



Measure, Monitor and Control  
For The Process Industries

## Ball Valves

3 pieces Body Design

With and Without ISO Mounting Pad

Lever Operated

Pneumatic Actuated

Pneumatic Actuated with E/P Positioner

Electric Actuated

Electric Actuated with Integrated Proportional Control Unit

Accessories



# AE BLV323 / 323N Ball Valve

## (3 pcs Body Design, Lever Operated)



### Design

AE BLV323 Series full port ball valve has a three pieces valve body construction for easy installation and maintenance. It is designed for a wide range of application and media in the process industry. The quarter turn operation for opening or closing of the valve is done by a hand lever. The valve body is made from high quality stainless steel using precision investment cast technology. Safety features include blow out proof stem and lever with locking device.

The AE BLV323 stem seal is constantly loaded by a set of disc spring to eliminate premature stem leakage and has integrated top flange in accordance to ISO5211 that allows easy mounting of actuators and limit switch box.

The AE BLV323N, without ISO top flange, is meant as a cost effective solution for application where manual operation is needed only.

### Specifications

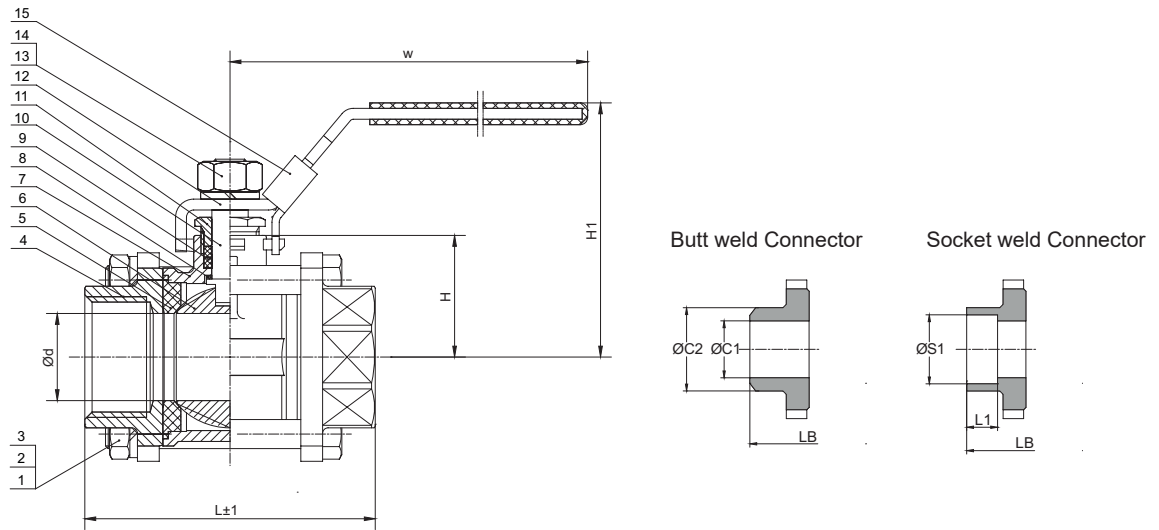
<b>Type</b>	BLV323N
<b>Design</b>	Full Port 3 pcs body according to ANSI B16.34
<b>Face to Face Dimension</b>	Complied to DIN3202-M3
<b>Inspection and Test</b>	According to API598
<b>Size</b>	DN10 to DN98 (1/2" to 4")
<b>Material</b> Body End Cap Ball Stem	CF8M CF8M SS316 SS316 (other material on request)
<b>Seal Material</b> Main Seat Body Seal Stem Seal	PTFE PTFE PTFE (other material on request)
<b>Port Connection</b>	Standard NPT (PT, BSP, Buttweld, Socketweld on request)
<b>Media</b>	Water, Oil, Gas, Acid and other media that is compatible to the body and seat/seal material
<b>Media Temperature</b>	-10°C to +120°C (PTFE Seal)
<b>Pressure Rating</b>	0 to 63 bar (1/4" to 2") 0 to 40 bar (2 1/2" to 4")
<b>Operator</b>	Lever with locking device
<b>Option</b>	Degreased, Anti-Static
<b>Installation</b>	As required

<b>Type</b>	BLV323
<b>Design</b>	Full Port 3 pcs body according to ANSI B16.34
<b>Face to Face Dimension</b>	Complied to DIN3202-M3
<b>Inspection and Test</b>	According to API598
<b>Size</b>	DN12 to DN98 (1/2" to 4")
<b>Material</b> Body End Cap Ball Stem	CF8M CF8M SS316 SS316 (other material on request)
<b>Seal Material</b> Main Seat Body Seal Stem Seal	PTFE or PPL* PTFE or PPL* PTFE/Viton or PPL* (other material on request) *PPL (Polyparaphenylene) is an excellent seat material with low coefficient of friction, highly resistant to pressure and temperature and is recommended for steam application
<b>Port Connection</b>	Standard BSP (PT, NPT, Buttweld, Socketweld on request)
<b>Media</b>	Water, Oil, Gas, Acid, Steam (with PPL seat) and other media that is compatible to the body and seat/seal material
<b>Media Temperature</b>	-10°C to +120°C (PTFE Seat) -10°C to + 200°C (PPL Seat) Up to 10 bar steam (PPL Seat)
<b>Pressure Rating</b>	0 to 63 bar (1/4" to 2") 0 to 40 bar (2 1/2" to 4")
<b>Operator</b>	Lever with locking device
<b>Option</b>	Degreased, Anti-Static
<b>Installation</b>	As required
<b>Automation</b>	Integrated direct mounting top flange in accordance to ISO5211

# AE BLV323N Ball Valve

## (3 pcs Body Design, Lever Operated)

### Materials and Dimensions



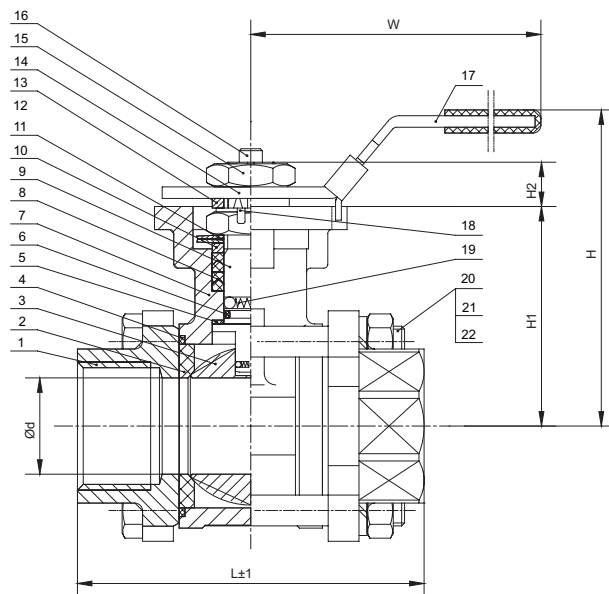
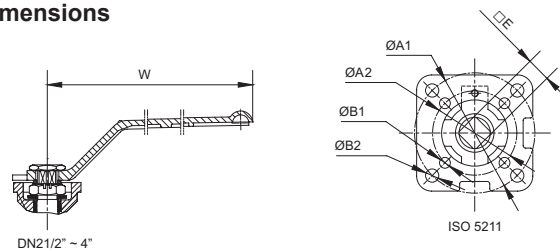
No.	Part	Material	No.	Part	Material
1	Bolt	ASTM A193-B8	9	Packing	PTFE
2	Spring Washer	ASTM A193-B8	10	Stem	ASTM A276 316
3	Nut	ASTM A194-B8M	11	Packing Gland	ASTM A276 304
4	End Cap	ASTM A351 CF8M	12	Handle	ASTM A276 201
5	Seat	PTFE	13	Spring Washer	ASTM A193-B8
6	Ball	ASTM A276 316	14	Handle Nut	ASTM A194-B8M
7	Body	ASTM A351 CF8M	15	Handle Lock	ASTM A276 201
8	Stem Gasket	PTFE			

Size	Ød	L	H	H1	W	ØC1	ØC2	LB	ØS1	L1	Weight (kg)
1/4	10	50	20.5	51.5	96	12.5	18	70	14.2	10	0.25
3/8	10	60	20.5	51.5	96	12.5	18	70	17.8	10	0.25
1/2	15	75	26	59	98	16	22.5	75	21.8	10	0.42
3/4	20	80	30.5	67	120	21	27	90	27.3	13	0.61
1	25	90	33.5	67.5	120	26	34.5	100	34	13	0.78
1 1/4	32	110	41.5	80.5	150	32	43	110	42.8	16	1.25
1 1/2	38	120	51	95	170	40	49	125	48.9	16	1.86
2	47	140	58	102	170	51	62	150	61.4	17	2.58
2 1/2	64	185	72.5	125	250	65	76.5	190	74	17	4.98
3	76	205	83	135.5	250	80	92	220	90	17	7.5
4	98	240	105	165.5	300	100	115.5	270	115.4	20	12.9

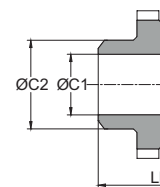
# AE BLV323 Ball Valve

(3 pcs Body Design, with ISO Top Flange, Lever Operated)

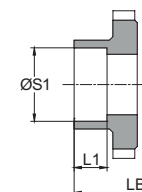
## Materials and Dimensions



Butt weld Connector



Socket weld Connector



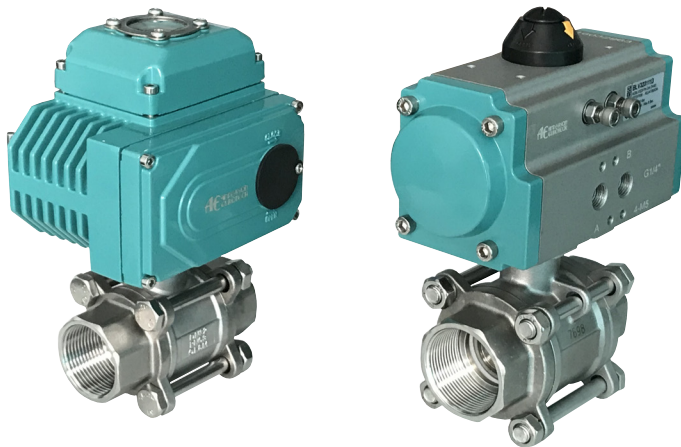
No.	Part	Material	No.	Part	Material
1	Bonnet	ASTM A351 CF8M	12	Stem Nut	ASTM A276 304
2	Seat	PTFE	13	Packing Gland	ASTM A276 304
3	Ball	ASTM A276 316	14	Handle	ASTM A276 304
4	Gasket	PTFE	15	Nut	ASTM A276 304
5	Stem Gasket	PTFE	16	Stop Pin	ASTM A276 304
6	O-Ring	Viton	17	Handle Lock	ASTM A276 304
7	Body	ASTM A351 CF8M	18	Thrust Washer	ASTM A276 304
8	Packing	PTFE	19	Anti-Static-Device <sup>1)</sup>	ASTM A276 304
9	Stem	ASTM A276 316	20	Bolt	ASTM A276 304
10	Packing Gland	ASTM A276 304	21	Spring Washer	ASTM A276 304
11	Disc Spring	PH15-7Mo	22	Nut	ASTM A276 304

<sup>1)</sup> Option

Size	Ød	L	H	H1	H2	□E	W	ØA1	ØA2	ØB1	ØB2	ISO5211	ØC1	ØC2	LB	ØS1	L1	Weight (kg)
1/4	12	60	58	31	7.5	9	110	42	36	6	6	F03/F04	12.5	18	70	14.2	10	0.45
3/8	12	60	58	31	7.5	9	110	42	36	6	6	F03/F04	12.5	18	70	17.8	10	0.45
1/2	15	75	67	40	8	9	110	42	36	6	6	F03/F04	16	22.5	75	21.8	10	0.7
3/4	20	80	71	44	8	9	110	42	36	6	6	F03/F04	21	27	90	27.3	13	0.9
1	25	90	86	55	10	11	160	50	42	6	7	F04/F05	26	34.5	100	34	13	1.3
1 1/4	32	110	91.5	60.5	10	11	160	50	42	6	7	F04/F05	32	43	110	42.8	16	2
1 1/2	38	120	105.5	68.5	14	14	185	70	50	7	9	F05/F07	38	49	125	48.9	16	2.5
2	47	140	112.5	75.5	14	14	185	70	50	7	9	F05/F07	51	62	150	61.4	17	3.6
2 1/2	64	185	165	96	16	17	305	102	70	9	11	F07/F10	65	76.5	190	74	17	7.75
3	76	205	175	106.5	16	17	305	102	70	9	11	F07/F10	78	92	220	90	17	11.3
4	98	240	198	130	18	19	305	102	70	9	11	F07/F10	100	115.5	270	115.4	20	19.2

# AE BLV323 Ball Valve

## (3 pcs Body Design, Pneumatic and Electric Operated)



### Design

AE BLV323 ball valve when retrofitted with pneumatic or electric actuator make it suitable for automatic process control application.

Pneumatic actuator is available in double acting (DA) or spring return (SR) version. Wide range of accessories including E/P positioner, limit switch box for position feedback, declutchable manual override gearbox and pilot solenoid valves complete the range to meet various application requirements.

Electric actuator is available in on/off or modulating control version and comes standard with manual override built in.

The actuator can be mounted onto the valve directly or using mounting bracket in either normally open or normally closed position. Every valve is fully tested for alignment and proper functioning before delivery.

### Specifications - Pneumatic Actuator

Function	Double Acting (DA) or Spring Return (SR)
Material	
Housing	Extruded aluminum alloy, hard anodized
End Cap	Pressure die cast aluminum alloy, epoxy coated
Pinion	Carbon steel, nickel plated
Piston	Cast aluminum / steel, hard anodized / Zinc galvanized
Cap Screw	Stainless steel
Spring	Spring steel, Dip Coated
Bearing and Guide	Engineering plastic
Travel Stop Cam	Alloy steel
Adjustment Screw	Stainless steel
Seal	NBR
Mounting Bracket	Aluminum, stainless steel, alloy steel
Operating Media	Dry or lubricated compressed air or non-corrosive gases
Supply Pressure	Min. 2 bar, Max. 8 bar
Operating Temperature	-20°C to +80°C (NBR) Lower or higher temperature version on request
Rotation	90°
Travel Adjustment	± 5°
Connection and Mounting	Namur, ISO5211 and DIN3337
Torque Output	3 Nm to 13024 Nm (DA) 4 Nm to 6584 Nm (SR)
Selection	Actuator is selected and matched in accordance to each process operating conditions and requirement to ensure proper functioning of the actuated valve

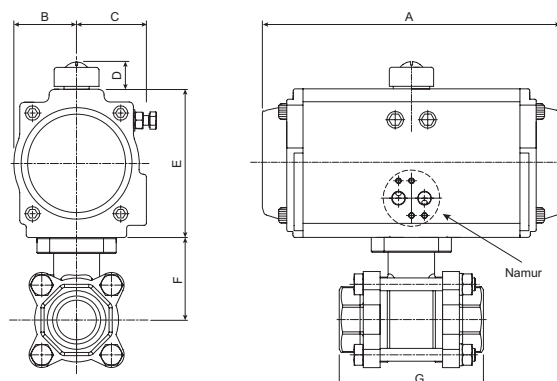
### Specifications - Electric Actuator

Function	On/Off or Modulating
Material	
Housing	Aluminum alloy, epoxy powder coated
Gear	Steel / aluminum bronze
Screws	Stainless steel
Indicator Cover	Polycarbonate
Shaft / Adaptor	Alloy steel
Seal	NBR
Lubrication	Aluminum based grease
Technical Data	
Power Supply	24VDC, 110VAC, 220VAC
Motor	Squirrel cage asynchronous motor
Aux Limit Switches	2 x SPST, 250VAC10A, each for Open and Close positions
Rotation	90° (± 10°) other rotation on request
Stall Protection	internal overheating thermal protection, open @ 120°C / close @ 97°C (± 5°C)*
Manual Operation	Mechanical system by allen key
Conduit Entry	2 x M18
Operating Temp	-20°C to +70°C
Ambient Humidity	Max. 90% RH
Vibration Tested	XYZ10g, 0.2~34Hz, 30 minutes
Mounting	ISO5211
Torque Output	30 Nm to 1000 Nm (2000 Nm on request)
Self-locking device	Self-locking by worm and worm gear
Options Available	
Space Heater, 7 ... 10W (110/220VAC)*	
Position Feedback Potentiometer (1K ... 10K)*	
Position Feedback Sensor with Current output (4 ... 20mA)*	
Proportional Control Unit for modulating control (input/output signal, 4 ... 20mA, 1 ... 5 VDC, 1 ... 10VDC)*	

# AE BLV323 Ball Valve

## (3 pcs Body Design, Pneumatic Operated)

### Pneumatic Actuated Version



### Pneumatic Actuated Version Common Selection and Dimension (mm)

Function	Size	Pressure Range <sup>1)</sup> (bar)	Actuator @ pilot air of:		Dimensions							Weight (kg)
			5 bar	6 bar	A	B	C	D	E	F	G	
DA	1/2"	0 to 10	AEJAT032DA		112	23.5	23.5	26	45	40	75	1.5
	3/4"	0 to 10	AEJAT040DA		123	23.5	33	26	60	44	80	1.8
	1"	0 to 10	AEJAT052DA		145	30	41	26	72	55	90	2.7
	1 1/4"	0 to 10	AEJAT063DA		169	46	46	26	89	60.5	110	4.1
	1 1/2"	0 to 10	AEJAT075DA		201	42	52	26	100	68.5	120	5.5
			AEJAT063DA		169	46	46	26	89			4.6
	2"	0 to 10	AEJAT075DA		201	42	52	26	100	75.5	140	6.6
	2 1/2"	0 to 10	AEJAT092DA		242	51	57.5	26	117	96	185	12.6
	3"	0 to 10	AEJAT105DA		275	58	64	26	134	106.5	205	17.6
			AEJAT092DA		242	51	57.5	26	117			16.1
SR	4"	0 to 10	AEJAT125DA		332	67.5	70	36	157	130	240	28.9
			AEJAT105DA		275	58	64	26	134			25.3
	1/2"	0 to 10	AEJAT052SR		145	30	41	26	72	40	75	2.2
	3/4"	0 to 10	AEJAT052SR		145	30	41	26	72	44	80	2.4
	1"	0 to 10	AEJAT075SR		201	42	52	26	100	55	90	4.6
			AEJAT063SR		169	46	46	26	89			3.6
	1 1/4"	0 to 10	AEJAT083SR		209	46	55	26	109	60.5	110	5.9
	1 1/2"	0 to 10	AEJAT092SR		242	51	57.5	26	117	68.5	120	7.9
			AEJAT083SR		209	46	55	26	109			6.4
	2"	0 to 10	AEJAT092SR		242	51	57.5	26	117	75.5	140	9.0
	2 1/2"	0 to 10	AEJAT125SR		332	67.5	70	36	157	96	185	18.9
			AEJAT105SR		275	58	64	26	134			15.1
	3"	0 to 10	AEJAT140SR		400	76	77	36	174	106.5	205	27.2
			AEJAT125SR		332	67.5	70	36	157			22.4
	4"	0 to 10	AEJAT160SR		455	87.5	87.5	38	199	130	240	43.0
			AEJAT140SR		400	76	77	36	174			35.1

<sup>1)</sup> Actuator selection serve as a guide and is based on clean lubricating operating media at pressure up to 10 bar. For other operating conditions, please consult us.

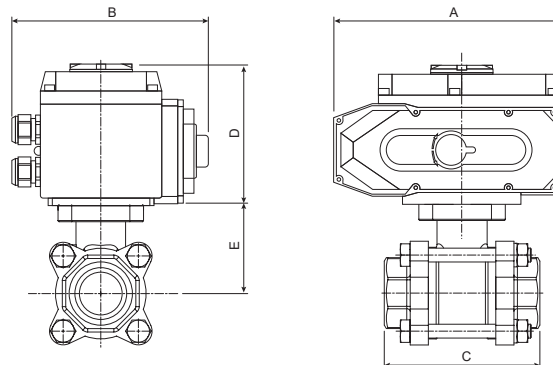
<sup>2)</sup> For Steam or high temperature application, a bracket of height min. 75mm will be used for assembly of actuator to ball valve.



# AE BLV323 Ball Valve

## (3 pcs Body Design, Electric Operated)

### Electric Actuated Version



### Electric Actuated Version Common Selection and Dimension (mm)

Function	Size (mm)	Pressure Range <sup>1)</sup> (bar)	Actuator	Dimensions					Weight (kg)
				A	B	C	D	E	
Bi-Stable	1/2"	0 to 10	AEJMO-003	123	100	75	115	40	2.3
	3/4"	0 to 10	AEJMO-003	123	100	80	115	44	3.2
	1"	0 to 10	AEJMO-003	123	100	90	115	55	3.6
	1 1/4"	0 to 10	AEJMO-003	123	100	110	115	60.5	4.3
	1 1/2"	0 to 10	AEJMO-005	161	121	120	125	68.5	6.2
	2"	0 to 10	AEJMO-005	161	121	140	125	75.5	7.3
	2 1/2"	0 to 10	AEJMO-010	188	145	185	127	96	13.0
	3"	0 to 10	AEJMO-015	188	145	205	127	106.5	16.5
	4"	0 to 10	AEJMO-020	268	255	240	164	130	31.4

<sup>1)</sup> Actuator selection serve as a guide and is based on clean lubricating operating media at pressure up to 10 bar. For other operating conditions, please consult us.

<sup>2)</sup> For Steam or high temperature application, a bracket of height min. 75mm will be used for assembly of actuator to ball valve.

### Accessories for Pneumatic Actuated Valve



E/P Positioner



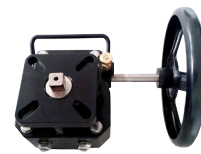
E/P Smart Positioner



Pilot Solenoid Valve with Namur Interface



Limit Switch Box



Declutchable Manual Override



Filter Regulator

### Other AE BLV Series Ball Valves



2 pcs Design Ball Valve



Flanged Ends Ball Valve



3 Way (Mult-port) Ball Valve



V port Ball Valve for modulating control application



Ball Valve for cryogenic application

## AE BLV323 Ball Valve

(3 pcs Body Design, Pneumatic Actuated with E/P Positioner)



### Design

AE BLV323 ball valve can be pneumatic actuated for automatic process control application.

Pneumatic actuator is available in double acting (DA) or spring return (SR) version with E/P positioner.

The actuator can be mounted onto the valve directly or using mounting bracket in either normally open or normally closed position. Every valve is fully tested for alignment and proper functioning before delivery.

### Specifications - Pneumatic Actuator

Function	Double Acting (DA) or Spring Return (SR)
Material	
Housing	Extruded aluminium alloy, hard anodized
End Cap	Pressure die cast aluminium alloy, epoxy coated
Pinion	Carbon steel, nickel plated
Piston	Cast aluminium / steel, hard anodized / Zinc galvanized
Cap Screw	Stainless steel
Spring	Spring steel, Dip Coated
Bearing and Guide	Engineering plastic
Travel Stop Cam	Alloy steel
Adjustment Screw	Stainless steel
Seal	NBR

Mounting Bracket	Aluminium, stainless steel, alloy steel
Operating Media	Dry or lubricated compressed air or non-corrosive gases
Supply Pressure	Min. 2 bar, Max. 8 bar
Operating Temperature	-20°C to +80°C (NBR) Lower or higher temperature version on request
Rotation	90°
Travel Adjustment	± 5°
Connection and Mounting	Namur, ISO5211 and DIN3337
Torque Output	3 Nm to 13024 Nm (DA) 4 Nm to 6584 Nm (SR)
Selection	Actuator is selected and matched in accordance to each process operating conditions and requirement to ensure proper functioning of the actuated valve

### Specifications - E/P Positioner

Input Signal	4 - 20mA DC
Impedance	250 ±15Ω
Supply Pressure	1.4 to 7 bar
Stroke	10 - 150mm (Linear Type) 0 - 90° (Rotary Type)
Air Connection	NPT1/4 (PT, G on request)
Gauge Connection	NPT1/8 (PT, G on request)
Conduit	NPT1/2 (G, PF, M20 on request)
Ingress Protection	IP66
Operating Temp	-20°C to 70°C
Linearity	±1% F.S. (Single Acting Version) ±2% F.S. (Double Acting Version)

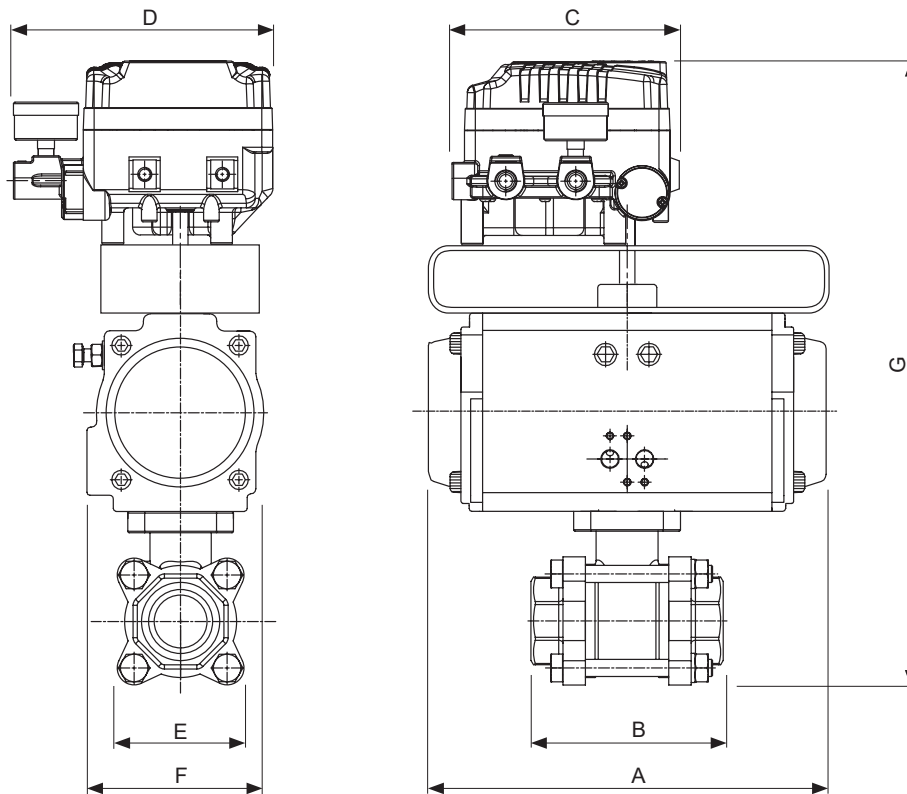
Hysteresis	±1% F.S.
Sensitivity	±0.2% F.S. (Single Acting Version) ±0.5% F.S. (Double Acting Version)
Repeatability	±0.5% F.S.
Air Consumption	2.5 LPM (@ 1.4 bar)
Flow Capacity	80 LPM (@ 1.4 bar)
Material	Aluminum Diecasting
Options or Other Types Available On Request	
Ex-Proof Version, Full Stainless Steel Version, Smart Type with integrated PID, with Limit Switch Position Feedback, with Transmitter Position Feedback, Pneumatic-Pneumatic Type	



# AE BLV323 Ball Valve

(3 pcs Body Design, Pneumatic Actuated with E/P Positioner)

## Pneumatic Actuated Version Common Selection and Dimension (mm)



Function	Size	Pressure Range <sup>1)</sup> (bar)	Actuator @ pilot air of 5 bar	Dimensions							Weight (kg)
				A	B	C	D	E	F	G <sup>2)</sup>	
DA (Double Acting)	1/2"	0 to 10	AEJAT052DA	145	75	135	167	50	71	311	5.7
	3/4"	0 to 10	AEJAT052DA	145	80	135	167	52	71	323	5.9
	1"	0 to 10	AEJAT063DA	169	90	135	167	58	92	349	7.0
	1 1/4"	0 to 10	AEJAT075DA	201	110	135	167	71	94	370	8.6
	1 1/2"	0 to 10	AEJAT083DA	209	120	135	167	82	101	401	10.0
	2"	0 to 10	AEJAT092DA	242	140	135	167	95	109	423	13.2
SR (Spring Return)	1/2"	0 to 10	AEJAT052SR(11)	145	75	135	167	50	71	311	5.8
	3/4"	0 to 10	AEJAT063SR(11) <sup>3)</sup>	169	80	135	167	52	92	390 <sup>3)</sup>	7.0
	1"	0 to 10	AEJAT075SR(12)	201	90	135	167	58	94	360	8.2
	1 1/4"	0 to 10	AEJAT083SR(11)	209	110	135	167	71	101	379	9.5
	1 1/2"	0 to 10	AEJAT092SR(11)	242	120	135	167	82	109	409	12.0
	2"	0 to 10	AEJAT105SR(11)	275	140	135	167	95	123	440	15.7

<sup>1)</sup> Actuator selection serve as a guide and is based on clean lubricating operating media at pressure up to 10 bar. For other operating conditions, please consult us.

<sup>2)</sup> For Steam or high temperature application, a bracket of height min. 75mm will be used for assembly of actuator to ball valve.

<sup>3)</sup> A aluminium bracket and adaptor is required for mounting of actuator to ball valve.

# AE BLV323 Ball Valve

## (3 pcs Body Design, Modulating Electric Actuated)



### Design

AE BLV323 ball valve can be electric actuated for automatic process control application.

Electric actuator used has integrated proportional control unit for modulating control. Setting up of the electric actuator is make easy with push button and a large LCD display.

The actuator can be mounted onto the valve directly or using mounting bracket Every valve is fully tested for alignment and proper functioning before delivery.

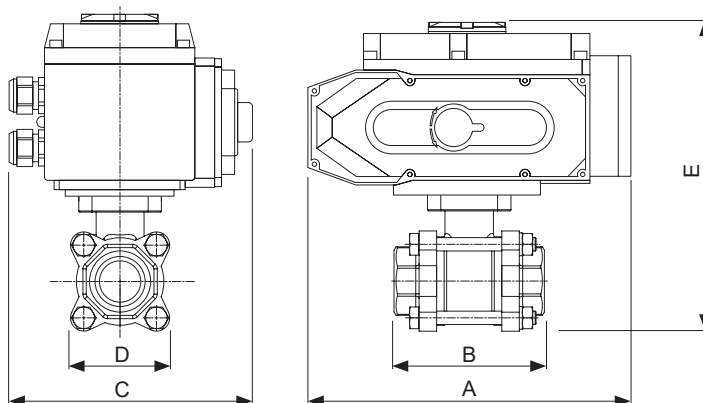
### Specifications - Electric Actuator

Function	Modulating
Material	
Housing	Aluminium alloy, epoxy powder coated
Gear	Steel / aluminium bronze
Screws	Stainless steel
Indicator Cover	Polycarbonate
Shaft / Adaptor	Alloy steel
Seal	NBR
Lubrication	Aluminium based grease

Please refer to AEJMO Electric Actuator data sheet for other details

Technical Data	
Power Supply	24VDC, 220VAC
Aux Limit Switches	2 x SPST, 250VAC10A, each for Open and Close positions
Stall Protection	internal overheating thermal protection, open @ 120°C / close @ 97°C (± 5°C)*
Conduit Entry	2 x M18
Operating Temp	-20°C to +70°C
Ambient Humidity	Max. 90% RH
Input Signal	4 ... 20mA (1 ... 5VDC, 1....10VDC on request)
Output Signal	4 ... 20mA (1 ... 5VDC, 1....10VDC on request)

### Electric Actuated Version Common Selection and Dimension (mm)



Function	Size (mm)	Pressure Range <sup>1)</sup> (bar)	Actuator	Dimensions					Weight (kg)
				A	B	C	D	E	
Bi-Stable	1/2"	0 to 10	AEJMOA-005	211	75	121	50	191	5.2
	3/4"	0 to 10	AEJMOA-005	211	80	121	52	202	5.4
	1"	0 to 10	AEJMOA-005	211	90	121	58	211	5.8
	1 1/4"	0 to 10	AEJMOA-005	211	110	121	71	221	6.5
	1 1/2"	0 to 10	AEJMOA-010	238	120	145	82	259	8.5
	2"	0 to 10	AEJMOA-010	238	140	145	95	259	10.8

<sup>1)</sup> Actuator selection serve as a guide and is based on clean lubricating operating media at pressure up to 10 bar. For other operating conditions, please consult us.

<sup>2)</sup> For Steam or high temperature application, a bracket of height min. 75mm will be used for assembly of actuator to ball valve.



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