

# BV3H & BV4H TRUE MULTI-WAY

**6,000 PSI trunnion type with stock L/T/X ball patterns**

*Supports high port-to-port  $\Delta P$  ~ Sizes from 1/4" to 2"*

*Call DMIC for pricing & availability if you require higher pressure or larger multi-way valves.*



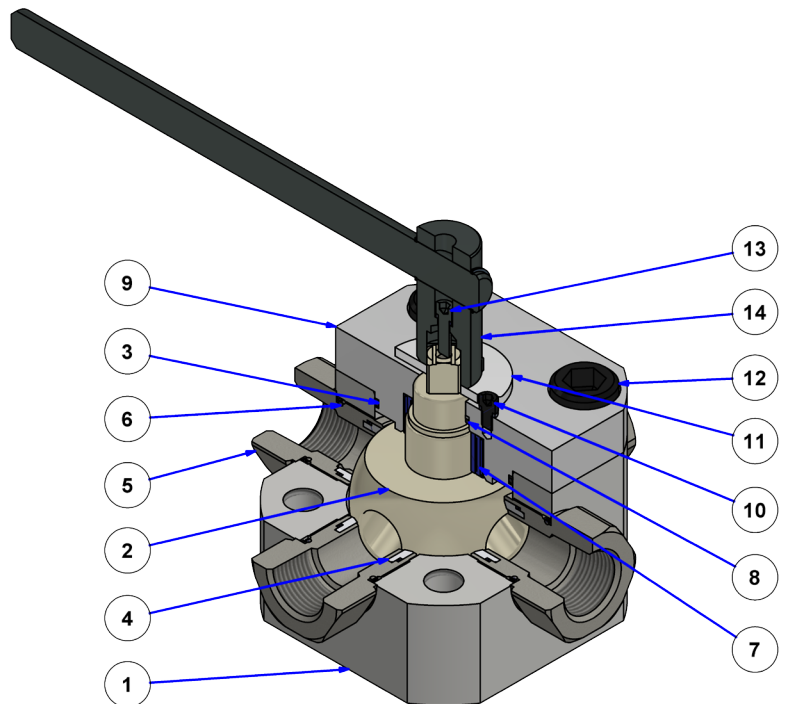
DMIC **BV3H** and **BV4H** series have been upgraded for superior performance and durability with DMIC's exclusive top serviceable design, and compatibility with many DMIC Pre-Engineered Accessories and Actuation Packages. This model is not restricted to any specific type of circuit, and incorporates BLOCKED CENTER (intermediate) positions.

- Three dimensional balanced sealing for near zero leakage in any circuit
- Fast availability of Ball Patterns, Stainless Steel, and Special Sealing
- Made by DMIC in the U.S.A. for top quality and reliable delivery
- Provides one of the lowest actuation torque and internal leakage designs on the market
- Designed for your most critical and high duty cycle projects

## Service Parts BOM

BV3H/ BV4H	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Top Cap O-Ring(s)
4	4*	Ball Seal
5	4*	End Connection(s)
6	4*	End Connection O-Ring(s)
7	2	Shaft Bearing(s)
8	2	Shaft O-Ring(s)
9	1	Top Cap
10	1	Stop Pin
11	1	Stop Washer
12	1	Top Cap Screw
13	1	Handle Screw
14	1	Handle

\*Quantity depends on size and configuration



# BV3H & BV4H TRUE MULTI-WAY

## Ordering Codes Summary

*See page 14 for accessory codes*

**BV3H**  
*or*  
**BV4H**

\*\*\*\* S A 1 1 1 1 \* \* \* \* \*

**O-Ring Material**

Code	Description
1	Buna-N (Standard)
2	EPR
3	Viton™
4	Teflon™

**Size Codes**

Code	Port Size
0250	¼"
0375	⅜"
0500	½"
0750	¾"
1000	1"
1250	1¼"
1500	1½"
2000	2"

Call Factory for larger sizes 18"+

**Connection Types**

Imperial Threads	
Code	Description
S	SAE ORB
N	NPT
Metric Threads	
B	BSPP
T	BSPT (Tapered Pipe)
ISO Threads	
IU	ISO6149
Welded	
W*	Socket Weld
WB*	Butt Weld
Flanged	
F*	SAE 4-Bolt UNC
G*	SAE 4-Bolt Metric
S*	SAE Split

\*Please see page 11 for complete connection availability matrix

**Ball Pattern**

BV3H	
A	L-Bore, (Standard)
B	T-Bore, 45° Action
C	T-Bore 90° Action
D	T-Bore 180° Action
G	Inverted T-Bore 90° Action
BV4H	
C	T-Bore 90° Action
D	T-Bore 180° Action (Standard)
F	X-Bore 90° Action
G	Inverted T-Bore 90° Action

**Ball Seal Material**

Code	Description
1	Delrin™
2	PTFE Teflon™ (1500 PSI MAX)
4	High Temp Peek
6	Delrin™ AF (low Friction)

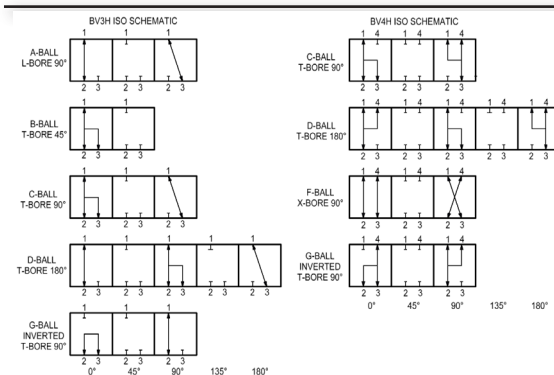
**Ball & Spindle Mat'l**

Code	Description
1	Carbon Steel
2	316 Stainless Steel
6	416 Stainless Steel

**Body Material**

Code	Description
1	Carbon Steel
2	Stainless Steel

## BV3H & BV4H Ball Pattern Schematic



There is NO crossflow at 45°. Where as the BV3L(Z), BV3D(Z), and BVMM have crossflow.

**Note:** Changes from Standard Materials may result in changes to temperature and/or pressure rating.

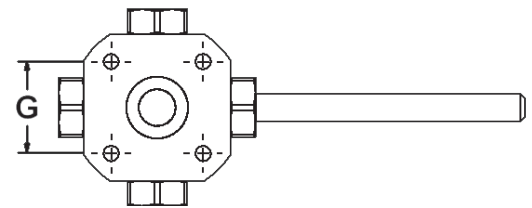
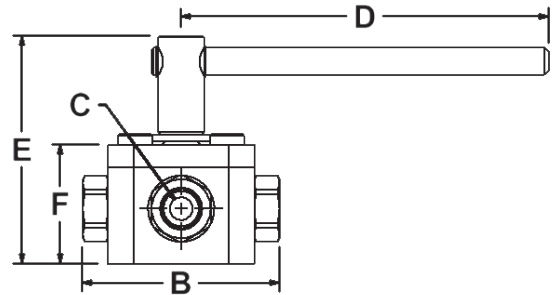
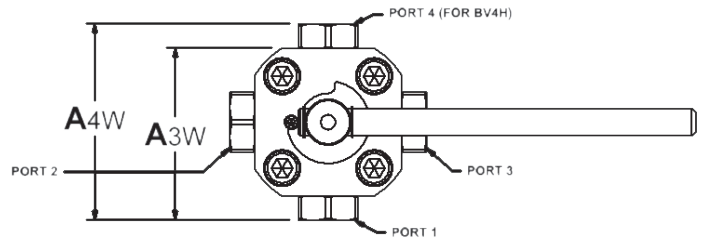
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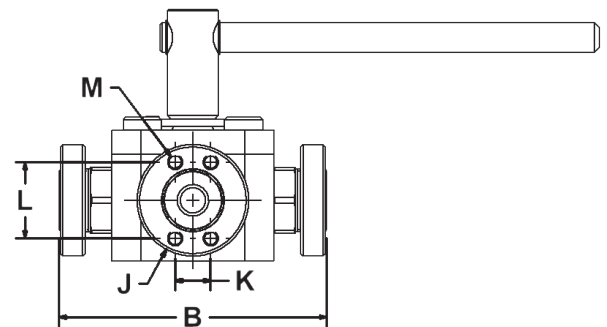
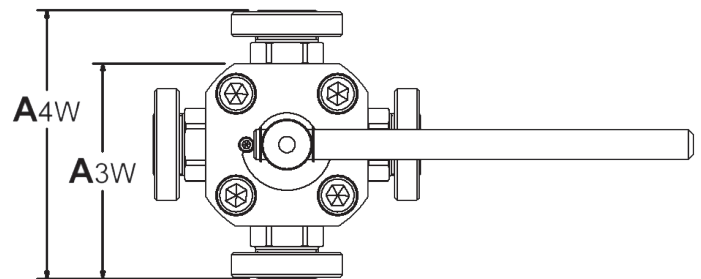
# BV3H & BV4H TRUE MULTI-WAY

N, S, B, IU THREADED

BV3H/4H		Dependent Dimensions				
Threaded Connection						
Dimension (Inches)		A3W	A4W	B		
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width		
N S B IU/IA Threaded Connections	1/4"	2.98	3.46	3.46		
	3/8"	3.08	3.66	3.66		
	1/2"	3.76	4.53	4.53		
	3/4"	4.68	5.35	5.35		
	1"	5.94	6.88	6.88		
	1 1/4"	6.60	7.43	7.43		
	1 1/2"	8.24	9.22	9.22		
2"	10.53	11.81	11.81			
SAE 4-Bolt Flange C.61 / C.62 Connection						
Dimension (inches)		A3W	A4W	B		
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width		
FM/GM/FH SAE 4-Bolt Comp/Std Flange Connections	1/2"	4.17	5.33	5.33		
	3/4"	5.30	6.59	6.59		
	1"	6.33	7.66	7.66		
	1 1/4"	7.63	9.48	9.48		
	1 1/2"	9.12	10.98	10.98		
2"	11.29	13.33	13.33			
SAE Split Flange C.61 Connection						
Dimension (inches)		A3W	A4W	B		
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width		
SM SAE C.61 Split Flange Connections	1/2"	5.03	7.06	7.06		
	3/4"	5.99	7.97	7.97		
	1"	7.19	9.38	9.38		
	1 1/4"	7.93	10.09	10.09		
	1 1/2"	9.99	12.72	12.72		
2"	12.00	14.76	14.76			
SAE Split Flange C.62 Connection						
Dimension (inches)		A3W	A4W	B		
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width		
SH SAE C.62 Split Flange Connections	1/2"	5.03	7.06	7.06		
	3/4"	6.23	8.45	8.45		
	1"	7.59	10.18	10.18		
	1 1/4"	8.56	11.35	11.35		
	1 1/2"	11.10	14.95	14.95		
2"	13.48	17.71	17.71			
Fixed Socket Weld Connection						
Dimension (inches)		A3W	A4W	B	Socket Depth	Socket Diameter
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width	-	-
W4 Socket Weld Connections	1/2"	5.19	7.37	7.37	0.75	0.88
	3/4"	6.51	9.02	9.02	1.00	1.09
	1"	7.53	10.06	10.06	1.00	1.36
	1 1/4"	8.38	10.98	10.98	1.00	1.69
	1 1/2"	10.30	13.35	13.35	1.00	1.95
	2"	12.56	15.87	15.87	1.00	2.40



SAE 4-Bolt



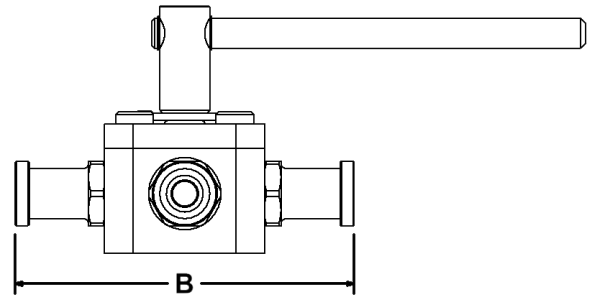
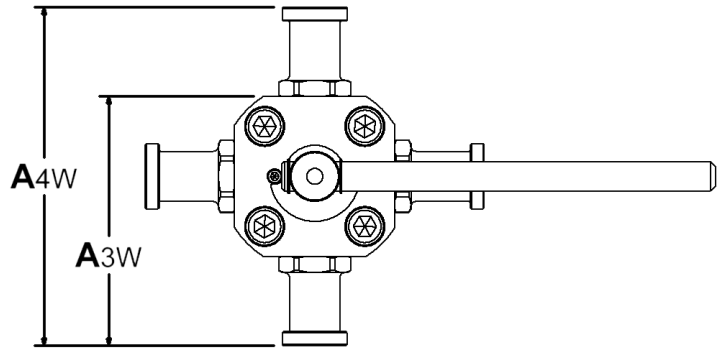
BV3H/ BV4H		Common Dimensions						
Port Size	Rated Pressure PSI	Bore (L-Ball) C	Handle Length D	Overall Height E	Body Height F	Bottom Mt Sq G	Mtg Bolt Size (UNC) Carbon Steel	Mtg Bolt Size (UNF) Stainless Steel
1/4"	6000	0.31	6.97	4.81	2.53	1.63	1/4"	1/4"
3/8"		0.31	6.97	4.81	2.53	1.63	1/4"	1/4"
1/2"		0.44	6.97	5.08	2.75	1.88	5/16"	5/16"
3/4"		0.63	10.00	6.19	3.23	2.50	1/2"	1/2"
1"		0.88	10.00	7.20	4.24	3.25	1/2"	1/2"
1 1/4"		1.13	14.50	8.32	4.76	3.75	1/2"	1/2"
1 1/2"		1.31	14.50	8.70	5.13	4.25	1/2"	1/2"
2"		1.75	14.50	10.20	6.33	5.50	5/8"	5/8"



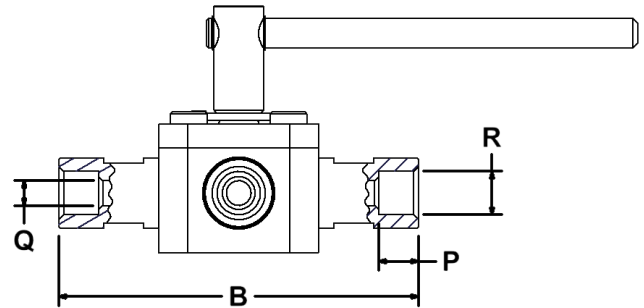
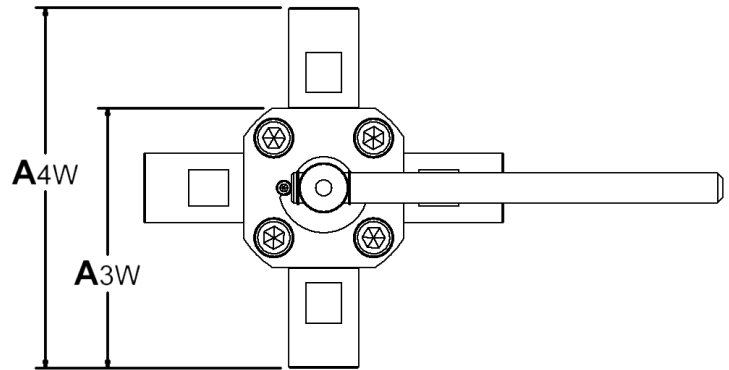
# BV3H & BV4H TRUE MULTI-WAY

BV3H/4H		Dependent Dimensions				
Threaded Connection						
Dimension (Inches)		A3W	A4W	B		
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width		
N S B IU/IA Threaded Connections	1/4"	2.98	3.46	3.46		
	3/8"	3.08	3.66	3.66		
	1/2"	3.76	4.53	4.53		
	3/4"	4.68	5.35	5.35		
	1"	5.94	6.88	6.88		
	1 1/4"	6.60	7.43	7.43		
	1 1/2"	8.24	9.22	9.22		
2"	10.53	11.81	11.81			
SAE 4-Bolt Flange C.61 / C.62 Connection						
Dimension (inches)		A3W	A4W	B		
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width		
FM/GM/FH SAE 4-Bolt Comp/Std Flange Connections	1/2"	4.17	5.33	5.33		
	3/4"	5.30	6.59	6.59		
	1"	6.33	7.66	7.66		
	1 1/4"	7.63	9.48	9.48		
	1 1/2"	9.12	10.98	10.98		
	2"	11.29	13.33	13.33		
SAE Split Flange C.61 Connection						
Dimension (inches)		A3W	A4W	B		
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width		
SM SAE C.61 Split Flange Connections	1/2"	5.03	7.06	7.06		
	3/4"	5.99	7.97	7.97		
	1"	7.19	9.38	9.38		
	1 1/4"	7.93	10.09	10.09		
	1 1/2"	9.99	12.72	12.72		
	2"	12.00	14.76	14.76		
SAE Split Flange C.62 Connection						
Dimension (inches)		A3W	A4W	B		
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width		
SH SAE C.62 Split Flange Connections	1/2"	5.03	7.06	7.06		
	3/4"	6.23	8.45	8.45		
	1"	7.59	10.18	10.18		
	1 1/4"	8.56	11.35	11.35		
	1 1/2"	11.10	14.95	14.95		
	2"	13.48	17.71	17.71		
Fixed Socket Weld Connection						
Dimension (inches)		A3W	A4W	B	Socket Depth	Socket Diameter
Port Code(s)	Port Size	3-Way Length	4-Way Length	Width	-	-
W4 Socket Weld Connections	1/2"	5.19	7.37	7.37	0.75	0.88
	3/4"	6.51	9.02	9.02	1.00	1.09
	1"	7.53	10.06	10.06	1.00	1.36
	1 1/4"	8.38	10.98	10.98	1.00	1.69
	1 1/2"	10.30	13.35	13.35	1.00	1.95
	2"	12.56	15.87	15.87	1.00	2.40

SAE Split Flange



Fixed Socket Weld



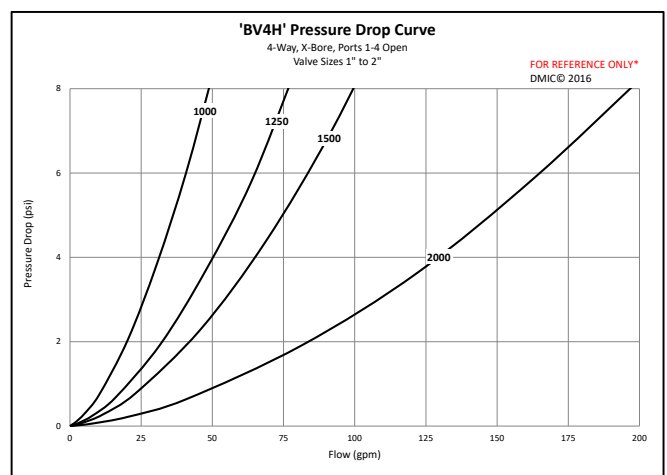
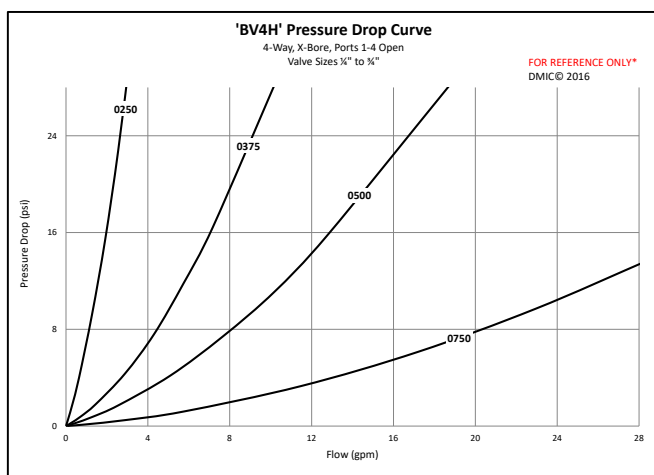
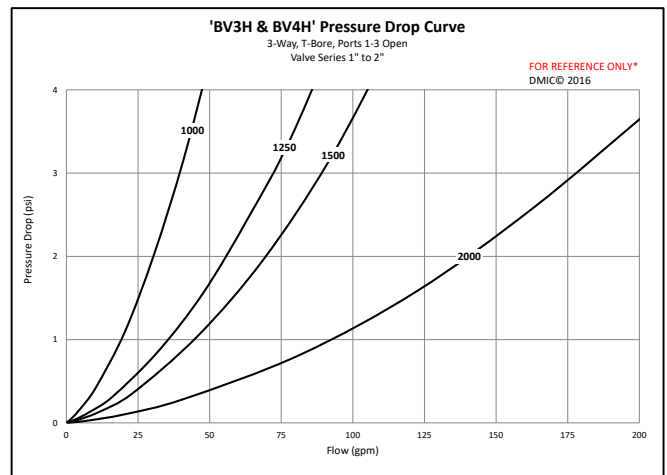
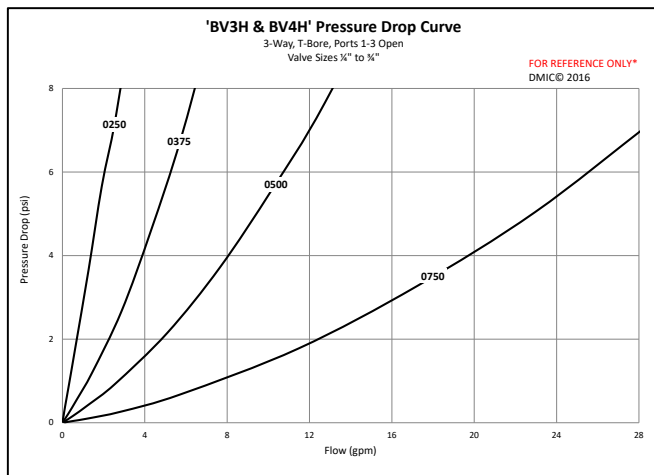
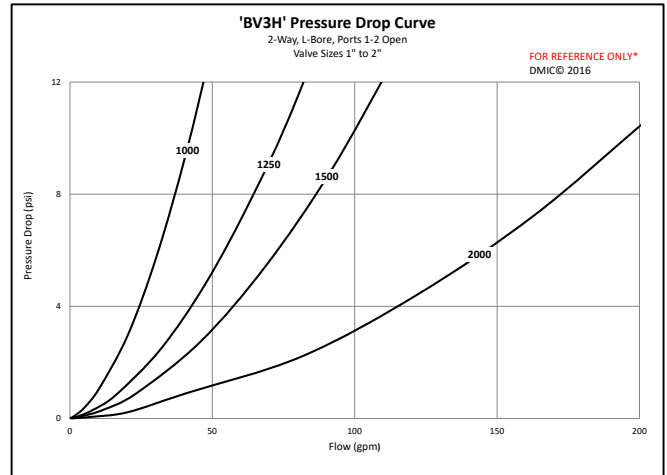
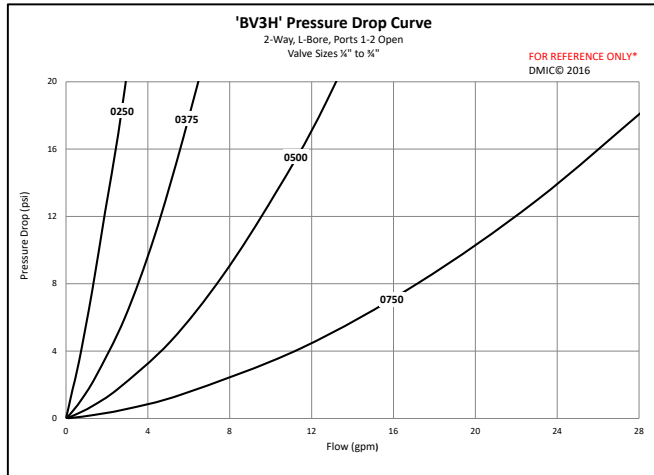
BV3H/ BV4H		Common Dimensions						
Port Size	Rated Pressure PSI	Bore (L-Ball) C	Handle Length D	Overall Height E	Body Height F	Bottom Mt Sq G	Mtg Bolt Size (UNC) Carbon Steel	Mtg Bolt Size (UNF) Stainless Steel
1/4"	6000	0.31	6.97	4.81	2.53	1.63	1/4"	1/4"
3/8"		0.31	6.97	4.81	2.53	1.63	1/4"	1/4"
1/2"		0.44	6.97	5.08	2.75	1.88	5/16"	5/16"
3/4"		0.63	10.00	6.19	3.23	2.50	1/2"	1/2"
1"		0.88	10.00	7.20	4.24	3.25	1/2"	1/2"
1 1/4"		1.13	14.50	8.32	4.76	3.75	1/2"	1/2"
1 1/2"		1.31	14.50	8.70	5.13	4.25	1/2"	1/2"
2"		1.75	14.50	10.20	6.33	5.50	5/8"	5/8"

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# BV3H & BV4H TRUE MULTI-WAY

## Flow Characteristic and Actuation Torque Curves



# BV3H & BV4H TRUE MULTI-WAY

## Flow Characteristic and Actuation Torque Curves

