B Series – Modular

- MOPD: 28 Bar (400 PSI)
- K_V Range: 0.016 to 0.372 (C_V Range: 0.018 to 0.430)
- 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 in an excellent choice for most general-purpose application requiring a K_V of 0.016 to 0.372 (C_V of 0.018 to 0.430).

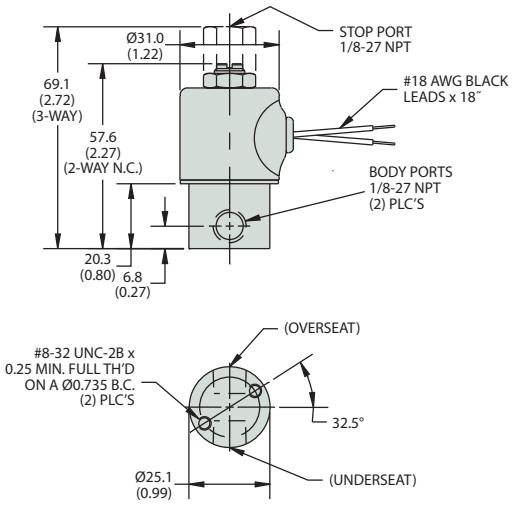
Contact Gems for UL and CSA approved options

Typical Applications

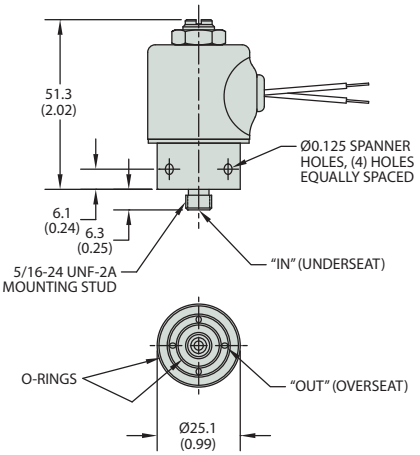
- Printing
- HVAC
- Semiconductor Equipment
- Medical Equipment

Dimensions

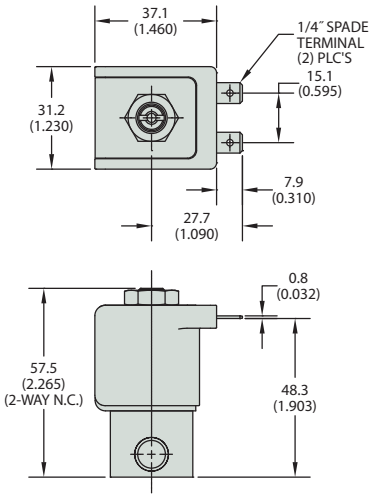
Threaded Port Body



Manifold Mount Body



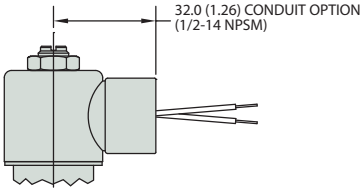
Molded Coil



Materials

Body	303 S.S.
Guide Assembly	430FR, 304, 430FR S.S. (2-way N.C.) 303, 430FR S.S. (2-way N.O. & 3-ways)
Adapter	430F S.S.
Plunger	430FR S.S.
Return Spring	302 S.S.
Shading Ring	Copper
Plunger Seals	Nitrile
O-Rings	Nitrile

Alternate 1/2″ Conduit Housing
Available on all body configurations



How To Order

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

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

1. Primary Prefix
2. Coil Construction
3. Body Material
4. Plunger Seal Material
5. O-Ring Material
6. Body Port Configuration*
7. Voltage
8. Additional Options

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

Example:

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

2-Way N.C. Free Vent (with 1.26 Conduit Option) solenoid valve, with 91cm (36″) 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.

Part Prefix Table 1

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

② Coil Construction

- **(blank)** = Class 130°C (B), tape-wrapped, lead-wires – 45.7cm (18˝) long*
- **W___** = Lead-wires, non-standard length (specify in centimeters)
- **10** = Externally rectified (AC voltage and lead-wires only)[1]
- **1** = Class 130°C (B), encapsulated, lead-wires
- **4** = Class 130°C (B), encapsulated, 6.35mm (1/4˝) spade terminals (4.76mm (3/16˝) spade optional)
- **HC2** = Class 130°C (B), encapsulated, 9.4mm DIN (EN175301-803 Style C Industrial 2+1 poles)
- **2M** = Class 155°C (F), over-molded, lead-wires
- **5M** = Class 155°C (F), over-molded, 6.35mm (1/4˝) spade terminals
- **11** = Class 180°C (H), tape-wrapped, lead-wires
- **3** = Class 180°C (H), encapsulated, lead-wires
- **3M** = Class 180°C (H), over-molded, lead-wires
- **6M** = Class 180°C (H), over-molded, 6.35mm (1/4˝) spade terminals

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 = 3.18mm (1/8˝)
- **LT** = 1/8-28 BSPT female thread with M4 x 0.7 mounting threads
- **LU** = 1/4-19 BSPT female thread with #8-32 mounting threads (2-way N.C. only)
- **MM** = Manifold mount (1/4-28 UNF-2A mounting stud)[2]
- **MM3** = Manifold mount (5/16-24 UNF-2A mounting stud)[2]
- **OB** = Omit body (operator style)
- **MB** = Bottom metering (2-way N.C. only)
- **BI** = Bottom over-seat port, female thread – max. orifice = 3.18mm (1/8˝)
- **BIM** = Bottom over-seat port, 1/8-27 NPT male thread – max. orifice = 1.98mm (5/64˝), brass body only
- **BO** = Bottom under-seat port, female thread
- **BOM** = Bottom under-seat port, 1/8-27 NPT male thread – max. orifice = 3.18mm (1/8˝), brass body only
- **RL** = 90° porting - left hand
- **RR** = 90° porting - right hand
- **BS** = Stop port, #10-32 female straight thread

⑦ Voltage[3]

- **___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
- **S** = Silver shading ring
- **OC** = Cleaned for oxygen use
- **VAC** = Vacuum application – 0 to 1000mBar (0 to 29.5˝ Hg)
- **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** = 25.4mm (1˝) Diameter housing, grommet
- **SC** = 25.4mm (1˝) Diameter housing, conduit

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

Notes
1. Internal rectified available. Consult factory.
2. Teflon® o-ring not suitable for manifold mount.
3. Can be AC rectified without shading ring. Use coil construction Code 10.