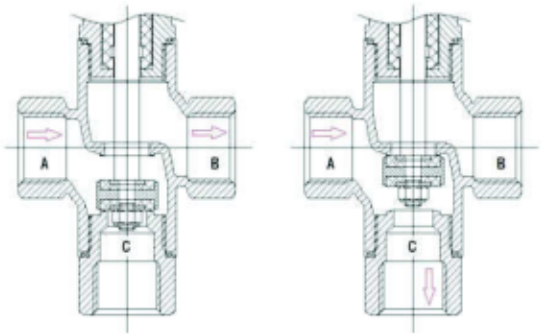
Three Way Angle Seat Valve

Function Principle

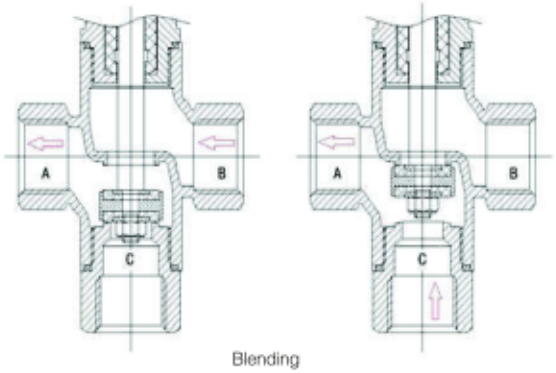
The valve has three ports that enable "reversing" and "blending" features. When the valve is in idle state, C port is closed due to force spring. When the actuator piston is compressed, C port is opened and B port is closed. When double acting, the valve opens and closes by compressed air.

Technical Specification

Fluid pressure: Max1.6MPa
Control pressure: 0.3–0.8MPa
Control medium: Neutral gas or air
Body material: CF8M
Actuator material: CF8
Seal material: PTFE
Medium temperature: –10℃ — +180 ℃
Ambient temperature: –10℃ — +80℃
Control type: Normally closed, Double acting with spring, Double acting with compressed air.
Connection: Thread, Tri–clamp
Applicable medium: Water, steam, oil, neutral gas or liquid, organic solvent, acid base solution, etc



Reversing



Blending

ESG®

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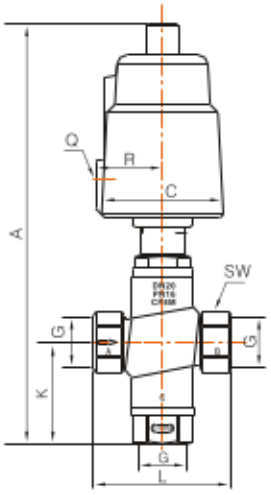
Dimension

Thread type

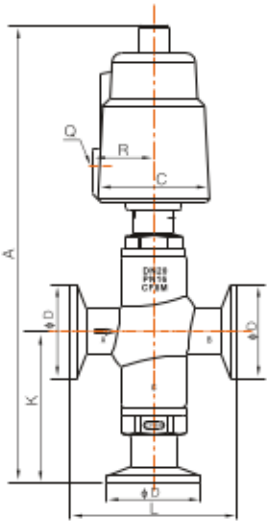
Size	Actuator	Q	C	R	G	A	K	L	SW	Weight (kg)
DN15	40	G1/8	50.5	27	1/2"	195	50	68	27	0.91
DN20	50	G1/8	60	33	3/4"	230	60	75	32	1.25
DN25	50	G1/8	60	33	1"	242	68	90	40	1.64
DN32	90	G1/8	106	55	1 1/4"	355	86	116	50	4.62
DN40	90	G1/8	106	55	1 1/2"	360	90	116	56	5.15
DN50	90	G1/8	106	55	2"	382	102	138	69	6.52

Tri-clamp type

Size	Actuator	Q	C	R	D	A	K	L	Weight (kg)
DN15	40	G1/8	50.5	27	34	223	80	90	0.99
DN20	50	G1/8	60	33	50.5	246	80	90	1.48
DN25	50	G1/8	60	33	50.5	262	90	100	1.78
DN32	90	G1/8	106	55	50.5	373	104	130	4.75
DN40	90	G1/8	106	55	64	381	111	150	5.45
DN50	90	G1/8	106	55	64	408	128	160	6.65



Thread type



Tri-clamp type

Pressure Data

Type 1 : Single acting , with Normal Spring

Size	Actuator	Interface	Inner hole	Flow rate KV (m³/h)		Differential pressure range △P(MPa)A→B/A→C	Differential pressure range △P(MPa)C→A	Control pressure (MPa)
				A→B	A→C			
DN15	40	1/2"	14	4.1	4.9	0–1.6	1.2	0.4–0.6
DN20	50	3/4"	18	5.8	6.5	0–1.6	0.8	0.3–0.5
DN25	50	1"	24	13.9	14.4	0–1.4	0.4	0.3–0.65
DN32	90	1 1/4"	31	20.9	22.8	0–1.6	0.2	0.3–0.45
DN40	90	1 1/2"	35	24.4	26.6	0–1.6	0.1	0.3–0.5
DN50	90	2"	45	29.3	31.9	0–1.6	0.1	0.3–0.6

Type 2 : Single acting , with Strong Spring

Size	Actuator	Interface	Inner hole	Flow rate KV (m³/h)		Differential pressure range △P(MPa)A→B/A→C	Differential pressure range △P(MPa)C→A	Control pressure (MPa)
				A→B	A→C			
DN15	40	1/2"	14	4.1	4.9	0–1.6	1.2	0.4–0.6
DN20	50	3/4"	18	5.8	6.5	0–1.6	1.4	0.45–0.65
DN25	50	1"	24	13.9	14.4	0–1.1	0.6	0.45–0.65
DN32	90–A	1 1/4"	31	20.9	22.8	0–0.55	1.6	0.6–0.7
	90–B					0–1.4	1.2	0.45–0.7
DN40	90–A	1 1/2"	35	24.4	26.6	0–0.45	1.6	0.6–0.7
	90–B					0–1.2	1.0	0.45–0.7
DN50	90–A	2"	45	29.3	31.9	0–0.25	0.9	0.6–0.7
	90–B					0–0.9	0.5	0.45–0.7

Type 3 : Double acting , with Normal Spring

Size	Actuator	Interface	Inner hole	Flow rate KV (m³/h)		Differential pressure range △P(MPa)A→B/A→C	Differential pressure range △P(MPa)C→A	Control pressure (MPa)
				A→B	A→C			
DN15	40	1/2"	14	4.1	4.9	0–1.6	1.6	0.4–0.6
DN20	50	3/4"	18	5.8	6.5	0–1.6	1.6	0.3–0.5
DN25	50	1"	24	13.9	14.4	0–1.4	1.4	0.3–0.65
DN32	90	1 1/4"	31	20.9	22.8	0–1.6	1.6	0.3–0.55
DN40	90	1 1/2"	35	24.4	26.6	0–1.6	1.6	0.3–0.6
DN50	90	2"	45	29.3	31.9	0–1.6	1.6	0.3–0.65