



## 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

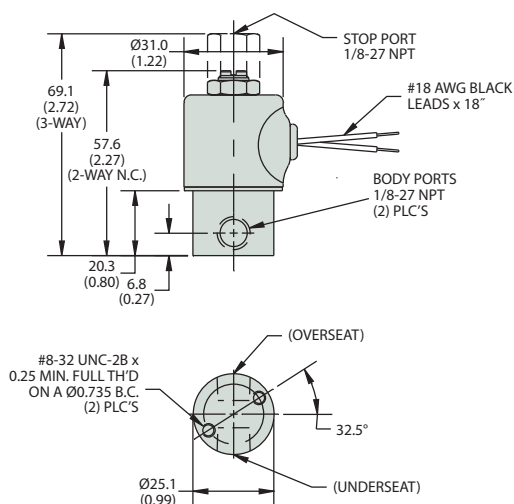
The B Series is a direct acting solenoid valve, available in 2- or 3-way functionality. Like all of our valves, the B Series has bubble tight plunger construction and is designed to last for millions of cycles in general purpose liquid, gas, and vacuum applications. The B Series is available in various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

### Typical Applications

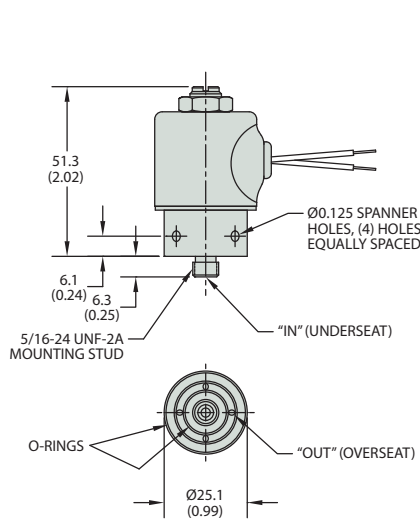
- Printing
- HVAC
- Semiconductor Equipment
- Medical Equipment

### Dimensions

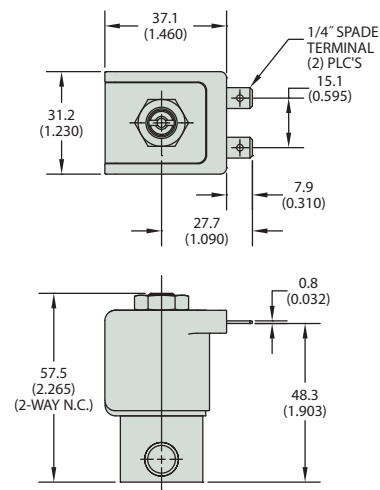
#### Threaded Port Body



#### Manifold Mount Body



#### Molded Coil

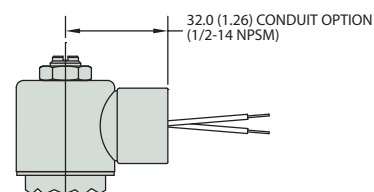


### Materials

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

#### Alternate 1/2" Conduit Housing

Available on all body configurations

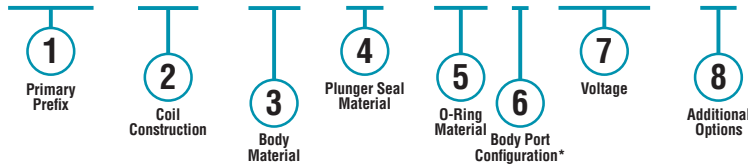


Contact Gems for UL and CSA approved options

## 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**



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

## Part Prefix Table ①

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

## 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.

**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)<sup>1</sup>

**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** = EPDM

**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** = EPDM

**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)<sup>2</sup>

**MM3** = Manifold mount (5/16-24 UNF-2A mounting stud)<sup>2</sup>

**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<sup>3</sup>**

\_\_\_ **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.