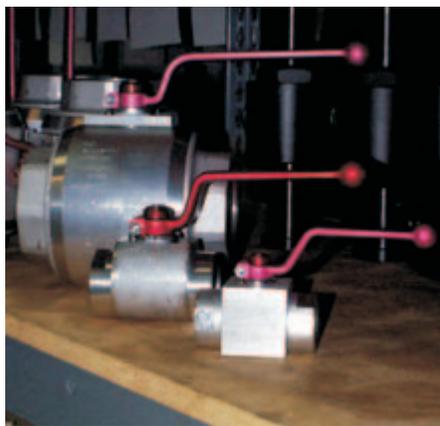


# 'BVAL' Low Pressure

**Ideal from suction to 400 PSI ; NPT/SAE/6149/BSP  
PTFE Ball Seals ; Optimized for DMIC's 'SSW' System**

**This series upgrades the old 'BVL', 'BVM', 'BVUM' brass valves; all sizes unrestricted bore.**



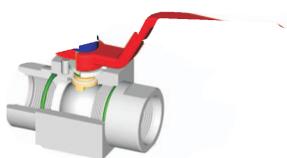
Most large bore valves sold in the hydraulic market today are simply "plumbing" valves, suitable primarily for low pressure, cold water use.

**DMIC's 'BVAL' is the first ball valve of its kind**, specifically designed for leak-free Hydraulic Suction & Return line durability to 6" full bore. Again, we've redefined the standard of quality ... in large bore valves.

- ☑ Built to take the pressure spikes, temperatures, & elevated demands of hydraulic service
- ☑ Uses top grade **Teflon ball seals**, with **O-Ring sealing** throughout
- ☑ **Suitable for actuation and panel mounting**, 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)

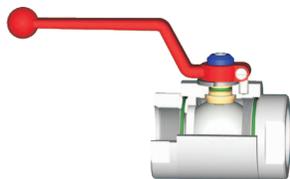
## About 'BVAL' Series

The 'BVAL' series is built from three geometries to span our largest production size range from 1/4" to 6" unrestricted bore. All 'BVAL' valves use aluminum valve bodies for low mass and strength in suction to 400 PSI applications. Please call DMIC for latest dimensions and delivery of 5" and 6" models.



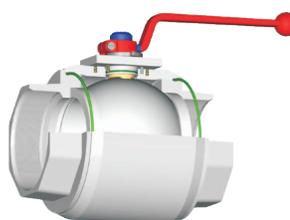
### BVAL 1/4" to 1"

Square body in the style of DMIC's 'BVH' high pressure valve. The 1/4" and 3/8" sizes share the 1/2" model's external dimensions.



### BVAL 1 1/4" to 2"

Round body in the style of DMIC's 'BVAH' high pressure series. A natural for panel mounting and actuation.



### BVAL 2 1/2" to 6"

All new XL format design with unrestricted bore lightweight design. Panel mounting, actuation, full range of options. Offered in ES&E O-R Seal, expanded 6149, SAE and ANSI Flange models. Designed and Made in U.S.A.

## Common Dimensions

The following specifications are common to all 'BVAL' series valves regardless of connection style. For valve length 'A' and other specific dimensions, please see Dependent Dimensions table adjacent page.

BVAL	Common Dimensions				
	Part Number	Port Size	Rated Pressure PSI (bar)	DIMENSIONS in (mm)	
Valve Width B				Valve Bore C	Handle Length D
BVAL-0250*-4321	1/4"	400 27.6	1.50 38.1	0.25 6.4	3.37 65.8
BVAL-0375*-4321	3/8"	400 27.6	1.50 38.1	0.38 9.5	3.37 65.8
BVAL-0500*-4321	1/2"	400 27.6	1.50 38.1	0.50 12.7	3.37 65.8
BVAL-0750*-4321	3/4"	400 27.6	1.75 44.5	0.75 19.1	5.12 95.8
BVAL-1000*-4321	1"	400 27.6	2.00 50.8	1.00 25.4	5.12 102.1
BVAL-1250*-4321	1 1/4"	400 27.6	2.75 69.9	1.25 31.8	6.81 129.8
BVAL-1500*-4321	1 1/2"	400 27.6	3.25 82.6	1.50 38.1	6.81 142.2
BVAL-2000*-4321	2"	400 27.6	4.00 101.6	2.00 50.8	6.81 159.3
BVAL-2500*-4321	2 1/2"	400 27.6	5.00 127.0	2.50 63.5	8.75 200.4
BVAL-3000*-4321	3"	400 27.6	6.00 152.4	3.00 76.2	8.75 224.8
BVAL-4000*-4321	4"	400 27.6	7.00 177.8	4.00 101.6	8.75 224.8



# 'BVAL' Low Pressure

## Dependent Dimensions

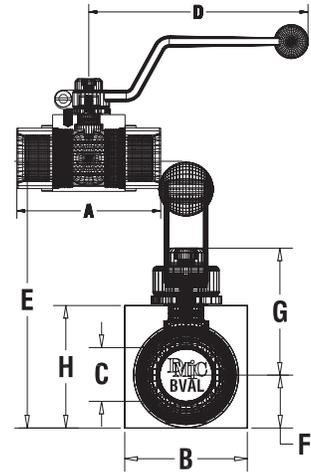
These are the valve dimensions that vary based on your selection of a connection style. Some connection styles provide additional dimensions to those published at left; see supplemental sketches next page.

'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 Designer's Guide.

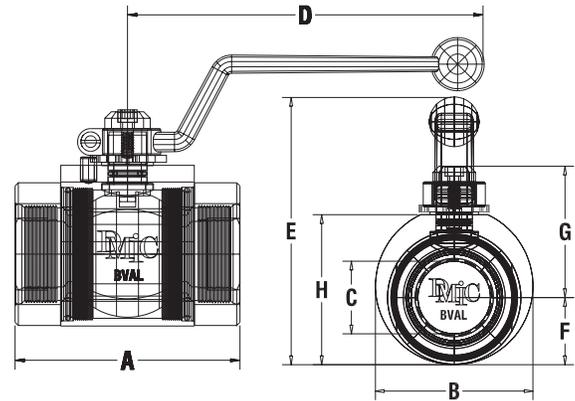
BVAL		Dependent Dimensions				
THREADED CONNECTION						
Dimension (inches)		A	E	F	G	H
Port Code(s)	Port Size	Overall Length	Overall Height	Bot to PortCtr	PortCtr to Top	Valve Height
<b>N S B U IA</b> Threaded Connections	1/4"	2.63	2.59	0.63	1.31	1.50
	3/8"	2.63	2.59	0.63	1.31	1.50
	1/2"	2.63	2.59	0.63	1.31	1.50
	3/4"	3.28	3.77	0.76	1.43	1.75
	1"	3.48	4.02	0.88	1.56	2.00
	1 1/4"	3.90	5.11	1.14	2.12	2.61
	1 1/2"	4.32	5.60	1.39	2.36	3.10
	2"	4.90	6.33	1.82	2.65	3.83
	2 1/2"	6.00	7.89	2.50	3.63	5.35
	3"	7.31	8.85	3.00	4.09	6.31
4"	8.89	9.90	3.50	4.63	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
<b>FM GM FL</b> SAE 4-Bolt Comp/Std Flg Conn	3/4"	7.65	8.78	1.88	0.88	3/8"
	1"	7.85	9.09	2.06	1.03	3/8"
	1 1/4"	8.50	9.76	2.31	1.19	7/16"
	1 1/2"	8.92	10.68	2.75	1.41	1/2"
	2"	9.52	11.15	3.06	1.69	1/2"
	2 1/2"	11.01	12.76	3.50	2.00	1/2"
	3"	12.66	15.16	4.19	2.44	5/8"
4"	14.24	16.74	5.13	3.06	5/8"	
SAE SPLIT FLANGE CONNECTION						
Dimension (inches)		A	-	-	-	A <sub>CM</sub>
Port Code(s)	Port Size	Overall Length	O-Ring No.	DMIC Split Flange Kit	Length A (Combo)	
<b>SM CM</b> SAE Split & Combo Flange Connections	3/4"	8.08	2-214	FSL-0750SK	7.86	
	1"	8.28	2-219	FSL-1000SK	8.06	
	1 1/4"	9.34	2-222	FSL-1250SK	8.92	
	1 1/2"	9.76	2-225	FSL-1500SK	9.21	
	2"	10.84	2-228	FSL-2000SK	10.18	
	2 1/2"	12.36	2-232	FSL-2500SK	11.69	
	3"	13.67	2-237	FSL-3000SK	13.17	
	4"	15.77	2-245	FSL-4000SK	15.01	
ANSI FLANGE CONN. (DIN also available, see p.24)						
Dimension (inches)		A	ANSI 150# FLANGE			
Port Code(s)	Port Size	Overall Length	Flg Diam	B/Ctr Diam	BoltHole Dia	# Bolt Holes
<b>AA</b> ANSI 150# Flange Connections (300 PSI nominal)	3/4"	7.02	3.87	2.75	0.63	4
	1"	7.36	4.25	3.13	0.63	4
	1 1/4"	8.27	4.63	3.50	0.63	4
	1 1/2"	8.83	5.00	3.87	0.63	4
	2"	9.65	6.00	4.75	0.75	4
	2 1/2"	11.24	7.00	5.50	0.75	4
	3"	12.94	7.50	6.00	0.75	4
	4"	14.76	9.00	7.50	0.75	8
SWIVEL SOCKET WELD CONNECTION						
Dimension (inches)		A	-	-	-	-
Port Code(s)	Port Size	Overall Length	Pipe OD	Socket Depth		
<b>WA</b>	3/4"	5.78	1.06	0.38		
	1"	5.98	1.33	0.38		
	1 1/4"	6.65	1.67	0.38		

## Dimensional Sketches

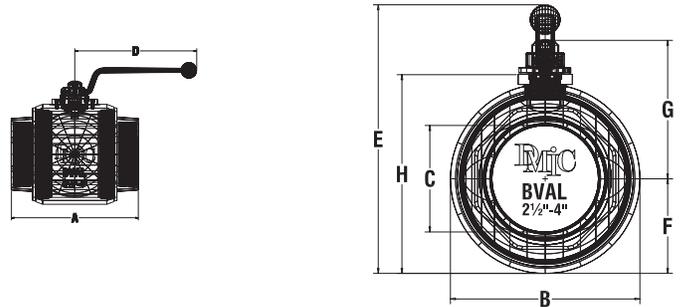
'BVAL' Block Body, 1/4" - 1"



'BVAL' Round Body, 1 1/4" - 2"



'BVAL' XL Round Body, 2 1/2" - 4"  
(5" and up call Factory)



Due to our policy of continual product improvement, the specifications in this catalog may change without notice. When designing by spec, please request a certified print.



# 'BVAL' Low Pressure

BVAL	Physical Construction
Parameter	Material
BODY	Aluminum Body & Endcaps
BALL	Brass, Chrome Plated
SPINDLE	Brass, Oversize Area
STD HANDLE	Aluminum Offset, Anodized
BALL SEALS	PTFE (Teflon) standard
O-RINGS	Buna-N standard, EPV/Viton quick del.
TEMP RANGE	-22°F to 212°F (-30°/100°C)
LIFE EXPECTANCY	Over 1,000,000 cycles

## 'BVAL' Accessories

DMIC 'BVAL' can be equipped with the industry's widest array of labor and cost-saving Ball Valve accessories, including:

- ☑ Locking Handles, OSHA type and Security
- ☑ Limit Switch Brackets, with one or two switches, and optional locking capability
- ☑ Various Panel and Substrate mounting options
- ☑ Turnkey Actuation Packages for Pneumatic, Electric, and Hydraulic applications

## New Simplified Accessory Codes

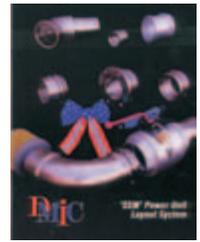
For 2001, we've made it even easier to get exactly the Ball Valve you need for rapid delivery. Please see page 12.



BVAL		Service Parts BOM
Index	Qty	Description
014	1	Valve Body
023	1	Ball
033	1	Spindle, Brass
042	2	Teflon Ball Seal
061	2	Connection O-Ring
071	1	Spindle O-Ring
091	1	Stop Pin
101	1	Stop Washer
111	1	Internal Glide Brg
124	2	Connection End
142	1	Spindle Glide Brg
154	1	Color Code Cap
162	1	Handle Bolt
184	1	Top Cap (XL sizes only)
201	1	Top Cap O-R (XL sizes only)
232	6	Top Cap SHCS (XL sizes only)

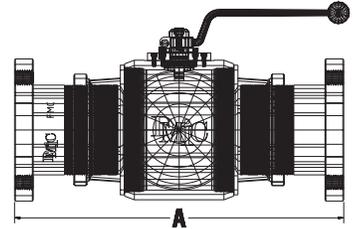
## 'SSW' Possibilities

'BVAL' from 3/4" to 6" size can be configured with Hose Barb, 4-Bolt/Split/ANSI Flange, and Swivel Socket Weld connections. You can route mechanically rigid 'SSW' adapters in InLine, 45°, and 90° degree directions with dimensional tolerances previously only dreamed of. Also, you can interchangeably assemble Imperial and Metric standard power units to the same layout dimensions. Please call DMIC HelpLine at 1-800-248-3642 to obtain the 'SSW' Power Unit Layout Catalog.



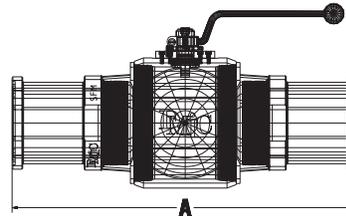
### 'BVAL' WITH C.61 4-BOLT FLANGE

Order 'BVAL' with connection code **FM** to receive Code 61 SAE 4-Bolt Companion connections. Order code **GM** for metric bolt holes, or code **FL** for C.61 Std. Flange (through bolt holes).



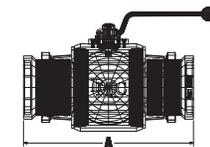
### 'BVAL' C.61 SPLIT FLANGE

Order connection code **SM** to receive Code 61 Split Flange Head connections rated to 400 PSI. Rapid order a Split Flange kit with suffix **/SFK**.

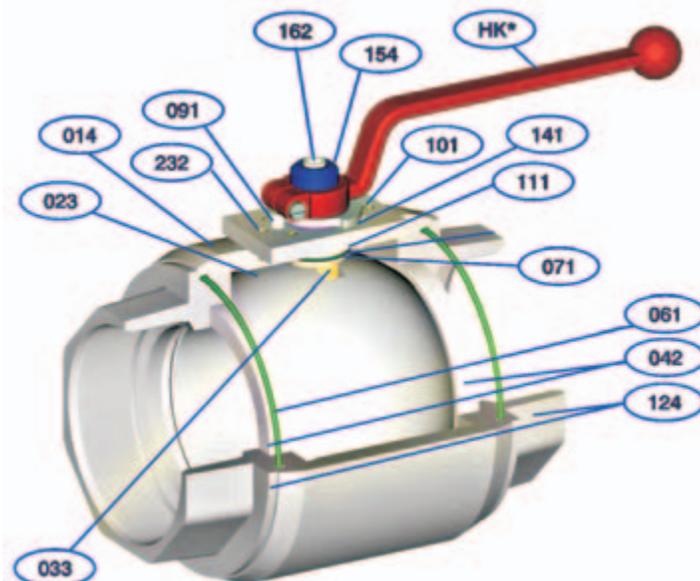


### SWIVEL SOCKET WELD 'BVAL'

Order connection code **W4** to receive adjustable "swivel" socket weld connections for Sch. 40 pipe. Rated to 400 PSI.

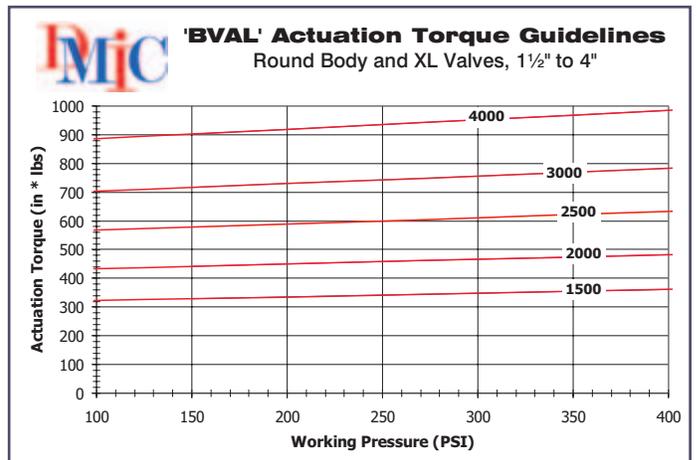
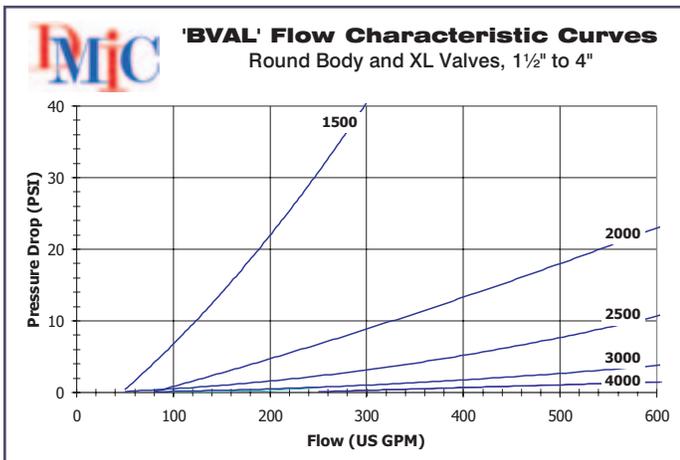
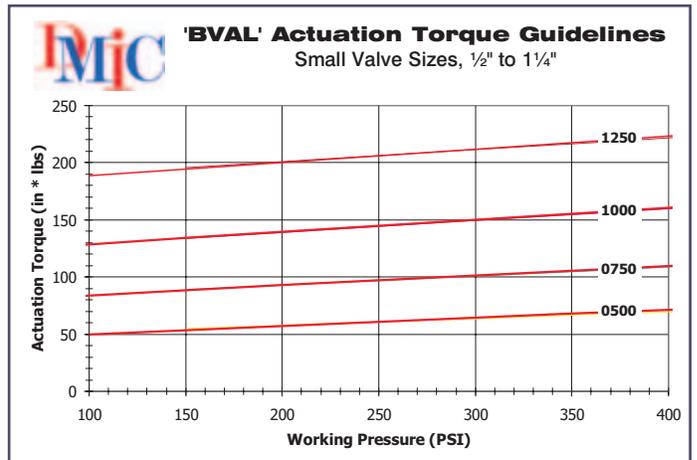
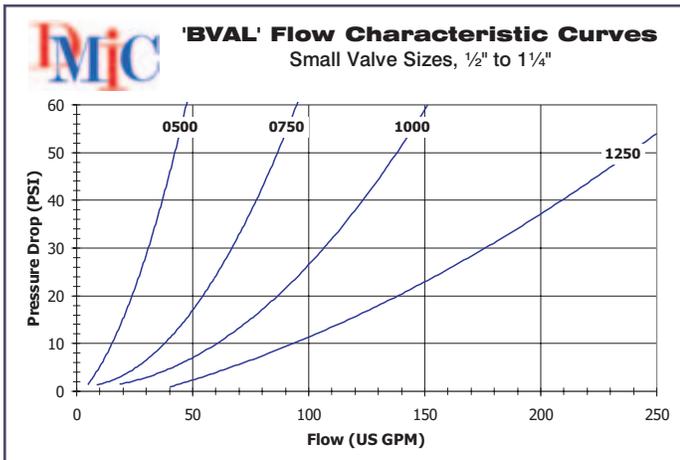


## 'BVAL' Service Parts BOM



# 'BVAL' Low Pressure

## 'BVAL' Performance Curves



## 'BVAL' Ordering Codes Summary

**BVAL - \* \* \* \* S - 4 3 2 1**

Size Codes	
Code	Port Size
0250	1/4"
0375	3/8"
0500	1/2"
0750	3/4"
1000	1"
1250	1 1/4"
1500	1 1/2"
2000	2"
2500	2 1/2"
3000	3"
4000	4"
5000	5" - Call
6000	6" - Call

Connection Types	
IMPERIAL THREADS	
Code	Desc
S	SAE ORB
N	NPT
METRIC THREADS	
Code	Desc
B	BSPP
T	BSPT - special
ISO THREADS	
Code	Desc
IU	ISO6149
IA	ISO1179

O-Ring Material	
Code	Description
1	Buna-N (Standard)
2	EPR
3	Viton

Ball Seal Material	
Code	Description
2	PTFE Teflon

Ball & Spindle Mat'l	
Code	Description
3	Brass

Body Material	
Code	Description
4	Aluminum (standard)

DMIC 'BVAL' Ball Valves are manufactured in imperial "inch" and metric threads.

SSW "composite" valves are constructed from an (E)SAE O-Ring Threaded valve and 'SSW' adapters. You can specify any ball valve using SSW System "2+2" port codes (page 8) and expect the aggregate product/cost to be supplied.

