Control Ball Valves
Quick Selection Guide

Honeywell

Cover Every Application With One Control Ball Valve Brand

CONTROL BALL VALVES QUICK SELECTION GUIDE

Quality Features, Proven Performance

Honeywell's line of control ball valves has all the quality features you want.

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. And Honeywell's Cv ratings are similar to globe valve Cv ratings, making it easier to design your system using a ball valve.

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.

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

VBN2AB3P0A

VB
VB = Valve, ball

Connection
F = Flanged
N = Female NPT threaded

Body Type & Flow Characteristic
2 = 2 way
3 = 3 way

	Size	
	Inch	Metric
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
J	4	DN100
K	5	DN125
L	6	DN150

Flow Rating (Cv)			
Code	From	To	Example
B	0.241	0.380	0.30 Cv
C	0.381	0.60	0.48 Cv
D	0.601	0.950	0.74 Cv
E	0.951	1.50	1.2 Cv
F	1.51	2.40	1.9 Cv
G	2.41	3.80	3.0 Cv
H	3.81	6	4.8 Cv
J	6.01	9.99	7.5 Cv
K	10.0	15	12.0 Cv
L	15.1	25	19.0 Cv
M	25.1	38	30 Cv
N	38.1	54	48 Cv
P	54.1	68	60 Cv
R	68.1	85	76 Cv
S	85.1	107	95 Cv
T	107.1	135	120 Cv
U	135.1	169	151 Cv
1	169.1	213	190 Cv
2	213.1	268	239 Cv
3	268.1	338	301 Cv
4	338.1	425	379 Cv
5	425.1	535	477 Cv
6	535.1	601	535 Cv
7	601.1	674	601 Cv

Actuator
X = No Actuator
A = NSR, Floating
B = NSR, Modulating
C = SR, 2-Position, 24 Vac
D = SR, Floating/ Modulating
F = NSR, Floating, Open Terminal Block 1/2 - 3/4 in. only

Enclosure
0 (Zero) = No Enclosure
R = NEMA 3R enclosure

Trim
P = Plated (nickel – chrome)
S = Stainless steel

Temp/Pressure Rating
1 = ANSI 125
3 = 360 psig

Note: This table is intended to explain the significance of the VB control ball valve part numbering system, and is not a product configuration tool. Only part numbers printed in Honeywell price books may be ordered from this table. For custom configurations of VBN models, please refer to the Control Ball Valve Customized Order Program Guide, form number 67-7328.

Control Valve Selection Criteria

2-Way

Attribute	Specification	Threaded VBN2	Flanged VBF2
Pipe Size	1/2" [DN15]	•	
	3/4" [DN20]	•	
	1" [DN25]	•	
	1-1/4" [DN32]	•	
	1-1/2" [DN40]	•	
	2" [DN50]	•	
	2-1/2" [DN65]	•	
	3" [DN80]	•	
	4" [DN100]		•
	5" [DN125]		•
	6" [DN150]		•
	Other (maximum size)		
Pipe Fittings	Sweat		
	NPT Internal Thread	•	
	Inverted Flare		
	ANSI Flange		•
Static Pressure	ANSI 125/150		•
	ANSI 250/300		
	Other	360 psi	
Media	Chilled Water	•	•
	Hot Water	•	•
	Low Pressure Steam		
	High Pressure Steam		
Flow Capacity, Cv	Multiple ratings per pipe size	•	•
	One rating/size above 1/2"		
Valve Action	Direct Acting ****		
	Reverse Acting *****		
	Rotary N.O.	o	o
	Rotary N.C.	•	•
Flow Characteristic	Equal Percentage		
	Modified Equal Percentage	•	•
	Linear		
	Quick Open		

Attribute	Specification	Threaded VBN2	Flanged VBF2
Close-off pressure***	High** (100 psid minimum)	•	•
	Medium (40 psid minimum)		
	Varies with actuator		
Maximum Seat Leakage	ANSI Class III (0.10% Cv max.)		
	ANSI Class IV (0.01% Cv max.)	•	•
	Bubble-tight design		
	Other (see product data literature)		
Rangeability	High (50:1 minimum)	•	•
	Medium* (15~50:1)	o	
	Low (under 15:1)		
Trim	Brass, plated brass, bronze	•	
	Brass plug /Stainless seat		
	Stainless Steel	•	•
	Resilient materials		
In-line Serviceability	Cartridge		
	Packing	•	•
	Rebuild		•
Actuation Options	Electronic Modulating	•	•
	Tri-state floating	•	•
	Pulse Width Modulation		
	2-position low voltage	•	•
	2-position line voltage	o	o
	Electric Spring Return	•	•
	Electronic Fail Safe		
	Pneumatic, low pressure		
	Pneumatic bidirectional (Hi-Pr)		
	Pneumatic spring return (Hi-Pr)		

Notes * Best used with supply water reset from outdoor air temperature.
** Can dead-head pumps. Use with VFD-controlled pumps with maximum pressure cut-out
*** Maximum operating differential pressure. Static close-off pressure may be higher. Maximum pressure for quiet service may be less.
**** Stem down to close
***** Stem up to close

Honeywell's characterized ball valves require less torque, so you can use lower-cost, low-torque actuators on larger pipe sizes.

Specifications

- Sizes from 1/2" to 3" with female NPT connections (2-way to 3", 3-way to 2.5"); 4" to 6" with flanged connections
- Equal percentage flow characteristics
- Wide Cv choices
  – Two way: 0.38 to 266 (threaded); 91 to 650 (flanged)
  – Three way: 0.33 to 109 (threaded); 91 to 650 (flanged)
- Controlled medium: water with up to 50% glycol
- Field configurable for normally open or normally closed fail-safe position
- Removable manual operating handle to control valve during installation or in an event of power failure
- ANSI Class IV leakage specification (0.01% of Cv)
- Medium temperature rating: -22˚ F to 250˚ F
- Maximum static operating pressure: 360 psi (threaded); 240 psi (flanged)
- Additional non-spring return actuator option for 1/2 and 3/4 models

Control Valve Selection Criteria

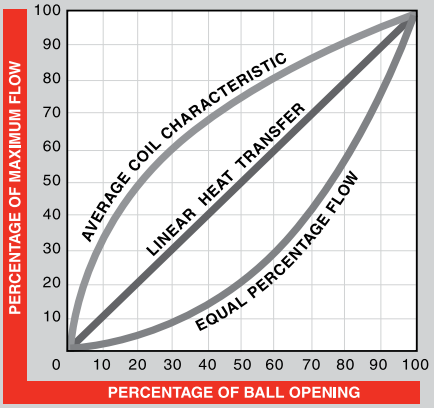
3-Way

Attribute	Specification	Threaded VBN3	Flanged VBF3
Pipe Size	1/2" [DN15]	•	
	3/4" [DN20]	•	
	1" [DN25]	•	
	1-1/4" [DN32]	•	
	1-1/2" [DN40]	•	
	2" [DN50]	•	
	2-1/2" [DN65]	•	
	3" [DN80]		
	4" [DN100]		•
	5" [DN125]		•
	6" [DN150]		•
	Other (maximum size)		
Pipe Fittings	Sweat		
	NPT Internal Thread	•	
	Inverted Flare		
	ANSI Flange		•
Static Pressure	ANSI 125/150		•
	ANSI 250/300		
	Other	360 psi	
Media	Chilled Water	•	•
	Hot Water	•	•
Flow Capacity, Cv	Multiple ratings per pipe size	•	•
	One rating/size above 1/2"		
Valve Action	Mixing A-B-AB porting	•	•
	Mixing A-AB-B porting		
	Diverting AB-B-A porting	•	o
	Diverting A-AB-B porting		
A-port Flow Characteristic	Equal Percentage		
	Modified Equal Percentage	•	•
	Linear		
	Quick Open		

Attribute	Specification	Threaded VBN3	Flanged VBF3
B-port Flow Characteristic	Modified Equal Percentage		
	Linear		
	Linear, Reduced Cv	•	•
	Total Constant Flow		
	Quick Open		
Close-off pressure***	High (60 psid minimum)		•
	Medium (30 psid minimum)	•	
	Varies with actuator		
Maximum Seat Leakage**	ANSI Class III (0.10% Cv max.)		
	ANSI Class IV (0.01% Cv max.)	•	A-port
	Bubble-tight design		
	Other (see product data literature)		B-port
Rangeability	High (50:1 minimum)	•	•
	Medium* (15~50:1)	o	
	Low (under 15:1)		
Trim	Brass, plated brass, bronze	•	
	Stainless Steel		•
	Resilient materials		
In-line Serviceability	Cartridge		
	Packing	•	•
	Rebuild		•
Actuation Options	Electronic Modulating	•	•
	Tri-state floating	•	•
	Pulse Width Modulation		
	2-position low voltage	•	•
	2-position line voltage	o	o
	Electric Spring Return	•	•
	Electronic Fail Safe		
	Pneumatic, low pressure		
	Pneumatic bidirectional (Hi-Pr)		
	Pneumatic spring return (Hi-Pr)		

Notes * Best used with supply water reset from outdoor air temperature.
** A port specification
*** A-port maximum operating differential pressure. Static close-off pressure may be higher. Maximum pressure for quiet service may be less.
**** Stem down to close
***** Stem up to close
"Limited" = not available in large sizes

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.



Control Ball Valves ½- 3"

2-Way NPT NEMA 2

Actuator Features		Non-fail Safe					
Actuator O.S. Number		ML6161A2009	ML6161A2009	MN6105A1011	MN6105A1011	MN7505A2001	MN7505A2001
Power Supply	Voltage	24 Vac	24 Vac	24 Vac	24 Vac	24 Vac	24 Vac
	Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
	Power	1.8 VA	1.8 VA	5 VA	5 VA	5 VA	5 VA
Actuator Torque	(lb.-in.)	35	35	44	44	44	44
Control	(0)2-10 Vdc					•	•
	4-20 mA (external 500 Ohm Resistor)					•	•
	Floating	•	•	•	•	•	•
	Two-Position SPDT	•	•	•	•	•	•
	Two-Position SPST					•	•
Fail Safe Action		Stay in Place	Stay in Place	Stay in Place	Stay in Place	Stay in Place	Stay in Place
Normal Position (no signal)		Closed	Closed	Closed	Closed	Closed	Closed
Actuator Stroke	(degrees)	90°	90°	95° ± 3°	95° ± 3°	95° ± 3°	95° ± 3°
Timing	(seconds)	90	90	90	90	90	90
Aux Switch	2 x SPDT Add-on			SSW2	SSW2	SW2-US	SW2-US
Feedback	2-10 Vdc Built In			-	-	•	•
Valve Features	Trim	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel

2-Way

Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number					
1/2"	0.38	130	VBN2AB3P0F	VBN2AB3S0F	VBN2AB3P0A	VBN2AB3S0A	VBN2AB3P0B	VBN2AB3S0B
	0.68		VBN2AD3P0F	VBN2AD3S0F	VBN2AD3P0A	VBN2AD3S0A	VBN2AD3P0B	VBN2AD3S0B
	1.3		VBN2AE3P0F	VBN2AE3S0F	VBN2AE3P0A	VBN2AE3S0A	VBN2AE3P0B	VBN2AE3S0B
	2		VBN2AF3P0F	VBN2AF3S0F	VBN2AF3P0A	VBN2AF3S0A	VBN2AF3P0B	VBN2AF3S0B
	2.6		VBN2AG3P0F	VBN2AG3S0F	VBN2AG3P0A	VBN2AG3S0A	VBN2AG3P0B	VBN2AG3S0B
	4.7		VBN2AH3P0F	VBN2AH3S0F	VBN2AH3P0A	VBN2AH3S0A	VBN2AH3P0B	VBN2AH3S0B
	8		VBN2AJ3P0F	VBN2AJ3S0F	VBN2AJ3P0A	VBN2AJ3S0A	VBN2AJ3P0B	VBN2AJ3S0B
	11.7*		VBN2AK3P0F	VBN2AK3S0F	VBN2AK3P0A	VBN2AK3S0A	VBN2AK3P0B	VBN2AK3S0B
3/4"	0.31		VBN2BB3P0F	VBN2BB3S0F	VBN2BB3P0A	VBN2BB3S0A	VBN2BB3P0B	VBN2BB3S0B
	0.63		VBN2BD3P0F	VBN2BD3S0F	VBN2BD3P0A	VBN2BD3S0A	VBN2BD3P0B	VBN2BD3S0B
	1.2		VBN2BE3P0F	VBN2BE3S0F	VBN2BE3P0A	VBN2BE3S0A	VBN2BE3P0B	VBN2BE3S0B
	2.5		VBN2BG3P0F	VBN2BG3S0F	VBN2BG3P0A	VBN2BG3S0A	VBN2BG3P0B	VBN2BG3S0B
	4.3		VBN2BH3P0F	VBN2BH3S0F	VBN2BH3P0A	VBN2BH3S0A	VBN2BH3P0B	VBN2BH3S0B
	7.4		VBN2BJ3P0F	VBN2BJ3S0F	VBN2BJ3P0A	VBN2BJ3S0A	VBN2BJ3P0B	VBN2BJ3S0B
	10.1		VBN2BK3P0F	VBN2BK3S0F	VBN2BK3P0A	VBN2BK3S0A	VBN2BK3P0B	VBN2BK3S0B
	14.7*		VBN2BL3P0F	VBN2BL3S0F	VBN2BL3P0A	VBN2BL3S0A	VBN2BL3P0B	VBN2BL3S0B
	29*		VBN2BM3P0F	VBN2BM3S0F	VBN2BM3P0A	VBN2BM3S0A	VBN2BM3P0B	VBN2BM3S0B
1"	4.4	100			VBN2CH3P0A	VBN2CH3S0A	VBN2CH3P0B	VBN2CH3S0B
	9				VBN2CJ3P0A	VBN2CJ3S0A	VBN2CJ3P0B	VBN2CJ3S0B
	15.3				VBN2CL3P0A	VBN2CL3S0A	VBN2CL3P0B	VBN2CL3S0B
	26				VBN2CM3P0A	VBN2CM3S0A	VBN2CM3P0B	VBN2CM3S0B
	44*				VBN2CN3P0A	VBN2CN3S0A	VBN2CN3P0B	VBN2CN3S0B
	54*				VBN2CP3P0A	VBN2CP3S0A	VBN2CP3P0B	VBN2CP3S0B
1-1/4"	4.4				VBN2DH3P0A	VBN2DH3S0A	VBN2DH3P0B	VBN2DH3S0B
	8.3				VBN2DJ3P0A	VBN2DJ3S0A	VBN2DJ3P0B	VBN2DJ3S0B
	14.9				VBN2DK3P0A	VBN2DK3S0A	VBN2DK3P0B	VBN2DK3S0B
	25				VBN2DL3P0A	VBN2DL3S0A	VBN2DL3P0B	VBN2DL3S0B
	37				VBN2DM3P0A	VBN2DM3S0A	VBN2DM3P0B	VBN2DM3S0B
	41*				VBN2DN3P0A	VBN2DN3S0A	VBN2DN3P0B	VBN2DN3S0B
	102*				VBN2DS3P0A	VBN2DS3S0A	VBN2DS3P0B	VBN2DS3S0B
1-1/2"	23				VBN2EL3P0A	VBN2EL3S0A	VBN2EL3P0B	VBN2EL3S0B
	30				VBN2EM3P0A	VBN2EM3S0A	VBN2EM3P0B	VBN2EM3S0B
	41				VBN2EN3P0A	VBN2EN3S0A	VBN2EN3P0B	VBN2EN3S0B
	74*				VBN2ER3P0A	VBN2ER3S0A	VBN2ER3P0B	VBN2ER3S0B
	172*				VBN2E13P0A	VBN2E13S0A	VBN2E13P0B	VBN2E13S0B
2"	42				VBN2FN3P0A	VBN2FN3S0A	VBN2FN3P0B	VBN2FN3S0B
	57				VBN2FP3P0A	VBN2FP3S0A	VBN2FP3P0B	VBN2FP3S0B
	71				VBN2FR3P0A	VBN2FR3S0A	VBN2FR3P0B	VBN2FR3S0B
	100				VBN2FS3P0A	VBN2FS3S0A	VBN2FS3P0B	VBN2FS3S0B
	108*				VBN2FT3P0A	VBN2FT3S0A	VBN2FT3P0B	VBN2FT3S0B
	210				VBN2F13P0A	VBN2F13S0A	VBN2F13P0B	VBN2F13S0B
	266*				VBN2F23P0A	VBN2F23S0A	VBN2F23P0B	VBN2F23S0B
2-1/2"	45				VBN2GN3P0A	VBN2GN3S0A	VBN2GN3P0B	VBN2GN3S0B
	55				VBN2GP3P0A	VBN2GP3S0A	VBN2GP3P0B	VBN2GP3S0B
	72				VBN2GR3P0A	VBN2GR3S0A	VBN2GR3P0B	VBN2GR3S0B
	101				VBN2GS3P0A	VBN2GS3S0A	VBN2GS3P0B	VBN2GS3S0B
	162				VBN2GU3P0A	VBN2GU3S0A	VBN2GU3P0B	VBN2GU3S0B
	202*				VBN2G13P0A	VBN2G13S0A	VBN2G13P0B	VBN2G13S0B
3"	49				VBN2HN3P0A	VBN2HN3S0A	VBN2HN3P0B	VBN2HN3S0B
	63				VBN2HP3P0A	VBN2HP3S0A	VBN2HP3P0B	VBN2HP3S0B
	82				VBN2HR3P0A	VBN2HR3S0A	VBN2HR3P0B	VBN2HR3S0B
	124				VBN2HT3P0A	VBN2HT3S0A	VBN2HT3P0B	VBN2HT3S0B
	145*				VBN2HU3P0A	VBN2HU3S0A	VBN2HU3P0B	VBN2HU3S0B

* Full port ball. No flow characterizing insert.

2-Way NPT NEMA 2

Actuator Features		Fail Safe					
Actuator O.S. Number		MS8105A1030	MS8105A1030	MS7505A2030	MS7505A2030	Valve Only	Valve Only
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	8VA	8VA	7.5 VA	7.5 VA		
Actuator Torque	(lb.-in.)	44	44	44	44		
Control	(0)2-10 Vdc			•	•		
	4-20 mA (external 500 Ohm Resistor)			•	•		
	Floating			•	•		
	Two-Position SPDT			•	•		
	Two-Position SPST	•	•	•	•		
Fail Safe Action		Closed*	Closed*	Closed*	Closed*		
Normal Position (no signal)		Closed*	Closed*	Closed*	Closed*		
Actuator Stroke	(degrees)	95° ± 3°	95° ± 3°	95° ± 3°	95° ± 3°		
Timing	(seconds)	45	45	90	90		
Aux Switch	2 x SPDT Add-on						
Feedback	2-10 Vdc Built In			•	•		
Valve Features	Trim	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel

Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number					
1/2"	0.38	130	VBN2AB3P0C	VBN2AB3S0C	VBN2AB3P0D	VBN2AB3S0D	VBN2AB3P0X	VBN2AB3S0X
	0.68		VBN2AD3P0C	VBN2AD3S0C	VBN2AD3P0D	VBN2AD3S0D	VBN2AD3P0X	VBN2AD3S0X
	1.3		VBN2AE3P0C	VBN2AE3S0C	VBN2AE3P0D	VBN2AE3S0D	VBN2AE3P0X	VBN2AE3S0X
	2		VBN2AF3P0C	VBN2AF3S0C	VBN2AF3P0D	VBN2AF3S0D	VBN2AF3P0X	VBN2AF3S0X
	2.6		VBN2AG3P0C	VBN2AG3S0C	VBN2AG3P0D	VBN2AG3S0D	VBN2AG3P0X	VBN2AG3S0X
	4.7		VBN2AH3P0C	VBN2AH3S0C	VBN2AH3P0D	VBN2AH3S0D	VBN2AH3P0X	VBN2AH3S0X
	8		VBN2AJ3P0C	VBN2AJ3S0C	VBN2AJ3P0D	VBN2AJ3S0D	VBN2AJ3P0X	VBN2AJ3S0X
	11.7*		VBN2AK3P0C	VBN2AK3S0C	VBN2AK3P0D	VBN2AK3S0D	VBN2AK3P0X	VBN2AK3S0X
3/4"	0.31		VBN2BB3P0C	VBN2BB3S0C	VBN2BB3P0D	VBN2BB3S0D	VBN2BB3P0X	VBN2BB3S0X
	0.63		VBN2BD3P0C	VBN2BD3S0C	VBN2BD3P0D	VBN2BD3S0D	VBN2BD3P0X	VBN2BD3S0X
	1.2		VBN2BE3P0C	VBN2BE3S0C	VBN2BE3P0D	VBN2BE3S0D	VBN2BE3P0X	VBN2BE3S0X
	2.5		VBN2BG3P0C	VBN2BG3S0C	VBN2BG3P0D	VBN2BG3S0D	VBN2BG3P0X	VBN2BG3S0X
	4.3		VBN2BH3P0C	VBN2BH3S0C	VBN2BH3P0D	VBN2BH3S0D	VBN2BH3P0X	VBN2BH3S0X
	7.4		VBN2BJ3P0C	VBN2BJ3S0C	VBN2BJ3P0D	VBN2BJ3S0D	VBN2BJ3P0X	VBN2BJ3S0X
	10.1		VBN2BK3P0C	VBN2BK3S0C	VBN2BK3P0D	VBN2BK3S0D	VBN2BK3P0X	VBN2BK3S0X
	14.7*		VBN2BL3P0C	VBN2BL3S0C	VBN2BL3P0D	VBN2BL3S0D	VBN2BL3P0X	VBN2BL3S0X
	29*		VBN2BM3P0C	VBN2BM3S0C	VBN2BM3P0D	VBN2BM3S0D	VBN2BM3P0X	VBN2BM3S0X
1"	4.4	100	VBN2CH3P0C	VBN2CH3S0C	VBN2CH3P0D	VBN2CH3S0D	VBN2CH3P0X	VBN2CH3S0X
	9		VBN2CJ3P0C	VBN2CJ3S0C	VBN2CJ3P0D	VBN2CJ3S0D	VBN2CJ3P0X	VBN2CJ3S0X
	15.3		VBN2CL3P0C	VBN2CL3S0C	VBN2CL3P0D	VBN2CL3S0D	VBN2CL3P0X	VBN2CL3S0X
	26		VBN2CM3P0C	VBN2CM3S0C	VBN2CM3P0D	VBN2CM3S0D	VBN2CM3P0X	VBN2CM3S0X
	44*		VBN2CN3P0C	VBN2CN3S0C	VBN2CN3P0D	VBN2CN3S0D	VBN2CN3P0X	VBN2CN3S0X
	54*		VBN2CP3P0C	VBN2CP3S0C	VBN2CP3P0D	VBN2CP3S0D	VBN2CP3P0X	VBN2CP3S0X
1-1/4"	4.4		VBN2DH3P0C	VBN2DH3S0C	VBN2DH3P0D	VBN2DH3S0D	VBN2DH3P0X	VBN2DH3S0X
	8.3		VBN2DJ3P0C	VBN2DJ3S0C	VBN2DJ3P0D	VBN2DJ3S0D	VBN2DJ3P0X	VBN2DJ3S0X
	14.9		VBN2DK3P0C	VBN2DK3S0C	VBN2DK3P0D	VBN2DK3S0D	VBN2DK3P0X	VBN2DK3S0X
	25		VBN2DL3P0C	VBN2DL3S0C	VBN2DL3P0D	VBN2DL3S0D	VBN2DL3P0X	VBN2DL3S0X
	37		VBN2DM3P0C	VBN2DM3S0C	VBN2DM3P0D	VBN2DM3S0D	VBN2DM3P0X	VBN2DM3S0X
	41*		VBN2DN3P0C	VBN2DN3S0C	VBN2DN3P0D	VBN2DN3S0D	VBN2DN3P0X	VBN2DN3S0X
	102*		VBN2DS3P0C	VBN2DS3S0C	VBN2DS3P0D	VBN2DS3S0D	VBN2DS3P0X	VBN2DS3S0X
1-1/2"	23		VBN2EL3P0C	VBN2EL3S0C	VBN2EL3P0D	VBN2EL3S0D	VBN2EL3P0X	VBN2EL3S0X
	30		VBN2EM3P0C	VBN2EM3S0C	VBN2EM3P0D	VBN2EM3S0D	VBN2EM3P0X	VBN2EM3S0X
	41		VBN2EN3P0C	VBN2EN3S0C	VBN2EN3P0D	VBN2EN3S0D	VBN2EN3P0X	VBN2EN3S0X
	74*		VBN2ER3P0C	VBN2ER3S0C	VBN2ER3P0D	VBN2ER3S0D	VBN2ER3P0X	VBN2ER3S0X
	172*		VBN2E13P0C	VBN2E13S0C	VBN2E13P0D	VBN2E13S0D	VBN2E13P0X	VBN2E13S0X
2"	42		VBN2FN3P0C	VBN2FN3S0C	VBN2FN3P0D	VBN2FN3S0D	VBN2FN3P0X	VBN2FN3S0X
	57		VBN2FP3P0C	VBN2FP3S0C	VBN2FP3P0D	VBN2FP3S0D	VBN2FP3P0X	VBN2FP3S0X
	71		VBN2FR3P0C	VBN2FR3S0C	VBN2FR3P0D	VBN2FR3S0D	VBN2FR3P0X	VBN2FR3S0X
	100		VBN2FS3P0C	VBN2FS3S0C	VBN2FS3P0D	VBN2FS3S0D	VBN2FS3P0X	VBN2FS3S0X
	108*		VBN2FT3P0C	VBN2FT3S0C	VBN2FT3P0D	VBN2FT3S0D	VBN2FT3P0X	VBN2FT3S0X
	210		VBN2F13P0C	VBN2F13S0C	VBN2F13P0D	VBN2F13S0D	VBN2F13P0X	VBN2F13S0X
	266*		VBN2F23P0C	VBN2F23S0C	VBN2F23P0D	VBN2F23S0D	VBN2F23P0X	VBN2F23S0X
2-1/2"	45		VBN2GN3P0C	VBN2GN3S0C	VBN2GN3P0D	VBN2GN3S0D	VBN2GN3P0X	VBN2GN3S0X
	55		VBN2GP3P0C	VBN2GP3S0C	VBN2GP3P0D	VBN2GP3S0D	VBN2GP3P0X	VBN2GP3S0X
	72		VBN2GR3P0C	VBN2GR3S0C	VBN2GR3P0D	VBN2GR3S0D	VBN2GR3P0X	VBN2GR3S0X
	101		VBN2GS3P0C	VBN2GS3S0C	VBN2GS3P0D	VBN2GS3S0D	VBN2GS3P0X	VBN2GS3S0X
	162		VBN2GU3P0C	VBN2GU3S0C	VBN2GU3P0D	VBN2GU3S0D	VBN2GU3P0X	VBN2GU3S0X
	202*		VBN2G13P0C	VBN2G13S0C	VBN2G13P0D	VBN2G13S0D	VBN2G13P0X	VBN2G13S0X
3"	49		VBN2HN3P0C	VBN2HN3S0C	VBN2HN3P0D	VBN2HN3S0D	VBN2HN3P0X	VBN2HN3S0X
	63		VBN2HP3P0C	VBN2HP3S0C	VBN2HP3P0D	VBN2HP3S0D	VBN2HP3P0X	VBN2HP3S0X
	82		VBN2HR3P0C	VBN2HR3S0C	VBN2HR3P0D	VBN2HR3S0D	VBN2HR3P0X	VBN2HR3S0X
	124		VBN2HT3P0C	VBN2HT3S0C	VBN2HT3P0D	VBN2HT3S0D	VBN2HT3P0X	VBN2HT3S0X
	145*		VBN2HU3P0C	VBN2HU3S0C	VBN2HU3P0D	VBN2HU3S0D	VBN2HU3P0X	VBN2HU3S0X

2-Way

* Full port ball. No flow characterizing insert.

Control Ball Valves ½- 3"

2-Way NPT NEMA 3R

Actuator Features		Non-fail Safe			
Actuator O.S. Number		MN6105A1011	MN6105A1011	MN7505A2001	MN7505A2001
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 VA	5 VA	5 VA	5 VA
Actuator Torque	(lb.-in.)	44	44	44	44
Control	(0)2-10 Vdc			•	•
	4-20 mA (external 500 Ohm Resistor)			•	•
	Floating	•	•	•	•
	Two-Position SPDT	•	•	•	•
	Two-Position SPST			•	•
Fail Safe Action		Stay in Place	Stay in Place	Stay in Place	Stay in Place
Normal Position (no signal)		Closed	Closed	Closed	Closed
Actuator Stroke	(degrees)	95° ± 3°	95° ± 3°	95° ± 3°	95° ± 3°
Timing	(seconds)	90	90	90	90
Aux Switch	2 x SPDT Add-on	SSW2	SSW2	SW2-US	SW2-US
Feedback	2-10 Vdc Built In			•	•
Valve Features	Trim	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel

2-Way

Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number			
1/2"	0.38	130	VBN2AB3PRA	VBN2AB3SRA	VBN2AB3PRB	VBN2AB3SRB
	0.68		VBN2AD3PRA	VBN2AD3SRA	VBN2AD3PRB	VBN2AD3SRB
	1.3		VBN2AE3PRA	VBN2AE3SRA	VBN2AE3PRB	VBN2AE3SRB
	2		VBN2AF3PRA	VBN2AF3SRA	VBN2AF3PRB	VBN2AF3SRB
	2.6		VBN2AG3PRA	VBN2AG3SRA	VBN2AG3PRB	VBN2AG3SRB
	4.7		VBN2AH3PRA	VBN2AH3SRA	VBN2AH3PRB	VBN2AH3SRB
	8		VBN2AJ3PRA	VBN2AJ3SRA	VBN2AJ3PRB	VBN2AJ3SRB
	11.7*		VBN2AK3PRA	VBN2AK3SRA	VBN2AK3PRB	VBN2AK3SRB
3/4"	0.31		VBN2BB3PRA	VBN2BB3SRA	VBN2BB3PRB	VBN2BB3SRB
	0.63		VBN2BD3PRA	VBN2BD3SRA	VBN2BD3PRB	VBN2BD3SRB
	1.2		VBN2BE3PRA	VBN2BE3SRA	VBN2BE3PRB	VBN2BE3SRB
	2.5		VBN2BG3PRA	VBN2BG3SRA	VBN2BG3PRB	VBN2BG3SRB
	4.3		VBN2BH3PRA	VBN2BH3SRA	VBN2BH3PRB	VBN2BH3SRB
	7.4		VBN2BJ3PRA	VBN2BJ3SRA	VBN2BJ3PRB	VBN2BJ3SRB
	10.1		VBN2BK3PRA	VBN2BK3SRA	VBN2BK3PRB	VBN2BK3SRB
	14.7*		VBN2BL3PRA	VBN2BL3SRA	VBN2BL3PRB	VBN2BL3SRB
	29*		VBN2BM3PRA	VBN2BM3SRA	VBN2BM3PRB	VBN2BM3SRB
1"	4.4	100	VBN2CH3PRA	VBN2CH3SRA	VBN2CH3PRB	VBN2CH3SRB
	9		VBN2CJ3PRA	VBN2CJ3SRA	VBN2CJ3PRB	VBN2CJ3SRB
	15.3		VBN2CL3PRA	VBN2CL3SRA	VBN2CL3PRB	VBN2CL3SRB
	26		VBN2CM3PRA	VBN2CM3SRA	VBN2CM3PRB	VBN2CM3SRB
	44*		VBN2CN3PRA	VBN2CN3SRA	VBN2CN3PRB	VBN2CN3SRB
	54*		VBN2CP3PRA	VBN2CP3SRA	VBN2CP3PRB	VBN2CP3SRB
1-1/4"	4.4		VBN2DH3PRA	VBN2DH3SRA	VBN2DH3PRB	VBN2DH3SRB
	8.3		VBN2DJ3PRA	VBN2DJ3SRA	VBN2DJ3PRB	VBN2DJ3SRB
	14.9		VBN2DK3PRA	VBN2DK3SRA	VBN2DK3PRB	VBN2DK3SRB
	25		VBN2DL3PRA	VBN2DL3SRA	VBN2DL3PRB	VBN2DL3SRB
	37		VBN2DM3PRA	VBN2DM3SRA	VBN2DM3PRB	VBN2DM3SRB
	41*		VBN2DN3PRA	VBN2DN3SRA	VBN2DN3PRB	VBN2DN3SRB
	102*		VBN2DS3PRA	VBN2DS3SRA	VBN2DS3PRB	VBN2DS3SRB
1-1/2"	23		VBN2EL3PRA	VBN2EL3SRA	VBN2EL3PRB	VBN2EL3SRB
	30		VBN2EM3PRA	VBN2EM3SRA	VBN2EM3PRB	VBN2EM3SRB
	41		VBN2EN3PRA	VBN2EN3SRA	VBN2EN3PRB	VBN2EN3SRB
	74*		VBN2ER3PRA	VBN2ER3SRA	VBN2ER3PRB	VBN2ER3SRB
	172*		VBN2E13PRA	VBN2E13SRA	VBN2E13PRB	VBN2E13SRB
2"	42		VBN2FN3PRA	VBN2FN3SRA	VBN2FN3PRB	VBN2FN3SRB
	57		VBN2FP3PRA	VBN2FP3SRA	VBN2FP3PRB	VBN2FP3SRB
	71		VBN2FR3PRA	VBN2FR3SRA	VBN2FR3PRB	VBN2FR3SRB
	100		VBN2FS3PRA	VBN2FS3SRA	VBN2FS3PRB	VBN2FS3SRB
	108*		VBN2FT3PRA	VBN2FT3SRA	VBN2FT3PRB	VBN2FT3SRB
	210		VBN2F13PRA	VBN2F13SRA	VBN2F13PRB	VBN2F13SRB
	266*		VBN2F23PRA	VBN2F23SRA	VBN2F23PRB	VBN2F23SRB
2-1/2"	45		VBN2GN3PRA	VBN2GN3SRA	VBN2GN3PRB	VBN2GN3SRB
	55		VBN2GP3PRA	VBN2GP3SRA	VBN2GP3PRB	VBN2GP3SRB
	72		VBN2GR3PRA	VBN2GR3SRA	VBN2GR3PRB	VBN2GR3SRB
	101		VBN2GS3PRA	VBN2GS3SRA	VBN2GS3PRB	VBN2GS3SRB
	162		VBN2GU3PRA	VBN2GU3SRA	VBN2GU3PRB	VBN2GU3SRB
	202*		VBN2G13PRA	VBN2G13SRA	VBN2G13PRB	VBN2G13SRB
3"	49		VBN2HN3PRA	VBN2HN3SRA	VBN2HN3PRB	VBN2HN3SRB
	63		VBN2HP3PRA	VBN2HP3SRA	VBN2HP3PRB	VBN2HP3SRB
	82		VBN2HR3PRA	VBN2HR3SRA	VBN2HR3PRB	VBN2HR3SRB
	124		VBN2HT3PRA	VBN2HT3SRA	VBN2HT3PRB	VBN2HT3SRB
	145*		VBN2HU3PRA	VBN2HU3SRA	VBN2HU3PRB	VBN2HU3SRB

* Full port ball. No flow characterizing insert.

2-Way NPT NEMA 3R

Actuator Features		Fail Safe					
Actuator O.S. Number		MS8105A1030	MS8105A1030	MS7505A2030	MS7505A2030	Valve Only	Valve Only
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	8VA	8VA	7.5 VA	7.5 VA		
Actuator Torque	(lb.-in.)	44	44	44	44		
Control	(0)2-10 Vdc			•	•		
	4-20 mA (external 500 Ohm Resistor)			•	•		
	Floating			•	•		
	Two-Position SPDT			•	•		
	Two-Position SPST	•	•	•	•		
Fail Safe Action		Closed*	Closed*	Closed*	Closed*		
Normal Position (no signal)		Closed	Closed	Closed	Closed		
Actuator Stroke	(degrees)	95° ± 3°	95° ± 3°	95° ± 3°	95° ± 3°		
Timing	(seconds)	45	45	90	90		
Aux Switch	2 x SPDT Add-on						
Feedback	2-10 Vdc Built In			•	•		
Valve Features	Trim	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel

2-Way

Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number					
1/2"	0.38	130	VBN2AB3PRC	VBN2AB3SRC	VBN2AB3PRD	VBN2AB3SRD	—	—
	0.68		VBN2AD3PRC	VBN2AD3SRC	VBN2AD3PRD	VBN2AD3SRD	—	—
	1.3		VBN2AE3PRC	VBN2AE3SRC	VBN2AE3PRD	VBN2AE3SRD	—	—
	2		VBN2AF3PRC	VBN2AF3SRC	VBN2AF3PRD	VBN2AF3SRD	—	—
	2.6		VBN2AG3PRC	VBN2AG3SRC	VBN2AG3PRD	VBN2AG3SRD	—	—
	4.7		VBN2AH3PRC	VBN2AH3SRC	VBN2AH3PRD	VBN2AH3SRD	—	—
	8		VBN2AJ3PRC	VBN2AJ3SRC	VBN2AJ3PRD	VBN2AJ3SRD	—	—
	11.7*		VBN2AK3PRC	VBN2AK3SRC	VBN2AK3PRD	VBN2AK3SRD	—	—
3/4"	0.31		VBN2BB3PRC	VBN2BB3SRC	VBN2BB3PRD	VBN2BB3SRD	—	—
	0.63		VBN2BD3PRC	VBN2BD3SRC	VBN2BD3PRD	VBN2BD3SRD	—	—
	1.2		VBN2BE3PRC	VBN2BE3SRC	VBN2BE3PRD	VBN2BE3SRD	—	—
	2.5		VBN2BG3PRC	VBN2BG3SRC	VBN2BG3PRD	VBN2BG3SRD	—	—
	4.3		VBN2BH3PRC	VBN2BH3SRC	VBN2BH3PRD	VBN2BH3SRD	—	—
	7.4		VBN2BJ3PRC	VBN2BJ3SRC	VBN2BJ3PRD	VBN2BJ3SRD	—	—
	10.1		VBN2BK3PRC	VBN2BK3SRC	VBN2BK3PRD	VBN2BK3SRD	—	—
	14.7*		VBN2BL3PRC	VBN2BL3SRC	VBN2BL3PRD	VBN2BL3SRD	—	—
	29*		VBN2BM3PRC	VBN2BM3SRC	VBN2BM3PRD	VBN2BM3SRD	—	—
1"	4.4	100	VBN2CH3PRC	VBN2CH3SRC	VBN2CH3PRD	VBN2CH3SRD	—	—
	9		VBN2CJ3PRC	VBN2CJ3SRC	VBN2CJ3PRD	VBN2CJ3SRD	—	—
	15.3		VBN2CL3PRC	VBN2CL3SRC	VBN2CL3PRD	VBN2CL3SRD	—	—
	26		VBN2CM3PRC	VBN2CM3SRC	VBN2CM3PRD	VBN2CM3SRD	—	—
	44*		VBN2CN3PRC	VBN2CN3SRC	VBN2CN3PRD	VBN2CN3SRD	—	—
	54*		VBN2CP3PRC	VBN2CP3SRC	VBN2CP3PRD	VBN2CP3SRD	—	—
1-1/4"	4.4		VBN2DH3PRC	VBN2DH3SRC	VBN2DH3PRD	VBN2DH3SRD	—	—
	8.3		VBN2DJ3PRC	VBN2DJ3SRC	VBN2DJ3PRD	VBN2DJ3SRD	—	—
	14.9		VBN2DK3PRC	VBN2DK3SRC	VBN2DK3PRD	VBN2DK3SRD	—	—
	25		VBN2DL3PRC	VBN2DL3SRC	VBN2DL3PRD	VBN2DL3SRD	—	—
	37		VBN2DM3PRC	VBN2DM3SRC	VBN2DM3PRD	VBN2DM3SRD	—	—
	41*		VBN2DN3PRC	VBN2DN3SRC	VBN2DN3PRD	VBN2DN3SRD	—	—
	102*		VBN2DS3PRC	VBN2DS3SRC	VBN2DS3PRD	VBN2DS3SRD	—	—
1-1/2"	23		VBN2EL3PRC	VBN2EL3SRC	VBN2EL3PRD	VBN2EL3SRD	—	—
	30		VBN2EM3PRC	VBN2EM3SRC	VBN2EM3PRD	VBN2EM3SRD	—	—
	41		VBN2EN3PRC	VBN2EN3SRC	VBN2EN3PRD	VBN2EN3SRD	—	—
	74*		VBN2ER3PRC	VBN2ER3SRC	VBN2ER3PRD	VBN2ER3SRD	—	—
	172*		VBN2E13PRC	VBN2E13SRC	VBN2E13PRD	VBN2E13SRD	—	—
2"	42		VBN2FN3PRC	VBN2FN3SRC	VBN2FN3PRD	VBN2FN3SRD	—	—
	57		VBN2FP3PRC	VBN2FP3SRC	VBN2FP3PRD	VBN2FP3SRD	—	—
	71		VBN2FR3PRC	VBN2FR3SRC	VBN2FR3PRD	VBN2FR3SRD	—	—
	100		VBN2FS3PRC	VBN2FS3SRC	VBN2FS3PRD	VBN2FS3SRD	—	—
	108*		VBN2FT3PRC	VBN2FT3SRC	VBN2FT3PRD	VBN2FT3SRD	—	—
	210		VBN2F13PRC	VBN2F13SRC	VBN2F13PRD	VBN2F13SRD	—	—
	266*		VBN2F23PRC	VBN2F23SRC	VBN2F23PRD	VBN2F23SRD	—	—
2-1/2"	45		VBN2GN3PRC	VBN2GN3SRC	VBN2GN3PRD	VBN2GN3SRD	—	—
	55		VBN2GP3PRC	VBN2GP3SRC	VBN2GP3PRD	VBN2GP3SRD	—	—
	72		VBN2GR3PRC	VBN2GR3SRC	VBN2GR3PRD	VBN2GR3SRD	—	—
	101		VBN2GS3PRC	VBN2GS3SRC	VBN2GS3PRD	VBN2GS3SRD	—	—
	162		VBN2GU3PRC	VBN2GU3SRC	VBN2GU3PRD	VBN2GU3SRD	—	—
	202*		VBN2G13PRC	VBN2G13SRC	VBN2G13PRD	VBN2G13SRD	—	—
3"	49		VBN2HN3PRC	VBN2HN3SRC	VBN2HN3PRD	VBN2HN3SRD	—	—
	63		VBN2HP3PRC	VBN2HP3SRC	VBN2HP3PRD	VBN2HP3SRD	—	—
	82		VBN2HR3PRC	VBN2HR3SRC	VBN2HR3PRD	VBN2HR3SRD	—	—
	124		VBN2HT3PRC	VBN2HT3SRC	VBN2HT3PRD	VBN2HT3SRD	—	—
	145*		VBN2HU3PRC	VBN2HU3SRC	VBN2HU3PRD	VBN2HU3SRD	—	—

* Full port ball. No flow characterizing insert.

Control Ball Valves ½- 2½"

3-Way NPT NEMA 2

Actuator Features		Non-fail Safe			Fail Safe		
Actuator O.S. Number		ML6161A2009	MN6105A1011	MN7505A2001	MS8105A1030	MS7505A2030	Valve Only
Power Supply	Voltage	24 Vac	24 Vac	24 Vac	24 Vac	24 Vac	
	Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	
	Power	1.8 VA	5 VA	5 VA	8 VA	7.5 VA	
Actuator Torque	(lb.-in.)	35	44	44	44	44	
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	Stay in Place	A-AB Closed	A-AB Closed	
Normal Position (no signal)	(field configurable)	Closed	Closed	Closed	A-AB Closed	A-AB Closed	
Actuator Stroke	(degrees)	90°	95° ± 3°	95° ± 3°	95° ± 3°	95° ± 3°	
Timing	(seconds)	90	90	90	45	90	
Aux Switch	2 x SPDT Add-on		SSW2	SSW2			
Feedback	2-10 Vdc Built In			•		•	
Valve Features	Trim	Nickel-Plated Brass	Nickel-Plated Brass	Nickel-Plated Brass	Nickel-Plated Brass	Nickel-Plated Brass	Nickel-Plated Brass

Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number					
1/2"	0.33	50	VBN3AB3P0F	VBN3AB3P0A	VBN3AB3P0B	VBN3AB3P0C	VBN3AB3P0D	VBN3AB3P0X
	0.59		VBN3AC3P0F	VBN3AC3P0A	VBN3AC3P0B	VBN3AC3P0C	VBN3AC3P0D	VBN3AC3P0X
	1		VBN3AE3P0F	VBN3AE3P0A	VBN3AE3P0B	VBN3AE3P0C	VBN3AE3P0D	VBN3AE3P0X
	2.4		VBN3AF3P0F	VBN3AF3P0A	VBN3AF3P0B	VBN3AF3P0C	VBN3AF3P0D	VBN3AF3P0X
	4.3		VBN3AH3P0F	VBN3AH3P0A	VBN3AH3P0B	VBN3AH3P0C	VBN3AH3P0D	VBN3AH3P0X
	8*		VBN3AJ3P0F	VBN3AJ3P0A	VBN3AJ3P0B	VBN3AJ3P0C	VBN3AJ3P0D	VBN3AJ3P0X
3/4"	0.4		VBN3BC3P0F	VBN3BC3P0A	VBN3BC3P0B	VBN3BC3P0C	VBN3BC3P0D	VBN3BC3P0X
	0.66		VBN3BD3P0F	VBN3BD3P0A	VBN3BD3P0B	VBN3BD3P0C	VBN3BD3P0D	VBN3BD3P0X
	1.3		VBN3BE3P0F	VBN3BE3P0A	VBN3BE3P0B	VBN3BE3P0C	VBN3BE3P0D	VBN3BE3P0X
	2.4		VBN3BF3P0F	VBN3BF3P0A	VBN3BF3P0B	VBN3BF3P0C	VBN3BF3P0D	VBN3BF3P0X
	3.8		VBN3BG3P0F	VBN3BG3P0A	VBN3BG3P0B	VBN3BG3P0C	VBN3BG3P0D	VBN3BG3P0X
	7		VBN3BJ3P0F	VBN3BJ3P0A	VBN3BJ3P0B	VBN3BJ3P0C	VBN3BJ3P0D	VBN3BJ3P0X
	11*		VBN3BK3P0F	VBN3BK3P0A	VBN3BK3P0B	VBN3BK3P0C	VBN3BK3P0D	VBN3BK3P0X
1"	0.4			VBN3CC3P0A	VBN3CC3P0B	VBN3CC3P0C	VBN3CC3P0D	VBN3CC3P0X
	0.65			VBN3CD3P0A	VBN3CD3P0B	VBN3CD3P0C	VBN3CD3P0D	VBN3CD3P0X
	1.3			VBN3CE3P0A	VBN3CE3P0B	VBN3CE3P0C	VBN3CE3P0D	VBN3CE3P0X
	2.3			VBN3CF3P0A	VBN3CF3P0B	VBN3CF3P0C	VBN3CF3P0D	VBN3CF3P0X
	3.5			VBN3CG3P0A	VBN3CG3P0B	VBN3CG3P0C	VBN3CG3P0D	VBN3CG3P0X
	4.5			VBN3CH3P0A	VBN3CH3P0B	VBN3CH3P0C	VBN3CH3P0D	VBN3CH3P0X
	8.6			VBN3CJ3P0A	VBN3CJ3P0B	VBN3CJ3P0C	VBN3CJ3P0D	VBN3CJ3P0X
	14.9			VBN3CK3P0A	VBN3CK3P0B	VBN3CK3P0C	VBN3CK3P0D	VBN3CK3P0X
	22*			VBN3CL3P0A	VBN3CL3P0B	VBN3CL3P0C	VBN3CL3P0D	VBN3CL3P0X
	31*			VBN3CM3P0A	VBN3CM3P0B	VBN3CM3P0C	VBN3CM3P0D	VBN3CM3P0X
1-1/4"	4.1	40		VBN3DH3P0A	VBN3DH3P0B	VBN3DH3P0C	VBN3DH3P0D	VBN3DH3P0X
	8.7			VBN3DJ3P0A	VBN3DJ3P0B	VBN3DJ3P0C	VBN3DJ3P0D	VBN3DJ3P0X
	12.7			VBN3DK3P0A	VBN3DK3P0B	VBN3DK3P0C	VBN3DK3P0D	VBN3DK3P0X
	19.4*			VBN3DL3P0A	VBN3DL3P0B	VBN3DL3P0C	VBN3DL3P0D	VBN3DL3P0X
	27			VBN3DM3P0A	VBN3DM3P0B	VBN3DM3P0C	VBN3DM3P0D	VBN3DM3P0X
	34*			VBN3DN3P0A	VBN3DN3P0B	VBN3DN3P0C	VBN3DN3P0D	VBN3DN3P0X
1-1/2"	4			VBN3EH3P0A	VBN3EH3P0B	VBN3EH3P0C	VBN3EH3P0D	VBN3EH3P0X
	8.3			VBN3EJ3P0A	VBN3EJ3P0B	VBN3EJ3P0C	VBN3EJ3P0D	VBN3EJ3P0X
	13.4			VBN3EK3P0A	VBN3EK3P0B	VBN3EK3P0C	VBN3EK3P0D	VBN3EK3P0X
	24			VBN3EL3P0A	VBN3EL3P0B	VBN3EL3P0C	VBN3EL3P0D	VBN3EL3P0X
	32*			VBN3EM3P0A	VBN3EM3P0B	VBN3EM3P0C	VBN3EM3P0D	VBN3EM3P0X
	61*			VBN3EP3P0A	VBN3EP3P0B	VBN3EP3P0C	VBN3EP3P0D	VBN3EP3P0X
2"	24			VBN3FL3P0A	VBN3FL3P0B	VBN3FL3P0C	VBN3FL3P0D	VBN3FL3P0X
	38			VBN3FN3P0A	VBN3FN3P0B	VBN3FN3P0C	VBN3FN3P0D	VBN3FN3P0X
	57*			VBN3FP3P0A	VBN3FP3P0B	VBN3FP3P0C	VBN3FP3P0D	VBN3FP3P0X
	83			VBN3FR3P0A	VBN3FR3P0B	VBN3FR3P0C	VBN3FR3P0D	VBN3FR3P0X
	109*			VBN3FT3P0A	VBN3FT3P0B	VBN3FT3P0C	VBN3FT3P0D	VBN3FT3P0X
2-1/2"	38			VBN3GN3P0A	VBN3GN3P0B	VBN3GN3P0C	VBN3GN3P0D	VBN3GN3P0X
	74			VBN3GR3P0A	VBN3GR3P0B	VBN3GR3P0C	VBN3GR3P0D	VBN3GR3P0X
	100*			VBN3GS3P0A	VBN3GS3P0B	VBN3GS3P0C	VBN3GS3P0D	VBN3GS3P0X

3-Way

* Full port ball. No flow characterizing insert.

3-Way NPT NEMA 3R

Actuator Features		Non-fail Safe		Fail Safe		
Actuator O.S. Number		MN6105A1011	MN7505A2001	MS8105A1030	MS7505A2030	Valve Only
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 VA	5 VA	8 VA	7.5 VA	
Actuator Torque	(lb.-in.)	44	44	44	44	
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	A-AB Closed	A-AB Closed	
Actuator Stroke	(degrees)	95° ± 3°	95° ± 3°	95° ± 3°	95° ± 3°	
Timing	(seconds)	90	90	45	90	
Aux Switch	2 x SPDT Add-on	SSW2	SSW2			
Feedback	2-10 Vdc Built In		•		•	
Valve Features	Trim	Nickel-Plated Brass	Nickel-Plated Brass	Nickel-Plated Brass	Nickel-Plated Brass	Nickel-Plated Brass

3-Way

Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number				
1/2"	0.33	50	VBN3AB3PRA	VBN3AB3PRB	VBN3AB3PRC	VBN3AB3PRD	—
	0.59		VBN3AC3PRA	VBN3AC3PRB	VBN3AC3PRC	VBN3AC3PRD	—
	1		VBN3AE3PRA	VBN3AE3PRB	VBN3AE3PRC	VBN3AE3PRD	—
	2.4		VBN3AF3PRA	VBN3AF3PRB	VBN3AF3PRC	VBN3AF3PRD	—
	4.3		VBN3AH3PRA	VBN3AH3PRB	VBN3AH3PRC	VBN3AH3PRD	—
	8*		VBN3AJ3PRA	VBN3AJ3PRB	VBN3AJ3PRC	VBN3AJ3PRD	—
3/4"	0.4		VBN3BC3PRA	VBN3BC3PRB	VBN3BC3PRC	VBN3BC3PRD	—
	0.66		VBN3BD3PRA	VBN3BD3PRB	VBN3BD3PRC	VBN3BD3PRD	—
	1.3		VBN3BE3PRA	VBN3BE3PRB	VBN3BE3PRC	VBN3BE3PRD	—
	2.4		VBN3BF3PRA	VBN3BF3PRB	VBN3BF3PRC	VBN3BF3PRD	—
	3.8		VBN3BG3PRA	VBN3BG3PRB	VBN3BG3PRC	VBN3BG3PRD	—
	7		VBN3BJ3PRA	VBN3BJ3PRB	VBN3BJ3PRC	VBN3BJ3PRD	—
	11*		VBN3BK3PRA	VBN3BK3PRB	VBN3BK3PRC	VBN3BK3PRD	—
1"	0.4		VBN3CC3PRA	VBN3CC3PRB	VBN3CC3PRC	VBN3CC3PRD	—
	0.65		VBN3CD3PRA	VBN3CD3PRB	VBN3CD3PRC	VBN3CD3PRD	—
	1.3		VBN3CE3PRA	VBN3CE3PRB	VBN3CE3PRC	VBN3CE3PRD	—
	2.3		VBN3CF3PRA	VBN3CF3PRB	VBN3CF3PRC	VBN3CF3PRD	—
	3.5		VBN3CG3PRA	VBN3CG3PRB	VBN3CG3PRC	VBN3CG3PRD	—
	4.5		VBN3CH3PRA	VBN3CH3PRB	VBN3CH3PRC	VBN3CH3PRD	—
	8.6		VBN3CJ3PRA	VBN3CJ3PRB	VBN3CJ3PRC	VBN3CJ3PRD	—
	14.9		VBN3CK3PRA	VBN3CK3PRB	VBN3CK3PRC	VBN3CK3PRD	—
	22*		VBN3CL3PRA	VBN3CL3PRB	VBN3CL3PRC	VBN3CL3PRD	—
	31*		VBN3CM3PRA	VBN3CM3PRB	VBN3CM3PRC	VBN3CM3PRD	—
1-1/4"	4.1	40	VBN3DH3PRA	VBN3DH3PRB	VBN3DH3PRC	VBN3DH3PRD	—
	8.7		VBN3DJ3PRA	VBN3DJ3PRB	VBN3DJ3PRC	VBN3DJ3PRD	—
	12.7		VBN3DK3PRA	VBN3DK3PRB	VBN3DK3PRC	VBN3DK3PRD	—
	19.4*		VBN3DL3PRA	VBN3DL3PRB	VBN3DL3PRC	VBN3DL3PRD	—
	27		VBN3DM3PRA	VBN3DM3PRB	VBN3DM3PRC	VBN3DM3PRD	—
	34*		VBN3DN3PRA	VBN3DN3PRB	VBN3DN3PRC	VBN3DN3PRD	—
1-1/2"	4		VBN3EH3PRA	VBN3EH3PRB	VBN3EH3PRC	VBN3EH3PRD	—
	8.3		VBN3EJ3PRA	VBN3EJ3PRB	VBN3EJ3PRC	VBN3EJ3PRD	—
	13.4		VBN3EK3PRA	VBN3EK3PRB	VBN3EK3PRC	VBN3EK3PRD	—
	24		VBN3EL3PRA	VBN3EL3PRB	VBN3EL3PRC	VBN3EL3PRD	—
	32*		VBN3EM3PRA	VBN3EM3PRB	VBN3EM3PRC	VBN3EM3PRD	—
	61*		VBN3EP3PRA	VBN3EP3PRB	VBN3EP3PRC	VBN3EP3PRD	—
2"	24		VBN3FL3PRA	VBN3FL3PRB	VBN3FL3PRC	VBN3FL3PRD	—
	38		VBN3FN3PRA	VBN3FN3PRB	VBN3FN3PRC	VBN3FN3PRD	—
	57*		VBN3FP3PRA	VBN3FP3PRB	VBN3FP3PRC	VBN3FP3PRD	—
	83		VBN3FR3PRA	VBN3FR3PRB	VBN3FR3PRC	VBN3FR3PRD	—
	109*		VBN3FT3PRA	VBN3FT3PRB	VBN3FT3PRC	VBN3FT3PRD	—
2-1/2"	38		VBN3GN3PRA	VBN3GN3PRB	VBN3GN3PRC	VBN3GN3PRD	—
	74		VBN3GR3PRA	VBN3GR3PRB	VBN3GR3PRC	VBN3GR3PRD	—
	100*		VBN3GS3PRA	VBN3GS3PRB	VBN3GS3PRC	VBN3GS3PRD	—

* Full port ball. No flow characterizing insert.

Control Ball Valves ½- 3"

2-Way NPT NEMA 3R

Actuator Features		Non-fail Safe			
Actuator O.S. Number		MN6105A1011	MN6105A1011	MN7505A2001	MN7505A2001
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 VA	5 VA	5 VA	5 VA
Actuator Torque	(lb.-in.)	44	44	44	44
Control	(0)2-10 Vdc			•	•
	4-20 mA (external 500 Ohm Resistor)			•	•
	Floating	•	•	•	•
	Two-Position SPDT	•	•	•	•
	Two-Position SPST			•	•
Fail Safe Action		Stay in Place	Stay in Place	Stay in Place	Stay in Place
Normal Position (no signal)		Closed	Closed	Closed	Closed
Actuator Stroke	(degrees)	95° ± 3°	95° ± 3°	95° ± 3°	95° ± 3°
Timing	(seconds)	90	90	90	90
Aux Switch	2 x SPDT Add-on	SSW2	SSW2	SW2-US	SW2-US
Feedback	2-10 Vdc Built In			•	•
Valve Features	Trim	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel

2-Way

Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number			
1/2"	0.38	130	VBN2AB3PRA	VBN2AB3SRA	VBN2AB3PRB	VBN2AB3SRB
	0.68		VBN2AD3PRA	VBN2AD3SRA	VBN2AD3PRB	VBN2AD3SRB
	1.3		VBN2AE3PRA	VBN2AE3SRA	VBN2AE3PRB	VBN2AE3SRB
	2		VBN2AF3PRA	VBN2AF3SRA	VBN2AF3PRB	VBN2AF3SRB
	2.6		VBN2AG3PRA	VBN2AG3SRA	VBN2AG3PRB	VBN2AG3SRB
	4.7		VBN2AH3PRA	VBN2AH3SRA	VBN2AH3PRB	VBN2AH3SRB
	8		VBN2AJ3PRA	VBN2AJ3SRA	VBN2AJ3PRB	VBN2AJ3SRB
	11.7*		VBN2AK3PRA	VBN2AK3SRA	VBN2AK3PRB	VBN2AK3SRB
3/4"	0.31		VBN2BB3PRA	VBN2BB3SRA	VBN2BB3PRB	VBN2BB3SRB
	0.63		VBN2BD3PRA	VBN2BD3SRA	VBN2BD3PRB	VBN2BD3SRB
	1.2		VBN2BE3PRA	VBN2BE3SRA	VBN2BE3PRB	VBN2BE3SRB
	2.5		VBN2BG3PRA	VBN2BG3SRA	VBN2BG3PRB	VBN2BG3SRB
	4.3		VBN2BH3PRA	VBN2BH3SRA	VBN2BH3PRB	VBN2BH3SRB
	7.4		VBN2BJ3PRA	VBN2BJ3SRA	VBN2BJ3PRB	VBN2BJ3SRB
	10.1		VBN2BK3PRA	VBN2BK3SRA	VBN2BK3PRB	VBN2BK3SRB
	14.7*		VBN2BL3PRA	VBN2BL3SRA	VBN2BL3PRB	VBN2BL3SRB
	29*		VBN2BM3PRA	VBN2BM3SRA	VBN2BM3PRB	VBN2BM3SRB
1"	4.4	100	VBN2CH3PRA	VBN2CH3SRA	VBN2CH3PRB	VBN2CH3SRB
	9		VBN2CJ3PRA	VBN2CJ3SRA	VBN2CJ3PRB	VBN2CJ3SRB
	15.3		VBN2CL3PRA	VBN2CL3SRA	VBN2CL3PRB	VBN2CL3SRB
	26		VBN2CM3PRA	VBN2CM3SRA	VBN2CM3PRB	VBN2CM3SRB
	44*		VBN2CN3PRA	VBN2CN3SRA	VBN2CN3PRB	VBN2CN3SRB
	54*		VBN2CP3PRA	VBN2CP3SRA	VBN2CP3PRB	VBN2CP3SRB
1-1/4"	4.4		VBN2DH3PRA	VBN2DH3SRA	VBN2DH3PRB	VBN2DH3SRB
	8.3		VBN2DJ3PRA	VBN2DJ3SRA	VBN2DJ3PRB	VBN2DJ3SRB
	14.9		VBN2DK3PRA	VBN2DK3SRA	VBN2DK3PRB	VBN2DK3SRB
	25		VBN2DL3PRA	VBN2DL3SRA	VBN2DL3PRB	VBN2DL3SRB
	37		VBN2DM3PRA	VBN2DM3SRA	VBN2DM3PRB	VBN2DM3SRB
	41*		VBN2DN3PRA	VBN2DN3SRA	VBN2DN3PRB	VBN2DN3SRB
	102*		VBN2DS3PRA	VBN2DS3SRA	VBN2DS3PRB	VBN2DS3SRB
1-1/2"	23		VBN2EL3PRA	VBN2EL3SRA	VBN2EL3PRB	VBN2EL3SRB
	30		VBN2EM3PRA	VBN2EM3SRA	VBN2EM3PRB	VBN2EM3SRB
	41		VBN2EN3PRA	VBN2EN3SRA	VBN2EN3PRB	VBN2EN3SRB
	74*		VBN2ER3PRA	VBN2ER3SRA	VBN2ER3PRB	VBN2ER3SRB
	172*		VBN2E13PRA	VBN2E13SRA	VBN2E13PRB	VBN2E13SRB
2"	42		VBN2FN3PRA	VBN2FN3SRA	VBN2FN3PRB	VBN2FN3SRB
	57		VBN2FP3PRA	VBN2FP3SRA	VBN2FP3PRB	VBN2FP3SRB
	71		VBN2FR3PRA	VBN2FR3SRA	VBN2FR3PRB	VBN2FR3SRB
	100		VBN2FS3PRA	VBN2FS3SRA	VBN2FS3PRB	VBN2FS3SRB
	108*		VBN2FT3PRA	VBN2FT3SRA	VBN2FT3PRB	VBN2FT3SRB
	210		VBN2F13PRA	VBN2F13SRA	VBN2F13PRB	VBN2F13SRB
	266*		VBN2F23PRA	VBN2F23SRA	VBN2F23PRB	VBN2F23SRB
2-1/2"	45		VBN2GN3PRA	VBN2GN3SRA	VBN2GN3PRB	VBN2GN3SRB
	55		VBN2GP3PRA	VBN2GP3SRA	VBN2GP3PRB	VBN2GP3SRB
	72		VBN2GR3PRA	VBN2GR3SRA	VBN2GR3PRB	VBN2GR3SRB
	101		VBN2GS3PRA	VBN2GS3SRA	VBN2GS3PRB	VBN2GS3SRB
	162		VBN2GU3PRA	VBN2GU3SRA	VBN2GU3PRB	VBN2GU3SRB
	202*		VBN2G13PRA	VBN2G13SRA	VBN2G13PRB	VBN2G13SRB
3"	49		VBN2HN3PRA	VBN2HN3SRA	VBN2HN3PRB	VBN2HN3SRB
	63		VBN2HP3PRA	VBN2HP3SRA	VBN2HP3PRB	VBN2HP3SRB
	82		VBN2HR3PRA	VBN2HR3SRA	VBN2HR3PRB	VBN2HR3SRB
	124		VBN2HT3PRA	VBN2HT3SRA	VBN2HT3PRB	VBN2HT3SRB
	145*		VBN2HU3PRA	VBN2HU3SRA	VBN2HU3PRB	VBN2HU3SRB

* Full port ball. No flow characterizing insert.

2-Way NPT NEMA 3R

Actuator Features		Fail Safe					
Actuator O.S. Number		MS8105A1030	MS8105A1030	MS7505A2030	MS7505A2030	Valve Only	Valve Only
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	8VA	8VA	7.5 VA	7.5 VA		
Actuator Torque	(lb.-in.)	44	44	44	44		
Control	(0)2-10 Vdc			•	•		
	4-20 mA (external 500 Ohm Resistor)			•	•		
	Floating			•	•		
	Two-Position SPDT			•	•		
	Two-Position SPST	•	•	•	•		
Fail Safe Action		Closed*	Closed*	Closed*	Closed*		
Normal Position (no signal)		Closed	Closed	Closed	Closed		
Actuator Stroke	(degrees)	95° ± 3°	95° ± 3°	95° ± 3°	95° ± 3°		
Timing	(seconds)	45	45	90	90		
Aux Switch	2 x SPDT Add-on						
Feedback	2-10 Vdc Built In			•	•		
Valve Features	Trim	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel	Nickel-Plated Brass	Stainless Steel

2-Way

Valve Size (inches)	Cv	Close-off Differential Pressure (psi)	Valve O.S. Number					
1/2"	0.38	130	VBN2AB3PRC	VBN2AB3SRC	VBN2AB3PRD	VBN2AB3SRD	—	—
	0.68		VBN2AD3PRC	VBN2AD3SRC	VBN2AD3PRD	VBN2AD3SRD	—	—
	1.3		VBN2AE3PRC	VBN2AE3SRC	VBN2AE3PRD	VBN2AE3SRD	—	—
	2		VBN2AF3PRC	VBN2AF3SRC	VBN2AF3PRD	VBN2AF3SRD	—	—
	2.6		VBN2AG3PRC	VBN2AG3SRC	VBN2AG3PRD	VBN2AG3SRD	—	—
	4.7		VBN2AH3PRC	VBN2AH3SRC	VBN2AH3PRD	VBN2AH3SRD	—	—
	8		VBN2AJ3PRC	VBN2AJ3SRC	VBN2AJ3PRD	VBN2AJ3SRD	—	—
	11.7*		VBN2AK3PRC	VBN2AK3SRC	VBN2AK3PRD	VBN2AK3SRD	—	—
3/4"	0.31		VBN2BB3PRC	VBN2BB3SRC	VBN2BB3PRD	VBN2BB3SRD	—	—
	0.63		VBN2BD3PRC	VBN2BD3SRC	VBN2BD3PRD	VBN2BD3SRD	—	—
	1.2		VBN2BE3PRC	VBN2BE3SRC	VBN2BE3PRD	VBN2BE3SRD	—	—
	2.5		VBN2BG3PRC	VBN2BG3SRC	VBN2BG3PRD	VBN2BG3SRD	—	—
	4.3		VBN2BH3PRC	VBN2BH3SRC	VBN2BH3PRD	VBN2BH3SRD	—	—
	7.4		VBN2BJ3PRC	VBN2BJ3SRC	VBN2BJ3PRD	VBN2BJ3SRD	—	—
	10.1		VBN2BK3PRC	VBN2BK3SRC	VBN2BK3PRD	VBN2BK3SRD	—	—
	14.7*		VBN2BL3PRC	VBN2BL3SRC	VBN2BL3PRD	VBN2BL3SRD	—	—
	29*		VBN2BM3PRC	VBN2BM3SRC	VBN2BM3PRD	VBN2BM3SRD	—	—
1"	4.4	100	VBN2CH3PRC	VBN2CH3SRC	VBN2CH3PRD	VBN2CH3SRD	—	—
	9		VBN2CJ3PRC	VBN2CJ3SRC	VBN2CJ3PRD	VBN2CJ3SRD	—	—
	15.3		VBN2CL3PRC	VBN2CL3SRC	VBN2CL3PRD	VBN2CL3SRD	—	—
	26		VBN2CM3PRC	VBN2CM3SRC	VBN2CM3PRD	VBN2CM3SRD	—	—
	44*		VBN2CN3PRC	VBN2CN3SRC	VBN2CN3PRD	VBN2CN3SRD	—	—
	54*		VBN2CP3PRC	VBN2CP3SRC	VBN2CP3PRD	VBN2CP3SRD	—	—
1-1/4"	4.4		VBN2DH3PRC	VBN2DH3SRC	VBN2DH3PRD	VBN2DH3SRD	—	—
	8.3		VBN2DJ3PRC	VBN2DJ3SRC	VBN2DJ3PRD	VBN2DJ3SRD	—	—
	14.9		VBN2DK3PRC	VBN2DK3SRC	VBN2DK3PRD	VBN2DK3SRD	—	—
	25		VBN2DL3PRC	VBN2DL3SRC	VBN2DL3PRD	VBN2DL3SRD	—	—
	37		VBN2DM3PRC	VBN2DM3SRC	VBN2DM3PRD	VBN2DM3SRD	—	—
	41*		VBN2DN3PRC	VBN2DN3SRC	VBN2DN3PRD	VBN2DN3SRD	—	—
	102*		VBN2DS3PRC	VBN2DS3SRC	VBN2DS3PRD	VBN2DS3SRD	—	—
1-1/2"	23		VBN2EL3PRC	VBN2EL3SRC	VBN2EL3PRD	VBN2EL3SRD	—	—
	30		VBN2EM3PRC	VBN2EM3SRC	VBN2EM3PRD	VBN2EM3SRD	—	—
	41		VBN2EN3PRC	VBN2EN3SRC	VBN2EN3PRD	VBN2EN3SRD	—	—
	74*		VBN2ER3PRC	VBN2ER3SRC	VBN2ER3PRD	VBN2ER3SRD	—	—
	172*		VBN2E13PRC	VBN2E13SRC	VBN2E13PRD	VBN2E13SRD	—	—
2"	42		VBN2FN3PRC	VBN2FN3SRC	VBN2FN3PRD	VBN2FN3SRD	—	—
	57		VBN2FP3PRC	VBN2FP3SRC	VBN2FP3PRD	VBN2FP3SRD	—	—
	71		VBN2FR3PRC	VBN2FR3SRC	VBN2FR3PRD	VBN2FR3SRD	—	—
	100		VBN2FS3PRC	VBN2FS3SRC	VBN2FS3PRD	VBN2FS3SRD	—	—
	108*		VBN2FT3PRC	VBN2FT3SRC	VBN2FT3PRD	VBN2FT3SRD	—	—
	210		VBN2F13PRC	VBN2F13SRC	VBN2F13PRD	VBN2F13SRD	—	—
	266*		VBN2F23PRC	VBN2F23SRC	VBN2F23PRD	VBN2F23SRD	—	—
2-1/2"	45		VBN2GN3PRC	VBN2GN3SRC	VBN2GN3PRD	VBN2GN3SRD	—	—
	55		VBN2GP3PRC	VBN2GP3SRC	VBN2GP3PRD	VBN2GP3SRD	—	—
	72		VBN2GR3PRC	VBN2GR3SRC	VBN2GR3PRD	VBN2GR3SRD	—	—
	101		VBN2GS3PRC	VBN2GS3SRC	VBN2GS3PRD	VBN2GS3SRD	—	—
	162		VBN2GU3PRC	VBN2GU3SRC	VBN2GU3PRD	VBN2GU3SRD	—	—
	202*		VBN2G13PRC	VBN2G13SRC	VBN2G13PRD	VBN2G13SRD	—	—
3"	49		VBN2HN3PRC	VBN2HN3SRC	VBN2HN3PRD	VBN2HN3SRD	—	—
	63		VBN2HP3PRC	VBN2HP3SRC	VBN2HP3PRD	VBN2HP3SRD	—	—
	82		VBN2HR3PRC	VBN2HR3SRC	VBN2HR3PRD	VBN2HR3SRD	—	—
	124		VBN2HT3PRC	VBN2HT3SRC	VBN2HT3PRD	VBN2HT3SRD	—	—
	145*		VBN2HU3PRC	VBN2HU3SRC	VBN2HU3PRD	VBN2HU3SRD	—	—

* Full port ball. No flow characterizing insert.

Flanged Control Ball Valves 4"-6"

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)

Actuator Features		Non-fail Safe		Fail Safe		Valve Only
Actuator O.S. Number		MN6110A1003 4 to 5 in. MN6134A1003 6 in.	MN7510A2001 4 to 5 in. MN7234A2008 6 in.	MS8110A1008 4 to 5 in. MS8120A1007 6 in.	MS7510A2008 4 to 5 in. MS7520A2007 6 in.	Valve Only
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		•		•	
Valve Features	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	—	—

2-Way

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)

Actuator Features		Non-fail Safe		Fail Safe		Valve Only
Actuator O.S. Number		MN6110A1003 4 to 5 in. MN6134A1003 6 in.	MN7510A2001 4 to 5 in. MN7234A2008 6 in.	MS8110A1008 4 to 5 in. MS8120A1007 6 in.	MS7510A2008 4 to 5 in. MS7520A2007 6 in.	Valve Only
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)	A-AB Closed	A-AB Closed	A-AB Closed	A-AB 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		•		•	
Valve Features	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
6"	208		VBF3L11S0A	VBF3L11S0B	VBF3L11S0C	VBF3L11S0D	VBF3L11S0X
	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	—	—
6"	208		VBF3L11SRA	VBF3L11SRB	VBF3L11SRC	VBF3L11SRD	—
	268		VBF3L21SRA	VBF3L21SRB	VBF3L21SRC	VBF3L21SRD	—
	346		VBF3L41SRA	VBF3L41SRB	VBF3L41SRC	—	—
	441		VBF3L51SRA	VBF3L51SRB	VBF3L51SRC	—	—
	577		VBF3L61SRA	VBF3L61SRB	VBF3L61SRC	—	—
	650		VBF3L71SRA	VBF3L71SRB	VBF3L71SRC	—	—

3-Way

Direct Coupled Actuators

SPRING RETURN

			Running Time		Power Supply			Control Input/Output					Auxiliary Knob	
	Order Specification Number	Approximate Area of Damper (4.5 lb-in/sq. ft.)	Drive (seconds)	Spring Return (seconds)	24 Vac/dc	120-230 Vac	VA Rating (Running)	On/Off	0/2-10 Vdc, Floating	3 kOhm NTC, 3-Position	Feedback (0/2-10 Vdc)	Adj. Zero and Span	SPDT Auxiliary Switches	Internal Minimum Position Potentiometer
	**S05 Series (5 Nm, 44 lb-in)**													
	MS8105A1030	10	45	<25	•			•					0	
	MS7505A2030	10	90	<25	•				•		•		0	
	**S10 Series (10 Nm, 88 lb-in)**													
	MS8110A1008	20	45	<25	•			•					0	
	MS7510A2008	20	90	<25	•				•		•		0	
	S20 Series (20 Nm, 175 lb-in)													
	MS8120A1007	39	45	<25	•			•					0	
	MS7520A2007	39	90	<25	•				•		•		0	

NON-SPRING RETURN

				Power Supply			Control Input/Output				
	Order Specification Number	Approximate Area of Damper (4.5 lb-in/sq. ft.)	Running Time	24 Vac/dc	24 Vac	VA Rating (Running)	On/Off, Floating	0/2-10 Vdc	2-10 Vdc	Feedback (0/2-10 Vdc)	SPDT Auxiliary Switches
	**N05 Series (5 Nm, 44 lb-in)**										
	MN6105A1011	10	90	•			•				0
	MN7505A2001	10	90	•						•	0
	**N10 Series (10 Nm, 88 lb-in)**										
	MN6110A1003	20	90	•			•				0
	MN7510A2001	20	90	•			•	•		•	0
	N34 Series (34 Nm, 300 lb-in)										
	MN6134A1003	67	90	•			•				0
	MN7234A2008	67	90	•				•			2
	**ML6161 (4 Nm, 35 lb-in)**										
	ML6161A2009	8	90		•	1.8	•			w/ accessory	0

In addition to the valve and actuator combinations you see here in this brochure, we have a VBN assembly service to custom configure threaded valves with other actuators.

For more information, please refer to the Control Ball Valve Customized Order Program Guide, form number 67-7328.

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