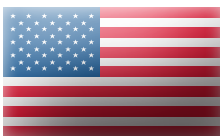
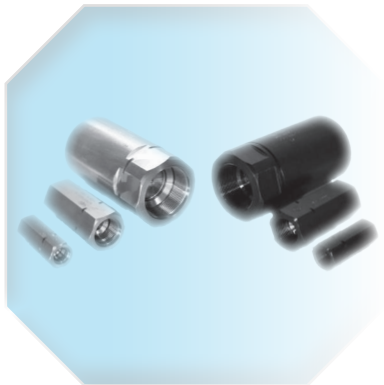
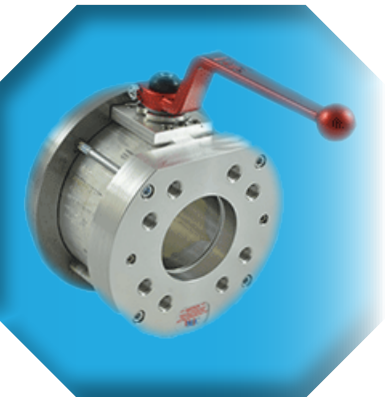




# BALL VALVE CATALOG

YOUR CHOICE FOR HYDRAULIC COMPONENTS



## BALL VALVES

[www.DMIC.com](http://www.DMIC.com)

## Low Pressure & Suction Valves

Premium quality full bore ball valves with wide range of connection options; full compatibility with "SSW" System; PTFE ball seals; Sizes from ¼" to 6" + Rated 29"Hg-600 PSI.



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## Medium Pressure 3000 PSI

DMIC's medium pressure valves save mass when a full pressure valve is not needed; Sizes from 2½-6".



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## High Pressure for 7500/6000 PSI

The Benchmark of Quality in High Pressure Valves  
Upgraded stainless steel design ; To 6" standard size.



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## Super High/Ultimate Pressure 10000/15000 PSI

Redesigned and substantially strengthened for enhanced design factor at elevated operating pressures.



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**All DMIC valves are available in larger sizes and with custom features, on request.**





## BVQ/BVQG High Pressure/High Temp 6000 PSI Revolutionary Ultimate Quality DMIC Original Design for the most demanding applications; Engineered for high duty cycle actuation.

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## BV3V Floating Ball Multiway Exclusive DMIC Design! Innovative design and manufacturing makes a T-bore floating ball valve possible

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**Fixed Flange XL Valves, 3000 & 6000 PSI**  
 Large bore Fixed Flange mount ; Double Block & Bleed large bore.

**BVFF Carbon Steel and Stainless Steel from 2½" - 6" ..... 78**  
**BVFD DMIC Double Block & Bleed Valve - NEW ..... Call**  
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**Direct Mount Valves 3000 & 6000 PSI**  
 DMIC Made in USA Quality and Innovation, in standard and new Captive Direct Mount Valves; Aluminum, Carbon, SS.

**BVDM Sandwich Direct Mt Ball Valves, ½" - 2½" ..... 82**  
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**BVSS Dual SAE C.61/C.62 6000 PSI Ball Valves, ½" - 2" ..... 90**  
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**Insert Valves for Manifold Cavity**  
 Ingenious DMIC design permits you to install a quality 2 or 3 way valve using an easy to machine blind hole cavity !

**SV2C Spool Intermanifold Valve, 2-way, 6000 PSI ½"-2" ..... 94**  
**SV3C Spool Intermanifold Valve, 3-way, 6000 PSI ½"-2" ..... 94**  
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**DMIC Actuators**  
 An ultra compact Hydraulic Alternative to standard electric or pneumatic. Made in USA.

**Hydraulic Actuators..... 98**  
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# ABOUT BALL VALVES

ISO 9001:2008 Certified

## DMIC's continuous development yields enhanced durability and functional improvements

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### Best-of-Brand Valve

Continuous improvement to DMIC Ball Valves has furthered our design leadership in the marketplace and the field. DMIC full port unrestricted bore ball valves have led the way in innovative design, practical engineering & technical excellence since 1985. DMIC's expanded series continue to offer buyers the next level of innovation, technical achievement, and engineering excellence, continuing to set and elevate the standards by which competing Ball Valves are judged. Expanded valve size range for non-fluid power markets allow DMIC to furnish valves to 18" and beyond.

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### Special and Custom Products

DMIC is one of the few companies in the hydraulic valve business today that still maintains a Custom Shop. We are able to produce a low production run or even a one-off valve, and do so cost-effectively. In the DMIC Custom Shop, engineers and craftsmen with decades of experience assemble and test low volume products to ensure that they meet every operational requirement. Our customers' Special and Custom Valves receive the same attention to detail and perfection in execution, as do DMIC's own prototypes, all of which benefit from the latest CAD, FEA, and CNC machining resources available today.

Perhaps this is why DMIC is selected as the contractor for esoteric valve projects by the world's most respected military, aerospace, civil aviation, research, and manufacturing organizations. DMIC's roots run deep with the pride of not only crafting a better product, but a better value. DMIC people are perfectionists: an aspiration we hope you'll recognize in each DMIC product we offer for sale.

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### Multi-Stage Quality Control

Each DMIC Ball Valve undergoes very strict quality assurance checks during the manufacturing process, assembly, and at shipping. The result is a product of consistent quality, infrequent warranty returns, and reduced downtime & back-shipping expense for the Buyer.

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### Extensive In-House Capabilities Expand Innovation

DMIC's leadership in the Engineering arena is known throughout industrial sectors where fluid control valves are used. Our passion for excellence saves you time, money, and headaches. Because we are constantly refining our products, your valve may incorporate improvements that were not in the production channel when the catalog was printed. Running improvements are part of our continual product development. **Consistent with our policy for continuous improvement, please request a certified print.**

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### Thinking Like Our Customers

The DMIC Distributor and OEM is our partner in quality. Some Fluid Power houses resell whichever brand results in the largest profit margin. **The DMIC Factory refers End-User inquiries to true Distributors who promote DMIC's quality objectives wholeheartedly.** We protect and support your local Stocking Distributor with comprehensive inventory, direct line to in-house Technical Sales & Engineering, drop shipment capability, and same-day shipping of most orders. Your DMIC Distributor is the **best in the business** ... in your locale.



### Respect for the Environment

**All DMIC valves are tested, cleaned, and plugged air & oil-tight before they are made available for shipment.** DMIC supports the environment by using only biodegradable, recyclable paper packaging. Wasteful packaging is minimized in favor of "peanut-free" shipments that arrive in excellent condition. We also offer Chromium-6 Free plating, a technically superior product that is safer for the environment, and DFAR compliant valves that assure sources of material supply that respect modern environmental custodianship



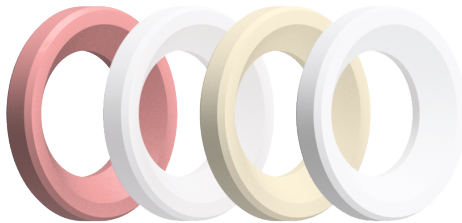
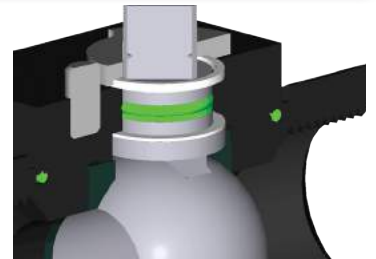
# STANDARD FEATURES

**“Innovation Through Dedication” yields a consistently high quality product, priced competitively**

America once said, **“We choose to go to the moon..., not because [it is] easy – but because [it is] hard.”** Taking the high road has its rewards, not the least of which is the pride & satisfaction of making a product that improves the quality of life for someone, somewhere - whether that be a child at Disney World, an automaker whose production line stays up due to the absence of quality problems, or an American worker who has a job because we've chosen to do it the hard way.

## Spindle-Glide™ Construction (Eliminates metal to metal-to-metal contact)

This DMIC innovation utilizes polyamide thrust bearings both inside the valve as well as between the stop washer and body to reduce wear & friction during valve actuation. With the genuine DMIC Locking Handle Kit option, an auxiliary bearing is also installed between the base and lever plates. A factory application of synthetic lubricant\* inside the valve during manufacturing, as well as within the sealed Spindle-Glide™ system, ensures that the valve will be as smooth to operate years after it is set as it was when it was new, because you can never predict when there will be an emergency. **NOTE (\*): Synthetic Lubricant deleted on EPR-optional valves.**



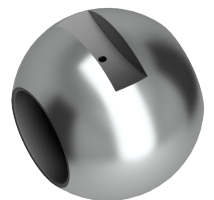
## Wide Selection of Ball Seals

DMIC's optional ball seal thermoplastic formulation reduces actuation torque, while increasing longevity of the ball seals, resulting in reduced friction between the ball and the seals during actuation. DMIC is an innovator in researching, testing, and deploying the most modern composite and next generation thermoplastics for demanding applications. See page 13 for a selection of frequently requested sealing materials.



## Pressure Balancing Orifice

DMIC refines the sealing principle of our original “floating ball” valve design by providing an orifice at the stem slot, which improves sealing while providing internal lubrication.



## Color Coded By Port Thread

To simplify identification of genuine DMIC High Pressure Ball Valves in the stockroom and in the circuit, valves are factory coded according to the port thread.

## Unrestricted Bore Designs

Nearly every 2-way DMIC Ball Valves are designed with an unrestricted “full” bore including unrestricted 2” models relative to the cross-sectional area of fluid lines connected to the valve. Additionally, DMIC only uses a STRAIGHT bore passage in every valve model to aid laminar flow (some brands use a concave, hollow ball). The result is that the Coefficient of Flow (Cv) and Pressure Drop ( $\Delta P$ ) of a DMIC Ball Valve very closely approximates a like length section of fluid line. Except in fancy circuits, you can treat our valves as just the same length of pipe, due to the unrestricted bore.

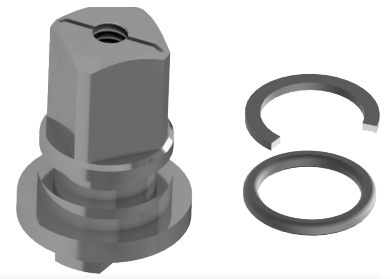


# O-Ring + Backup Sealing

DMIC is one of the few manufacturers to incorporate backup rings at the stem & connection\* seals, in addition to a premium brand O-Ring, in all steel Ball Valves.

The reason for deleting this very critical component is primarily cost - it takes twice the time to install **two** seals carefully. A DMIC craftsman fits each premium brand O-ring and backup by hand, while individually inspecting components for defects as the parts are matched. A factory application of synthetic lubricant during parts matching eliminates damage to stem seals, and keeps the valve internally lubricated while it awaits initial service.

**NOTE (\*): Connection backups standard on valves 1¼" and larger**



## Comprehensive variety of mountings

DMIC is the leading supplier of panel mounting HP ball valves in North America.

DMIC's In-House Manufacturing results in fast delivery of Panel Mount, Substrate mount, and Actuator-prepped Ball Valves for industry. The design of DMIC High Pressure valves allows every model to be panel mounted.

When designing products using DMIC Panel/Substrate Mount or Actuator-Prep Ball Valves, please call DMIC Help Line for mounting dimension prints and important information regarding valve warranty on non-DMIC actuation.



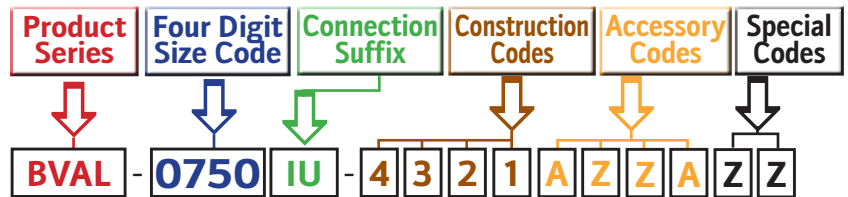
## Cross-Series Accessory Solutions

DMIC's engineering excellence has resulted in the industry's largest collection of original Pre-Engineered accessories such as Locking Handles, Limit Switch Brackets, Rotary Actuation packages, and innovative solutions for esoteric application problems.

Buyers of DMIC Ball Valves can now leverage this time and labor saving resource across the entire project, rather than just on a few high pressure valves. All DMIC Valves share many key attributes, allowing the full range of accessories to be fitted to every series. Greater commonality and fewer part numbers to stock mean your design gets a little simpler, more elegant, and most importantly, cost efficient. **When quality overrides price in your project, insist on "DMIC - No Substitute".**

# BALL VALVE ORDERING CODES

DMIC Ordering Codes allow the Buyer to easily specify any Ball Valve that is possible to manufacture. Each DMIC part number is made up of **PRODUCT SERIES, SIZE, CONNECTION, CONSTRUCTION CODE** and optional **ACCESSORY CODES**.



## Product Series – PAGE 9

The entire DMIC product line is encoded to sort by product series, in increasing order of size, for easy part number searches. Each series code is a mnemonic of the item it represents, such as **BVH** for **B**all **V**alve **H**igh Pressure or **Spool Valve 3-way Cartridge**.

## Four-Digit Standard, and [2+2] Size Codes – PAGE 10

DMIC's four-digit size code, in 1/1000ths of an inch, provides an easy "double-check" at-a-glance, of correct port sizing and connection thread on your BOM or P/O. For valves made to imperial units, the size code is delimited by a dash (eg. **BVAH-1500N-1113**).

## Connection Suffix – PAGE 11

All DMIC Ball Valves utilize a Connection Suffix. Please see the **expanded availability of Flange types, Socket Weld and Butt Weld Connections for all currently recognized U.S. and metric pipe standards, as well as GrayLoc™ connections.** If you don't see what you need, DMIC can make it, because we **are** the Factory - please call for a quotation.

## Construction & Accessory Codes – PAGES 10-13

The Buyer can specify valve options by changing the standard "-1111" suffix code. For standard ball valves, no Accessory Code is required.

The six-character Accessory Code allows Buyers to easily option a valve to their exact requirement



# VALVE SERIES SELECTION

DMIC Products are grouped by Series code, which provides a mnemonic indication of their intended application

**BVAL** - 0750 IU - 4 3 2 1

		PREMIUM QUALITY BALL VALVES - MADE IN U.S.A.																									
Valve Series	MAX Working PSI	SIZE AVAILABILITY BY VALVE SERIES												CONNECTIONS													
		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8" and Above	NPT / SAE / BSPP	BSPT / M-NPT	M-SAE ORB / M-SAE ORFS	Socket Butt Weld	ISO 6149	SAE 4-BOLT FLG	SAE SPLIT FLG	ANSI / DIN FLG	MANIFOLD MOUNT			
<b>Symbol Legend</b> : ☺ - In stock, same day ship ☑ - Ships within few days ⌚ - Available with lead time ↔ - Connection option available with SSW components (Back Page)																											
BVAL Low Pressure	600 PSI	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☑	☑	⌚	☺	☑	☑	↔	☑	↔	↔	↔	N/A		
BVALP Low Profile	250 PSI	N/A												☺	☺	☺	⌚	⌚	⌚	↔				☺	☑	☑	N/A
BVAH Large Bore H.P.	6000 PSI	N/A				☺	☺	☺	☺	☺	☺	☺	☑	☑	⌚	☺	☑	☑	☺	☑	☺	☺	☺	☺	N/A		
BVH Block Body H.P.	6000 PSI	☺	☺	☺	☺	☺	☺*	N/A								☺	☑	☑	☺	☑	☺	☺	☺	☺	☺	☺	N/A
BVHS Stainless Steel	6000 PSI	N/A				☺	☺	☺	☺	☺	☺	☑	☑	☑	⌚	☺	☑	☑	☺	☑	☺	☺	☺	☺	N/A		
BVHH Super High Pressure	10000 PSI	☺	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	⌚	⌚	☺	☑	☑	☺	☑	N/A		☑	N/A			
BVHHH Ultra Pressure	15000 PSI	☺	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	⌚	⌚	☺	☑	☑	☺	☑	N/A		☺	N/A			
BVQ BVQG High Pressure	6000 PSI	☺	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	⌚	⌚	☺	☑	☑	☺	☑	☺	☺	☺	N/A			
BV3L BV3LZ Aluminum Diverter	600 PSI	☺	☺	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	⌚	☺	☑	☑	☺	☑	↔	↔	↔	N/A			
BV3D BV3DZ Steel Diverter	3000 PSI	☺	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	⌚	⌚	☺	☑	☑	☺	☑	☺	☺	☺	N/A			
BV3V Diverter	5000 PSI	☺	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	⌚	⌚	☺	☑	☑	☺	☑	☺	☺	☺	N/A			
BV3H BV4H Trunnion Multi way	6000 PSI	☺	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	⌚	⌚	☺	☑	☑	☺	☑	☺	☺	☺	N/A			
BVMM Manifold Mount	3000 PSI 6000 PSI	☺	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	⌚	⌚	N/A						☺					
BVFD Double Block & Bleed	3000 PSI 6000 PSI	⌚	⌚	⌚	⌚	⌚	⌚	☺	☺	☺	☺	☺	☺	☺	☺	☺	☑	☑	☺	☑	☺	☺	☺	N/A			
BVFF Fixed Flange	3000 PSI 6000 PSI	N/A								☺	☺	☺	☺	⌚	N/A					☺	N/A	☺	N/A				
DBBV FL/S9 Flange Mount	5000 PSI	N/A								☺	☺	☺	⌚	N/A		N/A											
BVDM Direct Mount	3000 PSI 6000 PSI	N/A	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	N/A	N/A					☺	N/A	☺	N/A				
BVDMF Captive Direct Mount	3000 PSI 6000 PSI	N/A	☺	☺	☺	☺	☺	☺	☺	⌚	⌚	⌚	N/A	N/A					☺	N/A	☺	N/A					
BVSS Dual Pattern SAE 4-Bolt	6000 PSI	N/A			☺	☺	☺	☺	☺	⌚	⌚	⌚	⌚	N/A		N/A					☺	N/A					
SV2C / SV3C Intra-Manifold	6000 PSI	⌚	☺	☺	☺	☺	☺	☺	☺	☑	⌚	⌚	⌚	⌚	N/A								☺				
BVQF Fire Safe	6000 PSI	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	N/A			

**Symbol Legend** : ☺ - In stock, same day ship ☑ - Ships within few days ⌚ - Available with lead time ↔ - Connection option available with SSW components (Back Page)

All standard DMIC Ball Valve options including Factory Actuation and special mountings can be specified through Construction and Accessory codes. Please see pages 10 through 13.





# VALVE SIZE SELECTION

Stock sizes ranging from ¼" to 6"  
 Custom Order of ANSI & API-Cert models to 12" and above

BVAL - 1000 SM - 4 3 2 1

DMIC Ball Valves offer the industry's most flexible size range with deliveries that are often a fraction of what you would expect.

### Custom and Special Purpose Valves from DMIC

When your need for a specialty ball valve meets our very reasonable production criteria, we will gladly design, prototype, test, and warranty the subject valve on an OEM basis.

The result is reduced delivery times, development expense, and a direct partnership with the manufacturer which DMIC customers value greatly in those rare instances where the need for troubleshooting and corrections arise.

DMIC especially welcomes users of high volume designs, users with difficult requirements, and users of large bore valves needing API Certification. If DFAR is needed, DMIC products are a natural choice.

### Symbol Legend

- ☑ ....Standard feature for this series
- ⚡ .....Rapid Delivery Option
- ☎ ....Please call to confirm lead time
- ☒ ....Not Available

Valve Size			Size Availability By Valve Series													
Nominal			Valve Series Group													
Inch	Order Code	Metric Equiv	BVAL	BV3L BV3LZ	BVH BV4H	BVHS	BVHH BVHHH	BVQ BVQG	BV3D BV3DZ	BV3H BV4H	BVMM	BVDM BVDMF	BV5S BV5S	BVFL BVFLY	BVFD BVFD	SV2C SV3C
¼"	0250	6mm	☑	☑	☑				☑	☑	☑					
⅜"	0375	10mm	☑	☑	☑				☑	☑	☑					
½"	0500	12mm	☑	☑	☑		☑	☑	☑	☑	☑	☑				☑
¾"	0750	20mm	☑	☑	☑		☑	☑	☑	☑	☑	☑				☑
1"	1000	25mm	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑				☑
1¼"	1250	32mm	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑				☑
1½"	1500	40mm	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑				☑
2"	2000	50mm	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑				☑
2½"	2500	63.5mm	☑	☑	☑	☎	☎	☎	☎			☑	☑		☎	
3"	3000	76mm	☑	☑	☑	☎	☎	☎	☎			☎	☑	☎	☎	
4"	4000	101.6mm	☑	☎	☑	☎	☎	☎	☎			☎	☑			
5"	5000	127mm	☑	☎	☎	☎	☎	☎	☎			☎	☑			
6"	6000	152mm	☑	☎	☎	☎	☎	☎	☎			☎	☑			
8"	8000	203mm	☎	☎	☎	☎		☎	☎					☎		
10"	A000	254mm	☎	☎	☎	☎		☎	☎					☎		
12"	C000	304mm	☎	☎	☎	☎		☎	☎					☎		

## CUSTOMIZING DMIC VALVE CONNECTIONS

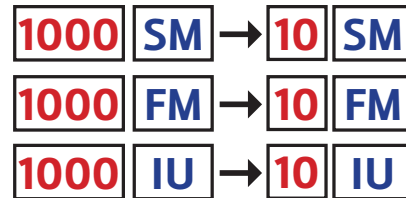
To specify "unlike connection" or step-size custom order valves, use DMIC "2+2" Ordering Codes

DMIC customers enjoy unparalleled availability of specialized and custom valves, in addition to stock offerings. We devised the "2+2 code" system to allow Buyers to uniformly specify unlike connections on otherwise standard valves.

Suppose you require a BV3D-1000 3-way diverter with one C.61 Split Flange connection for rigid mounting, one C.61 4-Bolt Companion port, and an ISO6149 Threaded port. Specifying this valve could become a nightmare (let alone the delivery waiting time from overseas), but not for DMIC customers.

Please follow the example at right to see how this valve is requested, and how your quotation and production will proceed using the 2+2 codes and SAN system. To formulate a "2+2" code, take the FIRST TWO digits of the SIZE and append the CONNECTION CODE (next page).

- Determine the size and connection for each port of the valve. Contract into 2+2 codes:



It's easy!  
 Just chop the last two digits of the size code off and join up with the connection code.

- Collate the connection codes (for multiway valves, in the published port sequence for accurate positioning at the Factory):



- Call your distributor or DMIC with the composite valve p/n. We will search the database and quote pricing/delivery. With your PO, if a SAN is req'd, one will be assigned, and your valve is on the way!



# CONNECTION AVAILABILITY

## Symbol Legend

- ☑ .....Standard feature for this series
- ☺ .....Rapid Delivery Option
- ☎ .....Please call to confirm lead time
- ☒ .....Not Available
- ☐ .....Composite valve assembly

*The widest variety of ball valve connection options offered in the world*

**\*\* Please note: Our valve may be rated for more PSI, but we always suggest you operate your system according to pipe schedule, ANSI, or DIN specification.**

**BVAL - 1000 SM - 4 3 2 1**

Connection Style			Connection Availability By Valve Series									
Code	Description	Valve Series Group										
		BVAL	BV3L BV3LZ	BVH BVAH	BVHS	BVHH BVHHH	BVQ BVQG	BV3D BV3DZ	BV3H BV4H	BVDM BVDMMF BVSS	BVFF DBBV BVFD	
<b>THREADED CONNECTIONS</b>	<b>Female Threaded Connections</b>											
	<b>S</b>	SAE-F ORB	☑	☑	☑	☑	☑	☑	☑	☑		☎
	<b>N</b>	NPT-F	☑	☑	☑	☑	☑	☑	☑	☑		☎
	<b>IU</b>	ISO6149	☑	☑	☑	☺	☺	☺	☑	☑		☎
	<b>B</b>	BSPF-F / ISO 1179 / G-Thread	☑	☑	☑	☑	☑	☑	☑	☑		☎
	<b>T</b>	BSPT (Tapered Pipe)	☺	☺	☺	☺	☑	☺	☺	☺		☎
	<b>MP</b>	Medium Pressure Coned Port					☺					
	<b>Male Threaded Connections</b>											
	<b>J</b>	JIC-Male	☐	☐	☑	☺	☺	☺	☑	☺		
	<b>MD</b>	DIN2353-M Tube (Please Call)	☎	☎	☎	☎	☎	☎	☎	☎		
<b>MS</b>	SAE-M ORB (Custom Order)	☎	☎	☎	☎	☎	☎	☎	☎			
<b>MN</b>	NPT-M	☎	☎	☑	☺	☺	☺	☑	☺			
<b>FLANGED CONNECTIONS</b>	<b>SAE 4-Bolt Companion Flange</b>											
	<b>FM</b>	C.61 Companion, UNC Bolt Holes	☐	☐	☑	☑	☎	☎	☑	☑	☑	☎
	<b>FH</b>	C.62 Companion, UNC Bolt Holes			☑	☑	☎	☎	☑	☑	☑	☎
	<b>GM</b>	C.61 Companion, Metric B/H	☐	☐	☑	☑	☎	☎	☑	☑		☎
	<b>GH</b>	C.62 Companion, Metric B/H			☑	☑	☎	☎	☑	☑		☎
	<b>SAE 4-Bolt Standard Flange</b>											
	<b>FL</b>	Universal C.61 Std., Thru B/H	☐	☐	☎	☎	☎	☎	☎	☎	☑	
	<b>FK</b>	Universal C.62 Std., Thru B/H			☎	☎	☎	☎	☎	☎	☑	
	<b>SAE Split Flange Head</b>											
	<b>SM</b>	SAE C.61 Split Flg Head	☐	☐	☑	☑	☎	☎	☑	☑		
	<b>SH</b>	SAE C.62 Split Flg Head	☒	☒	☑	☑	☎	☎	☑	☑		
	<b>ANSI Flange (quoted pressure ratings by standard ANSI B16.5 - 1988)</b>											
	<b>AA</b>	Class 150 (290 PSI @ 100°F)	☐	☐	☎	☎	☎	☎	☎	☎	☎	
	<b>AB</b>	Class 300 (750 PSI @ 100°F)			☎	☎	☎	☎	☎	☎	☎	
	<b>AC</b>	Class 600 (1500 PSI @ 100°F)			☎	☎	☎	☎	☎	☎	☎	
	<b>AD</b>	Class 900 (2250 PSI @ 100°F)			☎	☎	☎	☎	☎	☎	☎	
<b>AE</b>	Class 1500 (3750 PSI @ 100°F)			☎	☎	☎	☎	☎	☎	☎		
<b>AF</b>	Class 2500 (6250 PSI @ 100°F)			☎	☎	☎	☎	☎	☎	☎		
<b>DIN Flange</b>												
<b>DA</b>	DIN 3202-F1 Flange, 4/8 Bolt	☎	☎	☎	☎	☎	☎	☎	☎	☎		
<b>DB</b>	DIN 3202-F4 Flange, 4/8 Bolt	☎	☎	☎	☎	☎	☎	☎	☎	☎		
<b>SOCKET WELD</b>	<b>Socket Weld Connection</b>											
	Pipe	Tube										
	<b>WA</b>	<b>WTA</b>	Standard Pipe			☺	☺	☺	☺	☺		☺
	<b>W4</b>	<b>WT4</b>	Schedule 40	☐	☐	☑	☑	☑	☺	☑	☑	☺
	<b>WB</b>	<b>WTB</b>	Extra Strong (XS)			☺	☺	☺	☺	☺		☺
	<b>W8</b>	<b>WT8</b>	Schedule 80			☑	☺	☺	☺	☺		☺
	<b>WD</b>	<b>WTD</b>	Schedule 120			☺	☺	☺	☺	☺		☺
	<b>WF</b>	<b>WTF</b>	Schedule 160			☑	☺	☺	☺	☺		☺
<b>WG</b>	<b>WTG</b>	Double Extra Strong (XXS)			☺	☺	☑	☺	☺		☺	
<b>BUTT WELD</b>	<b>Butt Weld Connection</b>											
	<b>WBA</b>	Standard Pipe			☺	☺	☺	☺	☺	☺		☺
	<b>WB4</b>	Schedule 40			☑	☺	☺	☺	☺	☺		☺
	<b>WBB</b>	Extra Strong (XS)			☺	☺	☺	☺	☺	☺		☺
	<b>WB8</b>	Schedule 80			☑	☺	☺	☺	☺	☺		☺
	<b>WBD</b>	Schedule 120			☺	☺	☺	☺	☺	☺		☺
	<b>WBF</b>	Schedule 160			☑	☺	☺	☺	☺	☺		☺
<b>WBG</b>	Double Extra Strong (XXS)			☑	☺	☺	☺	☺	☺		☺	
<b>MANIFOLD MOUNTED</b>	<b>Manifold Mount, 2- and 3-Way</b>											
		DMIC 2-/3-Way Industry Std. Pad DMIC Intramanifold Cavity	See specifications for connection details									

**Many more connection types are available. If your requirement is not listed, please call Factory.**



# CONSTRUCTION CODES

**Buyers may easily specify optional material and physical features with the 4-digit construction code suffix**

DMIC Construction Codes are designed to be as universal as possible across the Ball Valve product line. Each of four positions determines the construction of a particular part of the valve.

## Refer to Spec Sheets for Standard Configuration by Valve Series

Standard materials are demonstrated in the Ordering Codes Summary for each series. Based on the service pressure and design intent of a particular valve model, DMIC supplies valves made from a wide variety of materials.

**Buna-N elastomer seals are standard on most DMIC Ball Valves except valves intended for weld application, which utilize Viton™.**

**BVAL** - **1000** **SM** - **4** **3** **2** **1**

Body Material \_\_\_\_\_  
 Ball & Spindle Material \_\_\_\_\_  
 Ball Seal Materials \_\_\_\_\_  
 O-Ring & Back-up Seal Materials \_\_\_\_\_

## Symbol Legend

- ☑ ....Standard feature for this series
- ↶ .....Rapid Delivery Option
- ☎ .... Please call to confirm lead time
- ☒ .... Not Available

Material Description		Availability By Product Series											
		Low Pressure				High Pressure							
Description	Code	BVAL	BV3L BV3LZ	BVH BVAH	BVHS	BVHH BVHHH	BVQ BVQG	BV3D BV3DZ	BV3H BV4H	BVMM	BVDM BVDMF BVSS	BVFF DBBV BVFD	SV2C SV3C
<b>Body Material – Position 1</b>													
Carbon Steel	1	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Stainless Steel 316	2	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Aluminum 6061-T6	4	☑	☑	☎	☎	☎	☎	☎	☎	☑	☎	☎	☎
Monel 400	7	☑	☑	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎
<b>Ball and Spindle Material – Position 2</b>													
Carbon Steel	1	☎	☎	☑	☒	☑	☑	☑	☑	☑	☑	☑	☑
Stainless Steel 316	2	☎	☎	☑	☑	☑	☑	☑		☑	☑	↶	☑
Brass or Bronze	3	☑	☑	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎
Aluminum 6061-T6	4	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎
Stainless Steel 416*	6	☎	☎	☑	☑	↶	↶	☑	☑	☑	☑	↶	↶
Monel 400	7	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎
*Position 2, option 6 specifies 316 SS ball, 416 Spindle													
<b>Thermoplastic Ball Seal Material – Position 3</b>													
Delrin™	1	↶	↶	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
PTFE Teflon™ (1500 PSI max)**	2	☑	☑	↶	↶	☒	↶	↶	↶	↶	↶	↶	↶
PEEK High Temp	4	↶	↶	↶	↶	↶	↶	↶	↶	↶	↶	↶	↶
Delrin™ AF	6	↶	↶	↶	↶	↶	↶	↶	↶	↶	↶	↶	↶
Glass Reinforced Teflon™ (2000 PSI max)	7	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎
Aluminum Bronze	8	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎	☎

**\*\*Note:** Consult Factory for max pressure rating by application.



Material Description		Availability By Product Series											
		Low Pressure				High Pressure							
Description	Code	BVAL	BV3L BV3LZ	BVH BVAH	BVHS	BVHH BVHHH	BVQ BVQG	BV3D BV3DZ	BV3H BV4H	BVMM	BVDM BVDMF BVSS	BVFF DBBV BVFD	SV2C SV3C
Hostile Media	9												
Carbon Reinforced PEEK	C												
PCTFE (KEL-F)	K												
Nylon	N												
Glass Reinforced PEEK	P												
Steel (4340)	S												
Vespel SP-21	V												

### Elastomer O-Ring Seal Material – Position 4

Buna-N	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
EPR	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Viton™	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Teflon™	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chemraz™	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kalrez	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Sealing Materials Technical Data

Order Code	DMIC Description	Temperature Range		Seal Compound Identification	Acronym	Classification Synthesis	Trade Names	Chemical Resistance Examples	
		°F	°C					Suitable	Not Suitable
<b>Ball Seal Materials (Digit 3)</b>									
1	Delrin™	-40°F to 180°F	-40°C to 82°C	Delrin™ Polyoxymethylene	DM POM	Thermoplastic Saturated heteropolymer of heterogeneous polymer chains	Delrin™	Hydraulic Fluids Water Inert Gases Air Alcohols Glycols Petroleum based fluids	High molar acids & alkalis Fluorines Liquids for human consumption
2	PTFE Teflon™	-300°F to 450°F	-184°C to 232°C	Polytetra fluoroethylene	PTFE	Thermoplastic Homogeneous, pure polymer chains, containing fluorine	Teflon™ Hostafion Fluon	Foodstuffs Acids & Alkalis Organic & Inorganic Solvents	Fluorines Liquid alkali metals
4	PEEK Hi-Temp	-76°F to 480°F	-60°C to 248°C	Polyether-ether-ketone	PEEK	Thermoplastic Aromatic Linear Polymer	Victrex	Most fluids acceptable with Delrin™ Moly Radioactive use	High molar acids & alkalis
6	Delrin™ AF Low Friction	-40°F to 180°F	-40°C to 82°C	Proprietary	PAI	Thermoplastic Combination of Teflon™ fibers uniformly dispersed in Delrin™ acetal resin.	Delrin™ AF	Hydraulic fluids Many acids Alcohols & organic solvents	Hot water Steam, Strong alkalis
9	Ferrous Special Applications	Call DMIC						Call DMIC	
<b>O-Ring &amp; Backup Seal Materials (Digit 4)</b>									
1	Buna-N	-40°F to 200°F	-40°C to 93°C	Nitrile Butadiene rubber	NBR	Elastomer Unsaturated heteropolymer of heterogeneous polymer chains	Nitrile Perbunan Chemigum Elaprim Krynac	Petroleum based fluids Water Air Water-glycol	Phosphate esters
2	EPR	-70°F to 302°F	-57°C to 150°C	Ethylene-propylene-diene rubber	EPR EPDM	Elastomer Saturated heteropolymer utilizing double valence bands outside the primary chain	Buna AP Dutral Epcar Keltran Nordel	Phosphate esters Brake Fluid Acids & Alkalis	Petroleum based oil & grease Chlorinated hydrocarbons
3	Viton™	-15°F to 400°F	-26°C to 204°C	Fluorocarbon	FKM	Elastomer Multiple monomers & fluorine compounded into saturated heteropolymer	Viton™ Fluorel Technoflon	NBR compatible fluids Acids & alkalis	Phosphate esters
4	Teflon™ PTFE	-300°F to 450°F	-184°C to 232°C	Polytetrafluoroethylene	PTFE	Thermoplast Homogeneous, pure polymer chains, containing fluorine.	Teflon™ Hostafion Fluon	Foodstuffs Organic & Inorganic Solvents	Fluorines Liquid alkali metals
5	Chemraz™ 510	-22°F to 446°F	-30°C to 230°C	Proprietary	FFKM	Perfluorolastomer Polymers of three or more monomers in which all hydrogen positions have been replaced with fluorine	Chemraz™	Acids Caustics Aldehydes Esters Aromatics Methanol	Fluorinated Refrigerants Perfluorinated Lubricants



# ACCESSORY CODES

**Virtually any imaginable DMIC valve, complete with options, can be specified, Factory-built, and then later re-ordered exactly the same ... with DMIC Accessory Codes**

## Symbol Legend

- .... Standard feature for this series
- ..... Rapid Delivery Option
- ..... Please call to confirm lead time
- ..... Not Available

DMIC Pre-Engineered Ball Valve Accessories feature interchangeability as a hallmark of their design. The DMIC Factory furnishes valves and accessories for your most demanding applications.

**DMIC products save you time and money when anything more than a cookie-cutter offshore valve with limited/zero factory support, is needed.**

By adding the additional "bank" of Accessory Codes, as demonstrated on the next page, you can now directly specify the complete array of DMIC Options as components of your Factory-built valve.

**Please see the worksheet on the next page for a comprehensive listing of options.**

## DMIC SPECIAL ASSEMBLY NUMBERS

**Completely custom valves receive a DMIC "SAN" number**

Valves that are completely special, or cannot be defined with Construction & Accessory codes, receive a DMIC Engineering "SAN" (Special Assembly Number).

**BVAL-12345**

When you accept DMIC's quotation and order the product, a "SAN" (Special Assembly Number) is assigned for each optioned valve. This part number is used to flow your order through production and precisely document it for eventual service parts.

Option Description	Description of Accessory to be Factory Installed	OLD "Slash Code	Availability By Valve Series					
			Low Pressure			High Pressure		
			BVAL BV3L	BVH BV3D	BVAH	BVHH	BV3H BV4H	BVMM
<b>Locking and Security Locking Handle Kits (Lock not Included)</b>								
Locking Handle Kit	/LH		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Security Locking Handle Kit	/LHS		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Limit Switch Bracket, Single and Multiway</b>								
Limit Switch Bracket, 1-Way	/LSB1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limit Switch Bracket, 2-Way	/LSB2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limit Switch Bracket, 3-Way	/LSB3		<input checked="" type="checkbox"/> / <input type="checkbox"/>	<input checked="" type="checkbox"/> / <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Locking Limit Switch Brkt, 1-Way	/LLB1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Locking Limit Switch Brkt, 2-Way	/LLB2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Locking Limit Switch Brkt, 3-Way	/LLB3		<input checked="" type="checkbox"/> / <input type="checkbox"/>	<input checked="" type="checkbox"/> / <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Include Switch(es) when ordering DMIC LSB/LLB Brackets	add/S to end		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ball Valve Handle Overrides/Options – Replaces Standard Handle</b>								
Forged Steel Handle	/HS		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Flat Fabricated Steel Handle	/HA		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flat Anodized Aluminum Handle	/HL		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Offset Anodized Aluminum Handle	/HK		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T-Type High Torque Handle	/HT		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Delete Handle (i.e. "NO" handle)	/HN		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Handle Link Kit (specifies TWO valves connected by one handle)	/HLK							
<b>Valve Preparation Options – Requires DMIC Accessory Kit Order</b>								
<small>Distributor/OEM placing order may specify valves with factory preparation subject to DMIC's "special order" Sales Terms – please contact your Sales Associate for details.</small>								
Equip for Actuator Mount	/AM		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equip for Bottom Mounting	/BM		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>
Bottom & Side Mount	/BSM		<input type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>
Locking Handle Mount	/LHM		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Equip for 1-Way Limit Switch Mt	/LM1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equip for 2-Way Limit Switch Mt	/LM2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equip for Panel Mounting (Top)	/PM		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equip for Side Mounting	/SBM		<input type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>
Equip for Security Lock Mount	/SLM		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Factory Installed Actuator - DMIC Application Guaranteed</b>								
Factory Pneumatic DA Actuator	/DA*		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Factory Pneumatic SR Actuator	/SR**		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Factory Hydraulic DA Actuator	/DA*H							
Factory Hydraulic SR Actuator	/SR**H							
Factory Electric DA Actuator	/E**							



# ACCESSORY CODES, CONT.

BVAL - 0750 S - 4 3 2 1 A Z Z A Z Z

← Group 5 & 6 codes only required when an option is selected

Group I Accessories Locking Handles & Limit Switches		
Description	Accessory Code	OLD "Slash Codes"
Zero Accessory ("none")	Z	
Locking Handle	A	/LH
Security Locking Handle	B	/LHS
Limit Switch Brckt - Single	C	/LSB1
Limit Switch Brckt - Dual	D	/LSB2
Locking Limit Switch Brckt - Single	E	/LLB1
Locking Limit Switch Brckt - Dual	F	/LLB2
Security Locking Limit Switch Brckt - Single	G	/SLB1
Security Locking Limit Switch Brckt - Dual	H	/SLB2
Limit Switch Brckt - Single, with Switch	I	/LSB1 /S
Limit Switch Brckt - Dual, with Switches	J	/LSB2 /S
Locking Limit Switch Brckt - Single, w/Switch	K	/LLB1 /S
Locking Limit Switch Brckt - Dual, w/Switch	L	/LLB2 /S
Security Locking L.S. Brckt - Single, w/Switch	M	/SLB1 /S
Security Locking L.S. Brckt - Dual, w/Switch	N	/SLB2 /S
Locking Handle/S.S-316	P	/LH /SS
Locking Handle, stop pin & top cap/S.S-316	Q	/LHPC /SS
Explosion Proof Limit Switch	R	/EPLS
Locking Explosion Proof Limit Switch Bracket - Single with switch, Normally open	S	/LEPLS
45 Degree Locking Handle; Locks in all 3 Positions	T	/LHT2
Lock Handle to turn clockwise; Lock bracket on opposite side	W	/RLH

Group II Accessories Mounting Patterns & Accessory Preparation		
Description	Accessory Code	OLD "Slash Codes"
Zero Accessory ("none")	Z	
Actuator Bracket Mounting Holes	A	/AM
Bottom Mounting Holes	B	/BM
Bottom & Side Combination Mounting Holes	C	/BSM
Locking Handle Mount	D	/LHM
Single Limit Switch Bracket Mounting Holes	E	/LM1
Dual Limit Switch Bracket Mounting Holes	F	/LM2
Panel Mounting Holes	G	/PM
Side Mounting Holes / Side Mt. Brkt. Holes	H	/SBM
Security Lock Mount	I	/SLM
Security Lock and Single L.S. Brkt Mtg Holes	J	/SLM /LM1
Security Lock and Dual L.S. Brkt Mtg Holes	K	/SLM /LM2
Actuator Bracket Mounting Holes with Locking Handle Mount	L	/AM /LHM
Pressure Balance	P	/P
Locking Pressure Balance	Q	/PL
Explosion Proof Limit Switch Mount	R	/EPM
ROV Mount as per API 17D	V	/RVM

Group IV Accessories Handle Type		
Description	Accessory Code	OLD "Slash Codes"
Zero Accessory ("No handle")	Z	
Handle, Crank, Steel	A	/HS
Handle, Flat, Steel	B	/HA
Handle, Flat Offset, Steel	C	/HA45
Handle, High Torque, Steel	D	/HT
Handle, Crank, Steel, Extended	E	/HSE
Butterfly Handle	F	/BF
OBSOLETE USE "R" - Butterfly Handle / T-Handle, SS Top Works 316	G	/HSS
OBSOLETE USE "S" - 316 Stainless Steel Top Works, Flat Offset (Flat Handle Offset, Pin, Washer, Cap)	H	/HAS
316 Stainless Steel Top Works (Crank Handle, Pin, Washer, & Cap)	L	/HSS
316 Stainless Steel Top Works (Flat Handle, Pin, Washer, & Cap)	M	/HAS
Handle, Crank, Aluminum	N	/HK
Handle, Flat, Aluminum	O	/HL
No Aluminum Top Works(Handle, Cap)	P	/NAT
Handle, Medium Torque	Q	/MT
Handle, Crank, 316 Stainless Steel	R	/HSS
Handle, Flat, Stainless Steel(316)	S	/HAS
Handle, Flat, Offset, Stainless Steel(316)	T	/HAS45
Handle, High Torque, 316 Stainless Steel	U	/HTS
Handle, Medium Torque, Stainless Steel(316)	V	/MTS
316 Stainless Steel Top Works (High Torque, Pin, Washer, Cap)	W	/HTS
316 Stainless Steel Top Works (Medium Torque, Pin, Washer, Cap)	X	/MTS
Snap Ring on Spindle, No Handle	Y	/SR
1" Extended High Torque Handle	1	/HTE1
1½" Extended High Torque Handle	2	/HTE2
2" Extended High Torque Handle	3	/HTE3
Handle, Spring Return, High Torque	9	/HTSR

Group V Accessories Mounting Brackets		
Description	Accessory Code	OLD "Slash Codes"
Zero Accessory ("none")	Z	
Bottom Bracket	A	/BB
Side Bracket	B	/SB
Changes any single limit switch to Normally Closed	C	/NC
Movable Stop	D	/MS
Grease Bracket	E	/GB
Proximity Switch Mounts - Call DMIC Sales!	H-W	

Group III Accessories Complete Actuation Packages, Pneumatic, Double Acting & Spring Return				
Description (Type of Actuator)	Accessory Code	OLD "Slash Codes"	Description (Actuator Size)	Accessory Code
Note: If an Actuator is called out, the 3rd digit in the accessory code is used to call out "Type". The 4th digit will now be overridden with "Size"				
Zero Accessory ("none")	Z		Size "A"	A
Double Acting	1	/DA*	Size "B"	B
Spring Return (4 Spring)	2	/SR*4	Size "C"	C
Single Phase Electric (AC)	3	/EA*	Size "D"	D
Electric (DC)	4	/ED*	Size "E"	E
Double Acting Hydraulic Conversion	5	/DA*H3	Size "F"	F
Spring Return (4 Spring) Hydraulic Conversion	6	/SR*H4	Size "G"	G
DMIC Hydraulic Actuator (Not all sizes available)	7	/AC-HA*	Size "H"	H
			For any larger size Actuator, Call DMIC Sales!	I-L

Group VI Accessories Valve Surface Finish		
Description	Accessory Code	OLD "Slash Codes"
Zero Accessory ("standard finish")	Z	
Black Oxide - override Standard	A	
Clear Anodize - override Standard	B	/AN
Black Zinc Plated - override Standard	C	/BZ
Yellow Zinc Dichromate Plated - override Std	D	/YZP
Electroless Nickel - override Standard	E	/EP
Black Anodize - override Standard	F	/BAN
Gas Application	G	/GAS
DFAR	H	/DFAR
Clear Zinc	I	/CZ
Hard Coat Anodize	J	/HCA
Chromium-6 Free Zinc	K	/C6F
Bleed Hole or Drain Ports - Call DMIC Sales!	N-V	



# 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.

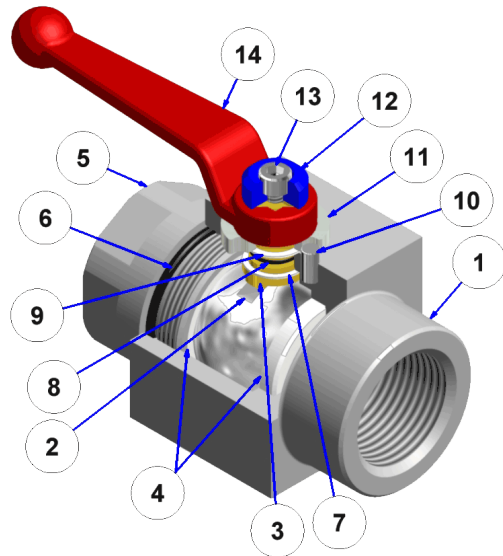


Most large bore valves sold in the hydraulic market today are simply "plumbing" valves, suitable primarily for low pressure, cold water use. DMIC's 'BVAL' is the first ball valve of its kind, specifically designed for leak-free Hydraulic Suction, Vacuum to 29" & Return line durability to 6" full bore.

- 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, Brass
3	1	Spindle, Brass
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	Top Cap Screw
14	1	Handle



# 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	⅜"
0500	½"
0750	¾"
1000	1"
1250	1¼"
1500	1½"
2000	2"
*2500	2½"
*3000	3"
*4000	4"
*5000	5"
*6000	6"

Connection Types	
Imperial Threads	
Code	Description
S	SAE ORB
N	NPT
Metric Threads	
B	BSPP
T	BSPT (Tapered Pipe)
ISO Threads	
IU	ISO6149
Welded	
W4	Sch. 40 Socket Weld
Flanged	
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	Brass

Body Material	
Code	Description
4	Aluminum

Call Factory for larger sizes 18"+

\* rated to 400 PSI

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

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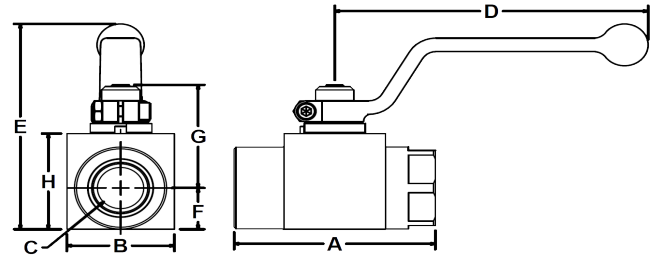


# BVAL LOW PRESSURE

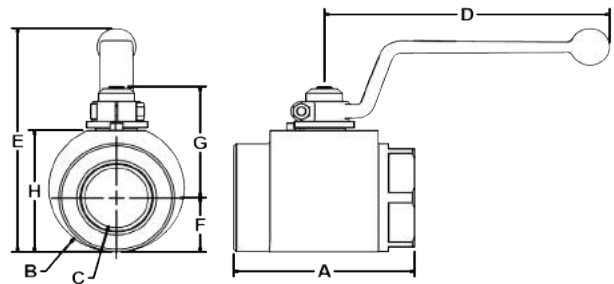
**BVAL valves with flange and socket weld connections are composite valves, built using threaded valves and "SSW" adapters.** To harness the full capabilities of DMIC's "SSW" Power Unit Layout system please call DMIC Helpline at 1-800-248-3642 to obtain the SSW Catalog.

BVAL		Dependent Dimensions				
Threaded Connections						
Dimension (inches)		A	E	F	G	H
Port Code(s)	Port Size	Overall Length	Overall Height	Bot to Port Ctr	Port Ctr to Top	Valve Height
N S B IU IA Threaded Connections	3/4"	2.63	2.70	0.63	1.66	1.50
	3/8"	2.63	2.70	0.63	1.66	1.50
	1/2"	2.63	2.70	0.63	1.66	1.50
	3/4"	3.27	3.76	0.76	1.89	1.75
	1"	3.47	4.01	0.88	2.01	2.00
	1 1/4"	3.90	5.24	1.19	2.58	2.66
	1 1/2"	4.32	5.68	1.39	2.82	3.10
	2"	4.90	6.41	1.82	3.12	3.83
	2 1/2"	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	3/4"	7.59	8.84	1.88	0.88	3/8"
	1"	7.80	9.04	2.06	1.03	3/8"
	1 1/4"	8.47	9.72	2.31	1.19	7/8"
	1 1/2"	8.89	9.89	2.75	1.41	1/2"
	2"	9.47	11.22	3.06	1.69	1/2"
	2 1/2"	10.93	12.67	3.50	2.00	1/2"
	3"	12.64	15.14	4.19	2.44	5/8"
	4"	14.22	16.72	5.13	3.06	5/8"
SAE Split Flange Connection						
Dimension (inches)		A	-	-	-	A <sub>CM</sub>
Port Code(s)	Port Size	Overall Length SM	O-Ring No.	DMIC Split Flange Kit	Length A (Combo) CM	Length A (Combo) CM
SM CM SAE Split & Combo Flange Connections	3/4"	8.14	2-214	FSL-0750SK	7.87	7.87
	1"	8.26	2-219	FSL-1000SK	8.03	8.03
	1 1/4"	9.33	2-222	FSL-1250SK	8.90	8.90
	1 1/2"	9.77	2-225	FSL-1500SK	9.33	9.33
	2"	10.85	2-228	FSL-2000SK	10.16	10.16
	2 1/2"	12.36	2-232	FSL-2500SK	11.65	11.65
	3"	13.68	2-237	FSL-3000SK	13.16	13.16
	4"	15.77	2-245	FSL-4000SK	15.00	15.00
ANSI Flange Conn.						
Dimension (inches)		A	ANSI 150# FLANGE			
Port Code(s)	Port Size	Overall Length	Flg Diam	B/Ctr Diam	Bolt/Hole Dia	# Bolt Holes
AA ANSI 150# Flange Connections (290 PSI nominal)	1/2"	5.83	3.50	2.38	0.62	4
	3/4"	6.90	3.88	2.75	0.62	4
	1"	7.42	4.25	3.12	0.62	4
	1 1/4"	8.15	4.62	3.50	0.62	4
	1 1/2"	8.74	5.00	3.88	0.62	4
	2"	9.56	6.00	4.75	0.75	4
	2 1/2"	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	3/4"	5.84	1.05	0.38	-	-
	1"	6.04	1.31	0.38	-	-
	1 1/4"	6.72	1.66	0.38	-	-
	1 1/2"	7.14	1.91	0.38	-	-
	2"	7.72	2.38	0.38	-	-
	2 1/2"	8.93	2.88	0.38	-	-
	3"	10.64	3.50	0.50	-	-
	4"	12.22	4.50	0.50	-	-

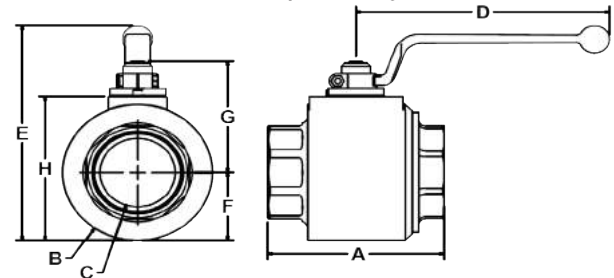
BVAL Block Body, 1/4" - 1"



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



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

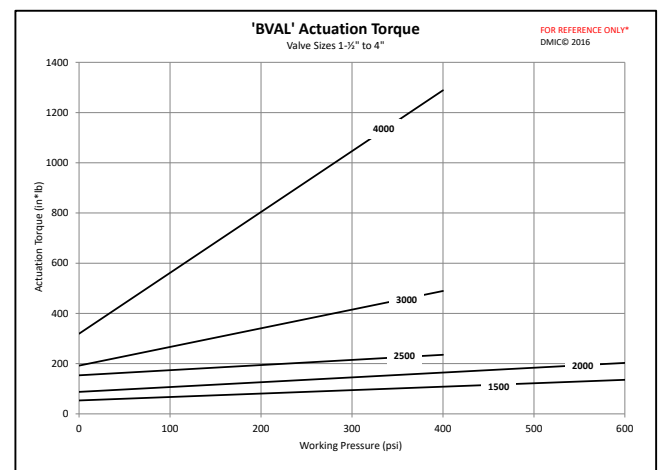
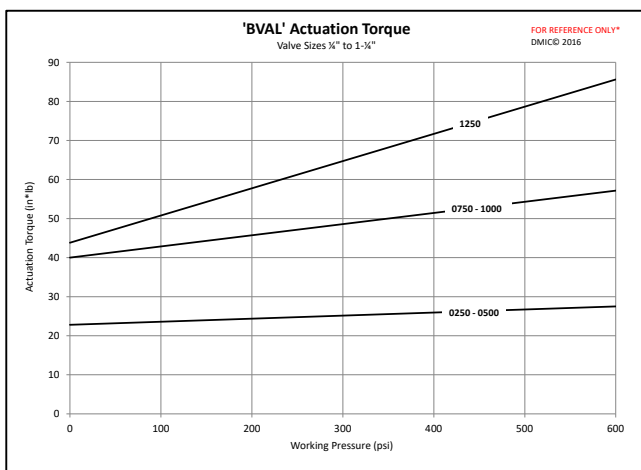
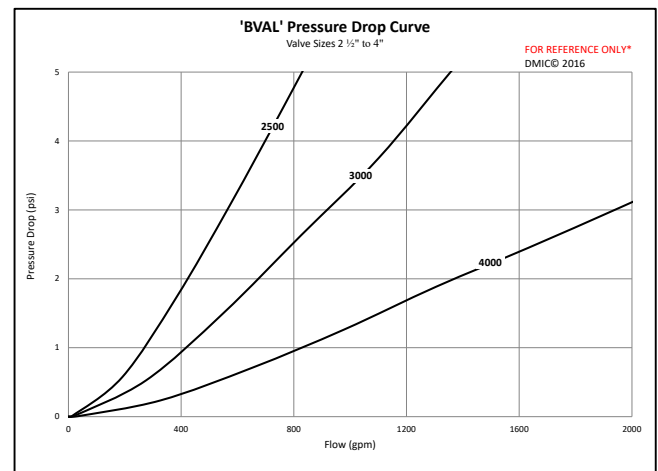
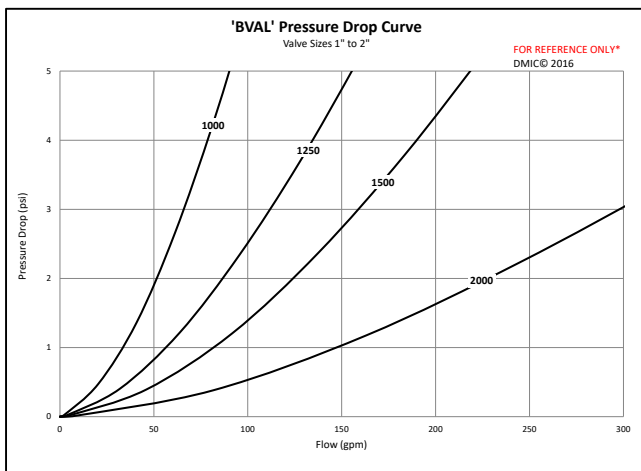
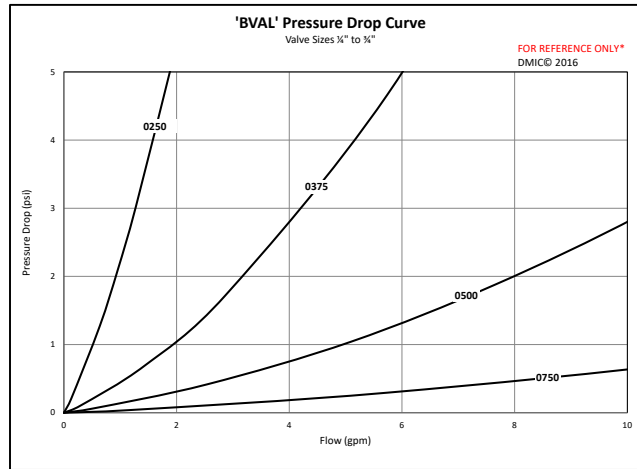


BVAL Part Number	Port Size	Rated Pressure PSI	Dimensions IN		
			Valve Width B	Valve Bore C	Handle Length D
BVAL-0250****	1/4"	600	1.50	0.38	3.35
BVAL-0375****	3/8"	600	1.50	0.47	3.35
BVAL-0500****	1/2"	600	1.50	0.50	3.35
BVAL-0750****	3/4"	600	1.75	0.75	5.09
BVAL-1000****	1"	600	2.00	.97	5.09
BVAL-1250****	1 1/4"	600	2.75	1.25	6.81
BVAL-1500****	1 1/2"	600	3.25	1.50	6.81
BVAL-2000****	2"	600	4.00	1.97	6.81
BVAL-2500****	2 1/2"	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



# BVAL LOW PRESSURE

## Flow Characteristic and Actuation Torque Curves



**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.**



# BVALP LOW PROFILE SUCTION

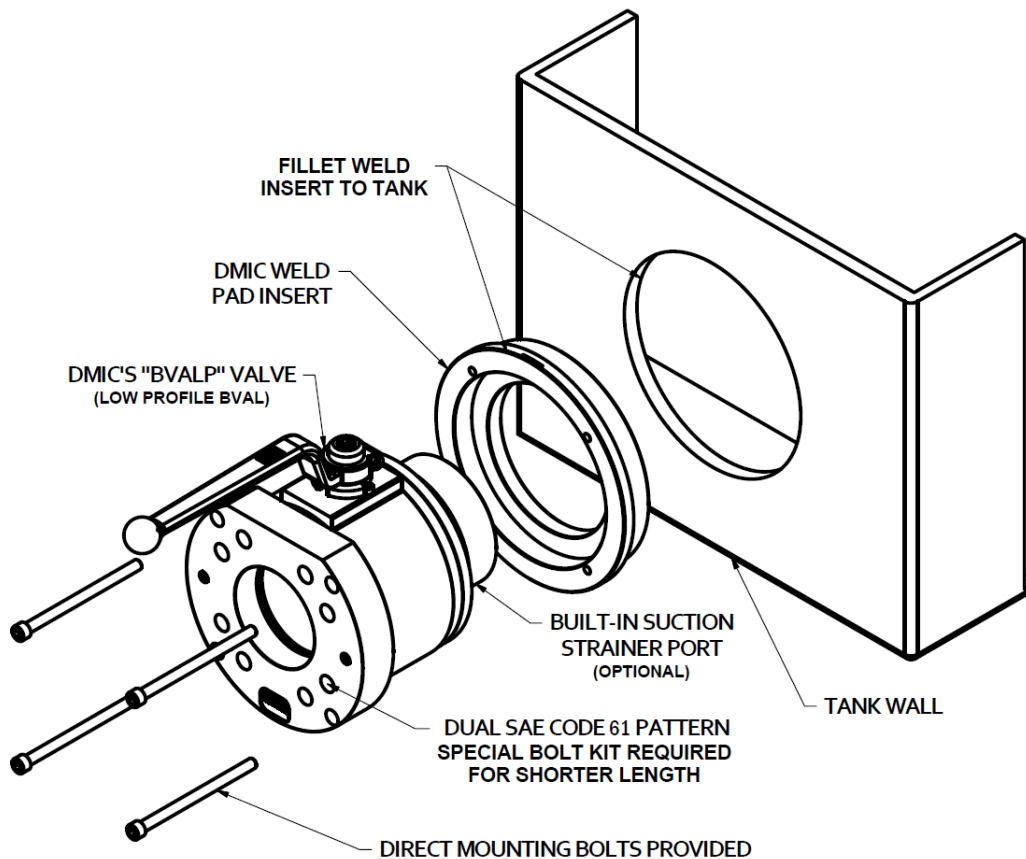
**Ideal from suction to atmospheric pressure**  
*Optimized for DMIC's "SSW" System - All sizes unrestricted bore.*



Similar to DMIC's BVAL product line, but its smaller profile allows for mounting in tight spaces. Whether you're building a new system with a tight space constraint on a valve or are looking to replace your unreliable gate or butterfly valve, make DMIC's BVALP valve your only choice.

- Bore sizes range from 1"-4", other sizes available upon request
- Tank mounted flange for weldment and removable ball valve provided
- Available directly with suction line filter port
- Capable of handling up to 250 PSI
- SAE C.61 Mounting pattern provided (standard) with additional connection availability
- **Special bolt kit required (Sold Separately)**

## Valve Installation Guide

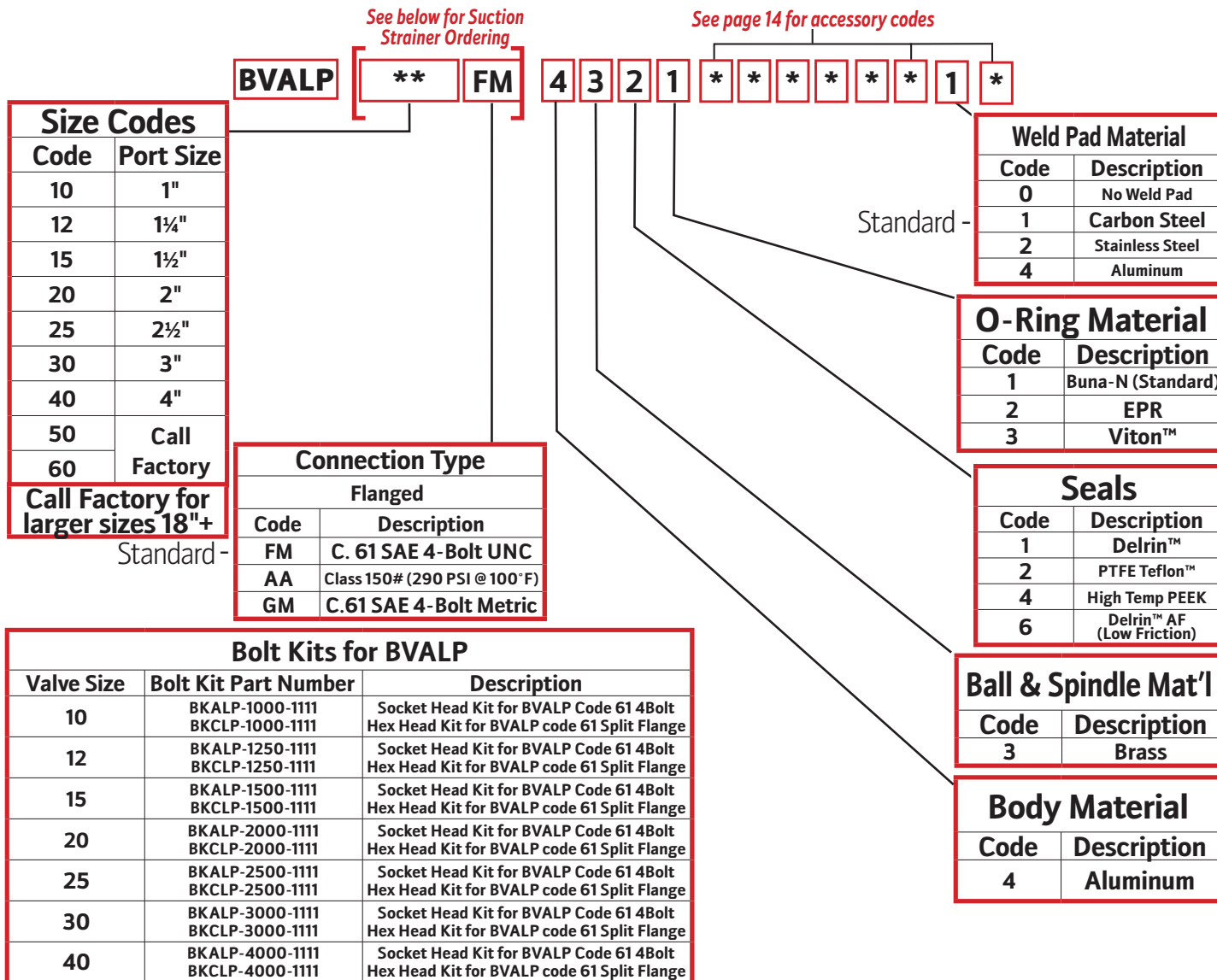


Sizes	
Valve Size	Hole Size
10	3.00"
12	3.75"
15	4.25"
20	5.00"
25	6.00"
30	7.00"
40	8.00"

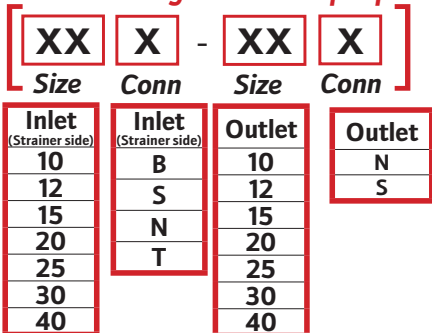


# BVALP LOW PROFILE SUCTION

## Ordering Codes Summary



**2+2 Ordering Code Example for built in Suction Strainer Port:**



**Ordering Example:**

**BVALP-25N-25FM-4321AZZN**

- NPT Port for Strainer
- FM Bolt Conn. on outlet side
- Standard Material Carbon Steel Weld Pad. Last 4 Accessory Codes Dropped

**BVALP-30S-30FM-4321ZZZNZZZ**

- Weld Pad Material request is Stainless Steel

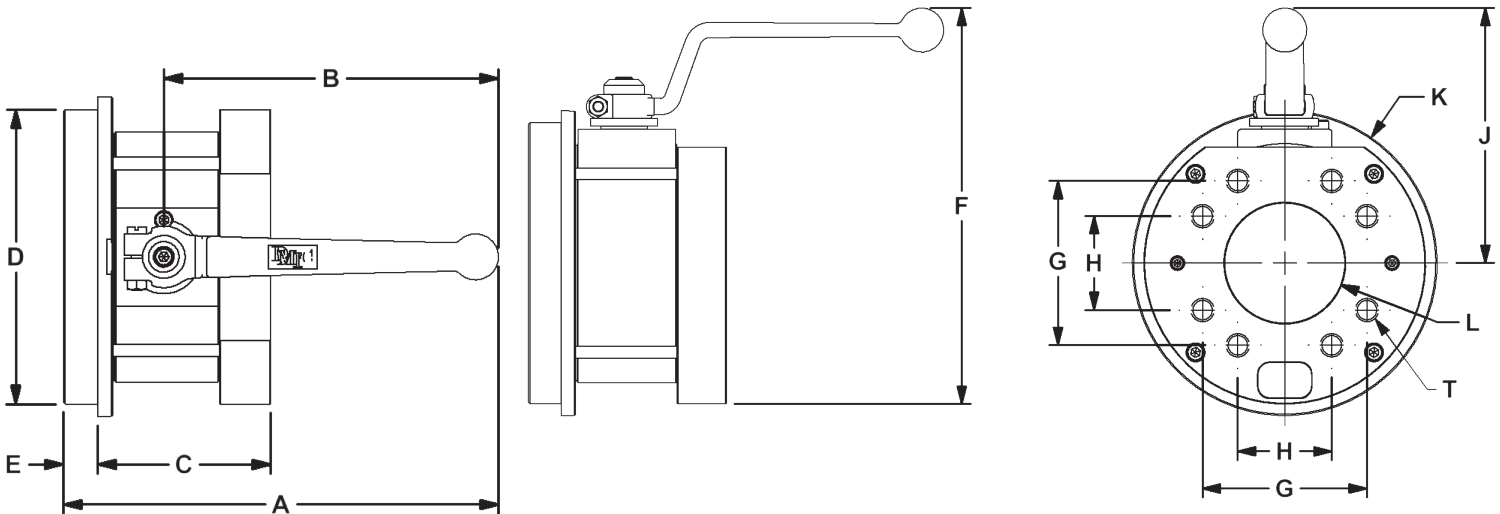
**Note: Changes from Standard Materials may result in changes to temperature and/or pressure rating.**

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# BVALP LOW PROFILE SUCTION

BVALP	Port Size	Dimensions											
		A Overall Length	B Handle Length	C Installed Length	D Tank Hole Diameter (+0.06/-0.00)	E Tank Inset	F Overall Height	G SAE C.61 Pattern	H SAE C.61 Pattern	J Cntr to Handle Height	K Weld Pad Diameter	L Thru Bore	T Mounting Thread UNC
BVALP-10	1"	6.78	5.09	2.79	3.00	0.50	4.75	2.06	1.03	3.11	3.25	0.97	3/8
BVALP-12	1¼"	8.72	6.81	3.16	3.75	0.50	6.06	2.31	1.19	4.06	4.00	1.25	7/16
BVALP-15	1½"	8.59	6.81	3.41	4.25	0.50	6.55	2.75	1.41	4.29	4.50	1.50	1/2
BVALP-20	2"	8.65	6.81	3.47	5.00	0.50	7.09	3.06	1.69	4.59	5.50	1.97	1/2
BVALP-25	2½"	8.85	6.81	3.52	6.00	0.69	8.44	3.50	2.00	5.43	6.50	2.56	1/2
BVALP-30	3"	11.14	8.61	4.50	7.00	0.88	9.48	4.19	2.44	5.98	7.50	3.15	5/8
BVALP-40	4"	11.35	8.61	4.50	8.00	1.09	10.53	5.13	3.06	6.53	8.38	3.94	5/8

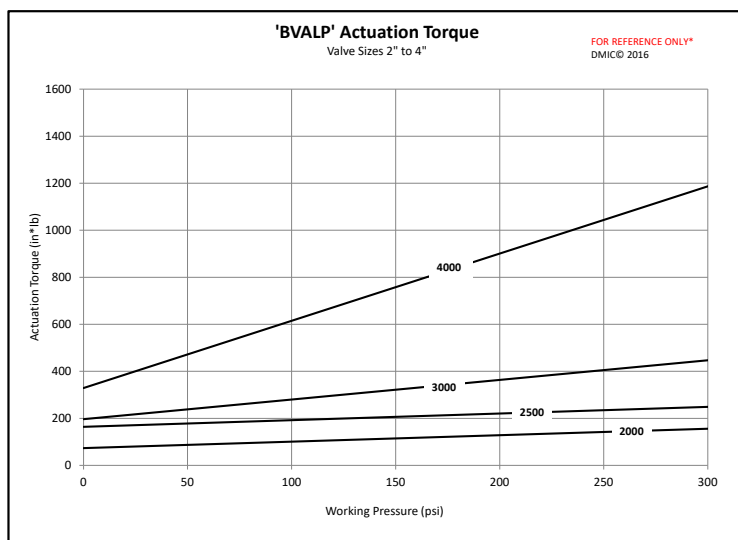
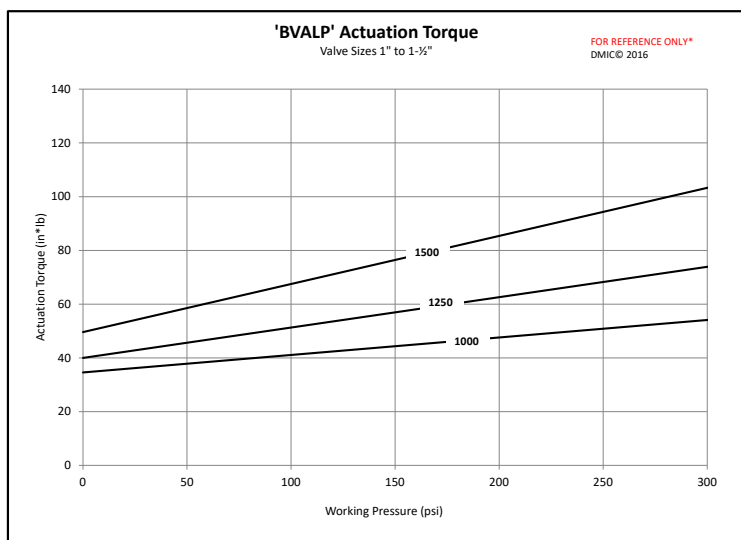
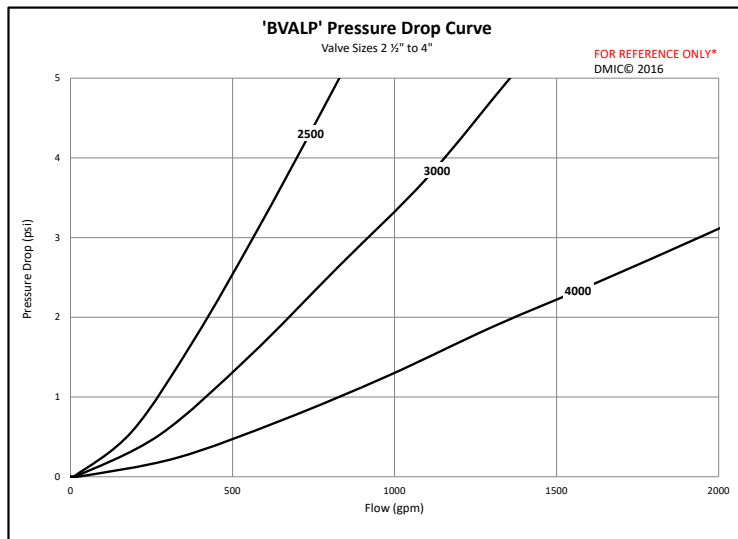
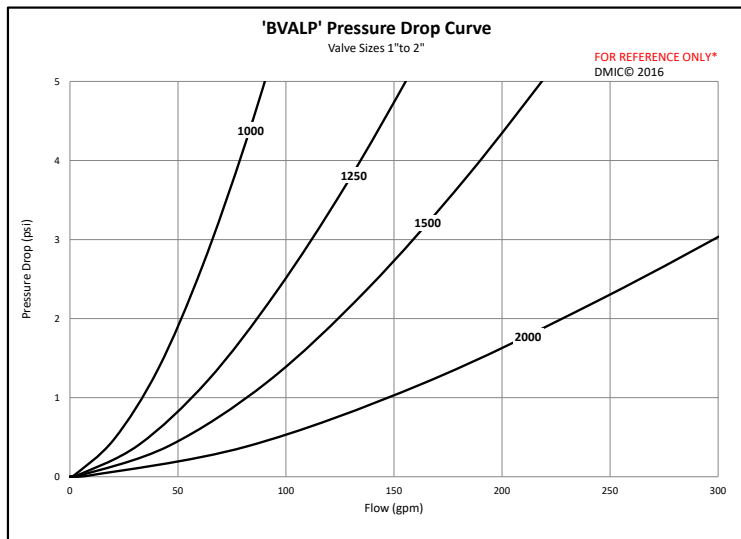


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# BVALP LOW PROFILE SUCTION

## Flow Characteristic and Actuation Torque Curves



# BVEM MID PRESSURE

An economical, low mass, and efficiently designed ball valve for 3000 PSI Max applications.

From 2½" to 4" and UP

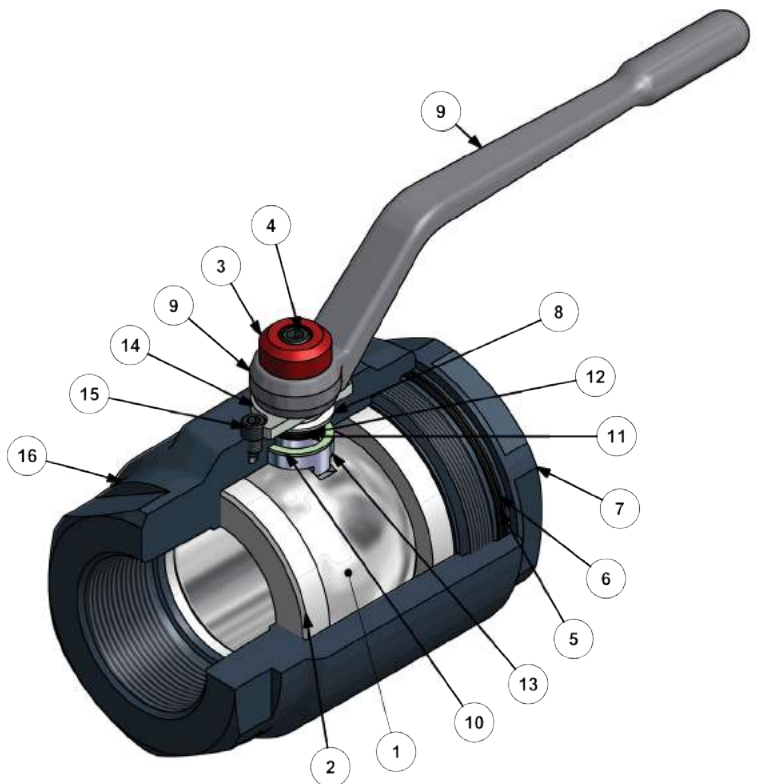


DMIC's **BVEM** series provides a cost effective, durable, high quality ball valve solution for quality 3,000 PSI systems where the budget can't support a 6000 PSI valve.

- DMIC's leading quality-value profile in a purpose built 3,000 PSI valve
- **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**, accepts the full range of DMIC High Pressure Ball Valve Accessories & Actuation Packages
- **A reliable choice for Phosphate Esters, Water Glycols, and other unusual media** (may require optional materials; ships with std. Buna-N seals)

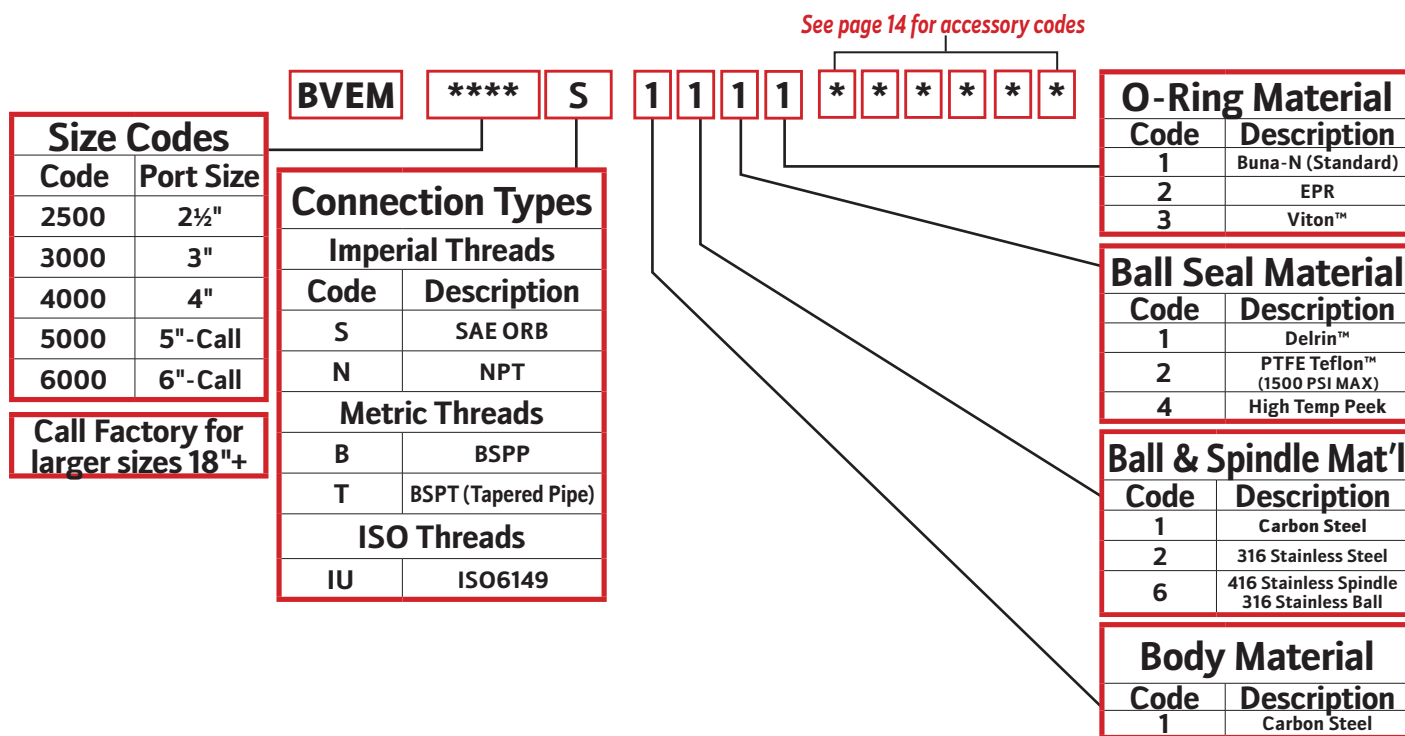
## Service Parts BOM

BVAM	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Ball
2	2	Ball Seal
3	1	Color Code Cap
4	1	Color Code Cap Screw
5	1	End Connection O-Ring
6	1	End Connection O-Ring
7	1	End Connection
8	1	External Glide Washer
9	1	Handle
10	1	Internal Thrust Washer
11	1	Spindle O-Ring
12	1	Spindle O-Ring
13	1	Spindle, Steel
14	1	Stop Washer
15	1	Stop Washer Bolt
16	1	Valve Body



# BVEM MID PRESSURE

## Ordering Codes Summary



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

**Additional Note:**

2-½" & 3" ship standard with a Crank Handle. Whereas the 4" and larger ships with a High Torque Handle.

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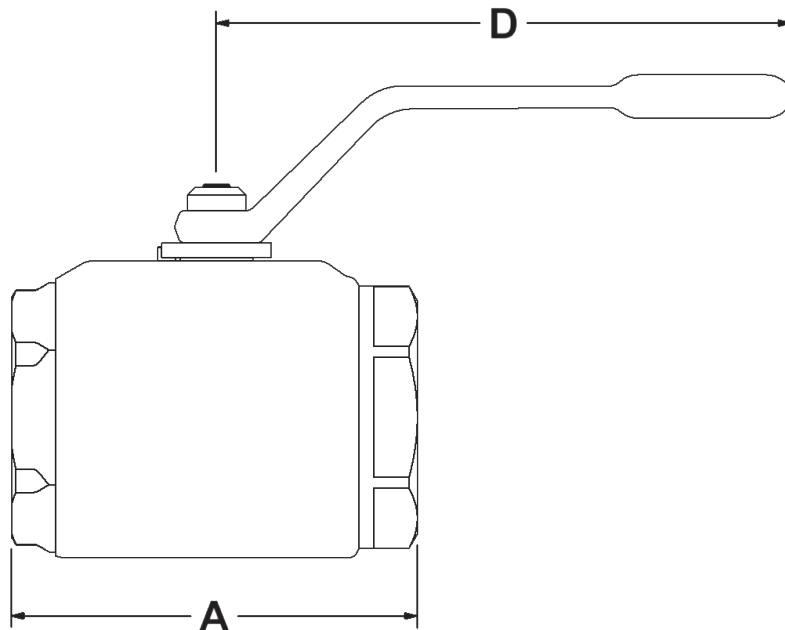
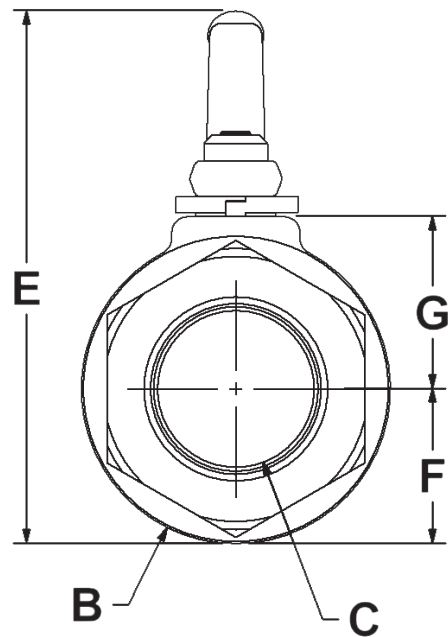




# BVEM MID PRESSURE

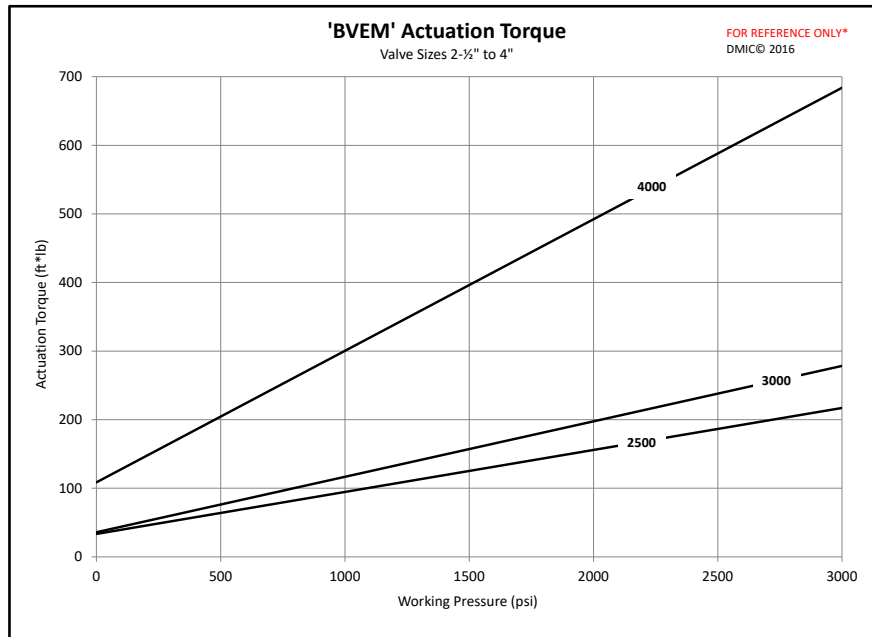
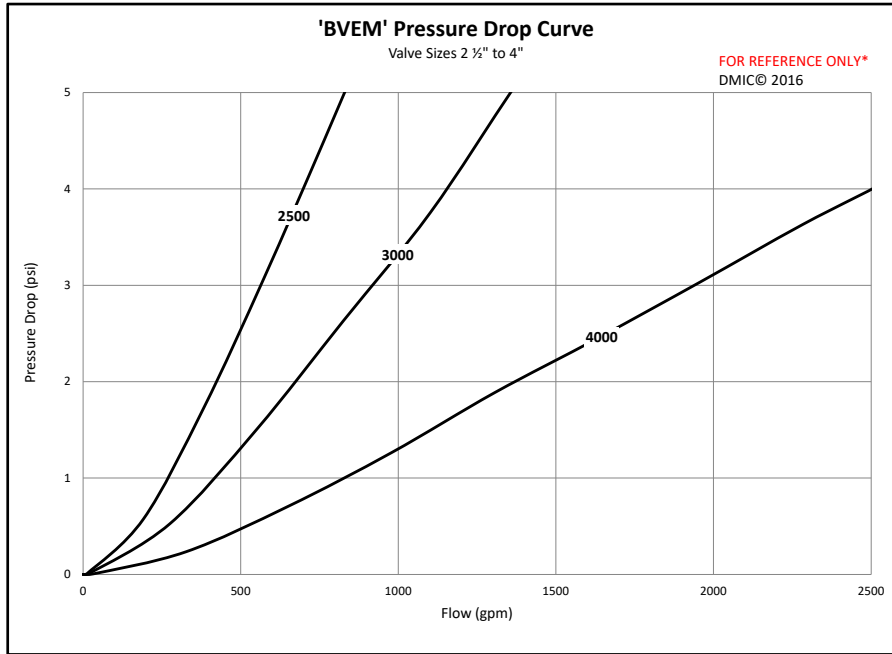
BVEM		Dependent Dimensions			
Threaded Connection					
Dimension (Inches)		A	E	F	G
Port Code(s)	Port Size*	Overall Length	Overall Height	Bot to CtrLine	Port Ctr to Top
N S B IU Threaded Connections	2½"	6.96	8.29	2.38	2.68
	3"	8.26	9.60	3.38	3.20
	4"	9.98	12.17	4.00	4.29

BVEM		Common Dimensions			
Part Number	Port Size	Rated Pressure PSI	Dimensions IN		
			Valve Width B	Valve Bore C	Handle Length D
BVEM-2500****	2½"	3000	4.75	2.44	9.86
BVEM-3000****	3"	3000	6.76	2.94	12.00
BVEM-4000****	4"	3000	8.00	3.94	14.50



# BVEM MID PRESSURE

## Flow Characteristic and Actuation Torque Curves



*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.*



# BVH & BVAH 7500/6000 PSI

The benchmark of quality and value ~ Made in U.S.A.

*Widest array of sizes, connections and accessories*

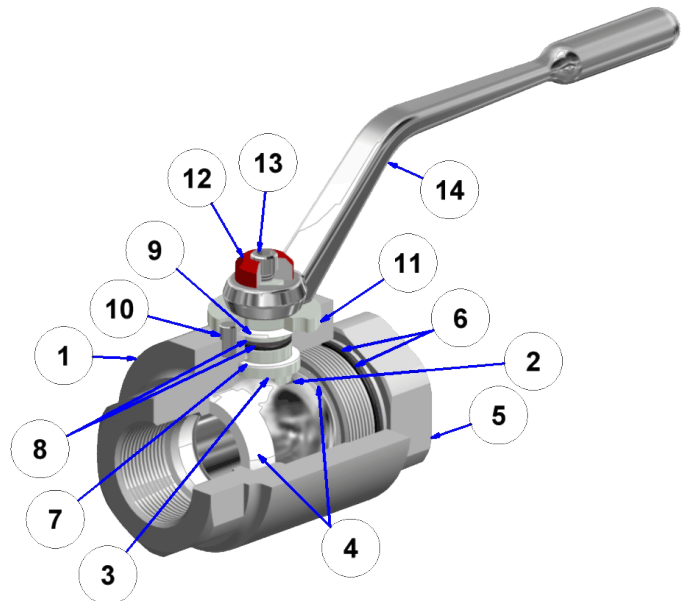


- Steel construction rated up to 7500 PSI for continuous/normal operation. **Stainless Steel available in all sizes but rated at 7500 PSI for ¼" through ½", 6000 ¾" and 3000 PSI for 1" and up. (see BVHS for 6000 PSI)**
- DMIC's **BVH** Block Body & **BVAH** Round Body offered in largest range of ball orifice diameters. (¼"-6") - S.S BVH ¾" - 1" are round body design
- Unrestricted bore offered, Steel Balls, for minimal system pressure drop
- Widest array of connection types available
- Standard Delrin™ Ball Seals & Buna-N Elastomer Seals. Other materials available, for full fluid compatibility range. Standard Black Oxide finish on all Steel Valves. Other finishes are available upon request.
- Temperature Range: -60°F to 400°F (Depending on material combinations)
- Extensive variety of additional accessories available
- Fast delivery on any valve contained in this series

\*Please note: For valves larger than 2", large pressure differentials may make the valve difficult to open and the pressure balance option may be required. Ask your DMIC sales Associate for more info!

## Service Parts BOM

BVH/ BVAH	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	2	Ball Seal
5	1	End Connection(s)
6	1	End Connection O-Ring
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 Coded Top Cap
13	1	Top Cap Screw
14	1	Handle

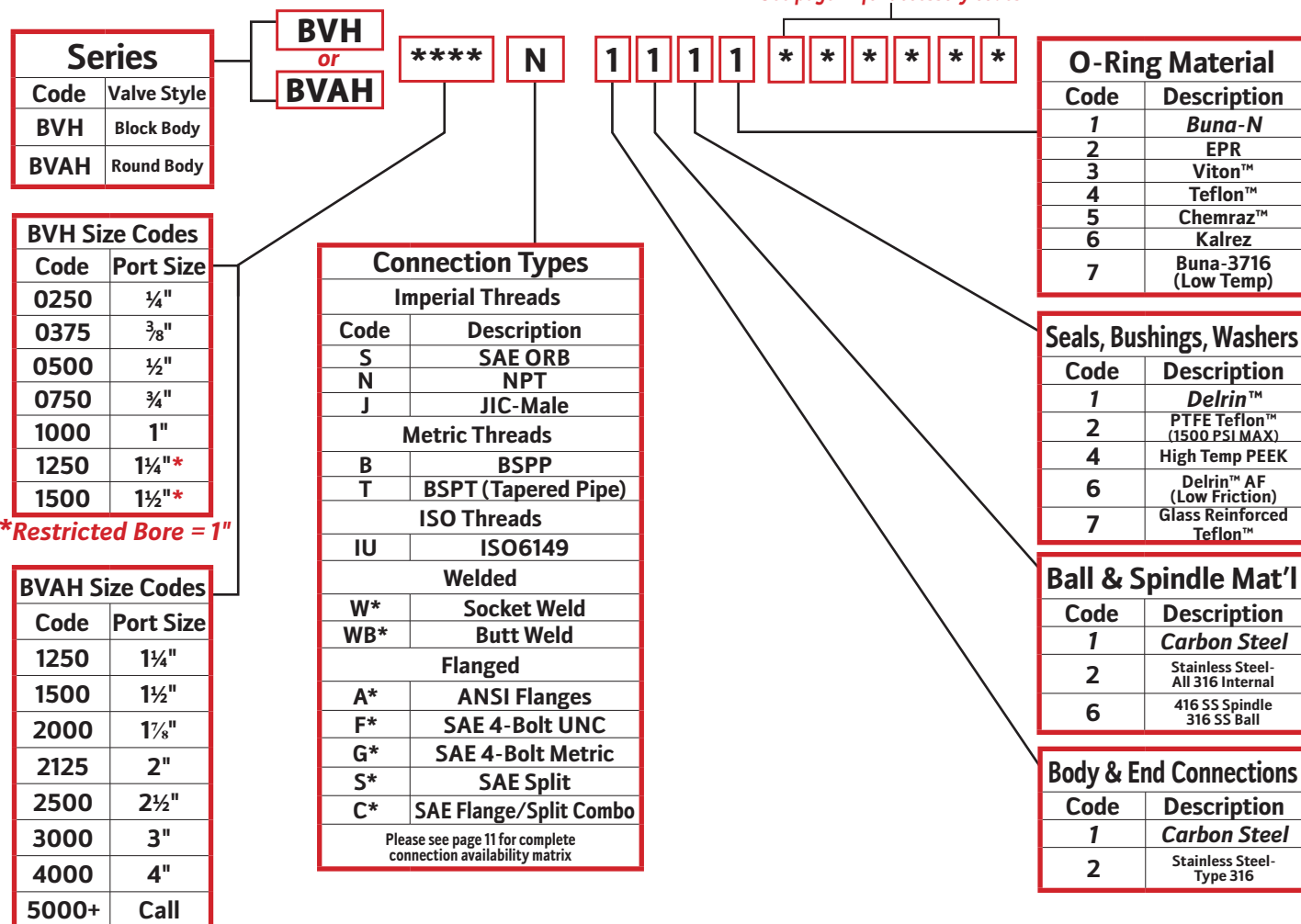


# BVH & BVAH 7500/6000 PSI

## Ordering Codes Summary

Please see the expanded section on Construction Materials and DMIC Pre-Engineered Accessories, pgs 12-15

See page 14 for accessory codes



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

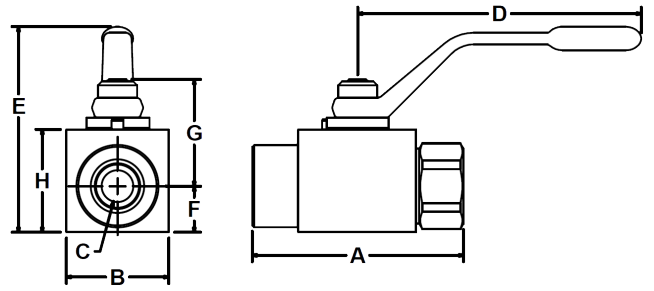
Due to our policy of continual product improvement, the specifications in this catalog may change without notice. When designing by spec, please request a certified print.



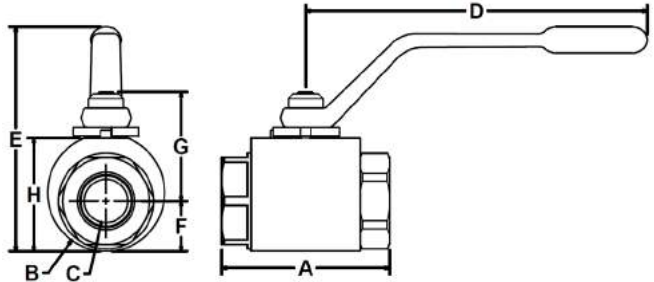
# BVH & BVAH 7500/6000 PSI

BVH/ BVAH		Dimensions (1 of 2)									
<i>Dimensions B, C, D, E, F, G, &amp; H are common dimensions shared between all BVH and BVAH Valves, independent of Connection Type</i>											
Threaded Connections											
Dimension (Inches)		-	A	B	C	D	E	F	G	H	
Port Code(s)	Port Size	Working PSI S.S. only	Overall Length	Body Diameter / Width	Bore Size	Handle Length	Overall Height	Bottom to Port Center	Port Center to Top	Body Height	
<b>N S B IU</b> Threaded Connections	3/4"	7500 PSI	2.74	1.38	0.31	4.50	2.99	0.61	1.55	1.38	
	3/8"		2.87	1.50	0.38	4.50	3.12	0.64	1.65	1.50	
	1/2"		3.36	1.63	0.50	4.50	3.25	0.73	1.69	1.63	
	1/2"	6000 PSI	3.79	2.25	0.75	7.00	4.72	1.00	2.29	2.25	
	1"		4.49	2.50	0.94	7.00	4.97	1.14	2.40	2.50	
	1 1/4"		5.24	2.50	0.94	7.00	4.97	1.14	2.40	2.50	
	1 1/2"		5.47	2.50	0.94	7.00	4.97	1.14	2.40	2.50	
	1 1/4"	4.85	3.38	1.25	9.86	6.46	1.45	3.14	3.26		
	1 1/2"	5.33	3.75	1.50	9.86	6.84	1.64	3.33	3.64		
	2"	6.54	4.50	1.88	9.86	7.50	2.01	3.62	4.30		
2 1/2"	6.54	5.00	2.00	9.86	8.05	2.38	3.80	4.85			
2 1/2"	7.50	7.22	2.50	12.00	10.46	3.61	5.14	6.94			
3"	9.29	7.50	3.00	15.00	12.73	4.43	N/A	8.45			
4"	11.21	9.94	4.00	20.00	15.82	5.67	N/A	10.94			
<b>SAE C.61 4-Bolt Flange Connections</b>											
Dimension (inches)		-	A	C	J	K	L	M			
Port Code(s)	Port Size	Working PSI	Overall Length FM/GM	Bore Size	Flange Diameter	Flg Pad Short	Flg Pad Long	UNC Bolt Thread	Metric Bolt Thread		
<b>FM/GM</b> SAE C.61 4-Bolt Comp Connections	1/2"	5000 PSI	4.26	0.50	2.13	0.69	1.50	5/16"	M8		
	3/4"		4.77	0.75	2.75	0.88	1.88	3/8"	M10		
	1"		5.27	0.94	3.00	1.03	2.06	3/8"	M10		
	1 1/4"	4000 PSI	6.90	1.25	3.38	1.19	2.31	7/16"	M10		
	1 1/2"		7.09	1.50	3.75	1.41	3.13	1/2"	M12		
	2"	3000 PSI	8.06	1.88	4.50	1.69	3.06	1/2"	M12		
	2 1/2"		8.06	2.00	4.50	1.69	3.06	1/2"	M12		
	2 1/2"		2500 PSI	11.25	2.50	5.00	2.00	3.50	1/2"	M12	
	3"	2000 PSI	13.65	3.00	6.00	2.44	4.19	5/8"	M16		
	4"	500 PSI	16.22	4.00	8.50	3.06	5.13	5/8"	M16		
<b>SAE C.62 4-Bolt Flange Connections (6,000 PSI)</b>											
Dimension (inches)		-	A	C	J	K	L	M			
Port Code(s)	Port Size	Working PSI	Overall Length	Bore Size	Flange Diameter	Flg Pad Short	Flg Pad Long	UNC Bolt Thr	Metric Bolt Thr		
<b>FH/GH</b> SAE C.62 4-Bolt Comp Connections	1/2"	5000 PSI	4.26	0.50	2.25	0.72	1.59	5/16"	M8		
	3/4"		4.77	0.75	2.75	0.94	2.00	3/8"	M10		
	1"		5.27	0.94	3.38	1.09	2.25	7/16"	M10		
	1 1/4"	4000 PSI	6.90	1.25	3.75	1.25	2.63	1/2"	M12		
	1 1/2"		7.09	1.50	4.50	1.44	3.13	5/8"	M16		
	2"	3000 PSI	8.06	1.88	5.50	1.75	3.81	3/4"	M20		
	2 1/8"		8.06	2.00	5.50	1.75	3.81	3/4"	M20		
	2 1/2"		2500 PSI	13.88	2.50	2-232					
	3"	2000 PSI	15.65	3.00	2-237						
	4"	500 PSI	18.09	4.00	2-245						
<i>Call Factory</i>											
<b>SAE C.61 Split Flange Connections</b>											
Dimension (inches)		-	A	C	N	-		A			
Port Code(s)	Port Size	Working PSI	Overall Length (SM)	Bore Size	O-Ring No.	DMIC Split Flange Kit		Overall Length (CM)			
<b>SM/CM</b> SAE C.61 Split & Combo	1/2"	5000 PSI	5.96	0.50	2-210	FSL-0500SK		5.11			
	3/4"		6.38	0.75	2-214	FSL-0750SK		5.58			
	1"		6.99	0.94	2-219	FSL-1000SK		6.13			
	1 1/4"	4000 PSI	7.50	1.25	2-222	FSL-1250SK		7.20			
	1 1/2"		9.09	1.50	2-225	FSL-1500SK		8.09			
	2"	3000 PSI	9.10	1.88	2-228	FSL-2000SK		8.58			
	2 1/8"		9.10	2.00	2-228	FSL-2000SK		8.58			
	2 1/2"		2500 PSI	13.88	2.50	2-232	FSL-2500SK		12.56		
	3"	2000 PSI	15.65	3.00	2-237	FSL-3000SK		14.65			
	4"	500 PSI	18.09	4.00	2-245	FSL-4000SK		17.15			
<b>SAE C.62 Split Flange Connections (6000 PSI)</b>											
Dimension (inches)		-	A	C	N	-		A			
Port Code(s)	Port Size	Working PSI	Overall Length (SH)	Bore Size	O-Ring No.	DMIC Split Flange Kit		Overall Length (CH)			
<b>SH/CH</b> SAE C.62 Split & Combo	1/2"	5000 PSI	5.96	0.50	2-210	FSH-0500SK		5.11			
	3/4"		6.86	0.75	2-214	FSH-0750SK		5.82			
	1"		7.79	0.94	2-219	FSH-1000SK		6.53			
	1 1/4"	4000 PSI	8.77	1.25	2-222	FSH-1250SK		7.83			
	1 1/2"		11.07	1.50	2-225	FSH-1500SK		9.08			
	2"	3000 PSI	12.44	1.88	2-228	FSH-2000SK		10.25			
	2 1/8"		12.44	2.00	2-228	FSH-2000SK		10.25			

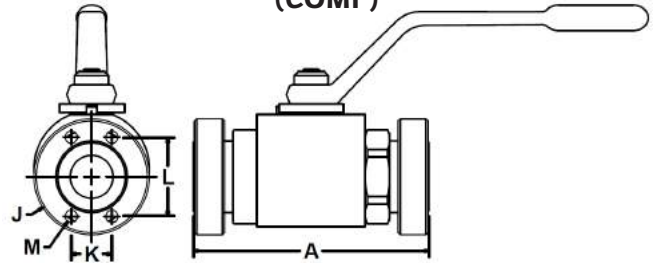
All BVH C.S



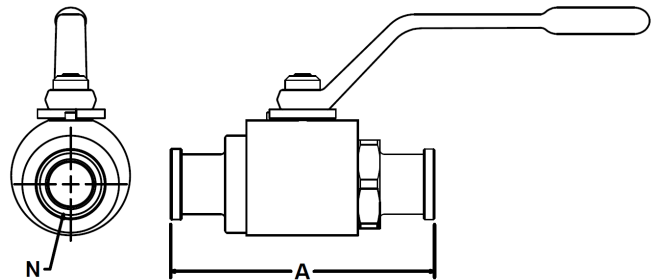
N, S, B, IU THREADED CONNECTIONS  
For All BVH & 3/8" - 1" BVH S.S



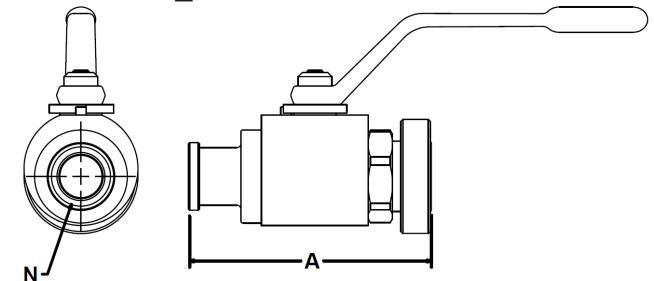
FM/FH, GM/GH SAE 4-Bolt Flange (COMP)



SM/SH SAE SPLIT-FLANGE HEAD



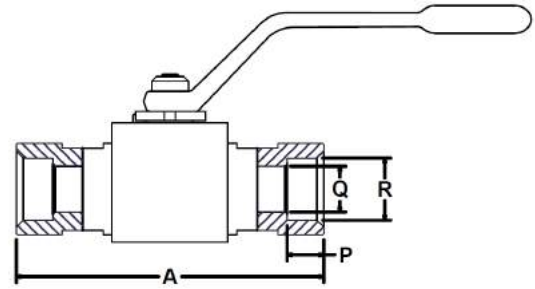
CM/CH SAE 4\_BOLT & SPLIT "COMBO" FLANGE



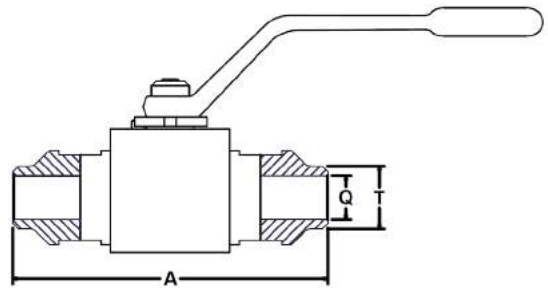
# BVH & BVAH 7500/6000 PSI

BVH/ BVAH	Dimensions (2 of 2)					
<b>Fixed Socket Weld Connections (6000 PSI)</b>						
Dimension (Inches)	A	C	P	Q	R	
Port Code(s)	Port Size	Overall Length	Bore Size (Ball)	Socket Depth	Connection Inside Diameter	Inside Socket Outer Diameter
<b>W*</b> *4-SCH 40 *8-SCH 80 *F-SCH 160 *G-XXS More Sizes Available Upon Request	½"	6.26	0.50	0.75	Based Upon Pipe Schedule	0.88
	¾"	7.46	0.75	0.75		1.09
	1"	7.67	0.94	1.00		1.36
	1½"	8.40	1.25	1.00		1.69
	2"	9.47	1.50	1.00		1.95
	2½"	10.60	1.88	1.00		2.44
	3"	10.60	2.00	1.00		2.44
<i>Call Factory</i>						
<b>Fixed Butt-Weld Connections (6000 PSI)</b>						
Dimension (Inches)	A	C	T	Q		
Port Code(s)	Port Size	Overall Length	Bore Size (Ball)	Weld Neck Outside Diameter	Connection Inside Diameter	
<b>WB*</b> *4-SCH 40 *8-SCH 80 *F-SCH 160 *G-XXS More Sizes Available Upon Request	½"	4.26	0.50	0.84	Based Upon Pipe Schedule	
	¾"	6.35	0.75	1.06		
	1"	7.67	0.94	1.31		
	1½"	8.35	1.25	1.66		
	2"	9.47	1.50	1.91		
	2½"	10.60	1.88	2.38		
	3"	10.60	2.00	2.38		
<i>Call Factory</i>						

**W(\*) FIXED SOCKET WELD**  
(\* PIPE SCHEDULE CHARACTER)

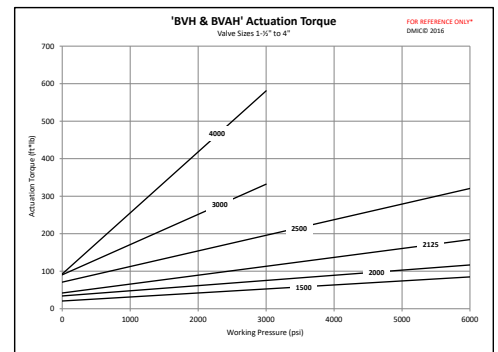
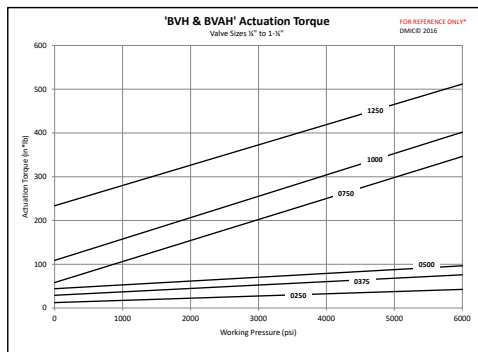
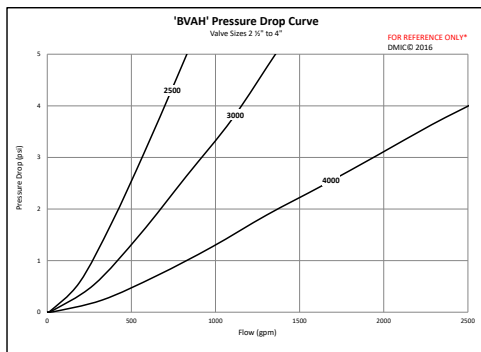
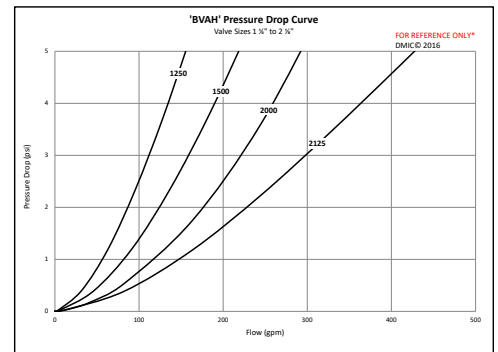
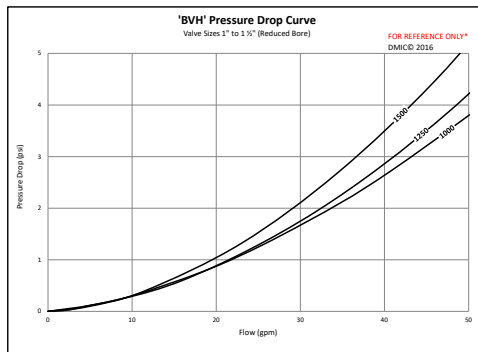
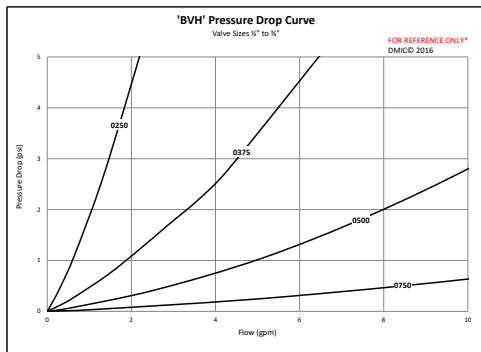


**WB(\*) FIXED BUTT WELD**  
(\* PIPE SCHEDULE CHARACTER)



**\*Please Note:**  
Always operate System Pressure according to Pipe Schedule

## Flow Characteristic and Actuation Torque Curves



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# BVHS 6000 PSI

## Stainless Steel Round Body Ball Valves for 6000 PSI, 1"-6"

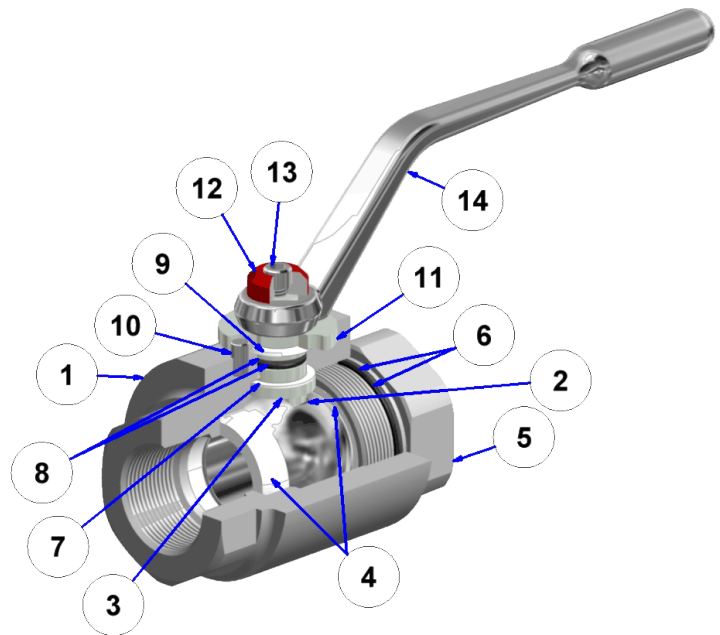


- **Strictly Stainless Steel construction** available in 1"-6" bore sizes
- Valves are full-pressure 6,000 PSI rated for continuous/normal operation
- Resistance to extreme chemical, industrial, outdoor, and marine environments
- Widest array of connection types available
- Standard Delrin™ Ball Seals & Buna-N Elastomer Seals. Other materials available, for full fluid compatibility range
- Wide variety of additional accessories available

\*Please note: For valves larger than 2", large pressure differentials may make the valve difficult to open and the pressure balance may be required. Ask your DMIC sales Associate for more info!

### Service Parts BOM

BVHS	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	2	Ball Seal
5	1	End Connection(s)
6	1	End Connection O-Ring
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 Coded Top Cap
13	1	Top Cap Screw
14	1	Handle

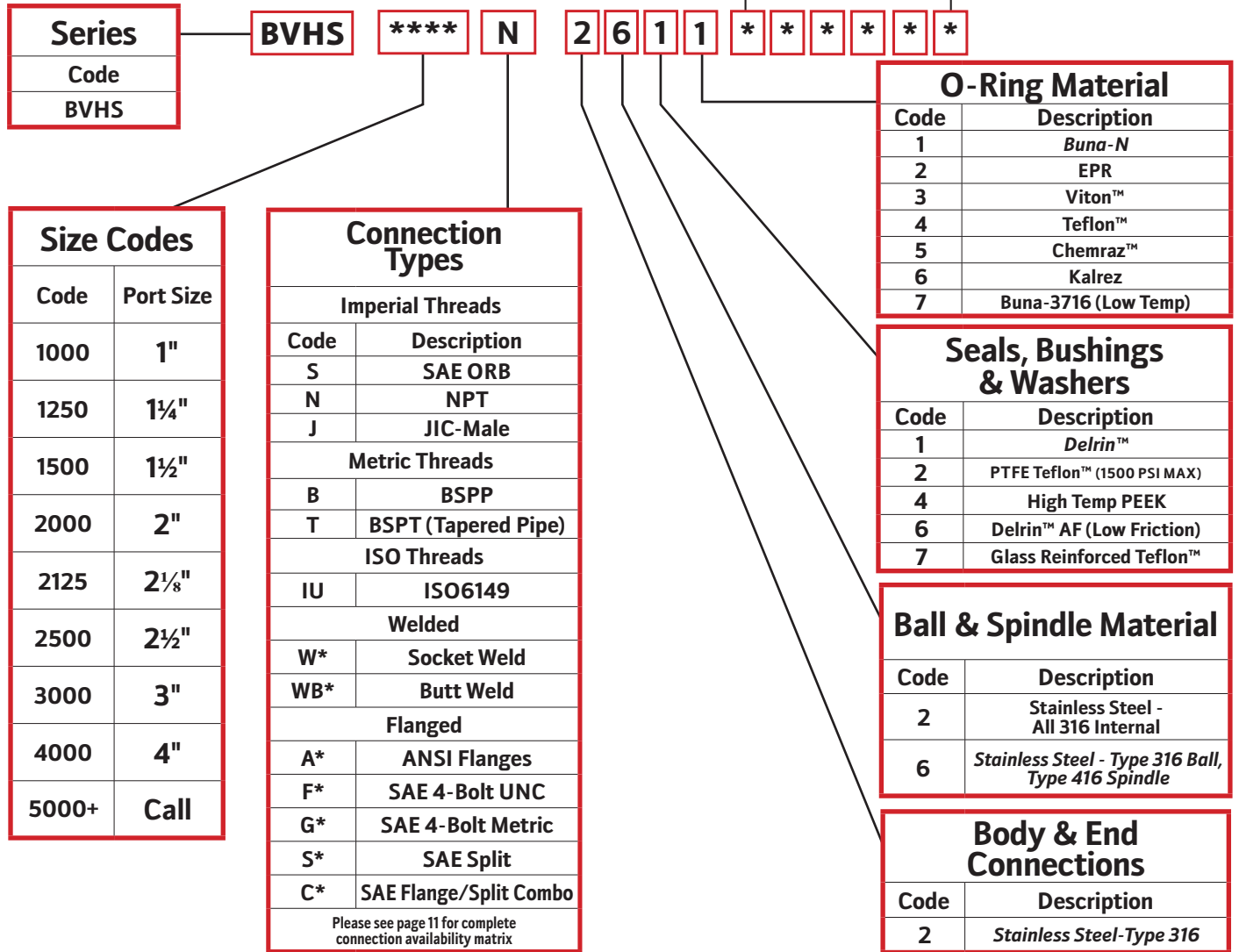


# BVHS 6000 PSI

## Ordering Codes Summary

Please see the expanded section on Construction Materials and DMIC Pre-Engineered Accessories, pgs 12-15

See page 14 for accessory codes



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

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# BVHS 6000 PSI

## BVHS Dimensional Information (1 of 2)

Dimensions B, C, D, E, F, G, & H are common dimensions shared between all BVHS Valves, independent of Connection Type

### Threaded Connections (6000 PSI)

Dimension (Inches)		A	B	C	D	E	F	G	H
Port Code(s) N S B IU Threaded Connections	1"	4.85	3.13	0.88	7.00	5.36	1.56	2.37	3.00
	1 1/4"	4.85	4.00	1.13	9.86	7.00	2.00	3.13	3.75
	1 1/2"	5.35	4.25	1.31	9.86	7.33	2.13	3.33	4.13
	2"	6.54	5.00	1.75	9.86	7.99	2.50	3.62	4.75
	2 1/8"	6.54	5.25	2.00	9.86	8.29	2.63	3.80	5.00
	2 1/2"	7.75	7.44	2.25	12.00	10.45	3.72	5.03	7.44
	3" 4"	Call Factory							

### SAE C.61 4-Bolt Flange Connections

Dimension (inches)		-	A	C	J	K	L	M	
Port Code(s) FM/GM SAE C.61 4-Bolt Comp. Connections	Port Size	Working PSI	Overall Length FM/GM	Bore Size	Flange Diameter	Flg Pad Short	Flange Pad Long	UNC Bolt Thr	Metric Bolt Thr
	1"	5000 PSI	5.27	0.88	3.00	1.03	2.06	3/8"	M10
	1 1/4"	4000 PSI	6.90	1.13	3.38	1.19	2.31	7/16"	M10
	1 1/2"		7.09	1.31	3.75	1.41	2.75	1/2"	M12
	2"	3000 PSI	8.06	1.75	4.50	1.69	3.06	1/2"	M12
	2 1/8"		8.06	2.00	4.50	1.69	3.06	1/2"	M12
	2 1/2"	2500 PSI	11.25	2.25	5.00	2.00	3.50	1/2"	M12
3" 4"	2000 PSI 500 PSI	Call Factory							

### SAE C.62 4-Bolt Flange Connections (6,000 PSI)

Dimension (inches)		A	C	J	K	L	M	
Port Code(s) FH/GH SAE C.62 4-Bolt Comp. Connections	Port Size	Overall Length	Bore Size	Flange Diameter	Flg Pad Short	Flg Pad Long	UNC Bolt Thr	Metric Bolt Thr
	1"	5.27	0.88	3.38	1.09	2.25	7/16"	M12
	1 1/4"	6.90	1.13	3.75	1.25	2.63	1/2"	M12
	1 1/2"	7.09	1.31	4.50	1.44	3.13	5/8"	M16
	2"	8.06	1.75	5.50	1.75	3.81	3/4"	M20
2 1/8"	8.06	2.00	5.50	1.75	3.81	3/4"	M20	

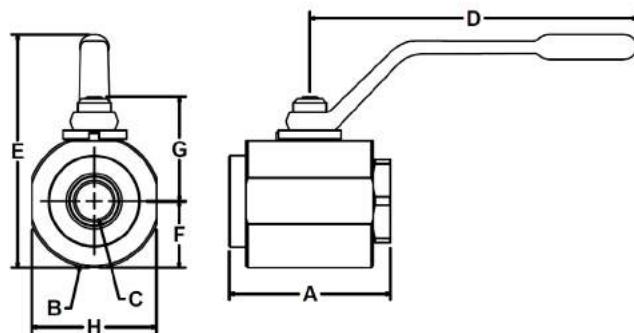
### SAE C.61 Split Flange Connections

Dimension (inches)		-	A	C	N	-		A <sub>CM</sub>
Port Code(s) SM & CM SAE C.61 Split & Flange Combo	Port Size	Working PSI	Overall Length (SM)	Bore Size	O-Ring No.	DMIC Split Flange Kit		Overall Length (CM)
	1"	5000 PSI	6.99	0.88	2-219	FSL-1000SK		6.26
	1 1/4"	4000 PSI	7.51	1.13	2-222	FSL-1250SK		7.53
	1 1/2"		9.84	1.31	2-225	FSL-1500SK		8.84
	2"	3000 PSI	10.12	1.75	2-228	FSL-2000SK		9.60
	2 1/8"		10.11	2.00	2-228	FSL-2000SK		9.54
	2 1/2" 3" 4"	2500 PSI 2000 PSI 500 PSI	Call Factory					

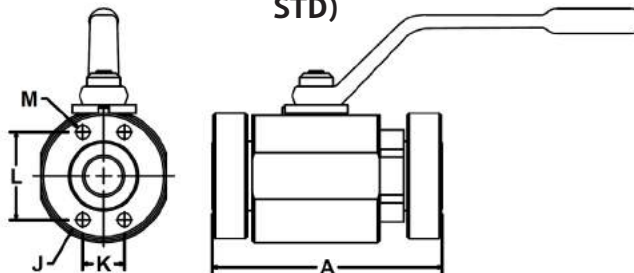
### SAE C.62 Split Flange Connections (6000 PSI)

Dimension (inches)		A	C	N	-		A
Port Code(s) SH & CH SAE C.62 Split & Flange Combo	Port Size	Overall Length (SH)	Bore Size	O-Ring No.	DMIC Split Flange Kit		Overall Length (CH)
	1"	7.79	0.88	2-219	FSH-1000SK		6.66
	1 1/4"	8.77	1.13	2-222	FSH-1250SK		8.16
	1 1/2"	11.07	1.31	2-225	FSH-1500SK		9.45
	2"	12.44	1.75	2-228	FSH-2000SK		10.76
	2 1/8"	12.55	2.00	2-228	FSH-2000SK		10.80

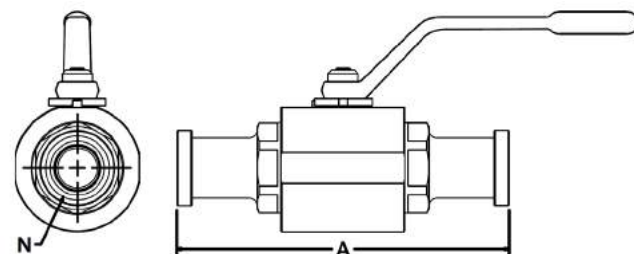
### N, S, B, IU THREADED



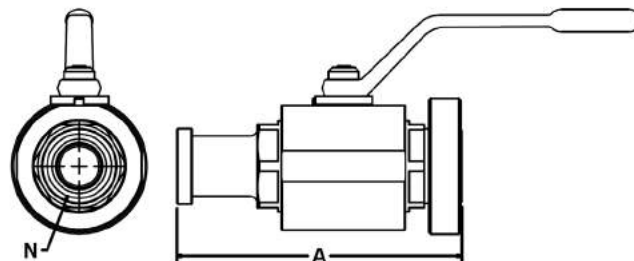
### FM/FH, GH/GM, SAE 4 BOLT FLANGE (COMP & STD)



### SM/SH SAE SPLIT FLANGE HEAD



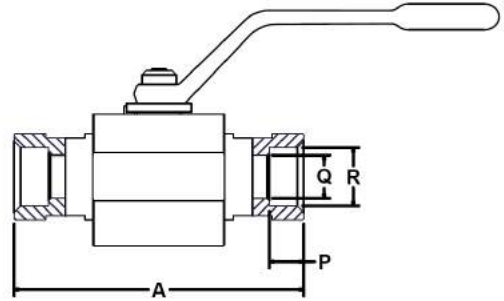
### CM/CH SAE 4-BOLT & SPLIT "COMBO" FLANGE



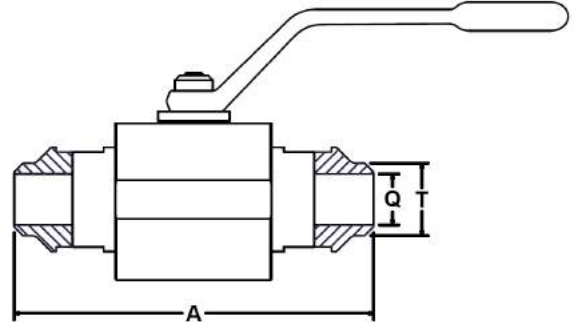
# BVHS 6000 PSI

BVHS		Dimensional Information (2 of 2)				
Fixed Socket Weld Connections (6000 PSI)						
Dimension (Inches)		A	C	P	Q	R
Port Code(s)	Port Size	Overall Length	Bore Size (Ball)	Socket Depth	Connection Inside Diameter	Inside Socket Outer Diameter
<b>W*</b>	1"	7.67	0.88	1.00	Dependent Upon Pipe Schedule	1.36
*4-SCH 40	1½"	8.40	1.13	1.00		1.69
*8-SCH 80	1½"	9.47	1.31	1.00		1.95
*F-SCH 160	2"	10.60	1.75	1.00		2.44
*G-XXS	2½"	10.60	2.00	1.00		2.44
More Sizes Available Upon Request	3"	Call Factory				2.92
	4"					
Fixed Butt-Weld Connections (6000 PSI)						
Dimension (inches)		A	C	T	Q	
Port Code(s)	Port Size	Overall Length	Bore Size	Weld Neck Outside Diameter	Connection Inside Diameter	
<b>WB*</b>	1"	7.92	0.88	1.31	Dependent Upon Pipe Schedule	
*4-SCH 40	1½"	9.01	1.13	1.66		
*8-SCH 80	1½"	9.47	1.31	1.91		
*F-SCH 160	2"	10.60	1.75	2.38		
*G-XXS	2½"	10.60	2.00	2.38		
More Sizes Available Upon Request	3"	Call Factory				
	4"					

**W(\*) FIXED SOCKET WELD**  
(\*) PIPE SCHEDULE CHARACTER

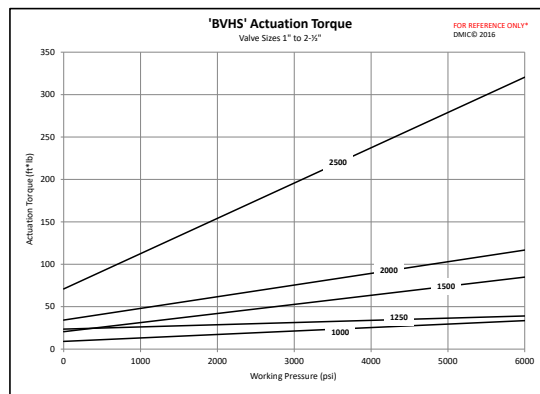
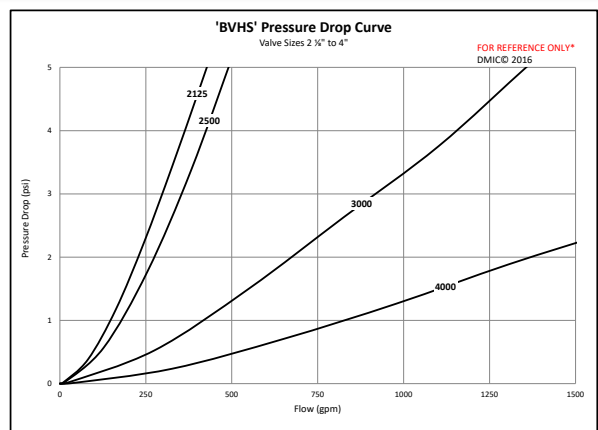
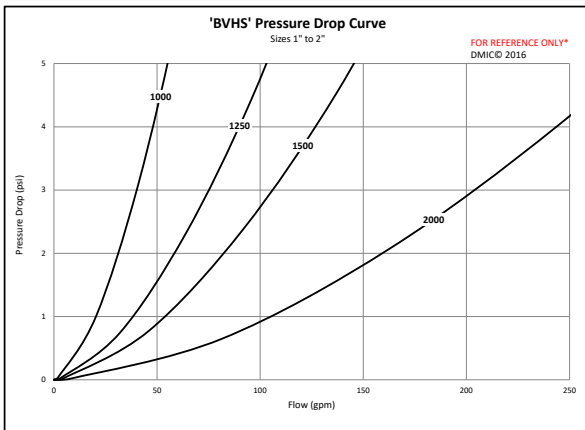


**WB(\*) FIXED BUTT WELD**  
(\*) PIPE SCHEDULE CHARACTER



**\*Please Note:**  
Always operate System Pressure According to Pipe Schedule. DMIC BVHS Ball Valves are rated at 6000 PSI which may exceed Maximum Allowable due to Pipe Schedule.

## Flow Characteristic and Actuation Torque Curves



**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.**



# BVHH SUPER HIGH PRESSURE 10,000 PSI

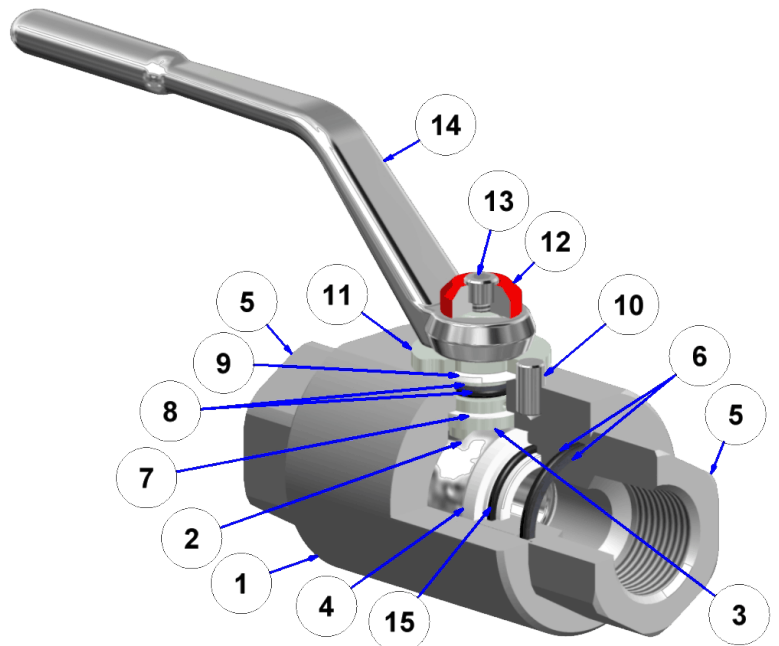
Next generation design substantially strengthened for durability and engineering factor ~ Sizes from ½" - 2"



- Special Ball Seals and heavy duty construction, superior to traditional ball seal ring reinforcement designs; Assures shutoff capability
- Accepts many standard DMIC Accessories and a selection of custom **BVHH** Valve Options
- Standard Buna-N sealing

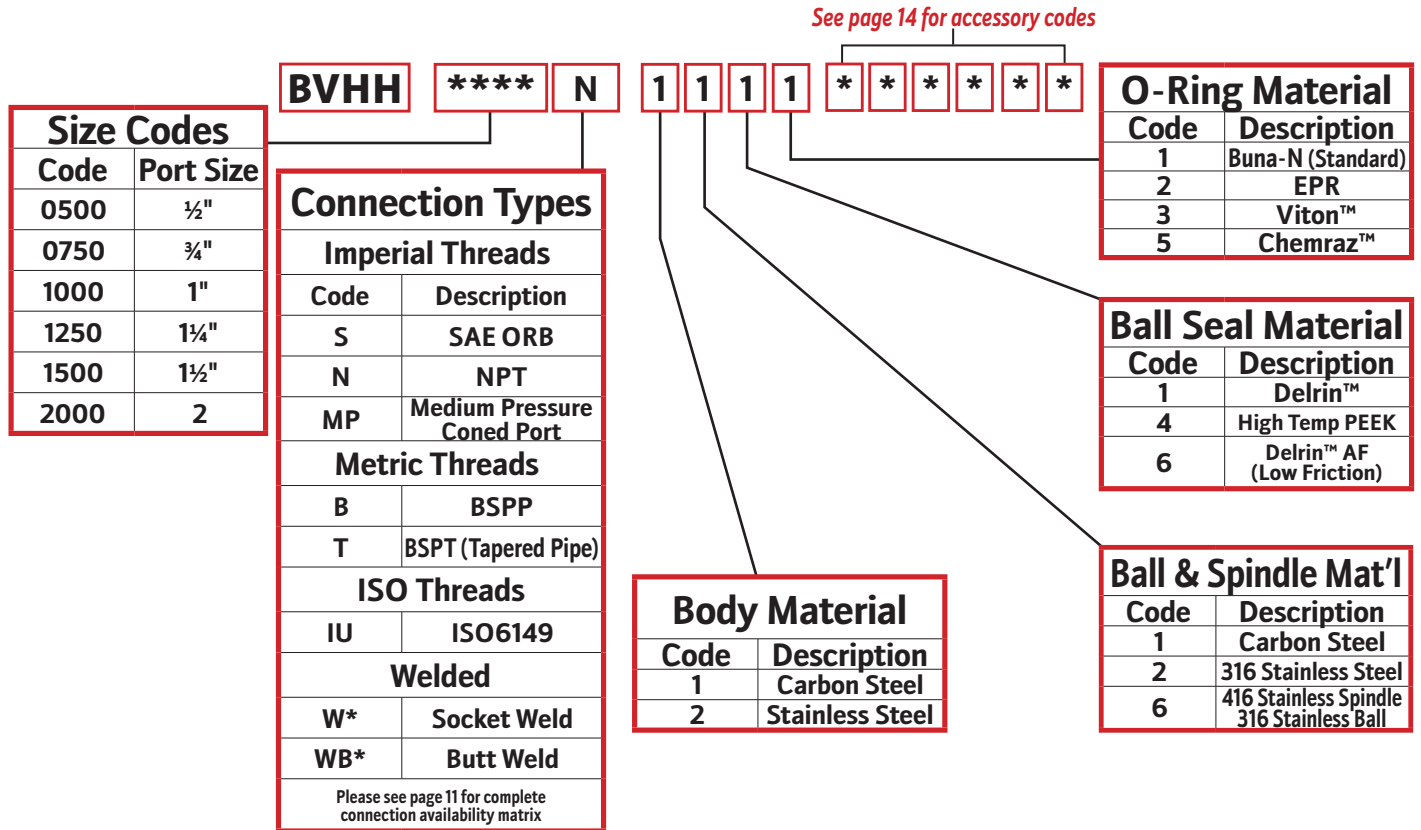
## Service Parts BOM

BVHH	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 Coded Top Cap
13	1	Top Cap Screw
14	1	Handle
15	1	Ball Seal O-Rings



# BVHH SUPER HIGH PRESSURE 10,000 PSI

## Ordering Codes Summary



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

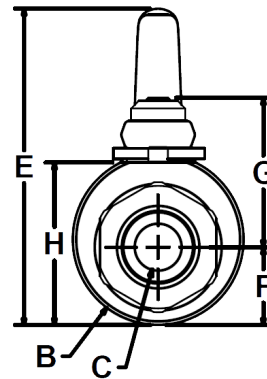
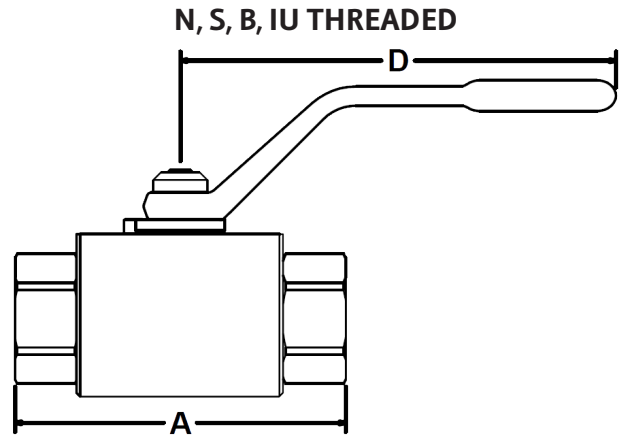
*DMIC supplies various end connection styles to fit the customer's needs even though the pressure rating of some connection types may be lower than the valve. Please operate your system in accordance with the lowest rated pressure components.*

*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.*

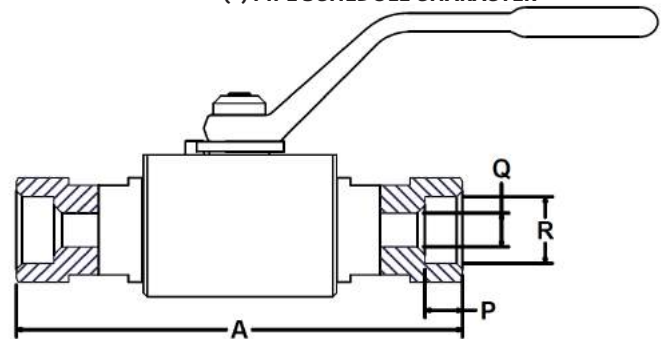


# BVHH SUPER HIGH PRESSURE 10,000 PSI

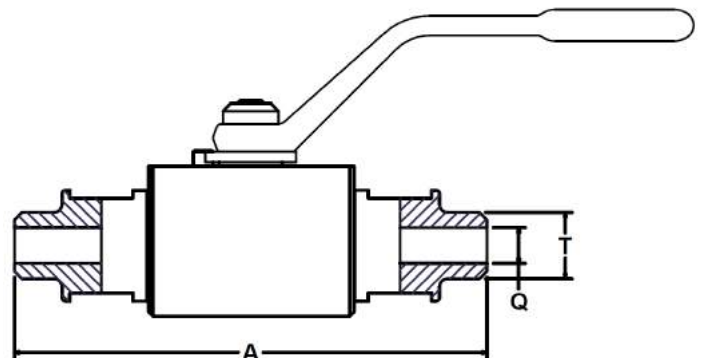
BVHH		Dependent Dimensions							
<i>Dimensions B,C,D,E,F,G,H are common dimensions</i>									
<b>Threaded Connections</b>									
Dimension (Inches)		A	B	C	D	E	F	G	H
Port Code(s)	Port Size	Overall Length	Body Diameter	Bore Size	Handle Length	Overall Height	Center to Valve Bot	Center to Valve top	Valve Height
N S B IU  Threaded Connections	½"	4.22	1.75	0.38	4.50	3.26	0.75	1.69	1.67
	¾"	4.72	2.5	0.56	7.00	4.84	1.11	2.29	2.37
	1"	5.32	2.75	0.75	7.00	5.08	1.25	2.40	2.61
	1¼"	6.20	3.50	0.90	9.86	6.52	1.54	3.10	3.32
	1½"	6.21	4.00	1.13	9.86	6.92	1.72	3.33	3.72
2"	7.34	5.00	1.50	9.86	7.99	2.50	3.62	4.79	
<b>Socket Weld End Connections</b>									
Dimension (inches)		A	C	P	Q	R			
Port Code(s)	Port Size	Overall Length	Bore Size	Socket Depth	Connection Inside Diameter	Inside Socket, Outer Diameter			
W* SCH.X Socket Weld End Connections	½"	6.72	0.38	0.75	Based Upon Pipe Sch.	0.88			
	¾"	7.47	0.56	0.63		1.10			
	1"	8.25	0.75	0.98		1.35			
	1¼"	8.95	0.90	1.00		1.69			
	1½"	9.03	1.13	1.00		1.97			
	2"	11.41	1.50	1.00		2.42			
<b>Butt Weld End Connections</b>									
Dimension (inches)		A	C	Q	T				
Port Code(s)	Port Size	Overall Length	Bore Size	Connections Inside Dia.	Connection Outside Dia.				
WB* SCH.X Butt Weld End Connections	½"	6.22	0.38	Based Upon Pipe Sch.	0.84				
	¾"	7.47	0.56		1.05				
	1"	8.25	0.75		1.31				
	1¼"	8.95	0.90		1.66				
	1½"	9.03	1.13		1.91				
	2"	11.41	1.50		2.38				



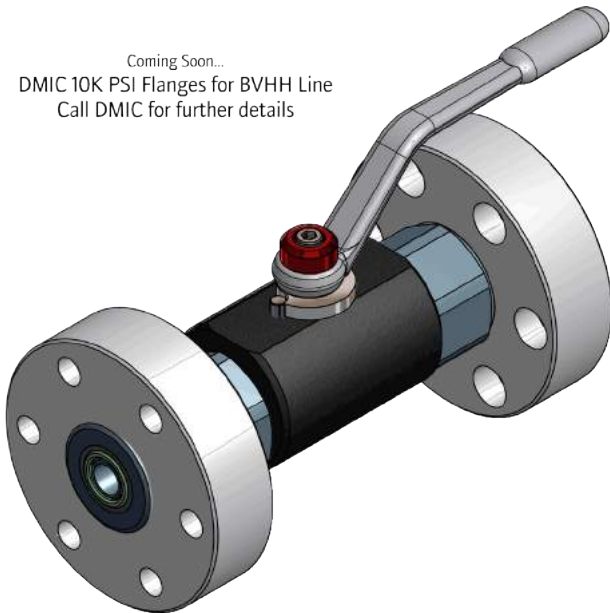
**W(\*) FIXED SOCKET WELD**  
(\*) PIPE SCHEDULE CHARACTER



**WB(\*) FIXED BUTT WELD**  
(\*) PIPE SCHEDULE CHARACTER

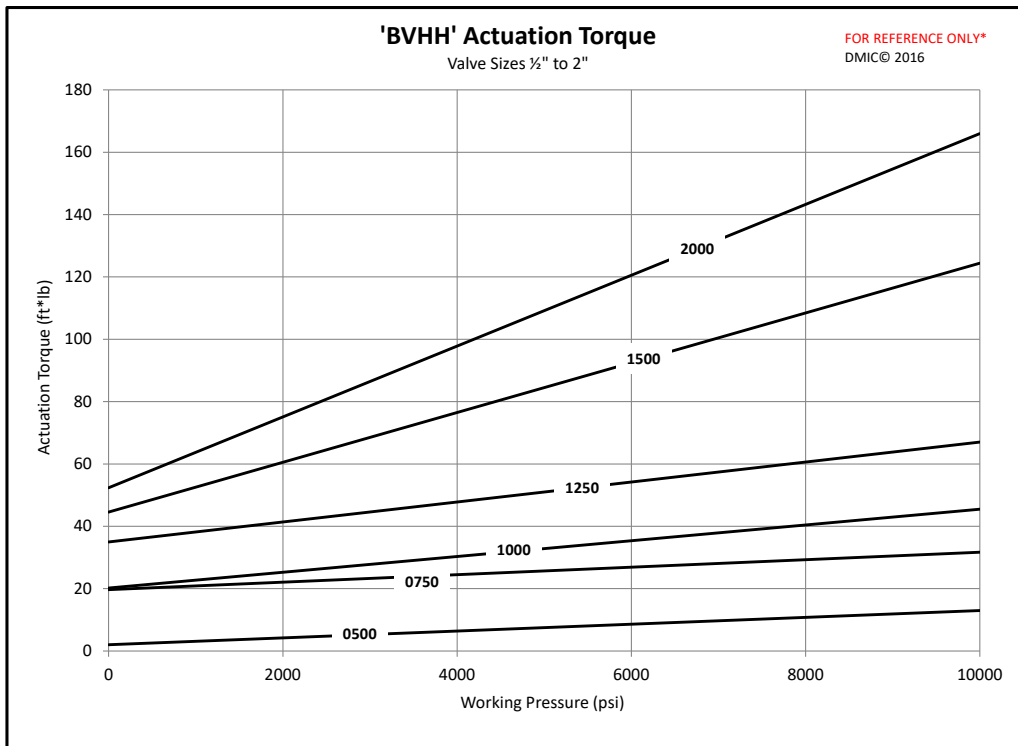
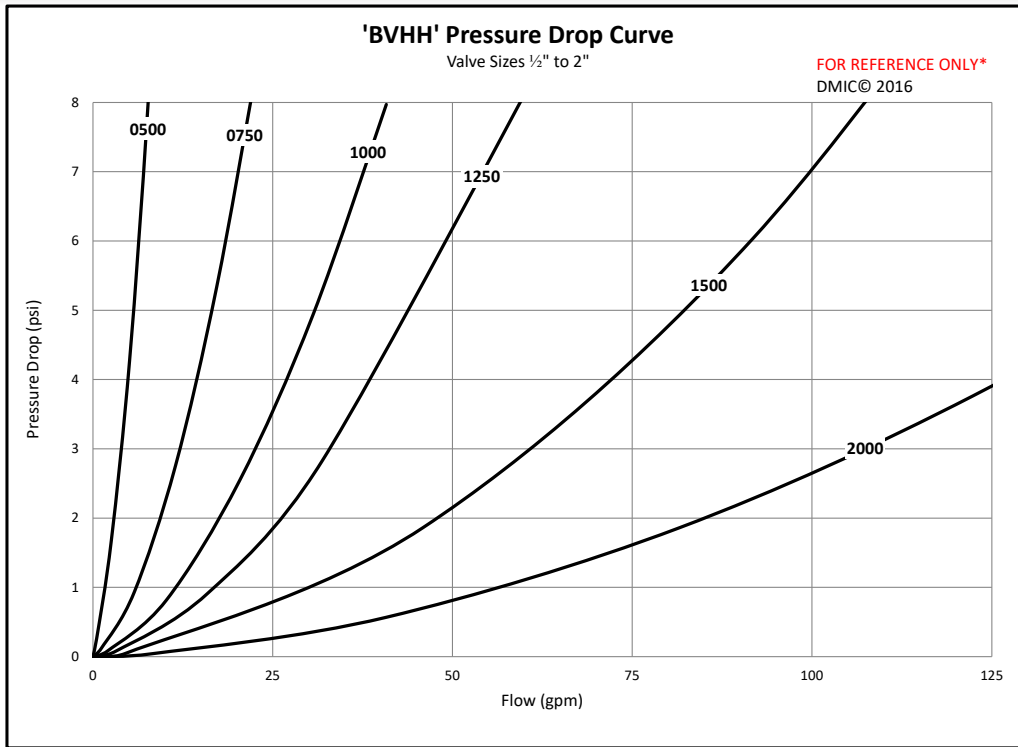


Coming Soon...  
DMIC 10K PSI Flanges for BVHH Line  
Call DMIC for further details



# BVHH SUPER HIGH PRESSURE 10,000 PSI

## Flow Characteristic and Actuation Torque Curves



**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.**



# BVHHH ULTIMATE PRESSURE 15,000 PSI

## DMIC'S 15,000 PSI Floating Ball Valve, ¼" to 2" Extreme Pressure Handling, Generous Engineering Factor

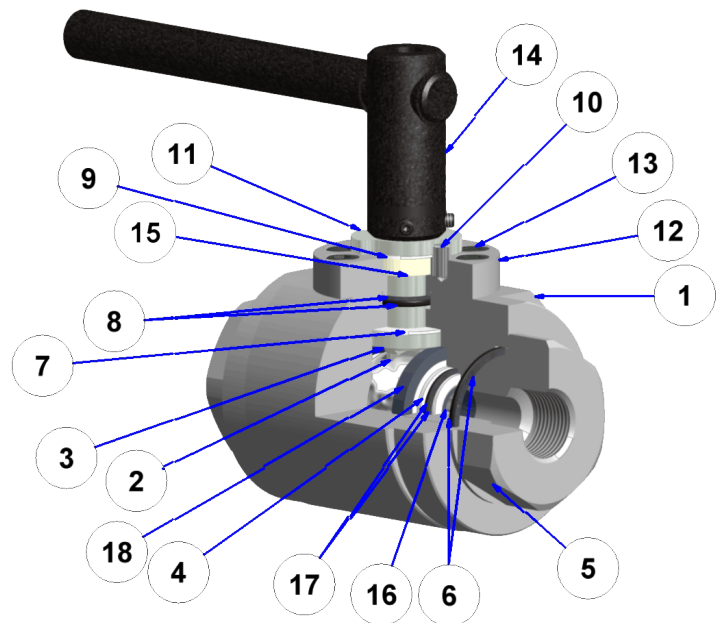


- Max Allowable working pressure up to 15,000 PSI with 3:1 engineering factor
- Special reinforcements prevent collapse of ball seals ensuring that most of DMIC's ball seal materials can be used
- Designed with DMIC's standard blowout-proof stem.
- Compatible with DMIC's wide array of accessories
- Call DMIC for application support or to place order

### Service Parts BOM

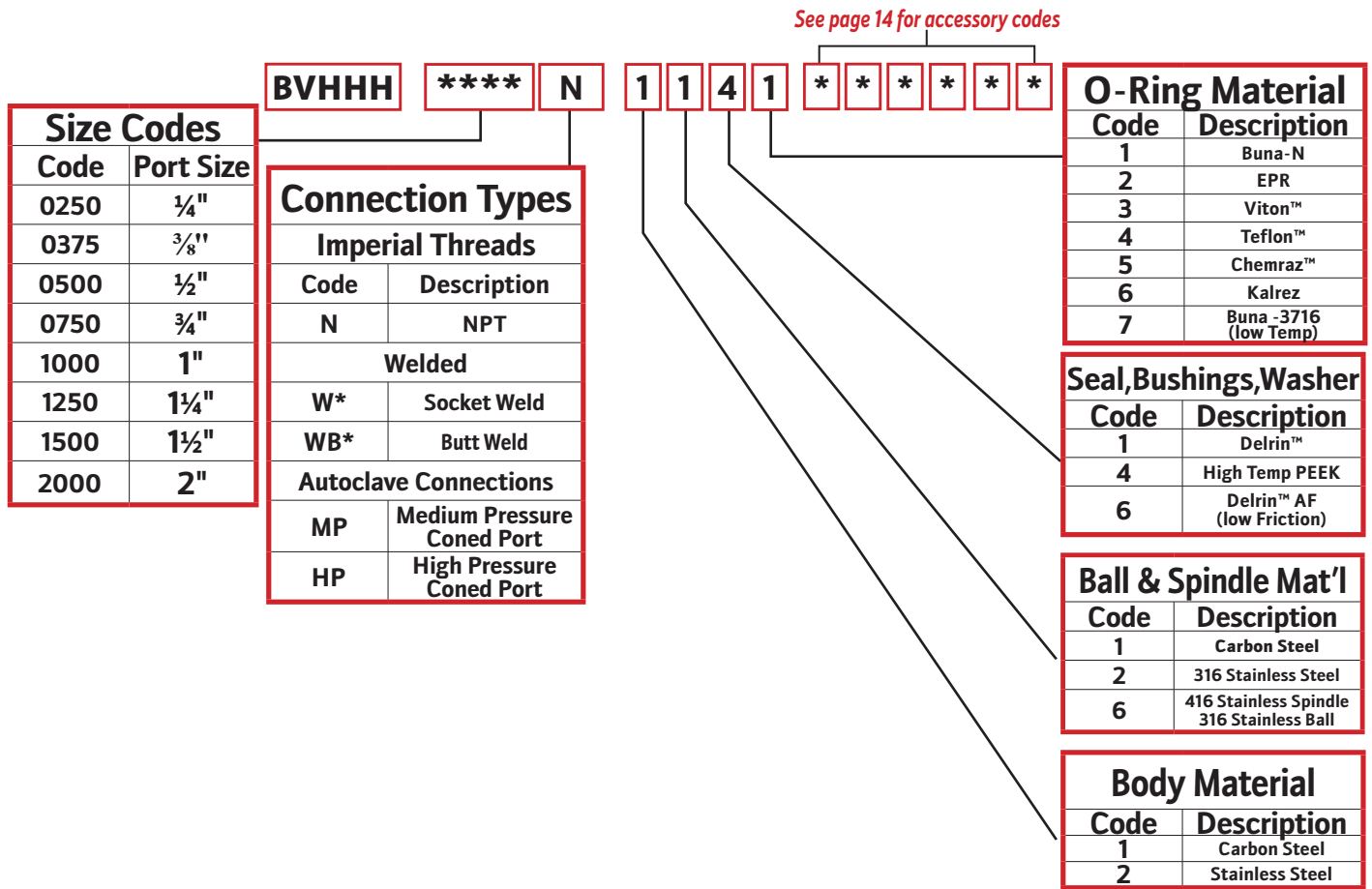
BVHHH		SERVICE PARTS BOM	
Index	Qty	Description	
1	1	Valve Body	
2	1	Ball	
3	1	Spindle	
4	2	Ball Seal	
5	2	End Connection	
6	2	End Connection O-Rings	
7	1	Internal Thrust Washer	
8	1	Spindle O-Rings	
9	1	External Glide Washer	
10	1	Stop Pin	
11	1	Stop Washer	
12	1	Top Cap	
13	*	Top Cap Bolts	
14	1	Handle	
15	1	Spindle Busing	
16	2	Inner Seal Support	
17	2	Ball Seal O-Rings	
18	2	Outer Seal Support	

\* - Quantity depends on size and combination of body



# BVHHH ULTIMATE PRESSURE 15,000 PSI

## Ordering Codes Summary



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

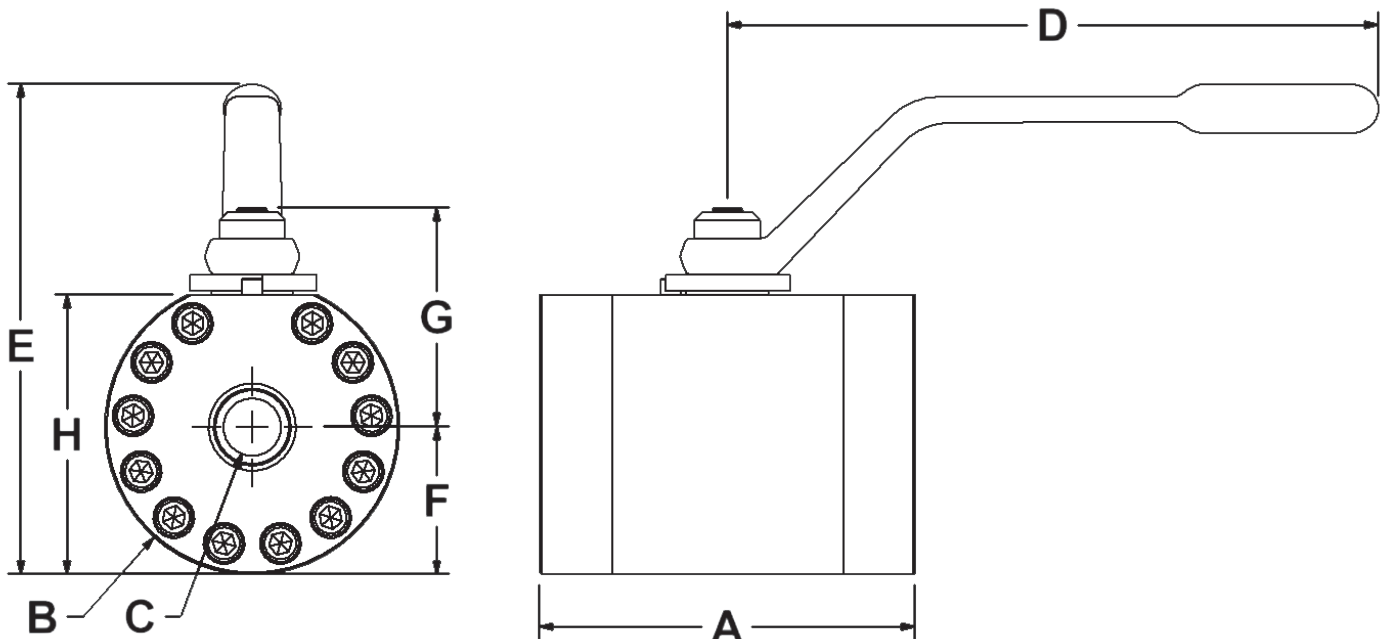




# BVHHH ULTIMATE PRESSURE 15,000 PSI

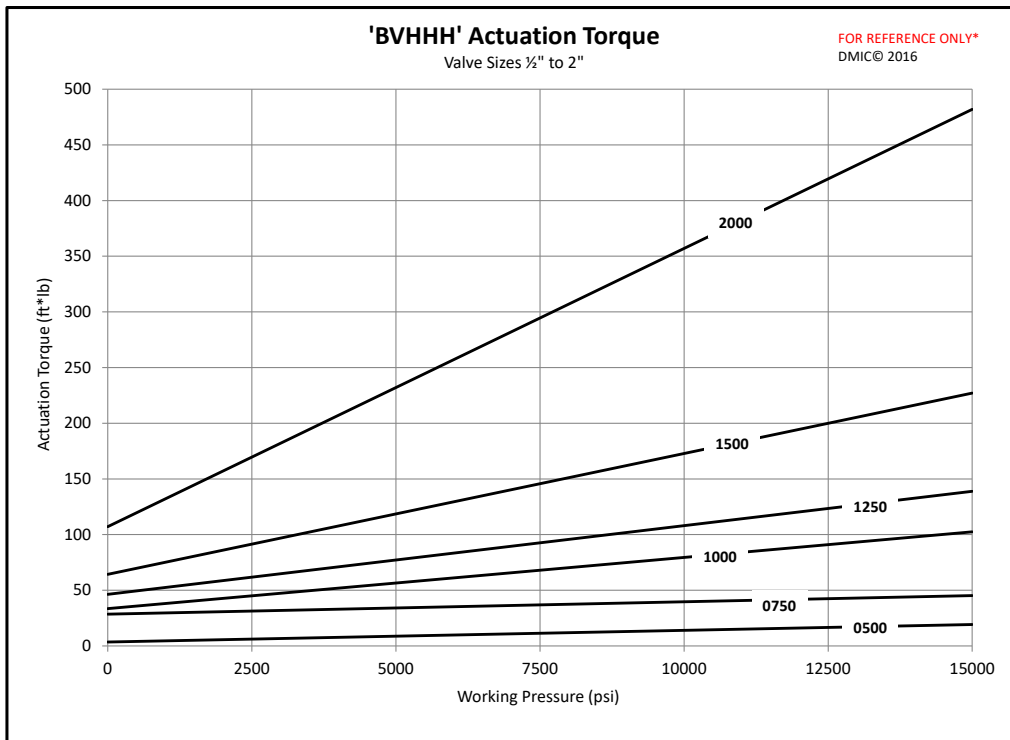
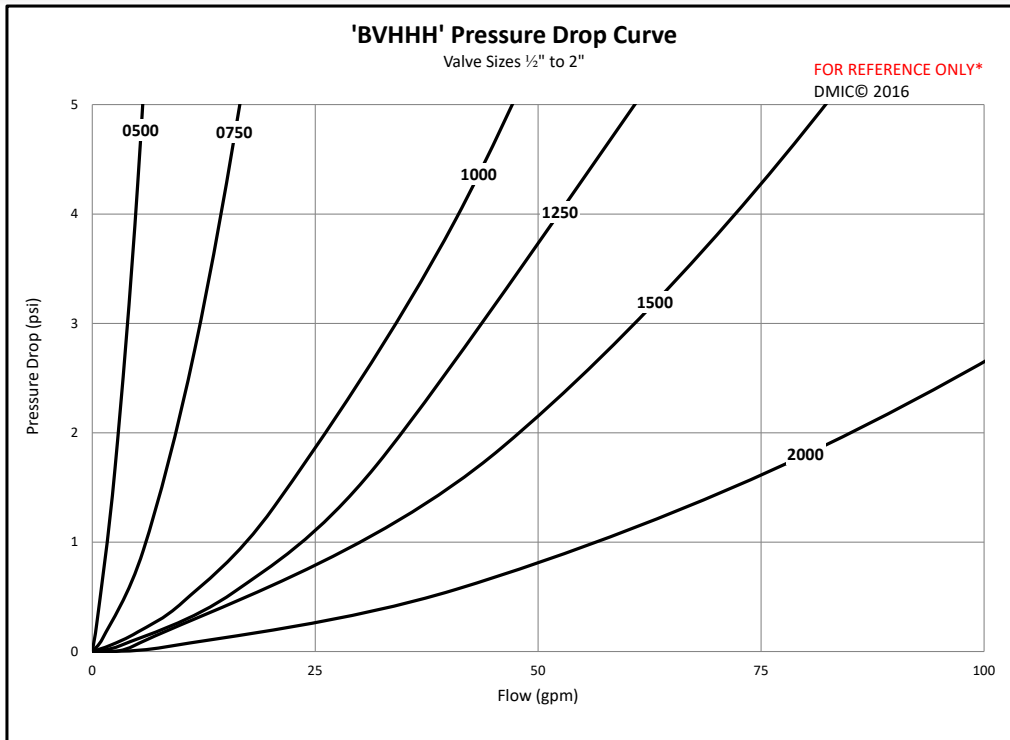
BVHHH	Ball Valve Dimensions (Threaded Connections Only)								
Port Code	Port Size	Valve Dimensions (in)							
		Valve Length A	Body Diameter B	Internal Bore C	Handle Length D	Overall Height E	Bottom to Center F	Center to Mounting Pad G	Bottom to Cap H
<b>N</b> Threaded Connection	½"	3.83	2.95	0.38	7.00	5.18	1.48	2.27	2.71
	¾"	<b>Please Call DMIC At 1-800-248-DMIC</b>							
	1"	5.69	4.47	0.88	9.86	7.43	2.24	3.32	4.24
	1¼"	<b>Please Call DMIC At 1-800-248-DMIC</b>							
	1½"								
	2"	8.25	7.20	1.50	12.00	10.26	3.60	4.96	6.86

N THREADED



# BVHHH ULTIMATE PRESSURE 15,000 PSI

## Flow Characteristic and Actuation Torque Curves



*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.*



# BVQ/BVQG 6000 PSI

**Raises every standard: thermal, quality, durability ; -20°F to 400°F**  
*High Quality Stainless Steel Fluid & Gas Valves ½" to 6"*



## BVQ

- All 316 Stainless steel construction standard.
- Standard sizes range from ½"-6" bore; Call for sizes greater than 2" bore.
- Designed for demanding applications where high performance & quality are required
- 6,000 PSI with generous design factor to eliminate damage due to pressure spikes.
- Wide variety of bolted end connections ideal for heavy industrial applications.
- Isolated spindle allows for use of 316 spindle without metal-to-metal contact; ideal for applications requiring an actuator.
- Standard High Temperature Peek ball seals & Viton™ seals. Other materials available for full fluid compatibility range.

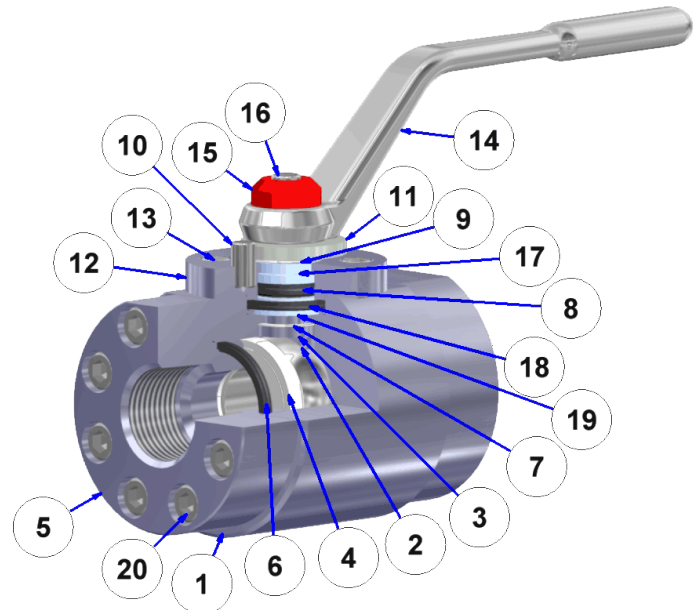
## BVQG ~ Gas Applications

- Improved ball seals specially designed for gas applications.
  - Special material coatings improves life expectancy in dry environment.
- \* Please note:* For valves larger than 2", large pressure differentials may make the valve difficult to open and the pressure balance may be required. Ask your DMIC sales Associate for more info!

## Service Parts BOM

BVQ/G	SERVICE PARTS BOM	
Index	Qty	Description
1	1	VALVE BODY
2	1	BALL
3	1	SPINDLE
4	2	BALL SEAL
5	2	END CONNECTION
6	2	END CONNECTION O-RINGS
7	1	INTERNAL THRUST WASHER
8	1	SPINDLE O-RING
9	1	EXTERNAL GLIDE WASHER
10	1	STOP PIN
11	1	STOP WASHER
12	1	TOP CAP
13	*	TOP CAP MOUNTING BOLTS
14	1	HANDLE
15	1	COLOR CODED TOP CAP
16	1	COLOR CODED TOP CAP BOLT
17	1	UPPER SPINDLE BUSHING
18	1	TOP CAP O-RINGS
19	1	LOWER SPINDLE BUSHING
20	*	END CONNECTION MOUNTING BOLTS

BVQ shown, BVQG has O-Ring behind each seal  
 \* Depends on size



# BVQ/BVQG 6000 PSI

## Ordering Codes Summary

Size Codes	
Code	Port Size
0500	½"
0750	¾"
1000	1"
1250	1 ¼"
1500	1 ½"
2000	2"
2500+	2 ½" - Call

*\*All sizes are reduced Bore please check dimensional chart.*

**BVQ**  
or  
**BVQG**

\*\*\*\*

S

2

2

4

3

See page 14 for accessory codes

\* \* \* \* \*

Connection Types	
Imperial Threads	
Code	Description
S	SAE ORB
N	NPT
Metric Threads	
B	BSPP
ISO Threads	
IU	ISO6149
Welded	
W*	Socket Weld
WB*	Butt Weld
Flanged	
A*	ANSI Flanges
F*	SAE 4-Bolt UNC
G*	SAE 4-Bolt Metric
S*	SAE Split

O-Rings	
Code	Description
1	Buna-N
2	EPR
3	Viton™
5	Chemraz™
6	Kalrez
7	Buna-3716 (Low Temp)

Seals, Bushings, Washers	
Code	Description
1	Delrin™
4	High Temp Peek
6	Delrin™ AF (low Friction)

Ball & Spindle	
Code	Description
2	Stainless Steel - 316
6	416 Stainless Spindle 316 Stainless Ball

Body & End Connections	
Code	Description
1	Carbon Steel - ASTM A108
2	Stainless Steel - 316

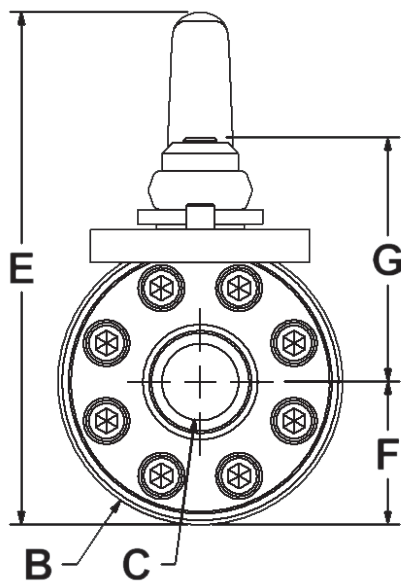
**Note:** Changes to Sealing Materials may result in changes to temperature and/or pressure rating.

*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.*

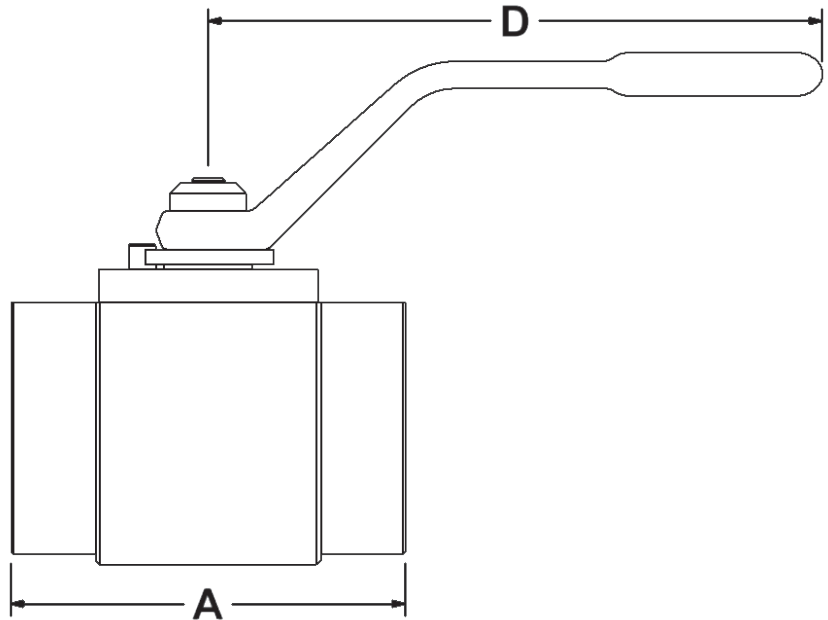


# BVQ/BVQG 6000 PSI

BVQ/ BVQG	Port Size	Rated Pressure PSI	Dimensions						
			A Length	B Body Diameter	ØC Bore	D Handle Length	E Height	F Bottom to Center	G Center to Cap
<b>For Threaded Connection Type</b>									
BVQ-0500****	½"	6000	3.31	2.25	0.38	4.50	3.90	1.13	1.94
BVQ-0750****	¾"		4.35	2.75	0.63	7.00	5.35	1.25	2.67
BVQ-1000****	1"		4.60	3.25	0.81	7.00	5.83	1.63	2.77
BVQ-1250****	1¼"		5.27	4.22	1.10	9.86	7.49	2.11	3.51
BVQ-1500****	1½"		5.35	4.50	1.31	9.86	8.07	2.25	3.95
BVQ-2000****	2"		6.58	4.97	1.75	9.86	8.62	2.50	4.24

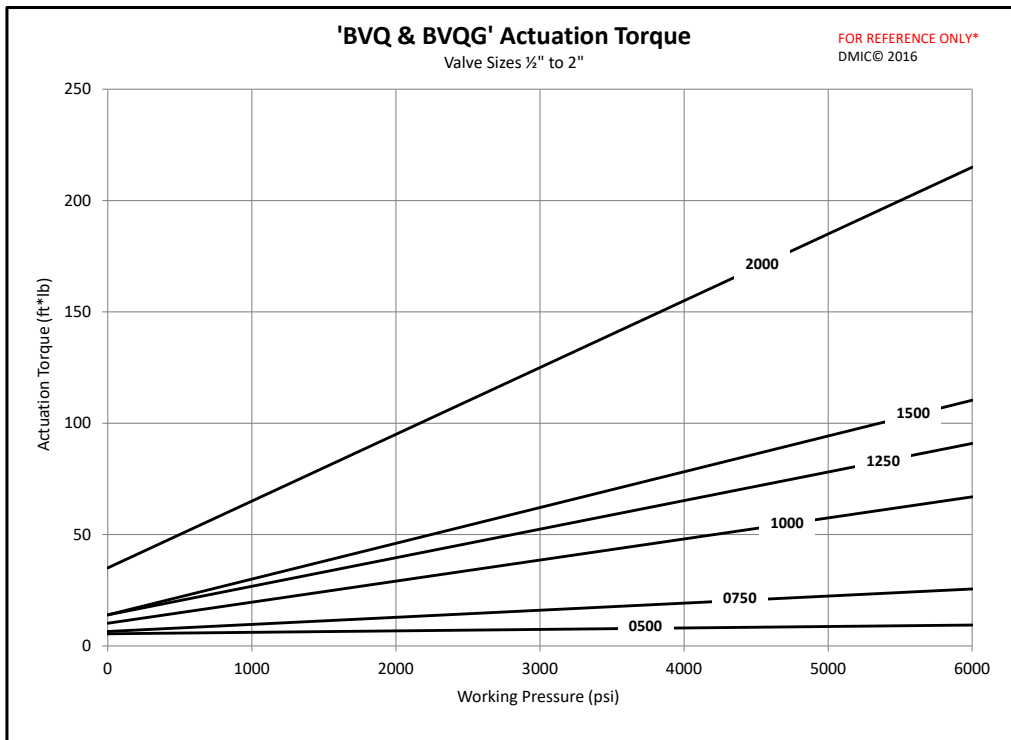
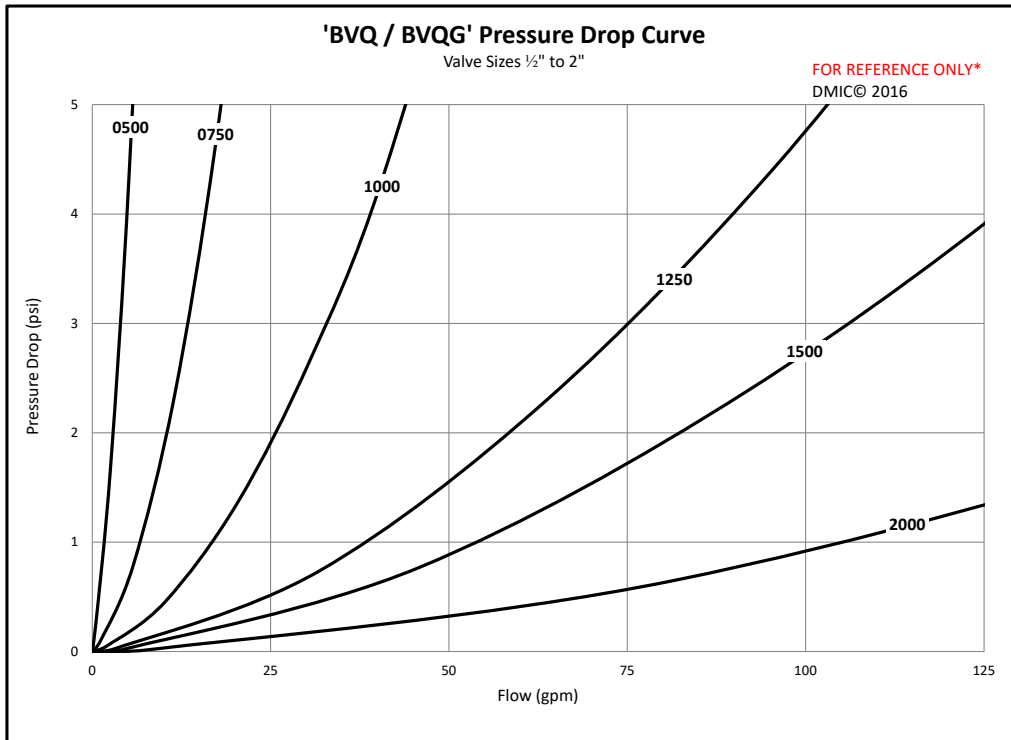


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# BVQ/BVQG 6000 PSI

## Flow Characteristic and Actuation Torque Curves



**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.**



# BVQW SUBSEA BALL VALVE

## Subsea Ball Valve

High Quality Stainless Steel Fluid & Gas Valves ½" to 6"

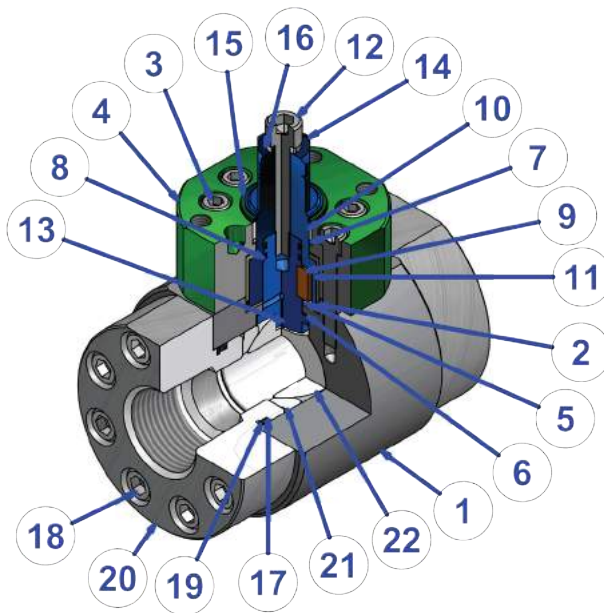
### BVQW ~ Subsea Applications



- DMIC's highest quality stainless steel ball valve for deep sea service up to 10,000ft deep
- Derived from DMIC's superior BVQ/BVQG high quality stainless steel valve series
- Standard sizes range from ½" - 6", call for sizes greater than 2½"
- Available with Threaded, Welded, or API-Length ANSI Flanged end connections
- Isolated 316 Spindle increases durability, ideal for applications requiring an Actuator
- Suitable for sour gas service in compliance with NACE MR0175
- Ships standard with High-Temperature PEEK seals and Viton™ O-Rings. Higher temperature materials available upon request
- Inconel and Duplex stainless steel available upon request call factory

## Service Parts BOM

BVQW	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Top Cap O-Ring
3	Varies	Top Cap Bolt
4	1	Top Cap
5	1	Thrust Washer (External)
6	1	Thrust Washer
7	1	Spindle O-Ring (External)
8	2	Spindle O-Ring
9	2	Spindle Key
10	1	Spindle Bushing (Upper)
11	1	Spindle Bushing (Lower)
12	1	Spindle Bolt
13	1	Spindle (Upper)
14	1	Spindle (Lower)
15	1	Snap Ring
16	1	Lock Washer
17	2	End Connection O-Ring
18	Varies	End Connection Bolt
19	2	End Connections Backup Ring
20	2	End Connection
21	2	Ball Seal
22	1	Ball



# BVQW SUBSEA BALL VALVE

## Ordering Codes Summary

See page 14 for accessory codes

Size Codes	
Code	Port Size
0500	½"
0750	¾"
1000	1"
1250	1 ¼"
1500	1 ½"
2000	2"
2500+	2 ½"-Call

**\*All sizes are reduced Bore please check dimensional chart.**

**BVQW**   **\*\*\*\***   **S**   **2** **2** **4** **3**   **\*** **\*** **\*** **\*** **\*** **\***

Connection Types	
Imperial Threads	
Code	Description
S	SAE ORB
N	NPT
MP	Medium Pressure Coned Port
Metric Threads	
B	BSPP
ISO Threads	
IU	ISO6149
Welded	
W*	Socket Weld
WB*	Butt Weld
Flanged	
A*	ANSI Flanges
F*	SAE 4-Bolt UNC
G*	SAE 4-Bolt Metric
S*	SAE Split

O-Rings	
Code	Description
1	Buna-N
2	EPR
3	Viton™ (std)
5	Chemraz™
6	Kalrez
7	Buna-3716 (Low Temp)

Seals, Bushings, Washers	
Code	Description
1	Delrin™
4	High Temp Peek (std)
6	Delrin™ AF (low Friction)

Ball & Spindle	
Code	Description
2	Stainless Steel - 316 (std)
9	Inconel 625
D	Duplex S.S - 2205

Body & End Connections	
Code	Description
2	Stainless Steel - 316 (std)
9	Inconel 625
D	Duplex S.S - 2205

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

*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.*

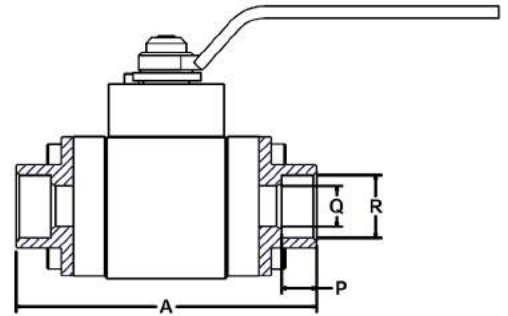




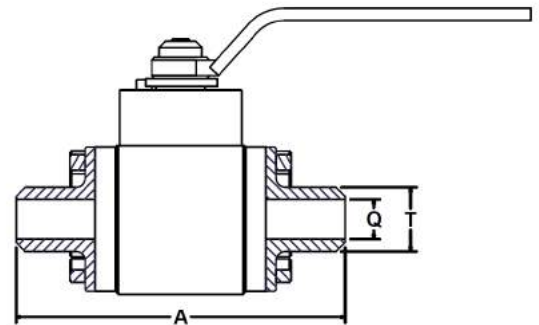
# BVQW SUBSEA BALL VALVE

BVQW	Port Size	A	B	ØC	D	E	F	G
		Overall Length	Body Diameter	Bore	Handle Length	Height	Bottom to Center	Bottom to Cap
<b>For Threaded Connection Type</b>								
N S B IU MP	½"	3.75	2.50	0.50	4.53	4.76	1.13	3.14
	¾"	4.25	3.00	0.75	7.19	5.55	1.31	3.88
	1"	5.5	3.50	0.88	7.19	5.86	1.54	4.20
	1¼"	6.25	4.50	1.13	12.00	8.23	2.00	5.42
	1½"	7.00	4.97	1.31	12.00	8.88	2.49	6.06
	2"	7.25	5.50	1.75	12.00	9.44	2.75	6.62
<b>Socket Weld Connections</b>								
Port Code(s)	Port Size	A	C	P	Q	R		
		Overall Length	Bore Size (Ball)	Socket Depth	Connection Inside Diameter	Inside Socket Outer Diameter		
<b>W*</b> *4-SCH 40 *8-SCH 80 *F-SCH 160 *G-XXS More Sizes Available Upon Request	½"	5.00	0.50	0.75	Based Upon Pipe Schedule	0.88		
	¾"	5.75	0.75	0.75		1.09		
	1"	6.50	0.88	0.75		1.36		
	1¼"	7.50	1.13	0.75		1.70		
	1½"	7.50	1.31	0.75		1.95		
	2"	8.75	1.75	1.00		2.50		
<b>Fixed Butt-Weld Connections</b>								
Port Code(s)	Port Size	A	C	Q	T			
		Overall Length	Bore Size (Ball)	Connection Inside Diameter	Weld Neck Outer Diameter			
<b>WB*</b> *4-SCH 40 *8-SCH 80 *F-SCH 160 *G-XXS More Sizes Available Upon Request	½"	5.25	0.50	Based Upon Pipe Schedule	0.84			
	¾"	6.25	0.75		1.05			
	1"	6.75	0.88		1.31			
	1¼"	8.75	1.13		1.66			
	1½"	9.50	1.31		1.91			
	2"	10.75	1.75		2.38			

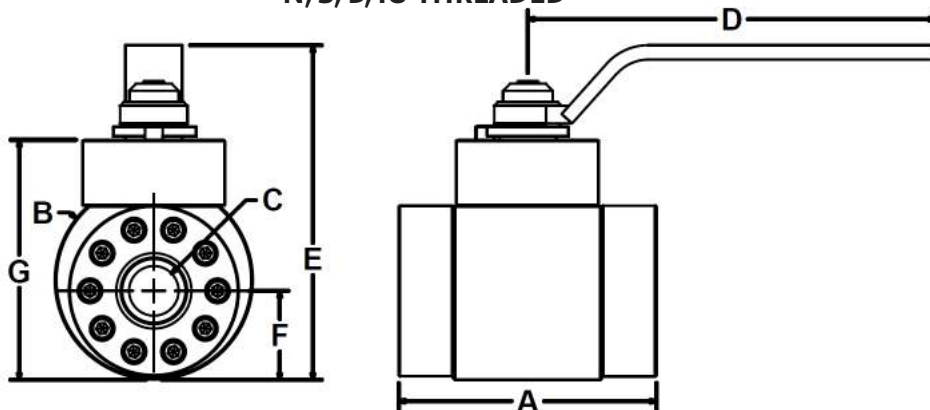
**W(\*) FIXED SOCKET WELD**  
(\* PIPE SCHEDULE CHARACTER)



**WB(\*) FIXED BUTT WELD**  
(\* PIPE SCHEDULE CHARACTER)



**N, S, B, IU THREADED**

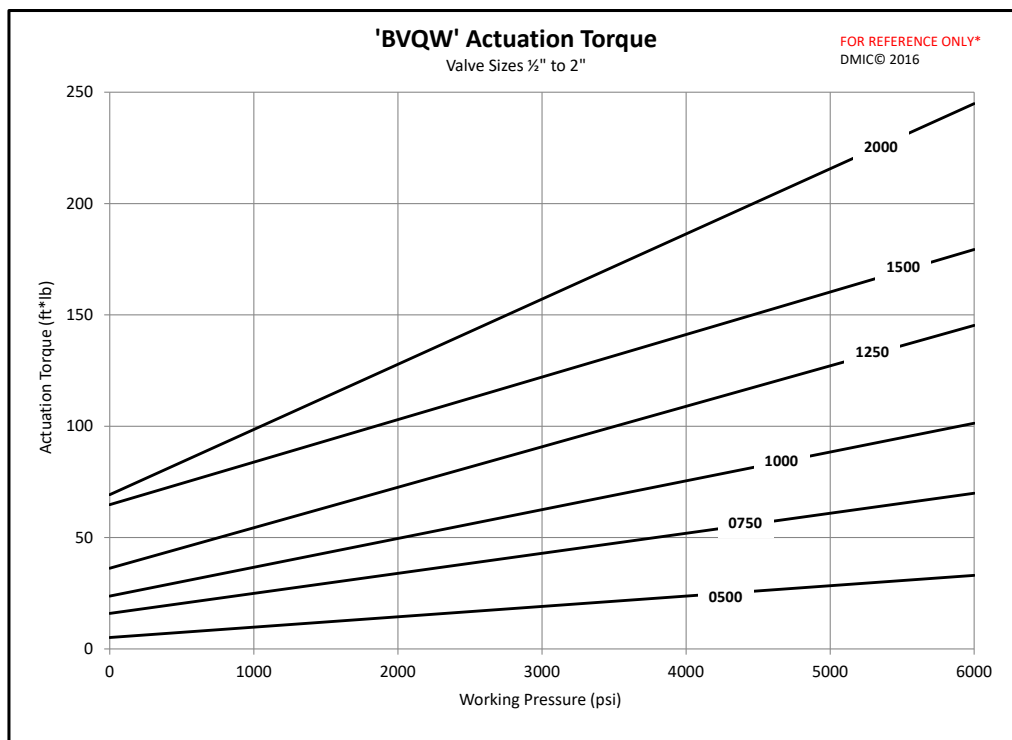
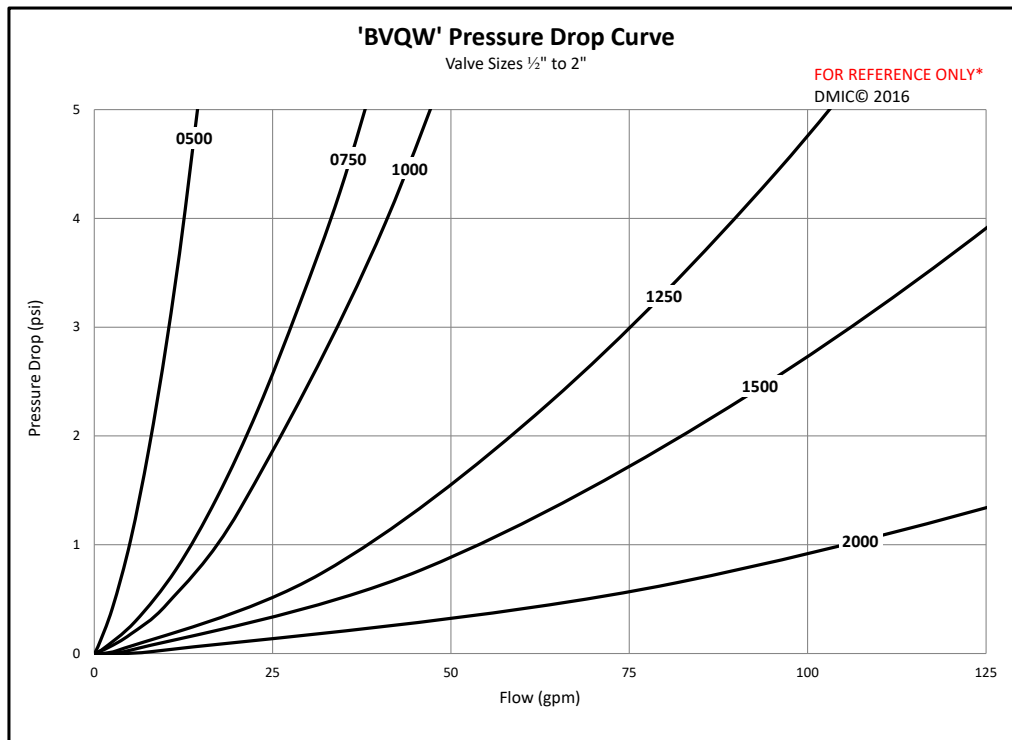


**\*\*Larger sizes available upon request\*\***



# BVQW SUBSEA BALL VALVE

## Flow Characteristic and Actuation Torque Curves



**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.**



# BVFQ/BVFQG

## FireSafe 6000 PSI - Certified to API 607 5<sup>th</sup> Edition

DMIC BVFQ starts with the High Quality BVQ as a foundation. Then secondary sealing is added to attain the DMIC certified FireSafe Valve Series



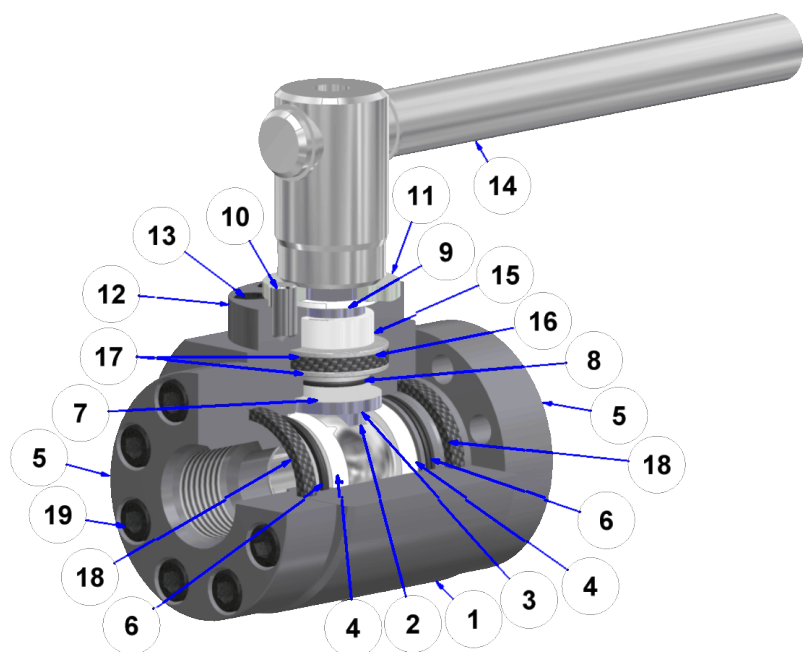
- Standard sizes range from ½" - 6" bore; Call for sizes greater than 2" bore.
- Designed for demanding applications where high performance & quality are required
- 6,000 PSI with generous design factor to eliminate damage due to pressure spikes.
- Wide variety of bolted end connections ideal for heavy industrial applications.
- Isolated spindle without metal-to-metal contact
- Secondary Sealing Material



## Service Parts BOM

BVFQ/FQG	SERVICE PARTS BOM	
Index	Qty	Description
1	1	VALVE BODY
2	1	BALL
3	1	SPINDLE
4	2	BALL SEAL
5	2	END CONNECTIONS
6	2	END CONNECTION O-RINGS
7	1	INTERNAL THRUST WASHER
8	1	SPINDLE O-RING
9	1	EXTERNAL GLIDE WASHER
10	1	STOP PIN
11	1	STOP WASHER
12	1	TOP CAP
13	*	TOP CAP MOUNTING BOLTS
14	1	HANDLE
15	1	SPINDLE BUSHING
16	1	FIRE SAFE SPINDLE SEAL
17	2	SEAL REINFORCEMENT RINGS
18	2	FIRE SAFE END CONNECTION SEALS
19	*	END CONNECTION MOUNTING BOLTS

\* - Quantity depends on size



# BVFQ/BVFQG

## Ordering Codes Summary

See page 14 for accessory codes

**BVFQ**   **\*\*\*\***   **N**   **1**   **1**   **1**   **1**   \*   \*   \*   \*   \*   \*

Size Codes	
Code	Port Size
0500	½"
0750	¾"
1000	1"
1250	1¼"
1500	1½"
2000	2"
2500	2½" - Call

\*All sizes are reduced Bore please check dimensional chart.

Connection Types	
Imperial Threads	
Code	Description
N	NPT
Welded	
W*	Socket Weld
WB*	Butt Weld
Flanged	
A*	ANSI Flanges

O-Ring Material	
Code	Description
1	Buna-N
2	EPR
3	Viton™
5	Chemraz™
6	Kalrez
7	Buna-3716 (Low Temp)

Seals, Bushings, Washers	
Code	Description
1	Delrin™
4	High Temp Peek
6	Delrin™ AF (low Friction)

Ball & Spindle	
Code	Description
1	Carbon Steel - ASTM A108
2	Stainless Steel - 316

Body Material	
Code	Description
1	Carbon Steel - ASTM A108
2	Stainless Steel

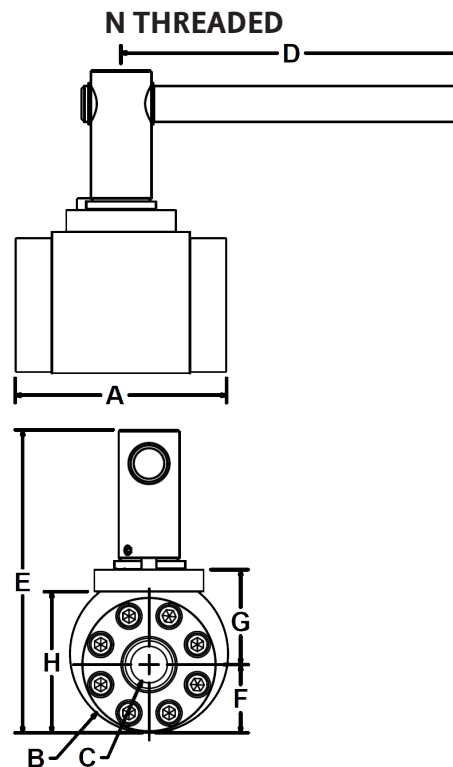
**Note:** Changes from Standard Materials result in changes to temperature and/or pressure rating.

*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.*

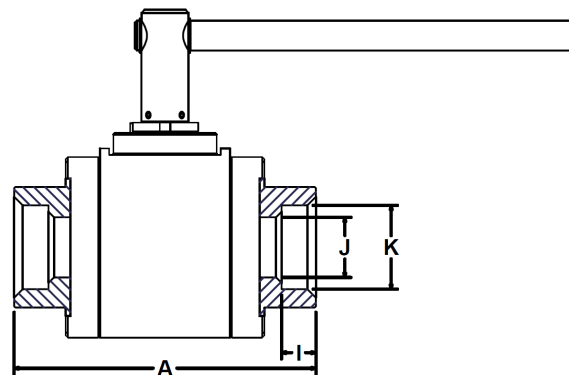


# BVFQ/BVFQG

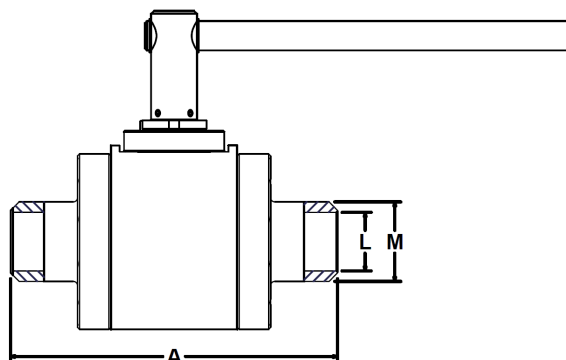
BVFQ/ BVFQG		Dependent Dimensions							
<b>Threaded Connection</b>									
Dimension (Inches)		A	B	C	D	E	F	G	H
Port Code(s)	Port Size	Overall Length	Body Width	Bore Size	Handle Length	Overall Height	Bottom to Center of Bore	Center of Bore to Top	Body Height
N Threaded Connections	½"	3.21	2.75	0.50	4.50	4.31	1.14	1.53	2.25
	¾"	4.34	3.25	0.75	7.00	6.27	1.40	1.95	2.90
	1"	4.33	3.50	0.88	7.00	6.58	1.54	2.12	3.21
	1¼"	4.75	4.25	1.13	10.00	7.59	1.91	2.49	3.90
	1½"	5.09	5.00	1.31	10.00	8.46	2.25	3.01	4.64
	2"	6.40	5.50	1.75	12.00	9.53	2.63	3.31	5.31
<b>Socket Weld Connection</b>									
Dimension (Inches)		A	I	J	K				
Port Code(s)	Port Size	Overall Length	Socket Depth	Connection Inside Diameter	Inside Socket Outer Diameter				
W* SCH.X Socket Weld End Connections	½"	5.50	0.75	DEPENDENT UPON PIPE SCHEDULE	0.88				
	¾"	9.25	0.75		1.09				
	1"	7.00	1.00		1.36				
	1¼"	7.50	1.00		1.70				
	1½"	8.09	1.00		1.95				
	2"	8.78	1.00		2.44				
<b>Butt Weld Connection</b>									
Dimension (Inches)		A	L	M					
Port Code(s)	Port Size	Overall Length	Connection Inside Diameter	Pipe Diameter					
WB* SCH.X Butt Weld End Connections	½"	<b>Call Factory</b>							
	¾"								
	1"								
	1¼"								
	1½"								
	2"								



**W(\*) FIXED SOCKET WELD**  
(\* PIPE SCHEDULE CHARACTER)

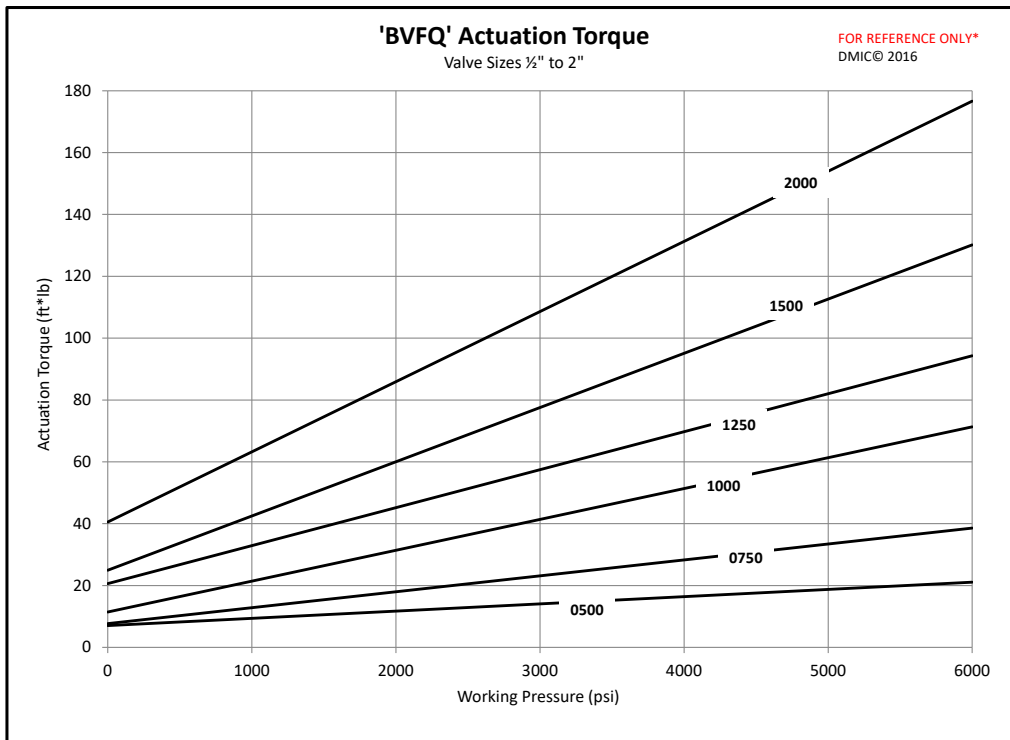
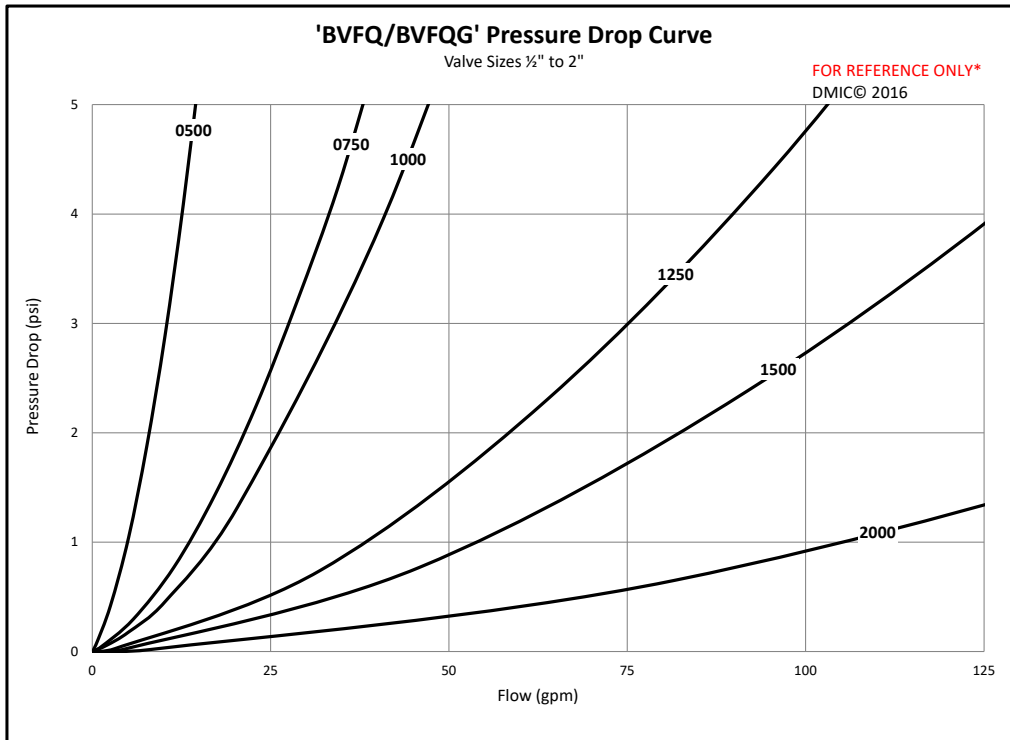


**WB(\*) FIXED BUTT WELD**  
(\* PIPE SCHEDULE CHARACTER)



# BVFQ/BVFQG

## Flow Characteristic and Actuation Torque Curves



**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.**



# BV3L/BV3LZ 600 PSI DIVERTER

## Premium Quality 3-Way Aluminum Diverter Valve

Standard PTFE Ball Seals ; L-Bore ; Sizes from ¼" to 3"

Designed as an "L-Bore" Diverter ; Optional "Near Zero Leakage" BV3LZ model.



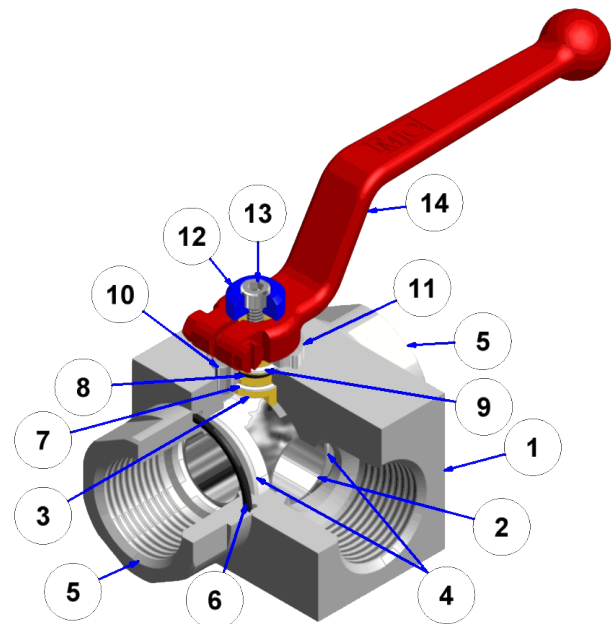
The **BV3L** is an economical U.S. made diverter valve for Filter Duplexing type applications where one input is directed to one of two outputs. Standard "L-Bore" ball with slight port overlap prevents upstream pressure spikes during phase change.

- Straight, non-spherical ball passage improves laminar flow
- Large "L-bore" standard ball porting for low  $\Delta p$  & improved Cv
- Engineered for reliable operation in hydraulic return line applications
- Derived from field-proven **BVAL** for 600 PSI service, Made in U.S.A.
- Standard with Teflon™ (PTFE) Ball Seals for wide fluid applicability
- Accepts full array of DMIC Pre-Engineered Accessories
- Fully serviceable o-ring sealed design, optional EPR for Skydrol systems
- ¼" to 2" rated at 600 PSI, 2½" + rated at 400 PSI.
- Valve series rating valid for near zero leak design.

## Valve Cutaway View and Service Parts BOM

BV3L	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	2	Ball Seal
5	*	End Connection(s)
6	*	End Connection O-Ring
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 Coded Top Cap
13	1	Top Cap Screw
14	1	Handle

\* - Quantity depends on size and combination of body



# BV3L/BV3LZ 600 PSI DIVERTER

## Ordering Codes

See page 14 for accessory codes

**BV3LZ**  
or  
**BV3L**    \*\*\*\* S A 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"

Connection Types	
Imperial Threads	
Code	Description
S	SAE ORB
N	NPT
Metric Threads	
B	BSPP
ISO Threads	
IU	ISO6149
Welded	
W*	Socket Weld
Flanged	
A*	ANSI Flanges
F*	SAE 4-Bolt UNC
G*	SAE 4-Bolt Metric
S*	SAE Split

Ball Pattern	
Code	Description
A	L-Bore Diverter
C	T-Bore 90° Action
D	T-Bore 180° Action

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

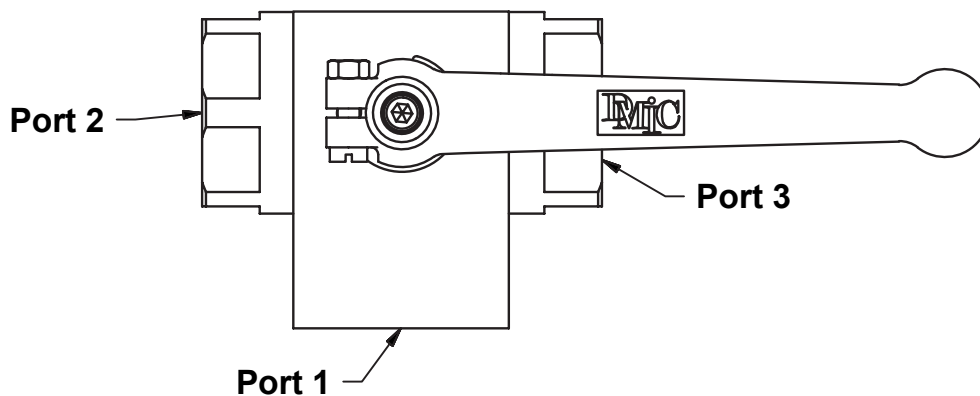
Ball Seal Material	
Code	Description
2	PTFE Teflon™

Ball & Spindle Mat'l	
Code	Description
3	Brass
2	Stainless Steel

Body Material	
Code	Description
4	Aluminum

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

**Note:** Please refer to page 10 for customizing valve port connections



**Q: Can I use a Diverter Valve or do I need a True Multi-Way Valve?**

A: The "BV3LZ" version of our diverter valve can take the place of a true multi way valve in many circuits.

Specifically, the question you must ask your application is: "Will pressure ever be applied at port 2 or 3 when the valve is blocked?"

If YES, you must use a "real" 3-way valve, or the "BV3LZ" model. If NO, a Diverter such as "BV3L" or "BV3D" is acceptable.

**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.**



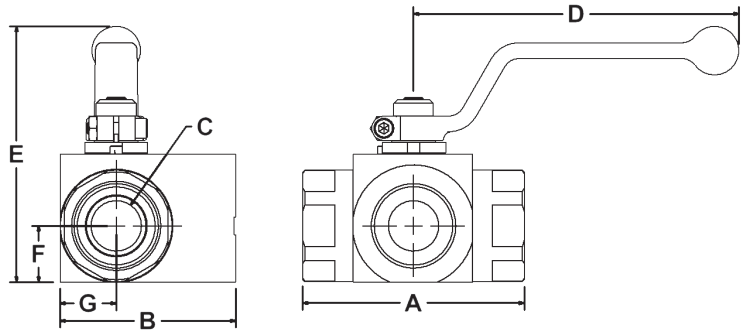


# BV3L/BV3LZ 600 PSI DIVERTER

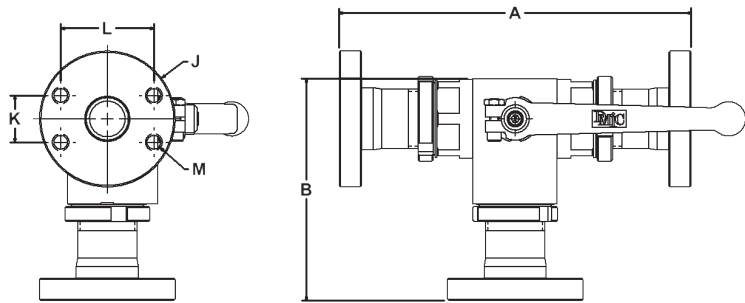
BV3L/ BV3LZ		Dependent Dimensions			
<b>Threaded Connection</b>					
Dimension (Inches)		A		B	
Port Code(s)	Port Size	Overall Length	Overall Length	Width Port 1	Width Port 1
N S B IU	¼"	2.64	2.26		
	⅜"	2.64	2.26		
	½"	2.64	2.26		
	¾"	3.27	2.50		
	1"	3.47	2.75		
Threaded Connections	1¼"	3.89	3.50		
	1½"	4.31	3.66		
	2"	4.90	4.13		
<b>SAE 4-Bolt Flange Connection</b>					
Dimension (inches)		A <sub>FM</sub>	A <sub>FL</sub>	B <sub>FM</sub>	B <sub>FL</sub>
Port Code(s)	Port Size	Overall Length	Overall Length	Width Port 1	Width Port 1
FM/GM FL	¾"	7.59	8.84	4.64	5.27
	1"	7.80	9.04	4.90	5.52
SAE 4-Bolt Comp/Std Flange Connections	1¼"	8.46	9.71	5.77	6.39
	1½"	8.88	9.88	5.94	6.44
	2"	9.47	11.22	6.41	7.29
<b>SAE Split Flange Connection</b>					
Dimension (inches)		A		B	
Port Code(s)	Port Size	Overall Length	Overall Length	Width Port 1	Width Port 1
SM	¾"	8.14	4.92		
	1"	8.26	5.13		
	1¼"	9.32	6.20		
	1½"	9.76	6.38		
SAE Split Flange Connections	2"	10.85	7.10		
<b>ANSI &amp; DIN Flange Connection</b>					
Dimension (inches)		-	-	-	-
Port Code(s)	Port Size	Because BV3L is a low pressure valve, DMIC offers only ANSI Class 150 as a BV3L option. Please contact DMIC for a certified print.			
AA / D*	1"				
	1¼"				
	1½"				
ANSI & DIN Flange	2"				
<b>Swivel Socket Weld Connection</b>					
Dimension (inches)		A		B	
Port Code(s)	Port Size	Overall Length	Overall Length	Width Port 1	Width Port 1
W4	¾"	5.84	3.77		
	1"	6.04	4.02		
	1¼"	6.71	4.89		
	1½"	7.13	5.07		
Socket Weld Connections	2"	7.72	5.54		

BV3L/ BV3LZ		Common Dimensions					
Part Number	Port Size	Rated Pressure PSI	Dimensions IN				
			C Valve Bore	D Handle Length	E Overall Height	F Bot to Port Ctr	G Back of Body to Center of Port
BV3L-0250****	¼"	600	0.38	3.35	2.70	0.63	0.63
BV3LZ-0250****							
BV3L-0375****	⅜"		0.44	3.35	2.70	0.63	0.63
BV3LZ-0375****							
BV3L-0500****	½"		0.44	3.35	2.70	0.63	0.63
BV3LZ-0500****							
BV3L-0750****	¾"		0.67	5.09	3.76	0.76	0.81
BV3LZ-0750****							
BV3L-1000****	1"		0.79	5.09	4.01	0.88	0.88
BV3LZ-1000****							
BV3L-1250****	1¼"		1.06	6.81	5.59	1.53	1.28
BV3LZ-1250****							
BV3L-1500****	1½"	1.34	6.81	6.27	2.00	1.48	
BV3LZ-1500****							
BV3L-2000****	2"	1.69	6.81	6.91	2.31	1.74	
BV3LZ-2000****							

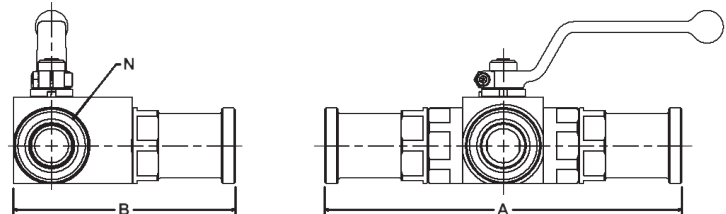
N, S, B, IU THREADED



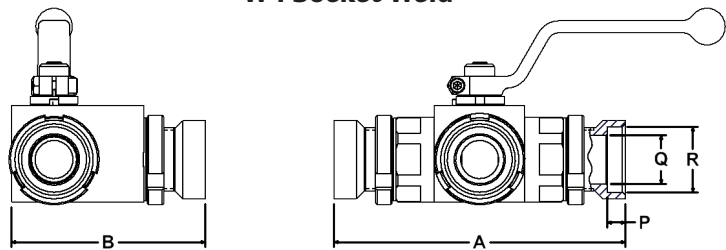
FM/GM/FL SAE 4 BOLT FLANGE (COMP & STD)



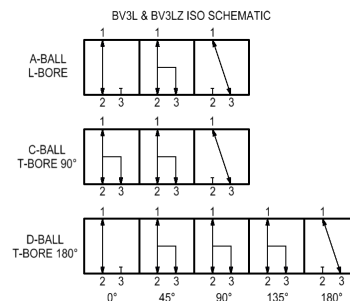
SM SAE SPLIT FLANGE HEAD



W4 Socket Weld

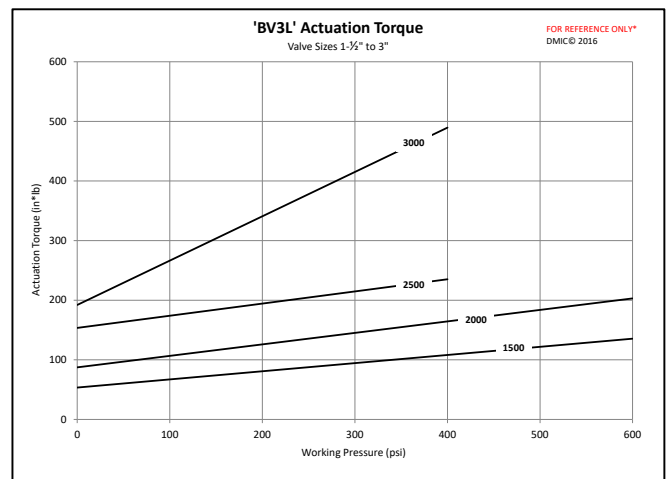
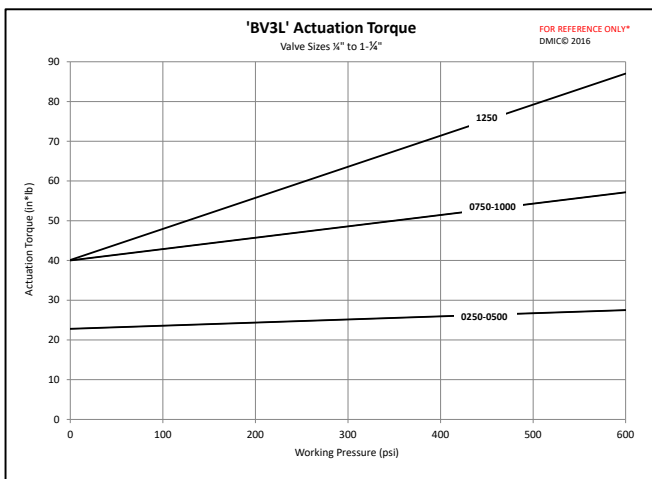
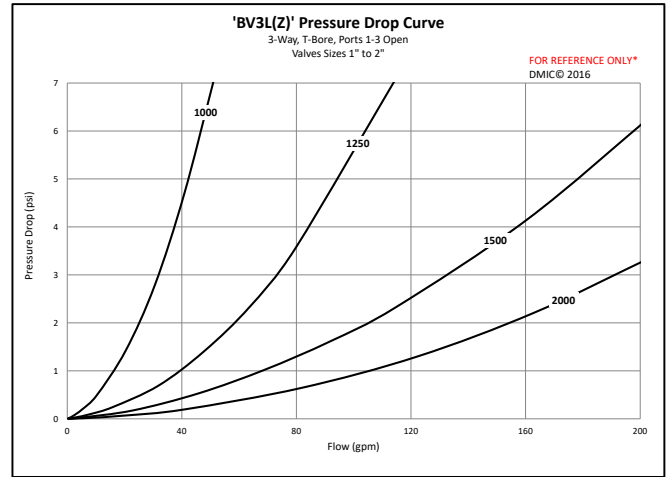
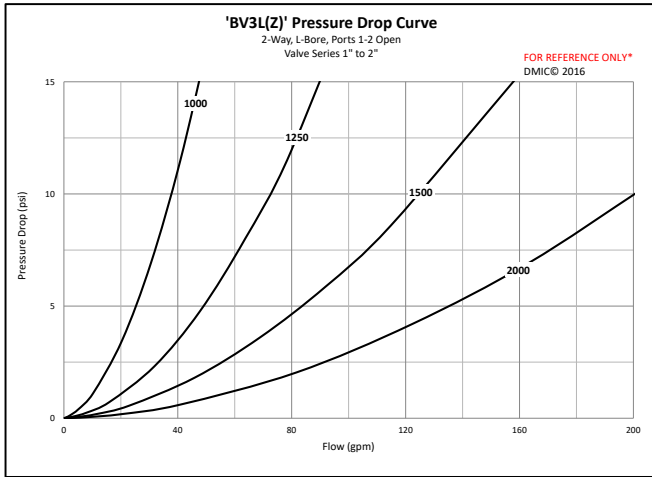
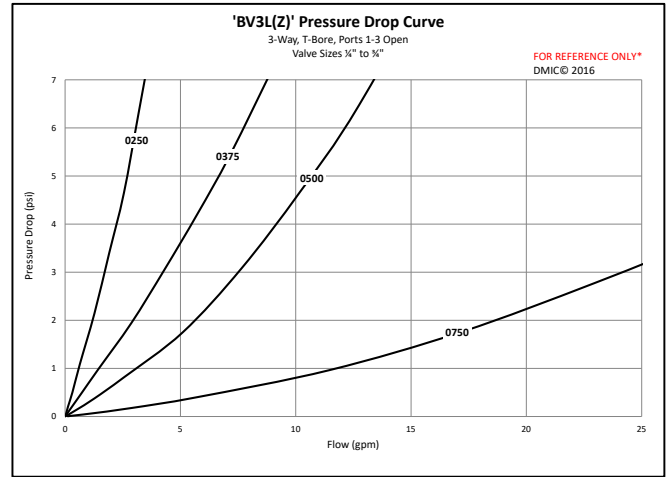
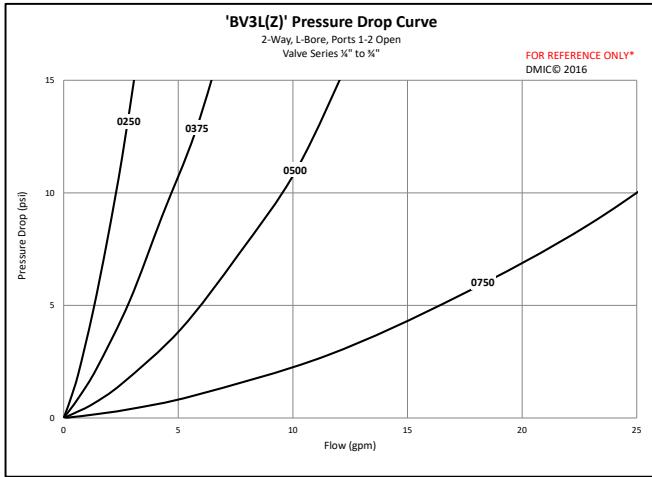


## BV3LZ & BV3L for 600 PSI Ball Pattern Schematic



# BV3L/BV3LZ 600 PSI DIVERTER

## Flow Characteristic and Actuation Torque Curves



**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.**



# BV3D/BV3DZ STEEL DIVERTER

The smart alternative to "converted 2-way" diverters  
 Rated for 3000 PSI ~ Sizes from ¼" to 2" NPT/SAE/BSP  
 Designed as an "L-Bore" Diverter



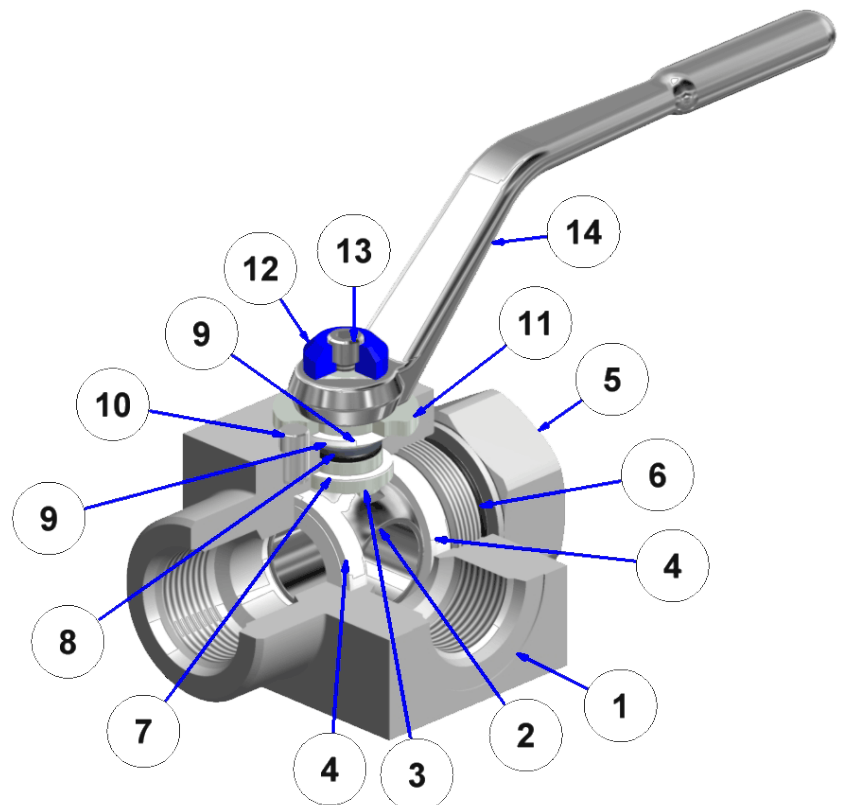
The genuine DMIC **BV3D** is a 3-way, "L-bore" diverter derived from the DMIC **BVH**. DMIC's newest high-end CNC equipment and advancements in manufacturing tolerance control allow the **BV3D** to satisfy many 3-way applications, providing a cost savings relative to a true 3-way valve. Consult DMIC Engineering for more information.

- Stocked with "L-Bore" standard ball; special "T-Bore" option available
- Slight port overlap prevents surprise upstream blowouts during shifting
- **DMIC's Innovative Spindle-Glide™** Design reduces actuation torque & increases valve longevity, especially under actuation
- **Every size can be Panel & Substrate Mounted**
- **Optional Skydrol, High Temp, Near Zero leakage configurations**

## Service Parts BOM

BV3D/ BV3DZ	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	2	Ball Seals
5	*	End Connection(s)
6	*	End Connection O-Ring
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	Top Cap Screw
14	1	Handle

\* - Quantity depends on size and combination of body



# BV3D/BV3DZ STEEL DIVERTER

## Ordering Codes Summary

See page 14 for accessory codes



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

Connection Types		SAE Flange Conn	
<b>Imperial Threads</b>		<b>SAE 4-Bolt Companion</b>	
Code	Description	Code	Description
S	SAE ORB	FM	SAE C61 Comp UNC
N	NPT	GM	SAE C61 Comp Metric
J	JIC-Male	-	-
<b>Metric Threads</b>		<b>SAE Split Flanges</b>	
B	BSPP-special	SM	SAE C61 Split Flg Head
T	BSPT (Tapered Pipe)	-	-
<b>ISO Threads</b>		<b>SAE 4 Bolt Standard</b>	
IU	ISO6149	FL	SAE C61 Std UNC/Metric

Please see page 9 for complete connection availability matrix

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

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 Spindle 316 Stainless Ball

Ball Pattern	
Code	Description
A	L-Bore Diverter
C	T-Bore 90° Action
D	T-Bore 180° Action

Body Material	
Code	Description
1	Carbon Steel
2	Stainless Steel

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

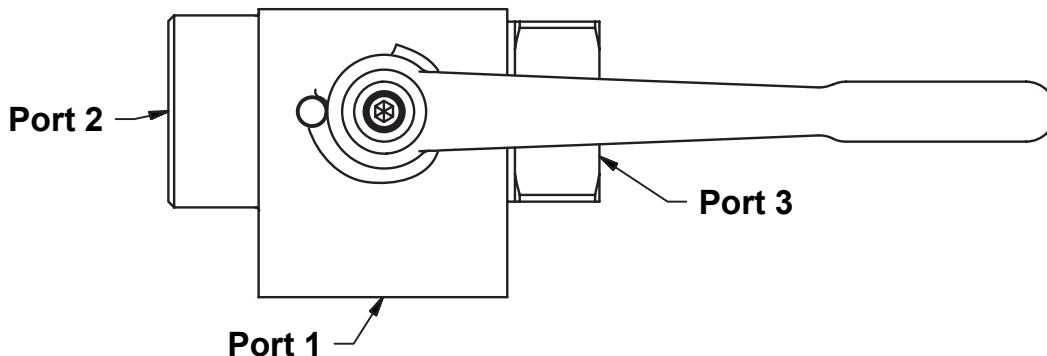
**Note:** Please refer to page 10 for customizing valve port connections

**Q:** Can I use a Diverter Valve or do I need a True Multi-Way Valve?

A: The "BV3DZ" version of our diverter valve can take the place of a true multi way valve in many circuits.

Specifically, the question you must ask your application is: "Will pressure ever be applied at port 2 or 3 when the valve is blocked?"

If YES, you must use a "real" 3-way valve, or the "BV3DZ" model. If NO, a Diverter such as "BV3D" or "BV3L" is acceptable.



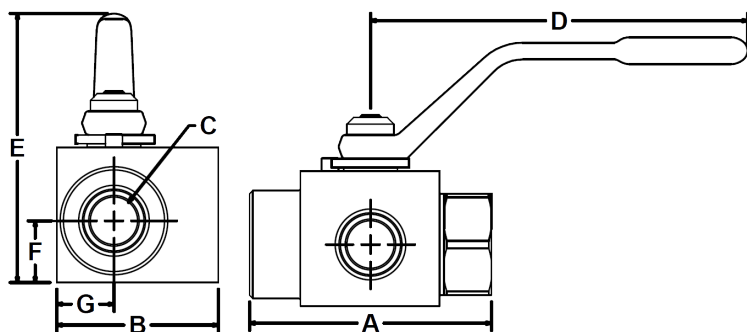
**Due to our policy of continual product improvement, the specifications in this catalog may change without notice. When designing by spec, please request a certified print.**



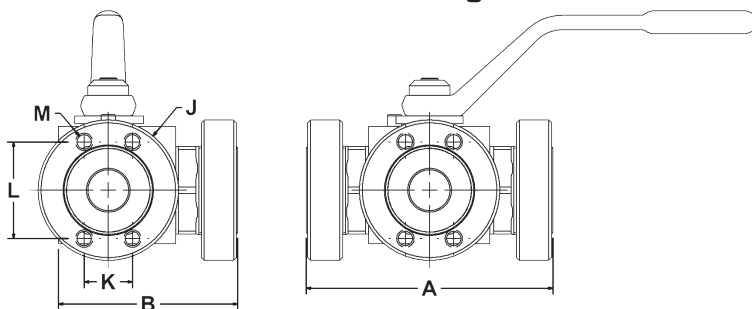
# BV3D/BV3DZ STEEL DIVERTER

BV3D/ BV3DZ		Dependent Dimensions			
<b>Threaded Connection</b>					
Dimension (Inches)		A	B		
Port Code(s)	Port Size	Overall Length	Width Port 1		
N S B IU	1/4"	2.74	2.00		
	3/8"	2.87	2.09		
	1/2"	3.36	2.00		
	3/4"	3.82	2.75		
	1"	4.49	3.00		
Threaded Connections	1 1/4"	4.85	3.97		
	1 1/2"	5.33	4.17		
	2"	6.54	5.00		
<b>SAE 4-Bolt Flange Connection</b>					
Dimension (inches)		A	B		
Port Code(s)	Port Size	Overall Length	Width Port 1		
FM/GM FL	1/2"	4.26	2.81		
	3/4"	4.77	3.42		
SAE 4-Bolt Comp/Std Flange Connections	1"	5.27	3.83		
	1 1/4"	6.90	5.77		
	1 1/2"	7.09	6.04		
	2"	8.06	7.04		
<b>SAE Split Flange Connection</b>					
Dimension (inches)		A	B		
Port Code(s)	Port Size	Overall Length	Width Port 1		
SM SAE Split Connections	1/2"	5.96	3.66		
	3/4"	6.38	4.22		
	1"	6.98	4.69		
	1 1/4"	7.50	6.07		
	1 1/2"	9.09	7.04		
2"	9.10	7.56			
<b>ANSI &amp; DIN Flange Connection</b>					
Dimension (inches)		-	-		
Port Code(s)	Port Size	Please call Factory to request a Certified Print.			
A*	3/4"				
D*	1"				
ANSI & DIN Flange Conn	1 1/4"				
	1 1/2"				
2"					
<b>Swivel Socket Weld Connection</b>					
Dimension (inches)		A	B	-	-
Port Code(s)	Port Size	Overall Length	Width Port 1	Socket Depth	Socket Diameter
W4 Socket Weld Connections	1/2"	6.26	3.81	0.75	0.88
	3/4"	7.46	4.76	0.75	1.09
	1"	7.67	5.03	1.00	1.36
	1 1/4"	8.40	6.52	1.00	1.69
	1 1/2"	9.47	7.23	1.00	1.95
2"	10.60	8.31	1.00	2.44	

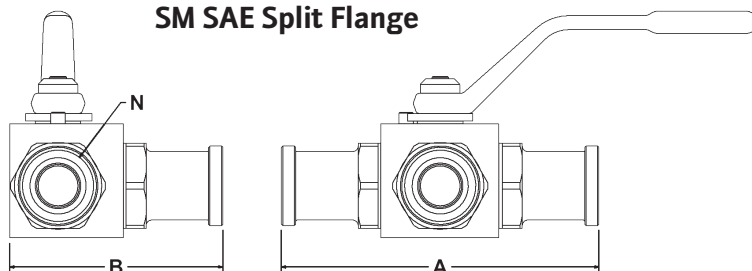
N, S, B, IU THREADED



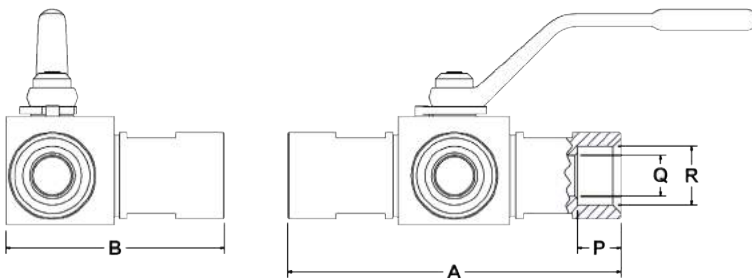
FM/GM/FL SAE 4-Bolt Flange



SM SAE Split Flange

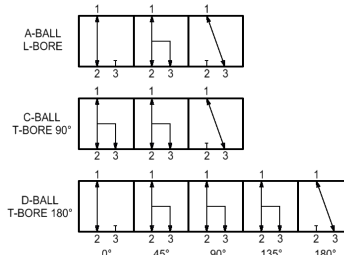


W4 Socket Weld Connection



## BV3DZ & BV3D Steel Diverter Ball Pattern Schematic

BV3D & BV3DZ ISO SCHEMATIC



BV3D/ BV3DZ		Common Dimensions					
Part Number	Port Size	Rated Pressure PSI	Dimensions (inches)				
			Valve Bore C	Handle Length D	Overall Height E	Bot To Port Ctr F	Back of body to center G
BV3D-0250****	1/4"	3000	0.25	4.50	3.00	0.61	0.60
BV3DZ-0250****							
BV3D-0375****	3/8"		0.31	4.50	3.12	0.64	0.60
BV3DZ-0375****							
BV3D-0500****	1/2"		0.44	4.50	3.25	0.73	0.70
BV3DZ-0500****							
BV3D-0750****	3/4"		0.69	7.00	4.72	1.00	0.94
BV3DZ-0750****							
BV3D-1000****	1"		0.88	7.00	4.97	1.14	1.06
BV3DZ-1000****							
BV3D-1250****	1 1/4"		1.13	9.86	6.70	1.69	1.58
BV3DZ-1250****							
BV3D-1500****	1 1/2"	1.38	9.86	6.70	1.50	1.63	
BV3DZ-1500****							
BV3D-2000****	2"	1.75	9.86	7.70	2.21	2.00	
BV3DZ-2000****							



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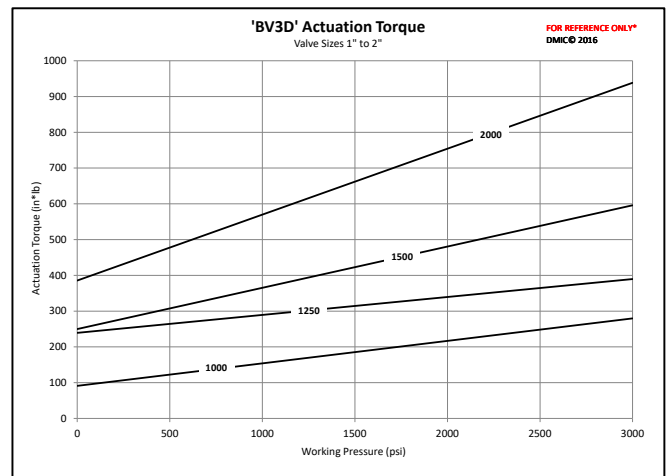
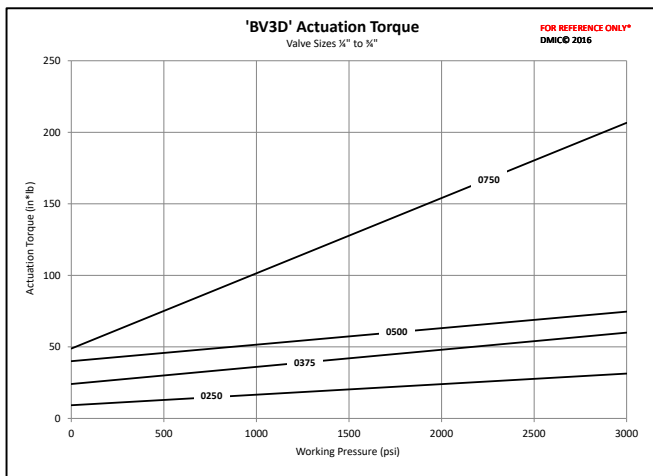
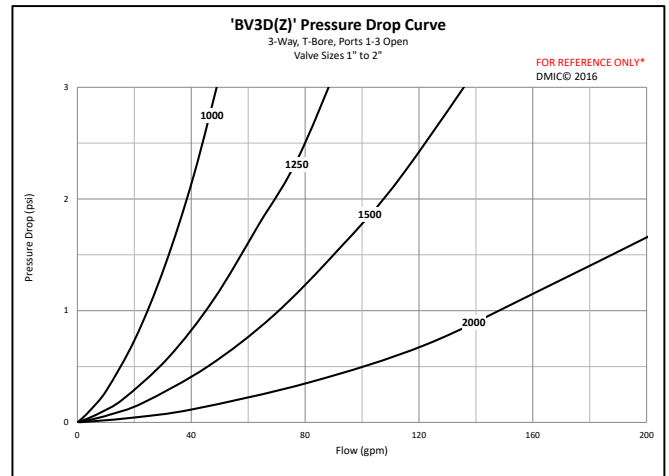
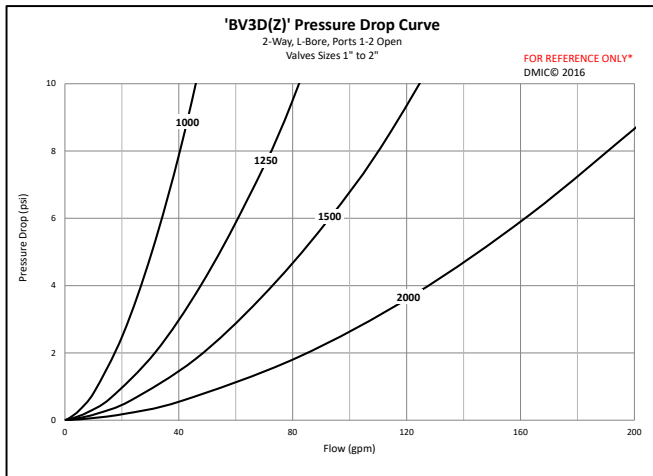
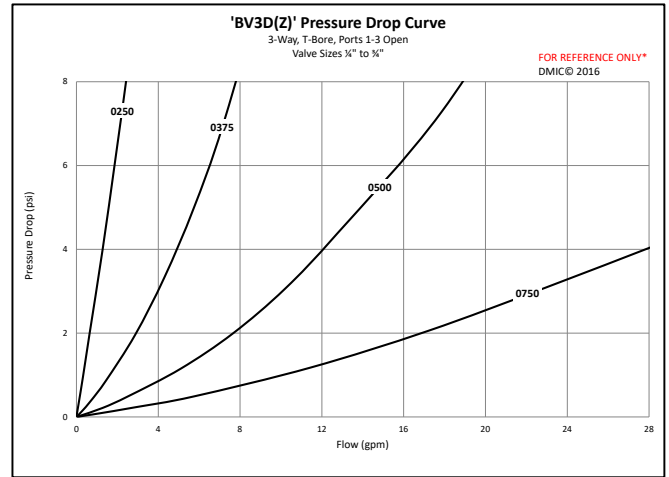
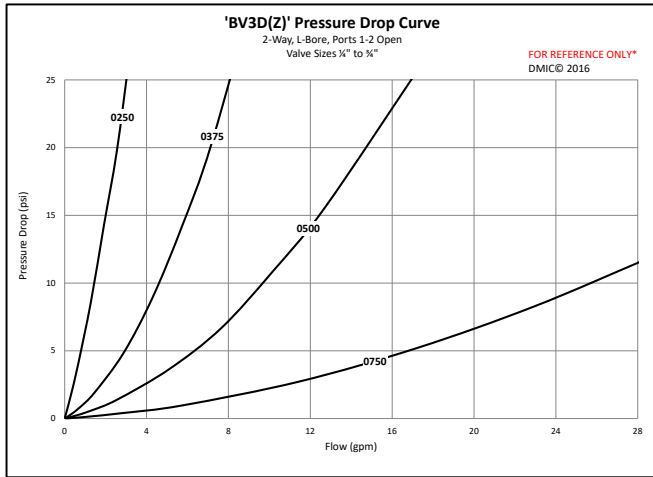
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IN CANADA 1-800-320-3642



# BV3D/BV3DZ STEEL DIVERTER

## Flow Characteristic and Actuation Torque Curves



**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.**



# BV3V 5,000 PSI DIVERTER

**Rated for 5000 PSI ~ Sizes from ¼" to 2" NPT/SAE/BSP**  
*Designed as an inverse "T-Bore" Diverter for straight flow normal operation*

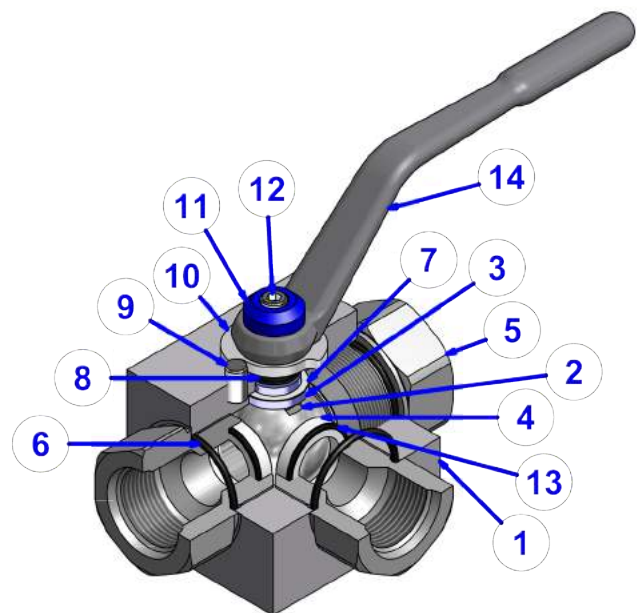


The DMIC **BV3V** is a 3-way, "inverse T-Bore" diverter derived from the DMIC **BV3D**. DMIC's newest high-end CNC equipment and advancements in manufacturing tolerance control allow the **BV3V** to satisfy many normal 2-way with 3 way divert option. Consult DMIC Engineering for more information.

- Similar to BV3D, but offers a straight flow path for normal operation
- Can be used as a compact 2-way ball valve with test point outlet
- Standard DMIC Blow-out proof stem design
- Ordering codes similar to BV3D line
- Standard reduced Bore design
- Zero leakage design is a standard

## Service Parts BOM

BV3V	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	3	Ball Seals
5	3	End Connection(s)
6	3	End Connection O-Ring
7	1	Internal Thrust Washer
8	1	Spindle O-Rings
9	1	Stop Pin
10	1	Stop Washer
11	1	Color Code Cap
12	1	Top Cap Screw
13	3	Seal O-Ring
14	1	Handle



# BV3V 5,000 PSI DIVERTER

## Ordering Codes Summary

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"



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

Connection Types		SAE Flange Conn	
<b>Imperial Threads</b>		<b>SAE 4-Bolt Companion</b>	
Code	Description	Code	Description
S	SAE ORB	FM	SAE C61 Comp UNC
N	NPT	FH	SAE C62 Comp UNC
J	JIC-Male	GM	SAE C61 Comp Metric
<b>Metric Threads</b>		GH	SAE C62 Comp Metric
B	BSPP-special	<b>SAE Split Flanges</b>	
T	BSPT (Tapered Pipe)	SM	SAE C61 Split Flg Head
		SH	SAE C62 Split Flg Head
<b>ISO Threads</b>		<b>SAE 4 Bolt Standard</b>	
IU	ISO6149	FL	SAE C61 Std UNC/Metric
-	-	FK	SAE C62 Std UNC/Metric

Please see page 11 for complete connection availability matrix

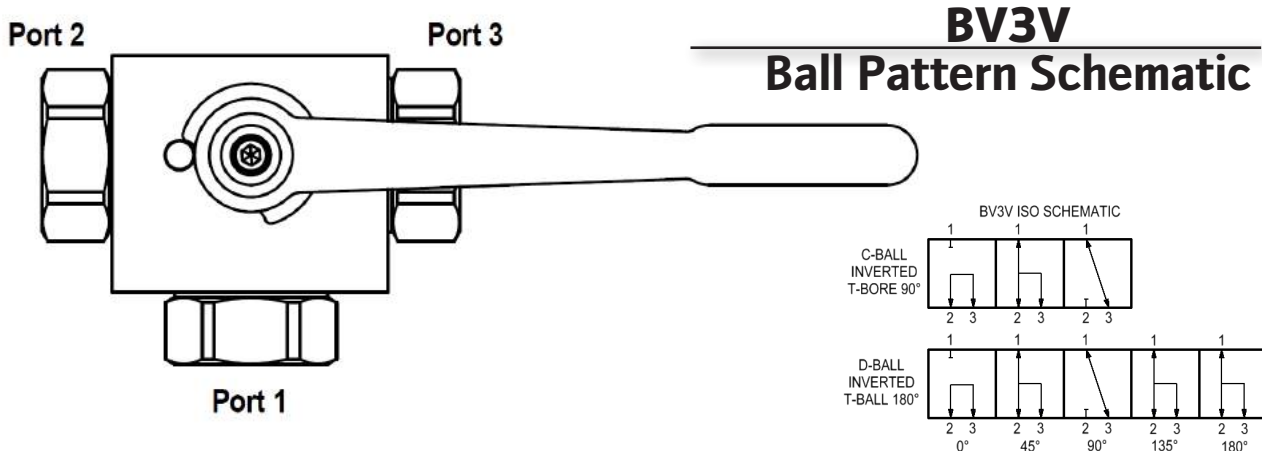
Ball Seal Material	
Code	Description
1	Delrin™
2	PTFE Teflon™ (1500 PSI MAX)
4	Peek
6	Delrin™ AF (low Friction)

Ball & Spindle Mat'l	
Code	Description
1	Carbon Steel
2	316 Stainless Steel
6	416 Stainless Spindle 316 Stainless Ball

Ball Pattern	
Code	Description
C	Inverted T-Bore 90° Action
D	T-Bore 180° Action

Body Material	
Code	Description
1	Carbon Steel
2	Stainless Steel

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



*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.*

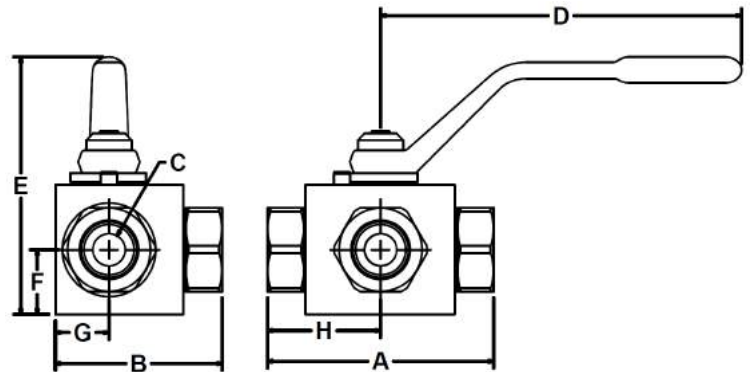




# BV3V 5,000 PSI DIVERTER

## Common Dimensions

Port Size	Rated Pressure PSI	Dimensions IN							
		Overall Length A	Width Port 1 B	Valve Bore C	Handle Length D	Overall Height E	Bot To Port Ctr F	Back of body to center G	Center to end H
¼"	5000	3.41	2.48	0.31	4.50	3.37	0.85	0.77	1.71
⅜"		3.41	2.48	0.31	4.50	3.37	0.85	0.77	1.71
½"		3.41	2.48	0.38	4.50	3.37	0.85	0.77	1.71
¾"		4.39	3.24	0.63	7.00	4.97	1.25	1.04	2.19
1"		5.20	3.91	0.81	7.00	5.47	1.64	1.31	2.60
1¼"		5.69	4.32	1.00	9.86	6.70	1.69	1.47	2.85
1½"		6.05	5.1	1.25	9.86	7.17	1.97	2.08	3.02
2"		8.00	6.28	1.63	9.86	7.70	2.21	2.28	4.00



## SAE C.61 Split Flange Head Dimension

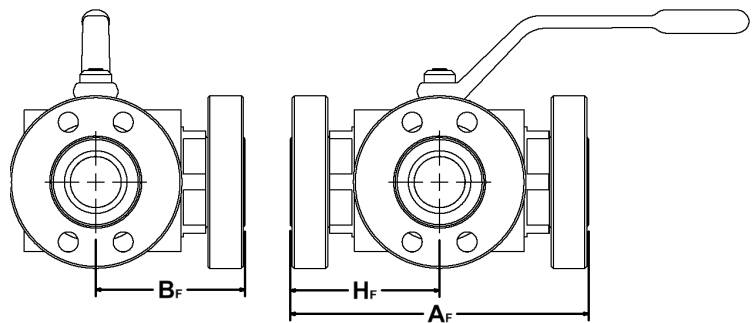
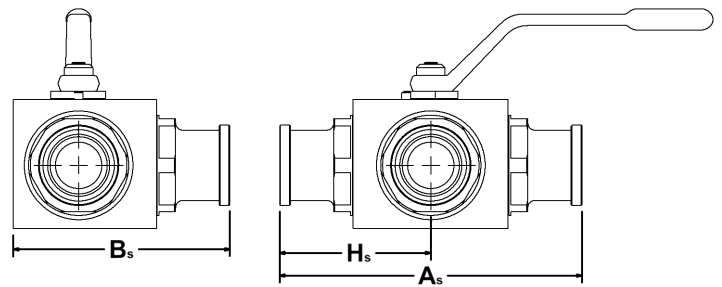
Dimension (inches)	Rated Pressure PSI	Overall Length A <sub>s</sub>	Width Port 1 B <sub>s</sub>	Center to end H <sub>f</sub>
½"	5000	6.01	3.01	3.01
¾"		6.86	3.43	3.43
1"		7.69	3.85	3.85
1¼"	4000	8.35	4.18	4.18
1½"	3000	10.29	5.14	5.14
2"		10.56	5.28	5.28

## SAE C.62 Split Flange Head Dimension

Dimension (inches)	Rated Pressure PSI	Overall Length A <sub>s</sub>	Width Port 1 B <sub>s</sub>	Center to end H <sub>f</sub>
½"	5000	6.00	3.00	3.00
¾"		7.34	3.67	3.67
1"		8.50	4.25	4.25
1¼"		9.62	4.81	4.81
1½"		12.27	6.13	6.13
2"		13.9	6.95	6.95

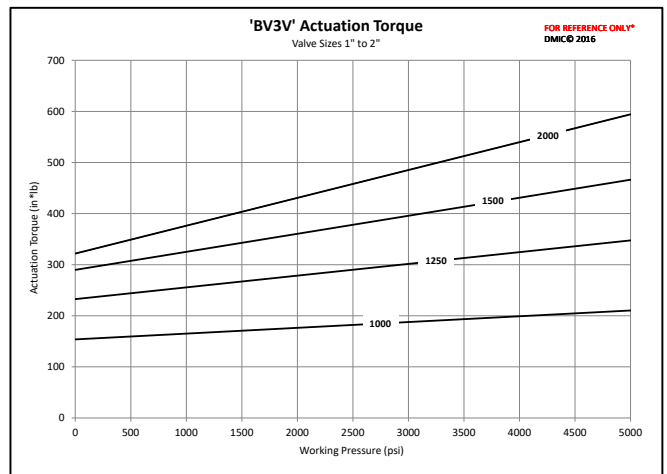
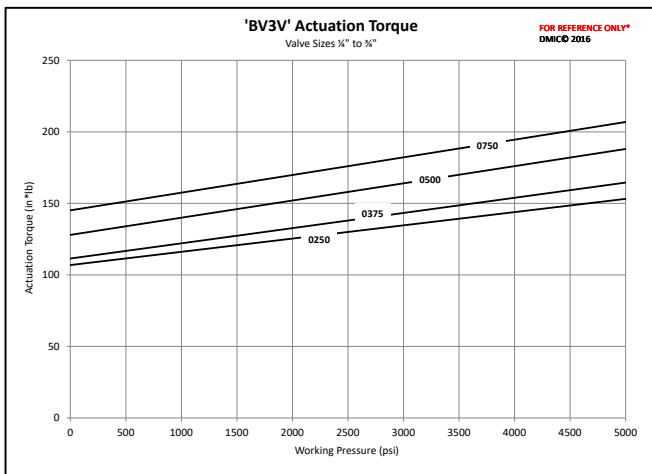
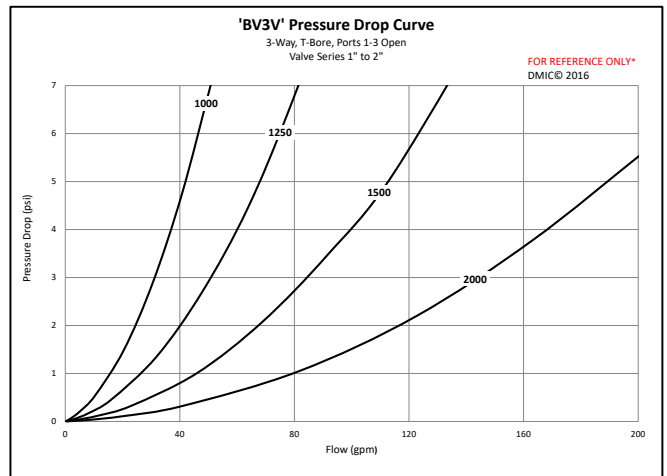
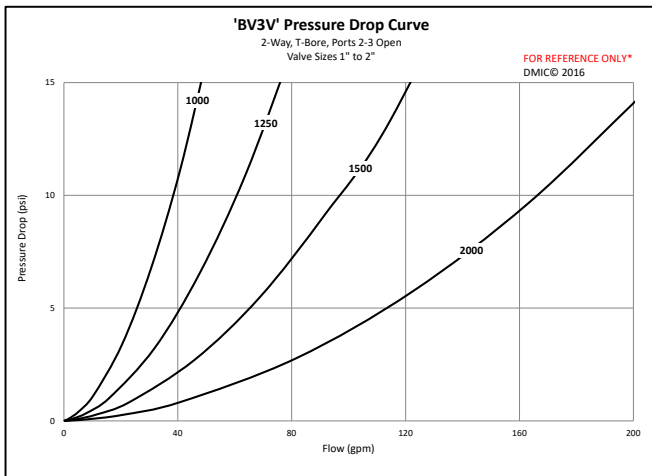
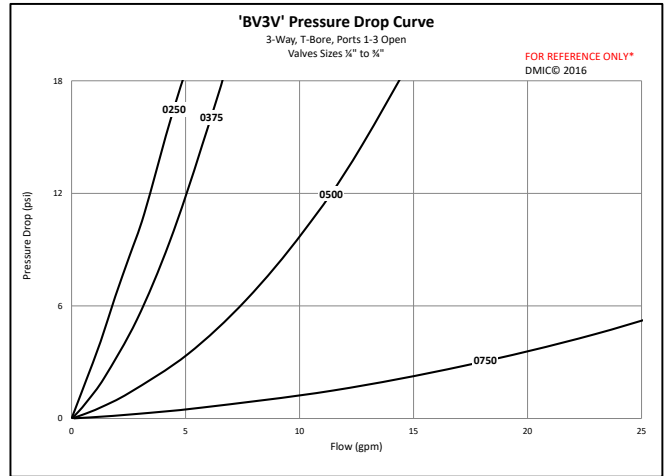
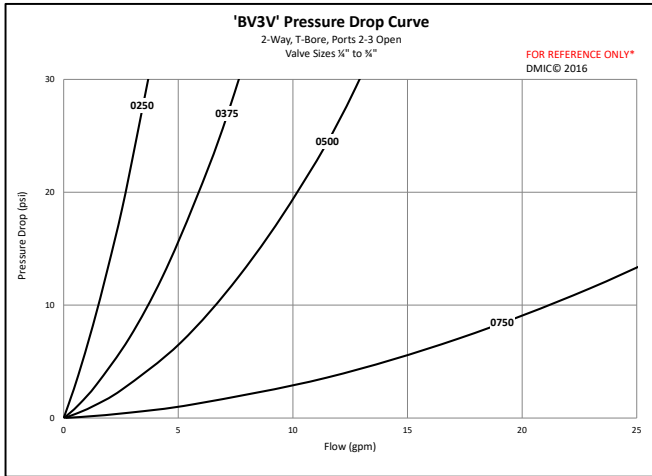
## SAE C.61 & C.62 Bolt Flange Dimension

Dimension (inches)	Rated Pressure PSI C.61	Rated Pressure PSI C.62	Overall Length A <sub>s</sub>	Width Port 1 B <sub>s</sub>	Center to end H <sub>f</sub>
½"	5000	5000	4.31	2.16	2.16
¾"			5.25	2.62	2.62
1"			5.98	2.99	2.99
1¼"	4000		7.75	3.88	3.88
1½"	3000		8.29	4.14	4.14
2"			9.52	4.76	4.76



# BV3V 5,000 PSI DIVERTER

## Flow Characteristic and Actuation Torque Curves



**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.**



# 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.*



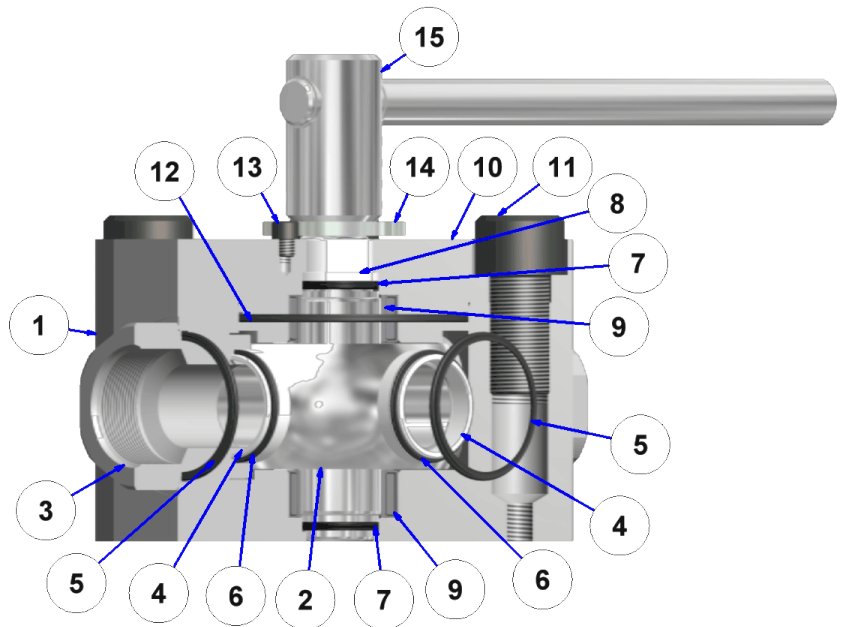
DMIC **BV3H** and **BV4H** series have been upgraded for superior performance and durability with DMIC's exclusive top serviceable design, and compatibility with many DMIC Pre-Engineered Accessories and Actuation Packages. This model is not restricted to any specific type of circuit, and incorporates 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	*	End Connection
4	*	Ball Seals
5	*	End Connection O-Rings
6	*	Ball Seal O-Rings
7	2	Shaft O-Rings
8	1	Shaft Bushing
9	2	Shaft Bearings
10	1	Top Cap
11	4	Top Cap Mounting Bolts
12	1	Top Cap O-Rings
13	1	Stop Pin
14	1	Stop Washer
15	1	Handle

\* - Depends on 3-Way or 4-Way



# BV3H & BV4H TRUE MULTI-WAY

## Ordering Codes Summary

See page 14 for accessory codes

**BV3H**

or

**BV4H**

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

### 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
BV4H	
C	T-Bore 90° Action
D	T-Bore 180° Action (Standard)
F	X-Bore 90° Action

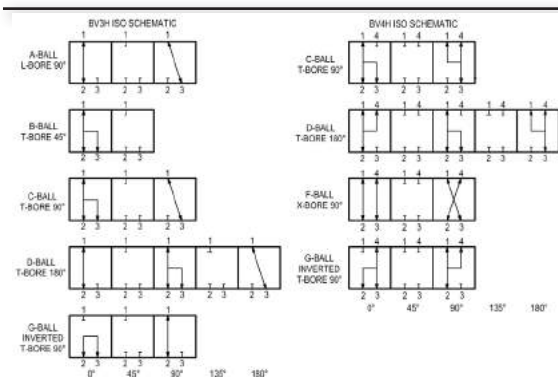
O-Ring Material	
Code	Description
1	Buna-N (Standard)
2	EPR
3	Viton™
4	Teflon™

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.

*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.*



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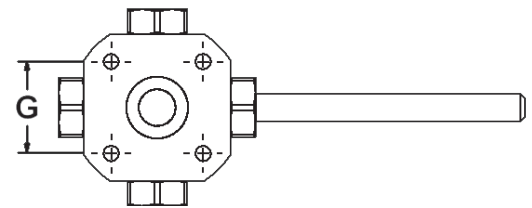
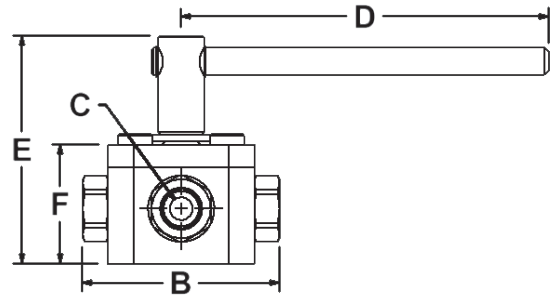
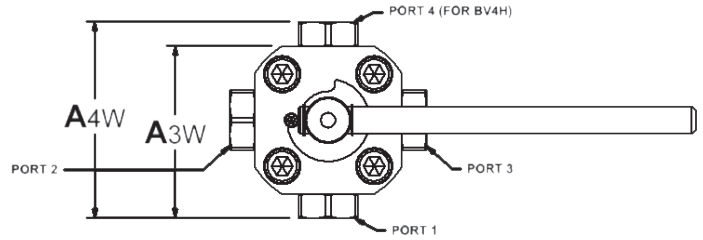


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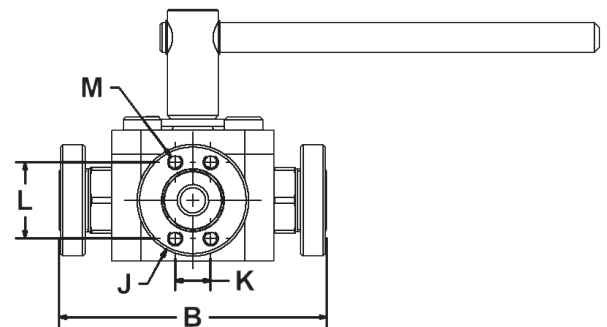
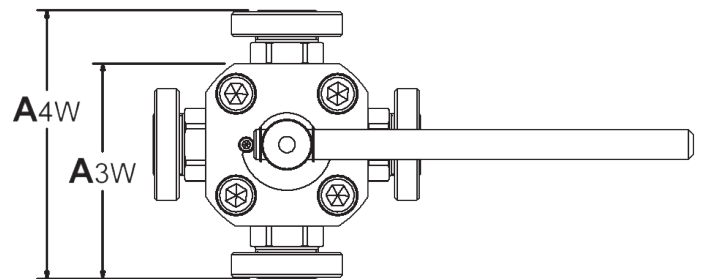
# BV3H & BV4H TRUE MULTI-WAY

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

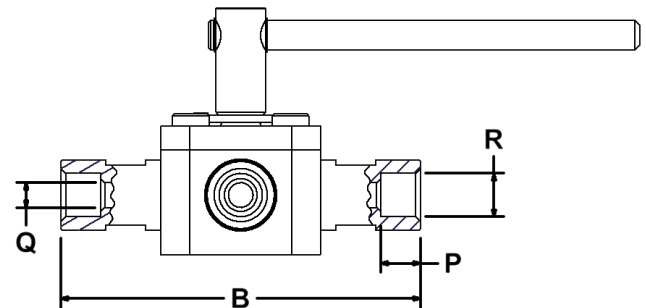
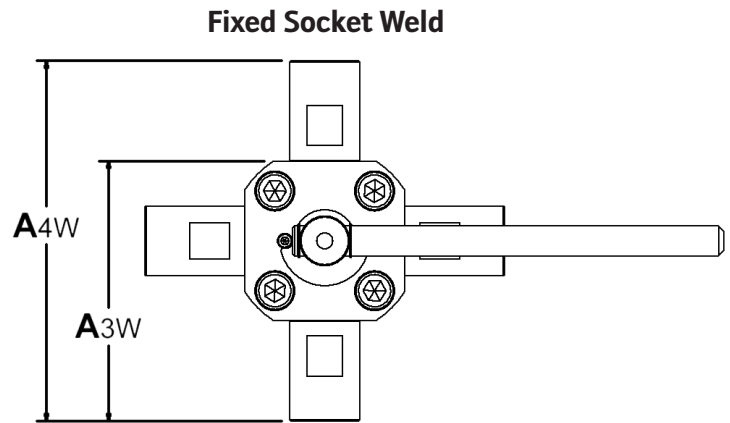
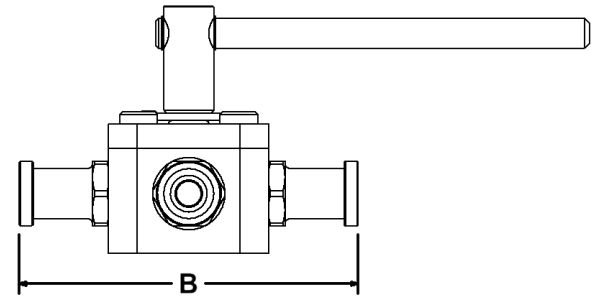
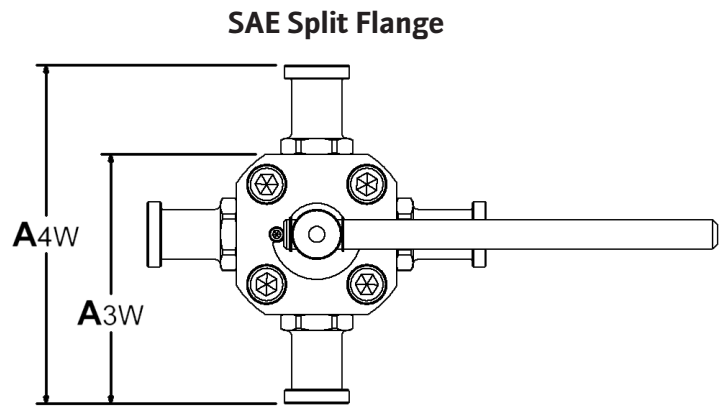


BV3H/ BV4H		Common Dimensions						
Port Size	Rated Pressure PSI	Bore (L-Ball) C	Handle Length D	Overall Height E	Body Height F	Bottom Mt Sq G	Mtg Bolt Size (UNC) Carbon Steel	Mtg Bolt Size (UNF) Stainless Steel
1/4"	6000	0.31	6.97	4.81	2.53	1.63	1/4"	1/4"
3/8"		0.31	6.97	4.81	2.53	1.63	1/4"	1/4"
1/2"		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



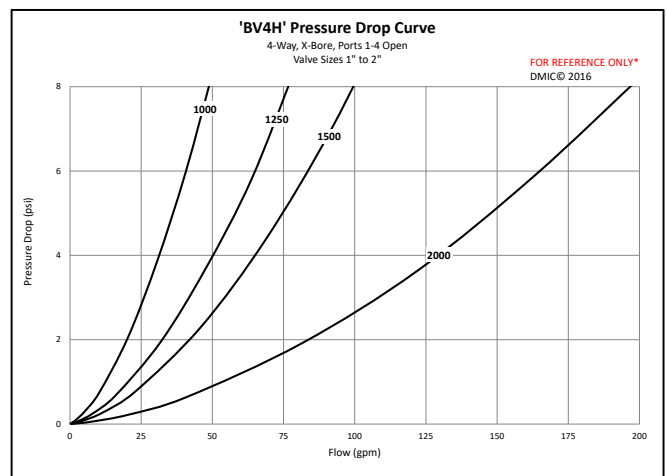
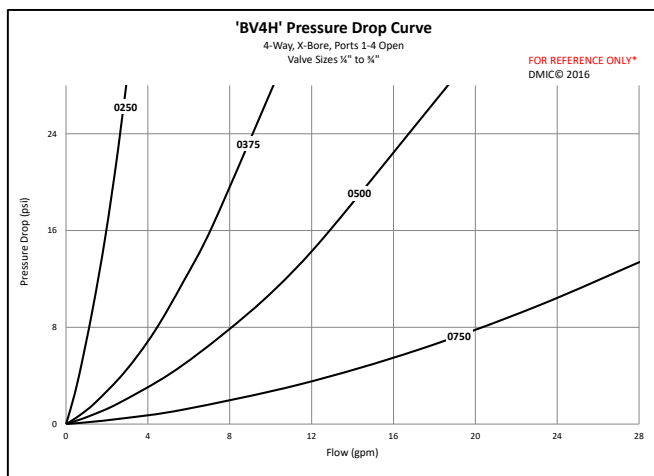
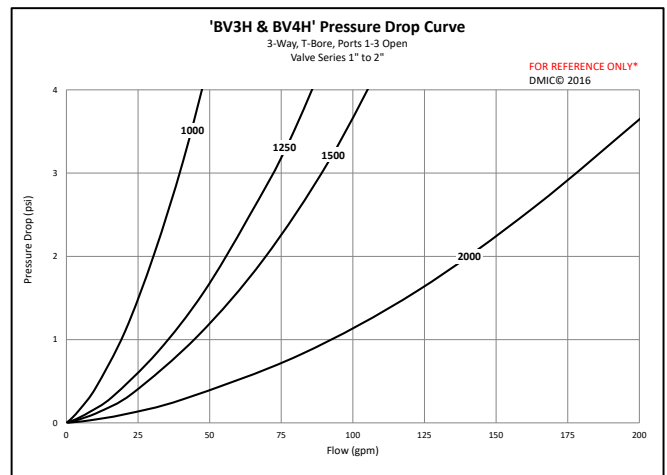
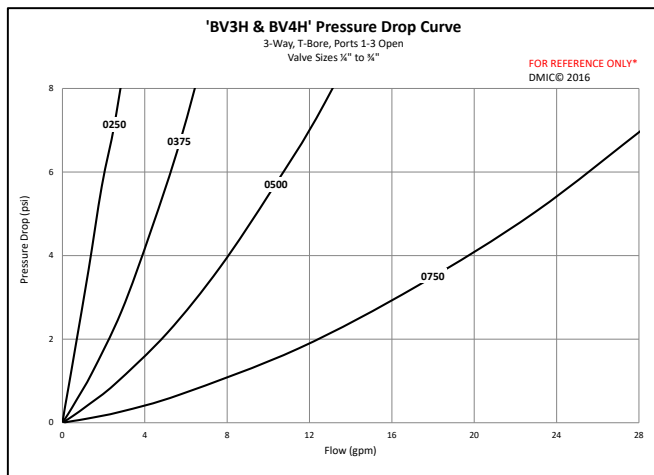
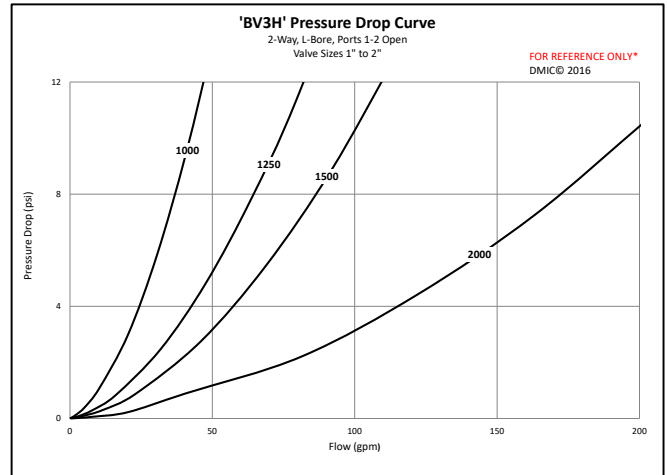
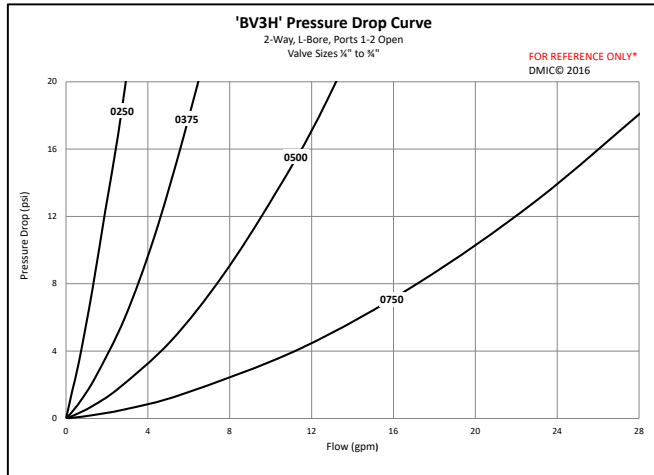
BV3H/ BV4H		Common Dimensions						
Port Size	Rated Pressure PSI	Bore (L-Ball) C	Handle Length D	Overall Height E	Body Height F	Bottom Mt Sq G	Mtg Bolt Size (UNC) Carbon Steel	Mtg Bolt Size (UNF) Stainless Steel
1/4"	6000	0.31	6.97	4.81	2.53	1.63	1/4"	1/4"
3/8"		0.31	6.97	4.81	2.53	1.63	1/4"	1/4"
1/2"		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"

**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.**



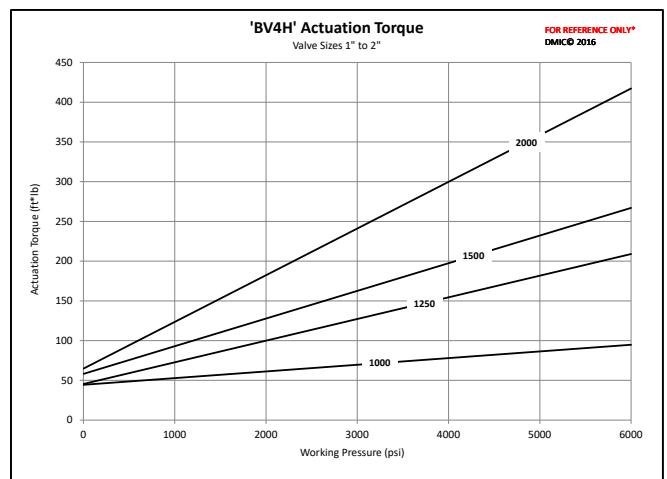
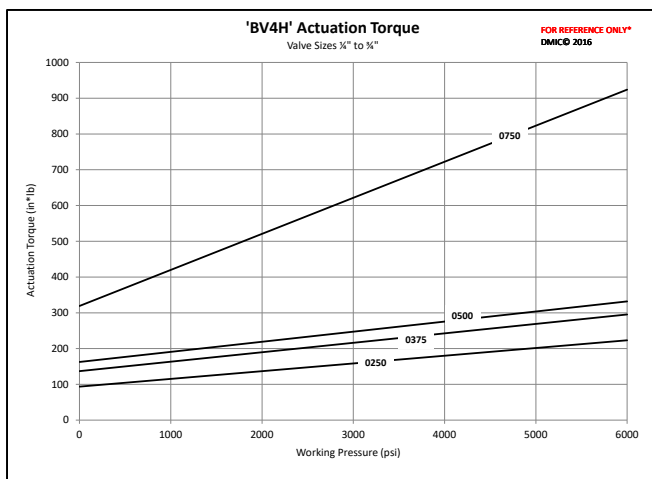
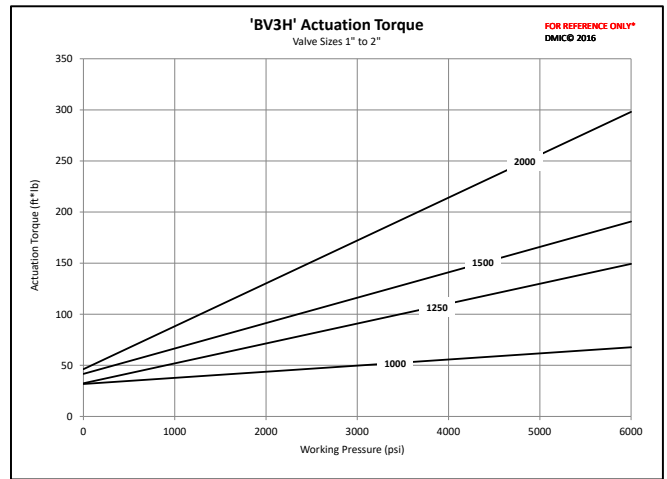
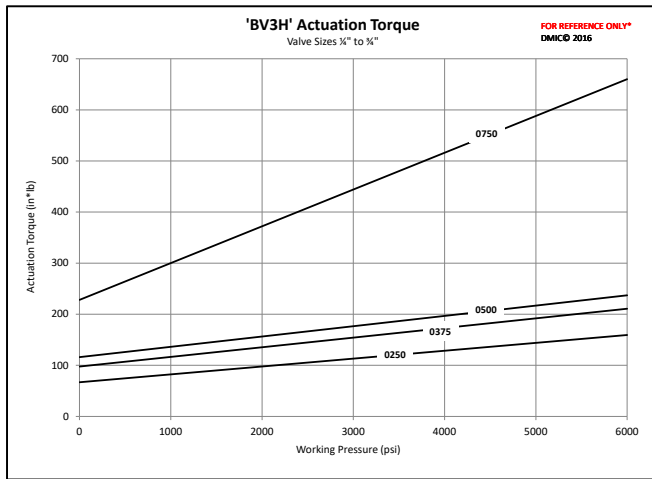
# BV3H & BV4H TRUE MULTI-WAY

## Flow Characteristic and Actuation Torque Curves



# BV3H & BV4H TRUE MULTI-WAY

## Flow Characteristic and Actuation Torque Curves





# BVMM MANIFOLD MOUNT

## 2-and 3-Way models

**3000/6000 PSI Working Pressure ~ Sizes from ¼" to 2"**

*Aluminum & Steel models dimensionally interchangeable ~ Near-zero leakage BVMMZ 3-way*



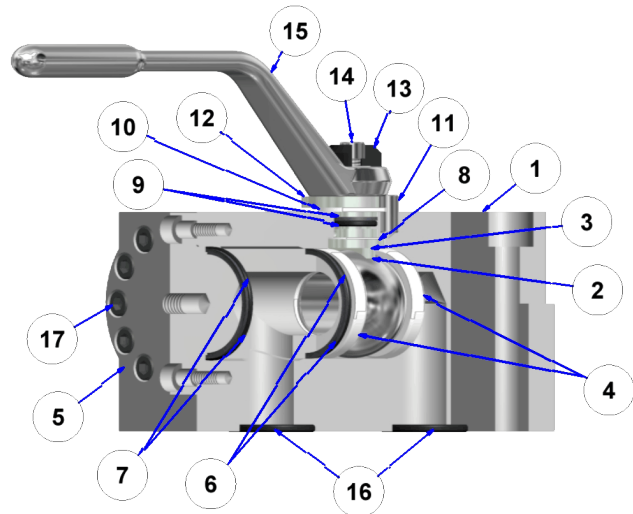
DMIC's re-engineered **BVMM** brings into the cost-competitive mainstream the possibility of surface mounting a High Pressure **2- or 3-Way** ball valve to your custom manifold, eliminating an external fluid connection and improving the integrity of your design. Choice of aluminum construction balances valve pressure characteristics with your selected manifold material. Exclusive and original DMIC design.

- Offered with "L-Bore" standard, "T" bore optional in 90° and 180° action
- **Made in our U.S. factory** for fast delivery in Steel (6000 PSI) and lightweight Aluminum model for 3000 PSI service
- **Single Bolt-On Plug Design** reduces pressure drop and valve cost
- **Near Zero leakage configurations, see notes on next page**

## Service Parts BOM

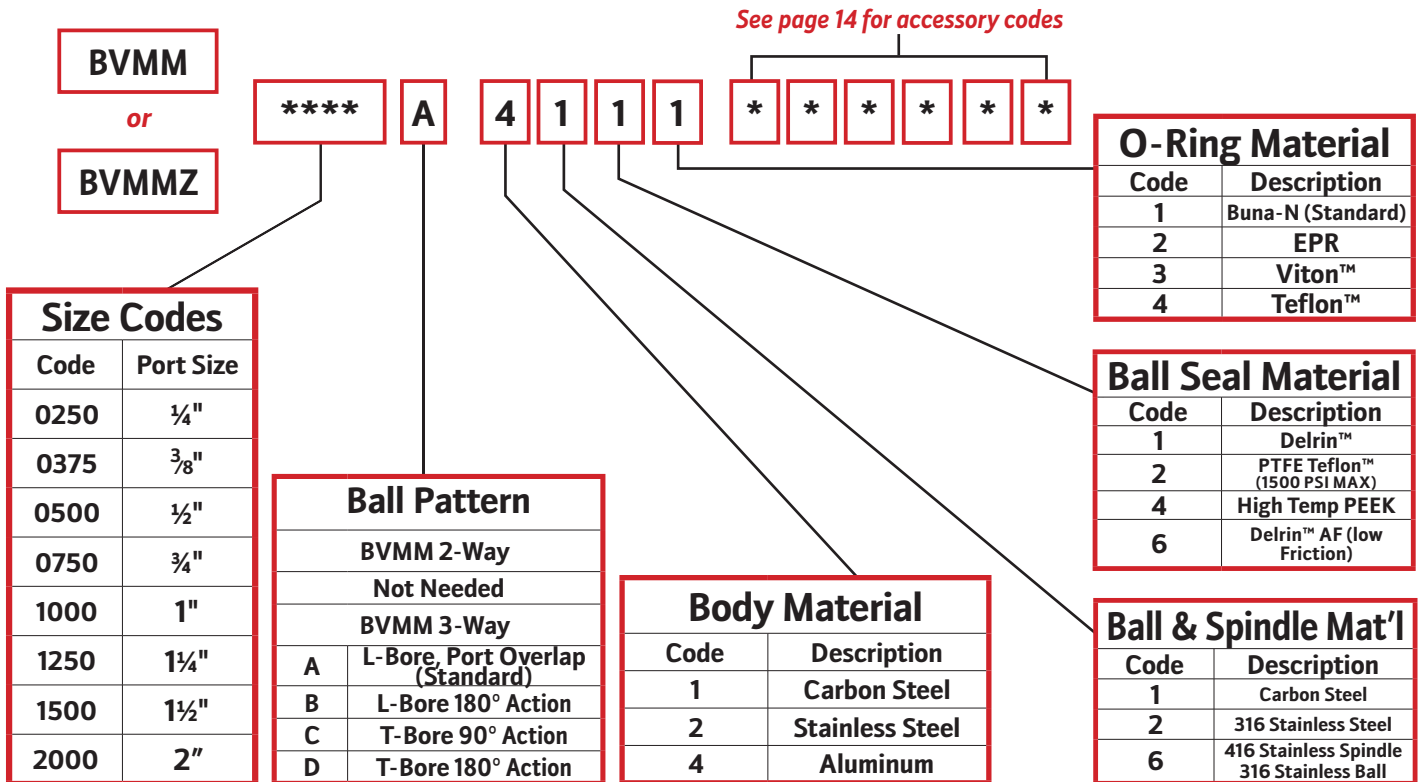
BVMM	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	2	Ball Seal
5	*	End Connection(s)
6	*	Inner End Connection O-Ring
7	*	Outer End Connection O-Ring
8	1	Internal Thrust Washer
9	1	Spindle O-Rings
10	1	External Glide Washer
11	1	Stop Pin
12	1	Stop Washer
13	1	Color Code Cap
14	1	Top Cap Screw
15	1	Handle
16	1	Face O-Rings

\* - Quantity depends on size and combination of body



# BVMM MANIFOLD MOUNT

## Ordering Codes Summary



**Note:** Changes from standard materials may result in changes to temperature and/or pressure rating. Also, carbon and stainless steel valves come standard with a steel crank handle; while an aluminum valve comes equipped with an aluminum crank handle.

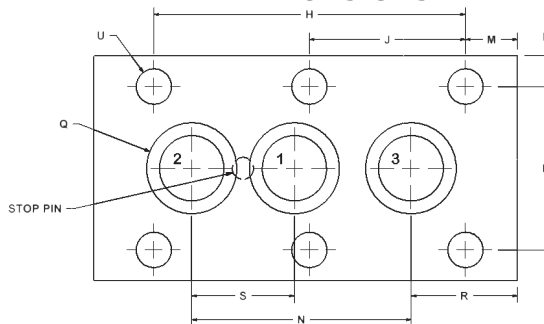
**Q: Can I use a Diverter Valve or do I need a True Multi-Way Valve?**

A: The "BVMMZ" version of our diverter valve can take the place of a true multi way valve in many circuits.

Specifically, the question you must ask your application is: "Will pressure ever be applied at port 2 or 3 when the valve is blocked?"

If YES, you must use a "real" 3-way valve, or the "BVMMZ" model. If NO, a Diverter such as "BVMM" is acceptable.

### Manifold Pad Dimensions



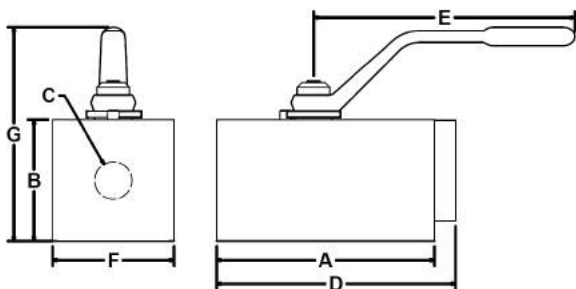
**Due to our policy of continual product improvement, the specifications in this catalog may change without notice. When designing by spec, please request a certified print.**



# BVMM MANIFOLD MOUNT

BVMM	Ball Valve Dimensions										
	Part Number	Port Size	Rated Pressure PSI	Valve Dimensions (in)							
Valve Length A				Body Height B	Internal Bore C	Overall Length D	Handle Length E	Valve Width F	Overall Height G	Bolt Dist A H	Bolt Dist B J
BVMM-0250-****	1/4"	6000	2.50	1.50	0.24	2.94	4.50	2.00	3.12	1.653	These models have only 4 bolt holes
BVMM-0250-4***		3000	2.50	1.50	0.24	2.94	5.09	2.00	3.51	1.653	
BVMM-0375-****	3/8"	6000	3.22	1.72	0.38	3.66	4.50	2.25	3.35	2.165	
BVMM-0375-4***		3000	3.22	1.72	0.38	3.66	5.09	2.25	3.74	2.165	
BVMM-0500-****	1/2"	6000	3.95	2.00	0.50	4.39	4.50	2.25	3.62	3.267	1.633
BVMM-0500-4***		3000	3.95	2.00	0.50	4.39	5.09	2.25	4.00	3.267	1.633
BVMM-0750-****	3/4"	6000	5.21	2.75	0.79	5.64	7.00	2.75	5.22	3.818	1.909
BVMM-0750-4***		3000	5.21	2.75	0.79	5.64	6.81	2.75	5.34	3.818	1.909
BVMM-1000-****	1"	6000	5.85	3.25	0.94	6.41	7.00	3.25	5.72	4.528	2.264
BVMM-1000-4***		3000	5.85	3.25	0.94	6.41	6.81	3.25	5.84	4.528	2.264
BVMM-1250-****	1 1/4"	6000	7.00	3.75	1.25	7.63	9.86	4.00	6.95	5.354	2.677
BVMM-1250-4***		3000	7.00	3.75	1.25	7.63	8.61	4.00	6.43	5.354	2.677
BVMM-1500-****	1 1/2"	6000	7.45	3.94	1.50	8.20	9.86	5.00	7.14	4.409	2.199
BVMM-1500-4***		3000	7.45	3.94	1.50	8.20	8.61	5.00	6.62	4.409	2.199
BVMM-2000-****	2"	6000	9.10	4.75	1.88	9.97	9.86	6.00	7.95	5.354	2.684
BVMM-2000-4***		3000	9.10	4.75	1.88	9.97	8.61	6.00	7.42	5.354	2.684

BVMM	Manifold Mounting Pad Dimensions									
	Part Number	Port Size	Mounting Pad Dimensions (in)							
Hole Spacing K			Bolt Hole from Opposite side of Stop Pin M	Port 2 to 3 Ctr N	Cntr of Bolt Hole to Body P	O-Ring Diam/Size Q	Opposite Side of Stop Pin to Port 3 R	Port 2 to 1 Center S	Bolt Hole & Max Bolt U	Counterbore Depth
Fits BVMM-0250****	1/4"	1.377	0.488	1.535	0.312	0.500 2-109	0.518	0.865	0.331 5/16", M8	0.35
Fits BVMM-0375****	3/8"	1.574	0.770	1.732	0.338	0.625 2-111	0.860	0.982	0.331 5/16", M8	0.35
Fits BVMM-0500****	1/2"	1.770	0.293	2.283	0.240	0.750 2-113	0.947	1.040	0.331 5/16", M8	0.35
Fits BVMM-0750****	3/4"	2.008	0.892	2.716	0.371	1.063 2-211	1.594	1.210	0.410 3/8", M10	0.41
Fits BVMM-1000****	1"	2.362	0.760	3.188	0.444	1.313 2-215	1.549	1.496	0.516 1/2", M12	0.52
Fits BVMM-1250****	1 1/4"	3.070	0.676	3.780	0.465	1.563 2-219	1.580	1.810	0.516 1/2", M12	0.52
Fits BVMM-1500****	1 1/2"	3.740	1.661	4.409	0.630	1.875 2-223	1.661	2.210	0.656 5/8", M16	0.64
Fits BVMM-2000****	2"	4.410	2.177	5.354	0.795	2.250 2-226	2.177	2.670	0.813 3/4", M20	0.80

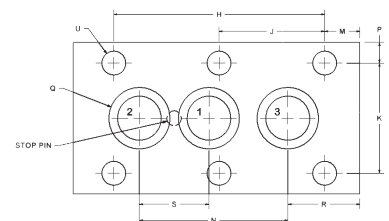


Note: Manifold pad dimensions are the same in 2 + 3 way model. On 2-way, port 1 is not there.

Note: Dimensions A & D may change based upon accessory code choice.

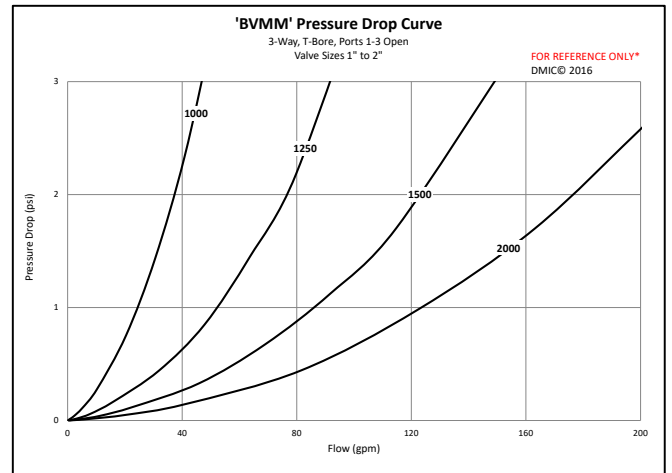
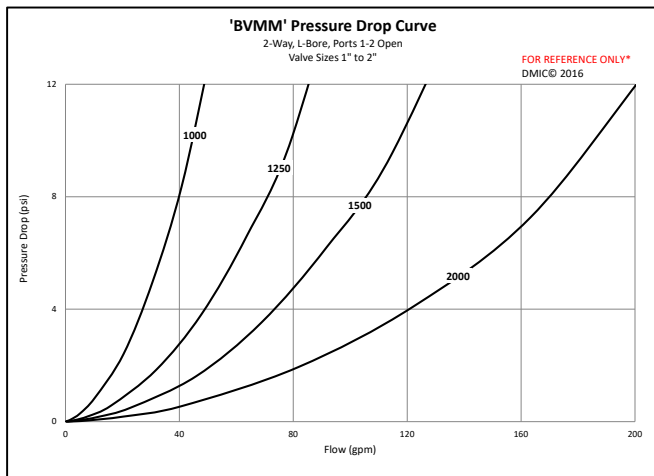
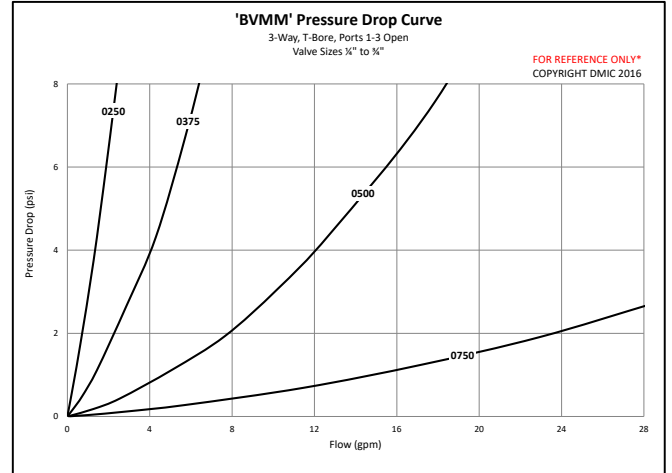
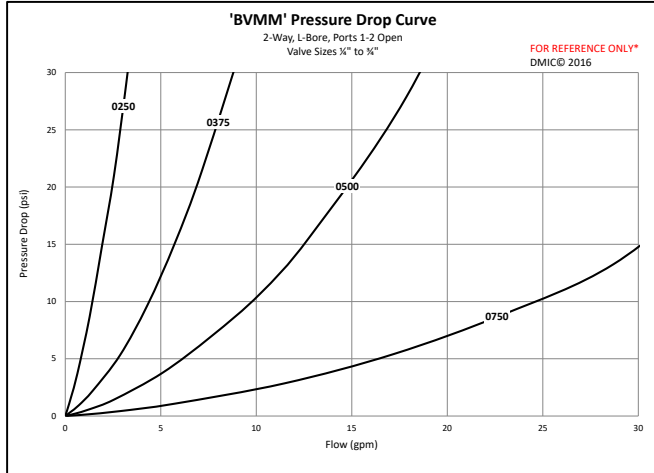
Note: the "PIN" location on the pad diagram. This is the stop pin on the valve top. DMIC ships valves with the handle pointing opposite of the pin.

## Manifold Pad Dimensions

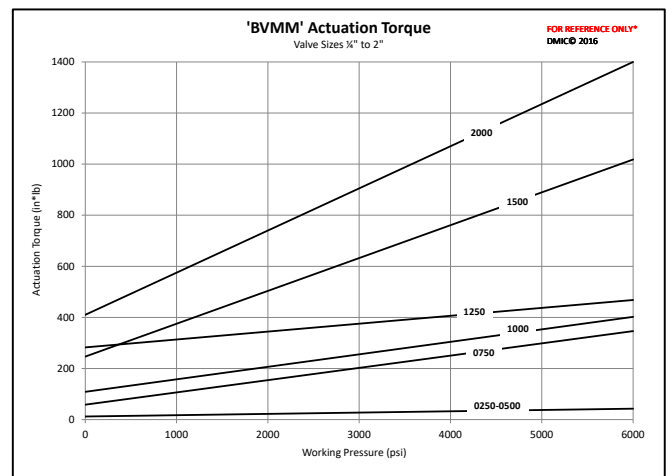
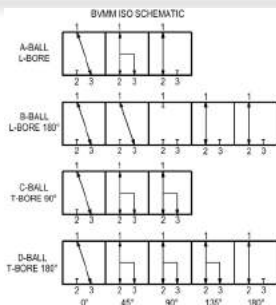


# BVMM MANIFOLD MOUNT

## Flow Characteristic and Actuation Torque Curves



## BVMM Ball Pattern Schematic



**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.**



# BVFF FIXED FLANGE LARGE BORE

## 3000/6000 PSI – DM-Flange, ANSI, DIN

*Uses non-SAE high strength flanges for high working pressures ~ Sizes from 2½" to 6"  
Standard with bolt-on DM-Flange, optional ANSI/DIN flange ~ Custom order to 12"+*

The BVFF family comprises aluminum, steel, and stainless steel versions, enabling DMIC to furnish large valves to any ANSI or DIN/ISO Flange standard. In return, this is a cost effective way of achieving the compatible connection, pressure rating, and sealing/material specification. Standard BVFF valves are equipped for either DMIC DM (3,000 PSI) or DH (6,000 PSI) flange connections. ANSI and DIN/ISO valves are pressure rated according to the class standard.

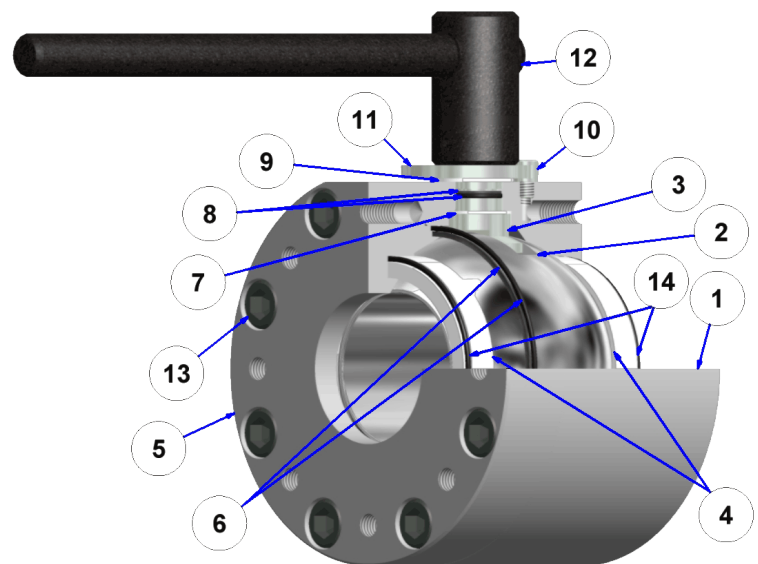


- **Superior Field Proven Design** features Large bore, durability, and fast spare parts available from our US factory
- Delrin™ Ball Seals and Buna-N elastomer seals standard. All DMIC sealing and valve material options available for wide fluid compatibility range.
- **Complete array of DMIC pre-engineered accessories** including lock kits, position sensing, and actuation compliment your project.
- These valves **cannot** be opened under pressure unless the pressure balance option is installed.

## Service Parts BOM

BVFF		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-Ring	
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	Handle	
13	*	End Connection Bolts	
14	2	Ball Seal O-Rings	

\* - Quantity depends on size and combination of body



# BVFF FIXED FLANGE LARGE BORE

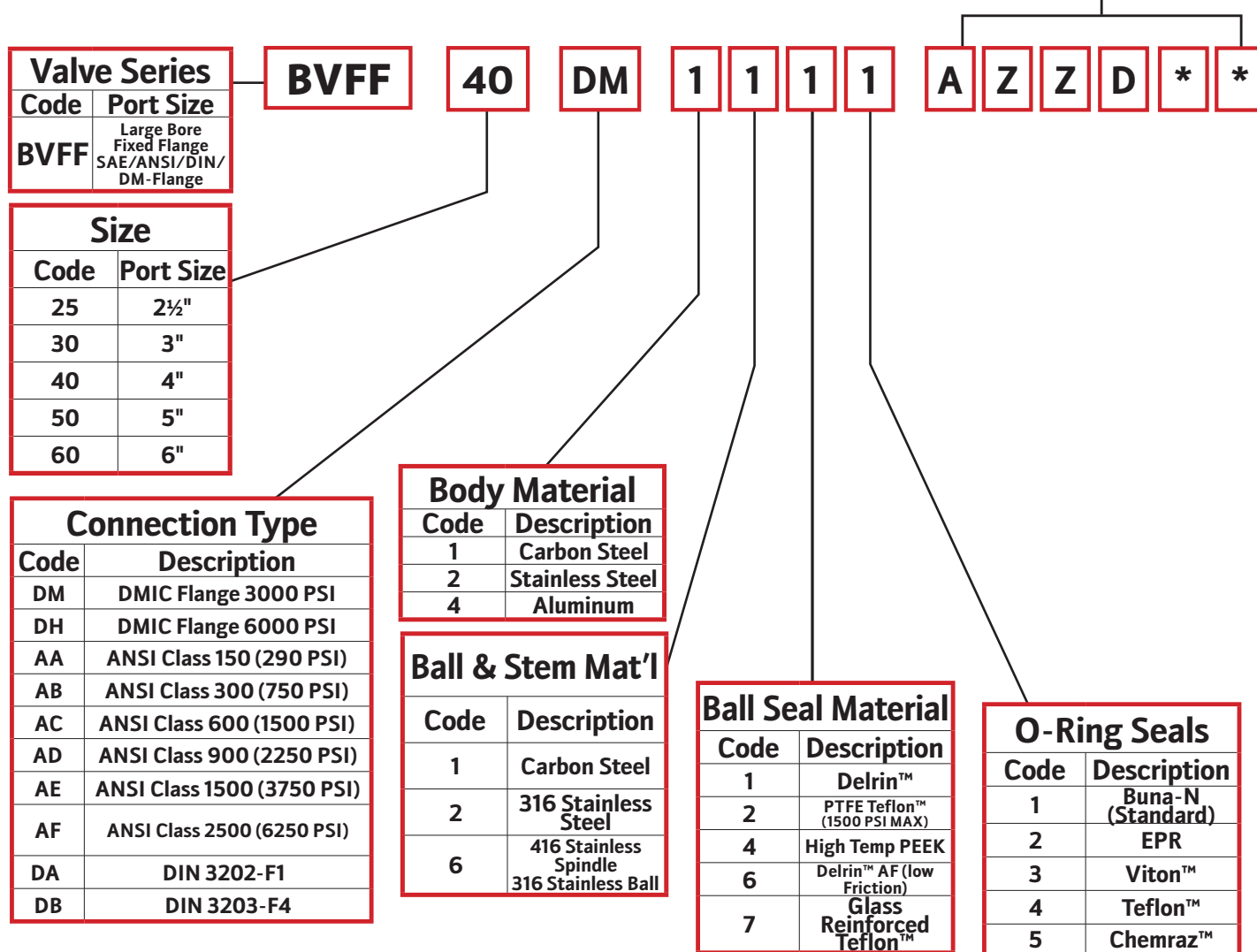
## Specifying ANSI or DIN Flanges

DMIC's **BVFF** Ball Valve family is ideal for systems specifying ANSI or DIN flanged connections. Because our designs span three target pressure ranges, there is always a cost effective valve for your requirement. DMIC's flexible ordering system allows any flange standard to be applied to any valve sufficiently pressure rated. *When specifying ANSI or DIN Flange models, please request the latest dimensional print.*

## Fixed Flange Valves larger than 6"

An emerging market for DMIC is the manufacture of very large valves for process, petrochemical, and pipeline installations. If your organization is open to possible substantial savings, consider partnering with DMIC on your next large scale project with sizes up to and beyond 18" made in our U.S. factory.

See page 14 for accessory codes



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

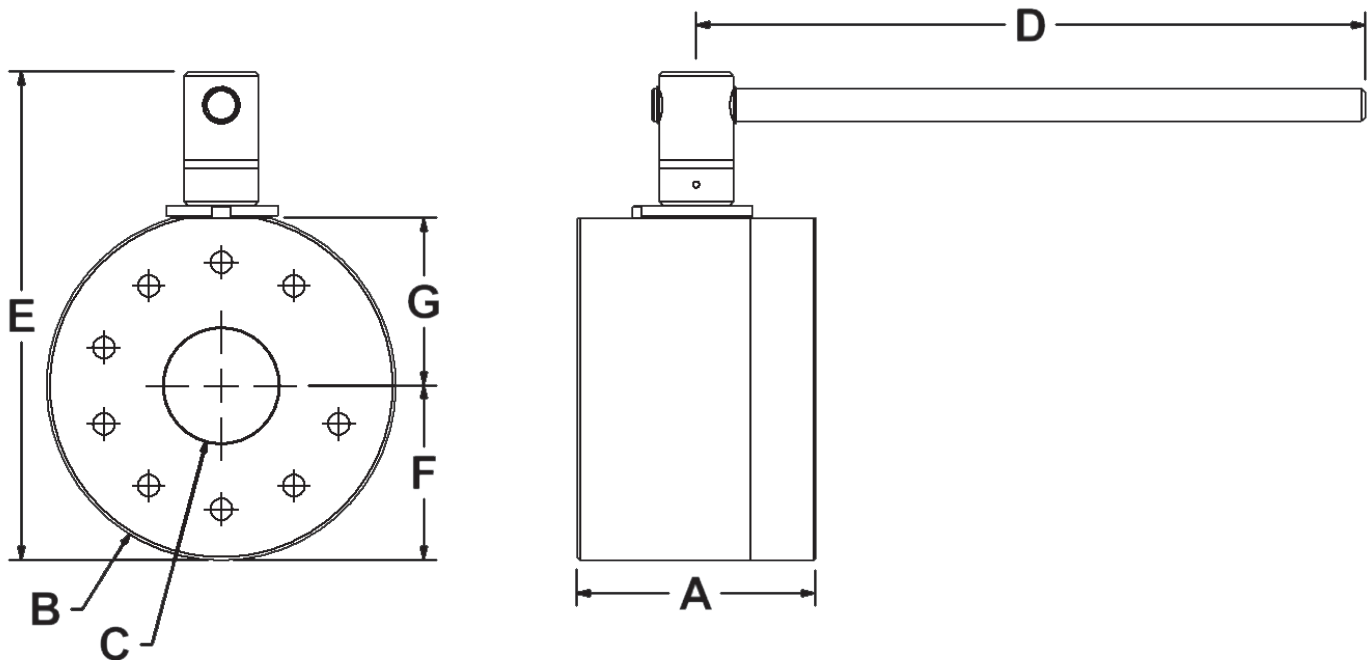
*Due to our policy of continual product improvement, the specifications in this catalog may change without notice. When designing by spec, please request a certified print.*



# BVFF FIXED FLANGE LARGE BORE

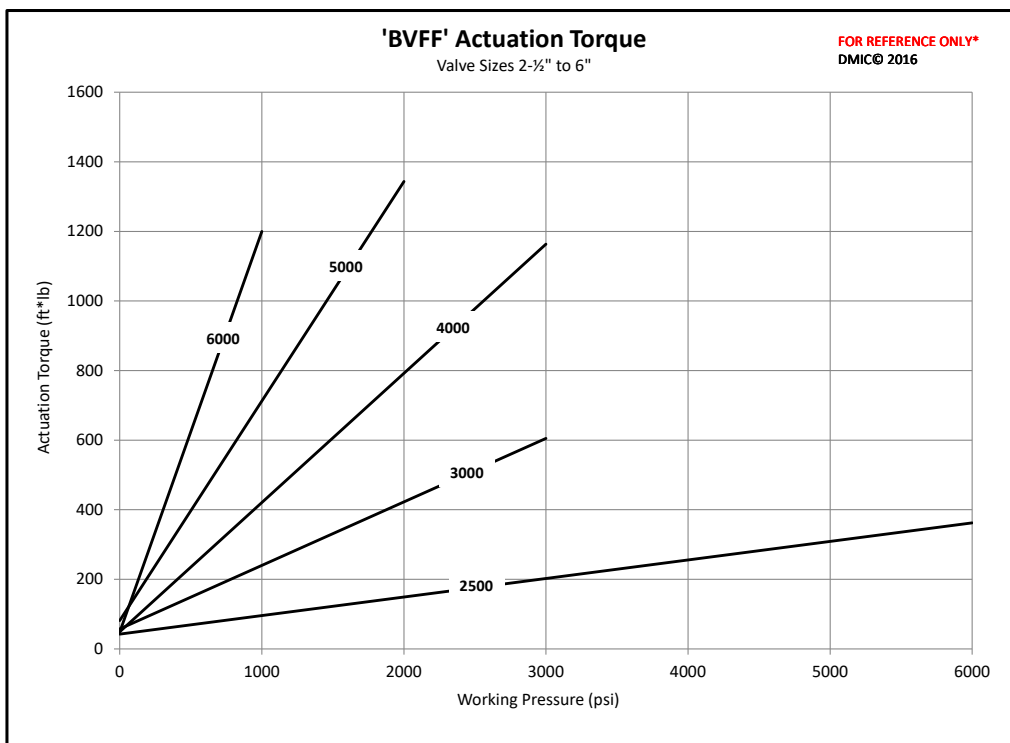
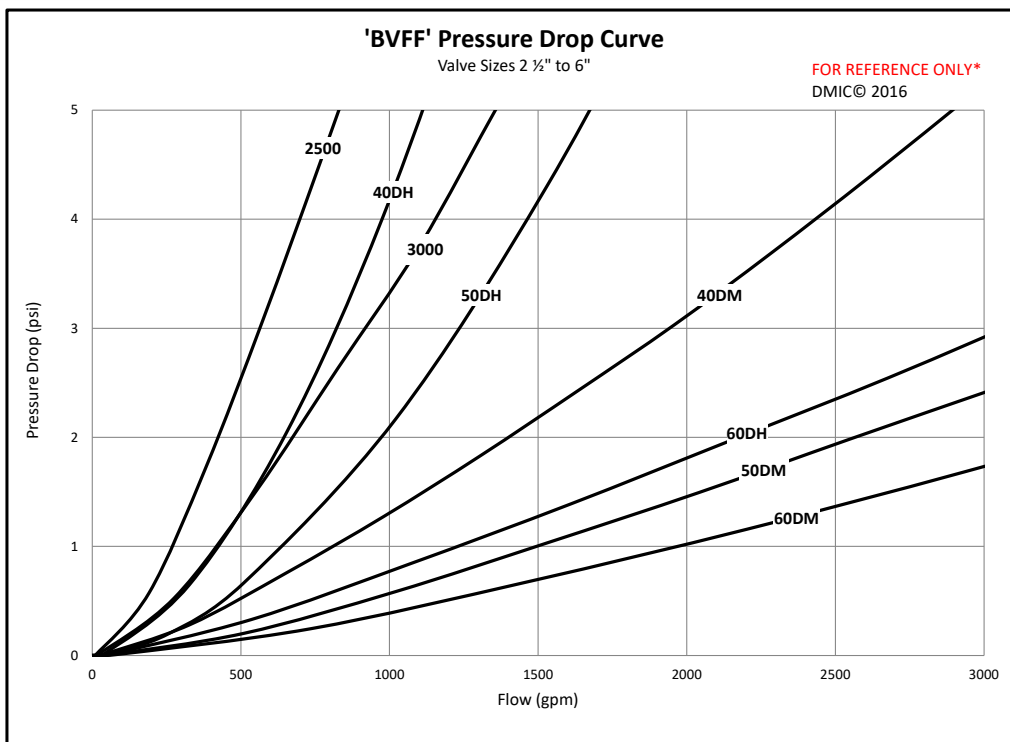
**\*\*NOTE:** Please replace \*\* in flange part number with W4=Sch. 40, W8=Sch. 80, WF=Sch. 160, WG=XXStrong for socket weld flanges. Butt Weld flanges are as follows: B4 = Sch. 40, B8 = Sch. 80, BF = Sch 160, BG = XXStrong.

BVFF	Port Size	Uses DMIC Flange	PSI Rating	Dimensions (inches)								
				A	ØB	ØC	D	E	F	G	H	J
				Overall Length	Valve Width	Valve Bore	Handle Length	Overall Height	PortCtr to Bot	PortCtr to Top	Mounting Bolt Circle Diameter	Mounting Holes
<b>BVFF Fixed Flange, Round Body, DM Flange, 3000 PSI Rated</b>												
BVFF-25DM	2½"	FDM-25**-11	3000 PSI	5.00	6.44	2.50	14.50	9.93	3.22	3.09	4.88	3/8" x 0.75 dp. Qty 8 per side
BVFF-30DM	3"	FDM-30**-11		5.89	7.44	3.00	14.50	10.90	3.72	3.55	6.00	½" x 1.13 dp. Qty 6 per side
BVFF-40DM	4"	FDM-40**-11		6.88	8.97	3.94	14.50	12.62	4.49	4.25	7.13	5/8" x 1.10 dp. Qty 8 per side
BVFF-50DM	5"	FDM-50**-11		9.00	10.88	5.00	20.00	15.58	5.44	5.75	8.25	¾" x 1.00 dp. Qty 8 per side
BVFF-60DM	6"	FDM-60**-11		10.62	12.94	5.88	20.00	17.00	6.47	6.53	10.63	7/8" x 1.60 dp. Qty 12 per side
<b>BVFF Fixed Flange, Round Body, DH Flange, 6000 PSI Rated</b>												
BVFF-25DH	2½"	FDH-25**-11	6000 PSI	5.00	7.44	2.50	14.50	10.75	3.72	3.40	5.53	5/8" x 1.10 dp. Qty 6 per side
BVFF-30DH	3"	FDH-30**-11		5.89	7.94	3.00	14.50	11.41	3.97	3.81	6.19	5/8" x 1.10 dp. Qty 8 per side
BVFF-40DH	4"	FDH-40**-11		7.13	10.44	3.44	14.50	14.11	5.22	5.00	7.38	¾" x 1.34 dp. Qty 9 per side
BVFF-50DH	5"	FDH-50**-11		10.25	12.94	4.31	20.00	16.97	6.47	6.50	9.38	7/8" x 1.75 dp. Qty 11 per side
BVFF-60DH	6"	FDH-60**-11		11.78	14.94	5.19	20.00	19.00	7.47	7.53	10.63	7/8" x 1.75 dp. Qty 11 per side



# BVFF FIXED FLANGE LARGE BORE

## Flow Characteristic and Actuation Torque Curves



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# BVDM DIRECT MOUNT BALL VALVE

## Round Body C.61/62/ANSI/DIN/DMIC

*Mounts between a pressure/inlet port and the connection flange for a low-profile, localized shutoff  
Models for 3000/6000 PSI ~ Sizes from ½" to 2 ½"*

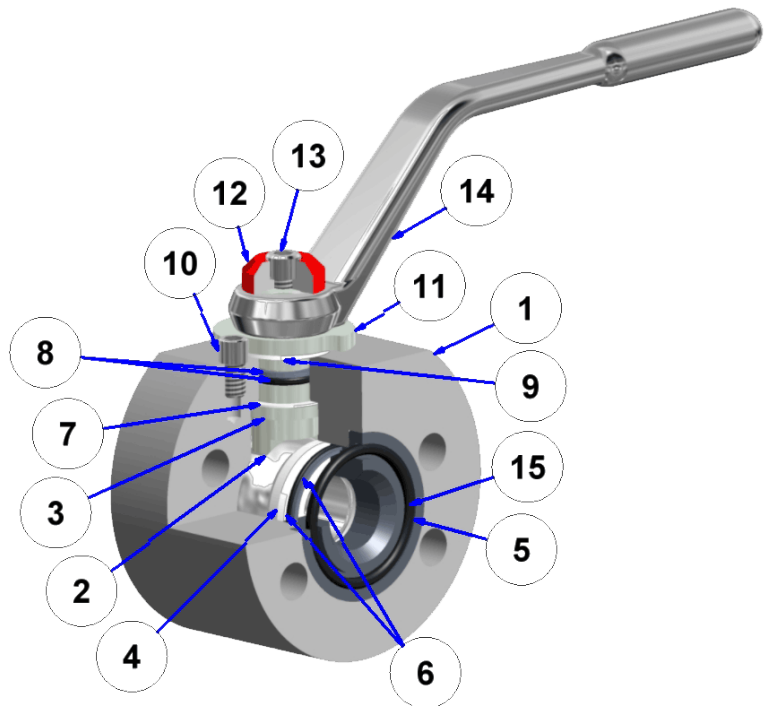


DMIC **BVDM** is the most compact and lowest cost choice when an SAE 4-Bolt or Split Flange Connection is desired. Optional stainless steel construction, wide array of sealing & options.

- **Exclusive DMIC Spindle-Glide Design** features low torque and the high duty cycle durability that differentiates DMIC from ordinary valves
- **Delrin™ Ball Seals** and Buna-N standard elastomer seals, with all DMIC sealing options available for wide fluid compatibility range
- **Reduced bore for 1" + up allows for compact, lightweight design;** all Stainless Steel construction optional, with Buyer's choice of sealing
- Available in aluminum, carbon and stainless steel construction

## Service Parts BOM

BVDM	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-Ring
7	1	Internal Thrust Washer
8	1	Spindle O-Ring
9	1	External Glide Washer
10	1	Stop Pin
11	1	Stop Washer
12	1	Color Code Cap
13	1	Top Cap Screw
14	1	Handle
15	1	Face O-Ring

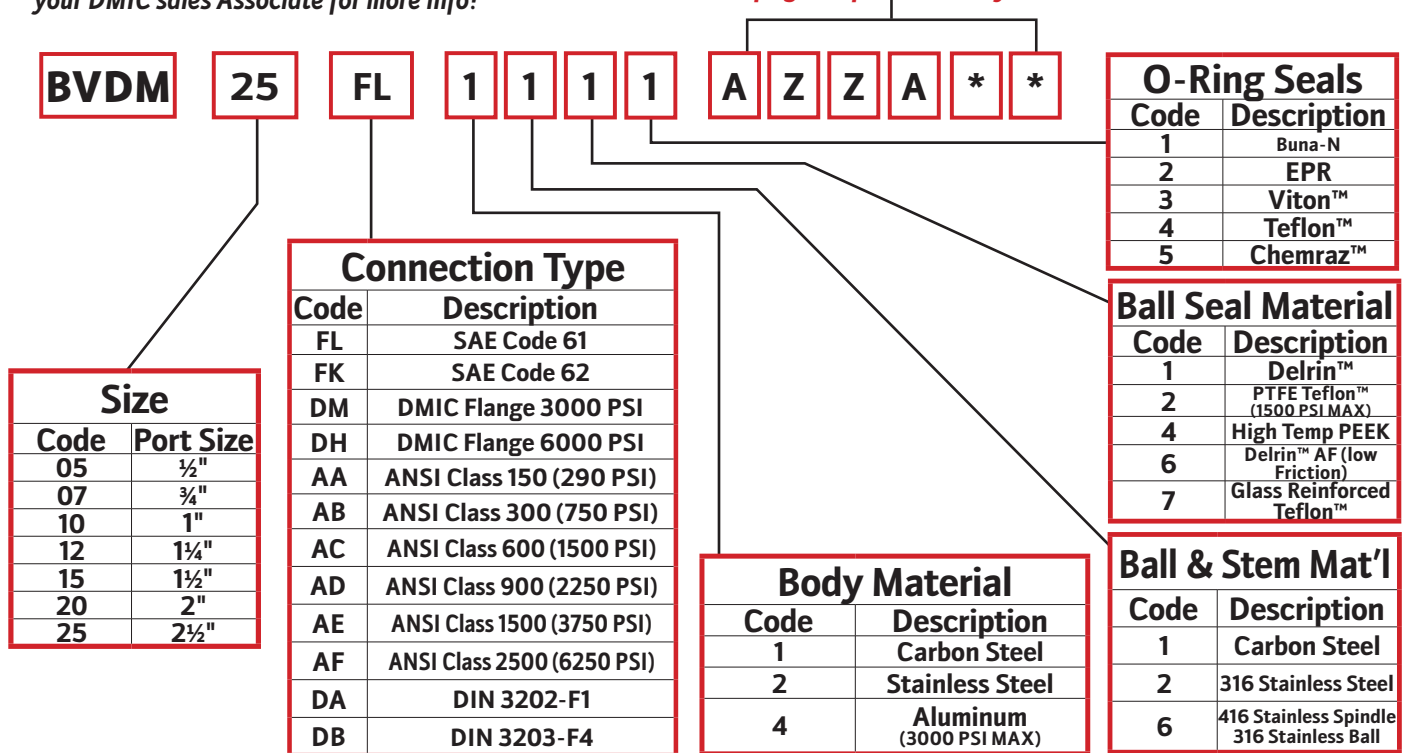


# BVDM DIRECT MOUNT BALL VALVE

## Ordering Codes Summary

*\*Please note: For valves larger than 2", large pressure differentials may make the valve difficult to open and the pressure balance may be required. Ask your DMIC sales Associate for more info!*

See page 14 for accessory codes



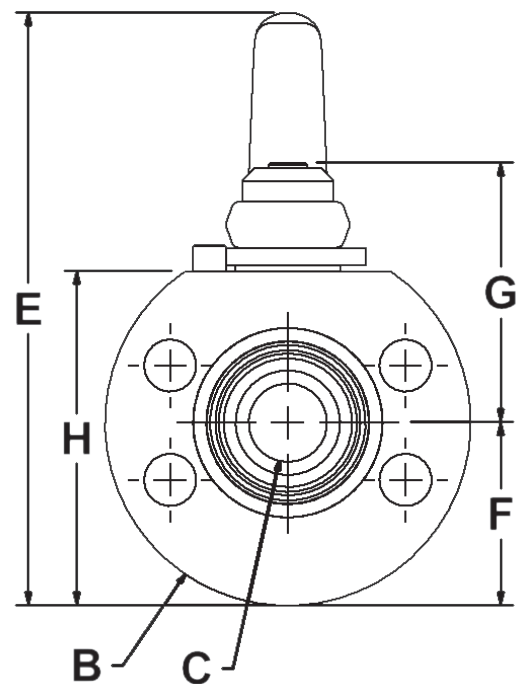
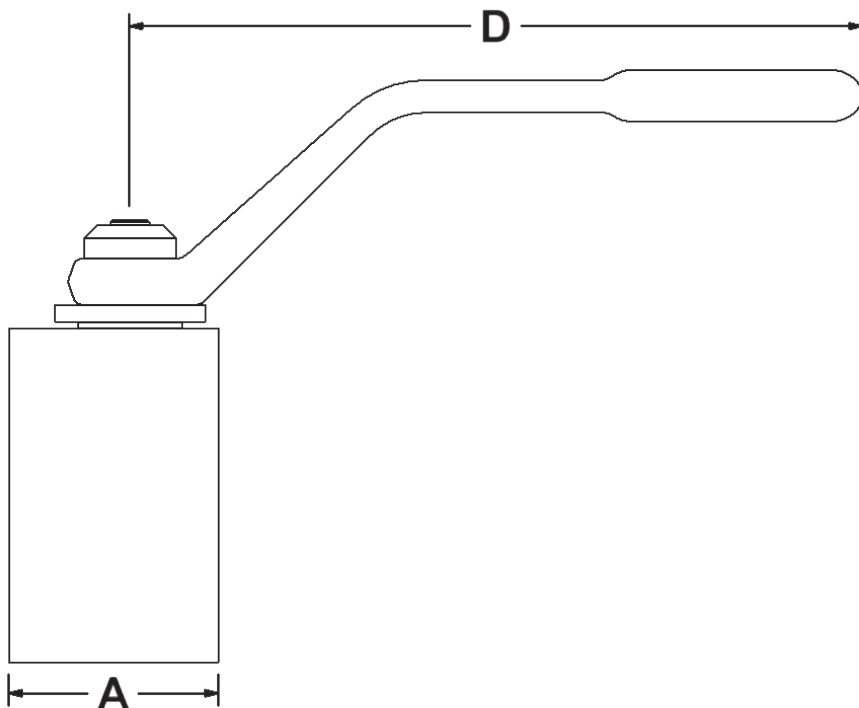
**Note:** Changes from Standard Materials may result in changes to temperature and/or pressure rating.

*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.*



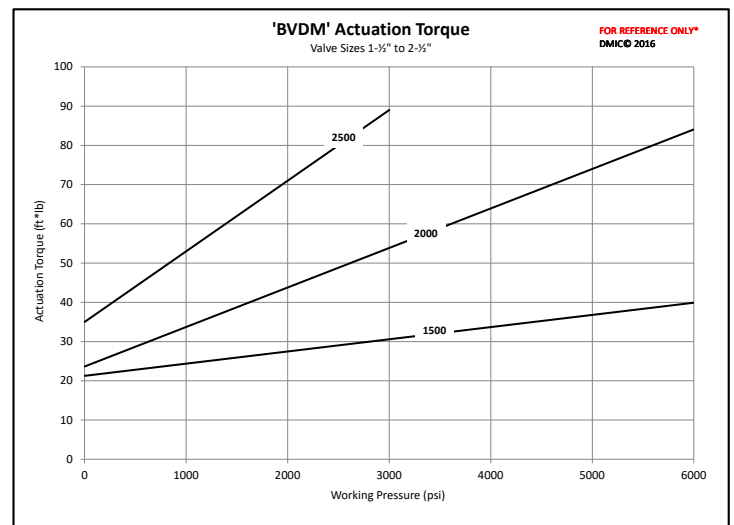
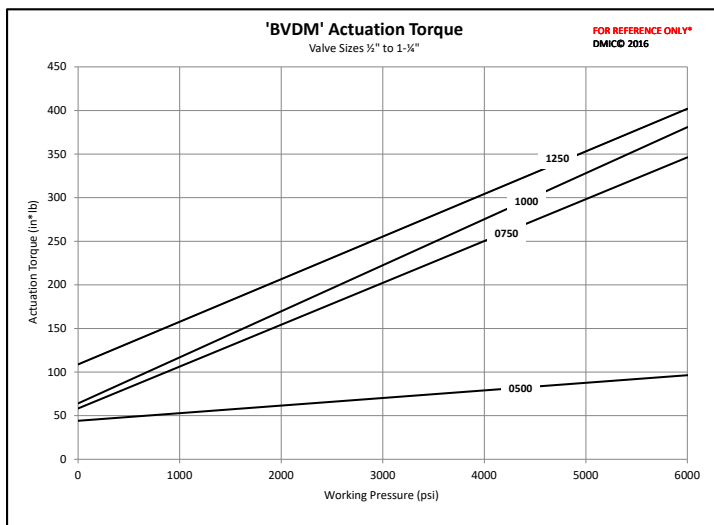
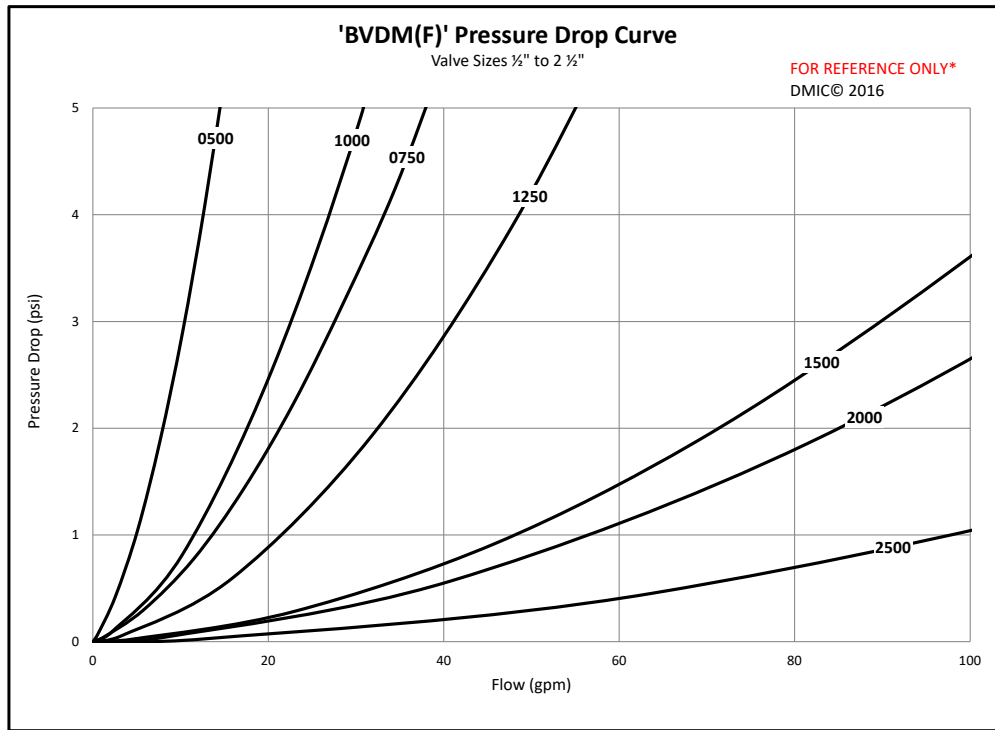
# BVDM DIRECT MOUNT BALL VALVE

BVDM	Port Size	PSI Rating	Dimensions (inches)								
			A	ØB	ØC	D	E	F	G	H	O-Ring
			Valve Length	Valve Width (Dia)	Valve Bore (Dia)	Handle Length	Overall Height	Port Ctr to Bottom	Port Ctr to Top	Valve Height	-
<b>BVDM - **FL Code 61 Direct Mount, Round Body</b>											
BVDM-05FL****	½"	5000 PSI	1.50	2.38	0.50	4.50	3.85	1.19	1.83	2.23	2-210
BVDM-07FL****	¾"		2.00	3.25	0.75	7.00	5.37	1.63	2.31	2.90	2-214
BVDM-10FL****	1"		2.00	3.25	0.75	7.00	5.37	1.63	2.31	2.90	2-219
BVDM-12FL****	1¼"	4000 PSI	2.25	3.75	0.94	7.00	5.97	1.88	2.66	3.50	2-222
BVDM-15FL****	1½"	3000 PSI	2.75	4.25	1.25	9.86	7.11	2.13	3.11	3.91	2-225
BVDM-20FL****	2"		3.50	4.50	1.50	9.86	7.41	2.25	3.29	4.22	2-228
BVDM-25FL****	2½"	2500 PSI	4.00	5.00	1.88	9.86	7.97	2.50	3.59	4.76	2-232
<b>BVDM - **FK Code 62 Direct Mount, Round Body, 6000 PSI</b>											
BVDM-05FK****	½"	6000 PSI	1.50	2.50	0.50	4.50	3.92	1.25	1.83	2.30	2-210
BVDM-07FK****	¾"		2.00	3.25	0.75	7.00	5.37	1.63	2.31	2.90	2-214
BVDM-10FK****	1"		2.00	3.50	0.75	7.00	5.67	1.75	2.48	3.20	2-219
BVDM-12FK****	1¼"		2.25	4.00	0.94	7.00	6.10	2.00	3.68	3.62	2-222
BVDM-15FK****	1½"		2.75	5.00	1.25	9.86	7.94	3.57	3.51	4.75	2-225
BVDM-20FK****	2"		3.50	5.50	1.50	9.86	8.23	2.75	3.61	5.04	2-228
BVDM-25FK****	2½"		CALL FACTORY								



# BVDM DIRECT MOUNT BALL VALVE

## Flow Characteristic and Actuation Torque Curves



**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.**



# BVDMF CAPTIVE DIRECT MOUNT BALL VALVE

## Round Body C.61/62/ANSI/DIN/DMIC

*Mounts between a pressure/inlet port and the connection flange for a low-profile, localized shutoff  
Models for 3000/6000 PSI ~ Sizes from ½" to 2 ½"*

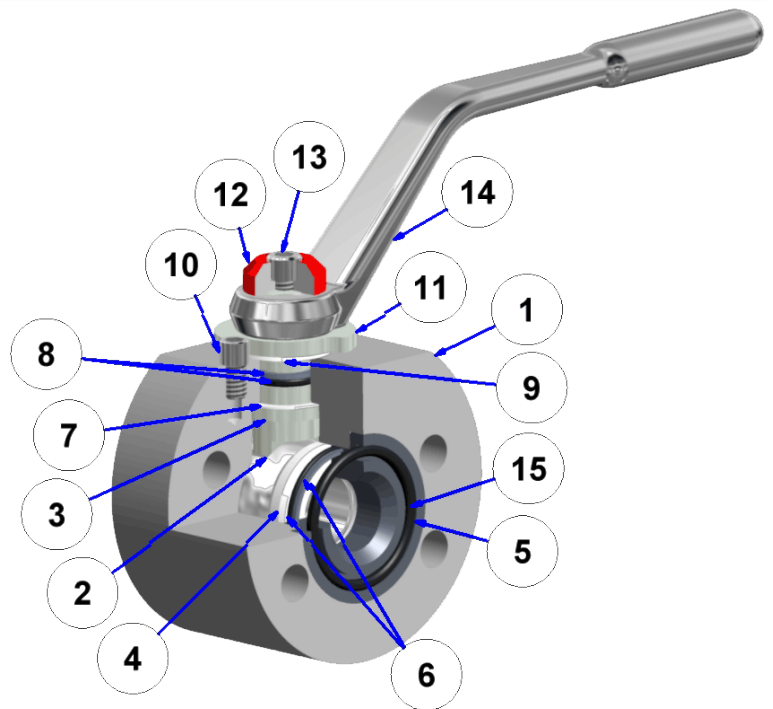
DMIC **BVDMF** is the most compact and lowest cost choice when an SAE 4-Bolt or Split Flange Connection is desired. Optional stainless steel construction, wide array of sealing & options.



- **Exclusive DMIC Spindle-Glide Design** features low torque and the high duty cycle durability that differentiates DMIC from ordinary valves
- **Delrin™ Ball Seals** and Buna-N standard elastomer seals, with all DMIC sealing options available for wide fluid compatibility range
- **Reduced bore for 1" + up allows for compact, lightweight design;** all Stainless Steel construction optional, with Buyer's choice of sealing
- Similar to BVDM but with a threaded C.61 or C.62 SAE 4-bolt Mounting Pad
- Available in aluminum, carbon and stainless steel construction

## Service Parts BOM

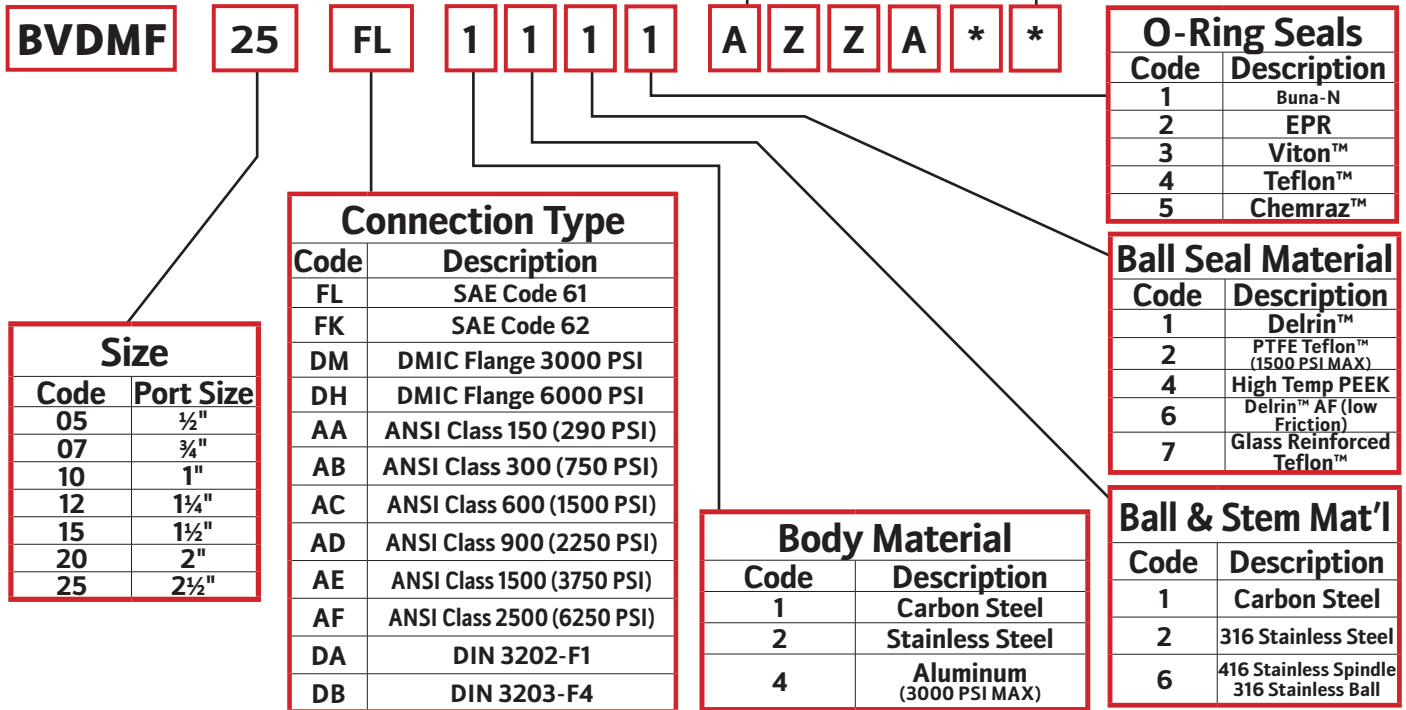
BVDMF	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	2	Ball Seal
5	1	End Connection
6	1	End Connection O-Ring
7	1	Internal Thrust Washer
8	1	Spindle O-Ring
9	1	External Glide Washer
10	1	Stop Pin
11	1	Stop Washer
12	1	Color Code Cap
13	1	Top Cap Screw
14	1	Handle
15	1	Face O-Ring



# BVDMF CAPTIVE DIRECT MOUNT BALL VALVE

## Ordering Codes Summary

See page 14 for accessory codes



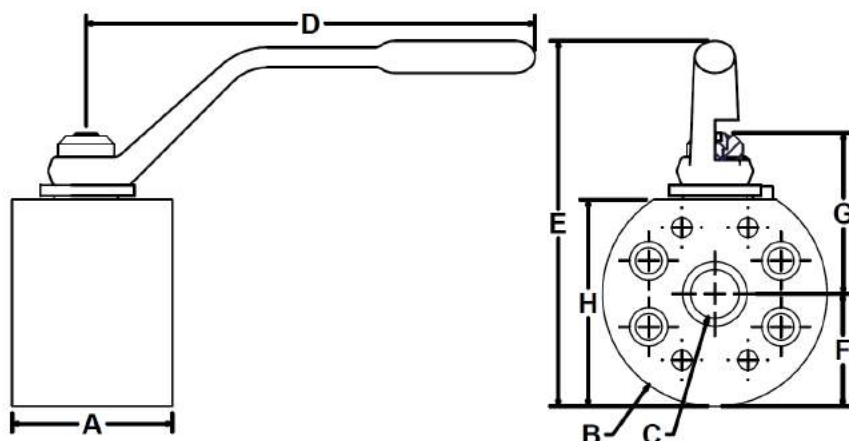
**Note:** Changes from Standard Materials may result in changes to temperature and/or pressure rating.

*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.*



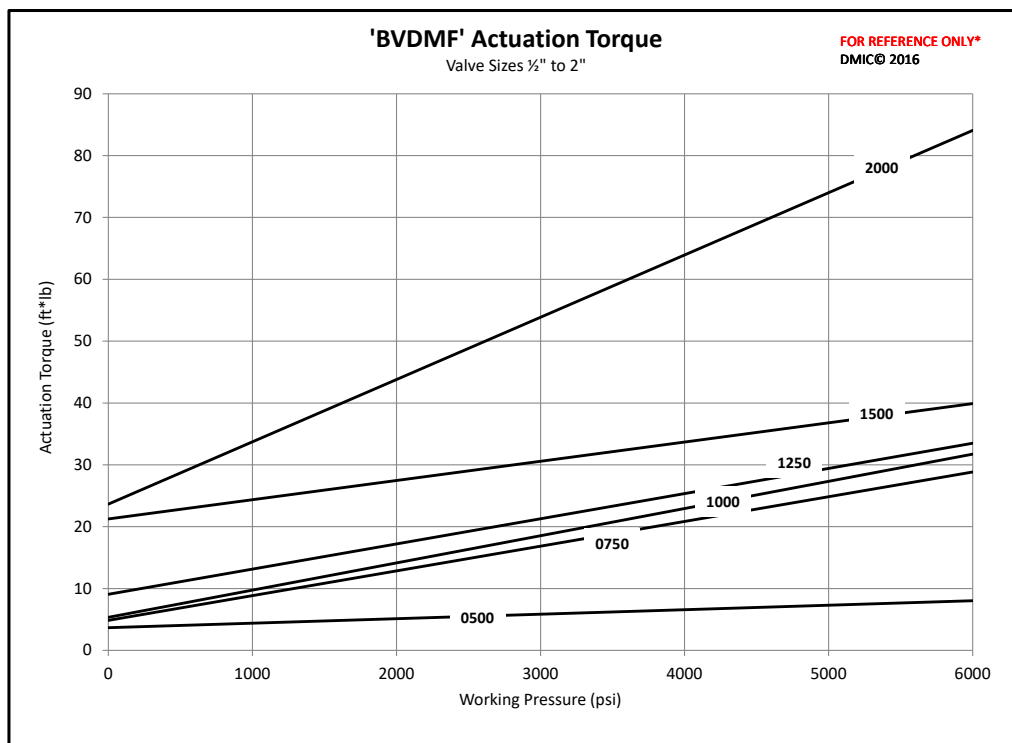
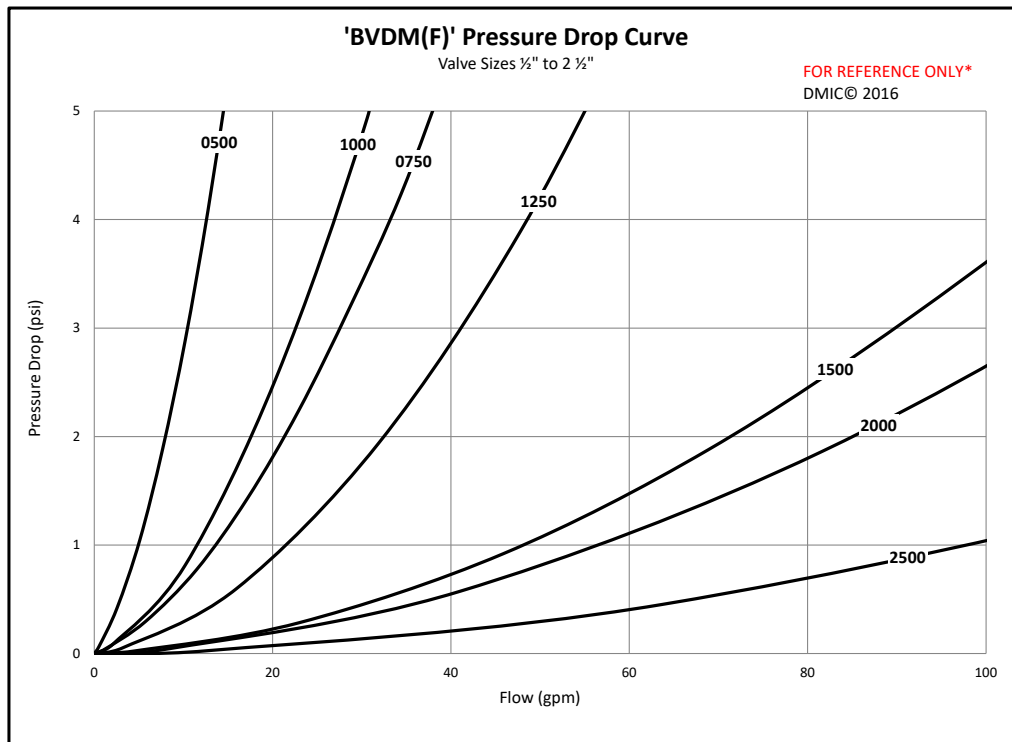
# BVDMF CAPTIVE DIRECT MOUNT BALL VALVE

BVDMF	Port Size	PSI Rating	Dimensions (inches)										
			A	ØB	ØC	D	E	F	G	H	J	Counterbore Depth	O-Ring
			Valve Length	Valve Width (Dia)	Valve Bore (Dia)	Handle Length	Overall Height	Port Ctr to Bottom	Port Ctr to Top	Valve Height	Bolt Size		
<b>BVDMF - **FL Code 61 Direct Mount, Round Body</b>													
BVDMF-05FL****	½"	5000 PSI	2.00	2.63	0.50	4.50	4.09	1.31	1.94	2.46	5/16"	0.33	2-210
BVDMF-07FL****	¾"		2.50	3.50	0.75	7.00	5.71	1.75	2.53	3.24	3/8"	0.39	2-214
BVDMF-10FL****	1"		2.50	3.50	0.75	7.00	5.70	1.75	2.50	3.22	3/8"	0.41	2-219
BVDMF-12FL****	1¼"	4000 PSI	3.00	4.00	0.94	7.00	6.09	2.00	2.66	3.62	7/16"	0.45	2-222
BVDMF-15FL****	1½"	3000 PSI	3.25	4.50	1.25	9.86	7.42	2.25	3.30	4.23	½"	0.53	2-225
BVDMF-20FL****	2"		3.50	5.00	1.50	9.86	7.98	2.50	3.61	4.79	½"	0.53	2-228
BVDMF-25FL****	2½"	2500 PSI	CALL FACTORY										
<b>BVDMF - **FK Code 62 Direct Mount, Round Body, 6000 PSI</b>													
BVDMF-05FK****	½"	6000 PSI	2.00	2.75	0.50	4.50	4.15	1.38	1.94	2.53	5/16"	0.33	2-210
BVDMF-07FK****	¾"		2.50	3.50	0.75	7.00	5.71	1.75	2.52	3.24	3/8"	0.39	2-214
BVDMF-10FK****	1"		2.50	3.75	0.75	7.00	5.96	1.88	2.66	3.49	7/16"	0.45	2-219
BVDMF-12FK****	1¼"		3.00	4.50	0.94	7.00	6.64	2.25	2.95	4.16	½"	0.52	2-222
BVDMF-15FK****	1½"		3.25	4.50	1.25	9.86	7.94	2.50	3.57	4.75	5/8"	0.66	2-225
BVDMF-20FK****	2"		4.25	6.00	1.50	9.86	8.86	3.00	3.99	5.67	¾"	0.78	2-228
BVDMF-25FK****	2½"		CALL FACTORY										



# BVDMF CAPTIVE DIRECT MOUNT BALL VALVE

## Flow Characteristic and Actuation Torque Curves



**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.**





# BVSS DUAL PATTERN SAE 4-BOLT BV, C.61 & 62

Replaces expensive and long-delivery foreign valves  
6000 PSI ~ Sizes from ½" to 2"



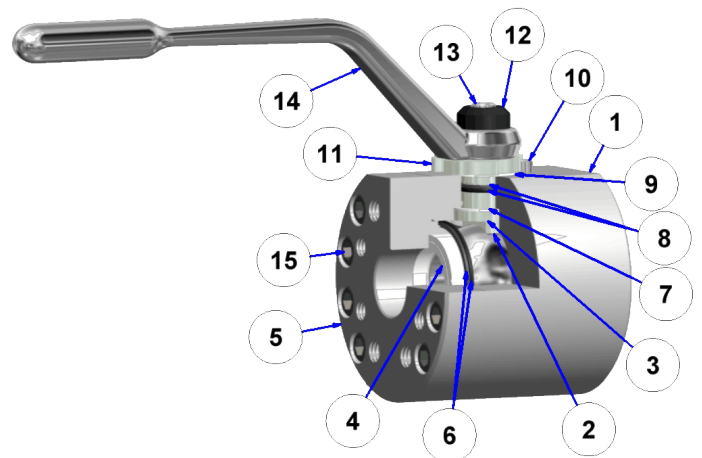
DMIC **BVSS** economically covers all the bases in SAE 4-Bolt C.61 & 62 Flange connections. This is the valve to stock if you can only keep one model, and it can bridge dissimilar flange standards.

- **Spindle-Glide Design** features low torque, high duty cycle durability
- **Delrin™ Ball Seals** and Buna-N standard elastomer seals, with all DMIC sealing options available for wide fluid and temperature compatibility range
- **Unrestricted bore ball** reduces pressure drop
- **Available in Stainless Steel - Fast Delivery**

## Service Parts BOM

BVSS	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	Top Cap Screw
14	1	Handle
15	*	End Connection Bolts

\* - Quantity depends on size and combination of body



# BVSS DUAL PATTERN SAE 4-BOLT BV, C.61 & 62

See page 14 for  
accessory codes

Valve Series	
Code	Port Size
BVSS	SAE Dual C.61/62

**BVSS**

**20**

**FK**

**1**

**1**

**1**

**1**

**A**

**Z**

**Z**

**A**

**\***

**\***

Size	
Code	Port Size
05	½"
07	¾"
10	1"
12	1¼"
15	1½"
20	2"

Connection Type	
Code	Description
FK	Dual SAE C.61/62 (Standard on BVSS)

Body Material	
Code	Description
1	Carbon Steel
2	Stainless Steel

Ball & Spindle Mat'l	
Code	Description
1	Carbon Steel
2	Stainless Steel
6	416 Stainless Spindle 316 Stainless Ball

Ball Seal Material	
Code	Description
1	Delrin™
2	PTFE Teflon™ (1500 PSI MAX)
4	High Temp PEEK
6	Delrin™ AF (low Friction)
7	Glass Reinforced Teflon™

O-Ring Seals	
Code	Description
1	Buna-N
2	EPR
3	Viton™
4	Teflon™
5	Chemraz™

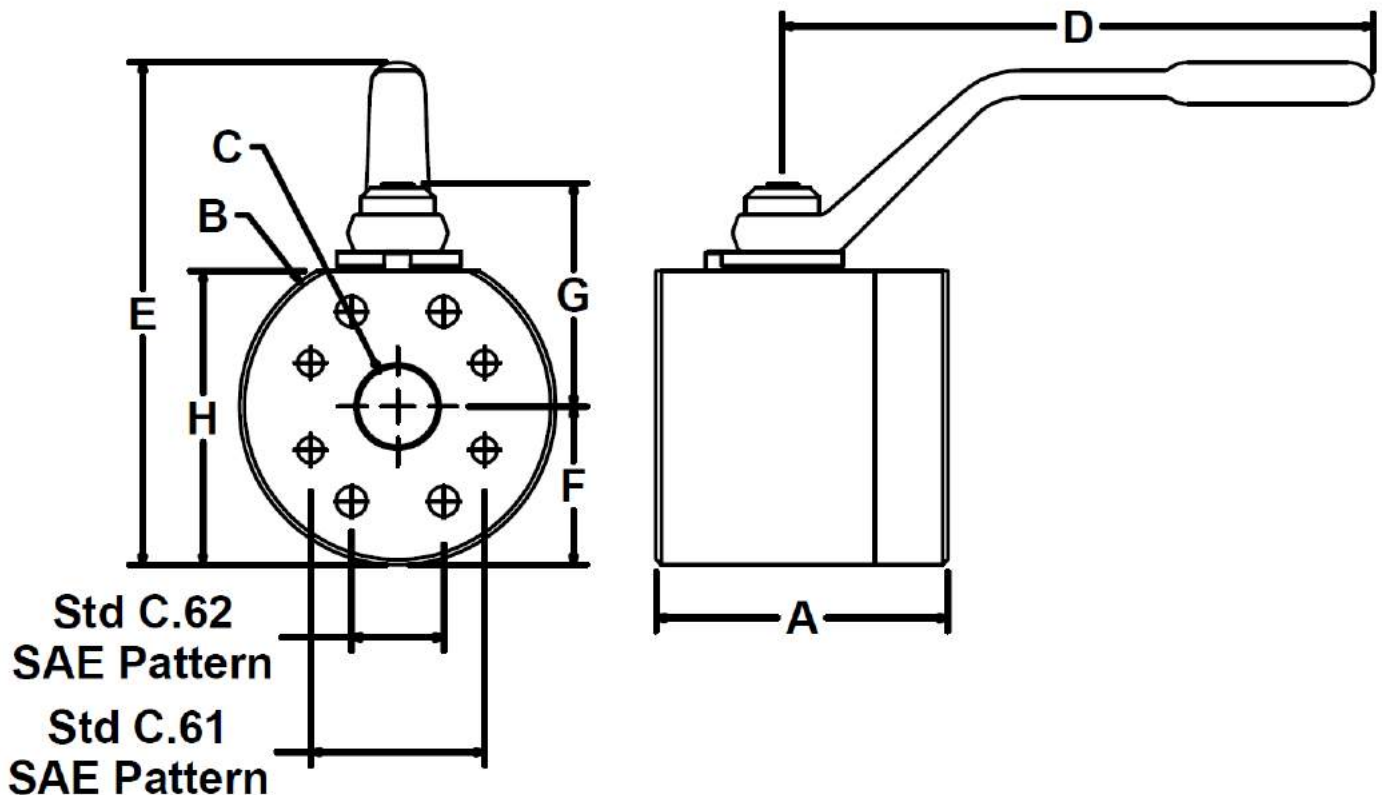
**Note:** Changes from Standard Materials may result in changes to temperature and/or pressure rating.

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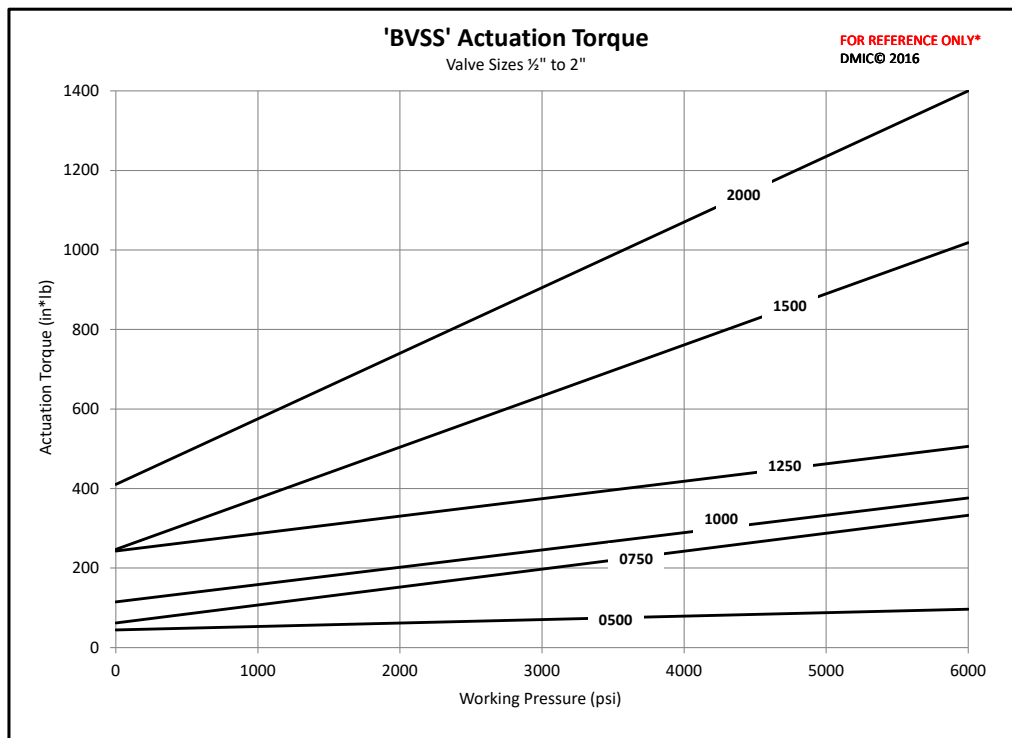
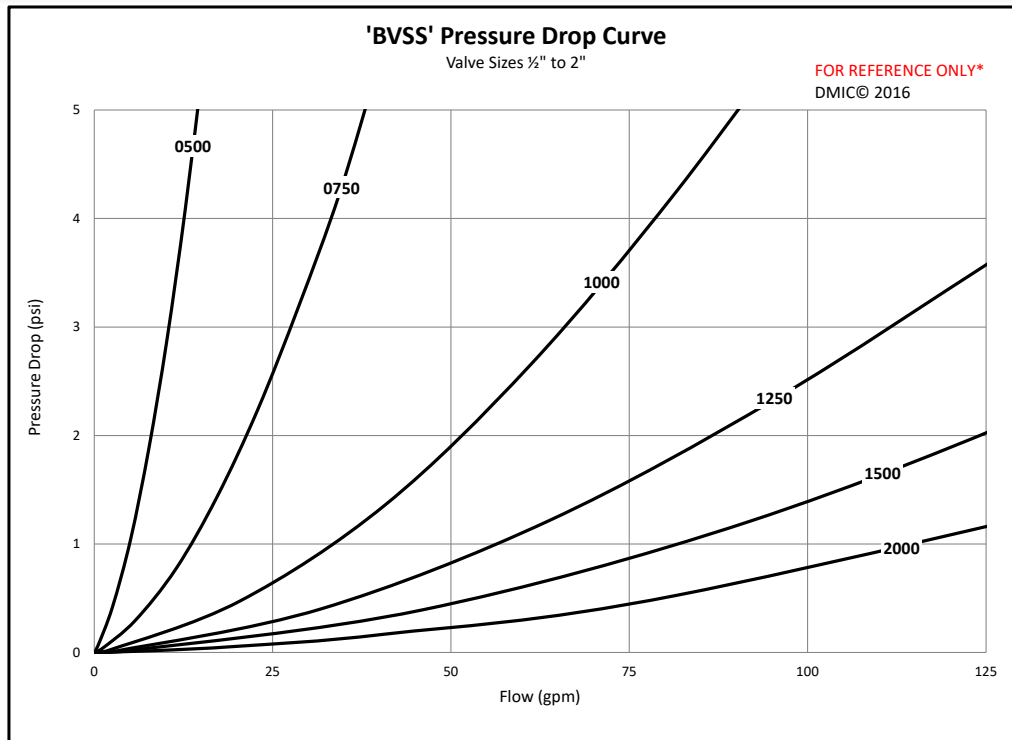
# BVSS DUAL PATTERN SAE 4-BOLT BV, C.61 & 62

BVSS	Dimensions (inches)										
	Port Size	PSI Rating C.61	PSI Rating C.62	A Valve Length	B Valve Width	ØC Valve Bore	D Handle Length	E Overall Height	F Bot to PortCtr	G PortCtr to Top	H Valve Height
BVSS-05FK****	½"	5000	6000	2.30	2.75	0.50	4.50	4.15	1.38	1.94	2.53
BVSS-07FK****	¾"			3.15	3.50	0.75	7.00	5.73	1.75	2.55	3.26
BVSS-10FK****	1"			3.46	3.75	0.94	7.00	5.96	1.88	2.65	3.48
BVSS-12FK****	1¼"	4000		3.94	4.44	1.25	9.86	7.38	2.22	3.29	4.18
BVSS-15FK****	1½"			4.48	5.00	1.50	9.86	7.96	2.50	3.59	4.77
BVSS-20FK****	2"	3000		4.57	6.00	1.88	9.86	8.79	3.00	3.92	5.60



# BVSS DUAL PATTERN SAE 4-BOLT BV, C.61 & 62

## Flow Characteristic and Actuation Torque Curves



**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.**



# SV2C & SV3C

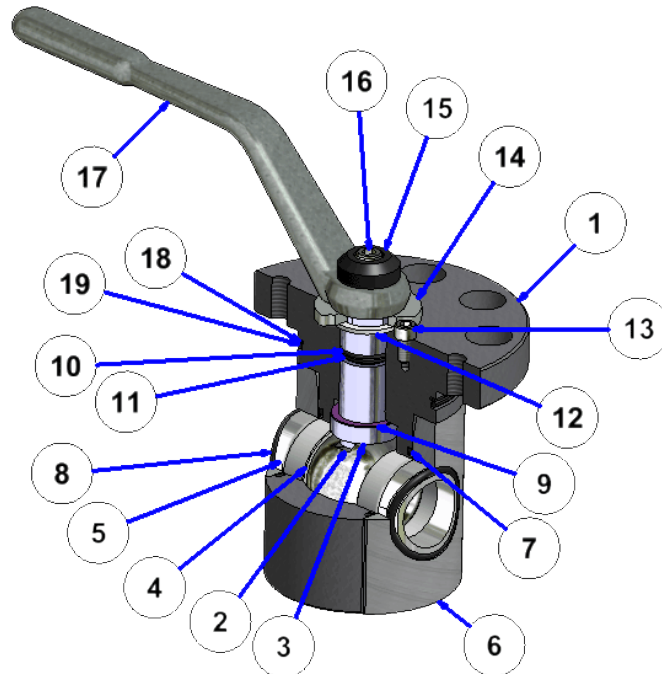
## 2-Way and 3-Way Intramanifold Valves



- Install this DMIC high quality valve directly into your existing or production manifold using an easy-to-machine blind hole cavity.
- DMIC's ingenious design is easy to install, eliminating the possibility of cutting o-rings on cross holes.
- Completely compatible with DMIC's full range of accessories.
- Available in sizes ranging from ½" through 2" with pressure ratings up to 6000 PSI
- Construction available in carbon or stainless steel with full line of seal and elastomer materials.
- Larger sizes available upon request.

**Standard size range of ½" through 2", with larger custom sizes available!**

SVxC	SERVICE PARTS BOM	
Index	Qty	Description
1	1	Valve Body
2	1	Ball
3	1	Spindle
4	2	Inner Ball Seal
5	2	Outer Ball Seal
6	2	Outer Bushing
7	2	Inner Bushing O-Ring
8	2	Outer Bushing O-Ring
9	1	Internal Thrust Washer
10	1	Spindle Backup Ring
11	1	Spindle O-Ring
12	1	External Glide Washer
13	1	Stop Pin
14	1	Stop Washer
15	1	Color Coded Cap
16	1	Top Cap Screw
17	1	Handle
18	1	Body Back-Up Ring
19	1	Body O-Ring



**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.**



# Intramanifold Valve Order Codes

See page 14 for accessory codes

**SV2C**

or

**SV3C**

Size Codes	
Code	Port Size
0500	½"
0750	¾"
1000	1"
1250	1¼"
1500	1½"
2000	2"

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

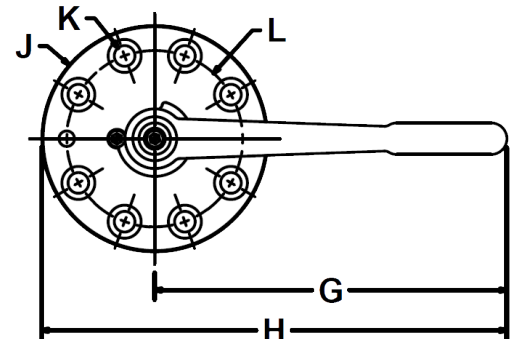
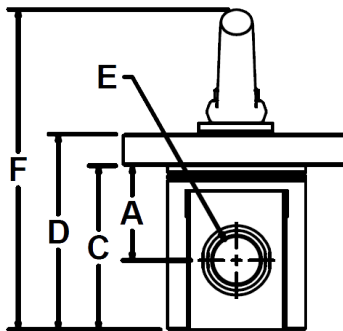
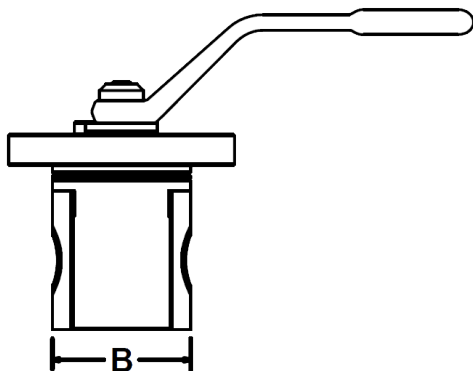
Ball Pattern	
	SV2C
	Not Needed
	SV3C
A	90° L-Bore Diverter, Port Overlap
B	L - No Overlap -Bore 180° Action

Body Material	
Code	Description
1	Carbon Steel
2	316 Stainless Steel

O-Ring Material	
Code	Description
1	Buna-N
2	EPR
3	Viton™
4	Teflon™
5	Chemraz™
6	Kalrez
7	Buna-3716 (Low Temp)

Ball Seal Material	
Code	Description
1	Delrin™
2	PTFE Teflon™ (1500 PSI MAX)
4	High Temp Peek
6	Delrin™ AF (Low Friction)
7	Glass Reinforced Teflon™

Ball & Spindle Mat'l	
Code	Description
1	Carbon Steel
2	316 Stainless Steel
6	416 Spindle 316 Ball



SV*C	Port Size	PSI Rating	Dimensions (inches)											
			A	B	C	D	E	E	F	G	H	J	K	L
			Port to Locating Shoulder	Insert Diameter	Insert Length	Cage Height	Thru Port SV2C	Thru Port SV3C	Overall Height	Handle	Overall Length	Shoulder Diameter	Hole Size	Bolt Circle
SV*C-0500****	½"	6000 PSI	1.38	2.00	2.38	3.00	0.38	0.44	4.62	4.50	6.25	3.50	0.41	2.750
SV*C-0750****	¾"		1.79	2.50	3.04	3.66	0.75	0.69	6.14	7.00	9.00	4.00	0.41	3.125
SV*C-1000****	1"		1.88	2.75	3.25	3.88	0.94	0.88	6.35	7.00	9.25	4.50	0.41	3.500
SV*C-1250****	1¼"		2.00	3.25	3.50	4.38	1.25	1.13	7.57	9.86	12.36	5.00	0.53	4.125
SV*C-1500****	1½"		2.68	4.50	4.88	6.00	1.50	1.50	9.19	9.86	13.36	7.00	0.66	5.500
SV*C-2000****	2"		2.92	5.75	5.04	6.40	2.00	1.75	9.59	9.86	14.11	8.50	0.78	7.000

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

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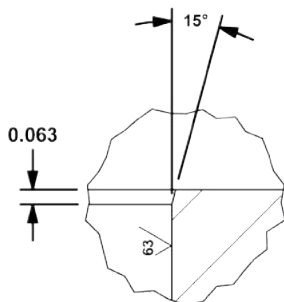
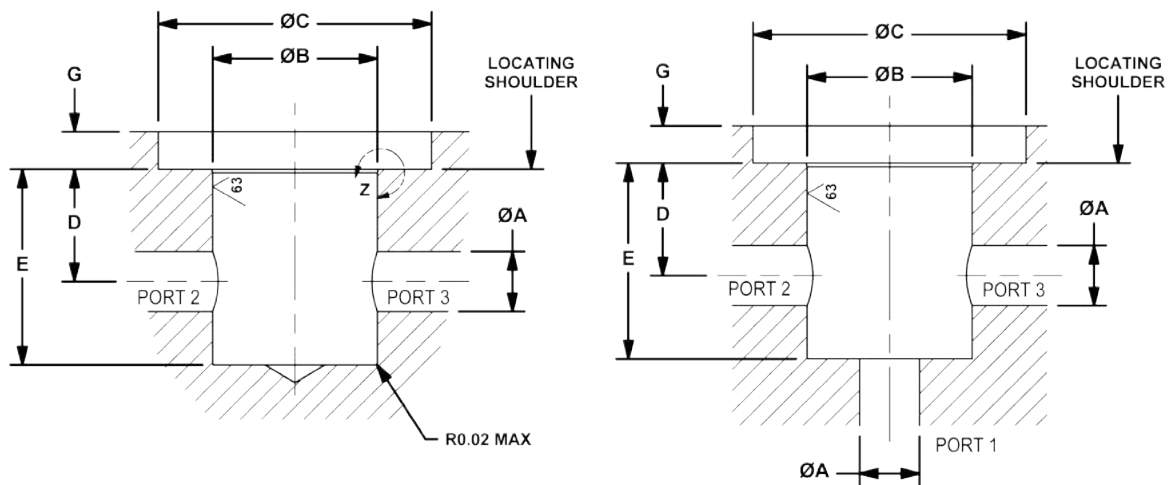
DBV-1704A  
PAGE 95

CALL TOLL FREE 1-800-248-3642  
IN CANADA 1-800-320-3642

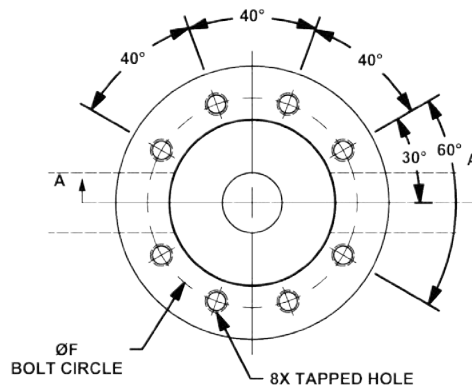


# SV2C & SV3C

Insert Valves	Port Size	PSI Rating	Cavity Dimensions (inches)								
			A	B	C	D	E	F	G	-	H
			Valve Bore (±0.010)	Cavity Bore (+0.003 /-0.000)	Shoulder Diameter (+0.015 /-0.000)	Cntr of Bore to Btm of Shoulder (±0.005)	Cavity Depth (+0.000 /-0.015)	Bolt Circle (±0.010)	Shoulder Depth (±0.005)	Mounting Bolts (8x)	Min tap depth
SV2C-0500****	½"	6000 PSI	0.500	2.003	3.560	1.375	2.390	2.750	0.625	¾-16UNC	0.630
SV3C-0500****											
SV2C-0750****	¾"		0.750	2.503	4.060	1.786	3.051	3.125	0.625	¾-16UNC	0.630
SV3C-0750****											
SV2C-1000****	1"		1.000	2.753	4.560	1.875	3.265	3.500	0.625	¾-16UNC	0.630
SV3C-1000****											
SV2C-1250****	1¼"		1.250	3.253	5.060	2.000	3.515	4.125	0.875	½-13UNC	1.000
SV3C-1250****											
SV2C-1500****	1½"		1.500	4.503	7.060	2.680	4.890	5.500	1.125	⅝-11UNC	1.250
SV3C-1500****											
SV2C-2000****	2"	2.000	5.753	8.560	2.915	5.055	7.000	1.375	¾-10UNC	1.500	
SV3C-2000****											



DETAIL Z  
SCALE 2



DBV-1704A  
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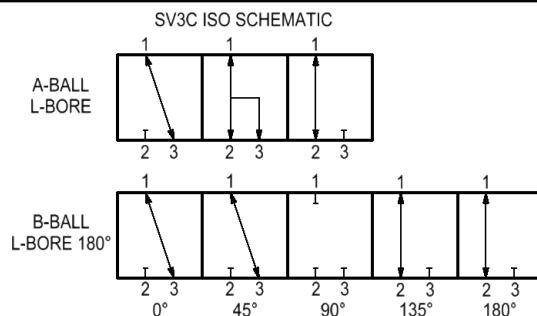
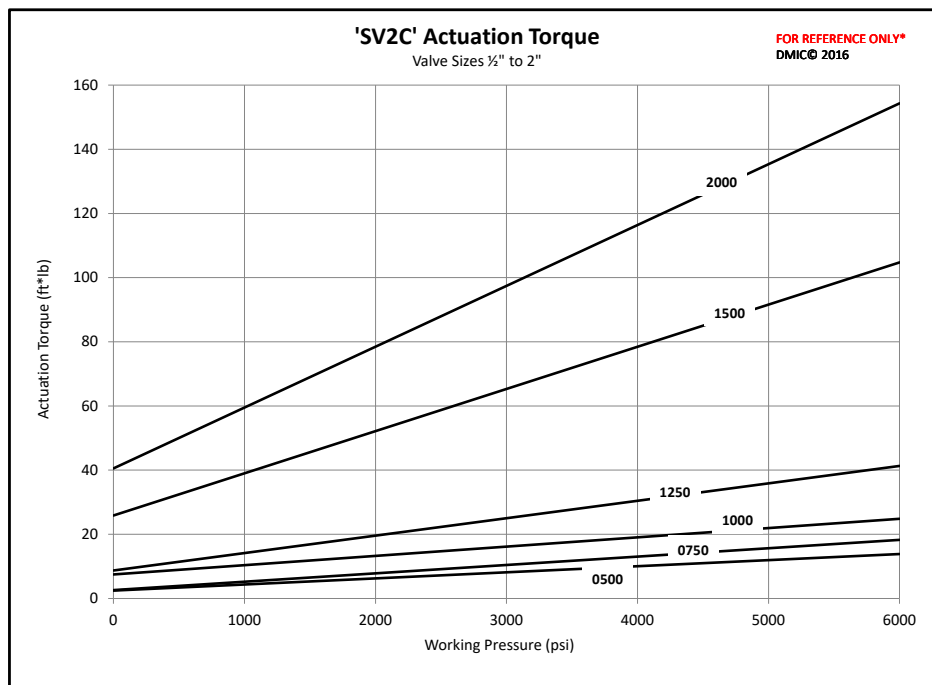
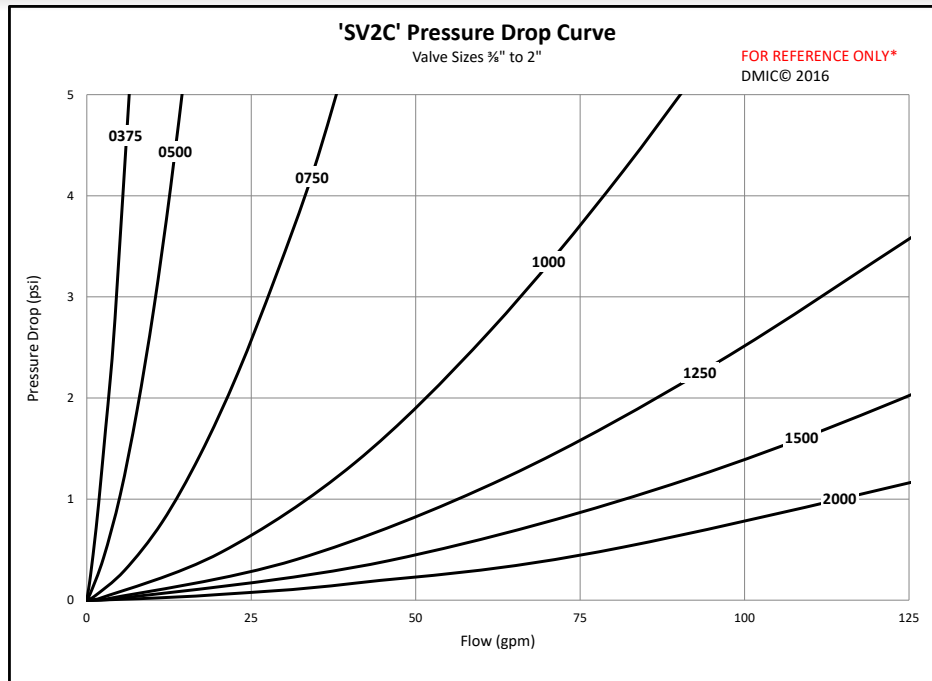
### Machine Note:

- 'G' Depth x ØC to locating shoulder option for recessing valve cap.
- Port 1 is always the inlet, valve leakage will occur if ΔP into closed Port at 2 or 3.
- **H** - min tap depth



# SV2C & SV3C

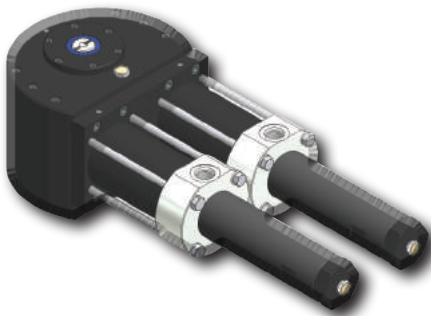
## Flow Characteristic and Actuation Torque Curves





# HYDRAULIC ACTUATORS

## A Hydraulic Alternative to Standard Electric or Pneumatic 3000 PSI Max Operating Pressure ~ Dual Acting



DMIC is proud to offer our line of hydraulic actuators for ¼" turn ball valves, an alternative to pneumatic or electric actuation, with high torque outputs in a small package. DMIC hydraulic actuators work with all DMIC ball valves and can easily be specified by adding the appropriate ordering codes to your ball valve selection!

DMIC actuators include these great features:

- 3,000 PSI maximum operating pressure
- Flow indicator
- Easily accepts other accessories, like limit switches or proximity sensors
- Smooth operation with dependable quality you've come to expect from DMIC
- Over 1,000,000 cycles life (before repacking)
- Compact designs can deliver up to nearly 4,000ft\*lbs of torque

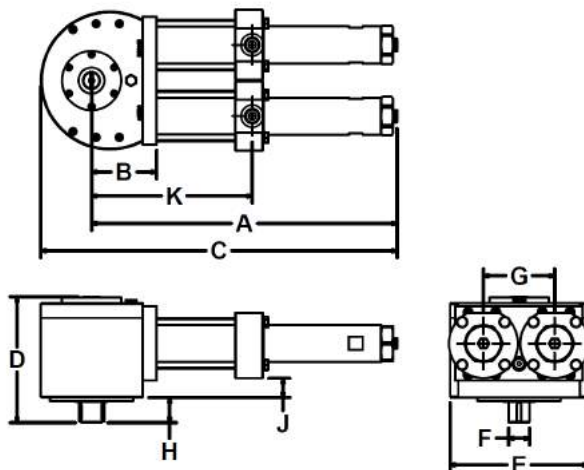
AC-HAE Shown

Actuators	MAX PSI Rating	MAX Torque in-lbs (ft-lbs)	Dimensions (inches)											Cycle Time	Input Flow
			A	B	C	D	E	F	G	H	J	K	L		
			Length	Length	Overall Length	Overall Height	Overall Width	Shaft Size	Port Center Distance	Shaft Height	Height	Distance	Port Size		
AC-HAE	3000 PSI	7,680 (640 ft-lbs)	16.24	3.50	18.98	6.80	7.45	1.13	3.84	1.34	1.05	8.66	SAE-8	0.52 sec	2 GPM
AC-HAG		23,160 (1,930 ft-lbs)	25.78	6.00	30.03	9.21	11.47	1.75	6.08	1.78	1.23	13.94	SAE-16	0.63 sec	5 GPM
AC-HAJ		48,480 (4,040 ft-lbs)	33.88	8.00	39.67	11.83	15.97	2.31	8.78	2.61	2.43	18.40	SAE-16	0.82 sec	8 GPM

## Order Codes

AC

HAE



### ACT Series

Code	Range
HAE	Medium Torque
HAG	Hi Torque
HAI	Extreme Torque

*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.*



# NOTES:



ISO 9001:2008 Certified

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CALL TOLL FREE 1-800-248-3642  
IN CANADA 1-800-320-3642



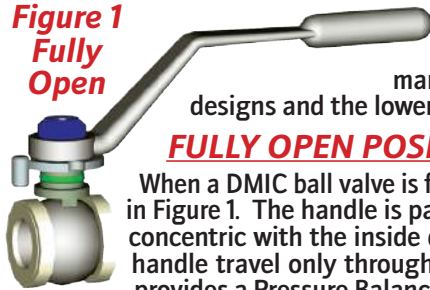
# TECHNICAL APPENDIX

*A Guide for Engineers and Designers who wish to verify technical characteristics or Engineering parameters.*



## Floating Balanced Ball Design, Principles of Operation

**Figure 1**  
**Fully Open**



This discussion of DMIC's Floating Balanced Ball Valve Design operation is primarily applicable to DMIC's High Pressure Ball Valves, although many aspects of operation are shared among the "trunnion ball" multiway designs and the lower pressure aluminum valves.

### **FULLY OPEN POSITION (Figure 1)**

When a DMIC ball valve is fully open, the internal parts are aligned within the valve body as illustrated in Figure 1. The handle is parallel to the axis of fluid flow (factory default), and the ball openings are concentric with the inside diameters of the ball seals. A cam path cut into the stop washer permits handle travel only through 90° of arc, which is why a 2-way ball valve is considered a "quarter-turn" valve. DMIC provides a Pressure Balancing Orifice in its balls which allows the medium to permeate the cavity within the valve at line pressure to moisten and prevent deterioration of valves left stationary for long periods of time.



### **PARTIALLY CLOSED POSITION (Figure 2)**

When the handle is turned from the 0° position, the tab at the bottom of the spindle causes the ball to rotate proportionally and alters the ball valve assembly's effective cross-sectional area, thereby "closing" the valve. As the angle increases between the ball fluid passage and the axis of flow, the ball, which was previously constrained to pivot radially by the spindle tab (perpendicular to the axis of flow), is now permitted to pivot axially along the hypotenuse of a right triangle drawn between the axis of flow

and the ball fluid passage (with force generated upon the ball seals proportional to the sine of the angle formed). At 90°, the sine equals one, the valve is fully closed, and all force exerted by fluid pressure acts to move the ball against the ball seals - hence, the ball is now fully "FLOATING" because it is free to pivot against and exert a force upon either downstream ball seal in response to forces arising from pressure at the upstream closing port.

**Figure 3**  
**Fully Closed**

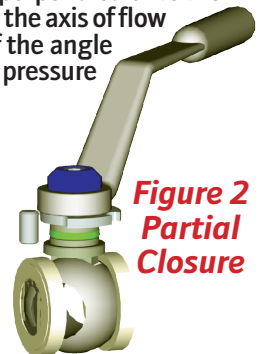


### **FULLY CLOSED POSITION (Figure 3)**

In the fully closed position, the solid ball surface completely blocks the valve fluid passage and upstream line pressure exerts force upon the floating ball, pressing it into the down stream hard thermoplastic ball seal. With the ball's slight axial displacement toward the downstream seal, the upstream ball seal breaks contact with the ball and rides the meniscus. DMIC's innovative Pressure Balancing Orifice in each of our balls allows fluid at

upstream pressure to permeate the entire cavity of the closed valve, getting all the way around to the only ball seal that is actually sealing, and even behind it. A precision ridge machined opposite the ball seat of DMIC's Ball Seals acts as an additional surface upon which full line pressure is exerted, improving both low and high pressure sealing in DMIC Ball Valves relative to ordinary brands.

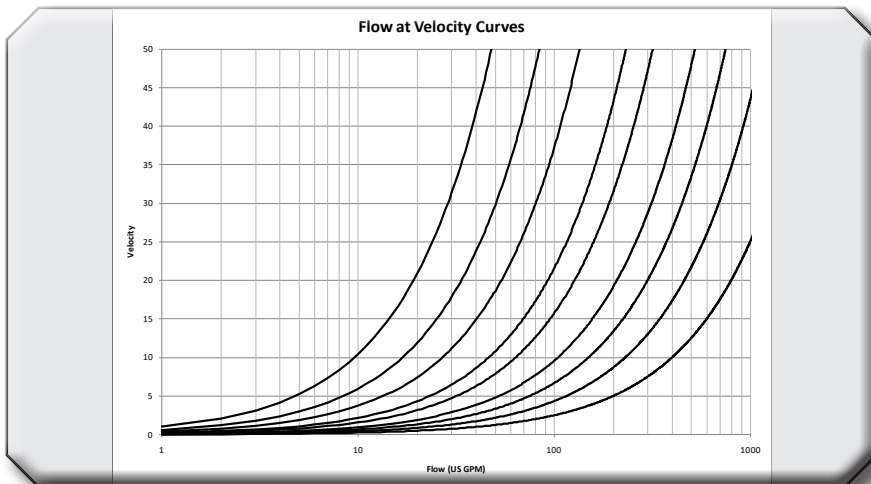
**Figure 2**  
**Partial Closure**



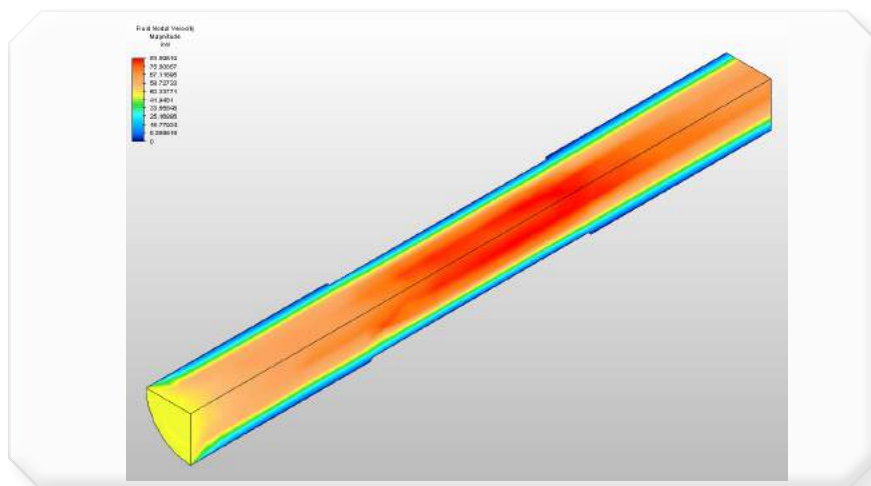
# Flow Characteristic Curves for DMIC 2-Way Ball Valves

DMIC's unrestricted bore ball valves provide a fluid path which in most cases imposes no discernible pressure drop in standard hydraulic circuits. **As a result, you can treat our valves as just a like length of fluid line, unless you are working with closed loop or other fancy circuits where a tiny pressure drop carries a price tag in heat generation, etc.**

The selection chart at right may be used as a guide for confirming your choice of ball valve/fluid line size relative to the expected flow in U.S. GPM at a given velocity.



## Determining Pressure Drop at a Specific Flow Rate



DMIC Ball Valves promote smooth laminar flow with **STRAIGHT BALL PASSAGE & UNRESTRICTED BORE** design.

DMIC's 2-Way Ball Valves such as the **BVH and BVAL/H** series, impose so little pressure drop on their own that we include the curves with a 10 foot section of fluid line in the measurement loop.

DMIC's Multiway and Manifold Mounted Ball Valves introduce a pressure drop component because instead of a straight fluid path, media must change direction as it travels through the valve. We have included valve pressure drop curves for each principal

type of DMIC specialty ball valve. All flows quoted in this section taken with petroleum based fluid, 150 SUS, at 100°F (38°C).

## Pressure Drop of DMIC Specialty Ball Valves

DMIC's specialty Ball Valves are precision designed to maximize available cross sectional area and minimize the protrusion of parts throughout internal fluid passages.

However, the nature of DMIC's trunnion ball multiway valves and manifold mounted valves, results in a pressure drop component that should be taken into account when designing circuits bearing these valve types. DMIC's quality oriented engineering bias results in valves which cost more to manufacture but provide among the best performance available among like valves in the field.

Please verify your application's operating conditions to confirm that the pressure drop is accounted for in your system design.



# Sealing Materials Technical Data



**Never operate DMIC Ball Valves outside the temperature range published below for your selected Thermoplastic & Elastomer materials, even if the combination is approved in the Media Acceptability Table (next page). You may experience valve leakage or failure, and will void the warranty.**

Order Code	DMIC Description	Temperature Range		Seal Compound Identification	Acronym	Classification Synthesis	Trade Names	Chemical Resistance Examples	
		°F	°C					Suitable	Not Suitable
<b>Ball Seal Materials (Digit 3)</b>									
1	Delrin™	-40°F to 180°F	-40°C to 82°C	Delrin™ Polyoxymethylene	DM POM	Thermoplastic Saturated heteropolymer of heterogeneous polymer chains	Delrin™	Hydraulic Fluids Water Inert Gases Air Alcohols Glycols Petroleum based fluids	High molar acids & Alkalis Fluorines Liquids for human consumption
2	PTFE Teflon™	-300°F to 450°F	-184°C to 232°C	Polytetra fluoroethylene	PTFE	Thermoplastic Homogeneous, pure polymer chains, containing fluorine	Teflon™ Hostaflon Fluon	Foodstuffs Acids & Alkalis Organic & Inorganic Solvents	Fluorines Liquid alkali metals
4	PEEK Hi-Temp	-76°F to 480°F	-60°C to 248°C	Polyether-ether-ketone	PEEK	Thermoplastic Aromatic Linear Polymer	Victrax	Most fluids acceptable with Delrin™ Moly Radioactive use	High molar acids & alkalis
6	Delrin™ AF Low Friction	-40°F to 180°F	-40°C to 82°C	Proprietary	PAI	Thermoplastic Combination of Teflon™ fibers uniformly dispersed in Delrin™ acetal resin.	Delrin™ AF	Hydraulic fluids Many acids Alcohols & organic solvents	Hot water Steam, Strong alkalis
9	Ferrous Special Applications	Call DMIC						Call DMIC	
<b>O-Ring &amp; Backup Seal Materials (Digit 4)</b>									
1	Buna-N	-40°F to 200°F	-40°C to 93°C	Nitrile Butadiene rubber	NBR	Elastomer Unsaturated heteropolymer of heterogeneous polymer chains	Nitrile Perbunan Chemigum Elaprim Krynac	Petroleum based fluids Water Air Water-glycol	Phosphate esters
2	EPR	-70°F to 302°F	-57°C to 150°C	Ethylene-propylene-diene rubber	EPR EPDM	Elastomer Saturated heteropolymer utilizing double valence bands outside the primary chain	Buna AP Dutral Epcar Keltran Nordel	Phosphate esters Brake Fluid Acids & Alkalis	Petroleum based oil & grease Chlorinated hydrocarbons
3	Viton™	-15°F to 400°F	-26°C to 204°C	Fluorocarbon	FKM	Elastomer Multiple monomers & fluorine compounded into saturated heteropolymer	Viton™ Fluorel Technoflon	NBR compatible fluids Acids & alkalis	Phosphate esters
4	Teflon™ PTFE	-300°F to 450°F	-184°C to 232°C	Polytetrafluoroethylene	PTFE	Thermoplast Homogeneous, pure polymer chains, containing fluorine.	Teflon™ Hostaflon Fluon	Foodstuffs Organic & Inorganic Solvents	Fluorines Liquid alkali metals
5	Chemraz™ 510	-22°F to 446°F	-30°C to 230°C	Proprietary	FFKM	Perfluorolastomer Polymers of three or more monomers in which all hydrogen positions have been replaced with fluorine	Chemraz™	Acids Caustics Aldehydes Esters Aromatics Methanol	Fluorinated Refrigerants Perfluorinated Lubricants

These are the main o-ring seal materials that DMIC uses. As always, if you would like another material to use for your application, call DMIC Sales. We would be more than happy to get the material you are requesting. For lower pressures (<1500 PSI) and vacuum, DMIC's softer PTFE Teflon™ Ball Seals are recommended.

In the BOM views for all valves, colors may have been changed for clarity.

***This information provided as is, for reference purposes only. DMIC makes no guarantee as to the accuracy of this information. In the event of misapplication, the entire responsibility rests with the user. Verify your selection with your system's seal manufacturer for a final authority.***



# Seal Compound to Media Compatibility Table

This media compatibility table is provided for your reference as an **INDICATION** of acceptable usage. Please bear in mind that DMIC relies upon suppliers of seal raw materials and premium brand O-Rings for much of this information and it is advised that you consult your system's seal supplier if there is any question or doubt. The seal manufacturer's data shall be considered a final authority in case of discrepancy.

Fluid	Buna-N	EPR	Viton™	Teflon™ PTFE	Chemraz™ 510
Acetaldehyde	U	R	X	R	-
Acetamide	R	R	U	R	R
Acetic Acid, 5%	M	R	R	R	M
Acetone	U	R	X	R	R
Acetophenone	U	R	X	R	R
Acetylene	R	R	R	R	R
Acetylsalicylic Acid	M	X	R	-	R
Acrolein	U	R	U	-	R
Acrylic Acid	M	X	R	-	R
Air, Below 200°F	M	R	R	R	R
Air, 200°-300°F	U	M	R	R	R
Air, 300°-400°F	X	X	R	R	R
Air, 400°-500°F	X	X	U	R	M
Aluminum Hydroxide	M	R	M	-	R
Aluminum Nitrate	R	R	R	R	R
Ammonia	R	R	X	R	R
Ammonium Sulfate	R	R	X	R	R
Ammonium Sulfide	R	R	X	-	R
Ammonium Sulfite	U	R	U	-	R
Amyl Acetate	U	M	X	R	R
Anderol L-774	M	U	R	-	R
Antifreeze	R	R	U	-	R
Aniline	U	R	U	R	R
Ansul Ether	M	M	X	-	R
Argon	R	R	R	R	R
Aroclors	M	R	R	R	R
Askarel	R	U	R	R	R
Asphalt	M	X	R	-	R
ASTM #1	R	U	R	R	R
ASTM #3	R	U	R	R	R
ASTM Fuel A	R	U	R	R	R
ASTM Fuel B	R	U	R	R	R
ASTM Fuel C	R	U	R	R	R
ASTM Fuel D	M	U	R	R	R
Auto Transmission Fluid	R	U	R	R	R
Benzaldehyde	R	R	X	R	M
Benzene	U	R	R	R	R
Benzoic Acid	U	U	R	R	R
Benzophenone	-	R	R	-	R
Bezyl Alcohol	U	R	R	R	R
Bleach	R	R	R	R	R
Borax	R	U	R	-	R

Fluid	Buna-N	EPR	Viton™	Teflon™ PTFE	Chemraz™ 510
Boric Acid	R	R	R	R	R
Brake Fluid DOT 3 & 4	U	R	X	-	R
Brake Fluid DOT 5	M	R	R	-	R
Bromine	U	R	R	R	R
Bromobenzene	U	U	R	R	R
Bunker	R	U	R	R	R
Butane	R	R	R	R	R
Butyl Acetate	U	U	X	R	R
Butyl Alcohol	R	R	R	R	R
Butyl Amine	M	U	X	-	R
Butyl Carbitol	U	M	U	R	R
Butyl Cellosolve	M	M	X	-	R
Butylaldehyde	U	U	X	X	R
Carbitol	R	R	M	R	R
Carbon Disulfide	U	U	R	R	R
Carbon Tetrachloride	R	U	R	R	R
Carbonic Acid	M	R	R	R	R
Castor Oil	R	M	R	R	R
Cellosolve	X	M	X	R	R
Chassis Grease	R	M	R	R	R
Chloric Acid	U	R	U	-	R
Chloroacetone	X	M	X	-	R
Chlordane	M	X	R	-	R
Chlorine, Dry	M	X	R	R	M
Chloroform	X	X	R	R	R
Chromic Acid	X	M	R	R	M
Citric Acid	R	R	R	R	R
Cod Liver Oil	R	R	R	R	R
Coffee	R	R	R	-	R
Corn Oil	R	U	R	R	R
Creosote, Coal Tar or Wood	R	X	R	R	R
Creosylic Acid	X	X	R	-	R
Crude Oil	M	X	R	R	R
Cyclohexane	R	X	R	R	R
Cyclohexanol	R	X	R	-	R
Decalin	X	X	R	R	R
Denatured Alcohol	R	R	R	-	R
Diacetone	X	R	X	R	R
Dialkyl Sulfates	U	R	U	-	R
Dibutyl Phthalate	X	M	U	R	R
Dichloro Aniline	U	R	U	-	R
Dichloro Butane	M	X	R	R	R

**This information provided as is, for reference purposes only. DMIC makes no guarantee as to the accuracy of this information.**

**In the event of misapplication, the entire responsibility rests with the user.**

**Verify your selection with your system's seal manufacturer for a final authority.**



# Media Compatibility Table, cont.

## ~ Legend ~

- R..... Recommended**
- M .... Marginal**
- U..... Doubtful**
- X..... Not Recommended**
- ..... Insufficient Data**

Fluid	Buna-N	EPR	Viton™	Teflon™ PTFE	Chemraz™ 510
Diesel Oil	R	X	R	R	R
Diethylamine	M	R	X	R	R
Diethyl Benzene	-	-	R	R	R
Diethylene Glycol	R	R	R	R	R
Dimrthyl Ether	R	M	M	R	R
Dimethyl Formamid	M	R	X	R	M
Dimethyl Terephth	M	X	R	-	R
Diocetyl Phthalate	X	M	M	-	R
Dioxane	X	M	X	R	R
Diphenyl	X	X	R	R	R
Dow Corning 550	M	R	R	R	R
Dow Guard	R	R	R	-	R
Dowtherm A&E	X	X	R	R	R
Elco 28	R	X	R	-	R
Epoxy Resins	-	R	X	-	R
Ethane	R	X	R	R	R
Ethanol	U	R	U	R	R
Ethanolamine	M	R	X	-	R
Ethyl Acetate	X	M	X	R	R
Ethyl Benzene	X	X	R	R	R
Ethyl Cellulose	M	M	X	R	R
Ethyl Chloride	R	U	R	R	R
Ethyl Ether	U	U	X	R	R
Ethyl Formate	X	M	R	R	U
Ethyl Hexanol	R	R	R	R	R
Ethyl Mercaptan	X	-	M	R	R
Ethylene Chloride	X	X	M	R	R
Ethylene Oxide	X	U	X	R	U
Formaldehyde	U	M	X	R	R
Formic Acid	-	R	X	R	R
Freon 12	M	U	U	R	M
Fuel Oil #6	M	X	R	R	R
Furan	X	U	R	R	R
Furfural	X	M	X	R	M
Furfuyl Alcohol	X	M	-	R	R
Fyrquel EHC	U	R	R	-	-
Gallic Acid	M	M	R	R	R
Gasoline	R	X	R	R	R
Gelatin	R	R	R	R	R
Glucose	R	R	R	R	R
Glycerine	R	R	R	R	R
Helium	R	R	R	R	R

Fluid	Buna-N	EPR	Viton™	Teflon™ PTFE	Chemraz™ 510
Hexaldehydee	X	R	X	-	R
Hexane	R	X	R	R	R
Hydazine	M	R	X	R	M
Hydrochloric Acid, Concentrated @ Room Temp.	M	M	R	R	R
Iso Octane	R	X	R	R	R
Iso Phorone	X	M	X	-	R
Isopropanol	M	R	R	R	R
Isopropyl Acetate	X	M	R	R	R
JP-4(MIL-J5624)	R	X	R	R	R
JP-5(MIL-5624)	R	X	R	R	R
Kerosene	R	X	R	R	R
Lactic Acid, Hot	X	X	R	R	R
Lacquers	X	X	X	R	R
Lard	R	M	R	R	R
Linoleic Acid	M	X	M	R	R
Linseed Oil	R	U	R	R	R
Lye Solutions	M	R	M	R	R
Malathion	M	X	R	-	R
Maleic Acid	X	X	R	R	R
Mercury	R	R	R	R	R
Methane	R	X	R	R	R
Methanol	X	R	X	R	R
Methyl Acetate	X	M	X	R	R
Methyl Acrylate	X	M	X	R	R
Methyl Cellosolve	U	M	X	R	R
Methylene Chloride	X	U	R	R	R
Methyl Ethyl Ketone	X	R	X	R	R
Methyl Mercaptan	-	R	-	R	R
Milk	R	R	R	R	R
Mineral Oil	R	U	R	R	R
Mineral Spirits	X	X	R	R	R
Monoviny Acetyle	R	R	R	-	R
Naphtha	R	X	R	R	R
Naphthalene	X	X	R	R	R
Naphthalenic Acid	X	X	R	R	R
Natural Gas	R	X	R	R	R
Neatsfoot Oil	R	M	R	R	R
Nitric Acid, Concentrated @ Room Temp.	-	X	M	R	M
Nitrobenzene	X	R	M	R	R
Nitrogen	R	R	R	R	R
Nitropropane	X	M	X	R	R



# Media Compatibility Table, cont.

Fluid	Buna-N	EPR	Viton™	Teflon™ PTFE	Chemraz™ 510
Octane	R	X	R	R	R
Octanal	R	X	R	-	R
Oleic Acid	U	X	M	R	R
Oxygen, Liquid	X	X	X	R	M
Phenol	X	X	R	-	R
Phenylhydrazine	X	M	R	R	R
Phosphoric Acid, Concentrated @ Room Temp.	M	R	R	R	R
Pine Oil	R	X	R	R	R
Potassium Hydroxide 50%	M	R	X	R	R
Propane	R	X	R	R	R
Propanol	R	R	R	X	R
Propyl Acetate	X	M	X	X	R
Pydraul, 115E	X	R	R	-	R
Pyranol	R	X	R	-	R
Pyridine	X	M	R	-	R
Rapeseed Oil	M	R	R	R	R
Resurcinol	U	R	U	R	R
SAE 10W30	R	X	R	R	R
Seawater	R	R	R	R	R
Silicone Grease	R	R	R	R	R
Silver Nitrate	M	R	R	R	R
Skelly Solvent	R	X	R	-	R
Skydrol 7000	X	R	M	-	R
Skydrol 500 B4	X	R	X	R	R
Sodium Hydroxide	R	R	M	R	R

Fluid	Buna-N	EPR	Viton™	Teflon™ PTFE	Chemraz™ 510
Sovasol 1, 2, & 3	R	X	R	-	R
Soy Bean Oil	R	U	R	R	R
Stack-Magic ECO-F	R	R	R	R	R
Stearic Acid	M	M	-	R	R
Stoddard Solvent	R	X	R	R	R
Sucrose	R	R	R	R	R
Sulfuric Acid	U	R	U	R	R
Tannic Acid	R	R	R	R	R
Tar	M	X	R	-	R
Tartaric Acid	R	M	R	R	R
Tetrachloroethane	X	X	R	R	R
Tetralin	X	X	R	R	R
Tidewater Oil	R	X	R	-	R
Toluene	X	X	R	R	R
Trichloro Ethylol	U	X	R	R	R
Triethanol Amine	U	M	X	R	M
Turpentine	R	X	R	R	R
Varnish	M	X	R	R	R
Vinegar	M	M	U	R	-
Water	R	R	M	R	M
Whiskey & Wine	R	R	R	R	R
Wood Oil	R	X	R	-	R

## ~ Legend ~

- R..... Recommended**
- M .... Marginal**
- U..... Doubtful**
- X..... Not Recommended**
- ..... Insufficient Data**

## One Year Limited Warranty

DELAWARE MANUFACTURING INDUSTRIES CORPORATION, HEREINAFTER REFERRED TO AS DMIC, WARRANTS ITS PRODUCTS (CONSUMABLE ITEMS EXCEPTED) TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP, UNDER NORMAL USE AND SERVICE, FOR A PERIOD OF SIX MONTHS FROM DATE OF INITIAL USE, OR ONE YEAR FROM DATE OF SHIPMENT FROM FACTORY, WHICHEVER IS FIRST. THIS LIMITED WARRANTY IS EFFECTIVE ONLY IF THE EQUIPMENT OR APPARATUS IS USED AS DIRECTED, IS NOT SUBJECT TO MISUSE, NEGLIGENCE, OR ACCIDENT, AND IS NOT ALTERED, TREATED, OR REPAIRED BY ANYONE OTHER THAN DMIC TECHNICAL STAFF.

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# NOTES:

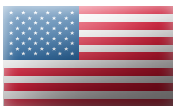


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3776 Commerce Court  
Wheatfield, NY U.S.A. 14120  
Phone: 716-743-4360  
Fax: 716-743-4370



330 Vansickle Road—Unit 4  
St. Catharines, Ontario, Canada L2R 6P7  
Phone: 905-688-3642  
Fax: 905-688-9993

