

B O N O M I

USA, INC.

V-Ball Valve

Process Control & Automation

Applications:

- pH
- Flow
- Level
- Steam
- Pressure
- Dispensing
- Temperature

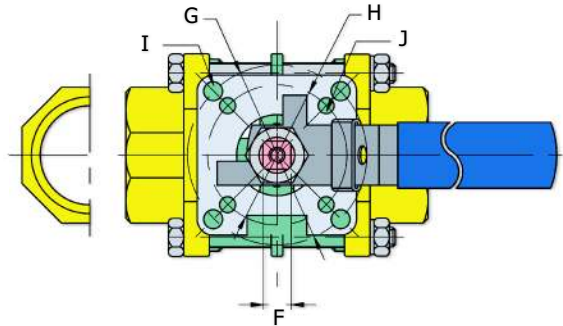
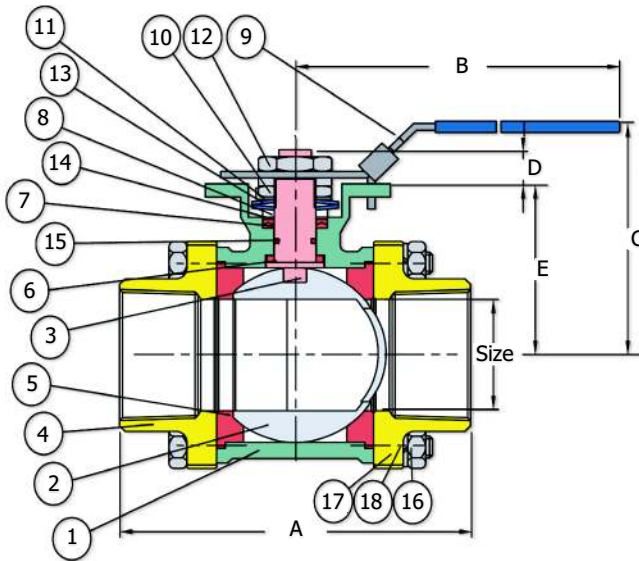


V - Series Direct Mount 1000 PSI Stainless Steel Ball Valve



Standard Features

- ASTM A351-CF8M 316L Stainless Steel Body
- 50% Stainless Steel/50% PTFE Seats
- Class VI Shut-off
- Temperature Range -18° to 428°F
- 1000 PSI (1/2" to 2"), 800 PSI (2-1/2" to 4")
- Full Port 30, 60, or 90 Degree Flow Angles
- ISO 5211/DIN 3337 Direct Mounting
- Blow-Out Proof Stem, Anti-Static Design
- Sizes 1/2" thru 4", (Opt. 1/4"-3/8" FNPT Only)
- End Connections: FNPT or Socket Weld



Size	A	B	C	D	E	F	G	H	I	J
1/2"	2.50	4.41	2.87	0.33	1.46	0.35	1.97	1.42	0.28	0.24
3/4"	2.85	4.41	3.18	0.33	1.77	0.35	1.97	1.42	0.28	0.24
1"	3.19	5.35	3.56	0.45	2.11	0.35	1.97	1.65	0.28	0.24
1-1/4"	3.72	7.28	3.89	0.45	2.32	0.35	1.97	1.65	0.28	0.24
1-1/2"	4.25	7.79	4.54	0.55	2.94	0.55	2.76	1.97	0.35	0.28
2"	4.78	7.79	4.88	0.54	3.29	0.55	2.76	1.97	0.35	0.28
2-1/2"	6.20	10.4	6.10	0.71	4.28	0.67	4.02	2.76	0.43	0.35
3"	7.48	10.4	8.21	0.71	4.66	0.67	4.02	2.76	0.43	0.35
4"	8.86	12.8	8.53	0.91	6.06	0.67	4.02	2.76	0.43	0.35

No.	Part Name	Material
1	Body	ASTM A351 Gr. CF8M
2	Ball	ASTM A351 Gr. CF8M
3	Stem	S.S.316
4	End Cap	ASTM A351 Gr. CF8M
5	Seat	50%S.S./50%PTFE
6	Thrust Washer	PTFE + 15% GF
7	Stem Packing	PTFE
8	Gland Bushing	S.S.304
9	Handle	S.S.304
10	Stem Nut	S.S.304
11	Handle Washer	S.S.304
12	Handle Nut	S.S.304
13	Belleville Washer	S.S.304-CSP
14	Packing Follower	PTFE + 25% GF
15	Stem O-Ring	VITON
16	Body Bolt	S.S.304
17	Bolt Washer	S.S.304
18	Bolt Nut	S.S.304

Direct Mount Detail

Size	Torque in/Lb	ISO 5211	Drive
1/2"	62.0	F03 & F05	9mm
3/4"	70.8	F03 & F05	9mm
1"	123.9	F03 & F05	9mm
1-1/4"	194.7	F03 & F05	9mm
1-1/2"	274.4	F05 & F07	14mm
2"	283.2	F05 & F07	14mm
2-1/2"	681.5	F07 & F10	17mm
3"	743.5	F07 & F10	17mm
4"	1354.2	F07 & F10	17mm

V-Series Valve Models

30° V-Ball		60° V-Ball		90° V-Ball	
FNPT	Socket Weld	FNPT	Socket Weld	FNPT	Socket Weld
V300	V310	V600	V610	V900	V910
Seat Material		50% S.S./50% PTFE (-18°F to 428°F)			



Bonomi USA V-Series Control Valves are Direct Mounted

without the need for Couplings and Brackets. Providing far Superior Actuation with Zero Backlash, Side-Loading, or Extra Cost, the V-Series have Wide Rangeability of Control with 30, 60, or 90 Degree Ball Angles. And with 50/50 Seats, These



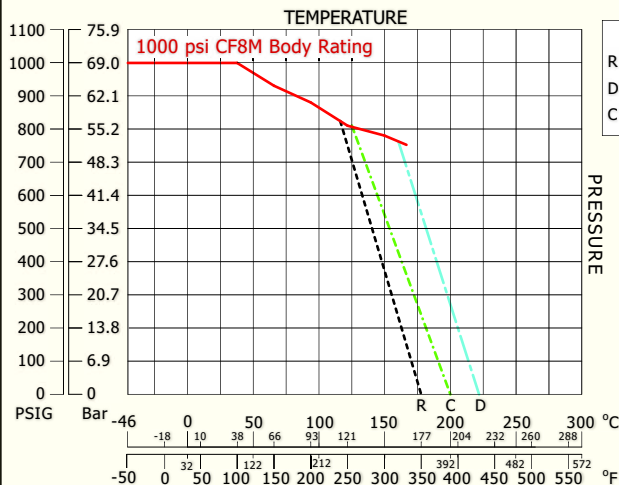
Control Valves Offer Bubble-Tight Sealing and Optimum Strength for Even the Most Harsh Environments of Liquid, Slurry, or Solid Media. The Choice of Line Size, Cv, and Actuation Is All That Is Needed to Determine the Correct Solution, and for Expert Advice, Please Contact Our Factory.

Cv Versus Valve Opening Percentage

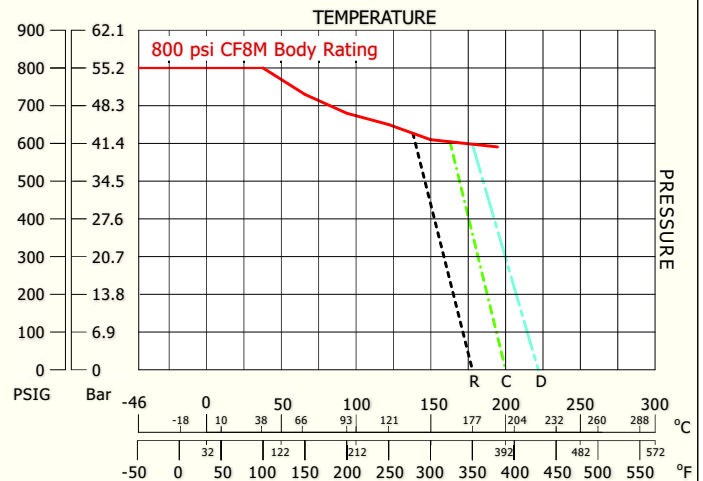
Size	V-Ball Angle	Class VI S/O	Low %	Control Zone									Full Open
				0%	10%	20%	30%	40%	50%	60%	70%	80%	
1/2"	30	0.00	0.04	0.24	0.47	0.77	1.19	1.84	2.46	3.42	4.63	5.57	
	60	0.00	0.04	0.29	0.74	1.11	1.83	2.91	4.31	7.01	9.45	12.79	
	90	0.00	0.06	0.47	0.85	1.27	2.11	3.22	4.77	8.31	11.59	14.72	
3/4"	30	0.00	0.07	0.29	0.63	1.02	1.56	2.44	3.26	4.52	6.12	7.31	
	60	0.00	0.07	0.36	0.94	1.48	2.42	3.86	5.26	9.24	12.43	16.27	
	90	0.00	0.08	0.61	1.10	1.71	2.69	4.27	6.25	10.85	15.30	19.39	
1"	30	0.00	0.09	0.45	1.25	2.07	3.56	5.32	7.69	10.51	12.85	15.49	
	60	0.00	0.10	0.70	1.75	2.77	5.14	8.01	11.89	18.71	23.23	32.81	
	90	0.00	0.11	1.00	2.77	5.10	7.74	12.2	17.32	24.47	26.81	43.88	
1-1/4"	30	0.00	0.05	0.47	1.35	2.49	4.13	6.11	8.81	11.75	14.86	17.36	
	60	0.00	0.07	0.66	2.04	3.42	6.45	10.79	15.41	22.34	33.39	43.43	
	90	0.00	0.08	0.80	2.91	5.52	10.23	17.27	19.51	34.93	51.75	65.82	
1-1/2"	30	0.00	0.07	0.66	1.87	3.40	5.66	8.36	12.14	16.17	20.45	23.88	
	60	0.00	0.09	0.93	2.82	4.70	8.89	14.84	21.16	30.73	45.87	59.75	
	90	0.00	0.10	1.07	4.00	7.45	14.08	23.78	26.77	48.05	71.17	90.50	
2"	30	0.00	0.09	1.19	3.80	7.53	12.27	17.85	26.45	36.46	48.10	55.84	
	60	0.00	0.11	1.53	5.79	10.41	20.58	34.10	48.74	69.05	104.23	135.77	
	90	0.00	0.17	1.90	7.28	13.59	25.37	42.30	55.55	87.04	129.77	167.36	
2-1/2"	30	0.00	0.09	1.16	4.44	7.91	13.40	20.05	30.44	41.92	69.78	76.95	
	60	0.00	0.13	1.46	5.91	11.88	23.24	37.94	59.30	83.30	113.64	162.55	
	90	0.00	0.18	1.86	7.28	16.45	31.15	53.54	77.87	118.29	177.33	239.42	
3"	30	0.00	0.13	1.21	4.16	9.49	15.97	26.78	38.92	53.30	69.78	85.92	
	60	0.00	0.15	2.91	6.73	15.81	29.38	46.34	73.58	106.72	149.89	193.22	
	90	0.00	0.20	4.13	8.66	21.10	41.09	69.31	105.90	161.04	237.24	359.22	
4"	30	0.00	0.16	1.75	7.84	18.61	35.21	58.61	87.88	127.45	158.53	196.34	
	60	0.00	0.26	2.22	12.46	33.68	63.00	106.27	160.48	233.98	329.51	437.40	
	90	0.00	0.35	4.36	19.70	50.31	91.82	157.45	240.50	365.15	546.65	830.90	

Pressure - Temperature Chart

1,000 PSI (1/2" to 2") Pressure-Temperature Chart



800 PSI (2-1/2" to 4") Pressure-Temperature Chart



Seat Material
 R = 15% Glass Filled
 D = 50% SS Filled PTFE
 C = Carbon Filled PTFE

V - Series Characterized Ball Valve with Pneumatic Automation

- Constant Torque, Twin Rack and Pinion Pneumatic Actuators
- -4 to 185°F Standard, Optional -40 to 185°F and -4 to 320°F
- Direct Mount Assemblies, Optional Stand-Off Extension ISO x ISO
- In Double Acting or Spring Return Configurations

Electro-Pneumatic (EP) Model

Model	V-Ball	Valve Connection
EPV300DA	30 Degree	Threaded
EPV300SR		
EPV600DA	60 Degree	
EPV600SR		
EPV900DA	90 Degree	
EPV900SR		
EPV310DA	30 Degree	Socket Weld
EPV310SR		
EPV610DA	60 Degree	
EPV610SR		
EPV910DA	90 Degree	
EPV910SR		

Standard Features

- 4 to 20mA Input Signal
- Zero-Hysteresis
- Stainless Steel gauges
- Split-Control Position Indicator
- NEMA 4, 4x, 7 Case
- One 1/2" FNPT Conduit Connection
- Stainless Steel Bracket/Hardware

Optional Features

- 4 to 20mA Feedback Signal
- Dual SPDT Mechanical Switches



Pneumatic-Pneumatic (PP) Model

Model	V-Ball	Valve Connection
PPV300DA	30 Degree	Threaded
PPV300SR		
PPV600DA	60 Degree	
PPV600SR		
PPV900DA	90 Degree	
PPV900SR		
PPV310DA	30 Degree	Socket Weld
PPV310SR		
PPV610DA	60 Degree	
PPV610SR		
PPV910DA	90 Degree	
PPV910SR		

Standard Features

- 3 to 15 PSI Input Signal
- Zero-Hysteresis
- Stainless Steel gauges
- Split-Control Position Indicator
- 1/4" FNPT Air Connections
- Stainless Steel Bracket/Hardware

Optional Features

- 4 to 20mA Feedback Signal
- Dual SPDT Mechanical Switches



V - Series Characterized Ball Valve With Electronic Automation



Electronic Positioner Standard Features

- Dual Analog Input Signal 0-10VDC or 4-20mA
- Multiple Supply Voltages: 12VDC, 24V AC/DC, 100-240VAC
- Dual DIN PG11 (Std.) or 1/2" FNPT (Opt.) Conduit Connection
- On-Board 0-10VDC Power Supply for Remote Panel OP
- Dual Auxiliary User Switch Contacts SPST
- Analog Position Feedback 0-10VDC or 4-20mA Output
- Manual Over-Ride and Position Indicator
- ISO5211/DIN3337 Direct Mount Standard
- Internal Condensation Compensation
- -4° to 140°F Ambient Temperature
- +/- 3% Total Travel Accuracy
- IP65-IP67 NEMA 4x Enclosure
- UL/CE Certified

*** = Electric Supply Voltages

12VDC	021
24V AC/DC	022
100-240VAC	023

Electronic Positioner (EV) Model

Model	V-Ball	Valve Connection
EV300-***	30 Degree	Threaded
EV600-***	60 Degree	
EV900-***	90 Degree	
EV310-***	30 Degree	Socket Weld
EV610-***	60 Degree	
EV910-***	90 Degree	