

VBN Control Ball Valve

Quick Selection Guide

Honeywell



**Cover Every Application With
One Control Ball Valve Brand**



Honeywell's characterized control ball valves

feature a parabolic flow insert that's integral to the ball. Its unique construction enables a smoother flow curve and greater degree of rotation responsiveness. The result: more accurate flow rate with less wear and tear.

We've greatly simplified your selection process, too. Honeywell control ball valves use the same actuator mounting bracket for all 1/2" – 3" valves, whether spring or non-spring return actuators. And Honeywell's Cv ratings are similar to globe valve Cv ratings, making it easier to design your system using a ball valve.

Our new valve numbering system makes model selection a snap. Honeywell's complete line of actuators and valves are already proven in more than three million buildings worldwide. So specify Honeywell ball valves, and put a proven performer on every job.

- **Accurate flow control**

Parabolic flow inserts integral to the ball provide equal percentage control, which ensures linear heat transfer at the coil

- **Simplified actuator selection**

Multi-actuator mounting bracket allows the same bracket to be utilized on all valves

- **Save with lower-cost actuators**

Lower breakaway torque allows the use of more affordable actuators when valves need to be refitted

- **Built for safety and endurance**

- Blowout-proof stem withstands high pressure for safety
- NORYL[®] material used for parabolic inserts extends valve life and performance
- Optional NEMA 3R actuator enclosure for weatherproof applications

- **Pacless, field replaceable stem**

Allows valve to be serviced and replaced on-pipe

- **Honeywell's control ball valve line has a large range of Cv's to meet all of your specified requirements.**

- **Flanged Control Ball Valve Offering**



Model Number Specification

Example: **VB**N**2**A**001.30**P**A**+**MVN613A0000**+**C1**

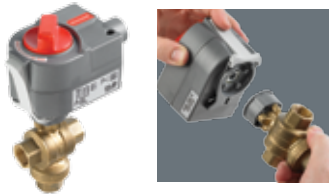
Control Ball Valve, Female NPT Thread, 2-way, 1/2", CV 1.00, Plated Brass, Standard Profile with MVN613A0000 Actuator, Fail in place, 1 meter.

VB	N	2	A	001.30	P	A	+	MVN613A0000	+	C1	
Valve	Fitting	Body/ Flow Type	Size	CV	Trim	Profile		Actuator		Fail Safe Position	Accessories
VB - Ball valve	N - Female NPT threaded	2 - 2-way 3 - 3-way	A - 1/2 (DN15) B - 3/4 (DN20) C - 1 (DN25) D - 1-1/4 (DN32) E - 1-1/2 (DN40) F - 2 (DN50) G - 2-1/2 (DN65) H - 3 (DN80)	xxx.xx - Cv Designator (VBN)	P - Plated Brass S - Stainless Steel	A - Standard Profile* L - Low Profile*		Fail In Place MVN613A0000 MVN613L0000 MVN643A0000 MVN643L0000 MVN713A0000 MVN713L0000 MN6105A1011 MN7505A2001 Fail Safe MS7505A2030 MS8105A1030		Fail in place FSO - Fail Safe Open FSC - Fail Safe Closed FSA - Fail A-AB Open FSB - Fail B-AB Open (Fail Safe Position only applies to MS actuators)	C1 - 1 meter cable (for use with MVN actuators) 3R - Enclosure (for use with MN and MS actuators)

*Standard base provides clearance between valve and actuator for insulation.

**Low profile enables installation of valve and actuator in tight spaces.

Honeywell Actuators



MVN Actuator

- Click-on assembly cuts installation time- no tools needed
- Position indicator shows the open or closed position of the stem or ball valve for easy commissioning
- Compact design saves space allowing installation in confined areas

**5-YEAR
LIMITED
WARRANTY**



MS, MN Actuator Families

- Self centering shaft adaptor reduces installation time and provides greater clamping force
- Decreased material cost due to detachable access cover
- Reduce inventory and selection time with signal mode adaptor that adapts models to two position, floating and modulating applications



NEMA 3R Enclosure

- (IP54) rated enclosure for outdoor applications

2-Way

Attribute	Specification		NPT Thread	ANSI Flange
	(Inch)	(DN)		
Valve Size			VBN2	VBF2
	0.5	15	•	
	0.75	20	•	
	1	25	•	
	1.25	32	•	
	1.5	40	•	
	2	50	•	
	2.5	65	•	
	3	80	•	
	4	100		•
	5	125		•
	6	150		•
Static Pressure	Class 125 (240 psi)			•
	360 psi		•	
Close-Off Pressure *	100 psi (min)		•	
	70 psi (min)			•
Media	Chilled Water (50% glycol max)		•	•
	Hot Water (50% glycol max)		•	•
Medium Temperature	Min -22°F / Max 250°F		•	•
Flow Characteristic	Equal Percentage		•	•
	Linear (full port valves)		•	
Maximum Seat Leakage	ANSI Class IV (0.01% of Cv max)		•	•
Rangeability	50:1 min ***		•	•
Trim	Nickel plated brass		•	
	Stainless steel		•	•
In-line Serviceability	Stem replacement kit		•	•
Actuator Options	Modulating 2-10 Vdc		•	•
	24 Vac Floating		•	•
	24 Vac 2-position		•	•
	Fail-Safe (FO/FC)		•	•
Accessories	Actuator Cable Assembly **		•	

* Maximum operating differential pressure. Maximum differential pressure for quiet service may be lower.

** On MVN actuators only. Available separately or factory installed.

*** Cv 0.38 and Cv 0.68 in 1/2" size, and Cv 0.31 and Cv 0.63 in 3/4" has less than 50:1 rangeability.

3-Way

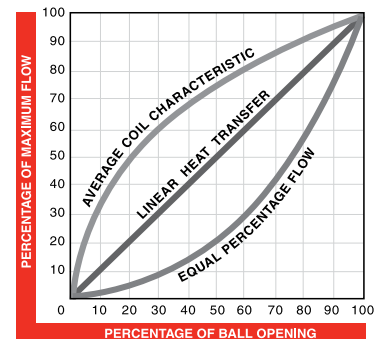
Attribute	Specification		NPT Thread	ANSI Flange
	(Inch)	(DN)		
Valve Size			VBN3	VBF3
	0.5	15	•	
	0.75	20	•	
	1	25	•	
	1.25	32	•	
	1.5	40	•	
	2	50	•	
	2.5	65	•	
	3	80	n/a	
	4	100		•
	5	125		•
	6	150		•
Static Pressure	Class 125 (240 psi)			•
	360 psi		•	
Close-Off Pressure *	40 psi (min)		•	
	70 psi (min)			•
Media	Chilled Water (50% glycol max)		•	•
	Hot Water (50% glycol max)		•	•
Medium Temperature	Min -22°F / Max 250°F		•	•
Flow Characteristic	Equal Percentage		•	•
	Linear (full port valves)		•	
Maximum Seat Leakage	ANSI Class IV (0.01% Cv max.)		•	A-port
	ANSI Class III (0.10% Cv max.)			B-port
Rangeability	Does not apply to 3-way valves			
Trim	Nickel plated brass		•	
	Stainless steel			•
In-line Serviceability	Stem replacement kit		•	•
Actuator Options	Modulating 2-10 Vdc		•	•
	24 Vac Floating		•	•
	24 Vac 2-position		•	•
	Fail-Safe (FO/FC)		•	•
Accessories	Actuator Cable Assembly **		•	

* Maximum operating differential pressure. Maximum differential pressure for quiet service may be lower.

** On MVN actuators only. Available separately or factory installed.

*** Cv 0.38 and Cv 0.68 in 1/2" size, and Cv 0.31 and Cv 0.63 in 3/4" has less than 50:1 rangeability.

The Parabolic Flow insert produces a smooth and responsive flow curve. The valve achieves an equal percentage flow characteristic resulting in linear heat transfer for optimal control. Unlike a disc that sits outside of the ball, the characterized insert is integral to the ball, resulting in longer service life and higher differential pressure capabilities.





2-Way Control Ball Valves with **MVN** Actuators

Example of complete orderable part number: **VBN2A000.38SA+MVN643A0000+C1**

Control Ball Valve, Female NPT Thread, 2-way, 1/2", CV .38, Stainless Steel, Standard Profile with MVN643A0000 Actuator, Fail in place and 1 meter.

Standard profile provides clearance between valve and actuator for insulation.

Low profile enables installation of valve and actuator in tight spaces.

2-Way

Valve Specification		Valve Profile	Standard Profile		Low Profile	
		Valve Trim	Plated Brass	Stainless Steel	Plated Brass	Stainless Steel
Valve Size (inches)	Close-off Differential Pressure (psi)	Cv	Valve Body Model Number			
1/2"	130	0.38	VBN2A000.38PA	VBN2A000.38SA	VBN2A000.38PL	VBN2A000.38SL
		0.68	VBN2A000.68PA	VBN2A000.68SA	VBN2A000.68PL	VBN2A000.68SL
		1.3	VBN2A001.30PA	VBN2A001.30SA	VBN2A001.30PL	VBN2A001.30SL
		2	VBN2A002.00PA	VBN2A002.00SA	VBN2A002.00PL	VBN2A002.00SL
		2.6	VBN2A002.60PA	VBN2A002.60SA	VBN2A002.60PL	VBN2A002.60SL
		4.7	VBN2A004.70PA	VBN2A004.70SA	VBN2A004.70PL	VBN2A004.70SL
		8	VBN2A008.00PA	VBN2A008.00SA	VBN2A008.00PL	VBN2A008.00SL
		11.7	VBN2A011.70PA	VBN2A011.70SA	VBN2A011.70PL	VBN2A011.70SL
3/4"	130	0.31	VBN2B000.31PA	VBN2B000.31SA	VBN2B000.31PL	VBN2B000.31SL
		0.63	VBN2B000.63PA	VBN2B000.63SA	VBN2B000.63PL	VBN2B000.63SL
		1.2	VBN2B001.20PA	VBN2B001.20SA	VBN2B001.20PL	VBN2B001.20SL
		2.5	VBN2B002.50PA	VBN2B002.50SA	VBN2B002.50PL	VBN2B002.50PSL
		4.3	VBN2B004.30PA	VBN2B004.30SA	VBN2B004.30PL	VBN2B004.30SL
		7.4	VBN2B007.40PA	VBN2B007.40SA	VBN2B007.40PL	VBN2B007.40SL
		10.1	VBN2B010.10PA	VBN2B010.10SA	VBN2B010.10PL	VBN2B010.10SL
		14.7	VBN2B014.70PA	VBN2B014.70SA	VBN2B014.70PL	VBN2B014.70SL
1"	100	29	VBN2B029.00PA	VBN2B029.00SA	VBN2B029.00PL	VBN2B029.00SL
		4.4	VBN2C004.40PA	VBN2C004.40SA	VBN2C004.40PL	VBN2C004.40SL
		9	VBN2C009.00PA	VBN2C009.00SA	VBN2C009.00PL	VBN2C009.00SL
		15.3	VBN2C015.30PA	VBN2C015.30SA	VBN2C015.30PL	VBN2C015.30SL
		26	VBN2C026.00PA	VBN2C026.00SA	VBN2C026.00PL	VBN2C026.00SL
		44	VBN2C044.00PA	VBN2C044.00SA	VBN2C044.00PL	VBN2C044.00SL
1-1/4"	100	54	VBN2C054.00PA	VBN2C054.00SA	VBN2C054.00PL	VBN2C054.00SL
		4.4	VBN2D004.40PA	VBN2D004.40SA	VBN2D004.40PL	VBN2D004.40SL
		8.3	VBN2D008.30PA	VBN2D008.30SA	VBN2D008.30PL	VBN2D008.30SL
		14.9	VBN2D014.90PA	VBN2D014.90SA	VBN2D014.90PL	VBN2D014.90SL
		25	VBN2D025.00PA	VBN2D025.00SA	VBN2D025.00PL	VBN2D025.00SL
		37	VBN2D037.00PA	VBN2D037.00SA	VBN2D037.00PL	VBN2D037.00SL
		41	VBN2D041.00PA	VBN2D041.00SA	VBN2D041.00PL	VBN2D041.00SL
102	VBN2D102.00PA	VBN2D102.00SA	VBN2D102.00PL	VBN2D102.00SL		

Actuator Features						
MVN						
Actuator Type	Control Signal	Timing	Voltage	Enclosure	Standard Profile	Low Profile
					Actuator Model Number	
Fail-in-Place	Floating	90 sec.	24 VAC	NEMA 2	+MVN613A0000	+MVN613L0000
	Fast SPDT	30 sec.	24 VAC/DC		+MVN643A0000	+MVN643L0000
	Modulating	90 sec.	24 VAC/DC		+MVN713A0000	+MVN713L0000
Accessories	1 meter cable				+C1	



2-Way Control Ball Valves with **Direct Coupled** Actuators

Example of complete orderable part number: **VBN2E030.00SX+MN7505A2001**

Control Ball Valve, Female NPT Thread, 2-way, 1-1/2", CV 30, Black Bracket, Stainless Steel with MN7505A2001 Actuator, Fail in place.

2-Way

Valve Specification		Valve Profile		
		Valve Trim	Black Bracket	
Valve Size (inches)	Close-off Differential Pressure (psi)	Cv	Plated Brass	Stainless Steel
			Valve Body Model Number	
1/2"	130	0.38	VBN2A000.38PX	VBN2A000.38SX
		0.68	VBN2A000.68PX	VBN2A000.68SX
		1.3	VBN2A001.30PX	VBN2A001.30SX
		2	VBN2A002.00PX	VBN2A002.00SX
		2.6	VBN2A002.60PX	VBN2A002.60SX
		4.7	VBN2A004.70PX	VBN2A004.70SX
		8	VBN2A008.00PL	VBN2A008.00SL
3/4"	130	11.7	VBN2A011.70PX	VBN2A011.70SX
		0.31	VBN2B000.31PX	VBN2B000.31SX
		0.63	VBN2B000.63PX	VBN2B000.63SX
		1.2	VBN2B001.20PX	VBN2B001.20SX
		2.5	VBN2B002.50PX	VBN2B002.50PSX
		4.3	VBN2B004.30PX	VBN2B004.30SX
		7.4	VBN2B007.40PX	VBN2B007.40SX
1"	100	10.1	VBN2B010.10PX	VBN2B010.10SX
		14.7	VBN2B014.70PX	VBN2B014.70SX
		29	VBN2B029.00PX	VBN2B029.00SX
		4.4	VBN2C004.40PX	VBN2C004.40SX
		9	VBN2C009.00PX	VBN2C009.00SX
		15.3	VBN2C015.30PX	VBN2C015.30SX
		26	VBN2C026.00PX	VBN2C026.00SX
1-1/4"	100	44	VBN2C044.00PX	VBN2C044.00SX
		54	VBN2C054.00PX	VBN2C054.00SX
		4.4	VBN2D004.40PX	VBN2D004.40SX
		8.3	VBN2D008.30PX	VBN2D008.30SX
		14.9	VBN2D014.90PX	VBN2D014.90SX
		25	VBN2D025.00PX	VBN2D025.00SX
		37	VBN2D037.00PX	VBN2D037.00SX
1-1/2"	100	41	VBN2D041.00PX	VBN2D041.00SX
		102	VBN2D102.00PX	VBN2D102.00SX
		23	VBN2E023.00PX	VBN2E023.00SX
		30	VBN2E030.00PX	VBN2E030.00SX
		41	VBN2E041.00PX	VBN2E041.00SX
2"	100	74	VBN2E074.00PX	VBN2E074.00SX
		172	VBN2E172.00PX	VBN2E172.00SX
		42	VBN2F042.00PX	VBN2F042.00SX
		57	VBN2F057.00PX	VBN2F057.00SX
		71	VBN2F071.00PX	VBN2F071.00SX
2-1/2"	100	100	VBN2F100.00PX	VBN2F100.00SX
		108	VBN2F108.00PX	VBN2F108.00SX
		210	VBN2F210.00PX	VBN2F210.00SX
		266	VBN2F266.00PX	VBN2F266.00SX
		45	VBN2G045.00PX	VBN2G045.00SX
		55	VBN2G055.00PX	VBN2G055.00SX
3"	100	72	VBN2G072.00PX	VBN2G072.00SX
		101	VBN2G101.00PX	VBN2G101.00SX
		162	VBN2G162.00PX	VBN2G162.00SX
		202	VBN2G202.00PX	VBN2G202.00SX
		49	VBN2H049.00PX	VBN2H049.00SX
3"	100	63	VBN2H063.00PX	VBN2H063.00SX
		82	VBN2H082.00PX	VBN2H082.00SX
		124	VBN2H124.00PX	VBN2H124.00SX
		145	VBN2H145.00PX	VBN2H145.00SX

Actuator Features

Direct Coupled Actuators					
Actuator Type	Control Signal	Timing	Voltage	Enclosure	Model Number
Fail-in-Place	Floating	95 sec.	24 VAC/DC	NEMA 2	+MN6105A1011
Fail-in-Place	Modulating, Floating	95 sec.			+MN7505A2001
Fail Safe	Modulating, Floating	95 sec.			+MS7505A2030
Fail Safe	2-Position	95 sec.			+MS8105A1030
Fail Safe Position (MS actuators only - open, closed, A-AB, B-AB)	FSC - Fail Safe Open FSC - Fail Safe Closed				FSC or FSC
Accessories					+3R



3-Way Control Ball Valves with **MVN** Actuators

Example of complete orderable part number: **VBN3A000.33PA+MVN613A0000+C1**

Control Ball Valve, Female NPT Thread, 3-way, 1-1/2", CV .33, Plated Brass, with MVN613A0000 Actuator, Fail in place and 1 meter.

Standard profile provides clearance between valve and actuator for insulation.

Low profile enables installation of valve and actuator in tight spaces.

3-Way

Valve Specification		Valve Profile	Standard Profile	Low Profile	Standard Profile	Low Profile
		Valve Trim	Plated Brass	Plated Brass	Plated Brass	Plated Brass
Valve Size (inches)	Close-off Differential Pressure (psi)	Cv	Valve Body Model Number			
1/2"	50	0.33	VBN3A000.33PA	VBN3A000.33PL	VBN3A000.33PA	VBN3A000.33PL
		0.59	VBN3A000.59PA	VBN3A000.59PL	VBN3A000.59PA	VBN3A000.59PL
		1	VBN3A001.00PA	VBN3A001.00PL	VBN3A001.00PA	VBN3A001.00PL
		2.4	VBN3A002.40PA	VBN3A002.40PL	VBN3A002.40PA	VBN3A002.40PL
		4.3	VBN3A004.30PA	VBN3A004.30PL	VBN3A004.30PA	VBN3A004.30PL
		8	VBN3A008.00PA	VBN3A008.00PL	VBN3A008.00PA	VBN3A008.00PL
3/4"	50	0.4	VBN3B000.40PA	VBN3B000.40PL	VBN3B000.40PA	VBN3B000.40PL
		0.66	VBN3B000.66PA	VBN3B000.66PL	VBN3B000.66PA	VBN3B000.66PL
		1.3	VBN3B001.30PA	VBN3B001.30PL	VBN3B001.30PA	VBN3B001.30PL
		2.4	VBN3B002.40PA	VBN3B002.40PL	VBN3B002.40PA	VBN3B002.40PL
		3.8	VBN3B003.80PA	VBN3B003.80PL	VBN3B003.80PA	VBN3B003.80PL
		7	VBN3B007.00PA	VBN3B007.00PL	VBN3B007.00PA	VBN3B007.00PL
		11	VBN3B011.00PA	VBN3B011.00PL	VBN3B011.00PA	VBN3B011.00PL
1"	50	0.4	VBN3C000.40PA	VBN3C000.40PL	VBN3C000.40PA	VBN3C000.40PL
		0.65	VBN3C000.65PA	VBN3C000.65PL	VBN3C000.65PA	VBN3C000.65PL
		1.3	VBN3C001.30PA	VBN3C001.30PL	VBN3C001.30PA	VBN3C001.30PL
		2.3	VBN3C002.30PA	VBN3C002.30PL	VBN3C002.30PA	VBN3C002.30PL
		3.5	VBN3C003.50PA	VBN3C003.50PL	VBN3C003.50PA	VBN3C003.50PL
		4.5	VBN3C004.50PA	VBN3C004.50PL	VBN3C004.50PA	VBN3C004.50PL
		8.6	VBN3C008.60PA	VBN3C008.60PL	VBN3C008.60PA	VBN3C008.60PL
		14.9	VBN3C014.90PA	VBN3C014.90PL	VBN3C014.90PA	VBN3C014.90PL
		22	VBN3C022.00PA	VBN3C022.00PL	VBN3C022.00PA	VBN3C022.00PL
31	VBN3C031.00PA	VBN3C031.00PL	VBN3C031.00PA	VBN3C031.00PL		
1-1/4"	40	4.1	VBN3D004.10PA	VBN3D004.10PL	VBN3D004.10PA	VBN3D004.10PL
		8.7	VBN3D008.70PA	VBN3D008.70PL	VBN3D008.70PA	VBN3D008.70PL
		12.7	VBN3D012.70PA	VBN3D012.70PL	VBN3D012.70PA	VBN3D012.70PL
		19.4	VBN3D019.40PA	VBN3D019.40PL	VBN3D019.40PA	VBN3D019.40PL
		27	VBN3D027.00PA	VBN3D027.00PL	VBN3D027.00PA	VBN3D027.00PL
		34	VBN3D034.00PA	VBN3D034.00PL	VBN3D034.00PA	VBN3D034.00PL

Actuator Features						
MVN						
				Standard Profile		Low Profile
Actuator Type	Control Signal	Timing	Voltage	Enclosure	Actuator Model Number	
Fail-in-Place	Floating	90 sec.	24 VAC	NEMA 2	+MVN613A0000	+MVN613L0000
	Fast SPDT	30 sec.	24 VAC/DC		+MVN643A0000	+MVN643L0000
	Modulating	90 sec.	24 VAC/DC		+MVN713A0000	+MVN713L0000
Accessories	1 meter cable					+C1



3-Way Control Ball Valves with **Direct Coupled** Actuators

Example of complete orderable part number: **VBN3E032.00PX+MN7505A2001**

Control Ball Valve, Female NPT Thread, 3-way, 1-1/2", CV 32, Black Bracket, Plated Brass with MN7505A2001 Actuator, Fail in place.

3-Way

Valve Specification		Valve Profile	Black Bracket	Black Bracket
		Valve Trim	Plated Brass	Plated Brass
Valve Size (inches)	Close-off Differential Pressure (psi)	Cv	Valve Body Model Number	
1/2"	50	0.33	VBN3A000.33PX	VBN3A000.33PX
		0.59	VBN3A000.59PX	VBN3A000.59PX
		1	VBN3A001.00PX	VBN3A001.00PX
		2.4	VBN3A002.40PX	VBN3A002.40PX
		4.3	VBN3A004.30PX	VBN3A004.30PX
		8	VBN3A008.00PX	VBN3A008.00PX
3/4"	50	0.4	VBN3B000.40PX	VBN3B000.40PX
		0.66	VBN3B000.66PX	VBN3B000.66PX
		1.3	VBN3B001.30PX	VBN3B001.30PX
		2.4	VBN3B002.40PX	VBN3B002.40PX
		3.8	VBN3B003.80PX	VBN3B003.80PX
		7	VBN3B007.00PX	VBN3B007.00PX
1"	50	11	VBN3B011.00PX	VBN3B011.00PX
		0.4	VBN3C000.40PX	VBN3C000.40PX
		0.65	VBN3C000.65PX	VBN3C000.65PX
		1.3	VBN3C001.30PX	VBN3C001.30PX
		2.3	VBN3C002.30PX	VBN3C002.30PX
		3.5	VBN3C003.50PX	VBN3C003.50PX
		4.5	VBN3C004.50PX	VBN3C004.50PX
		8.6	VBN3C008.60PX	VBN3C008.60PX
		14.9	VBN3C014.90PX	VBN3C014.90PX
1-1/4"	40	22	VBN3C022.00PX	VBN3C022.00PX
		31	VBN3C031.00PX	VBN3C031.00PX
		4.1	VBN3D004.10PX	VBN3D004.10PX
		8.7	VBN3D008.70PX	VBN3D008.70PX
		12.7	VBN3D012.70PX	VBN3D012.70PX
		19.4	VBN3D019.40PX	VBN3D019.40PX
1-1/2"	40	27	VBN3D027.00PX	VBN3D027.00PX
		34	VBN3D034.00PX	VBN3D034.00PX
		4	VBN3E004.00PX	VBN3E004.00PX
		8.3	VBN3E008.30PX	VBN3E008.30PX
		13.4	VBN3E013.40PX	VBN3E013.40PX
		24	VBN3E024.00PX	VBN3E024.00PX
2"	100	32	VBN3E032.00PX	VBN3E032.00PX
		61	VBN3E061.00PX	VBN3E061.00PX
		24	VBN3F024.00PX	VBN3F024.00PX
		38	VBN3F038.00PX	VBN3F038.00PX
		57	VBN3F057.00PX	VBN3F057.00PX
2-1/2"	100	83	VBN3F083.00PX	VBN3F083.00PX
		109	VBN3F109.00PX	VBN3F109.00PX
		38	VBN3G038.00PX	VBN3G038.00PX
		74	VBN3G074.00PX	VBN3G074.00PX
		100	VBN3G100.00PX	VBN3G100.00PX

Actuator Features					
Direct Coupled Actuators					
Actuator Type	Control Signal	Timing	Voltage	Enclosure	Model Number
Fail-in-Place	Floating	95 sec.	24 VAC/DC	NEMA 2	+MN6105A1011
Fail-in-Place	Modulating, Floating	95 sec.			+MN7505A2001
Fail Safe	Modulating, Floating	95 sec.			+MS7505A2030
Fail Safe	2-Position	95 sec.			+MS8105A1030
Fail Safe Position (MS actuators only - open, closed, A-AB, B-AB)	FSC - Fail Safe Closed				FSC or FSC
Accessories					+3R



2-Way Flanged NEMA 2+3R

Common Features

- Maximum static pressure 240 psi (-22°F to 250°F)
- Medium: Water/glycol solutions up to 50%
- ANSI class 125 flanged connections
- ANSI class IV leakage (0.01% of Cv)
- Valve ball and stem 316 stainless steel
- Equal percentage flow (linear full port)

2-Way

Valve Specification		Valve Trim	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number				
			NEMA 2 Actuator				
4"	91	70	VBF2JC1S0A	VBF2JC1S0B	VBF2JC1S0C	VBF2JC1S0D	VBF2JC1S0X
	118		VBF2JT1S0A	VBF2JT1S0B	VBF2JT1S0C	VBF2JT1S0D	VBF2JT1S0X
	152		VBF2JU1S0A	VBF2JU1S0B	VBF2JU1S0C	VBF2JU1S0D	VBF2JU1S0X
	197		VBF2J11S0A	VBF2J11S0B	VBF2J11S0C	VBF2J11S0D	VBF2J11S0X
	254		VBF2J21S0A	VBF2J21S0B	VBF2J21S0C	VBF2J21S0D	VBF2J21S0X
5"	144		VBF2KU1S0A	VBF2KU1S0B	VBF2KU1S0C	VBF2KU1S0D	VBF2KU1S0X
	185		VBF2K11S0A	VBF2K11S0B	VBF2K11S0C	VBF2K11S0D	VBF2K11S0X
	240		VBF2K21S0A	VBF2K21S0B	VBF2K21S0C	VBF2K21S0D	VBF2K21S0X
	309		VBF2K31S0A	VBF2K31S0B	VBF2K31S0C	VBF2K31S0D	VBF2K31S0X
	400		VBF2K41S0A	VBF2K41S0B	VBF2K41S0C	—	VBF2K41S0X
6"	208		VBF2L11S0A	VBF2L11S0B	VBF2L11S0C	VBF2L11S0D	VBF2L11S0X
	268		VBF2L21S0A	VBF2L21S0B	VBF2L21S0C	VBF2L21S0D	VBF2L21S0X
	346		VBF2L41S0A	VBF2L41S0B	VBF2L41S0C	—	VBF2L41S0X
	441		VBF2L51S0A	VBF2L51S0B	VBF2L51S0C	—	VBF2L51S0X
	577		VBF2L61S0A	VBF2L61S0B	VBF2L61S0C	—	VBF2L61S0X
	650	VBF2L71S0A	VBF2L71S0B	VBF2L71S0C	—	VBF2L71S0X	
				NEMA 3R Actuator			
4"	91	70	VBF2JC1SRA	VBF2JC1SRB	VBF2JC1SRC	VBF2JC1SRD	—
	118		VBF2JT1SRA	VBF2JT1SRB	VBF2JT1SRC	VBF2JT1SRD	—
	152		VBF2JU1SRA	VBF2JU1SRB	VBF2JU1SRC	VBF2JU1SRD	—
	197		VBF2J11SRA	VBF2J11SRB	VBF2J11SRC	VBF2J11SRD	—
	254		VBF2J21SRA	VBF2J21SRB	VBF2J21SRC	VBF2J21SRD	—
5"	144		VBF2KU1SRA	VBF2KU1SRB	VBF2KU1SRC	VBF2KU1SRD	—
	185		VBF2K11SRA	VBF2K11SRB	VBF2K11SRC	VBF2K11SRD	—
	240		VBF2K21SRA	VBF2K21SRB	VBF2K21SRC	VBF2K21SRD	—
	309		VBF2K31SRA	VBF2K31SRB	VBF2K31SRC	VBF2K31SRD	—
	400		VBF2K41SRA	VBF2K41SRB	VBF2K41SRC	—	—
6"	208		VBF2L11SRA	VBF2L11SRB	VBF2L11SRC	VBF2L11SRD	—
	268		VBF2L21SRA	VBF2L21SRB	VBF2L21SRC	VBF2L21SRD	—
	346		VBF2L41SRA	VBF2L41SRB	VBF2L41SRC	—	—
	441		VBF2L51SRA	VBF2L51SRB	VBF2L51SRC	—	—
	577		VBF2L61SRA	VBF2L61SRB	VBF2L61SRC	—	—
	650	VBF2L71SRA	VBF2L71SRB	VBF2L71SRC	—	—	
				Actuator Features			
			Non-fail Safe		Fail Safe		Valve Only
Actuator O.S. Number			MN6110A1003 4 to 5 in.	MN7510A2001 4 to 5 in.	MS8110A1008 4 to 5 in.	MS7510A2008 4 to 5 in.	Valve Only
			MN6134A1003 6 in.	MN7234A2008 6 in.	MS8120A1007 6 in.	MS7520A2007 6 in.	
Power Supply			Voltage	24 Vac	24 Vac	24 Vac	24 Vac
			Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
			Power	5 / 9 VA	5 / 9 VA	30 / 40 VA	14 / 16 VA
Actuator Torque			(lb.-in.)	88/300	88/300	88/175	88/175
Control			(0)2-10 Vdc		•		•
			4-20 mA (external 500 Ohm Resistor)		•		•
			Floating	•	•		•
			Two-Position SPDT	•	•		•
			Two-Position SPST	•	•	•	•
Fail Safe Action			(field configurable)	Stay in Place	Stay in Place	A-AB Closed	A-AB Closed
Normal Position (no signal)			(field configurable)	Closed	Closed	Closed	Closed
Actuator Stroke			(degrees)	95°	95°	95°	95°
Timing			(seconds)	90	90	90	90
Aux Switch			2 x SPDT Add-on	SW2-US	SW2-US	SW2-US	SW2-US
Feedback			2-10 Vdc Built In		•		•





3-Way Flanged NEMA 2+3R

Common Features

- Mixing or diverting with the same 3-way valve
- Globe valve A-B-AB flow pattern (side B port)
- Three-way: A-AB equal percentage, B-AB linear (80% of Cv on B-port)

3-Way

Valve Specification		Valve Trim	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number				
			NEMA 2 Actuator				
4"	91	70	VBF3JS1S0A	VBF3JS1S0B	VBF3JS1S0C	VBF3JS1S0D	VBF3JS1S0X
	118		VBF3JT1S0A	VBF3JT1S0B	VBF3JT1S0C	VBF3JT1S0D	VBF3JT1S0X
	152		VBF3JU1S0A	VBF3JU1S0B	VBF3JU1S0C	VBF3JU1S0D	VBF3JU1S0X
	197		VBF3J11S0A	VBF3J11S0B	VBF3J11S0C	VBF3J11S0D	VBF3J11S0X
	254		VBF3J21S0A	VBF3J21S0B	VBF3J21S0C	VBF3J21S0D	VBF3J21S0X
	327		VBF3J31S0A	VBF3J31S0B	VBF3J31S0C	VBF3J31S0D	VBF3J31S0X
5"	144		VBF3KU1S0A	VBF3KU1S0B	VBF3KU1S0C	VBF3KU1S0D	VBF3KU1S0X
	185		VBF3K11S0A	VBF3K11S0B	VBF3K11S0C	VBF3K11S0D	VBF3K11S0
	240		VBF3K21S0A	VBF3K21S0B	VBF3K21S0C	VBF3K21S0D	VBF3K21S0X
	309		VBF3K31S0A	VBF3K31S0B	VBF3K31S0C	VBF3K31S0D	VBF3K31S0X
	400		VBF3K41S0A	VBF3K41S0B	VBF3K41S0C	—	VBF3K41S0X
	208		VBF3L11S0A	VBF3L11S0B	VBF3L11S0C	VBF3L11S0D	VBF3L11S0X
6"	268		VBF3L21S0A	VBF3L21S0B	VBF3L21S0C	VBF3L21S0D	VBF3L21S0X
	346		VBF3L41S0A	VBF3L41S0B	VBF3L41S0C	—	VBF3L41S0X
	441		VBF3L51S0A	VBF3L51S0B	VBF3L51S0C	—	VBF3L51S0X
	577		VBF3L61S0A	VBF3L61S0B	VBF3L61S0C	—	VBF3L61S0X
	650		VBF3L71S0A	VBF3L71S0B	VBF3L71S0C	—	VBF3L71S0X
				NEMA 3R Actuator			
4"	91	70	VBF3JS1SRA	VBF3JS1SRB	VBF3JS1SRC	VBF3JS1SRD	—
	118		VBF3JT1SRA	VBF3JT1SRB	VBF3JT1SRC	VBF3JT1SRD	—
	152		VBF3JU1SRA	VBF3JU1SRB	VBF3JU1SRC	VBF3JU1SRD	—
	197		VBF3J11SRA	VBF3J11SRB	VBF3J11SRC	VBF3J11SRD	—
	254		VBF3J21SRA	VBF3J21SRB	VBF3J21SRC	VBF3J21SRD	—
	327		VBF3J31SRA	VBF3J31SRB	VBF3J31SRC	VBF3J31SRD	—
5"	144		VBF3KU1SRA	VBF3KU1SRB	VBF3KU1SRC	VBF3KU1SRD	—
	185		VBF3K11SRA	VBF3K11SRB	VBF3K11SRC	VBF3K11SRD	—
	240		VBF3K21SRA	VBF3K21SRB	VBF3K21SRC	VBF3K21SRD	—
	309		VBF3K31SRA	VBF3K31SRB	VBF3K31SRC	VBF3K31SRD	—
	400		VBF3K41SRA	VBF3K41SRB	VBF3K41SRC	—	—
	208		VBF3L11SRA	VBF3L11SRB	VBF3L11SRC	VBF3L11SRD	—
6"	268		VBF3L21SRA	VBF3L21SRB	VBF3L21SRC	VBF3L21SRD	—
	346		VBF3L41SRA	VBF3L41SRB	VBF3L41SRC	—	—
	441		VBF3L51SRA	VBF3L51SRB	VBF3L51SRC	—	—
	577		VBF3L61SRA	VBF3L61SRB	VBF3L61SRC	—	—
	650		VBF3L71SRA	VBF3L71SRB	VBF3L71SRC	—	—
	Actuator Features			Non-fail Safe		Fail Safe	
Actuator O.S. Number			MN6110A1003 4 to 5 in.	MN7510A2001 4 to 5 in.	MS8110A1008 4 to 5 in.	MS7510A2008 4 to 5 in.	Valve Only
			MN6134A1003 6 in.	MN7234A2008 6 in.	MS8120A1007 6 in.	MS7520A2007 6 in.	
Power Supply			Voltage		Voltage		
			50 / 60 Hz		50 / 60 Hz		
			Power		Power		
Actuator Torque			(lb.-in.)		(lb.-in.)		
Control			(0)2-10 Vdc		(0)2-10 Vdc		
			4-20 mA (external 500 Ohm Resistor)		4-20 mA (external 500 Ohm Resistor)		
			Floating		Floating		
			Two-Position SPDT		Two-Position SPDT		
			Two-Position SPST		Two-Position SPST		
Fail Safe Action			(field configurable)		(field configurable)		
Normal Position (no signal)			(field configurable)		(field configurable)		
Actuator Stroke			(degrees)		(degrees)		
Timing			(seconds)		(seconds)		
Aux Switch			2 x SPDT Add-on		2 x SPDT Add-on		
Feedback			2-10 Vdc Built In		2-10 Vdc Built In		



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