


BV Series

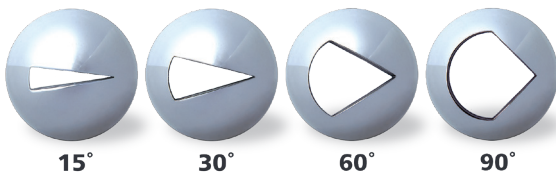
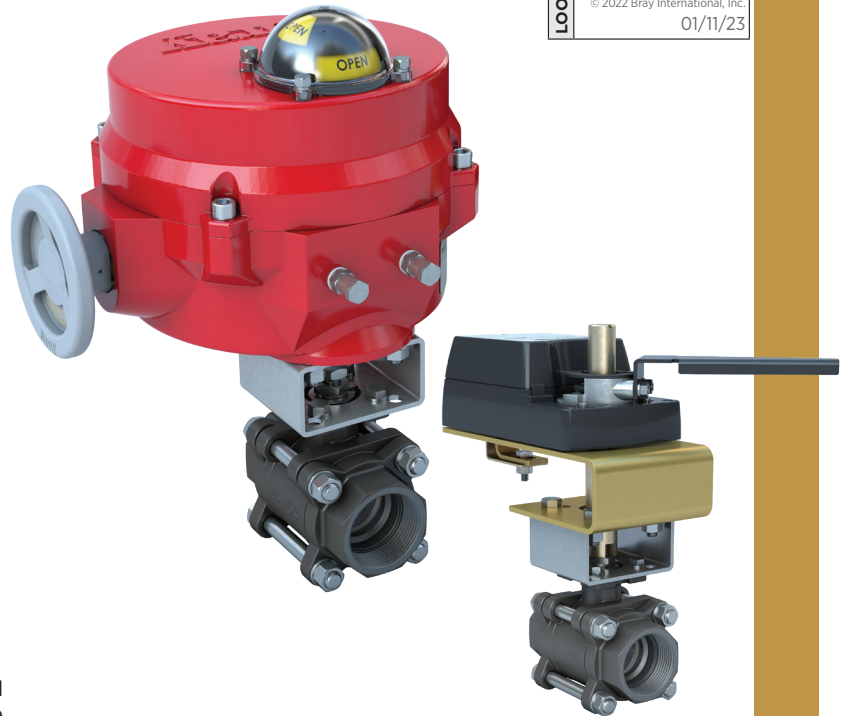
Threaded Industrial Control Ball Valves 2-Way • 1/2"- 4"

DOCUMENT	
CONTENTS	Features
	Specifications
	Cv Chart
	Cut-Away View
	Dimensions
Close-Off Charts	
LOOKING FOR MORE	
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Application

The BV Series Threaded Industrial Ball Valve product line is ideally suited to high temperature and high pressure water or steam as well as a wide range of heavy commercial HVAC control applications. These valves provide exceptional characterized control, high rangeability, flow capacity and pressure drops; all with bi-directional bubble tight shut off.

Valves in this range feature investment cast 3 piece construction, Carbon Steel housings and Stainless Steel balls and stems with NPT threaded connections. Characterized V-Balls and full port versions provide multiple Cv values in each size.



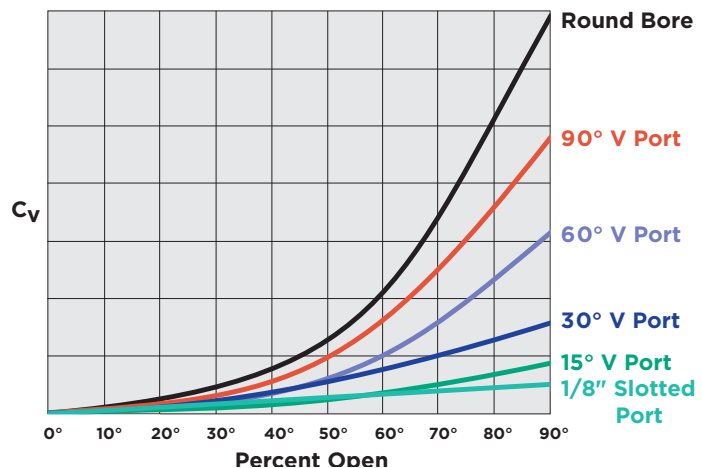
Increased Linear Response

Due to the in-line design inherent with characterized control ball valves, line media flows linearly through the piping system. The direct pattern provides increased media control and rapid response times to controller commands.

Features and Benefits

- High Cycle Packing Design**
Years of trouble free service
- Bubble Tight Shut-Off with Zero Leakage**
Energy efficient
- 3-Piece Body Design**
Allows in-line servicing
- Phosphate Coated Carbon Steel Bodies**
For cost effective applications up to 1,000 PSI at 225°F
- Commercial Grade & NEMA 4 Actuators**
Reliable, cost effective control

Flow Curve Chart



These curves of standard ports are general guidelines and are not specific to any particular valve size.

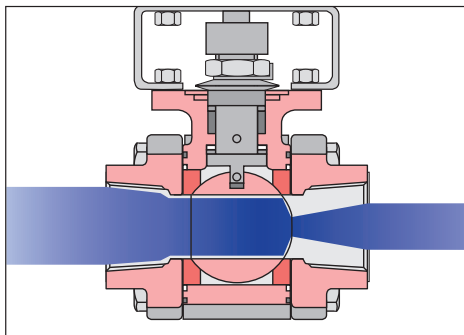
BV Series - Specifications

Technical Specifications - BV Series Valve Body			
Carbon Steel Body		V-Port	Full-Port
Service	Chilled/Hot Water, 50/50 Glycol Solutions and Saturated Steam		
Size Range	2-Way	1/2" to 4" Threaded Valves	
Maximum Fluid Temperature	Water	-20° to 500°F @ 300 PSI (-28° to 260°C @ 2068 kPa)	
	Steam	100 PSI (689 kPa)	
Valve Body Pressure Rating	1000 PSI (6895 kPa)		
Maximum Close-Off Pressure	300 PSI (2,068 kPa) For higher Close-Off's contact Bray.		
Maximum Recommended Operating Pressure Drop	Water	80 PSI (551 kPa)	
	Steam	50 PSI (344 kPa)	
Flow Characteristic	V15 Port	Linear	N/A
	V30 Port	Modified Equal Percentage	N/A
	V60 & Full Port	Equal Percentage	N/A
Rangeability	200:1		
Leakage	Bubble Tight per API 598		
End Connections	Threaded NPT		
Ambient Operating Temperature Range	See Actuator Rating (Optional high temperature mounting kit may be required)		
Materials	Body	WCB Carbon Steel	
	Ball & Stem	316 Stainless Steel	
	Seat	Tek-Fil	RPTFE
	Stem Seal/ Packing	RPTFE	
	Body Seal	TFM	
	Body Bolts	SS304	
Warranty	3 Years limited from time of shipment.		

Disclaimer - The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications consult the local Bray office. Bray, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

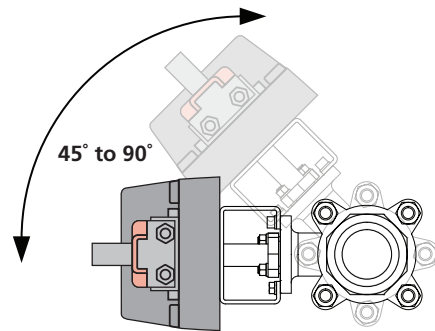
BV - Piping Diagram

- V-Port valves- Note the arrow engraved on the ends which show the flow going from the bolt head to the nut so that the V-ball is downstream.
- Full Port valves are bi-directional.



Media Flow entering valve from left. Installing the V downstream is preferred.

BV - For Steam Applications

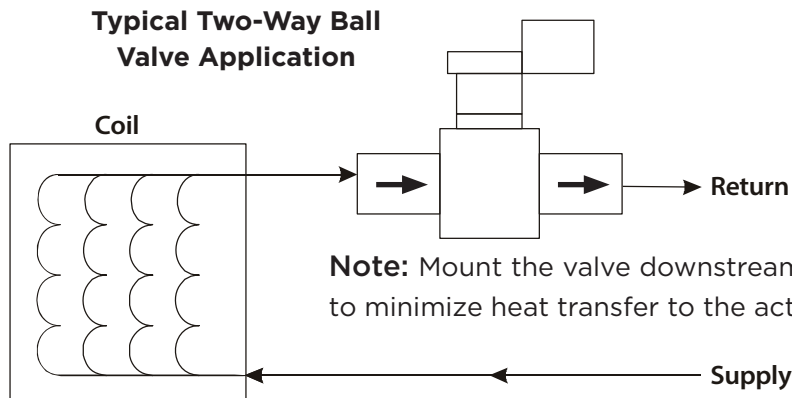


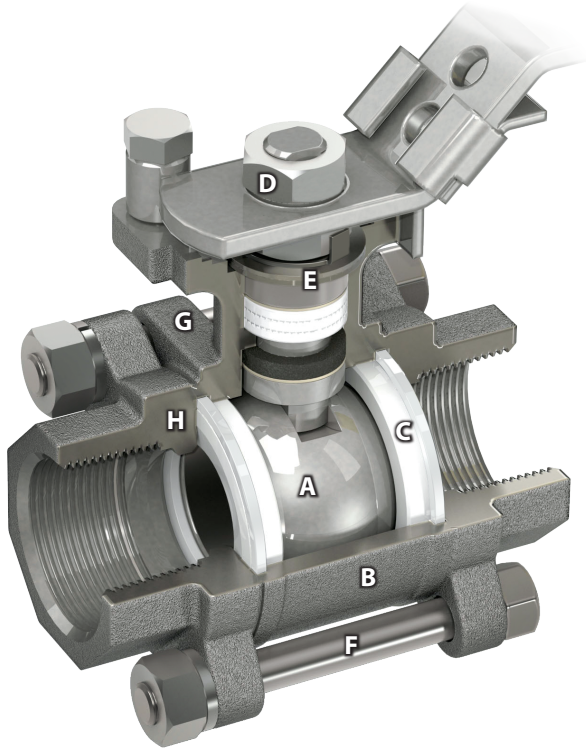
Install valve with stem at 45° to 90° from vertical.

BV Series - Flow Coefficient Cv Chart

BV-Segmented Ball Valve - Tek Fil Seat - Class 150															
Model Number	Valve Size		V-Cut	Flow Coefficient		Percent of Ball Rotation									
	In.	mm		Cv	Kv	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
BV05-CS3-04	0.5	15	15°	3.6	3.1	0.04	0.17	0.43	0.68	0.98	1.62	2.09	2.84	3.61	4.18
BV05-CS3-05			30°	4.7	4.0	0.04	0.23	0.47	0.77	1.19	1.83	2.47	3.43	4.65	5.55
BV05-CS3-09			60°	9.4	8.1	0.04	0.28	0.73	1.11	1.83	2.92	4.29	7.00	9.43	12.78
BV05-CS3-12			90°	11.6	10.0	0.06	0.47	0.85	1.28	2.05	3.24	4.74	8.26	11.61	14.72
BV05-CS3-32			Full Port	32.0	27.6	0.00	0.00	0.70	3.70	7.80	12.60	17.90	23.30	28.60	32.00
BV75-CS3-05	.75	20	15°	4.8	4.1	0.05	0.20	0.51	0.88	1.30	2.13	2.75	3.74	4.75	5.51
BV75-CS3-06			30°	6.1	5.3	0.07	0.30	0.61	0.99	1.57	2.42	3.25	4.52	6.12	7.30
BV75-CS3-12			60°	12.4	10.7	0.07	0.35	0.93	1.46	2.42	3.85	5.64	9.21	12.41	16.25
BV75-CS3-15			90°	15.3	13.2	0.08	0.59	1.11	1.69	2.69	4.27	6.24	10.85	15.28	19.37
BV75-CS3-54			Full Port	54.0	46.5	0.00	0.00	2.50	7.70	14.20	21.70	29.70	38.00	46.20	54.00
BV1-CS3-09	1	25	15°	8.5	7.3	0.06	0.30	0.93	1.49	2.31	3.75	4.67	6.47	8.46	9.84
BV1-CS3-13			30°	12.8	11.1	0.08	0.45	1.25	2.06	3.54	5.30	7.70	10.49	12.84	15.48
BV1-CS3-23			60°	23.2	20.0	0.09	0.68	1.74	2.78	5.13	8.00	11.88	18.71	23.22	32.81
BV1-CS3-31			90°	31.4	27.1	0.11	0.93	2.78	5.09	7.74	12.20	17.33	22.50	31.0	43.89
BV1-CS3-105			Full Port	105.0	90.5	0.00	1.20	8.60	19.40	32.40	46.70	61.90	77.30	92.40	105.00
BV125-CS3-11	1.25	32	15°	10.8	9.3	0.03	1.27	0.83	1.64	2.78	4.07	5.88	7.99	10.81	12.82
BV125-CS3-15			30°	14.9	12.8	0.05	0.48	1.37	2.47	4.12	6.08	8.82	11.76	17.87	17.37
BV125-CS3-33			60°	33.4	28.8	0.07	0.67	2.04	3.41	6.47	10.80	15.39	22.35	33.37	43.45
BV125-CS3-52			90°	51.8	44.6	0.08	0.78	2.92	5.41	10.23	17.28	25.50	35.60	51.76	65.81
BV125-CS3-200			Full Port	200.0	172.4	0.00	5.30	20.70	41.30	65.40	91.70	119.30	147.20	174.50	200.00
BV150-CS3-15	1.5	40	15°	14.9	12.8	0.05	0.37	1.15	2.26	3.82	5.59	8.08	10.99	14.86	17.62
BV150-CS3-20			30°	20.4	17.6	0.07	0.65	1.88	3.39	5.66	8.36	12.12	16.17	20.44	23.88
BV150-CS3-46			60°	45.9	39.5	0.09	0.92	2.81	4.69	8.89	14.85	21.16	30.73	45.88	59.74
BV150-CS3-71			90°	71.2	61.3	0.10	1.07	4.01	7.44	14.06	22.60	31.90	48.30	71.17	90.49
BV150-CS3-275			Full Port	275.0	237.1	0.00	3.40	22.70	50.70	83.90	120.80	159.70	199.40	238.40	275.00
BV2-CS3-29	2	50	15°	28.8	24.8	0.06	0.69	2.23	4.45	7.42	10.68	15.38	21.39	28.75	34.69
BV2-CS3-48			30°	48.1	41.5	0.09	1.18	3.79	7.53	12.26	17.83	26.44	36.45	48.09	55.85
BV2-CS3-104			60°	104.2	89.8	0.11	1.51	5.80	10.39	20.60	33.98	48.75	69.04	104.23	135.75
BV2-CS3-130			90°	129.8	111.8	0.16	1.89	7.28	13.58	25.38	42.30	55.56	87.04	129.75	167.34
BV2-CS3-500			Full Port	500.0	431.0	0.00	15.50	54.80	106.60	166.60	232.00	300.40	369.50	437.00	500.00
BV250-CS3-27	2.5	65	15°	27.2	23.5	0.07	0.77	2.40	5.23	8.06	11.73	16.42	22.31	27.24	31.30
BV250-CS3-56			30°	56.3	48.5	0.09	1.15	4.42	7.91	13.39	20.05	30.43	41.92	56.30	76.95
BV250-CS3-114			60°	113.7	98.0	0.13	1.46	5.91	11.90	23.24	37.92	59.31	83.29	113.65	162.50
BV250-CS3-177			90°	177.3	152.8	0.17	1.83	7.29	16.45	31.16	53.53	77.89	118.29	177.32	239.45
BV250-CS3-780			Full Port	780.0	672.4	0.00	25.80	87.60	168.60	262.10	363.90	470.20	577.50	682.30	780.00
BV3-CS3-32	3	80	15°	31.8	27.4	0.08	0.89	2.96	6.65	9.58	13.42	19.47	26.67	31.79	38.31
BV3-CS3-70			30°	69.8	60.1	0.12	1.20	4.15	9.49	15.96	26.78	38.91	53.31	69.77	85.91
BV3-CS3-150			60°	149.9	129.2	0.15	2.89	6.70	15.82	29.36	46.32	73.60	106.74	149.88	193.20
BV3-CS3-237			90°	237.3	204.6	0.20	4.12	8.65	21.09	41.09	69.27	105.91	161.04	237.23	359.21
BV3-CS3-1150			Full Port	1150.0	991.3	0.00	33.80	123.70	242.70	380.80	531.50	689.30	848.70	1004.50	1150.00
BV4-CS3-76	4	100	15°	75.5	65.1	0.11	1.40	3.73	8.86	16.76	27.91	41.85	59.24	75.49	96.37
BV4-CS3-159			30°	158.5	136.7	0.16	1.75	7.84	18.59	35.21	58.60	87.89	124.41	158.53	196.35
BV4-CS3-330			60°	329.5	284.0	0.26	2.20	12.44	33.67	62.98	106.26	160.49	233.96	329.50	437.29
BV4-CS3-547			90°	546.6	471.2	0.35	4.37	19.68	50.29	91.83	157.43	240.51	365.15	546.62	830.86
BV4-CS3-2100			Full Port	2100.0	1810.2	7.50	118.90	296.20	516.20	766.50	1035.80	1314.30	1592.70	1861.80	2100.00

BV - Mode of Actuation





Ball (A) Is a precision machined and mirror finished for bubble-tight shut off with less operating torque. Ball edges have machined curvatures to reduce seat wear and provide a high cycle life.

Body (B) Valve bodies are investment cast and solution annealed/normalized for the highest quality and added strength. Body castings are marked with a foundry heat number for full traceability. Carbon steel bodies are phosphate coated for increased corrosion resistance.

Seat (C) The seat design ensures bi-directional, bubble-tight sealing while providing the lowest possible torque. This seat design reduces friction, minimizes seat wear and reduces operating torque.

Double Lock Nut Design (D) These double lock nuts allow handles to be easily and safely removed while the valve is under full line pressure.

Live-Loaded Stem Seals (E) The live-loaded seals considerably increase the number of cycles between maintenance adjustments.

Body Bolts (F) Standard material is 304 Stainless Steel.

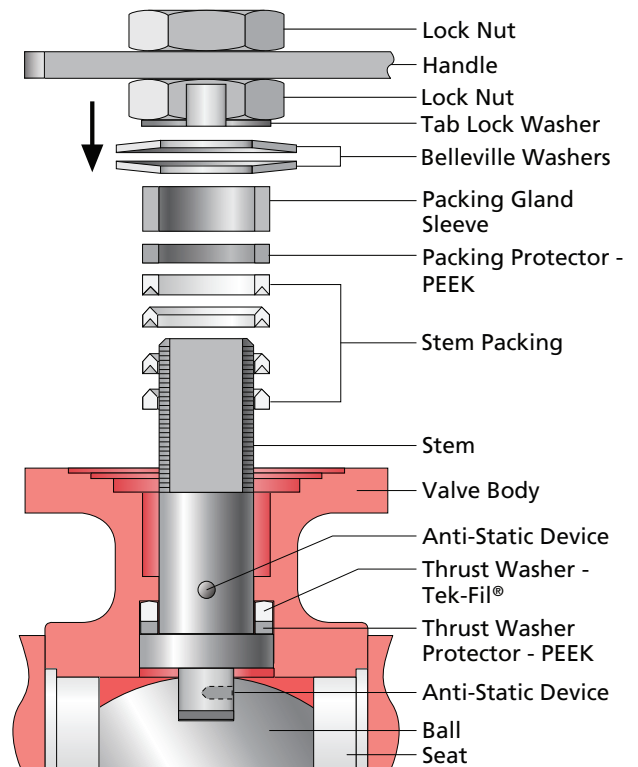
Body Hinges (G) Heavy duty hinges, throughout the entire size range, provide positive alignment of body to end connection during swing-out, in-line servicing.

End Connections (H) Full range of interchangeable connections. Anti-Static Protection BV Series valves feature anti-static grounding devices as standard. These devices ensure electrical continuity between valve ball, stem and body, thus eliminating the possibility of static electrical charges creating sparks within the valve.

Smart Stem

Valve Sizes 1/2" through 2-1/2"

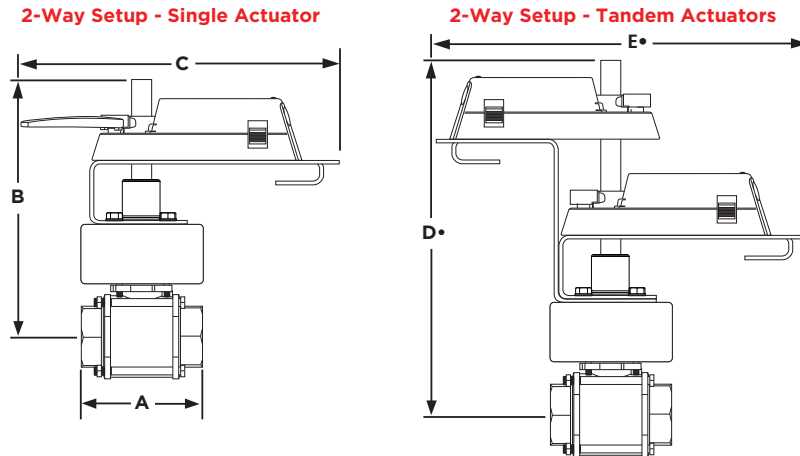
These Interchangeable series of valves feature strong, large diameter stems with live-loaded, self-adjusting sealing utilizing belleville washers which automatically adjust to compensate for changes in temperature and wear. Manual adjustments which can cause damage to the seal and seat are not required. The assembly is secured by a saddle-type lock washer which prevents stem nuts from un-threading in high cycle automation applications.



Stem Packing

An adjustable V-ring design creates a multiple seal between the stem and body. Each stem assembly is composed of three or four (dependent on valve size) rings providing a very high cycle life by resisting creep and cold flow. The Thrust Washer and the Thrust Washer Protector combine to provide a primary seal, reduce torque and prevent galling. This arrangement is a BV Series exclusive.

BV Series - 2-Way - Threaded Ball Valve/Commercial Actuator Dimensions

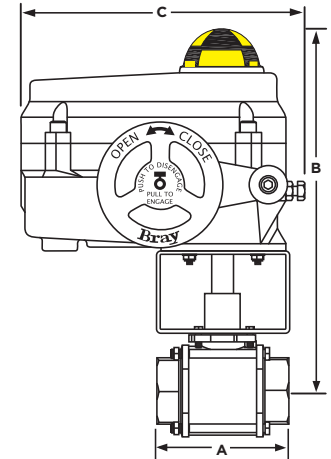


BV Series - 2-Way - Threaded Ball Valve/Commercial Actuator Dimensions in. (mm)												
Model Number	Valve Size		V-Cut	Flow Coefficient		Single Mount Actuators			Tandem Mount Actuators		Weight ¹	
	In.	mm		Cv	Kv	A	B	C	D*	E*	lbs.	kg.
BV05-CS3-04	0.5	15	15°	3.6	3.1	2.8 (71)	9.7 (246)	14.5 (368)	-	-	1.8	.82
BV05-CS3-05			30°	4.7	4.0							
BV05-CS3-09			60°	9.4	8.1							
BV05-CS3-12			90°	11.6	10.0							
BV05-CS3-32			Full Port	32.0	27.6							
BV75-CS3-05	.75	20	15°	4.8	4.1	3.4 (86)	9.8 (249)	14.5 (368)	-	-	2.3	1.04
BV75-CS3-06			30°	6.1	5.3							
BV75-CS3-12			60°	12.4	10.7							
BV75-CS3-15			90°	15.3	13.2							
BV75-CS3-54			Full Port	54.0	46.5							
BV1-CS3-09	1	25	15°	8.5	7.3	3.6 (91)	10.2 (259)	14.5 (368)	-	-	3.4	1.50
BV1-CS3-13			30°	12.8	11.1							
BV1-CS3-23			60°	23.2	20.0							
BV1-CS3-31			90°	31.4	27.1							
BV1-CS3-105			Full Port	105.0	90.5							
BV125-CS3-11	1.25	32	15°	10.8	9.3	4.3 (109)	10.4 (264)	14.5 (368)	17.5 (445)	18.0 (457)	4.9	2.20
BV125-CS3-15			30°	14.9	12.8							
BV125-CS3-33			60°	33.4	28.8							
BV125-CS3-52			90°	51.8	44.6							
BV125-CS3-200			Full Port	200.0	172.4							
BV150-CS3-15	1.5	40	15°	14.9	12.8	4.8 (122)	-	-	17.9 (455)	18.0 (457)	7.6	3.40
BV150-CS3-20			30°	20.4	17.6							
BV150-CS3-46			60°	45.9	39.5							
BV150-CS3-71			90°	71.2	61.3							
BV150-CS3-275			Full Port	275.0	237.1							

¹ - Weights are for valve bodies only.
 * Indicates tandem mounted actuators are required.
 - Largest Actuator dimension shown.
 For steam applications, install valve with stem at 45° to 9° from vertical.

BV Series - 2-Way - Threaded Ball Valve/Industrial Actuator Dimensions

2-Way Setup - Industrial Actuator



BV Series - 2-Way - Threaded Ball Valve/Industrial Actuator Dimensions in. (mm)										
Model Number	Valve Size		V-Cut	Flow Coefficient		Single Mount Actuators			Weight ¹	
	In.	mm		Cv	Kv	A	B	C	lbs.	kg.
BV05-CS3-04	0.5	15	15°	3.6	3.1	2.8 (71)	9.8 (249)	7.5 (191)	1.8	.82
BV05-CS3-05			30°	4.7	4.0					
BV05-CS3-09			60°	9.4	8.1					
BV05-CS3-12			90°	11.6	10.0					
BV05-CS3-32			Full Port	32.0	27.6					
BV75-CS3-05	.75	20	15°	4.8	4.1	3.4 (86)	9.9 (252)	7.5 (191)	2.3	1.04
BV75-CS3-06			30°	6.1	5.3					
BV75-CS3-12			60°	12.4	10.7					
BV75-CS3-15			90°	15.3	13.2					
BV75-CS3-54			Full Port	54.0	46.5					
BV1-CS3-09	1	25	15°	8.5	7.3	3.6 (91)	10.3 (262)	7.5 (191)	3.4	1.50
BV1-CS3-13			30°	12.8	11.1					
BV1-CS3-23			60°	23.2	20.0					
BV1-CS3-31			90°	31.4	27.1					
BV1-CS3-105			Full Port	105.0	90.5					
BV125-CS3-11	1.25	32	15°	10.8	9.3	4.3 (109)	10.5 (267)	7.5 (191)	4.9	2.20
BV125-CS3-15			30°	14.9	12.8					
BV125-CS3-33			60°	33.4	28.8					
BV125-CS3-52			90°	51.8	44.6					
BV125-CS3-200			Full Port	200.0	172.4					
BV150-CS3-15	1.5	40	15°	14.9	12.8	4.8 (122)	11.2 (285)	7.5 (191)	7.6	3.40
BV150-CS3-20			30°	20.4	17.6					
BV150-CS3-46			60°	45.9	39.5					
BV150-CS3-71			90°	71.2	61.3					
BV150-CS3-275			Full Port	275.0	237.1					
BV2-CS3-29	2	50	15°	28.8	24.8	5.6 (142)	11.5 (292)	7.5 (191)	11.4	5.20
BV2-CS3-48			30°	48.1	41.5					
BV2-CS3-104			60°	104.2	89.8					
BV2-CS3-130			90°	129.8	111.8					
BV2-CS3-500			Full Port	500.0	431.0					
BV250-CS3-27	2.5	65	15°	27.2	23.5	7.3 (231)	13.4 (340)	10.1 (257)	21.8	9.90
BV250-CS3-56			30°	56.3	48.5					
BV250-CS3-114			60°	113.7	98.0					
BV250-CS3-177			90°	177.3	152.8					
BV250-CS3-780			Full Port	780.0	672.4					
BV3-CS3-32	3	80	15°	31.8	27.4	8.0 (257)	15.8 (401)	10.1 (257)	34.6	15.7
BV3-CS3-70			30°	69.8	60.1					
BV3-CS3-150			60°	149.9	129.2					
BV3-CS3-237			90°	237.3	204.6					
BV3-CS3-1150			Full Port	1150.0	991.3					
BV4-CS3-76	4	100	15°	75.5	65.1	9.1 (353)	17.2 (437)	12.1 (308)	54.7	24.8
BV4-CS3-159			30°	158.5	136.7					
BV4-CS3-330			60°	329.5	284.0					
BV4-CS3-547			90°	546.6	471.2					
BV4-CS3-2100			Full Port	2100.0	1810.2					

¹ - Weights are for valve bodies only.
 - Largest Actuator dimension shown.
 For steam applications, install valve with stem at 45° to 9° from vertical.

BV Series - 2-Way with NSR & SR Commercial Electric Actuators Close-Off Charts

2-Way, Non-Spring Return (100 PSI Steam and 300 PSI Water)																
Actuator Model Details																
		Time Out		■	■	■	■	■	■	■	■	■	■	■		
		Auxiliary Switches Available		■	■	■	■	■	■	■	■	■	■	■		
		Conduit Size - Flex(F)/NPT(N)		1/2 N	1/2 N	1/2 N	1/2 N	1/2 N	1/2 N	1/2 N	1/2 N	1/2 N	1/2 N	1/2 N		
		Enclosed Terminal Block		■	■	■	■	■	■	■	■	■	■	■		
Model Number	Valve Size		V-Cut	Flow Coefficient		24 VAC/DC On/Off & Floating					24 VAC/DC Modulating					
	In.	mm		Cv	Kv	D24-70	D24-140	D24-210	D24-280	D24-280-D	DM24-70	DM24-140	DM24-210	DM24-280	DM24-280-D	
BV05-CS3-04	0.5	15	15°	3.6	3.1											
BV05-CS3-05			30°	4.7	4.0											
BV05-CS3-09			60°	9.4	8.1	X	-	-	-	-	X	-	-	-	-	-
BV05-CS3-12			90°	11.6	10.0											
BV05-CS3-32			Full Port	32.0	27.6											
BV75-CS3-05	.75	20	15°	4.8	4.1											
BV75-CS3-06			30°	6.1	5.3											
BV75-CS3-12			60°	12.4	10.7	-	X	-	-	-	-	X	-	-	-	-
BV75-CS3-15			90°	15.3	13.2											
BV75-CS3-54			Full Port	54.0	46.5											
BV1-CS3-09	1	25	15°	8.5	7.3											
BV1-CS3-13			30°	12.8	11.1											
BV1-CS3-23			60°	23.2	20.0	-	-	X	-	-	-	-	X	-	-	-
BV1-CS3-31			90°	31.4	27.1											
BV1-CS3-105			Full Port	105.0	90.5											
BV125-CS3-11	1.25	32	15°	10.8	9.3											
BV125-CS3-15			30°	14.9	12.8											
BV125-CS3-33			60°	33.4	28.8	-	-	-	X	-	-	-	-	X	-	-
BV125-CS3-52			90°	51.8	44.6											
BV125-CS3-200			Full Port	200.0	172.4											
BV150-CS3-15	1.5	40	15°	14.9	12.8											
BV150-CS3-20			30°	20.4	17.6											
BV150-CS3-46			60°	45.9	39.5	-	-	-	-	X	-	-	-	-	-	X
BV150-CS3-71			90°	71.2	61.3											
BV150-CS3-275			Full Port	275.0	237.1											

2-Way, Spring Return (100 PSI Steam and 300 PSI Water)																
Actuator Model Details																
		Auxiliary Switches Available		■	■	■	■	■	■	■	■	■	■	■		
		Conduit Size - Flex(F)/NPT(N)		3/8 F	3/8 F	3/8 F	3/8 F	3/8 F	3/8 F	3/8 F	3/8 F	3/8 F	3/8 F	3/8 F		
		Cable - Standard(S)/Plenum(P)		S	S	S	S	S	S	S	S	S	S	S		
Model Number	Valve Size		V-Cut	Flow Coefficient		24 VAC/DC On/Off			24 VAC/DC Modulating							
	In.	mm		Cv	Kv	DS24-70	DS24-180	DS24-180-D	DMS24-70	DMS24-180	DMS24-180-D					
BV05-CS3-04	0.5	15	15°	3.6	3.1											
BV05-CS3-05			30°	4.7	4.0											
BV05-CS3-09			60°	9.4	8.1	X	-	-	X	-	-	-				
BV05-CS3-12			90°	11.6	10.0											
BV05-CS3-32			Full Port	32.0	27.6											
BV75-CS3-05	.75	20	15°	4.8	4.1											
BV75-CS3-06			30°	6.1	5.3											
BV75-CS3-12			60°	12.4	10.7	-	X	-	-	-	X	-	-	-	-	-
BV75-CS3-15			90°	15.3	13.2											
BV75-CS3-54			Full Port	54.0	46.5											
BV1-CS3-09	1	25	15°	8.5	7.3											
BV1-CS3-13			30°	12.8	11.1											
BV1-CS3-23			60°	23.2	20.0	-	X	-	-	-	X	-	-	-	-	-
BV1-CS3-31			90°	31.4	27.1											
BV1-CS3-105			Full Port	105.0	90.5											
BV125-CS3-11	1.25	32	15°	10.8	9.3											
BV125-CS3-15			30°	14.9	12.8											
BV125-CS3-33			60°	33.4	28.8	-	-	X	-	-	-	-	-	X	-	-
BV125-CS3-52			90°	51.8	44.6											
BV125-CS3-200			Full Port	200.0	172.4											

Options/Adders
 1. For optional auxiliary switches, add -A to the end of the actuator part number.
 2. For normally Closed, add a "C" to the end of the valve part number, i.e. BV05-CS3-04C, otherwise normally open. Spring return models only. Add "SS3" in place of CS3 for Stainless Steel body option.
 V-port ball valves have a 20 to 85% max angle of controllability.
 -D Indicates tandem mounted actuators are required.

BV Series - 2-Way with On/Off Series 70 Industrial Electric Actuators Close-Off Chart

2-Way, Non-Spring Return (100 PSI Steam and 300 PSI Water)											
Actuator Model Details											
Model Number	Valve Size		V-Cut	Flow Coefficient		Series 70 Actuators On/Off, 120 VAC			Series 70 Actuators On/Off, 24 VAC		
	In.	mm		Cv	Kv	70-0081H	70-0121H	70-E301H	70-24-0081H	70-24-0201H	70-24-0501H
BV05-CS3-04	0.5	15	15°	3.6	3.1	X	-	-	X	-	-
BV05-CS3-05			30°	4.7	4.0						
BV05-CS3-09			60°	9.4	8.1						
BV05-CS3-12			90°	11.6	10.0						
BV05-CS3-32			Full Port	32.0	27.6						
BV75-CS3-05	.75	20	15°	4.8	4.1	X	-	-	X	-	-
BV75-CS3-06			30°	6.1	5.3						
BV75-CS3-12			60°	12.4	10.7						
BV75-CS3-15			90°	15.3	13.2						
BV75-CS3-54			Full Port	54.0	46.5						
BV1-CS3-09	1	25	15°	8.5	7.3	X	-	-	X	-	-
BV1-CS3-13			30°	12.8	11.1						
BV1-CS3-23			60°	23.2	20.0						
BV1-CS3-31			90°	31.4	27.1						
BV1-CS3-105			Full Port	105.0	90.5						
BV125-CS3-11	1.25	32	15°	10.8	9.3	X	-	-	X	-	-
BV125-CS3-15			30°	14.9	12.8						
BV125-CS3-33			60°	33.4	28.8						
BV125-CS3-52			90°	51.8	44.6						
BV125-CS3-200			Full Port	200.0	172.4						
BV150-CS3-15	1.5	40	15°	14.9	12.8	X	-	-	X	-	-
BV150-CS3-20			30°	20.4	17.6						
BV150-CS3-46			60°	45.9	39.5						
BV150-CS3-71			90°	71.2	61.3						
BV150-CS3-275			Full Port	275.0	237.1						
BV2-CS3-29	2	50	15°	28.8	24.8	X	-	-	X	-	-
BV2-CS3-48			30°	48.1	41.5						
BV2-CS3-104			60°	104.2	89.8						
BV2-CS3-130			90°	129.8	111.8						
BV2-CS3-500			Full Port	500.0	431.0						
BV250-CS3-27	2.5	65	15°	27.2	23.5	X	-	-	X	-	-
BV250-CS3-56			30°	56.3	48.5						
BV250-CS3-114			60°	113.7	98.0						
BV250-CS3-177			90°	177.3	152.8						
BV250-CS3-780			Full Port	780.0	672.4						
BV3-CS3-32	3	80	15°	31.8	27.4	-	X	-	-	X	-
BV3-CS3-70			30°	69.8	60.1						
BV3-CS3-150			60°	149.9	129.2						
BV3-CS3-237			90°	237.3	204.6						
BV3-CS3-1150			Full Port	1150.0	991.3						
BV4-CS3-76	4	100	15°	75.5	65.1	-	-	X	-	-	X
BV4-CS3-159			30°	158.5	136.7						
BV4-CS3-330			60°	329.5	284.0						
BV4-CS3-547			90°	546.6	471.2						
BV4-CS3-2100			Full Port	2100.0	1810.2						

Options/Addrs

- For Battery Back-Up Failsafe Unit (BBU) option on 24 VAC actuators add "-BBU".
- For normally Closed, add a "C" to the end of the valve part number, i.e. BV05-CS3-04C, otherwise normally open. BBU models only. Add "SS3" in place of CS3 for Stainless Steel body option. V-port ball valves have a 20 to 85% max angle of controllability.

BV Series - 2-Way with Modulating Series 70 Industrial Electric Actuators Close-Off Chart

2-Way, Non-Spring Return (100 PSI Steam and 300 PSI Water)											
Actuator Model Details											
Model Number	Valve Size		V-Cut	Flow Coefficient		Series 70 Actuators Modulating, 120 VAC			Series 70 Actuators Modulating, 24 VAC		
	In.	mm		Cv	Kv	70-0081SVH	70-0121SVH	70-E301SVH	70-24-0081SVH	70-24-0201SVH	70-24-0501SVH
BV05-CS3-04	0.5	15	15°	3.6	3.1						
BV05-CS3-05			30°	4.7	4.0						
BV05-CS3-09			60°	9.4	8.1	X	-	-	X	-	-
BV05-CS3-12			90°	11.6	10.0						
BV05-CS3-32			Full Port	32.0	27.6						
BV75-CS3-05	.75	20	15°	4.8	4.1						
BV75-CS3-06			30°	6.1	5.3						
BV75-CS3-12			60°	12.4	10.7	X	-	-	X	-	-
BV75-CS3-15			90°	15.3	13.2						
BV75-CS3-54			Full Port	54.0	46.5						
BV1-CS3-09	1	25	15°	8.5	7.3						
BV1-CS3-13			30°	12.8	11.1						
BV1-CS3-23			60°	23.2	20.0	X	-	-	X	-	-
BV1-CS3-31			90°	31.4	27.1						
BV1-CS3-105			Full Port	105.0	90.5						
BV125-CS3-11	1.25	32	15°	10.8	9.3						
BV125-CS3-15			30°	14.9	12.8						
BV125-CS3-33			60°	33.4	28.8	X	-	-	X	-	-
BV125-CS3-52			90°	51.8	44.6						
BV125-CS3-200			Full Port	200.0	172.4						
BV150-CS3-15	1.5	40	15°	14.9	12.8						
BV150-CS3-20			30°	20.4	17.6						
BV150-CS3-46			60°	45.9	39.5	X	-	-	X	-	-
BV150-CS3-71			90°	71.2	61.3						
BV150-CS3-275			Full Port	275.0	237.1						
BV2-CS3-29	2	50	15°	28.8	24.8						
BV2-CS3-48			30°	48.1	41.5						
BV2-CS3-104			60°	104.2	89.8	X	-	-	X	-	-
BV2-CS3-130			90°	129.8	111.8						
BV2-CS3-500			Full Port	500.0	431.0						
BV250-CS3-27	2.5	65	15°	27.2	23.5						
BV250-CS3-56			30°	56.3	48.5						
BV250-CS3-114			60°	113.7	98.0	X	-	-	X	-	-
BV250-CS3-177			90°	177.3	152.8						
BV250-CS3-780			Full Port	780.0	672.4						
BV3-CS3-32	3	80	15°	31.8	27.4						
BV3-CS3-70			30°	69.8	60.1						
BV3-CS3-150			60°	149.9	129.2	-	X	-	-	X	-
BV3-CS3-237			90°	237.3	204.6						
BV3-CS3-1150			Full Port	1150.0	991.3						
BV4-CS3-76	4	100	15°	75.5	65.1						
BV4-CS3-159			30°	158.5	136.7						
BV4-CS3-330			60°	329.5	284.0	-	-	X	-	-	X
BV4-CS3-547			90°	546.6	471.2						
BV4-CS3-2100			Full Port	2100.0	1810.2						

Options/Adders

1. For Battery Back-Up Failsafe Unit (BBU) option on 24 VAC actuators add "-BBU".
 2. For normally Closed, add a "C" to the end of the valve part number, i.e. BV05-CS3-04C, otherwise normally open. BBU models only. Add "SS3" in place of CS3 for Stainless Steel body option.
- V-port ball valves have a 20 to 85% max angle of controllability.

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