), minus the outlet pressure (B):

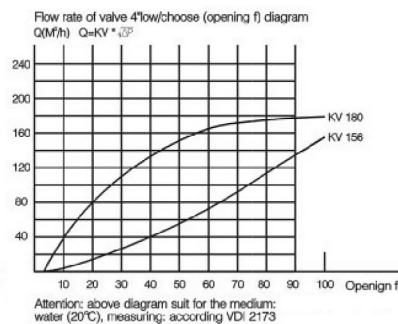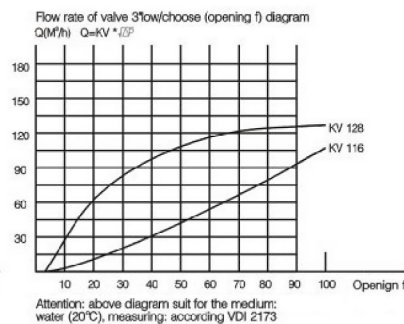$$\Delta P = 3\ bar - 1.5\ bar = 1.5\ bar$$
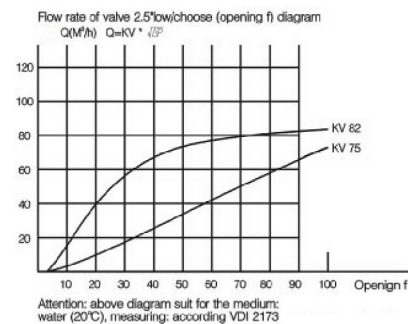$$Kv= \frac{60}{\sqrt{1.5}} = 49$$

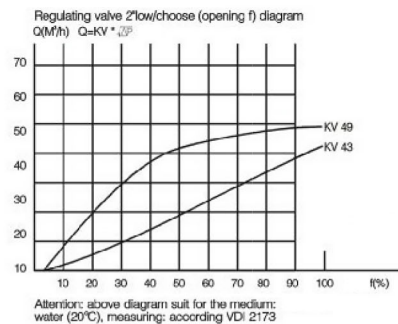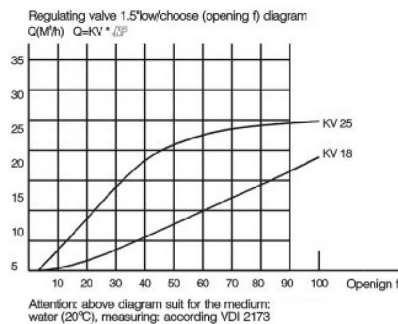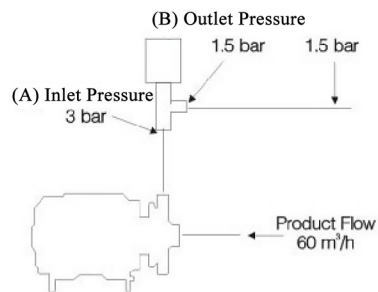**Among them**

Q = product flow rate(m³/h)
SG = product proportion
△P = valve pressure drop (bar)
(The different pressure of inlet and outlet)

Regulating valve 1.5"low/choose (opening f) diagram
Q(M³/h) Q=KV * √△P

Regulating valve 2"low/choose (opening f) diagram
Q(M³/h) Q=KV * √△P

Flow rate of valve 2.5"low/choose (opening f) diagram
Q(M³/h) Q=KV * √△P

Flow rate of valve 3"low/choose (opening f) diagram
Q(M³/h) Q=KV * √△P

Flow rate of valve 4"low/choose (opening f) diagram
Q(M³/h) Q=KV * √△P

Attention: above diagram suit for the medium: water (20℃), measuring: according VDI 2173

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SANITARY REGULATING VALVES WITH HANDWHEEL

APPLICATION

This series regulating valve is widely used in sanitary fluid pipeline system to regulate pressure and flow.

WORKING PRINCIPLE

This type of regulating valve is operated by a hand wheel. While the hand wheel is adjusted clockwise, pressure and flow will decrease gradually until the valve closes; While the hand wheel is adjusted anticlockwise, pressure and flow will increase gradually until the valve is fully open;

(Gradually adjust the conical plug, and then lock the plug at the desired position with bolts.)

STANDARD DESIGN

•   Valve body and valve stem with stopper are made of stainless steel AISI 304 or acid-resistant stainless steel AISI 316L.

•   Valve body outside sand polished, valve stem is strengthened by enhanced chromium plating.

•   Gasket and lip seal use EPDM material with high thermostability.

SANITARY REGULATING VALVES WITH HANDWHEEL
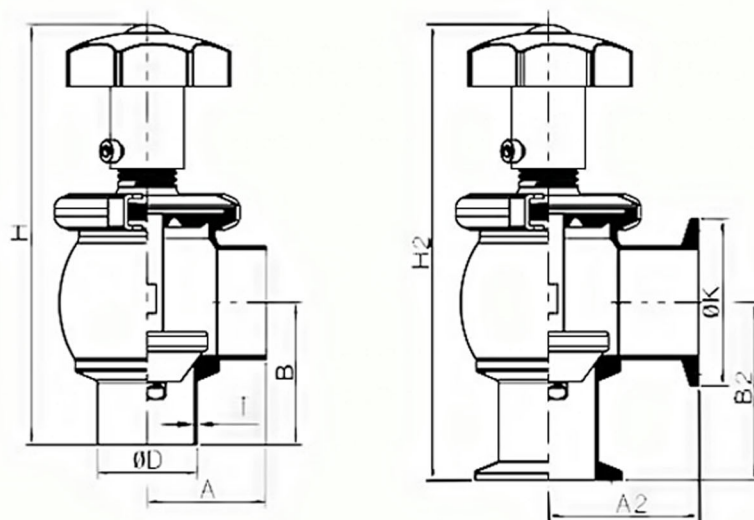
Units in (mm)

Size				H	A	B	H2	A2	B2	K
DIN	**3A**	**SMS**	**ISO**							
DN40	1 1/2"	38	38							
DxT=40x1.5	DxT=38.1x1.65	DxT=38.1x1.5	DxT=38.1x1.5	181	66	59.5	193.7	78.7	72.2	50.5
DN50	2"	51	51							
DxT=52x1.5	DxT=50.8x1.65	DxT=50.8x1.5	DxT=50.8x1.5	181	66	59.5	193.7	78.7	72.2	64
	2 1/2"	63	63							
-	DxT=63.5x1.65	DxT=63.5x2.0	DxT=63.5x2.0	203	84.5	81.5	215.7	97.2	94.2	77.5
DN65	3"	76	76							
DxT=70x2.0	DxT=76.2x1.65	DxT=76.2x2.0	DxT=76.2x2.0	241	86.5	81.5	253.7	99.2	94.2	91
DN80										
DxT=85x2.0	-	-	-	241	86.5	81.5	253.7	99.2	94.2	106

SANITARY REGULATING VALVE