



## BV2B-Series Ball Valve

The BV2B valve is a full port valve and available with pneumatic or electric actuator and a variety of control options.

**Applications**

- 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

**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
- Materials of construction
  - 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
- 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 ID	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	
<b>Actuator</b>					<b>Code</b>				
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	Nema 7 electric			G
Stainless steel double acting pneumatic rack and pinion					4	Electric with riser kit			H
Dead man spring return handle					6	<b>Voltage</b>			<b>Code</b>
Technopolymer spring return pneumatic rack and pinion					7	115VAC			B
<b>Actuator Options</b>					<b>Code</b>	12VDC			C
None					XX	24VAC			D
Oversized (1-UP)					AA	24VDC			E
Actuator mounted perpendicular to flow					AB	220VAC			F
High temp FKM elastomers					AC	12VAC			G
Extended travel stops					AD	<b>Option 1</b>			<b>Code</b>
Riser kit					AE	None			1
<b>Feedback</b>					<b>Code</b>	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 Div1/2					12	Potentiometer			5
Limit switch box, OPEN/CLOSE beacon, AS-I					13	Local control unit			6

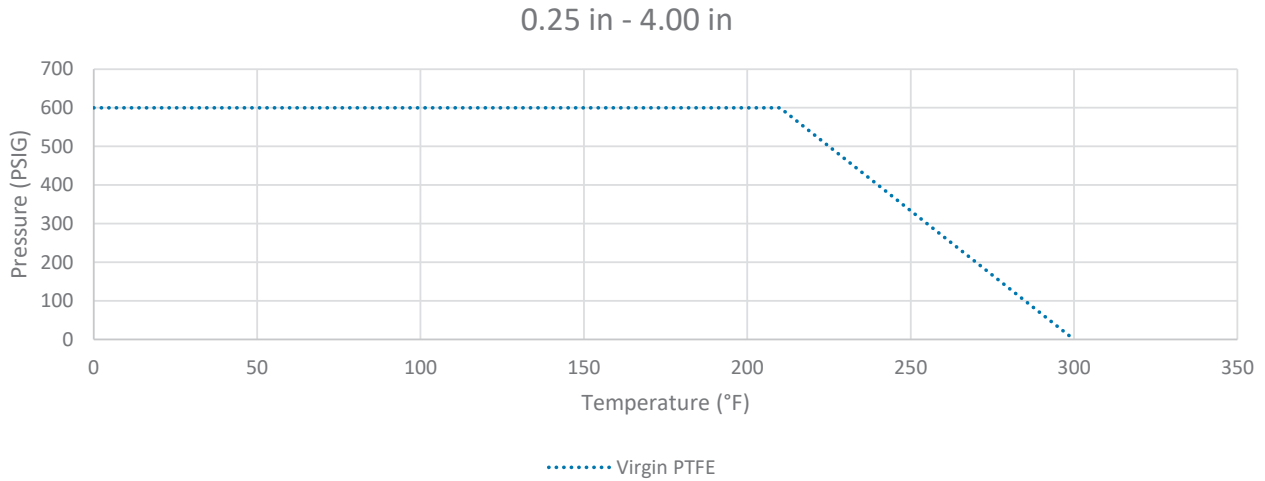
**BV2B-Series Ball Valve - Part Number Key**

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
<b>Control</b>	<b>Code</b>	25% duty cycle (actuator code G only)	F
None	XX	75% duty cycle (actuator code G only)	G
Single coil solenoid, 120VAC	AA	<b>Option 2</b>	<b>Code</b>
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 <b>3-15psi</b> input, no feedback	AH	Two extra travel cams and switches	7
Pneumatic positioner <b>3-15psi</b> input, (2) SPDT mech. switches for feedback	AI	Three position cam set	8
Pneumatic positioner <b>3-15psi</b> 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
<b>Valve Operation</b>	<b>Code</b>
Normally closed (spring return)	1
Normally open (Spring return)	2
Fail in place (double acting)	3

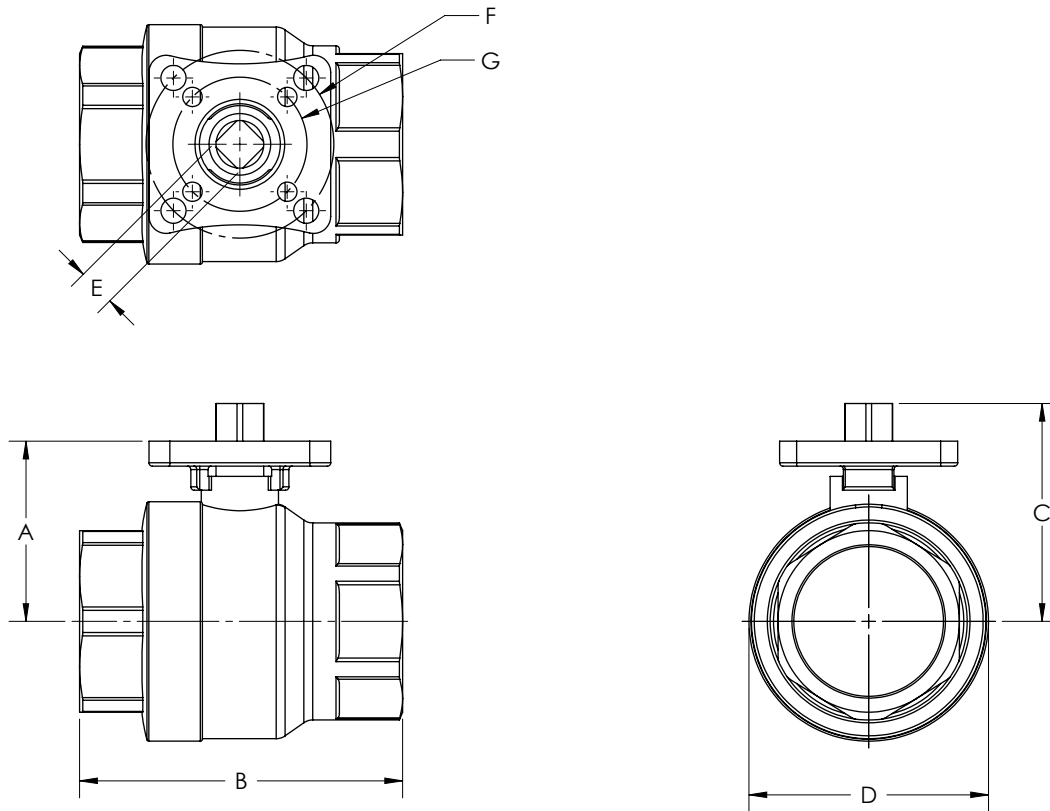
### BV2B-Series Ball Valve - Pressure Drop Chart



### BV2B-Series Ball Valve - Technical Specifications

Part Number	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

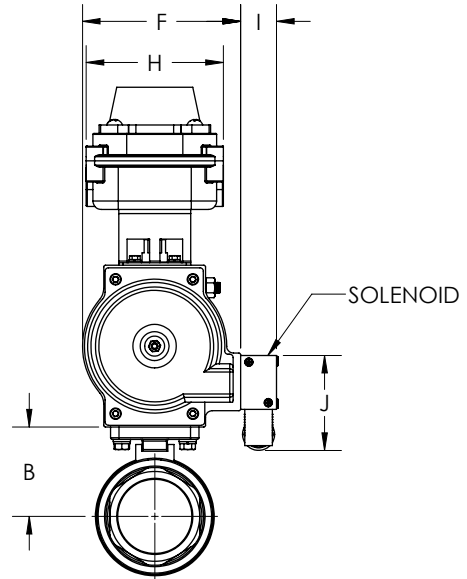
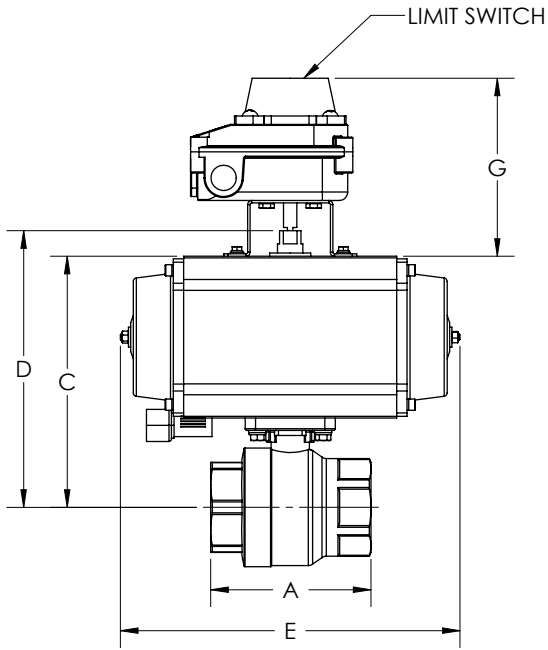
### BV2B-Series Ball Valve - Dimensions



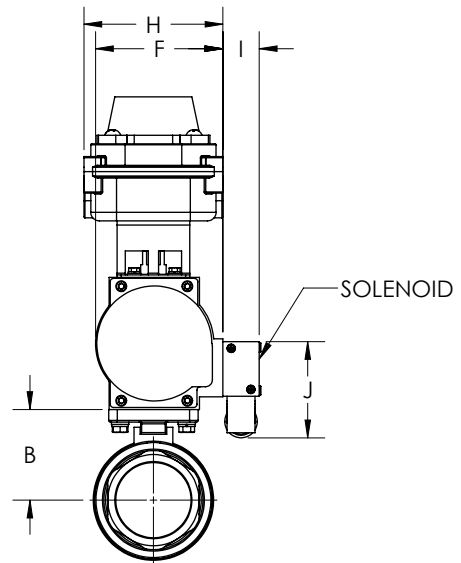
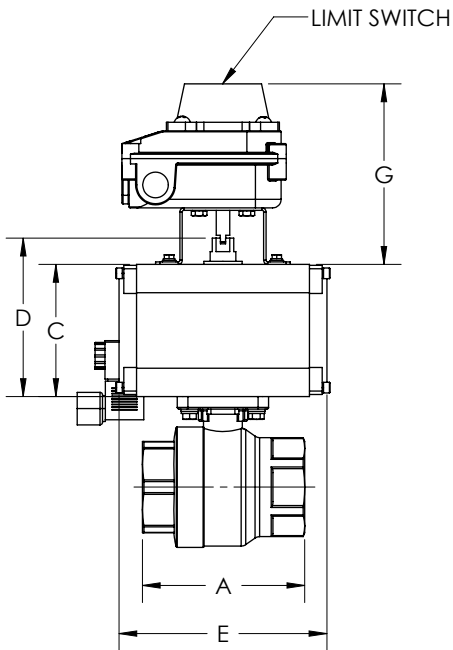
Size	A (in)	B (in)	C (in)	D (in)	E (mm)	F (ISO 5211)	G (ISO 5211)
1/4"	1.3	2.6	1.6	1.3	9.0	-	F03
3/8"	1.3	2.6	1.6	1.3	9.0	-	F03
1/2"	1.5	2.2	1.9	1.3	9.0	-	F04
3/4"	1.6	2.8	2.0	1.7	11.0	-	F05
1"	1.8	3.2	2.2	1.9	11.0	-	F05
1-1/4"	2.1	3.6	2.8	2.5	11.0	F07	F05
1-1/2"	2.3	4.1	2.9	2.9	14.0	F08	F05
2"	2.7	4.8	3.2	3.5	14.0	F09	F05
2-1/2"	3.9	6.1	4.6	4.5	14.0	-	F07
3"	4.3	6.9	5.0	5.3	14.0	-	F07
4"	4.9	8.1	5.6	6.4	17.0	-	F07

**BV2B-Series Ball Valve - Dimensions**

**Spring Return**



**Double Acting**

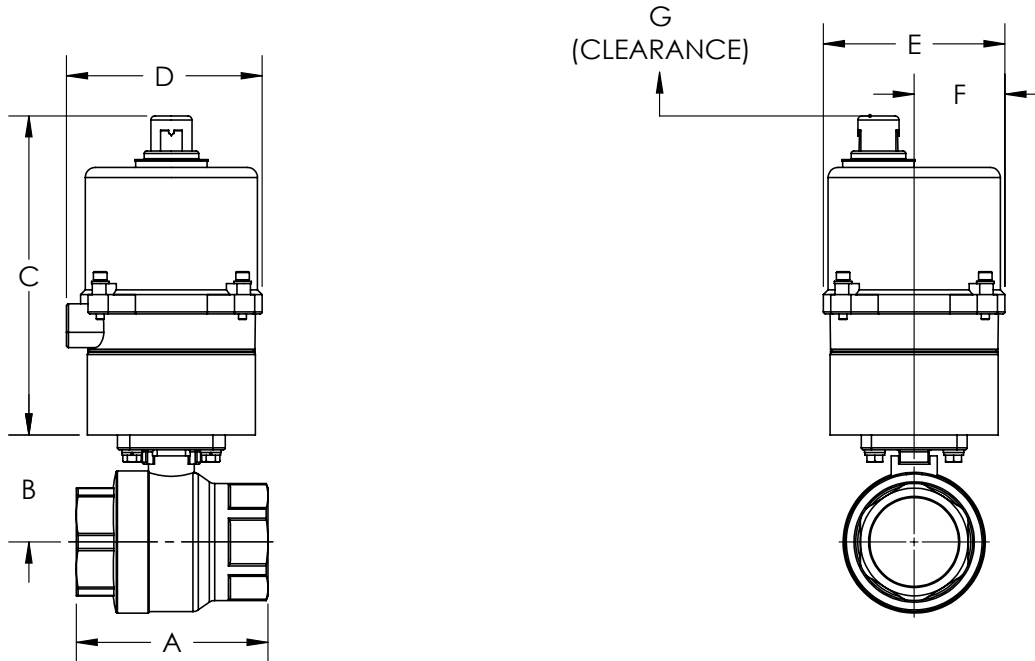


NOTE: For more information on actuator accessories, see relevant EPRG for actuator, limit switch, and solenoid.



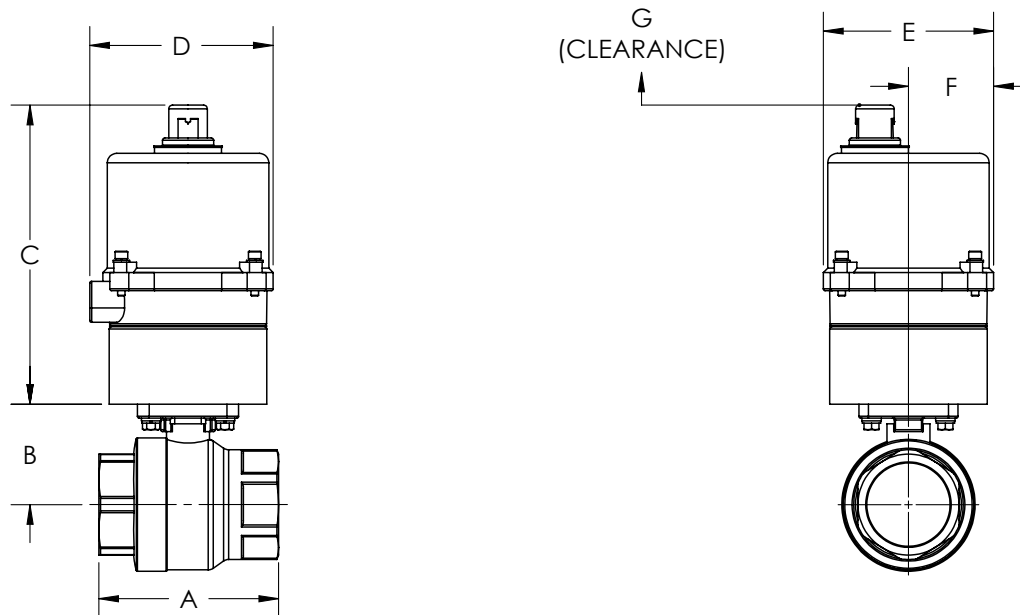
### BV2B-Series Ball Valve - Dimensions

#### Actuated Electric



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

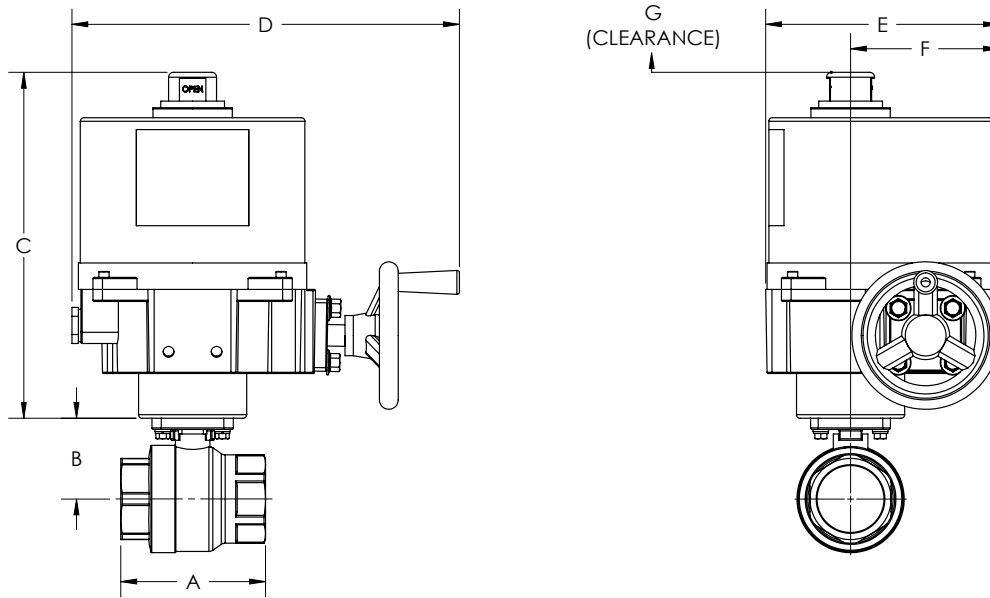
#### Actuated Electric



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

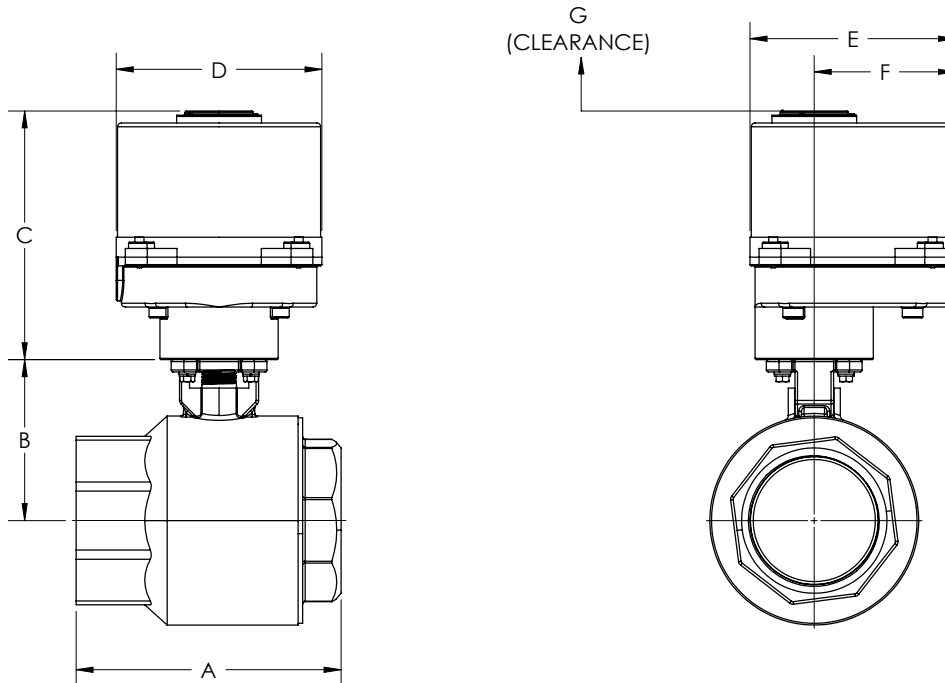
**BV2B-Series Ball Valve - Dimensions**

**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	RP-BA-101-DA	4.79	5.54	7.20	4.77				
2-1/2"	6.08	3.93									
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	OM-2	10.55	12.84	7.13	4.84	6.5
2-1/2"	6.08	3.93						
3"	6.89	4.32						
4"	8.12	4.93	BM-2	7.68	6.34	6.06	4.33	4.72



## Limited Warranty

DIXON VALVE & COUPLING COMPANY, LLC (herein called "Dixon") warrants the products described herein and manufactured by Dixon to be free from defects in material and workmanship for a period of one (1) year from date of shipment by Dixon under normal use and service. Its sole obligation under this warranty being limited to repairing or replacing, as hereinafter provided, at its option any product found to Dixon's satisfaction to be defective upon examination by it, provided that such product shall be returned for inspection to Dixon's factory within three (3) months after discovery of the defect. The repair or replacement of defective products will be made without charge for parts or labor. This warranty shall not apply to: (a) parts or products not manufactured by Dixon, the warranty of such items being limited to the actual warranty extended to Dixon by its supplier; (b) any product that has been subject to abuse, negligence, accident, or misapplication; (c) any product altered or repaired by others than Dixon; and (d) normal maintenance services and the replacement of service items (such as washers, gaskets, and lubricants) made in connection with such services. To the extent permitted by law, this limited warranty shall extend only to the buyer and any other person reasonably expected to use or consume the goods who is injured in person by any breach of the warranty. No action may be brought against Dixon for an alleged breach of warranty unless such action is instituted within one (1) year from the date the cause of action accrues. This limited warranty shall be construed and enforced to the fullest extent allowable by applicable law.

Other than the obligation of Dixon set forth herein, Dixon disclaims all warranties, express or implied, including but not limited to any implied warranties of merchantability or fitness for a particular purpose, and any other obligation or liability. The foregoing constitutes Dixon's sole obligation with respect to damages, whether direct, incidental, or consequential, resulting from the use or performance of the product.

Some products and sizes may be discontinued when stock is depleted or may require a minimum quantity for ordering.

## Limits of Liability

This brochure is intended as a product offering. It is not intended to be a user or technical manual. Information in this brochure is subject to change without notice. All users and distributors of products sold through this brochure should contact Dixon with questions of use, compatibilities, coupling procedures, and life of product. Our full-time engineering and test staff are always available to recommend uses and to assist distributors and users with any questions.



### Safety



Safety logos, which appear throughout our catalog, are used as a reminder that the user should carefully review for the appropriateness of the product for the media, application, and environment in which it will be used.

NOTE: Because of the health hazards associated with contamination and lead content in drinking water systems, Dixon couplings, unless otherwise specifically approved, are not recommended for potable water service and should not be used in applications where drinking water will contact the wetted surfaces of the coupling.

All Dixon products are shipped in cartons with the following warning:

**"WARNING:** This product contains lead, a chemical known to the State of California to cause cancer and birth defects or other reproductive harm."

## Trademark

Delrin® and Zytel® are registered trademarks of E.I. duPont Nemours and Company.

Kalrez® is a registered trademark of DuPont Dow Elastomers.

All other trademarks appearing in the Dixon illustrated product list are the property of their respective owners.

## Copyright

Copyright © 2023 by Dixon Valve & Coupling Company, LLC

All rights reserved. This book is copyrighted material. Use, reproduction or copying of it by anyone other than Dixon® is strictly forbidden without its express written consent.

NOTE: Reasonable care has been taken in preparing this catalog. Dixon Valve & Coupling Company, LLC reserves the right to make corrections.

