

'BV3D' Steel Diverter

The smart alternative to "converted 2-way" diverters;
Rated for 3,000 PSI; Sizes from 1/4" to 2" NPT/SAE/BSP
 Designed as an "L-Bore" diverter, optional "Near Zero Leakage" sealing.



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.

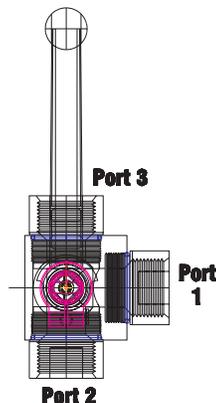
- ☑ Stocked with "L-Bore" standard ball; special "T-Bore" option available
- ☑ Slight port overlap prevents surprise upstream blowouts during shifting
- ☑ **DMIC's Innovative Spindle-Glide™** Design reduces actuation torque & increases valve longevity, especially under actuation
- ☑ **Every size can be Panel & Substrate Mounted**, using stock brackets
- ☑ **Optional Skydrol, High Temp, Near Zero leakage configurations**
- ☑ **New for 2001 - Near zero leakage 'BV3DZ' model !**

About 'BV3D'/'BV3DZ'

DMIC's 'BV3D' replaces "converted 2-way" valves with welded 3rd ports, eliminating a source of leakage and providing flexible connection options.

Derived from the field proven DMIC 'BVH' series, this full bore diverter is rated to 3000 PSI and is fully compatible with DMIC options and accessories. **The 'BV3DZ' model utilizes DMIC's innovative internal design for near zero internal leakage and unrestricted port pressurization.**

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



The 'BV3DZ' version of our diverter valve can take the place of a true multiway valve in many circuits.

Specifically, the question you must ask your application is: "Is pressure ever applied at port 2 or 3 when 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.

Common Dimensions

The following specifications are common to all 'BV3D' series valves regardless of connection style. For valve length 'A' and other specific dimensions, please see Dependent Dimensions table adjacent page.

'BV3D' is manufactured in threaded styles only but can be factory equipped with 'HSSW' System (HP) adapters to achieve **Split & 4-Bolt Flange, Socket Weld, ANSI Class/DIN Flange, and Hose Barb Connection(s) on one or more ports**. We provide dimensions for common 3-like port valves in the Dependent Dimension tables, but this product is highly suited to customization and we invite you to call your Distributor or DMIC for application assistance.

BV3D Part Number	Port Size	Rated Pressure PSI (bar)	DIMENSIONS in (mm)		
			Width P1 (Thrd) B	Valve Bore C	Handle Length D
BV3D-0250**-1111	1/4"	3000 206.9	2.05 52.1	0.25 6.4	4.50 114.3
BV3D-0375**-1111	3/8"	3000 206.9	2.11 53.5	0.31 8.0	4.50 114.3
BV3D-0500**-1111	1/2"	3000 206.9	2.38 60.4	0.44 11.1	4.50 114.3
BV3D-0750**-1111	3/4"	3000 206.9	2.95 74.9	0.69 17.4	7.00 177.8
BV3D-1000**-1111	1"	3000 206.9	3.46 87.9	0.88 22.2	7.00 177.8
BV3D-1250**-1111	1 1/4"	3000 206.9	4.54 115.2	1.13 28.6	10.00 254.0
BV3D-1500**-1111	1 1/2"	3000 206.9	5.18 131.6	1.38 34.9	10.00 254.0
BV3D-2000**-1111	2"	3000 206.9	6.30 160.1	1.75 44.5	10.00 254.0



'BV3D' Steel Diverter

Dependent Dimensions

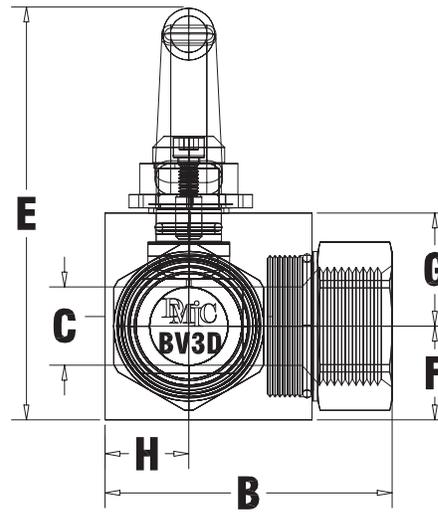
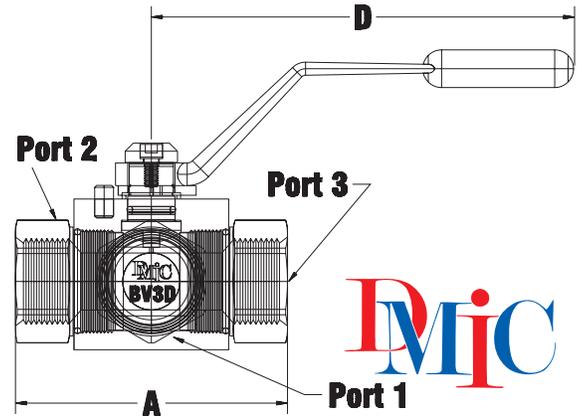
These are the valve dimensions that vary based on your selection of a connection style. Some connection styles provide additional dimensions to those published at left; see supplemental sketches next page.

'BV3D' valves with flange and socket weld connections are composite valves, built using threaded valves and 'HSSW' adapters.

To harness the full capabilities of DMIC's 'SSW' Power Unit Layout system please call DMIC Helpline at 1-800-248-3642 to obtain the Designer's Guide.

BV3D		Dependent Dimensions				
THREADED CONNECTION						
Dimension (inches)		A	E	F	G	H
Port Code(s)	Port Size	Length Ports 2-3	Overall Height	Bot to Port Ctr	PortCtr to Top	Back to 2-3 Ctrln
N S B IU / IA Threaded Connections	1/4"	2.74	2.98	0.61	0.77	0.60
	3/8"	2.87	3.11	0.64	0.86	0.61
	1/2"	3.35	3.23	0.73	0.90	0.67
	3/4"	3.80	4.70	1.00	1.26	0.93
	1"	4.49	4.95	1.14	1.36	1.03
	1 1/4"	4.84	6.37	1.44	1.81	1.38
	1 1/2"	5.33	6.62	1.50	2.00	1.63
	2"	6.54	7.37	1.96	2.29	2.00
SAE 4-BOLT FLANGE CONNECTION						
Dimension (inches)		A _{FM}	A _{FL}	E	F	G
Port Code(s)	Port Size	Length Ports 2-3	Length Ports 2-3	Overall Height	Bot to Port Ctr	PortCtr to Top
FM / GM FL SAE 4-B Comp/Std Flange Conn	1/2"	4.22	Call	3.23	0.73	0.90
	3/4"	4.77	Call	4.70	1.00	1.26
	1"	5.27	Call	4.95	1.14	1.36
	1 1/4"	6.90	Call	6.37	1.44	1.81
	1 1/2"	7.10	Call	6.62	1.50	2.00
	2"	8.05	Call	7.37	1.96	2.29
SAE SPLIT FLANGE CONNECTION						
Dimension (inches)		A	E	F	G	A _{CM}
Port Code(s)	Port Size	Length Ports 2-3	Overall Height	Bot to Port Ctr	PortCtr to Top	Length A (Combo)
SM CM SAE Split & Combo Flg Conn	1/2"	5.95	3.23	0.73	0.90	5.09
	3/4"	6.39	4.70	1.00	1.26	5.53
	1"	7.00	4.95	1.14	1.36	6.22
	1 1/4"	7.51	6.37	1.44	1.81	6.57
	1 1/2"	9.07	6.62	1.50	2.00	7.06
	2"	9.11	7.37	1.96	2.29	8.27
ANSI & DIN FLANGE CONNECTION						
Dimension (inches)		-	-	-	-	-
Port Code(s)	Port Size	For complete ANSI and DIN Flange selection specs, please see the ANSI/DIN tables in the 'BVAH' section.				
A* D* ANSI & DIN Flange Connections	1/2"					
	3/4"					
	1"					
	1 1/4"					
	1 1/2"					
	2"					
FIXED SOCKET WELD CONNECTION						
Dimension (inches)		A	E	F	G	-
Port Code(s)	Port Size	Length Ports 2-3	Overall Height	Bot to Port Ctr	PortCtr to Top	
W4 Socket Weld Connections	1/2"	6.26	3.23	0.73	0.90	
	3/4"	6.70	4.70	1.00	1.26	
	1"	7.40	4.95	1.14	1.36	
	1 1/4"	7.75	6.37	1.44	1.81	
	1 1/2"	8.24	6.62	1.50	2.00	
	2"	9.45	7.37	1.96	2.29	

Dimensional Sketches



Made in U.S.A.

Hecho en USA

Fabriquée aux E.U.

'BV3D' Steel Diverter Ball Pattern Schematic

BALL CODE	ISO CIRCUIT SCHEMATIC	BALL PATTERN	+90°	+45°	0°	-45°	-90°	STOP WASHER TYPE
A		L-Bore Port Overlap						
C		T-Bore 90°						
D		T-Bore 180°						

NOTE: The 'BV3D' is intended by DMIC to be a high quality and economical product offering with standard L-bore ball pattern. For override to 'C' or 'D' ball pattern on 'BV3D' an OEM production order quantity may be required. Please call DMIC

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.



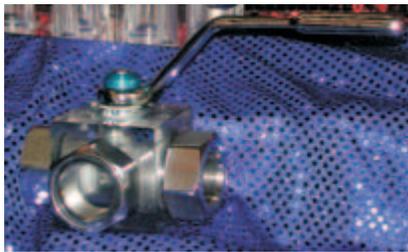
'BV3D' Steel Diverter

BV3D	Physical Construction
Parameter	Material
BODY	Steel Body & Endcaps
BALL	Steel, Chrome Plated
SPINDLE	Steel, Zinc Plated
STD HANDLE	Forged Steel, Nickel Plated
BALL SEALS	Delrin, optional Teflon and PEEK
O-RINGS	O-Ring + BU, Buna-N std.
TEMP RANGE	-22°F to 212°F (-30°/100°C)
LIFE EXPECTANCY	Over 1,000,000 cycles

Optional Near Zero Leakage Version

New for 2001 ! DMIC's design leadership now allows us to furnish the 'BV3D' Diverter with near-zero leakage - an industry exclusive that saves money and weight.

If you are using a true multiway valve, call DMIC and let us "show you the money" you might save with 'BV3DZ'.



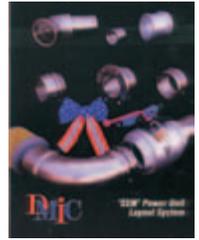
New Simplified Accessory Codes

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



'HSSW' Possibilities

'BV3D' can be configured with Hose Barb, 4-Bolt/Split /ANSI Flange, and Swivel Socket Weld connections. You can route mechanically rigid 'HSSW' adapters in **Inline, 45°, and 90° degree** directions with dimensional tolerances previously only dreamed of. Also, you can interchangeably assemble Imperial and Metric standard power units to the same layout dimensions. **High pressure 'HSSW' adapters** are available in frequently ordered styles, rated for 3,000 PSI .



C.61 4-BOLT FLANGE

Order 'HFMC' adapter to receive Code 61 SAE 4-Bolt Companion connections. Order 'HFMM' for Standard Flange (through bolt holes).



C.61 SPLIT FLANGE

Order 'HSFM' adapter to convert to connection code SM (C.61 Split Flange Head). Rated to 3000 PSI. Rapid order a Split Flange kit with suffix /SFK.



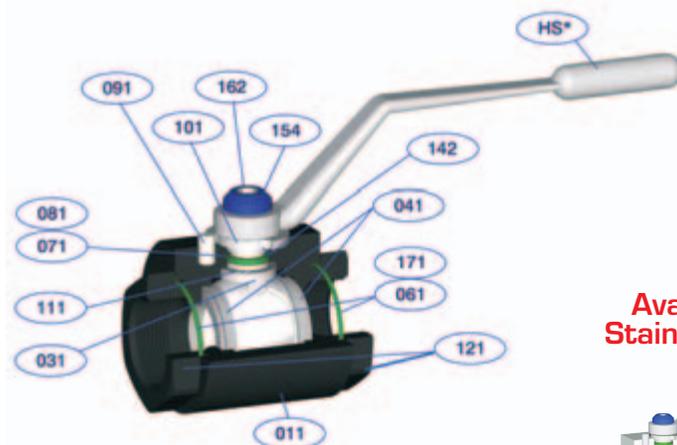
FIXED SOCKET WELD

Order 'HFSW' adapter (converts threaded port to equivalent of connection code W4) to receive "fixed" socket weld connections for pipe. HSSW adapters rated to lesser of 3000 PSI or valve rated PSI.



'BV3D' Service Parts BOM

BV3D		Service Parts BOM
Index	Qty	Description
011	1	Valve Body
021A	1	L-Bore Ball, Code A, see table
031	1	Spindle, Steel
041	2	Ball Seal, Delrin
171	1	Connection BU Ring (1 1/4" & up)
061	1	Connection O-Ring
071	1	Spindle O-Ring
081	1	Spindle Backup Ring
091	1	Stop Pin
101	1	Stop Washer
111	1	Internal Glide Brg
121**	3	Connection End, add code
142	1	Spindle Glide Brg
154	1	Color Code Cap
162	1	Handle Bolt

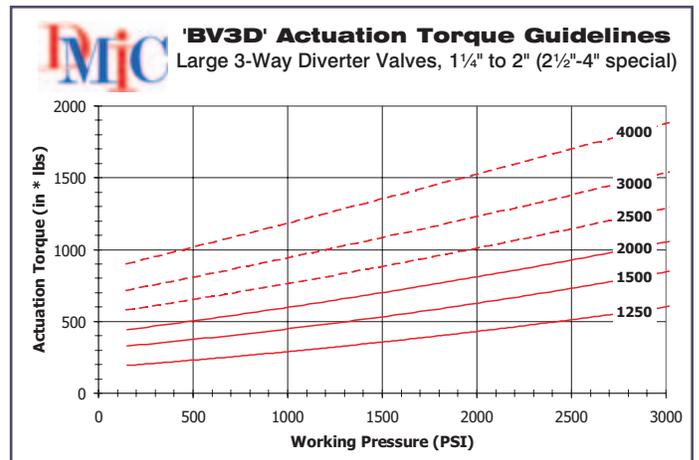
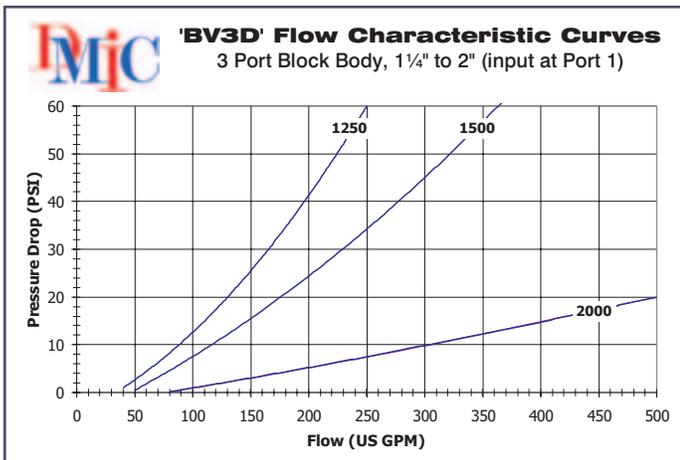
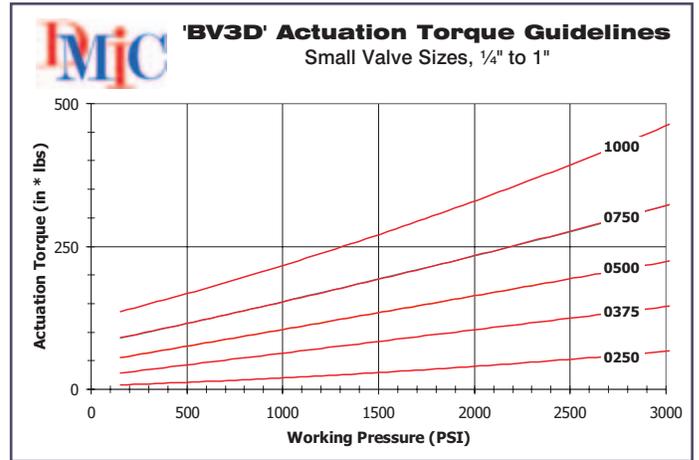
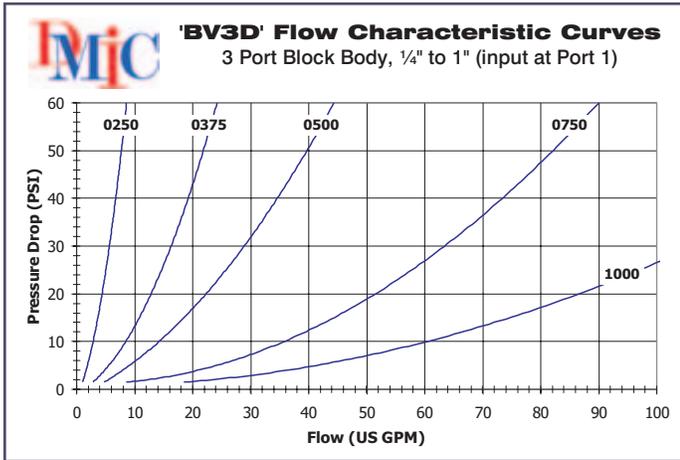


Available in Stainless Steel



'BV3D' Steel Diverter

'BV3D' Performance Curves



'BV3D' 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"

Thread Connections

IMPERIAL THREADS		SAE FLANGE CONN	
Code	Desc	Code	Desc
S	SAE ORB	FM	SAE C61 Comp UNC
N	NPT	FH	SAE C62 Comp UNC
MJ	JIC-M	GM	SAE C61 Comp Metric
B	BSPT - special	GH	SAE C62 Comp Metric
T	BSPT - special	SM	SAE C61 Split Flg Head
D*	DIN Tube - call	SH	SAE C62 Split Flg Head
IU	ISO6149	FL	SAE C61 Std UNC/Metric
IA	ISO1179	FK	SAE C62 Std UNC/Metric

Thread Connections

METRIC THREADS		SAE SPLIT FLANGES	
Code	Desc	Code	Desc
B	BSPT - special	SM	SAE C61 Split Flg Head
T	BSPT - special	SH	SAE C62 Split Flg Head
D*	DIN Tube - call	FL	SAE C61 Std UNC/Metric
IU	ISO6149	FK	SAE C62 Std UNC/Metric
IA	ISO1179		

ISO THREADS

ISO THREADS		SAE 4-BOLT STANDARD	
Code	Desc	Code	Desc
IU	ISO6149	FL	SAE C61 Std UNC/Metric
IA	ISO1179	FK	SAE C62 Std UNC/Metric

Please see page 9 for complete connection availability matrix

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

Ball & Spindle Mat'l

Code	Description
1	Carbon Steel
2	Stainless Steel

O-Ring Material

Code	Description
1	Buna-N (Standard)
2	EPR
3	Viton
4	DMIC Hi-Temp

Ball Seal Material

Code	Description
1	Delrin
2	PTFE Teflon
3	Peek
4	High Temperature
6	Super Low Friction

Ordering Code Example: BV3D - * * * * S A - 1 1 1 1

