

JV Ball Valve

2- and 3-way Control Valves with Stainless Steel Ball

Application

The JV series ball valves are used for the water control of air treatment systems in ventilation and air conditioning units as well as heating system. They are operated by direct or remote mounted Spring Return and Non Spring Return actuators of Joventa.

Ordering Codes

See tables of valve actuator assemblies



Technical Specifications

Product	JV205...	JV305...
	2-way	3-way mixing*
Service	Hot and cold water -30...140 °C (-5...95 °C with BAD and BMD) Water with glycol to max 50% volume Steam to max 100 kPa at 120 °C	
Permitted pressure	PN40	
Close-off pressure Δp_s	1380 kPa	
Differenzial pressure Δp_{max}	600 kPa at 2-way valves without flow disk 340 kPa for all the others 240 kPa for noiseless operation	
Flow characteristics	Equal percentage in 2-way valve Equal percentage in 3-way valve (control port) Linear in 3-way valve in bypass	
Leakage rate	< 0.01% from the Kvs, < 1% for bypass port	
Rangeability	> 500 : 1 (EN60534-2-4)	
Material	<ul style="list-style-type: none"> - Body device Forged brass body - Ball Stainless steel - Spindle Stainless steel - Valve seat PTFE with graphite part and EPDM O-ring - Spindle gasket 2 x EPDM O-ring 	
- Flow characterisation disk	AMODEL® AS 1145HS	
End Connections	British Standard Pipe Parallel (BSPP) - (Rp, ISO 7/1)	
CE Compliance	PED (Pressure Equipment directive) 97/23/EC, Category II for Fluid Group 1 - Notified Body Code: 0036	

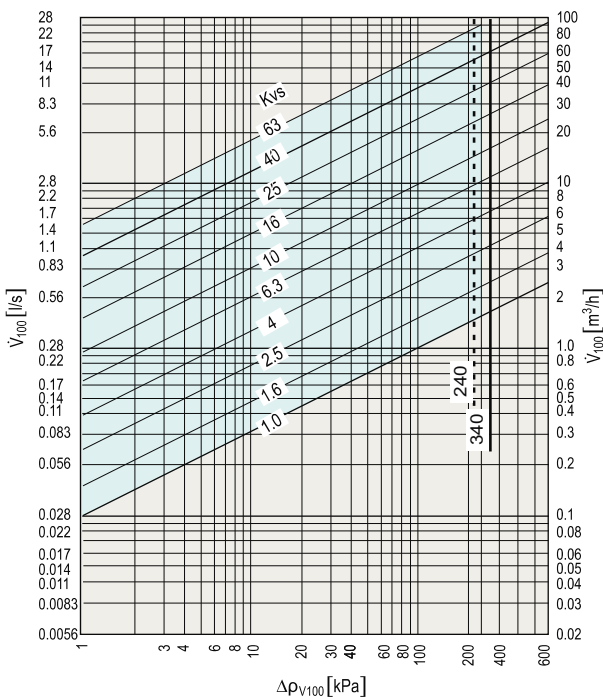
*The valve without flowdisc can also be used as diverting.

Legende

- Δp_{max} = Maximum permitted pressure difference for a long service life referred to the whole range of opening.
- - - - Δp_{max} = For low-noice operation.
- Δp_{V100} = Pressure difference with ball valve fully open.
- \dot{V}_{100} = Nominal flow rate with Δp_{V100}

Formula k_{VS} for water

$$k_{VS} = \sqrt{\frac{\dot{V}_{100}}{\frac{\Delta p_{V100}}{100}}} \quad \begin{matrix} k_{VS} & [\text{m}^3/\text{h}] \\ \dot{V}_{100} & [\text{m}^3/\text{h}] \\ \Delta p_{V100} & [\text{kPa}] \end{matrix}$$



JV205JV305_05 2009

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Assemblies of valves with PROPORTIONAL ACTUATORS

Spring return function	---		■					
Supply voltage	24 VAC							
Torque	4 Nm	8 Nm	6 Nm	16 Nm				
Running time	72 s	30 s	25 - 40 s	90 - 120 s				
Spring return time Power off	---		35 s (max 70 s)	10 s				
Control signal	VDC	0 - 10 / 2 - 10						
	mA	0 - 20 / 4 - 20		---				
Switches	---	2 x SPDT	---	1 x SPDT				
		---	---	2 x SPDT				
Feedback	VDC	0 - 10 / 2 - 10		0 - 10				
Close-off pressure	1380 kPa							
Actuator code	BMD1.2	BMD1.2C	BMS1.1	BMS1.1S	DMF1.06	DMF1.06S	DMF1.1F	DMF1.1FS
Linkage code	---		ZAK2		ZAK3		ZAK4	
Ordering code suffix for assemblies	+BMD1.2	BMD1.2C	+BMS1.1	+BMS1.1S	+DMF106	+DMF106S	+DM1.1F	+DM1.1FS

Ordering Codes

Valve code*	Body size	Kvs (Control Port)	Kvs (Bypass Port)**	Disc	Valid combinations of valves, linkages and actuators							
JVx05AD	DN15	1.0	0.63	■	■	■	■	■	■	■	---	---
JVx05AE		1.6	1.0		■	■	■	■	■	■	---	---
JVx05AF		2.5	1.6		■	■	■	■	■	■	---	---
JVx05AG		4.0	2.5		■	■	■	■	■	■	---	---
JVx05AL		6.3	4.0		■	■	■	■	■	■	---	---
JVx05AN****		10	5.0		---	■	■	■	■	■	■	---
JVx05BL	DN20	6.3	4.0	■	■	■	■	■	■	■	---	---
JVx05BN****		10	5.0	---	■	■	■	■	■	■	---	---
JVx05CN	DN25	10	6.3	■	■	■	■	■	■	■	---	---
JVx05CP****		16	8.0	---	■	■	■	■	■	■	---	---
JVx05DP	DN32	16	10.0	■	---	---	■	■	■	■	---	---
JVx05DR****		25	12.5	---	---	---	■	■	■	■	---	---
JVx05ER	DN40	25	16	■	---	---	■	■	■	■	---	---
JVx05ES****		40	20	---	---	---	■	■	■	■	---	---
JVx05FS	DN50	40	25.0	■	---	---	■	■	---	---	■	■
JVx05FT****		63	31.5	---	---	---	■	■	---	---	■	■

Note *:

x = 2 2-way
x = 8 3-way

Note **:

only 3-way valves

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Assemblies of valves with FLOATING and ON/OFF ACTUATORS

Spring return function	---												■					
Supply voltage	24 VAC						230 VAC						24 VAC					
Torque	4 Nm				8 Nm				6 Nm				16 Nm					
Running time	72 s				30 s				60 - 90 s				90 - 120 s					
Spring return time Power off	---												35 s (max 70 s)		10 s			
Control signal	Floating		Floating with time-out and ON/OFF										Floating					
Switches	---						2 x SPDT		---		2 x SPDT		---		1 x SPDT		2 x SPDT	
Feedback	---																	
Close-off pressure	1380 kPa																	
Actuator code	BAD1.4	BAD1.4C	BAD1	BAD1C	BAS1	BAS1.S	BAS2	BAS2.S	DBF1.06	DBF1.06S	DAF1.4F	DAF1.4FS						
Linkage code	---				ZAK2				ZAK3				ZAK4					
Ordering code suffix for assemblies	+BAD 1.4	+BAD 1.4C	+BAD 1	+BAD 1C	+BAS 1	+BAS 1.S	+BAS 2	+BAS 2.S	+DBF 106	+DBF 106S	+DAF 1.4F	+DAF 1.4FS						

Ordering Codes

Valve code*	Body size	Kvs (Control Port)	Kvs (Bypass Port) **	Disc	Valid combinations of valves, linkages and actuators											
JVx05AD	DN15	1.0	0.63	■	■	■	■	■	■	■	■	■	■	■	---	---
JVx05AE		1.6	1.0		■	■	■	■	■	■	■	■	■	■	---	---
JVx05AF		2.5	1.6		■	■	■	■	■	■	■	■	■	■	---	---
JVx05AG		4.0	2.5		■	■	■	■	■	■	■	■	■	■	---	---
JVx05AL		6.3	4.0		■	■	■	■	■	■	■	■	■	■	---	---
JVx05AN****		10	5.0		---	■	■	■	■	■	■	■	■	■	---	---
JVx05BL	DN20	6.3	4.0	■	■	■	■	■	■	■	■	■	■	---	---	
JVx05BN****		10	5.0	---	■	■	■	■	■	■	■	■	---	---		
JVx05CN	DN25	10	6.3	■	■	■	■	■	■	■	■	■	■	---	---	
JVx05CP****		16	8.0	---	■	■	■	■	■	■	■	■	---	---		
JVx05DP	DN32	16	10.0	■	---	---	---	---	■	■	■	■	■	---	---	
JVx05DR****		25	12.5	---	---	---	---	---	■	■	■	■	---	---		
JVx05ER	DN40	25	16	■	---	---	---	---	■	■	■	■	■	---	---	
JVx05ES****		40	20	---	---	---	---	---	■	■	■	■	---	---		
JVx05FS	DN50	40	25.0	■	---	---	---	---	■	■	■	■	---	---	■	■
JVx05FT****		63	31.5	---	---	---	---	---	■	■	■	■	---	---	■	■

Note *:
x = 2 2-way
x = 8 3-way

Note **:
only 3-way valves

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Assemblies of valves with ON/OFF ACTUATORS

Spring return function	■							
Supply voltage	24 VAC				230 VAC			
Torque	6 Nm		16 Nm		6 Nm		16 Nm	
Running time	10 - 40 s		90 - 120 s		10 - 40 s		90 - 120 s	
Spring return time Power off	30 s ±20%		10 s		30 s ±20%		10 s	
Control signal	ON/OFF							
Switches	---	1 x SPDT	---	2 x SPDT	---	1 x SPDT	---	2 x SPDT
Feedback	---							
Close-off pressure	1380 kPa							
Actuator code	DAF1.06	DAF1.06S	DAF1.F	DAF1.FS	DAF2.06	DAF2.06F	DA2.F	DA2.FS
Linkage code	ZAK3		ZAK4		ZAK3		ZAK4	
Ordering code suffix for assemblies	+DAF106	+DAF106S	+DA1.F	+DA1.FS	+DAF206	+DAF206S	+DA2.F	+DA2.FS

Ordering Codes

Valve code*	Body size	Kvs (Control Port)	Kvs (Bypass Port)**	Disc	Valid combinations of valves, linkages and actuators							
JVx05AD	DN15	1.0	0.63	■	■	■	---	---	■	■	---	---
JVx05AE		1.6	1.0		■	■	---	---	■	■	---	---
JVx05AF		2.5	1.6		■	■	---	---	■	■	---	---
JVx05AG		4.0	2.5		■	■	---	---	■	■	---	---
JVx05AL		6.3	4.0		■	■	---	---	■	■	---	---
JVx05AN****		10	5.0		---	---	■	■	---	---	■	■
JVx05BL	DN20	6.3	4.0	■	■	■	---	---	■	■	---	---
JVx05BN****		10	5.0	---	---	■	■	---	---	■	■	---
JVx05CN	DN25	10	6.3	■	■	■	---	---	■	■	---	---
JVx05CP****		16	8.0	---	---	■	■	---	---	■	■	---
JVx05DP	DN32	16	10.0	■	■	■	---	---	■	■	---	---
JVx05DR****		25	12.5	---	---	■	■	---	---	■	■	---
JVx05ER	DN40	25	16	■	■	■	---	---	■	■	---	---
JVx05ES****		40	20	---	---	■	■	---	---	■	■	---
JVx05FS	DN50	40	25.0	■	---	---	■	■	---	---	■	■
JVx05FT****		63	31.5	---	---	---	---	■	■	---	---	■

Note *:

x = 2 2-way
x = 8 3-way

Note **:

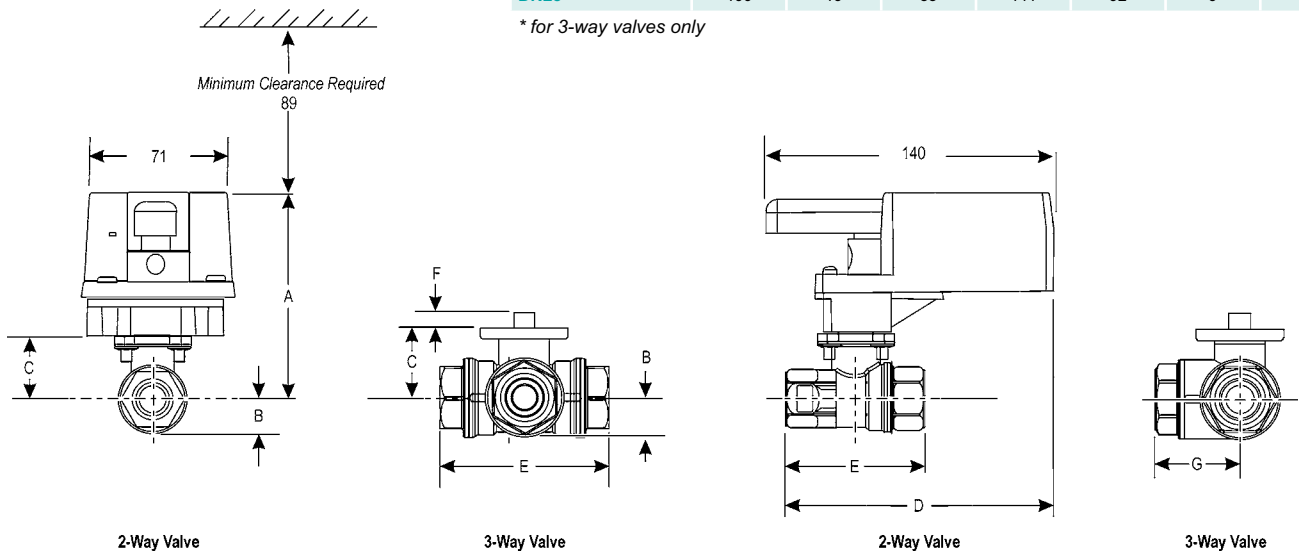
only 3-way valves

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Non-Spring Return BAD1.4(C) / BAD1(C) / BMS1.2(C) Actuated JV Series Ball Valve
Dimensions in mm

Valve Size, DN	A	B	C	D	E	F	G*
DN15	98	17	31	129	67	9	33
DN20	98	17	31	133	75	9	38
DN25	100	19	33	141	92	9	46

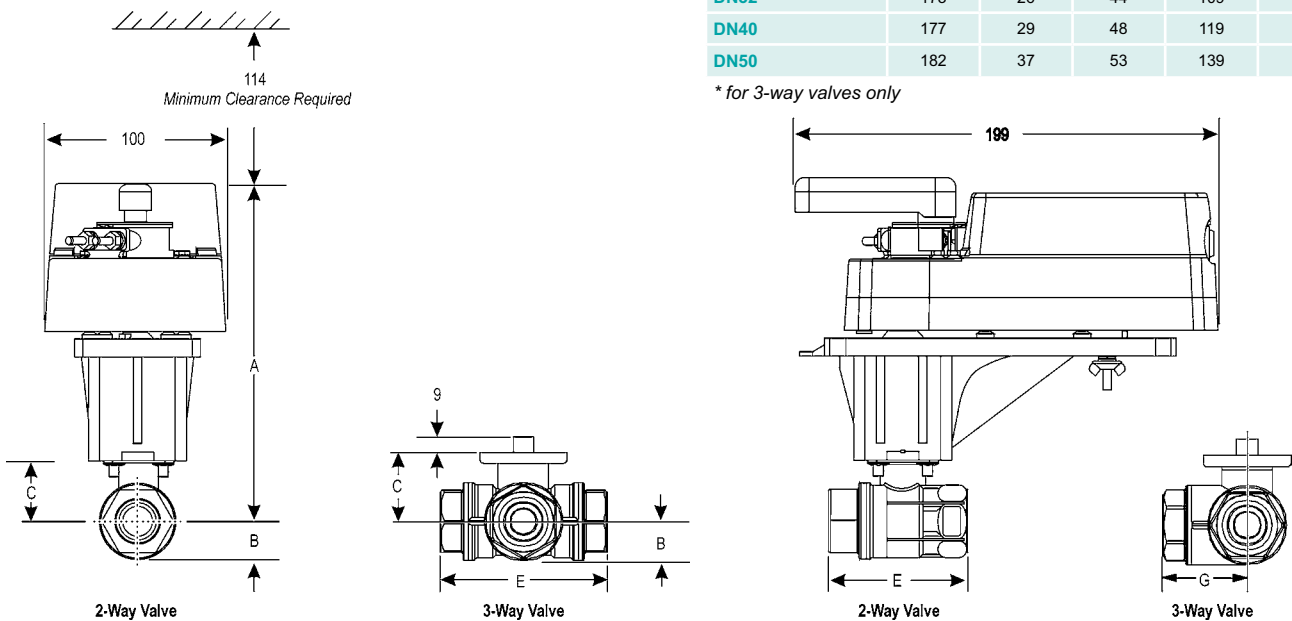
* for 3-way valves only



Non-Spring Return BAS1 / BAS2 / BMS1.1 / BMS2.2 Actuated JV Series Ball Valve
with ZAK2 Linkage, Dimensions in mm

Valve Size, DN	A	B	C	E	G*
DN15	160	17	31	67	33
DN20	160	17	31	75	38
DN25	161	19	33	92	46
DN32	173	26	44	109	54
DN40	177	29	48	119	59
DN50	182	37	53	139	74

* for 3-way valves only

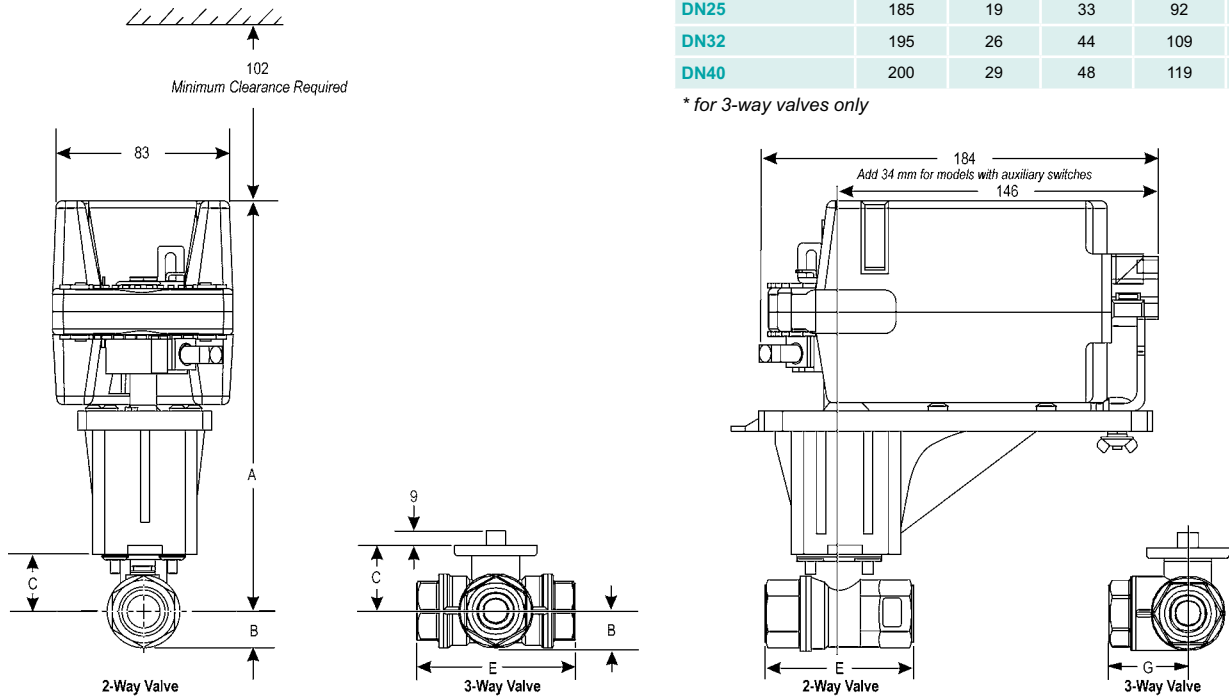


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Spring Return DAF Actuated JV Series Ball Valve with ZAK3 Linkage, Dimensions in mm

Valve Size, DN	A	B	C	E	G*
DN15	183	17	31	67	33
DN20	183	17	31	75	38
DN25	185	19	33	92	46
DN32	195	26	44	109	54
DN40	200	29	48	119	59

* for 3-way valves only



Spring Return DA..F / DM1.1F Actuated JV Series Ball Valve with ZAK4 Linkage, Dimensions in mm

Valve Size, DN	A	B	C	E	F	G*
DN50	204	37	54	139	55	74

*for 3-way valves only

