

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

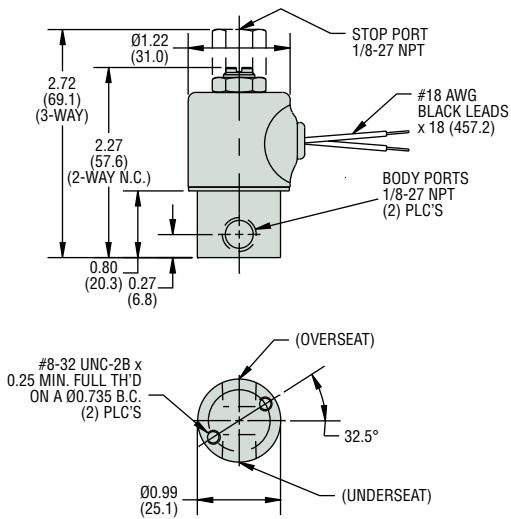
The B Series is a direct acting solenoid valve, available in 2- or 3-way functionality. Like all of our valves, the B Series has bubble tight plunger construction and is designed to last for millions of cycles in general purpose liquid, gas, and vacuum applications. The B Series is available in various 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

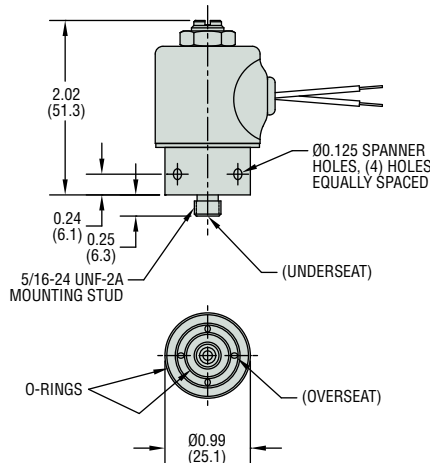
- Printing
- HVAC
- Semiconductor Equipment
- Medical Equipment

Dimensions

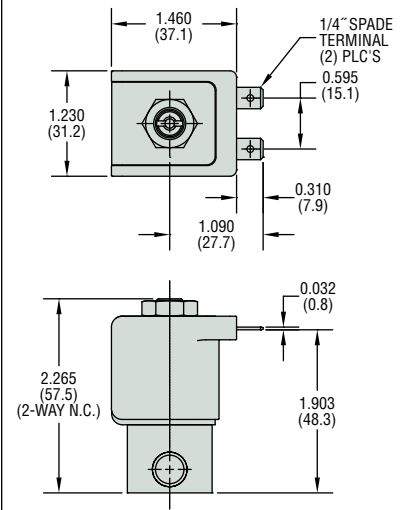
Threaded Port Body



Manifold Mount Body

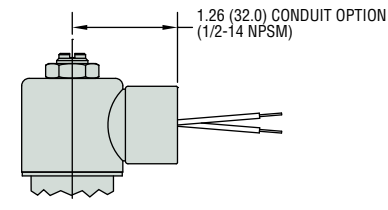


Molded Coil



Alternate 1/2" Conduit Housing

Available on all body configurations



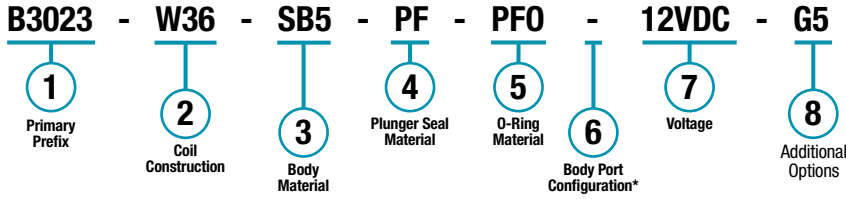
See Manifold Mount Interface Details on pages J-22–J-23.



Next Day Shipping
On Many Configurations

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.

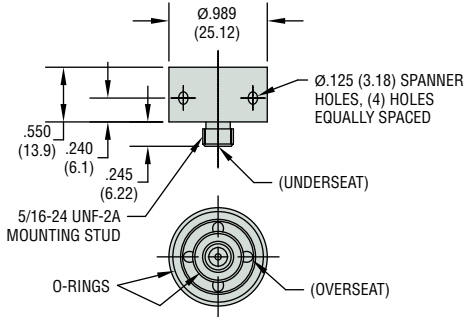


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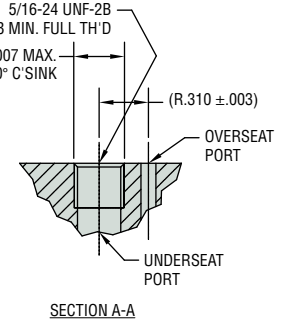
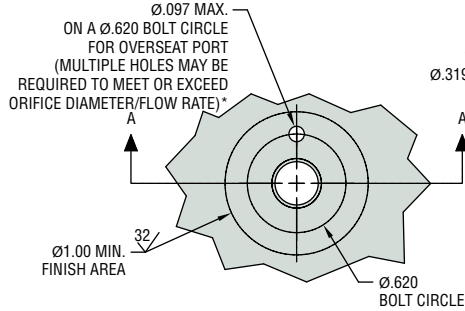
B Series – Manifold Mount Interface Details

Manifold Mounting Bodies

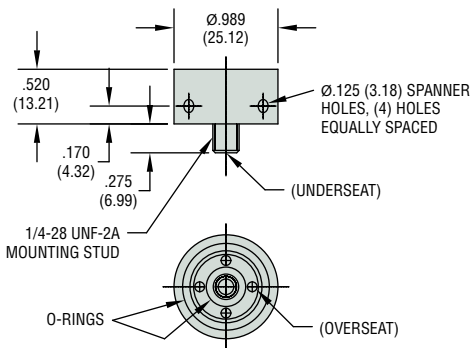
Manifold Mount 5/16"-24 Stud Body (MM3)



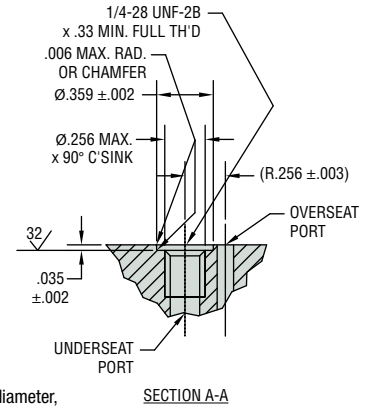
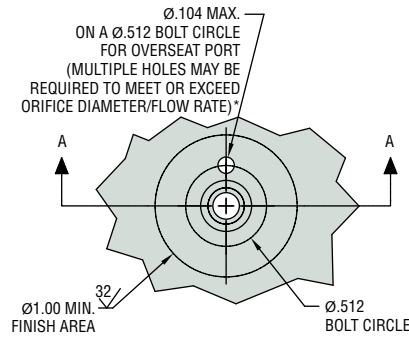
Manifold Preparation



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



Manifold Preparation



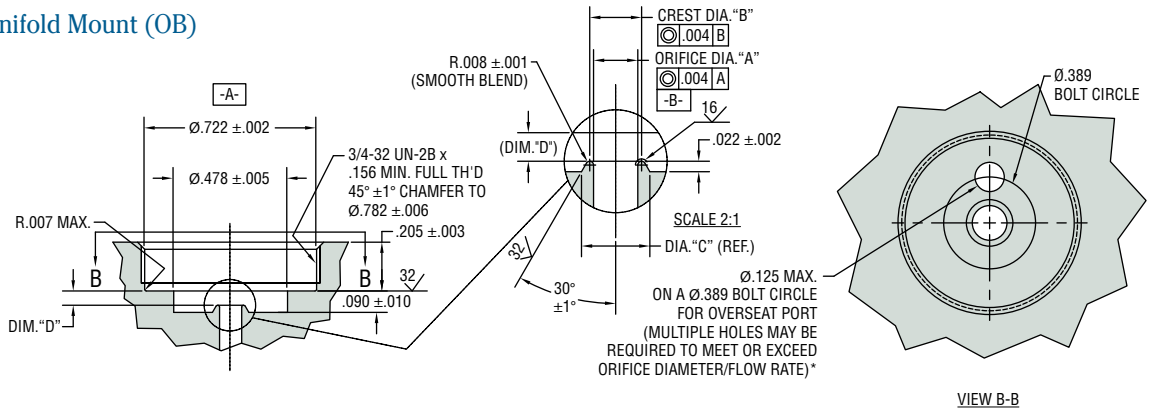
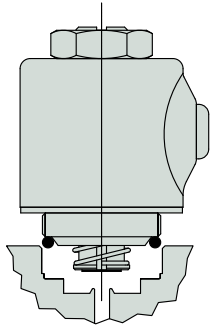
Standard and Vacuum Port values for all manifold drawings on this page.

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



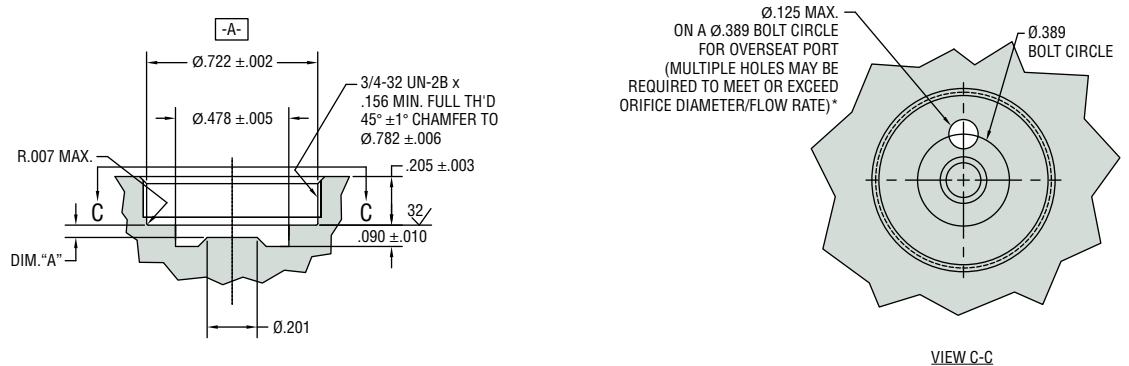
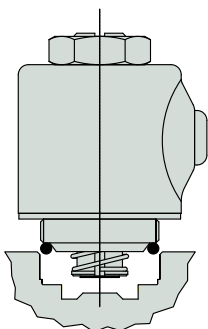
Note: All diameters to be concentric to datum -A- within .003 T.I.R.

* 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