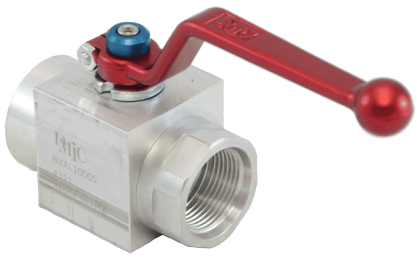
BVAL Low Pressure

Ideal from suction to 600 PSI; NPT/SAE/6149/BSP ; PTFE Ball Seals

Optimized for DMIC's "SSW" System - All sizes unrestricted bore.

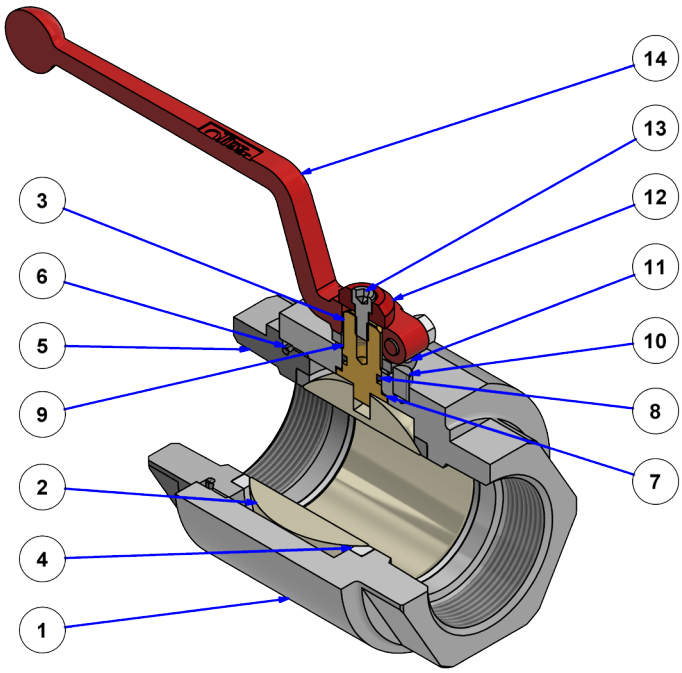


Most large bore valves sold in the hydraulic market today are simply "plumbing" valves, suitable primarily for low pressure, cold water use. DMIC's 'BVAL' is the first ball valve of its kind, specifically designed for leak-free Hydraulic Suction, Vacuum to 29" & Return line durability to 6" full bore.

- Built to take the pressure spikes, temperatures, & elevated demands of hydraulic service
- Uses top grade ball seals, with O-Ring sealing throughout.
- Suitable for actuation and panel mounting and accepts the full range of DMIC Ball Valve Accessories & Actuation Packages
- A reliable choice for Phosphate Esters, Water Glycols and other unusual media (std model ships with Teflon™ ball seals / Buna-N O-rings)
- ¼" to 2" rated at 600 PSI, 2½" + rated at 400 PSI.
- Valve series rating valid for near zero leak design.

Valve Cutaway View & Service Parts BOM

BVAL	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	2	Ball Seal
5	1	End Connection
6	1	End Connection O-Rings
7	1	Internal Thrust Washer
8	1	Spindle O-Rings
9	1	External Glide Washer
10	1	Stop Pin
11	1	Stop Washer
12	1	Color Code Cap
13	1	Handle Screw
14	1	Handle



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BVAL Low Pressure

Ordering Codes Summary

See page 14 for accessory codes

BVAL	****	S	4	3	2	1	*	*	*	*	*	*

Size Codes

Code	Port Size
0250	¼"
0375	3/8"
0500	½"
0750	¾"
1000	1"
1250	1¼"
1500	1½"
2000	2"
2500[2]	2½"
3000[2]	3"
4000[2]	4"
5000[2]	5"
6000[2]	6"

Call Factory for larger sizes 18"+

Connection Types

Code	Description
Imperial Threads	
S	SAE ORB
N	NPT
Metric Threads	
B	BSPP
T	BSPT (Tapered Pipe)
ISO Threads	
IU	ISO6149
Welded	
W4	Sch. 40 Socket Weld (Carbon Steel Only)
Flanged *Carbon steel standard*	
AA	Class 150# (290 PSI @ 100°F)
FM	C. 61 SAE 4-Bolt UNC
GM	C.61 SAE 4-Bolt Metric
SM	C.61 SAE Split
CM	SAE Flange/Split Combo

O-Ring Material

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

Seals, Bushings, Washers

Code	Description
1	Delrin™
2	PTFE Teflon™
4	High Temp PEEK
6	Delrin™ AF (Low Friction)

Ball & Spindle Mat'l

Code	Description
3[1]	Brass

Body Material

Code	Description
4	Aluminum

[1] Ball Material 316SS for ¼" - 2"
[2] rated to 400 PSI

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

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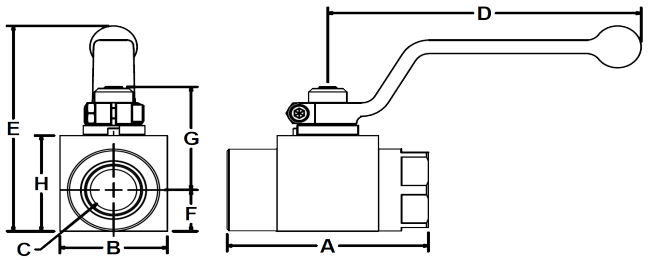
BVAL Low Pressure

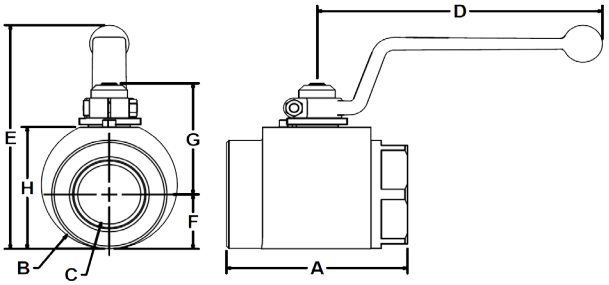
***BVAL** valves with flange and socket weld connections are composite valves, built using threaded valves and "SSW" adapters.* To harness the full capabilities of DMIC's "SSW" Power Unit Layout system please call DMIC Helpline at 1-800-248-3642 to obtain the SSW Catalog.

BVAL	Dependent Dimensions					
Threaded Connections						
Dimension (inches)		A	E	F	G	H
Port Code(s)	Port Size	Overall Length	Overall Height	Bot to PortCtr	PortCtr to Top	Valve Height
N, S, B, IU, IA Threaded Connections	¼"	2.63	2.70	0.63	1.66	1.50
	⅜"	2.63	2.70	0.63	1.66	1.50
	½"	2.63	2.70	0.63	1.66	1.50
	¾"	3.27	3.76	0.76	1.89	1.75
	1"	3.47	4.01	0.88	2.01	2.00
	1¼"	3.90	5.24	1.19	2.58	2.66
	1½"	4.32	5.68	1.39	2.82	3.10
	2"	4.90	6.41	1.82	3.12	3.83
	2½"	5.99	8.07	2.55	4.18	5.40
	3"	7.31	9.01	3.03	4.65	6.34
	4"	8.89	10.03	3.50	5.19	7.36
SAE 4-Bolt Flange Connection						
Dimension (inches)		A	A	–	–	–
Port Code(s)	Port Size	Overall Length FM/GM	Overall Length FL	Flg Pad Long	Flg Pad Short	UNC Bolt Thrd
FM, GM, FL SAE 4-Bolt Comp/Std Flg Conn	¾"	7.59	8.84	1.88	0.88	⅜"
	1"	7.80	9.04	2.06	1.03	⅜"
	1¼"	8.47	9.72	2.31	1.19	7/16"
	1½"	8.89	9.89	2.75	1.41	½"
	2"	9.47	11.22	3.06	1.69	½"
	2½"	10.93	12.67	3.50	2.00	½"
	3"	12.64	15.14	4.19	2.44	⅝"
	4"	14.22	16.72	5.13	3.06	⅝"
SAE Split Flange Connection						
Dimension (inches)		A	–	–	–	A_{CM}
Port Code(s)	Port Size	Overall Length SM	O-Ring No.	DMIC Split Flange Kit		Length A (Combo) CM
SM, CM SAE Split & Combo Flange Connections	¾"	8.14	2-214	FSL-0750SK		7.87
	1"	8.26	2-219	FSL-1000SK		8.03
	1¼"	9.33	2-222	FSL-1250SK		8.90
	1½"	9.77	2-225	FSL-1500SK		9.33
	2"	10.85	2-228	FSL-2000SK		10.16
	2½"	12.36	2-232	FSL-2500SK		11.65
	3"	13.68	2-237	FSL-3000SK		13.16
	4"	15.77	2-245	FSL-4000SK		15.00
ANSI Flange Conn.						
Dimension (inches)		A	ANSI 150# FLANGE			
Port Code(s)	Port Size	Overall Length	Flg Diam	B/Ctr Diam	BoltHole Dia	# Bolt Holes
AA ANSI 150# Flange Connections (290 PSI nominal)	½"	5.83	3.50	2.38	0.62	4
	¾"	6.90	3.88	2.75	0.62	4
	1"	7.42	4.25	3.12	0.62	4
	1¼"	8.15	4.62	3.50	0.62	4
	1½"	8.74	5.00	3.88	0.62	4
	2"	9.56	6.00	4.75	0.75	4
	2½"	11.01	7.00	5.50	0.75	4
	3"	12.46	7.50	6.00	0.75	4
	4"	14.19	9.00	7.50	0.75	8
Fixed Socket Weld Connection						
Dimension (inches)		A	–	–		
Port Code(s)	Port Size	Overall Length	Pipe OD	Socket Depth		
W4 Socket Weld Connections	¾"	5.84	1.05	0.38		
	1"	6.04	1.31	0.38		
	1¼"	6.72	1.66	0.38		
	1½"	7.14	1.91	0.38		
	2"	7.72	2.38	0.38		
	2½"	8.93	2.88	0.38		
	3"	10.64	3.50	0.50		
	4"	12.22	4.50	0.50		

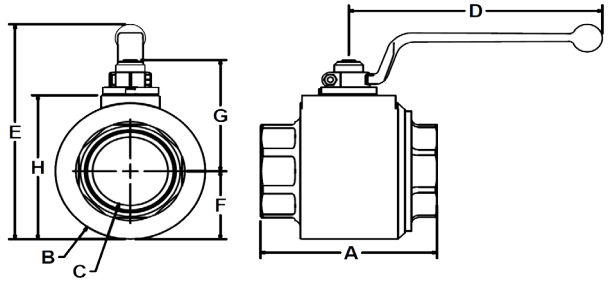
BVAL Block Body, ¼" – 1"



BVAL Round Body, 1¼" – 2"



BVAL Round Body, 2½" – 4"
(5" and up call Factory)



BVAL	Common Dimensions				
Part Number	Port Size	Rated Pressure PSI	Dimensions IN		
			Valve Width B	Valve Bore C	Handle Length D
BVAL-0250****	¼"	600	1.50	0.38	3.35
BVAL-0375****	⅜"	600	1.50	0.47	3.35
BVAL-0500****	½"	600	1.50	0.50	3.35
BVAL-0750****	¾"	600	1.75	0.75	5.09
BVAL-1000****	1"	600	2.00	.97	5.09
BVAL-1250****	1¼"	600	2.75	1.25	6.81
BVAL-1500****	1½"	600	3.25	1.50	6.81
BVAL-2000****	2"	600	4.00	1.97	6.81
BVAL-2500****	2½"	400	5.10	2.56	8.61
BVAL-3000****	3"	400	6.06	3.15	8.61
BVAL-4000****	4"	400	7.00	3.94	8.61

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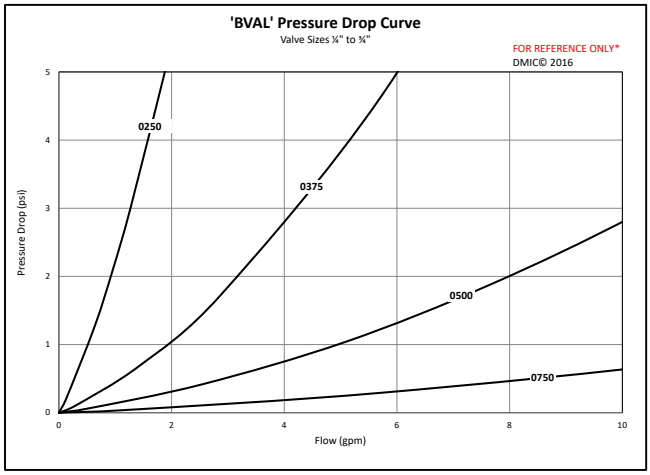
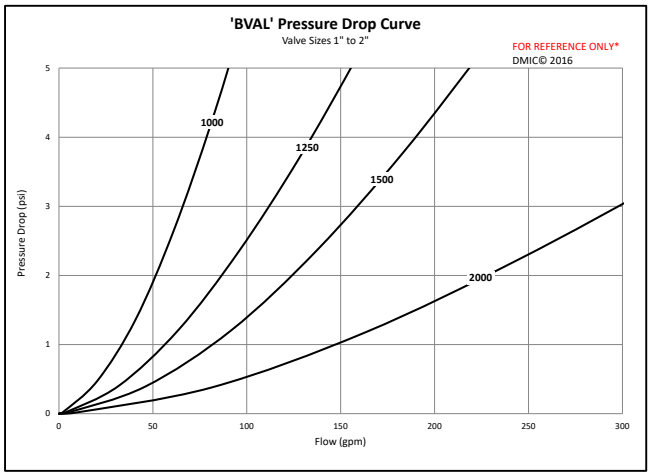
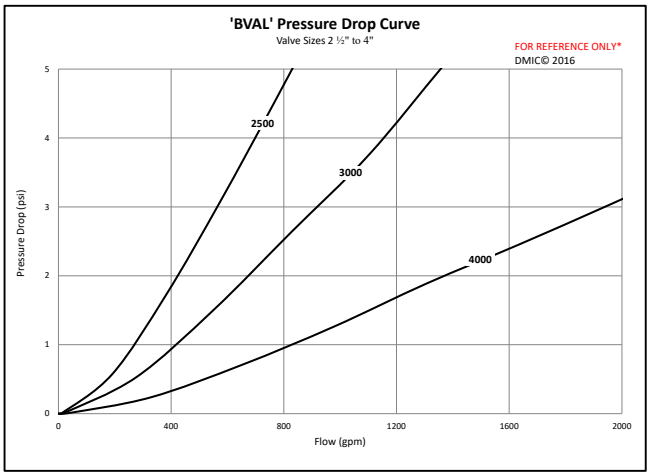
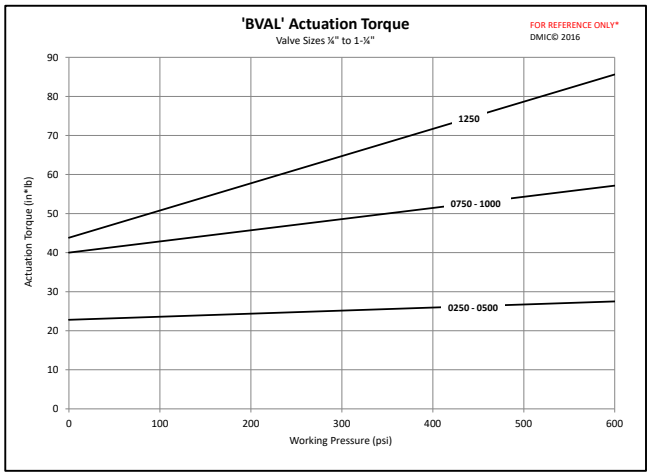
BVAL Low Pressure

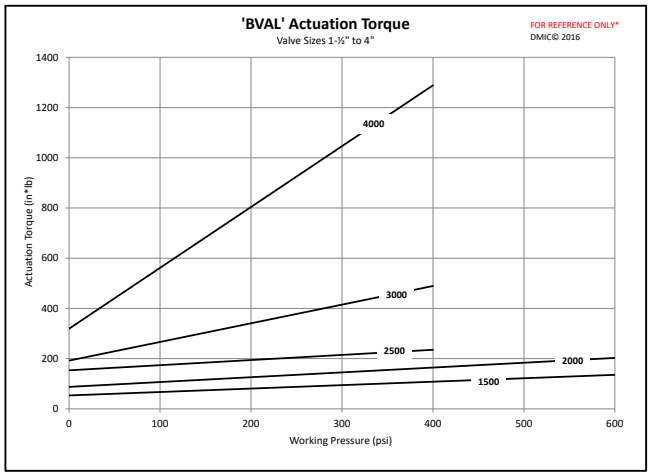
Flow Characteristic and Actuation Torque Curves











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