



Engineered Product Reference Guide

Customer Service
800.789.1718

BV2B-Series Ball Valve

The BV2B-series ball valve is a full port valve and available with pneumatic or electric actuator and a variety of control options. It is used in oil, water, and gas applications when you need a valve for isolation or control of the flow of product

They are found in the industrial market and in the sanitary process markets on the non-process side where there is no product contact

Sizes

- 1/4", 3/8", 1/2", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 4"

Features

- Blow-out proof stem design
- ISO 5211 mounting pad

Materials

- Product contact metal components
 - 1/4" to 2": brass body and chrome plated brass ball
 - 2-1/2" to 4": bronze body and 304 stainless steel ball
 - Stem: 304 stainless steel
- Product contact seals: PTFE

Specifications

- Standard connections: FNPT
- Valve data
 - Maximum pressure: **600 PSI**
 - Maximum operating temperature: **20°F to 320°F (-7°C to 160°C)**
- Actuator data
 - ISO 5211 mounting pad connection
- Surface finish
 - Product contact metal components: ball ≤ 32 Ra
 - Seat lubricant: KF-96-1,000CS
 - Stem lubricant: 201-100CS



1/4" to 2"



2-1/2" to 4"

Size	ISO 5211 Mounting Pad Connections		Stem Width (mm)	Stem Height (mm)
1/4"	F03	-	9	9
3/8"	F03	-	9	9
1/2"	F04	-	9	8.2
3/4"	F04	F05	11	11
1"	F04	F05	11	11
1-1/4"	F05	F07	14	14
1-1/2"	F05	F07	14	14.5
2"	F05	F07	14	14
2-1/2"	-	F07	14	18
3"	-	F07	14	18
4"	-	F07	17	17

BV2B-Series Ball Valve - Part Number Key

Valve I.D.	Size	Code	FNPT Connections
2BV	1/4"	03	1
	3/8"	04	
	1/2"	50	
	3/4"	75	
	1"	10	
	1-1/4"	13	
	1-1/2"	15	
	2"	20	
	2-1/2"	25	
	3"	30	
	4"	40	

1. Pneumatic Actuator or Spring Return Manual Handle					2. Electric Actuator			
Actuator	Actuator Options	Feedback	Control	Valve Operation	Actuator	Voltage	Option 1	Option 2
1	XX	00	XX	1	E	B	1	1
Actuator				Code	Actuator			Code
Aluminum spring return pneumatic rack and pinion				1	Electric			E
Aluminum double acting pneumatic rack and pinion				2	Oversized (1-UP) electric			F
Stainless steel spring return pneumatic rack and pinion				3	Explosion proof (Class I Div I group C and D, Class II Div I group E, F, and G) electric			G
Stainless steel double acting pneumatic rack and pinion				4	Electric with riser kit			H
Dead man spring return handle				6	Voltage		Explosion Proof	Code
Technopolymer spring return pneumatic rack and pinion				7	115VAC		15VAC	B
Actuator Options				Code	12VDC		n/a	C
None				XX	n/a		24VAC	D
Oversized (1-UP)				AA	24VDC/AC		24VDC	E
Actuator mounted perpendicular to flow				AB	220VAC		220VAC	F
High temp FKM elastomers				AC	12VAC		n/a	G
Extended travel stops				AD	Option 1			Code
Riser kit				AE	None			1
Feedback				Code	Torque switches			2
None				00	4-20mA input/output modulating controller			3
Limit switch box, OPEN/CLOSE beacon, (2) SPDT mech. switches				11	Current position transmitter			4
Limit switch box, OPEN/CLOSE beacon, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, cULusClass 1/2 Div 2, NEMA 4 and 4X				12	Potentiometer			5
Limit switch box, OPEN/CLOSE beacon, AS-I				13	Local control unit			6

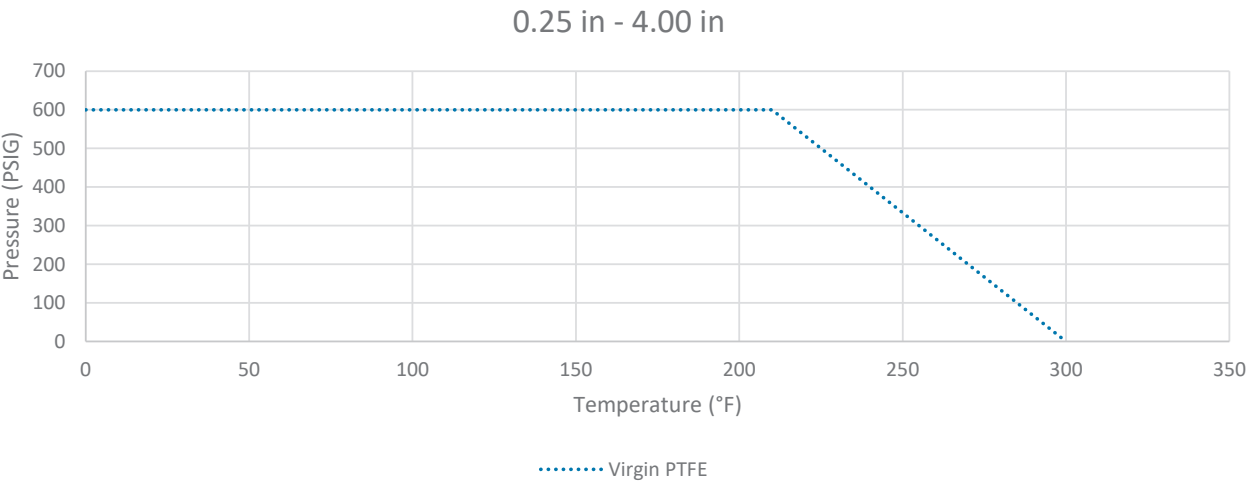
BV2B-Series Ball Valve - Part Number Key

Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, aluminum exd IIB certified enclosure	14	Two extra travel cams and switches	7
Limit switch box, OPEN/CLOSE beacon, (2) DPDT mech. switches	15	Three position cam set	8
Limit switch box, OPEN/CLOSE beacon, (2) switches, electro mec. SPDT, silver contacts, up to SIL3, cULus class 1/2 div 1	16	Local control unit with lock	9
Limit switch box, OPEN/CLOSE beacon, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO	17	1-5V input/2-10V output modulating controller	A
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter	18	2-10V input/output modulating controller	B
Limit switch box, OPEN/CLOSE beacon, SPDT proximity, 0.25A@120VAC, 0.416A@48VDC, resistive	19	75% duty cycle	C
Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter + 2 SPDT mechanical switches	20	Relay	D
Stainless steel limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches	21	Four position cam set	E
Control	Code	25% duty cycle (actuator code G only)	F
None	XX	75% duty cycle (actuator code G only)	G
Single coil solenoid, 120VAC	AA	Option 2	Code
Single coil solenoid, 24VDC	AB	None	1
Single coil solenoid, 12VDC	AC	Torque switches	2
Single coil solenoid, 220VAC	AD	4-20mA input/output modulating controller	3
Dual coil solenoid, 120VAC	AE	Current position transmitter	4
Dual coil solenoid, 24VDC	AF	Potentiometer	5
Dual coil solenoid, 220VAC	AG	Local control unit	6
Pneumatic positioner 3-15psi input, no feedback	AH	Two extra travel cams and switches	7
Pneumatic positioner 3-15psi input, (2) SPDT mech. switches for feedback	AI	Three position cam set	8
Pneumatic positioner 3-15psi input, 4-20mA for feedback	AJ	Local control unit with lock	9
Electropneumatic positioner 4-20mA input, no feedback	AK	1-5V input/2-10V output modulating controller	A
Electropneumatic positioner 4-20mA input, (2) SPDT mech. switches for feedback	AL	2-10V input/output modulating controller	B
Electropneumatic positioner 4-20mA input, 4-20mA for feedback	AM	75% duty cycle	C
Electropneumatic positioner 0-10v input, no feedback	AN	Relay	D
Electropneumatic positioner 0-10v input, (2) SPDT mech. switches for feedback	AO	Four position cam set	E
Electropneumatic positioner 0-10v input, 4-20mA for feedback	AP	25% duty cycle (actuator code G only)	F
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback	AQ	75% duty cycle (actuator code G only)	G

BV2B-Series Ball Valve - Part Number Key

Electropneumatic positioner 4-20mA input, no feedback, class 1, Div II explosion proof	AR
Single coil solenoid, 24VDC and 24V banjo solenoid valve with form B plug	AS
Single coil solenoid, 24VDC, AS-I, 2.5W low power	AT
Single coil solenoid, 24VDC, intrinsically safe	AU
Single coil solenoid, 120VAC, exp. proof, class H coil	AV
Single coil solenoid, 24VDC, exp. proof, class H coil	AW
Single coil solenoid, 24VAC	AX
V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, class 1, div II explosion proof	AY
Single coil solenoid, 24VDC, molded LED, ind. form, 2M leads	AZ
TUFRAM COATED electropneumatic positioner 4-20mA input, no feedback	BA
V200 rotary pneumatic positioner, (2) REED SWITCH feedback	BB
Single coil solenoid, 24VDC, pre-wired to limit switch WITH CORDSET (Dual Keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length)	BC
Single coil solenoid, 24VDC, pre-wired to limit switch, 6P MALE CONNECTOR	BD
Single coil solenoid, stainless steel, 24VDC	BE
Valve Operation	Code
Normally closed (spring return)	1
Normally open (Spring return)	2
Fail in place (double acting)	3

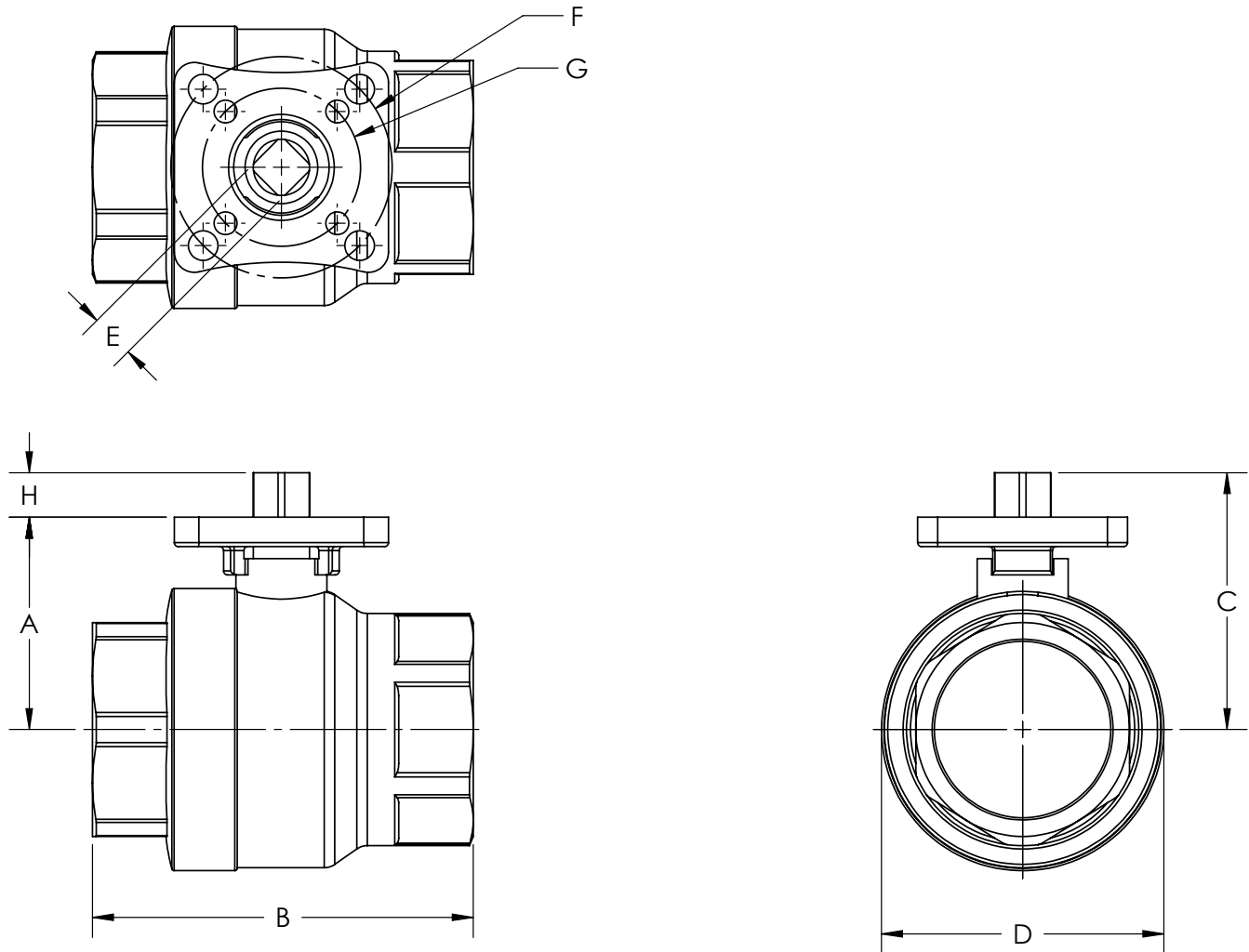
BV2B-Series Ball Valve - Pressure Drop Chart



BV2B-Series Ball Valve - Technical Specifications

Part #	Size	Break Torque (in-lbs)	Flow Coefficient (Cv)	Weight (lbs)
BV2BV-02511	1/4"	5	8.1	0.80
BV2BV-03811	3/8"	12	14	0.77
BV2BV-05011	1/2"	81	26	0.70
BV2BV-07511	3/4"	115	51	1.19
BV2BV-10011	1"	155	68	1.56
BV2BV-12511	1-1/4"	265	120	2.50
BV2BV-15011	1-1/2"	335	170	3.33
BV2BV-20011	2"	460	376	4.99
BV2BV-25011	2-1/2"	475	510	13.04
BV2BV-30011	3"	505	996	18.84
BV2BV-40011	4"	1395	1893	35.33

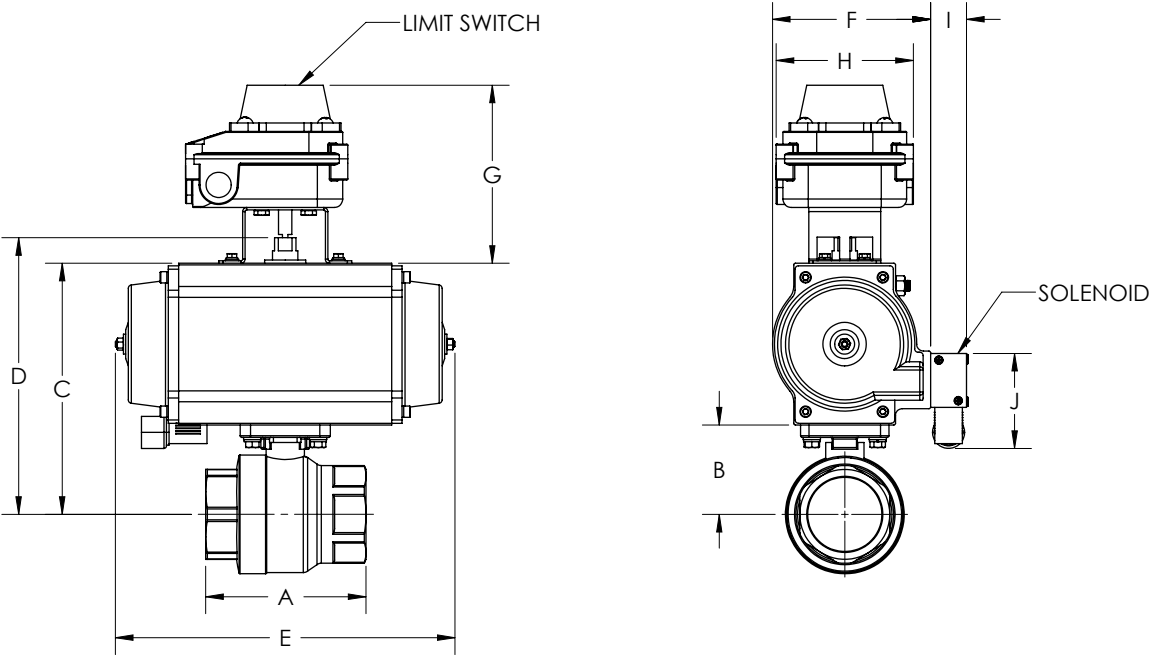
BV2B-Series Ball Valve - Dimensions



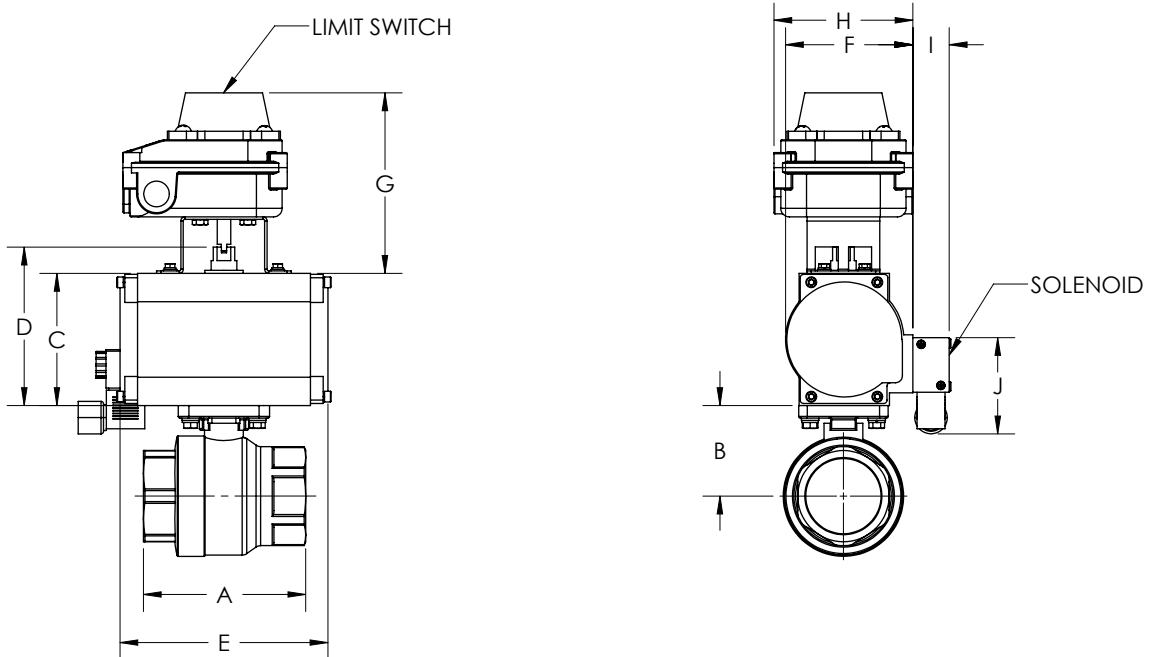
Size	A (in)	B (in)	C (in)	D (in)	E (mm)	F (ISO 5211)	G (ISO 5211)	H (mm)
1/4"	1.3	2.6	1.6	1.3	9.0	-	F03	9
3/8"	1.3	2.6	1.6	1.3	9.0	-	F03	9
1/2"	1.5	2.2	1.9	1.3	9.0	-	F04	8
3/4"	1.6	2.8	2.0	1.7	11.0	-	F05	10
1"	1.8	3.2	2.2	1.9	11.0	-	F05	11
1-1/4"	2.1	3.6	2.8	2.5	11.0	F07	F05	16
1-1/2"	2.3	4.1	2.9	2.9	14.0	F07	F05	15
2"	2.7	4.8	3.2	3.5	14.0	F07	F05	14
2-1/2"	3.9	6.1	4.6	4.5	14.0	-	F07	18
3"	4.3	6.9	5.0	5.3	14.0	-	F07	18
4"	4.9	8.1	5.6	6.4	17.0	-	F07	18

BV2B-Series Ball Valve - Dimensions

Spring Return



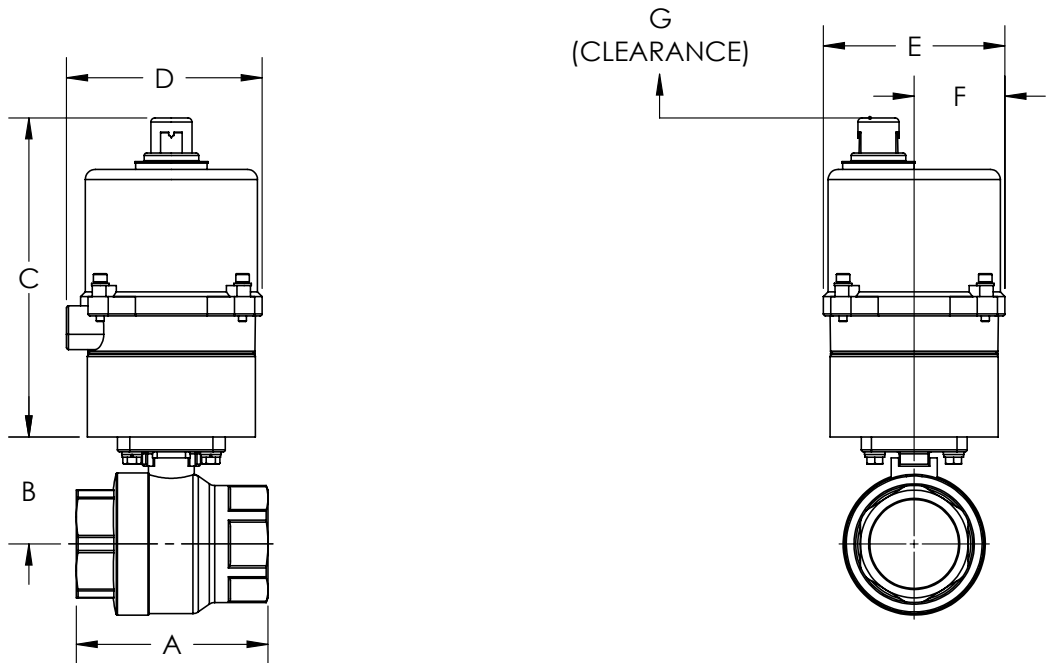
Double Acting



NOTE: For more information on actuator accessories, see relevant EPRG for actuator, limit switch, and solenoid.

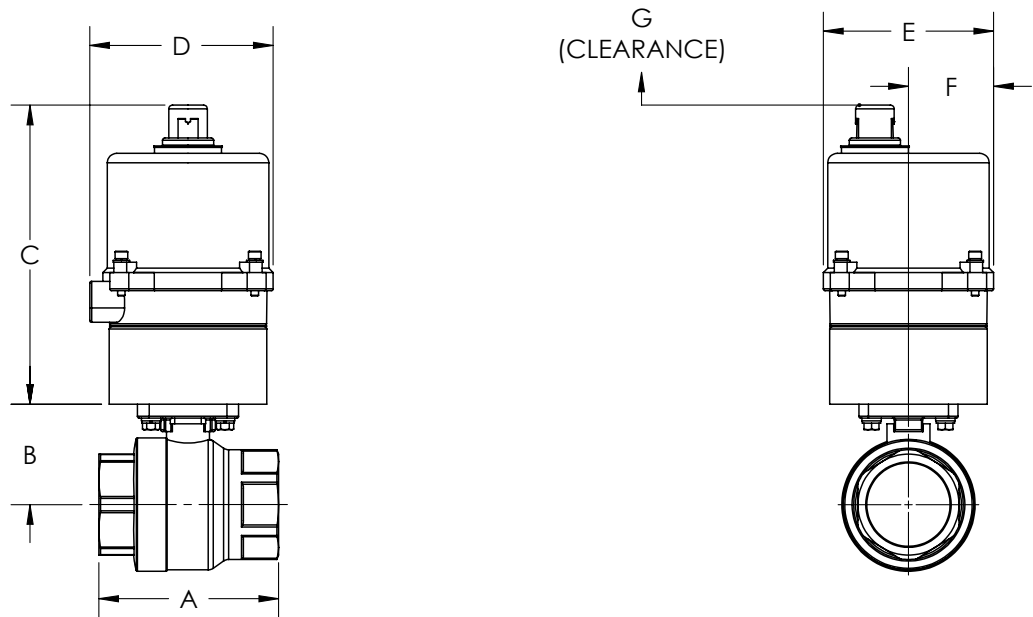
BV2B-Series Ball Valve - Dimensions

Actuated Electric



NOTE: The electric actuator shown is a BEOM-1 model. For more information on actuator accessories, see relevant EPRG for electric actuator.

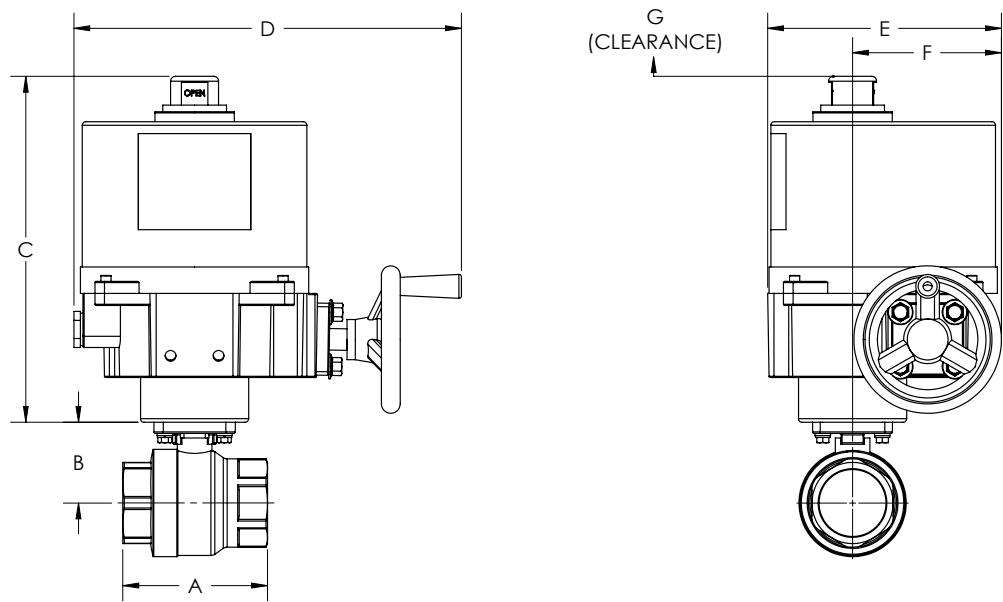
Actuated Electric



NOTE: The electric actuator shown is a BEOM-A model. For more information on actuator accessories, see relevant EPRG for electric actuator.

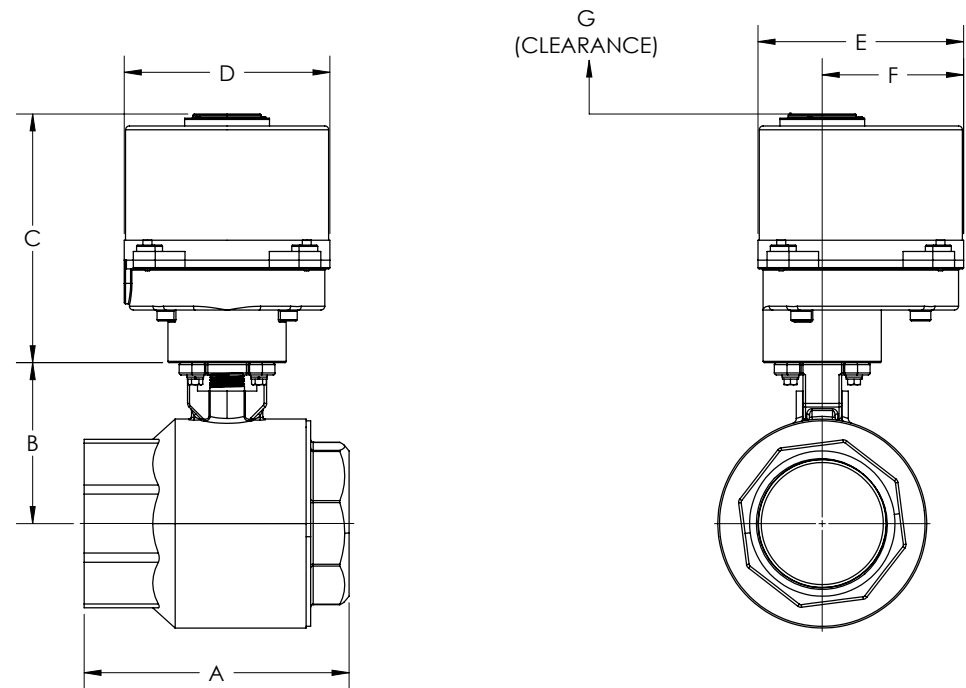
BV2B-Series Ball Valve - Dimensions

Actuated Electric



NOTE: The electric actuator shown is a BEOM-2 model. For more information on actuator accessories, see relevant EPRG for electric actuator.

Actuated Electric



NOTE: The electric actuator shown is a BM-2 model. For more information on actuator accessories, see relevant EPRG for electric actuator.

BV2B-Series Ball Valve - Dimensions

Spring Return

Size	A (in)	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F(in)	G (in)	H (in)	I (in)	J (in)
								XLS-B4 Series		X Series	
1/4"	2.64	1.28	RP-BA-025-SR	3.1	3.83	7.66	3.20	5.27	4.06	1.07	2.81
3/8"	2.64	1.28									
1/2"	2.16	1.51									
3/4"	2.8	1.63	RP-BA-025-SR05	3.1	3.83	7.66	3.20				
1"	3.23	1.76									
1-1/4"	3.58	2.13	RP-BA-045-SR	3.86	4.63	8.09	3.72				
1-1/2"	4.06	2.32									
2"	4.76	2.65	RP-BA-101-SR	4.79	5.54	9.84	4.68				
2-1/2"	6.08	3.93									
3"	6.89	4.32	RP-BA-225-SR	5.58	6.34	13.98	5.56				
4"	8.12	4.93									

Double Acting

Size	A (in)	B (in)	RP-BA Series Actuator	C (in)	D (in)	E (in)	F(in)	G (in)	H (in)	I (in)	J (in)
1/4"	2.64	1.28	RP-BA-012-DA	2.60	3.39	4.72	2.93	5.27	4.06	1.07	2.81
3/8"	2.64	1.28									
1/2"	2.16	1.51									
3/4"	2.8	1.63	RP-BA-025-DA05	3.10	3.87	5.68	3.20				
1"	3.23	1.76									
1-1/4"	3.58	2.13	RP-BA-045-DA	3.86	4.63	5.87	3.72				
1-1/2"	4.06	2.32									
2"	4.76	2.65									
2-1/2"	6.08	3.93	RP-BA-101-DA	4.79	5.54	7.20	4.77				
3"	6.89	4.32									
4"	8.12	4.93									

Electric Actuator

Size	A (in)	B (in)	Actuator	C (in)	D (in)	E (in)	F(in)	G (in)
1/4"	2.64	1.28	OM-1	6.02	4.8	4.49	3.11	4.72
3/8"	2.64	1.28						
1/2"	2.16	1.51						
3/4"	2.8	1.63						
1"	3.23	1.76						
1-1/4"	3.58	2.13	OM-A	7.83	4.8	4.49	2.24	4.72
1-1/2"	4.06	2.32						
2"	4.76	2.65						
2-1/2"	6.08	3.93	OM-2	10.55	12.84	7.13	4.84	6.5
3"	6.89	4.32						
4"	8.12	4.93	BM-2	7.68	6.34	6.06	4.33	4.72

Notes

Notes

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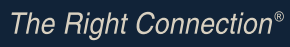
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