

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
- **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**

NORYL® is a registered trademark of GE Company.

MODEL NUMBER SPECIFICATION

VB N 2 A B 3 P 0 A / M

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	0.5	DN15
B	0.75	DN20
C	1	DN25
D	1.25	DN32
E	1.5	DN40
F	2	DN50
G	2.5	DN65
H	3	DN80
I	4	DN100
J	5	DN125
K	6	DN150

Flow Rate Range			
Cv	From	To	Nominal
A	0.000	0.240	0.19 Cv
B	0.241	0.380	0.30 Cv
C	0.381	0.600	0.48 Cv
D	0.601	0.950	0.76 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	6.00	4.8 Cv
J	6.01	9.90	7.5 Cv
K	10.00	15.0	12.0 Cv
L	15.1	25.0	19.0 Cv
M	25.1	38.0	30 Cv
N	38.1	54.0	48 Cv
P	54.1	68.0	60 Cv
R	68.1	85.0	76 Cv
S	85.1	107.0	95 Cv
T	107.1	135.0	120 Cv
U	135.1	169.0	151 Cv
1	169.1	213.0	190 Cv
2	213.1	268.0	239 Cv
3	268.1	338.0	301 Cv
4	338.1	425.0	379 Cv
5	425.1	535.0	477 Cv
6	535.1	601.0	535 Cv
7	601.1	674.0	601 Cv

Actuator
X = No Actuator
A = NSR, Floating
B = NSR, Modulating
C = SR, 2-Position, 24 Vac
D = SR, Floating/Modulating

Enclosure
O = No Enclosure
R = NEMA 3R enclosure

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

Temp/Pressure Rating
1 = (ANSI) 125/150
3 = (ANSI) 300

Control Ball Valves — All S

2 way - threaded		Dimensions (inches) and Weights (lbs.)										
Pipe Size	Model No.	A	B	C	D	E	F	Wt	B	D	E	F
1/2 in.	VBN2A	2-3/8	3-7/16	6-5/8	3	4	8-1/8	1.0	0.38	0.68	1.3	2.0
		2-5/8	3-11/16	6-1/2			8-5/16					
3/4 in.	VBN2B	2-3/8	3-7/16	6-7/16	3	4	8-1/8	1.0	0.31	0.63	1.2	
		2-5/8	3-11/16	6-1/2			8-5/16					
1 in.	VBN2C	3-3/4	3-11/16	7-1/16	3	4	8-5/16	1.0				
		3	3-15/16	6-3/4			8-11/16	1.4				
		4-3/8	4-7/16	7-3/8			8-7/8	2.4				
1-1/4 in.	VBN2D	3	3-15/16	6-11/16	3	4	8-11/16	1.4				
		3-5/8	4-7/16	7			9-1/16	2.4				
1-1/2 in.	VBN2E	3-3/8	3-15/16	6-15/16	3	4	9-1/16	2.4				
		3-3/4	5-3/16	7-1/16			8-7/8	3.2				
2 in.	VBN2F	4	5-3/16	7-3/16	3	4	8-7/8	3.2				
		4-3/8	5-3/4	7-7/16			10-1/2	5.0				
2-1/2 in.	VBN2G	4-3/4	5-3/4	7-9/16	3	4	10-1/2	5.5				
3 in.	VBN2H	5	5-7/8	7-11/16	4	4	10-11/16	5.9				

2 way - flanged		Dimensions (inches) and Weights (lbs.)										
Pipe Size	Model No.	A	B	C	D	E	Wt		B	D	E	F
4 in.	VBF2J	11	9	13-1/4	9	18-3/4	65					
5 in.	VBF2K	12 3/8	10	14-1/4	10	19	75					
6 in.	VBF2L	13-7/8	11	15-1/8	11	19-7/8	90					

3 way - threaded		Dimensions (inches) and Weights (lbs.)										
Pipe Size	Model No.	A	B	C	D	E	F	Wt	B	C	D	E
1/2 in.	VBN3A	3-1/2	3-5/16	7	3	2	9-3/8	2.4	0.33	0.59		1.0
3/4 in.	VBN3B	2-13/16	3-5/16	6-1/2	3	2	8-13/16	2		0.40	0.66	1.3
1 in.	VBN3C	3-13/16	3-5/16	7-5/16	3	2	9-1/2	2.8		0.40	0.65	1.3
		3	3-13/16	6-13/16			9-13/16	2.6				
		4-1/2	4	7-13/16			10-13/16		3.3			
1-1/4 in.	VBN3D	3	3-13/16	6-13/16	3	2	9-13/16	2.5				
		3-5/8	4	7-5/16			10-5/16	2.8				
1-1/2 in.	VBN3E	4-1/2	4	7-13/16	3	2	10-13/16	3.3				
		4	4-1/2	7-5/16			11					
2 in.	VBN3F	4	4-1/2	7-5/16	3	2	11	3.3				
		5	5-13/16	7-13/16			12-5/16	3.8				
2-1/2 in.	VBN3G	5	5-13/16	7-13/16	3	2	12-5/16	3.8				

3 way - flanged		Dimensions (inches) and Weights (lbs.)										
Pipe Size	Model No.	A	B	C	D	E	Wt		B	C	D	E
4 in.	VBF3J	11-7/8	9	14-1/8	10-3/8	18-1/2	75					
5 in.	VBF3K	13-7/8	10	15-1/8	12	19-3/8	90					
6 in.	VBF3L	15-7/8	11	16-1/8	13-3/8	20-1/2	105					

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)

Sizes and Cvs, 2 and 3 way

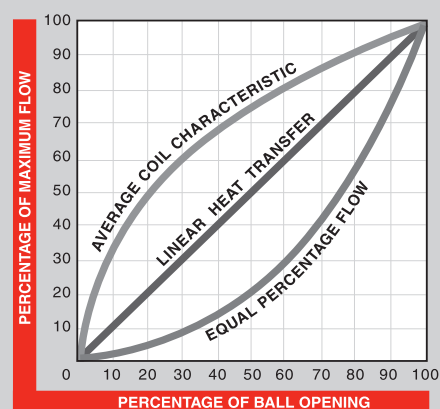
Cv																			
G	H	J	K	L	M	N	P	R	S	T	U	1	2	3	4	5	6	7	
2.6	4.7		11.7																
		8.0																	
2.5	4.3	7.4		14.7															
		10.1		29.0															
		9.0																	
	4.4			15.3			54.0												
					26.0	44.0													
	4.4	8.3	14.9	25.0		41.0													
					37.0				102.0										
				23.0	30.0			74.0											
						41.0						172.0							
						42.0				108.0									
							57.0	71.0	100.0			210.0	266.0						
						45.0	55.0	72.0	101.0		162.0	202.0							
						49.0	63.0	82.0		124.0	145.0								

Cv																			
G	H	J	K	L	M	N	P	R	S	T	U	1	2	3	4	5	6	7	
									91	118	152	197	254						
											144	185	240	309	400				
												208	268		346	441	577	650	

Cv																			
F	G	H	J	K	L	M	N	P	R	S	T	U	1	2	3	4	5	6	7
2.4		4.3	8.0																
2.4	3.8			11.0															
2.3	3.5																		
			8.6		22.0														
		4.5		14.9		31.0													
		4.1	8.7		19.0														
				12.7		27.0	34.0												
		4.0	8.3	13.4		32.0													
					24.0			61.0											
					24.0		38.0	57.0											
									83.0		109.0								
							38.0		74.0		100.0								

Cv																			
F	G	H	J	K	L	M	N	P	R	S	T	U	1	2	3	4	5	6	7
										91	118	152	197	254	327				
												144	185	240	309	400			
													208	268		346	441	577	650

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.



Two-Way Control Ball Valves with NEMA 3R Actuator Enclosures

Two-Way Control Ball Valves with NEMA 3R Actuator Enclosures												
			Non-Spring Return				Spring Return				Non-Actuated	
			Floating (Tristate)		Modulating (2-10 Vdc)		Two Position		Modulating		Valve Only	
Actuator Features			MN6105A1011		MN7505A2001		MS8105A1008		MS7505A2008			
24 Vac			•		•		•		•			
2-position Control			•				•					
Floating Control			•						•			
2-10 Vdc Control					•				•			
0-10 Vdc Control					•				•			
4-20 mA Control					•				•			
Manual Override			•		•		•		•			
Conduit Connection			•		•		•		•			
Spring Return							•		•			
Valve Size	Cv	Close-off, Differential Pressure (psi)	Nickel-Plated Brass Trim	Stainless Steel Trim	Nickel-Plated Brass Trim	Stainless Steel Trim	Nickel-Plated Brass Trim	Stainless Steel Trim	Nickel-Plated Brass Trim	Stainless Steel Trim	Nickel-Plated Brass Trim	Stainless Steel Trim
1/2 in.	0.38	130	VBN2AB3PRA	VBN2AB3SRA	VBN2AB3PRB	VBN2AB3SRB	VBN2AB3PRC	VBN2AB3SRC	VBN2AB3PRD	VBN2AB3SRD	VBN2AB3PRX	VBN2AB3SRX
	0.68		VBN2AD3PRA	VBN2AD3SRA	VBN2AD3PRB	VBN2AD3SRB	VBN2AD3PRC	VBN2AD3SRC	VBN2AD3PRD	VBN2AD3SRD	VBN2AD3PRX	VBN2AD3SRX
	1.3		VBN2AE3PRA	VBN2AE3SRA	VBN2AE3PRB	VBN2AE3SRB	VBN2AE3PRC	VBN2AE3SRC	VBN2AE3PRD	VBN2AE3SRD	VBN2AE3PRX	VBN2AE3SRX
	2		VBN2AF3PRA	VBN2AF3SRA	VBN2AF3PRB	VBN2AF3SRB	VBN2AF3PRC	VBN2AF3SRC	VBN2AF3PRD	VBN2AF3SRD	VBN2AF3PRX	VBN2AF3SRX
	2.6		VBN2AG3PRA	VBN2AG3SRA	VBN2AG3PRB	VBN2AG3SRB	VBN2AG3PRC	VBN2AG3SRC	VBN2AG3PRD	VBN2AG3SRD	VBN2AG3PRX	VBN2AG3SRX
	4.7		VBN2AH3PRA	VBN2AH3SRA	VBN2AH3PRB	VBN2AH3SRB	VBN2AH3PRC	VBN2AH3SRC	VBN2AH3PRD	VBN2AH3SRD	VBN2AH3PRX	VBN2AH3SRX
	8		VBN2AJ3PRA	VBN2AJ3SRA	VBN2AJ3PRB	VBN2AJ3SRB	VBN2AJ3PRC	VBN2AJ3SRC	VBN2AJ3PRD	VBN2AJ3SRD	VBN2AJ3PRX	VBN2AJ3SRX
3/4 in.	11.7	130	VBN2AK3PRA	VBN2AK3SRA	VBN2AK3PRB	VBN2AK3SRB	VBN2AK3PRC	VBN2AK3SRC	VBN2AK3PRD	VBN2AK3SRD	VBN2AK3PRX	VBN2AK3SRX
	0.31		VBN2BB3PRA	VBN2BB3SRA	VBN2BB3PRB	VBN2BB3SRB	VBN2BB3PRC	VBN2BB3SRC	VBN2BB3PRD	VBN2BB3SRD	VBN2BB3PRX	VBN2BB3SRX
	0.63		VBN2BD3PRA	VBN2BD3SRA	VBN2BD3PRB	VBN2BD3SRB	VBN2BD3PRC	VBN2BD3SRC	VBN2BD3PRD	VBN2BD3SRD	VBN2BD3PRX	VBN2BD3SRX
	1.2		VBN2BE3PRA	VBN2BE3SRA	VBN2BE3PRB	VBN2BE3SRB	VBN2BE3PRC	VBN2BE3SRC	VBN2BE3PRD	VBN2BE3SRD	VBN2BE3PRX	VBN2BE3SRX
	2.5		VBN2BG3PRA	VBN2BG3SRA	VBN2BG3PRB	VBN2BG3SRB	VBN2BG3PRC	VBN2BG3SRC	VBN2BG3PRD	VBN2BG3SRD	VBN2BG3PRX	VBN2BG3SRX
	4.3		VBN2BH3PRA	VBN2BH3SRA	VBN2BH3PRB	VBN2BH3SRB	VBN2BH3PRC	VBN2BH3SRC	VBN2BH3PRD	VBN2BH3SRD	VBN2BH3PRX	VBN2BH3SRX
	7.4		VBN2BJ3PRA	VBN2BJ3SRA	VBN2BJ3PRB	VBN2BJ3SRB	VBN2BJ3PRC	VBN2BJ3SRC	VBN2BJ3PRD	VBN2BJ3SRD	VBN2BJ3PRX	VBN2BJ3SRX
1 in.	10.1	100	VBN2BK3PRA	VBN2BK3SRA	VBN2BK3PRB	VBN2BK3SRB	VBN2BK3PRC	VBN2BK3SRC	VBN2BK3PRD	VBN2BK3SRD	VBN2BK3PRX	VBN2BK3SRX
	14.7		VBN2BL3PRA	VBN2BL3SRA	VBN2BL3PRB	VBN2BL3SRB	VBN2BL3PRC	VBN2BL3SRC	VBN2BL3PRD	VBN2BL3SRD	VBN2BL3PRX	VBN2BL3SRX
	29		VBN2BM3PRA	VBN2BM3SRA	VBN2BM3PRB	VBN2BM3SRB	VBN2BM3PRC	VBN2BM3SRC	VBN2BM3PRD	VBN2BM3SRD	VBN2BM3PRX	VBN2BM3SRX
	4.4	100	VBN2CH3PRA	VBN2CH3SRA	VBN2CH3PRB	VBN2CH3SRB	VBN2CH3PRC	VBN2CH3SRC	VBN2CH3PRD	VBN2CH3SRD	VBN2CH3PRX	VBN2CH3SRX
	9		VBN2CJ3PRA	VBN2CJ3SRA	VBN2CJ3PRB	VBN2CJ3SRB	VBN2CJ3PRC	VBN2CJ3SRC	VBN2CJ3PRD	VBN2CJ3SRD	VBN2CJ3PRX	VBN2CJ3SRX
	15.3		VBN2CL3PRA	VBN2CL3SRA	VBN2CL3PRB	VBN2CL3SRB	VBN2CL3PRC	VBN2CL3SRC	VBN2CL3PRD	VBN2CL3SRD	VBN2CL3PRX	VBN2CL3SRX
	26		VBN2CM3PRA	VBN2CM3SRA	VBN2CM3PRB	VBN2CM3SRB	VBN2CM3PRC	VBN2CM3SRC	VBN2CM3PRD	VBN2CM3SRD	VBN2CM3PRX	VBN2CM3SRX
	44		VBN2CN3PRA	VBN2CN3SRA	VBN2CN3PRB	VBN2CN3SRB	VBN2CN3PRC	VBN2CN3SRC	VBN2CN3PRD	VBN2CN3SRD	VBN2CN3PRX	VBN2CN3SRX
1-1/4 in.	54	100	VBN2CP3PRA	VBN2CP3SRA	VBN2CP3PRB	VBN2CP3SRB	VBN2CP3PRC	VBN2CP3SRC	VBN2CP3PRD	VBN2CP3SRD	VBN2CP3PRX	VBN2CP3SRX
	4.4		VBN2DH3PRA	VBN2DH3SRA	VBN2DH3PRB	VBN2DH3SRB	VBN2DH3PRC	VBN2DH3SRC	VBN2DH3PRD	VBN2DH3SRD	VBN2DH3PRX	VBN2DH3SRX
	8.3		VBN2DJ3PRA	VBN2DJ3SRA	VBN2DJ3PRB	VBN2DJ3SRB	VBN2DJ3PRC	VBN2DJ3SRC	VBN2DJ3PRD	VBN2DJ3SRD	VBN2DJ3PRX	VBN2DJ3SRX
	14.9		VBN2DK3PRA	VBN2DK3SRA	VBN2DK3PRB	VBN2DK3SRB	VBN2DK3PRC	VBN2DK3SRC	VBN2DK3PRD	VBN2DK3SRD	VBN2DK3PRX	VBN2DK3SRX
	25		VBN2DL3PRA	VBN2DL3SRA	VBN2DL3PRB	VBN2DL3SRB	VBN2DL3PRC	VBN2DL3SRC	VBN2DL3PRD	VBN2DL3SRD	VBN2DL3PRX	VBN2DL3SRX
	37		VBN2DM3PRA	VBN2DM3SRA	VBN2DM3PRB	VBN2DM3SRB	VBN2DM3PRC	VBN2DM3SRC	VBN2DM3PRD	VBN2DM3SRD	VBN2DM3PRX	VBN2DM3SRX
	41		VBN2DN3PRA	VBN2DN3SRA	VBN2DN3PRB	VBN2DN3SRB	VBN2DN3PRC	VBN2DN3SRC	VBN2DN3PRD	VBN2DN3SRD	VBN2DN3PRX	VBN2DN3SRX
1-1/2 in.	102	100	VBN2DS3PRA	VBN2DS3SRA	VBN2DS3PRB	VBN2DS3SRB	VBN2DS3PRC	VBN2DS3SRC	VBN2DS3PRD	VBN2DS3SRD	VBN2DS3PRX	VBN2DS3SRX
	23		VBN2EL3PRA	VBN2EL3SRA	VBN2EL3PRB	VBN2EL3SRB	VBN2EL3PRC	VBN2EL3SRC	VBN2EL3PRD	VBN2EL3SRD	VBN2EL3PRX	VBN2EL3SRX
	30		VBN2EM3PRA	VBN2EM3SRA	VBN2EM3PRB	VBN2EM3SRB	VBN2EM3PRC	VBN2EM3SRC	VBN2EM3PRD	VBN2EM3SRD	VBN2EM3PRX	VBN2EM3SRX
	41		VBN2EN3PRA	VBN2EN3SRA	VBN2EN3PRB	VBN2EN3SRB	VBN2EN3PRC	VBN2EN3SRC	VBN2EN3PRD	VBN2EN3SRD	VBN2EN3PRX	VBN2EN3SRX
	74		VBN2ER3PRA	VBN2ER3SRA	VBN2ER3PRB	VBN2ER3SRB	VBN2ER3PRC	VBN2ER3SRC	VBN2ER3PRD	VBN2ER3SRD	VBN2ER3PRX	VBN2ER3SRX
	172		VBN2E13PRA	VBN2E13SRA	VBN2E13PRB	VBN2E13SRB	VBN2E13PRC	VBN2E13SRC	VBN2E13PRD	VBN2E13SRD	VBN2E13PRX	VBN2E13SRX
	42		VBN2FN3PRA	VBN2FN3SRA	VBN2FN3PRB	VBN2FN3SRB	VBN2FN3PRC	VBN2FN3SRC	VBN2FN3PRD	VBN2FN3SRD	VBN2FN3PRX	VBN2FN3SRX
2 in.	57	100	VBN2FP3PRA	VBN2FP3SRA	VBN2FP3PRB	VBN2FP3SRB	VBN2FP3PRC	VBN2FP3SRC	VBN2FP3PRD	VBN2FP3SRD	VBN2FP3PRX	VBN2FP3SRX
	71		VBN2FR3PRA	VBN2FR3SRA	VBN2FR3PRB	VBN2FR3SRB	VBN2FR3PRC	VBN2FR3SRC	VBN2FR3PRD	VBN2FR3SRD	VBN2FR3PRX	VBN2FR3SRX
	100		VBN2FS3PRA	VBN2FS3SRA	VBN2FS3PRB	VBN2FS3SRB	VBN2FS3PRC	VBN2FS3SRC	VBN2FS3PRD	VBN2FS3SRD	VBN2FS3PRX	VBN2FS3SRX
	108		VBN2FT3PRA	VBN2FT3SRA	VBN2FT3PRB	VBN2FT3SRB	VBN2FT3PRC	VBN2FT3SRC	VBN2FT3PRD	VBN2FT3SRD	VBN2FT3PRX	VBN2FT3SRX
	210		VBN2F13PRA	VBN2F13SRA	VBN2F13PRB	VBN2F13SRB	VBN2F13PRC	VBN2F13SRC	VBN2F13PRD	VBN2F13SRD	VBN2F13PRX	VBN2F13SRX
	266		VBN2F23PRA	VBN2F23SRA	VBN2F23PRB	VBN2F23SRB	VBN2F23PRC	VBN2F23SRC	VBN2F23PRD	VBN2F23SRD	VBN2F23PRX	VBN2F23SRX
	45	100	VBN2GN3PRA	VBN2GN3SRA	VBN2GN3PRB	VBN2GN3SRB	VBN2GN3PRC	VBN2GN3SRC	VBN2GN3PRD	VBN2GN3SRD	VBN2GN3PRX	VBN2GN3SRX
2-1/2 in.	55		VBN2GP3PRA	VBN2GP3SRA	VBN2GP3PRB	VBN2GP3SRB	VBN2GP3PRC	VBN2GP3SRC	VBN2GP3PRD	VBN2GP3SRD	VBN2GP3PRX	VBN2GP3SRX
	72		VBN2GR3PRA	VBN2GR3SRA	VBN2GR3PRB	VBN2GR3SRB	VBN2GR3PRC	VBN2GR3SRC	VBN2GR3PRD	VBN2GR3SRD	VBN2GR3PRX	VBN2GR3SRX
	101		VBN2GS3PRA	VBN2GS3SRA	VBN2GS3PRB	VBN2GS3SRB	VBN2GS3PRC	VBN2GS3SRC	VBN2GS3PRD	VBN2GS3SRD	VBN2GS3PRX	VBN2GS3SRX
	162		VBN2GU3PRA	VBN2GU3SRA	VBN2GU3PRB	VBN2GU3SRB	VBN2GU3PRC	VBN2GU3SRC	VBN2GU3PRD	VBN2GU3SRD	VBN2GU3PRX	VBN2GU3SRX
3 in.	202	100	VBN2G13PRA	VBN2G13SRA	VBN2G13PRB	VBN2G13SRB	VBN2G13PRC	VBN2G13SRC	VBN2G13PRD	VBN2G13SRD	VBN2G13PRX	VBN2G13SRX
	49		VBN2HM3PRA	VBN2HM3SRA	VBN2HM3PRB	VBN2HM3SRB	VBN2HM3PRC	VBN2HM3SRC	VBN2HM3PRD	VBN2HM3SRD	VBN2HM3PRX	VBN2HM3SRX
	63		VBN2HO3PRA	VBN2HO3SRA	VBN2HO3PRB	VBN2HO3SRB	VBN2HO3PRC	VBN2HO3SRC	VBN2HO3PRD	VBN2HO3SRD	VBN2HO3PRX	VBN2HO3SRX
	82		VBN2HQ3PRA	VBN2HQ3SRA	VBN2HQ3PRB	VBN2HQ3SRB	VBN2HQ3PRC	VBN2HQ3SRC	VBN2HQ3PRD	VBN2HQ3SRD	VBN2HQ3PRX	VBN2HQ3SRX
	124		VBN2HS3PRA	VBN2HS3SRA	VBN2HS3PRB	VBN2HS3SRB	VBN2HS3PRC	VBN2HS3SRC	VBN2HS3PRD	VBN2HS3SRD	VBN2HS3PRX	VBN2HS3SRX
	145		VBN2HT3PRA	VBN2HT3SRA	VBN2HT3PRB	VBN2HT3SRB	VBN2HT3PRC	VBN2HT3SRC	VBN2HT3PRD	VBN2HT3SRD	VBN2HT3PRX	VBN2HT3SRX

			Three-Way Control Ball Valves					
			Non-Spring Return		Spring Return		Non-Actuated	
			Floating (Tristate)	Modulating (2-10 Vdc)	Two Position	Modulating	Valve Only	
			Actuator Features	MN6105A1011	MN7505A2001	MS8105A1008		MS7505A2008
			24 Vac	•	•	•		•
2-position Control	•		•					
Floating Control	•			•				
2-10 Vdc Control		•		•				
0-10 Vdc Control		•		•				
4-20 mA Control		•		•				
Manual Override	•	•	•	•				
Conduit Connection			•	•				
Spring Return			•	•				
Valve Size	Cv	Close-off, Differential Pressure (psi)	Nickel-Plated Brass Trim					
1/2 in.	0.33	50	VBN3AB3P0A	VBN3AB3P0B	VBN3AB3P0C	VBN3AB3P0D	VBN3AB3P0X	
	0.59		VBN3AC3P0A	VBN3AC3P0B	VBN3AC3P0C	VBN3AC3P0D	VBN3AC3P0X	
	1		VBN3AE3P0A	VBN3AE3P0B	VBN3AE3P0C	VBN3AE3P0D	VBN3AE3P0X	
	2.4		VBN3AF3P0A	VBN3AF3P0B	VBN3AF3P0C	VBN3AF3P0D	VBN3AF3P0X	
	4.3		VBN3AH3P0A	VBN3AH3P0B	VBN3AH3P0C	VBN3AH3P0D	VBN3AH3P0X	
	8		VBN3AJ3P0A	VBN3AJ3P0B	VBN3AJ3P0C	VBN3AJ3P0D	VBN3AJ3P0X	
3/4 in.	0.40	50	VBN3BC3P0A	VBN3BC3P0B	VBN3BC3P0C	VBN3BC3P0D	VBN3BC3P0X	
	0.66		VBN3BD3P0A	VBN3BD3P0B	VBN3BD3P0C	VBN3BD3P0D	VBN3BD3P0X	
	1.3		VBN3BE3P0A	VBN3BE3P0B	VBN3BE3P0C	VBN3BE3P0D	VBN3BE3P0X	
	2.4		VBN3BF3P0A	VBN3BF3P0B	VBN3BF3P0C	VBN3BF3P0D	VBN3BF3P0X	
	3.8		VBN3BG3P0A	VBN3BG3P0B	VBN3BG3P0C	VBN3BG3P0D	VBN3BG3P0X	
	7		VBN3BJ3P0A	VBN3BJ3P0B	VBN3BJ3P0C	VBN3BJ3P0D	VBN3BJ3P0X	
	11		VBN3BK3P0A	VBN3BK3P0B	VBN3BK3P0C	VBN3BK3P0D	VBN3BK3P0X	
1 in.	0.40	50	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 in.	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 in.	4	40	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 in.	24	40	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 in.	38	40	VBN3GN3P0A	VBN3GN3P0B	VBN3GN3P0C	VBN3GN3P0D	VBN3GN3P0X	
	74		VBN3GR3P0A	VBN3GR3P0B	VBN3GR3P0C	VBN3GR3P0D	VBN3GR3P0X	
	100		VBN3GT3P0A	VBN3GT3P0B	VBN3GT3P0C	VBN3GT3P0D	VBN3GT3P0X	

Three-Way Control Ball Valves with NEMA 3R Actuator Enclosures

	Non-Spring Return		Spring Return		Non-Actuated
	Floating (Tristate)	Modulating (2-10 Vdc)	Two Position	Modulating	
	MN6105A1011	MN7505A2001	MS8105A1008	MS7505A2008	Valve Only
Actuator Features					
24 Vac	•	•	•	•	
2-position Control	•		•		
Floating Control	•			•	
2-10 Vdc Control		•		•	
0-10 Vdc Control		•		•	
4-20 mA Control		•		•	
Manual Override	•	•	•	•	
Conduit Connection			•	•	
Spring Return			•	•	

Valve Size	Cv	Close-off, Differential Pressure (psi)	Nickel-Plated Brass Trim				
1/2 in.	0.33	50	VBN3AB3PRA	VBN3AB3PRB	VBN3AB3PRC	VBN3AB3PRD	VBN3AB3PRX
	0.59		VBN3AC3PRA	VBN3AC3PRB	VBN3AC3PRC	VBN3AC3PRD	VBN3AC3PRX
	1		VBN3AE3PRA	VBN3AE3PRB	VBN3AE3PRC	VBN3AE3PRD	VBN3AE3PRX
	2.4		VBN3AF3PRA	VBN3AF3PRB	VBN3AF3PRC	VBN3AF3PRD	VBN3AF3PRX
	4.3		VBN3AH3PRA	VBN3AH3PRB	VBN3AH3PRC	VBN3AH3PRD	VBN3AH3PRX
	8		VBN3AJ3PRA	VBN3AJ3PRB	VBN3AJ3PRC	VBN3AJ3PRD	VBN3AJ3PRX
3/4 in.	0.40	50	VBN3BC3PRA	VBN3BC3PRB	VBN3BC3PRC	VBN3BC3PRD	VBN3BC3PRX
	0.66		VBN3BD3PRA	VBN3BD3PRB	VBN3BD3PRC	VBN3BD3PRD	VBN3BD3PRX
	1.3		VBN3BE3PRA	VBN3BE3PRB	VBN3BE3PRC	VBN3BE3PRD	VBN3BE3PRX
	2.4		VBN3BF3PRA	VBN3BF3PRB	VBN3BF3PRC	VBN3BF3PRD	VBN3BF3PRX
	3.8		VBN3BG3PRA	VBN3BG3PRB	VBN3BG3PRC	VBN3BG3PRD	VBN3BG3PRX
	7		VBN3BJ3PRA	VBN3BJ3PRB	VBN3BJ3PRC	VBN3BJ3PRD	VBN3BJ3PRX
1 in.	11	50	VBN3BK3PRA	VBN3BK3PRB	VBN3BK3PRC	VBN3BK3PRD	VBN3BK3PRX
	0.40		VBN3CC3PRA	VBN3CC3PRB	VBN3CC3PRC	VBN3CC3PRD	VBN3CC3PRX
	0.65		VBN3CD3PRA	VBN3CD3PRB	VBN3CD3PRC	VBN3CD3PRD	VBN3CD3PRX
	1.3		VBN3CE3PRA	VBN3CE3PRB	VBN3CE3PRC	VBN3CE3PRD	VBN3CE3PRX
	2.3		VBN3CF3PRA	VBN3CF3PRB	VBN3CF3PRC	VBN3CF3PRD	VBN3CF3PRX
	3.5		VBN3CG3PRA	VBN3CG3PRB	VBN3CG3PRC	VBN3CG3PRD	VBN3CG3PRX
	4.5		VBN3CH3PRA	VBN3CH3PRB	VBN3CH3PRC	VBN3CH3PRD	VBN3CH3PRX
	8.6		VBN3CJ3PRA	VBN3CJ3PRB	VBN3CJ3PRC	VBN3CJ3PRD	VBN3CJ3PRX
	14.9		VBN3CK3PRA	VBN3CK3PRB	VBN3CK3PRC	VBN3CK3PRD	VBN3CK3PRX
	22		VBN3CL3PRA	VBN3CL3PRB	VBN3CL3PRC	VBN3CL3PRD	VBN3CL3PRX
1-1/4 in.	31	40	VBN3CM3PRA	VBN3CM3PRB	VBN3CM3PRC	VBN3CM3PRD	VBN3CM3PRX
	4.1		VBN3DH3PRA	VBN3DH3PRB	VBN3DH3PRC	VBN3DH3PRD	VBN3DH3PRX
	8.7		VBN3DJ3PRA	VBN3DJ3PRB	VBN3DJ3PRC	VBN3DJ3PRD	VBN3DJ3PRX
	12.7		VBN3DK3PRA	VBN3DK3PRB	VBN3DK3PRC	VBN3DK3PRD	VBN3DK3PRX
	19.4		VBN3DL3PRA	VBN3DL3PRB	VBN3DL3PRC	VBN3DL3PRD	VBN3DL3PRX
	27		VBN3DM3PRA	VBN3DM3PRB	VBN3DM3PRC	VBN3DM3PRD	VBN3DM3PRX
1-1/2 in.	34	40	VBN3DN3PRA	VBN3DN3PRB	VBN3DN3PRC	VBN3DN3PRD	VBN3DN3PRX
	4		VBN3EH3PRA	VBN3EH3PRB	VBN3EH3PRC	VBN3EH3PRD	VBN3EH3PRX
	8.3		VBN3EJ3PRA	VBN3EJ3PRB	VBN3EJ3PRC	VBN3EJ3PRD	VBN3EJ3PRX
	13.4		VBN3EK3PRA	VBN3EK3PRB	VBN3EK3PRC	VBN3EK3PRD	VBN3EK3PRX
	24		VBN3EL3PRA	VBN3EL3PRB	VBN3EL3PRC	VBN3EL3PRD	VBN3EL3PRX
	32		VBN3EM3PRA	VBN3EM3PRB	VBN3EM3PRC	VBN3EM3PRD	VBN3EM3PRX
2 in.	61	40	VBN3EP3PRA	VBN3EP3PRB	VBN3EP3PRC	VBN3EP3PRD	VBN3EP3PRX
	24		VBN3FL3PRA	VBN3FL3PRB	VBN3FL3PRC	VBN3FL3PRD	VBN3FL3PRX
	38		VBN3FN3PRA	VBN3FN3PRB	VBN3FN3PRC	VBN3FN3PRD	VBN3FN3PRX
	57		VBN3FP3PRA	VBN3FP3PRB	VBN3FP3PRC	VBN3FP3PRD	VBN3FP3PRX
	83		VBN3FR3PRA	VBN3FR3PRB	VBN3FR3PRC	VBN3FR3PRD	VBN3FR3PRX
2-1/2 in.	109	40	VBN3FT3PRA	VBN3FT3PRB	VBN3FT3PRC	VBN3FT3PRD	VBN3FT3PRX
	38		VBN3GN3PRA	VBN3GN3PRB	VBN3GN3PRC	VBN3GN3PRD	VBN3GN3PRX
	74		VBN3GR3PRA	VBN3GR3PRB	VBN3GR3PRC	VBN3GR3PRD	VBN3GR3PRX
	100	VBN3GT3PRA	VBN3GT3PRB	VBN3GT3PRC	VBN3GT3PRD	VBN3GT3PRX	

Flanged Control Ball Vs. Flanged Globe

Attribute	Control Ball Valve	Globe Valve	Advantage	Reason
Flow Characteristics	Quadratic (with characterization)	Equal percent to design temp.	Globe	BAS controller expects flow from valve at low signal
	Linear (full port)	Linear		
	Delayed opening / early close off	Continuous from start		
Rangeability (Turn down ratio)	Fixed minimum flow =	50:1 = 2% steps (HON)	Globe	Small sizes represent most of the applications
	1. Low TDR at low Cv	100:1 (Siemens claim)		
	2. High TDR at high Cv	< 25:1 (JCI)		
Operating Differential Pressure	20 – 25 psid for characterized ports	20 – 25 psid for quiet operation	--	20+ psid is not typical of control valve applications
	(plate distortion)	(cavitation at low flow)		
Close-off Differential Pressure	High with low Torque actuators	Inversely proportional to Cv, and proportional to actuator force	Control Ball	Globe is comparable in small sizes
	--	Pressure balanced is high		PB more expensive
Seat Leakage	ANSI Class IV (0.01%)	ANSI Class III – IV	Control Ball	Chilled water energy use
Trim (internal construction)	Plated brass on Teflon	Brass plug on brass seat	--	Long term performance of ball valve in automatic control unknown
	Stainless steel on Teflon	Stainless steel plug on SS seat		
Steam Ratings	Low pressure (full port only)	Low pressure	Globe	Greater versatility. Equal % flow available with globe
	--	High pressure		
Cv Ratings	Multiple Cv's per valve size	Multiple Cvs @ 1/2" size	Ball	Lower installed cost with no loss of control capability
Line size piping	Direct connection with lower Cv	Reducers often needed > 1/2"	Ball	Lower installed cost with no loss of control capability
Pipe sizes	1/2" – 3" Threaded	1/2" – 3" Threaded ANSI 150	Globe	Wider applications
	4" – 6" ANSI 125 Flanged	2-1/2" – 6" ANSI 125 & 250 Flanged		
3-way body styles	Combo mixing/diverting	Mixing	Control Ball	Easier to select. Piping different mixing & diverting
	--	Diverting		
Physical Size	Low profile at large sizes	Large profile at large sizes	Control Ball	Depends on application
	Relatively large in 1/2" pipe	Small size in 1/2" pipe	Globe	
Control Inputs	Floating/2-position, modulating	Floating/2-position, modulating	--	Depends on application
	--	Pneumatic installed base	Globe	
Fail Safe Operation	N.O. or N.C. by actuator position	N.O. or N.C. up to 3"	Control Ball	Globe needs higher power acutators
	Stay-in-place	Stay-in-place		
Valve Serviceability	Requires unions for valve access	In-line serviceable	Globe	B.V. must be removed from piping
CE preference	Growing with time	Well established	Globe	Familiar technology (habit)
Contractor preference	Valve comes with actuator	Actuator selection separate	Control Ball	Easier to select
Actuator Selection	Match valve and damper DCAs	Requires linkage for DCAs	Control Ball	Added cost for globe valve

Honeywell's Flanged Control Ball Valve Line is a cost-effective option for applications which would otherwise require a higher cost flanged globe valve.



Flanged Control Ball Valve Offering

- Patented spring-loaded seat design that minimizes frictional load on the ball and allows for the use of compact lower torque actuators
- Honeywell only offers stainless steel balls on flanged models to accommodate the stress associated with 4" – 6" pipe sizes
- The flanges on these control ball valves are a unique combination of ANSI 125 and PM16 designs, suitable for installation either in North America or countries using European piping standards.
- Pressure activated seals provide a leak-proof seal without the high torque requirement
- Flange-to-Flange distances match globe valves making retrofit applications easy

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