

BV2I-Series Ball Valve

The BV2I valve is a full port valve and available with a manual handle, 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 a 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
- · Live-loaded stem packing
- ISO 5211 mounting pad
- 3-piece design allows for ball and seat replacement without having to remove the valve from the line
- · Self centering valve ends
- · Anti-static stem

Specifications

- · Standard connections:
 - FNPT, schedule 5/10 socket weld
- Valve data
 - Maximum pressure:
 - 1/4" to 2": 1000 PSI WOG
 - 2-1/2" to 3": 800 PSI WOG
 - 4": 600 PSI WOG
 - Operating pressure range: -20°F to 400 °F (-28°C to 200°C)
- Actuator data
 - ISO 5211 mounting pad connection (see chart on page 3)
- · Materials of construction
 - Product contact metal components: CF8M stainless steel
 - Non-product contact metal components: 316 stainless steel
 - Product contact seals: RTFE or 25% carbon PTFE
- · Surface finish
 - Product contact metal components: ≤ 32 Ra
 - Seat lubricant: BESSIL F-100







BV2I-Series ISO 5211 Mounting Pad Connection Chart

Size	ISO 5211 Mountin	g Pad Connections	Stem Width (mm)	Stem Heigh (mm)
1/4"	F03	F04	9	9
3/8"	F03	F04	9	10
1/2"	F03	F04	9	10
3/4"	F03	F04	9	11
1"	F04	F05	11	12.5
1-1/4"	F04	F05	11	14
1-1/2"	F05	F07	14	17
2"	F05	F07	14	17
2-1/2"	F07	F10	17	18.5
3"	F07	F10	17	18.5
4"	F07	F10	17	21

Weight and Break Torque Chart

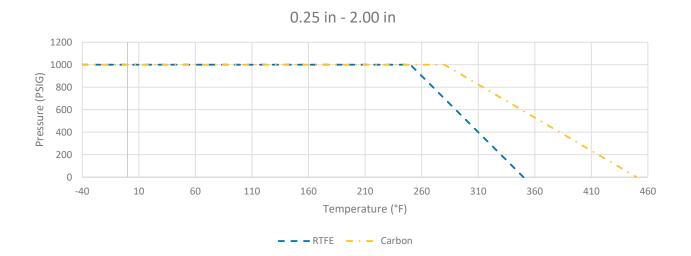
Part Number	Size	Base Break Torque (in-lbs)	Flow Coefficient (Cv)	Weight (lbs)
BV2I_025_	1/4"	17	8.1	1.00
BV2I_038_	3/8"	18	14	1.10
BV2I_050_	1/2"	50	26	1.26
BV2I_075_	3/4"	57	51	1.57
BV2I_100_	1"	115	68	2.27
BV2I_125_	1-1/4"	186	120	3.44
BV2I_150_	1-1/2"	220	170	5.51
BV2I_200_	2"	405	376	7.58
BV2I_250_	2-1/2"	452	510	14.11
BV2I_300_	3"	1020	996	24.69
BV2I_400_	4"	1180	1893	48.50

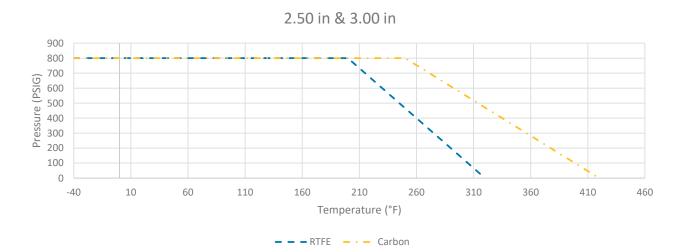
Seat Material

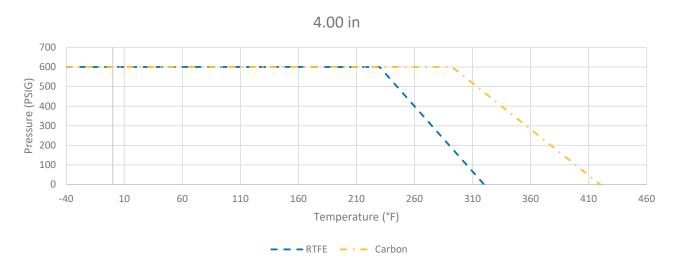
Code (Seat Material)	Material Torque Multiplier
GN (15% Glass Reinforced RTFE)	1
CN (25% Carbon Reinforced PTFE)	1.25

NOTE: 1) Base Break Torque * Material Torque Multiplier = Material Break Torque

BV2I-Series Pressure Temperature Charts

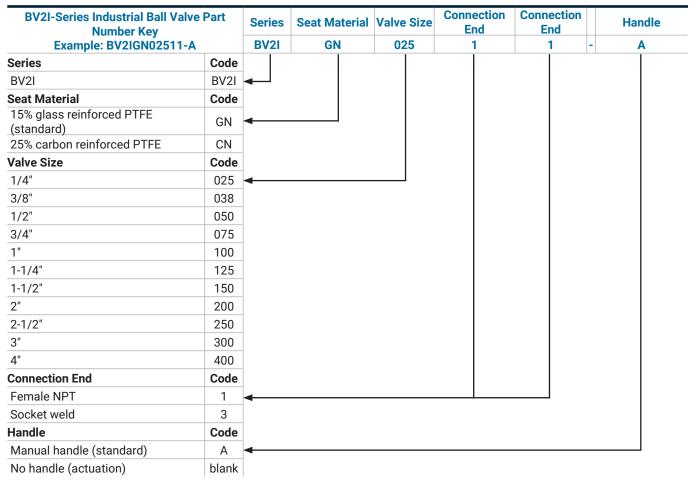


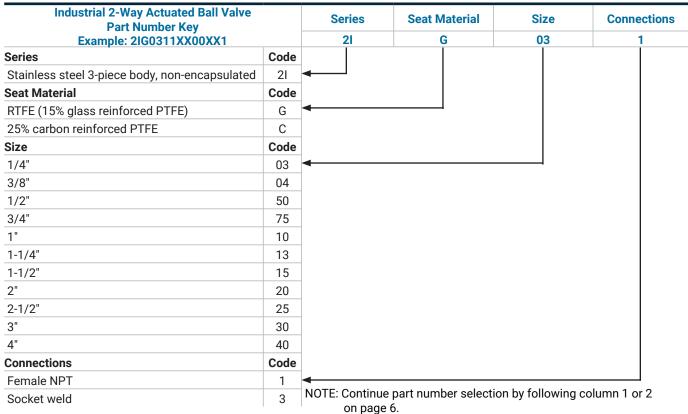






BV2I-Series Industrial Ball Valve - Part Number Key





BV2I-Series Industrial Actuated Ball Valve - Part Number Key

1. Pneum	natic Actuator	or Spring Ret	turn Manual	Handle		2. Electric Ac	ctuator		
Actuator	Actuator Options	Feedback	Control	Valve Operation	Actuator	Voltage	Option 1	Option 2	
1	XX	00	ХХ	1	E	В	1	1	
Actuator				Code	Actuator	Code			
Aluminum Sp Pinion	oring Return Pi	neumatic Rac	k and	1	Electric	Е			
	ouble Acting P	neumatic Rad	ck and	2	Oversized (1-UP) E	F			
	eel Spring Retu	ırn Pneumatio	Rack and	3	Nema 7 Electric			G	
	el Double Acti	ing Pneumati	c Rack and	4	Electric with Riser	Kit		Н	
	oring Return H	andle		6	Voltage			Code	
	ner Spring Ret		c Rack and	7	115VAC			В	
ctuator Opti	ions			Code	12VDC			С	
None					24VAC			D	
Oversized (1-UP)				XX AA	24VDC			E	
Actuator Mounted Perpendicular to Flow				AB	220VAC	F			
			<u>-</u>	AC	12VAC			G	
High Temp FKM Elastomers Extended Travel Stops				AD	Option 1			Code	
Riser Kit				AE	None			1	
redback				Code	Torque Switches			2	
						nut Madulatina O	Nametrallar		
lone imit Switch Box, OPEN/CLOSE Beacon, (2) SPDT				00	4-20mA Input/Out	put Modulating C	ontroller	3	
Mech. Switch		LOSE Deacon,	(2) 31 01	11	Current Position T	ransmitter		4	
imit Switch Switches, Ma	Box, OPEN/CL agnetic Reed S SIL3, Exia rea	SPDT, Hermet	cally	12	Potentiometer	5			
	Box, OPEN/CL	OSE Beacon.	AS-I	13	Local Control Unit			6	
_imit Switch	Box, OPEN/CL DT Switches, A	OSE Beacon,	(2)	14	Two Extra Travel C	ams and Switche	es	7	
_imit Switch Mech. Switcl	Box, OPEN/CL	OSE Beacon,	(2) DPDT	15	Three Position Car	n Set		8	
Limit Switch Switches, Ele SIL3, cULus (Box, OPEN/CL ectro mec. SPE Class 1/2 Div 1	OT, silver cont I	acts, up to	16	Local Control Unit	with Lock		9	
proximity P+	Box, OPEN/CL F NBB2-V3-E2,	, 3 wire PNP I	10	17	1-5V Input/2-10V (Output Modulatin	g Controller	А	
Analog Posit	Box, OPEN/CL ion Transmitte	er		18	2-10V Input/Outpu	t Modulating Cor	ntroller	В	
	imit Šwitch Box, OPEN/CLOSE Beacon, SPDT roximity, 0.25A@120VAC, 0.416A@48VDC,			19	75% Duty Cycle	С			
	imit Switch Box, OPEN/CLOSE Beacon, 4-20ma nalog Position Transmitter + 2 SPDT Mechanical				Relay	D			
Stainless Ste	eel Limit Switcl Proximity SPD		CLOSE	21	Four Position Cam Set E				
- (/					25% Duty Cycle (A	ctuator Code G O	nly)	F	
					75% Duty Cycle (A	ctuator Code G O	nly)	G	



Code

1

2

3

4

5

6 7

8

9

В

C D

Ε

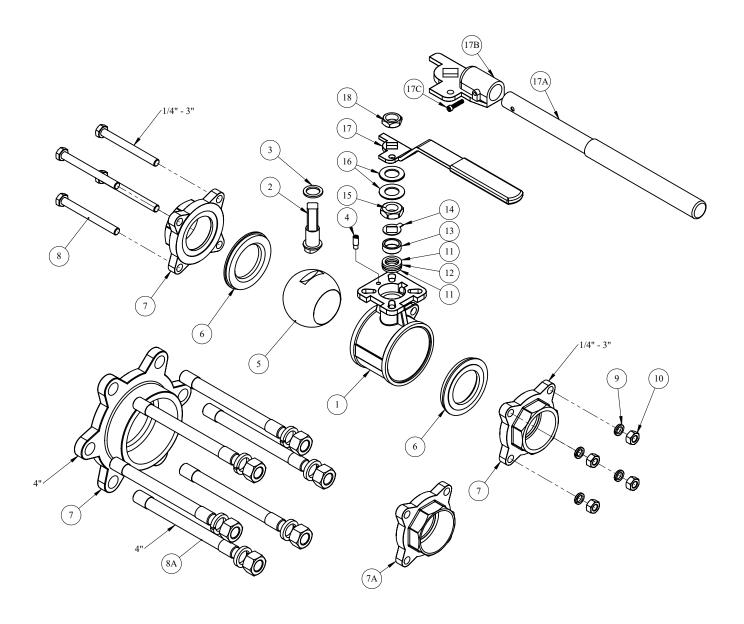
F

G

BV2I-Series Industrial Actuated Ball Valve - Part Number Key

Control	Code	Option 2
None	XX	None
Single Coil Solenoid, 120VAC	AA	Torque Switches
Single Coil Solenoid, 24VDC	AB	4-20mA Input/Output Modulating Controller
Single Coil Solenoid, 12VDC	AC	Current Position Transmitter
Single Coil Solenoid, 220VAC	AD	Potentiometer
Dual Coil Solenoid, 120VAC	AE	Local Control Unit
Dual Coil Solenoid, 24VDC	AF	Two Extra Travel Cams and Switches
Dual Coil Solenoid, 220VAC	AG	Three Position Cam Set
Pneumatic Positioner 3-15psi input, no feedback	AH	Local Control Unit with Lock
Pneumatic Positioner 3-15psi input, (2) SPDT Mech.	Al	1-5V Input/2-10V Output Modulating Controller
Switches for Feedback	AI	1-5V Input/2-10V Output Modulating Controller
Pneumatic Positioner 3-15psi input, 4-20mA for Feedback	AJ	2-10V Input/Output Modulating Controller
Electropneumatic Positioner 4-20mA input, no Feedback	AK	75% Duty Cycle
Electropneumatic Positioner 4-20mA input, (2) SPDT	AL	Relay
Mech. Switches for Feedback Electropneumatic Positioner 4-20mA input, 4-20mA for		· ·
Feedback	AM	Four Position Cam Set
Electropneumatic Positioner 0-10v input, no Feedback	AN	25% Duty Cycle (Actuator Code G Only)
Electropneumatic Positioner 0-10v input, (2) SPDT	AO	75% Duty Cycle (Actuator Code G Only)
Mech. Switches for Feedback		-
Electropneumatic Positioner 0-10v input, 4-20mA for Feedback	AP	
V200 Rotary Electropneumatic Positioner 4-20mA input,	AQ	
4-20mA Feedback	AQ	
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,	AY	
4-20mA Feedback, Class 1, Div II Explosion Proof Single Coil Solenoid, 24VDC, Molded LED, Ind. Form, 2M		-
Leads	ΑZ	
TUFRAM COATED Electropneumatic Positioner 4-20mA	BA	
input, no Feedback V200 Rotary Pneumatic Positioner, (2) REED SWITCH	- D/ (
Feedback	BB	
Single Coil Solenoid, 24VDC, Pre-Wired to Limit Switch		1
WITH CORDSET (Dual Keyway, 1/2"-20 UNF Mating	ВС	
Thread, Single Ended, Straight Female Connector, 22 AWG PVC, Auto Color Code 2P to 6P Cable, 12' Length)		
Single Coil Solenoid, 24VDC, Pre-Wired to Limit Switch,	DD.	
6P MALE CONNECTOR	BD	
Valve Operation	Code	
Normally Closed (Spring Return)	1	
Normally Open (Spring Return)	2	
Fail in Place (Double Acting)	3	I

BV2I-Series Ball Valve - Bill of Materials





BV2I-Series Ball Valve - Bill of Materials

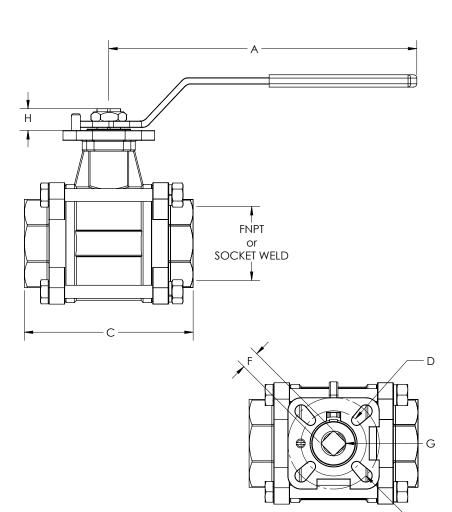
la	Description	Managaria		Quantity	
ltem	Description	Material	1/4" to 2"	2-1/2" to 3"	4"
1	Body	CF8M		1	
2	Stem	316 SS		1	
3	Thrust washer	G or C		1	
4	Stopper	304 SS		1	
5	Ball	316 SS		1	
6	Seat	G or C		2	
7	End (FNPT)	CF8M		2	
7A	End (socket weld)	CF8M		2	
8	Body bolt	304 SS		4	N/A
8A	Body bolt	304 SS	N/A		6
9	Body washer	304 SS		4	12
10	Body nut	304 SS		4	12
11	Stem packing	G or C		2	
12	O-ring	Silicone		1	
13	Gland bushing	304 SS		1	
14	Tap washer	304 SS		1	
15	Gland nut	304 SS		1	
16	Spring washer	304 SS		1	
17	Handle	304 SS/plastic		1	N/A
17A	Handle rod	304 SS/plastic	N/A 1		
17B	Handle hub	304 SS	N/A	1	
17C	Hub bolt	304 SS	N/A 1		
18	Handle nut	304 SS		1	

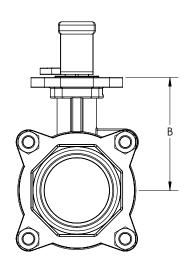
BV2I-Series Ball Valve - Repair Kits

Item	Description	Quantity
3	Thrust washer	1
6	Seat	2
11	Stem packing	*
12	O-ring	1

NOTE: * 1/2" - 2": qty 2 * 2-1/2": qty 3 * 3" - 4": qty 4

BV2I-Series Ball Valve - Dimensions

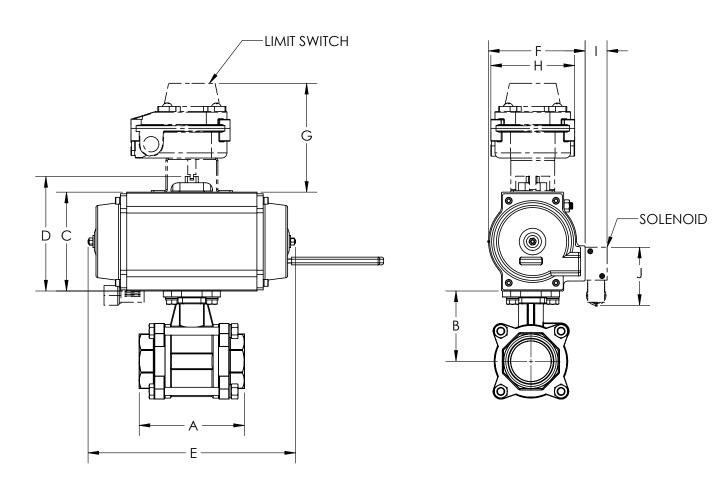




Size	Α	В	С	D	E	F (mm)	G (threads)	Н	FNPT	Socket Weld
1/4"	4.72	1.52	2.51	F03	F04	9	M12 x 1.75	0.35	0.25	N/A
3/8"	4.72	1.52	2.51	F03	F04	9	M12 x 1.75	0.38	0.38	0.71
1/2"	4.72	1.67	2.84	F03	F04	9	M12 x 1.75	0.38	0.50	0.88
3/4"	4.72	1.91	3.11	F03	F04	9	M12 x 1.75	0.44	0.75	1.09
1"	5.35	2.17	3.29	F04	F05	11	M14 x 2	0.49	1.00	1.35
1-1/4"	5.35	2.35	4.14	F04	F05	11	M14 x 2	0.54	1.25	1.70
1-1/2"	9.17	2.77	4.41	F05	F07	14	M18 x 2.5	0.67	1.50	1.94
2"	9.17	3.38	5.13	F05	F07	14	M18 x 2.5	0.66	2.00	2.44
2-1/2"	17.32	4.29	6.64	F07	F10	17	M22 x 2.5	0.72	2.50	3.01
3"	17.32	4.67	7.34	F07	F10	17	M22 x 2.5	0.72	3.00	3.52
4"	17.32	4.54	8.88	F07	F10	17	M22 x 2.5	0.83	4.00	4.52



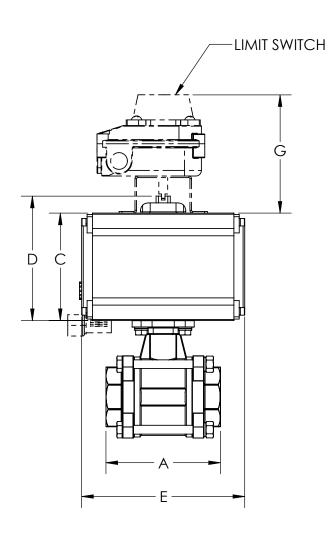
Actuated Spring Return

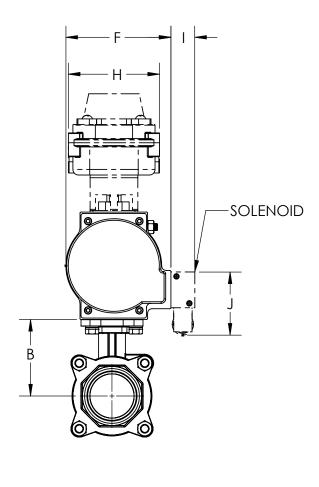


Cina	A (:)	D (:)	RP-BA Series	O (im)	D (:)	F (:)	F (:)	G (in)	H (in)	l (in)	J (in)
Size	A (in)	B (in)	Actuator	C (in)	D (in)	E (in)	F (in)	XLS-B4 Series		X Series	
1/4"	2.51	1.52									
3/8"	2.51	1.52	DD DA OOF CD	2.10	2.02	7.66	7.66 3.20				
1/2"	2.84	1.67	RP-BA-025-SR	3.10	3.83						
3/4"	3.11	1.91									
1"	3.29	2.17	DD DA OOF CDOE	3.10	3.83	7.66	3.20	,			
1-1/4"	4.14	2.35	RP-BA-025-SR05					5.27	4.06	1.07	2.81
1-1/2"	4.41	2.77	RP-BA-045-SR	3.86	4.63	8.09	3.72				
2"	5.13	3.38	RP-BA-101-SR	4.79	5.54	9.84	4.68				
2-1/2"	6.64	4.29	DD DA GOE OD	F F0	6.04	10.00	F F.C				
3"	7.34	4.67	RP-BA-225-SR	5.58	6.34	13.98	5.56				
4"	8.88	4.54	RP-BA-365-SR	6.94	7.72	16.61	7.25				

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

Actuated Double Acting



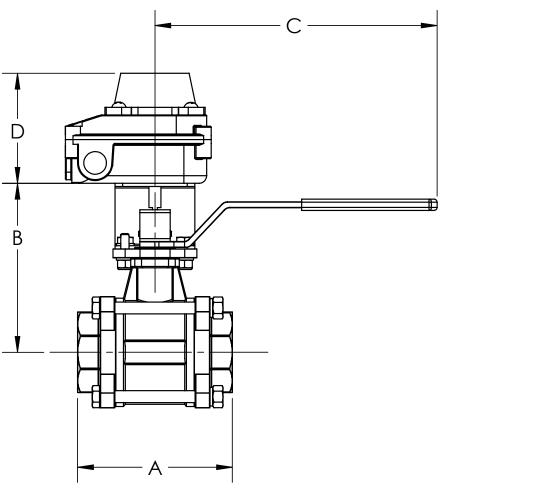


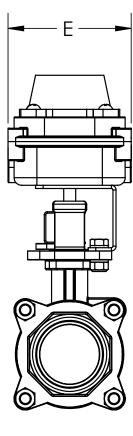
Size	A (in)	B (in)	RP-BA Series C (in) D (in) E (in) F (in		F (in)	G (in)	H (in)	l (in)	J (in)		
3126	A (III)	D (III)	Actuator	C (III)	D (III)	L (III)	1 (111)	XLS-B4 Series		X Series	
1/4"	2.51	1.52									
3/8"	2.51	1.52	RP-BA-012-DA	2.6	3.39	4.72	2.93				
1/2"	2.84	1.67									
3/4"	3.11	1.91	RP-BA-025-DA	3.1	3.87	5.68	3.2				
1"	3.29	2.17	DD DA OGE DAGE	3.1 3.	2.07	5.68	3.2	5.27	4.06	1.07	2.81
1-1/4"	4.14	2.35	RP-BA-025-DA05		3.87						
1-1/2"	4.41	2.77	DD DA OAF DA	2.06	4.60	F 07	5.07				
2"	5.13	3.38	RP-BA-045-DA	3.86	4.63	5.87	3.72				
2-1/2"	6.64	4.29	RP-BA-101-DA	4.79	5.54	7.2	4.77				
3"	7.34	4.67	DD DA GOE DA	F F0	6.24	10.22	F F6				
4"	8.88	4.54	RP-BA-225-DA	5.58	5.58 6.34		5.56				

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



Actuated Manual Handle and Limit Switch

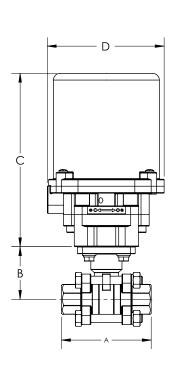


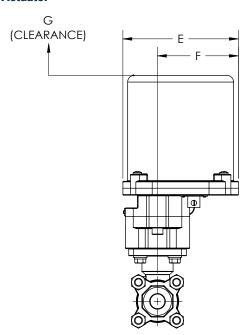


Ci	A (:)	D (im)	0 (in)	D (in)	E (in)			
Size	A (in)	B (in)	C (in)	XLS-B4A0120P				
1/4"	2.51	3.59	4.72					
3/8"	2.51	3.59	4.72					
1/2"	2.84	3.74	4.72		4.06			
3/4"	3.11	3.98	4.72					
1"	3.29	4.35	5.35					
1-1/4"	4.14	4.53	5.35	3.62				
1-1/2"	4.41	4.94	9.17					
2"	5.13	5.55	9.17					
2-1/2"	6.64	6.60	17.32					
3"	7.34	6.98	17.32					
4"	8.88	6.85	17.32					

NOTE: The limit switch depicted is XLS-B4A0120P. For more information on actuation accessories, see relevant EPRG.

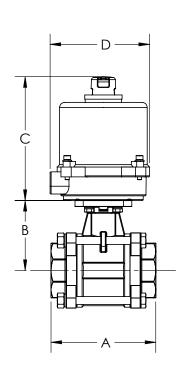
Electric Actuator

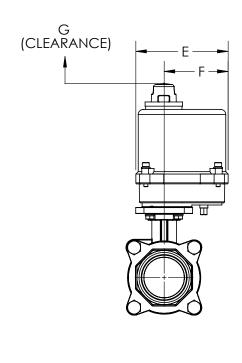




NOTE: The electric actuator shown is a OM-T model. For more information on actuation accessories see relevant EPRG for electric actuators.

Electric Actuator

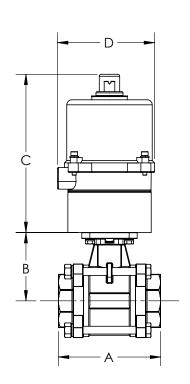


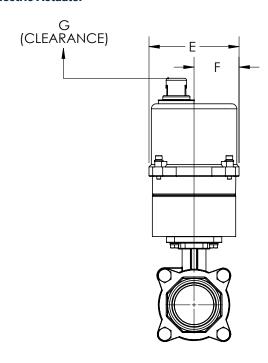


NOTE: The electric actuator shown is a BEOM-1B-1 model. For more information on actuation accessories, see relevant EPRG for electric actuators.



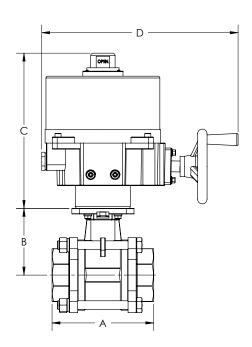
Electric Actuator

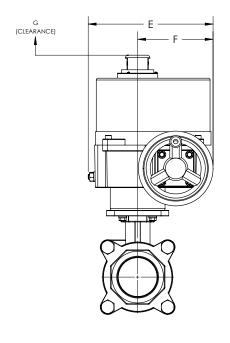




NOTE: The electric actuator shown is a BEOM-A model. For more information on actuation accessories see relevant EPRG for electric actuators.

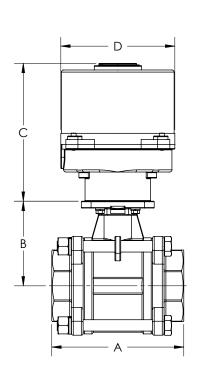
Electric Actuator

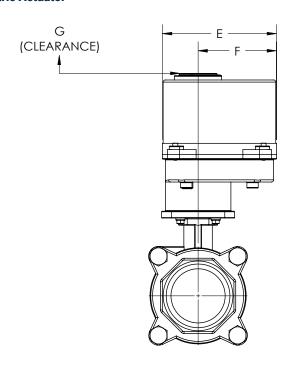




NOTE: The electric actuator shown is a OM-3 model. For more information on actuation accessories, see relevant EPRG for electric actuators.

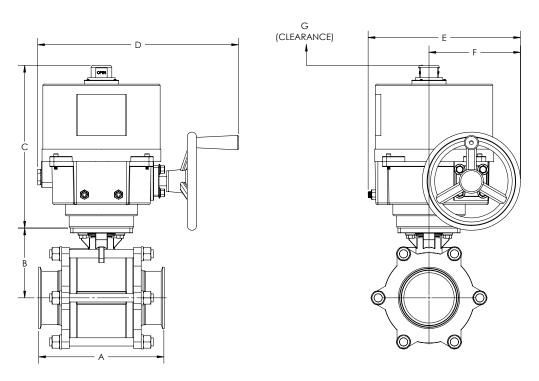
Electric Actuator





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

Electric Actuator



NOTE: The electric actuator shown is a OM-4 model. For more information on actuation accessories, see relevant EPRG for electric actuators.



Size	A (in)	B (in)	Actuator	C (in)	D (in)	E (in)	F (in)	G (in)
1/4"	2.51	1.52						
3/8"	2.51	1.52	BM-T	4.96	3.43	3.35	2.34	3.35
1/2"	2.84	1.67						
3/4"	3.11	1.91						
1"	3.29	2.17	0144	6.02	4.80	4.49	3.11	4.72
1-1/4"	4.14	2.35	OM-1					
1-1/2"	4.41	2.77						
2"	5.13	3.38	OM-A	7.83	4.80	4.49	2.24	4.72
2-1/2"	6.64	4.29	OM-3	10.55	12.84	7.13	4.84	6.50
3"	7.34	4.67	BM-2	7.68	6.34	6.06	4.33	4.72
4"	8.88	4.54	OM-4	12.99	15.43	11.58	7.24	8.07

BV2I-Series Repair Kit Part Numbers

Valve Size	Repair Kit Part Number	Handle Kit Part Number
1/4"	BV-2IN-*K025	BV-2I-HA-9
3/8"	BV-2IN-*K038	BV-2I-HA-9
1/2"	BV-2IN-*K050	BV-2I-HA-9
3/4"	BV-2IN-*K075	BV-2I-HA-9
1"	BV-2IN-*K100	BV-2I-HA-11
1-1/4"	BV-2IN-*K125	BV-2I-HA-11
1-1/2"	BV-2IN-*K150	BV-2I-HA-14
2"	BV-2IN-*K200	BV-2I-HA-14
2-1/2"	BV-2IN-*K250	BV-2I-HA-17
3"	BV-2IN-*K300	BV-2I-HA-17
4"	BV-2IN-*K400	BV-2I-HA-17

^{*}Use G or C

Kit contains:

^{1 - (}G) RTFE or (C) 25% carbon/PTFE thrust washer

^{2 - (}G) RTFE or (C) 25% carbon/PTFE seats

^{** - (}G) RTFE or (C) 25%carbon/PTFE stem packings (qty (4) for 3"-4", qty (3) for 2-1/2", qty (2) for 1/4"-2")

^{1 -} Silicone O-ring

BV2I-Series Repair Kit Part Numbers

Valve Size	Repair Kit Part Number	Handle Kit Part Number
1/4"	BV-2IN-*K025	BV-2I-HA-9
3/8"	BV-2IN-*K038	BV-2I-HA-9
1/2"	BV-2IN-*K050	BV-2I-HA-9
3/4"	BV-2IN-*K075	BV-2I-HA-9
1"	BV-2IN-*K100	BV-2I-HA-11
1-1/4"	BV-2IN-*K125	BV-2I-HA-11
1-1/2"	BV-2IN-*K150	BV-2I-HA-14
2"	BV-2IN-*K200	BV-2I-HA-14
2-1/2"	BV-2IN-*K250	BV-2I-HA-17
3"	BV-2IN-*K300	BV-2I-HA-17
4"	BV-2IN-*K400	BV-2I-HA-17

^{*}Use G or C

Kit contains:

^{1 - (}G) RTFE or (C) 25% carbon/PTFE thrust washer

^{2 - (}G) RTFE or (C) 25% carbon/PTFE seats

** - (G) RTFE or (C) 25%carbon/PTFE stem packings (qty (4) for 3"-4", qty (3) for 2-1/2", qty (2) for 1/4"-2")

^{1 -} Silicone O-ring



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."

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