

## BG Series

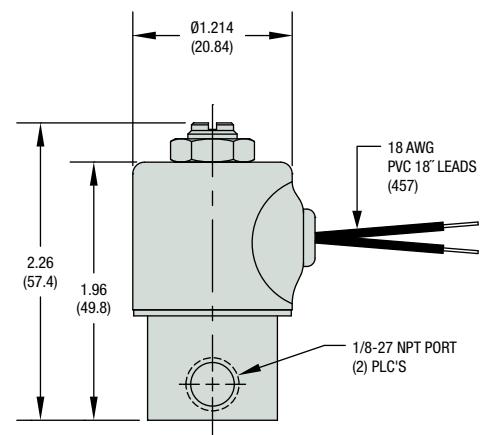
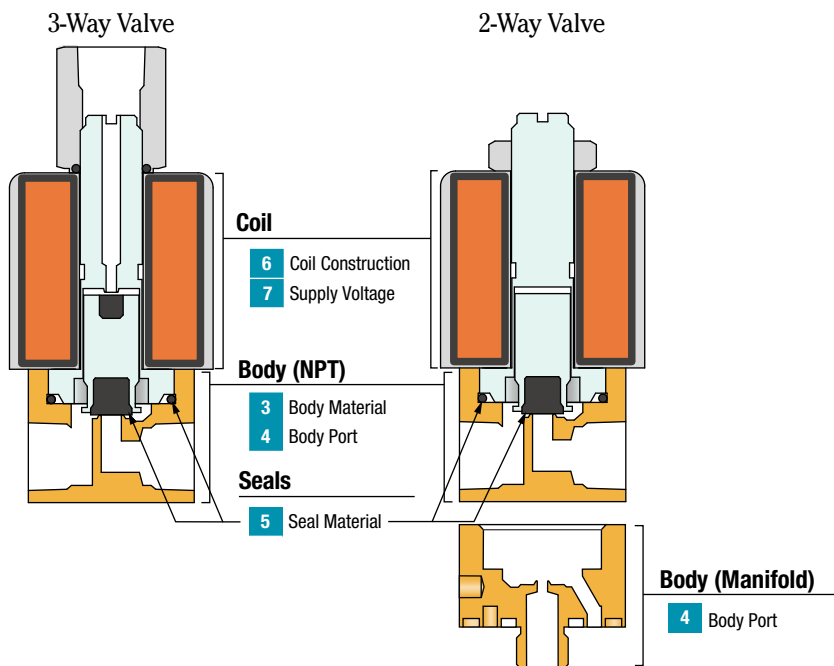
- ▶ MOPD: 400 PSI (28 Bar)
- ▶  $C_v$  Range: 0.018 to 0.430 ( $K_v$  Range: 0.016 to 0.372)
- ▶ 7 Watts

The BG Series gives you a highly adaptable design for practically all applications requiring flow between  $C_v$  0.018 and 0.430 ( $K_v$  0.016 to 0.372). This robust 2- or 3-way miniature solenoid utilizes a stainless steel body to resist corrosion for most acids, alkaline solutions, and harsh environments. Available in numerous port configurations, orifice sizes, and material combinations, the BG Series is a highly flexible valve that fulfills the requirements for most applications.

### Typical Applications

- Stainless Steel Bodies:
- Medical Equipment
  - Laboratory Equipment
  - Food Processing Equipment

### Reference



**Example Shown**  
 Part Number: BG2022-01LC-B-G1-203  
 From How to Order example below.

### How To Order

Valve Part Numbers are built from a series product codes. Use the **Bold** product codes from the choices listed on the following page to construct a complete Part Number.

<b>BG</b>	<b>20</b>	<b>22</b>	-	<b>01</b>	<b>LC</b>	-	<b>B</b>	-	<b>G1</b>	-	<b>203</b>
Series	Function	MOPD	-	Body Material	Body Port	-	Seal Material	-	Coil Construction	-	Supply Voltage

#### Product Description from Example Shown Above:

#### BG2022-01LC-B-G1-203

- BG2022** = BG Series with 2-Way Normally Closed Valve **Function**; 100 MOPD
- 01LC** = 303 Stainless Steel **Body Material**; 1/8" NPT Female **Body Port**
- B** = Nitrile (Buna-N) **Seal Material**; (Plunger Seal and Internal O-Ring)
- G1** = Grommet Housing Tape-Wrapped (Class B) **Coil Construction**;
- 203** = 12 VDC **Supply Voltage**

# BG Series – Part Number Build

Build a Valve Part Number by filling in the boxes below using the related code numbers on this page.

<b>BG</b>										
<b>Series</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>			

## 1 + 2 Valve Function & Maximum Operating Pressure Differential

Valve Function	Code	MOPD		C <sub>v</sub>		K <sub>v</sub>		Orifice			
		psig	bar	Body	Stop	Body	Stop	Body		Stop	
								inches	mm	inches	mm
2-WAY Normally Closed	2005	400	28	0.065	—	0.056	—	1/16	1.59	—	—
	2007	300	21	0.090	—	0.078	—	5/64	1.98	—	—
	2009	250	17	0.155	—	0.134	—	3/32	2.38	—	—
	2011	200	14	0.200	—	0.173	—	7/64	2.78	—	—
	2017	150	10	0.240	—	0.208	—	1/8	3.18	—	—
	2022	100	6.9	0.300	—	0.259	—	5/32	3.97	—	—
	2029	50	3.4	0.430	—	0.372	—	3/16	4.76	—	—
3-WAY Normally Closed	3109	250	17	0.018	0.018	0.016	0.016	1/32	0.79	1/32	0.79
	3114	175	12	0.040	0.040	0.035	0.035	3/64	1.19	3/64	1.19
	3120	125	8.6	0.065	0.070	0.056	0.061	1/16	1.59	1/16	1.59
	3122	100	6.9	0.090	0.090	0.078	0.078	5/64	1.98	5/64	1.98
	3126	75	5.2	0.155	0.090	0.134	0.078	3/32	2.38	5/64	1.98
	3129	50	3.4	0.240	0.090	0.208	0.078	1/8	3.18	5/64	1.98
	3136	15	1.0	0.300	0.090	0.259	0.078	5/32	3.97	5/64	1.98
3-WAY Normally Open	3211	200	14	0.018	0.018	0.016	0.016	1/32	0.79	1/32	0.79
	3217	150	10	0.040	0.040	0.035	0.035	3/64	1.19	3/64	1.19
	3220	125	8.6	0.065	0.070	0.056	0.061	1/16	1.59	1/16	1.59
	3222	100	6.9	0.090	0.090	0.078	0.078	5/64	1.98	5/64	1.98
	3226	75	5.2	0.155	0.090	0.134	0.078	3/32	2.38	5/64	1.98
	3229	50	3.4	0.240	0.090	0.208	0.078	1/8	3.18	5/64	1.98
	3236	15	1.0	0.300	0.090	0.259	0.078	5/32	3.97	5/64	1.98
3-WAY Multi Purpose	3314	175	12	0.018	0.018	0.016	0.016	1/32	0.79	1/32	0.79
	3320	125	8.6	0.040	0.040	0.035	0.035	3/64	1.19	3/64	1.19
	3322	100	6.9	0.065	0.070	0.056	0.061	1/16	1.59	1/16	1.59
	3326	75	5.2	0.090	0.090	0.078	0.078	5/64	1.98	5/64	1.98
	3329	50	3.4	0.155	0.090	0.134	0.078	3/32	2.38	5/64	1.98
	3334	25	1.7	0.240	0.090	0.208	0.078	1/8	3.18	5/64	1.98
	3336	15	1.0	0.300	0.090	0.259	0.078	5/32	3.97	5/64	1.98
3-WAY Directional Control	3408	275	19	0.018	0.018	0.016	0.016	1/32	0.79	1/32	0.79
	3411	200	14	0.040	0.040	0.035	0.035	3/64	1.19	3/64	1.19
	3417	150	10	0.065	0.070	0.056	0.061	1/16	1.59	1/16	1.59
	3422	100	6.9	0.090	0.090	0.078	0.078	5/64	1.98	5/64	1.98
	3426	75	5.2	0.155	0.090	0.134	0.078	3/32	2.38	5/64	1.98
	3429	50	3.4	0.240	0.090	0.208	0.078	1/8	3.18	5/64	1.98
	3434	25	1.7	0.300	0.090	0.259	0.078	5/32	3.97	5/64	1.98

### 3 Body Material

- 01** 303 Stainless Steel
- 03** Brass
- XX** No Body
- (4) Body Port **OB** only)

### 4 Body Port

- LB** 1/4" NPT Female
- LC** 1/8" NPT Female
- MM** Manifold Mount (5/16"-24 Stud)
- OB** Omit Body (operator only)\* (3) Body Material **XX** only)

### 5 Seal Material

- B** Nitrile
- E** EPR
- V** Viton®

### 7 Supply Voltages

- 203** 12 VDC
- 204** 24 VDC

### 6 Coil Construction

- G1** Grommet Housing, Tape-Wrapped (Class B) Lead Wires
- G5** Grommet Housing, Epoxy Encapsulated (Class B) Lead Wires

\* Contact Gems for the operator orifice drawings

# BG Series – Additional Component Details & Dimensions

**1** Valve Function

Flow Schematics

**Flow Key**

- Blocked Flow
- Free Flow
- O/S = Over Seat
- U/S = Under Seat

Valve Type	De-Energized	Energized
<b>2-Way Normally Closed</b>		
<b>3-Way Normally Closed</b>		
<b>3-Way Normally Open</b>		
<b>3-Way Multi Purpose</b>		
<b>3-Way Directional Control</b>		

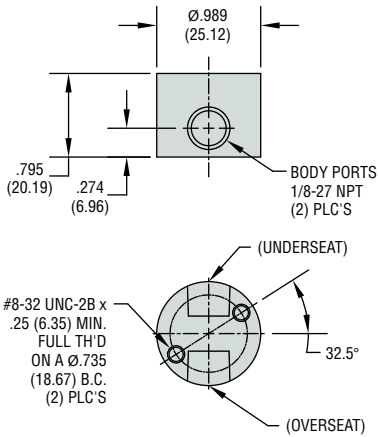
# BG Series – Additional Component Details & Dimensions, cont.

## 4 Body Port

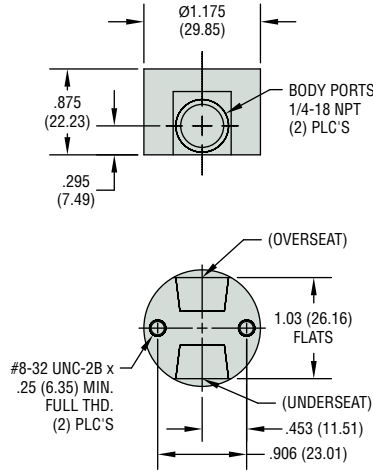
Note: Contact Gems for the operator orifice drawings

### Ported Bodies

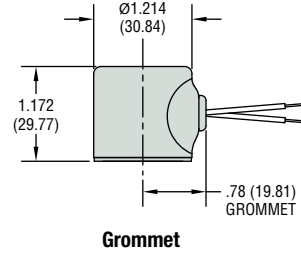
#### 1/8" NPT Port (LC)



#### 1/4" NPT Port (LB)

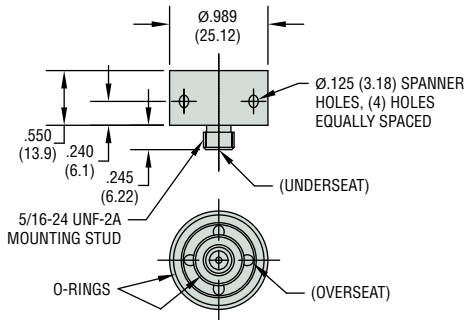


## 6 Coil Construction

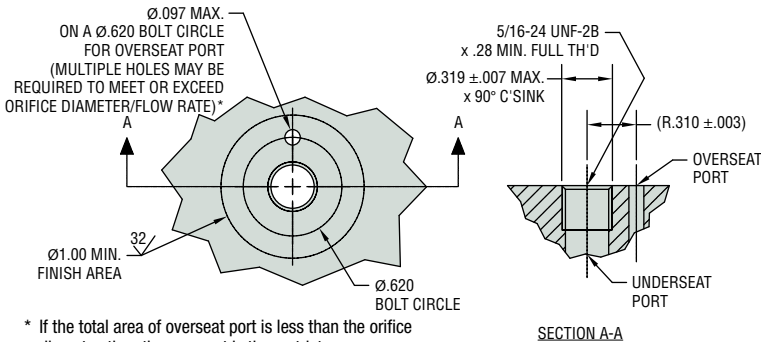


### Manifold Mounting Bodies

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



#### Manifold Preparation



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

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