

B Series – Modular

- ▶ MOPD: 400 PSI (28 Bar)
- ▶ C_v Range: 0.018 to 0.430 (K_v Range: 0.016 to 0.372)
- ▶ 7 Watts

The B Series is a direct acting solenoid valve, available in 2- or 3-way functionality. Like all of our valves, the B Series has bubble tight plunger construction and is designed to last for millions of cycles in general purpose liquid, gas, and vacuum applications. The B Series is available in various orifice sizes, a variety of body materials, wattages, and coil constructions for the utmost adaptability to your application requirements. The B Series is an excellent choice for most general-purpose application requiring a C_v of 0.018 to 0.430 (K_v of 0.016 to 0.372).

Typical Applications

- Printing
- HVAC
- Semiconductor Equipment
- Medical Equipment



CE

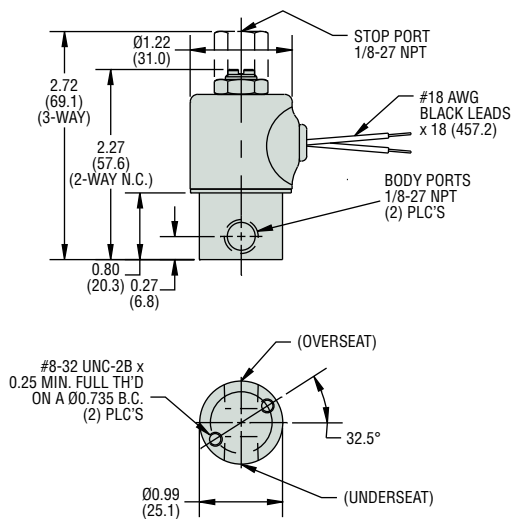


Next Day Shipping
On Many Configurations

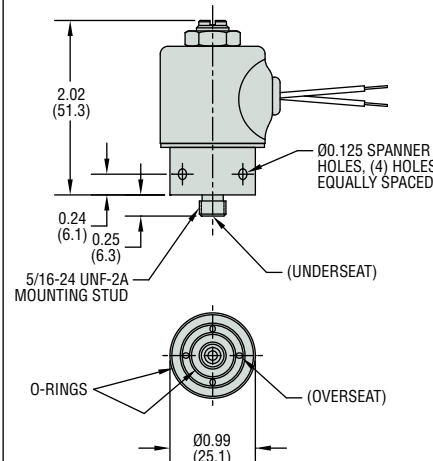


Dimensions

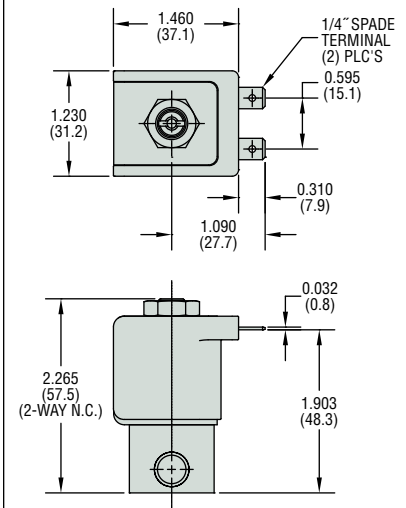
Threaded Port Body



Manifold Mount Body

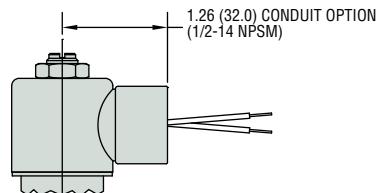


Molded Coil



Alternate 1/2" Conduit Housing

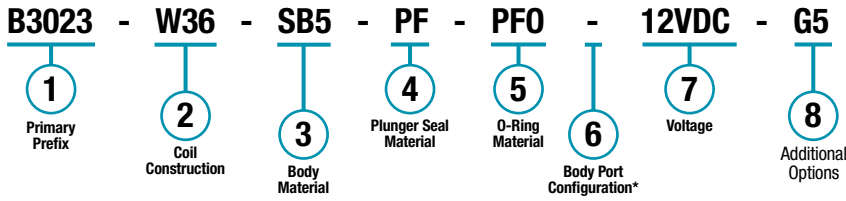
Available on all body configurations



See Manifold Mount Interface Details on pages J-22–J-23.

How To Order

Use the **Bold** characters from the choices listed on the following page to construct a product code.



Example:

B3023-W36-SB5-PF-PFO-12VDC-G5












2-Way N.C. Free Vent (with 1.26 Conduit Option) solenoid valve, with 36" (91cm) tape-wrapped coil, lead-wired, non-standard length, 316 stainless steel body, perfluoroelastomer plunger seal, perfluoroelastomer o-ring, 1/8-27 NPT female thread, operating at 12 VDC, and includes a one piece 316 stainless steel guide assembly option.

* Blank entry indicates a "Standard" selection (1/8-27 NPT female thread, in this case).

Take advantage of next day shipping by making your selections from those marked with the Lightning Bolt icon.

Part Prefix Table ①

	Orifice				MOPD		C _v		K _v		① Primary Prefix	
	Body		Stop		psig	bar	Body	Stop	Body	Stop	Grommet Housing	Conduit Housing
	inches	mm	inches	mm								
2-WAY N.C.	1/16	1.59	—	—	400	28	0.065	—	0.056	—	B2011	B2021
	5/64	1.98	—	—	300	21	0.090	—	0.078	—	B2012	B2022
	3/32	2.38	—	—	250	17	0.155	—	0.134	—	B2013	B2023
	7/64	2.78	—	—	200	14	0.200	—	0.173	—	B2014	B2024
	1/8	3.18	—	—	150	10	0.240	—	0.208	—	B2015	B2025
	5/32	3.97	—	—	100	6.9	0.300	—	0.259	—	B2016	B2026
	3/16	4.76	—	—	50	3.4	0.430	—	0.372	—	B2017	B2027
2-WAY N.O.	—	—	1/32	0.79	400	28	—	0.019	—	0.016	B2211	B2221
	—	—	3/64	1.19	300	21	—	0.040	—	0.035	B2212	B2222
	—	—	1/16	1.59	200	14	—	0.075	—	0.065	B2213	B2223
	—	—	5/64	1.98	150	10	—	0.090	—	0.078	B2214	B2224
3-WAY N.C. Free Vent	1/32	0.79	1/32	0.79	250	17	0.018	0.018	0.016	0.016	B3011	B3021
	3/64	1.19	3/64	1.19	175	12	0.040	0.040	0.035	0.035	B3012	B3022
	1/16	1.59	1/16	1.59	125	8.6	0.065	0.070	0.056	0.061	B3013	B3023
	5/64	1.98	5/64	1.98	100	6.9	0.090	0.090	0.078	0.078	B3014	B3024
	3/32	2.38	5/64	1.98	75	5.2	0.155	0.090	0.134	0.078	B3015	B3025
	1/8	3.18	5/64	1.98	50	3.4	0.240	0.090	0.208	0.078	B3016	B3026
3-WAY N.C. Line Connection	5/32	3.97	5/64	1.98	15	1.0	0.300	0.090	0.259	0.078	B3017	B3027
	1/32	0.79	1/32	0.79	250	17	0.018	0.018	0.016	0.016	B3111	B3121
	3/64	1.19	3/64	1.19	175	12	0.040	0.040	0.035	0.035	B3112	B3122
	1/16	1.59	1/16	1.59	125	8.6	0.065	0.070	0.056	0.061	B3113	B3123
	5/64	1.98	5/64	1.98	100	6.9	0.090	0.090	0.078	0.078	B3114	B3124
	3/32	2.38	5/64	1.98	75	5.2	0.155	0.090	0.134	0.078	B3115	B3125
	1/8	3.18	5/64	1.98	50	3.4	0.240	0.090	0.208	0.078	B3116	B3126
3-WAY N.O.	5/32	3.97	5/64	1.98	15	1.0	0.300	0.090	0.259	0.078	B3117	B3127
	1/32	0.79	1/32	0.79	200	14	0.018	0.018	0.016	0.016	B3211	B3221
	3/64	1.19	3/64	1.19	150	10	0.040	0.040	0.035	0.035	B3212	B3222
	1/16	1.59	1/16	1.59	125	8.6	0.065	0.070	0.056	0.061	B3213	B3223
	5/64	1.98	5/64	1.98	100	6.9	0.090	0.090	0.078	0.078	B3214	B3224
	3/32	2.38	5/64	1.98	75	5.2	0.155	0.090	0.134	0.078	B3215	B3225
	1/8	3.18	5/64	1.98	50	3.4	0.240	0.090	0.208	0.078	B3216	B3226
3-WAY Multi Purpose	5/32	3.97	5/64	1.98	15	1.0	0.300	0.090	0.259	0.078	B3217	B3227
	1/32	0.79	1/32	0.79	175	12	0.018	0.018	0.016	0.016	B3311	B3321
	3/64	1.19	3/64	1.19	125	8.6	0.040	0.040	0.035	0.035	B3312	B3322
	1/16	1.59	1/16	1.59	100	6.9	0.065	0.070	0.056	0.061	B3313	B3323
	5/64	1.98	5/64	1.98	75	5.2	0.090	0.090	0.078	0.078	B3314	B3324
	3/32	2.38	5/64	1.98	50	3.4	0.155	0.090	0.134	0.078	B3315	B3325
	1/8	3.18	5/64	1.98	25	1.7	0.240	0.090	0.208	0.078	B3316	B3326
3-WAY Directional Control	5/32	3.97	5/64	1.98	15	1.0	0.300	0.090	0.259	0.078	B3317	B3327
	1/32	0.79	1/32	0.79	275	19	0.018	0.018	0.016	0.016	B3411	B3421
	3/64	1.19	3/64	1.19	200	14	0.040	0.040	0.035	0.035	B3412	B3422
	1/16	1.59	1/16	1.59	150	10	0.065	0.070	0.056	0.061	B3413	B3423
	5/64	1.98	5/64	1.98	100	6.9	0.090	0.090	0.078	0.078	B3414	B3424
	3/32	2.38	5/64	1.98	75	5.2	0.155	0.090	0.134	0.078	B3415	B3425
	1/8	3.18	5/64	1.98	50	3.4	0.240	0.090	0.208	0.078	B3416	B3426
	5/32	3.97	5/64	1.98	25	1.7	0.300	0.090	0.259	0.078	B3417	B3427

2 Coil Construction**(blank)** = Tape-wrapped, Class B (130°C), with 18" (45.7cm) lead wires* **W**___ = Tape-wrapped coil, lead wires, non-standard length (specify length in inches)**10** = Externally rectified coil (AC voltages lead wires only) **1** = Encapsulated coil, Class B (130°C), lead wires**3** = Encapsulated coil, Class H (180°C), lead wires**4** = Encapsulated coil, Class B (130°C), 3/16" (4.76mm) spade terminals (1/4" (6.35mm) spade terminal optional)**11** = Tape-wrapped coil, Class H (180°C), lead wires**HC2** = Encapsulated coil, Class B (130°C), 9.4mm DIN (EN175301-803 Style C Industrial 2+1 poles)**3 Body Material****(blank)** = 303 Stainless Steel* **BB** = Brass**SB** = 304 Stainless Steel**SB5** = 316 Stainless Steel**SBF** = 430F Stainless Steel**4 Plunger Seal Material****(blank)** = Nitrile* **E** = EPR **GV** = Gasoline Viton® (2-way N.C. only)**N** = Neoprene **NS** = Nitrile (NSF/FDA material) **PF** = Perfluoroelastomer **R** = Rulon® (2-way N.C. only)**T** = PTFE**V** = Viton® **5 O-Ring Material****(blank)** = Nitrile* **EO** = EPR **NO** = Neoprene **NSO** = Nitrile (NSF/FDA material) **PFO** = Perfluoroelastomer **TO** = PTFE**VO** = Viton® **6 Body Port Configuration****(blank)** = 1/8-27 NPT female thread* **LB** = 1/4-18 NPT female thread**BD** = #10-32 female straight thread
- max. orifice = 1/8" (3.18mm)**LT** = 1/8-28 BSPT female thread**LU** = 1/4-19 BSPT female thread (2-way N.C. only)**MM** = Manifold mount (1/4-28 UNF-2A mounting stud)†††**MM3** = Manifold mount (5/16-24 UNF-2A mounting stud)†††**OB** = Omit body (operator style)**MB** = Bottom metering (2-way N.C. only)**BI** = Bottom over-seat port, female thread
- max. orifice = 1/8" (3.18mm)**BIM** = Bottom over-seat port, 1/8-27 NPT male thread
- max. orifice = 5/64" (1.98mm), brass body only**BO** = Bottom under-seat port, female thread**BOM** = Bottom under-seat port, 1/8-27 NPT male thread
- max. orifice = 1/8" (3.18mm), brass body only**RL** = 90° porting - left hand**RR** = 90° porting - right hand**BS** = Stop port, #10-32 female straight thread**7 Voltage** (see note below)****C203** = 12 VDC **C204** = 24 VDC **C301** = 120/50/60R (add Coil Option -10) **C303** = 240/50/60R (add Coil Option -10) ___ **VDC** = DC (specify DC voltage)___ **VAC** = AC (specify AC voltage; includes copper shading ring)**8 Additional Options****Y** = Yoke (2-way N.C. only)**WM** = Mounting bracket**TP** = PTFE coated plunger**QO** = Quiet operation (2-way N.C. only)**S** = Silver shading ring**OC** = Cleaned for oxygen use**VAC** = Vacuum application - 0 to 29.5" Hg (0 to 1000mBar)**G1** = One-piece 303 Stainless Steel guide assembly

(standard on 2-way normally open and all 3-way valves)

G5 = One piece 316 Stainless Steel guide assembly**SH** = 1" Diameter housing, grommet**SC** = 1" Diameter housing, conduit

* Standard selection; will be used unless otherwise specified. Standard selections are not referenced in final part number.

† Internal rectified available. Consult factory.

†† Can be AC rectified without shading ring. Use coil construction Code 10.

††† Teflon® o-ring not suitable for manifold mount.

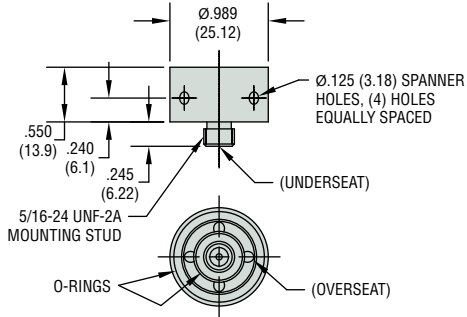


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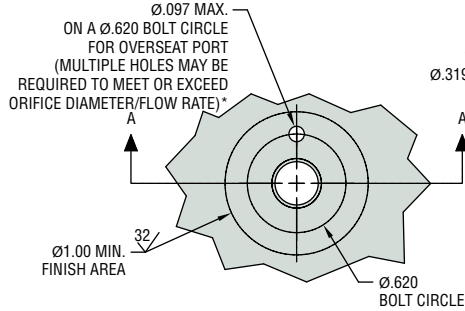
B Series – Manifold Mount Interface Details

Manifold Mounting Bodies

Manifold Mount 5/16"-24 Stud Body (MM3)



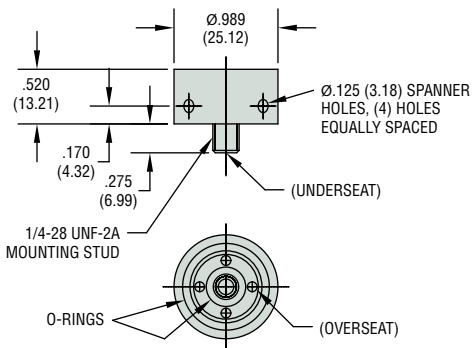
Manifold Preparation



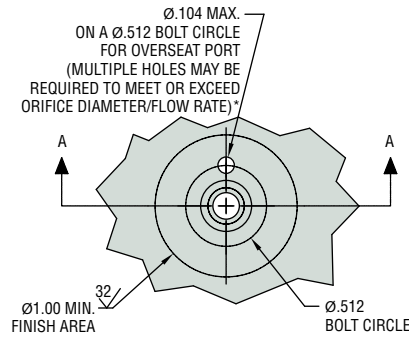
* If the total area of overseat port is less than the orifice diameter, then the overseat is the restrictor.

SECTION A-A

Manifold Mount 1/4"-28 Stud Body (MM)



Manifold Preparation



* If the total area of overseat port is less than the orifice diameter, then the overseat is the restrictor.

SECTION A-A

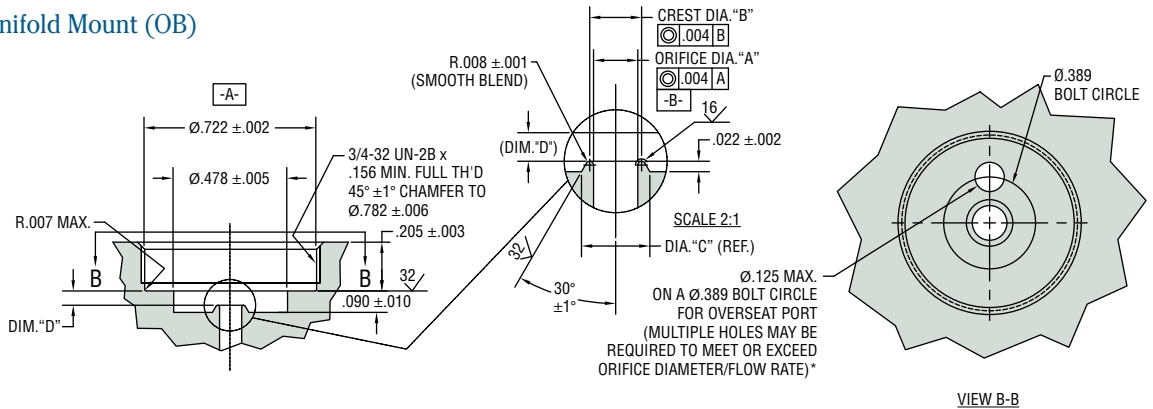
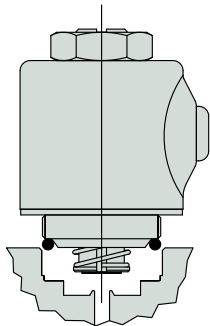
Standard and Vacuum Port values for all manifold drawings on this page.

Valve Type	Standard		Vacuum	
	Overseat Port	Underseat Port	Overseat Port	Underseat Port
2-Way N.C.	IN	OUT	VAC	IN
2-Way N.O.	IN	—	IN	—
3-Way N.C.	CYL	IN	IN	VAC
3-Way N.O.	CYL	EXH	CYL	EXH
3-Way M.P.	COM	N.C.	COM	N.C.
3-Way D.C.	IN	N.C.	VAC	N.C.

B Series – Operator (OB) Interface Details

Omit Body Manifold Mount (OB)

N.C. & 3-Way



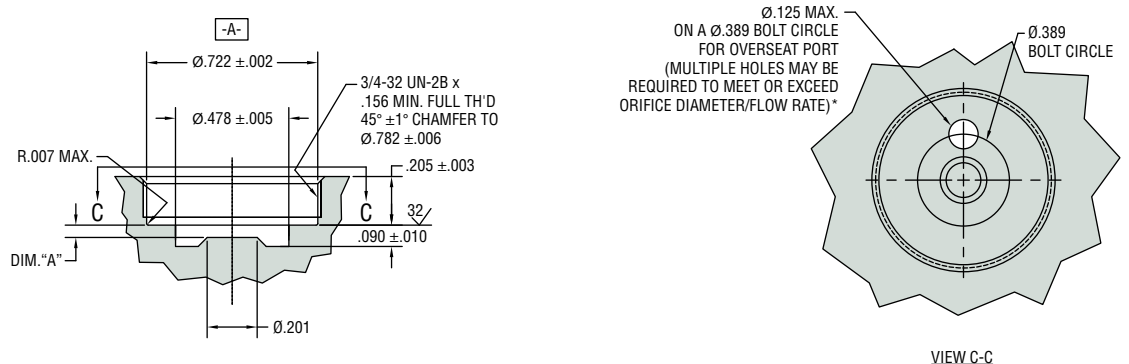
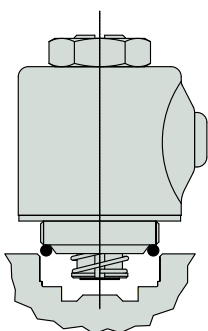
Note: All diameters to be concentric to datum -A- within .003 T.I.R.

* If the total area of overseat port is less than the orifice diameter, then the overseat is the restrictor.

Dimensions

Valve Function	Valve Prefix (Code 1)	Orifice Dia. "A" ±.001	Crest Dia. "B" ±.002	Base Dia. "C" Ref.	Orifice Depth Dim. "D" ±.001
2-Way N.C.	2011	.062 (1.57)	.078 (1.98)	.1126 (2.860)	.052 (1.32)
	2012	.078 (1.98)	.094 (2.39)	.1286 (3.266)	.056 (1.42)
	2013	.093 (2.36)	.109 (2.77)	.1436 (3.647)	.060 (1.52)
	2014	.109 (2.77)	.125 (3.18)	.1596 (4.054)	.064 (1.63)
	2015	.120 (3.05)	.136 (3.45)	.1706 (4.333)	.067 (1.70)
	2016	.148 (3.76)	.164 (4.17)	.1986 (5.044)	.074 (1.88)
	2017	.176 (4.47)	.192 (4.88)	.2266 (5.756)	.081 (2.06)
3-Way (All)	3X11	.040 (1.02)	.052 (1.32)	.0843 (2.141)	.047 (1.19)
	3X12	.046 (1.19)	.062 (1.57)	.0966 (2.454)	.048 (1.22)
	3X13	.062 (1.57)	.078 (1.98)	.1126 (2.860)	.052 (1.32)
	3X14	.078 (1.98)	.094 (2.39)	.1286 (3.266)	.056 (1.42)
	3X15	.093 (2.36)	.109 (2.77)	.1436 (3.647)	.060 (1.52)
	3X16	.120 (3.05)	.136 (3.45)	.1706 (4.333)	.067 (1.70)
3X17	.148 (3.76)	.164 (4.17)	.1986 (5.044)	.074 (1.88)	

N.O.



Note: All diameters to be concentric to datum -A- within .003 T.I.R.

* If the total area of overseat port is less than the orifice diameter, then the overseat is the restrictor.

Dimensions

Valve Function	Valve Prefix (Code 1)	Orifice Depth Dia. "A" ±.001	Stop Orifice Ref.
2-Way N.O.	2211	.047 (1.19)	1/32
	2212	.048 (1.22)	3/64
	2213	.052 (1.32)	1/16
	2214	.056 (1.42)	5/64