

3-Piece High Purity Ball Valves

BGP Series

Introduction

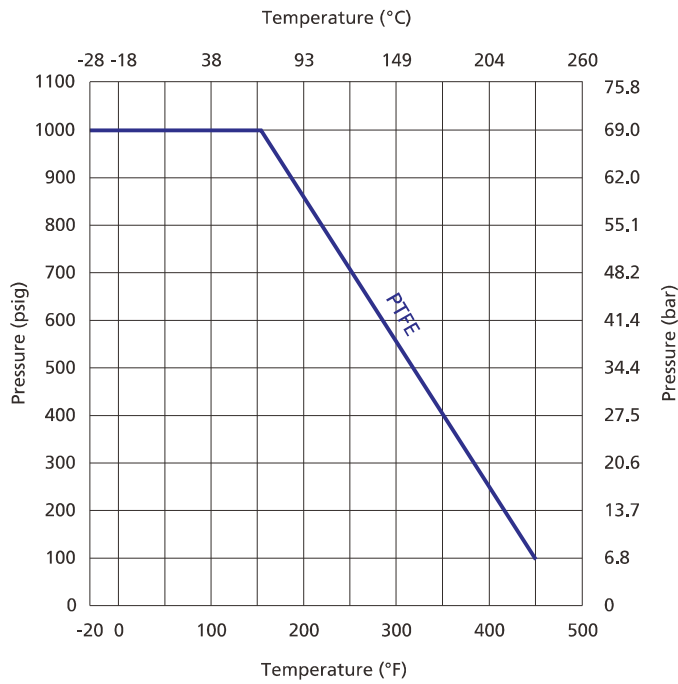
BGP series 3-piece high purity ball valves are designed to meet the requirements of degreasing, low working pressure, high flow rate and bi-directional flow for the clean dry air (CDA) and bulk gas distribution line, which are widely used in specialty gas, semiconductor and chemical industries.



Features

- ⦿ Working pressure up to: 1000 psig (69.0 bar)
- ⦿ Working temperature: -20 °F to 450 °F (-28 °C to 232 °C)
- ⦿ Orifice sizes: 0.18" (4.6 mm) to 1.5" (38.1 mm)
- ⦿ Factory tested for leaks with nitrogen or compressed air at rated working pressure, with optional helium leak testing to helium leak rate $\leq 1 \times 10^{-8}$ std·cm³/s

Pressure vs. Temperature

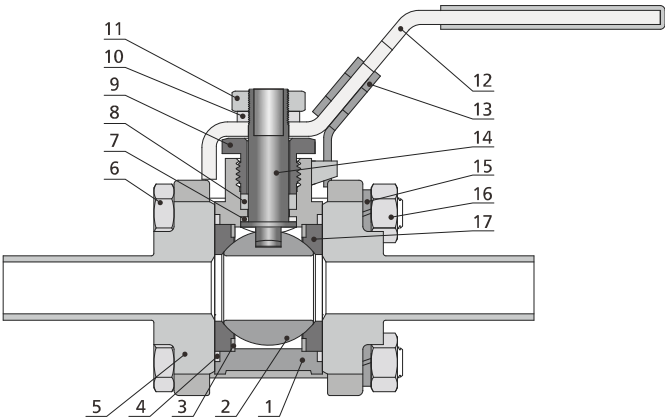


Note: The temperature and pressure rating is based on valves of standard materials.

Process Specification

Item	Process Specification	
	Special Cleaning and Packaging Process (FC-02)	Ultra High Purity Process (FC-03)
Material	CF8M, CF3M	CF3M
Flow Path Surface Roughness	Ra 25 µin. (0.6 µm)	Ra 10 µin. (0.25 µm)
Process	Machined	Electropolished
Lubrication	Components in contact with the medium are treated with special lubricants that are oxygen- compatible	

Major Materials of Construction

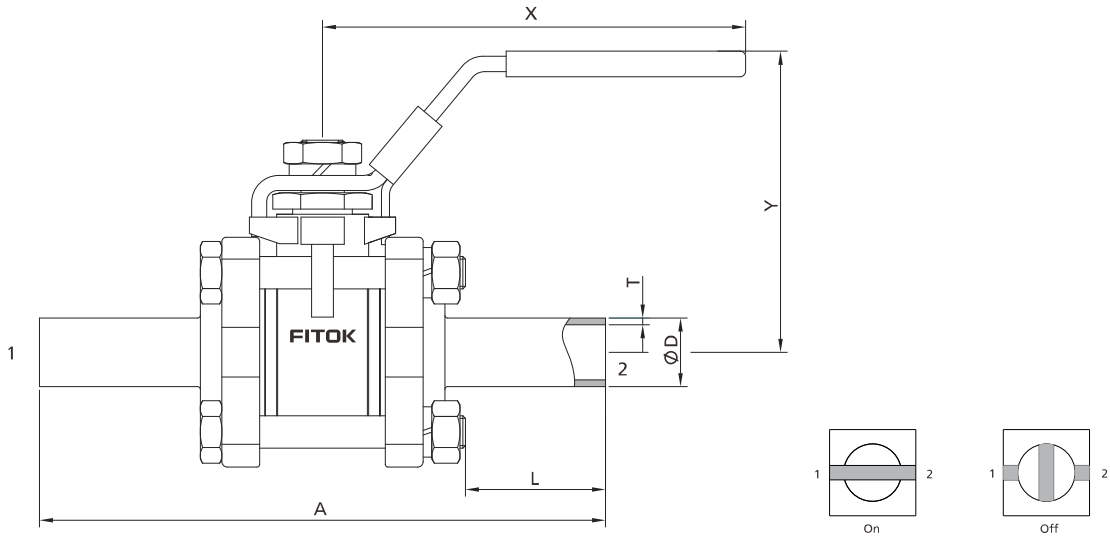


Item	Component	Material/Specification	
1	Body	CF8M/A351	CF3M/A351
2	Ball	316 SS/A479	316L SS/A479
3	Support Ring	316 SS/A240	316L SS/A240
4	Side Seal	PTFE/D1710	
5	End Cap	CF3M/A351	
6	Body Bolt	Stainless Steel	
7	Stem Bearing	PTFE/D1710	
8	Stem Packing	PTFE/D1710	
9	Packing Gland	304 SS/A479	
10	Gasket	Stainless Steel	
11	Stem Nut	Stainless Steel	
12	Handle	304 SS/A240 (with PVC Sleeve)	
13	Lock Block	304 SS/A240	
14	Stem	316 SS/A479	316L SS/A479
15	Standard Spring Gasket	Stainless Steel	
16	Hex Nut	Stainless Steel	
17	Seat	PTFE/D1710	

Note: Components in contact with the media are listed in italics. For other materials, please contact FITOK Group or our authorized distributors.

Dimensions

Dimensions in in. (mm) are for reference only and subject to change.



Ordering Information	Connection Type and Size	Orifice in. (mm)	Cv	Dimensions, in. (mm)					
				A	L	D	T	X	Y
BGP□□-TB4-05	1/4"× 0.035" Fractional Extended Tube Plain Butt Weld	0.18 (4.6)	1.1	3.30 (83.3)	0.81 (20.5)	0.25 (6.35)	0.035 (0.89)	2.69 (68.3)	1.46 (37.0)
BGP□□-FL4-05	1/4" FITOK Tube Fittings	0.19 (4.8)	1.2	2.63 (66.8)	—	—	—		
BGP□□-ML6-05	6 mm FITOK Tube Fittings			—	—	—	—		
BGP□□-ML8-05	8 mm FITOK Tube Fittings			—	—	—	—		
BGP□□-TB6-07	3/8"× 0.035" Fractional Extended Tube Plain Butt Weld	0.28 (7.1)	3.8	3.30 (83.3)	0.81 (20.5)	0.375 (9.53)	0.035 (0.89)	3.94 (100.0)	2.19 (55.7)
BGP□□-FL6-07	3/8" FITOK Tube Fittings			2.63 (66.8)	—	—	—		
BGP□□-ML10-07	10 mm FITOK Tube Fittings			—	—	—	—		
BGP□□-TB8-11	1/2"× 0.049" Fractional Extended Tube Plain Butt Weld	0.40 (10.21)	7.2	4.12 (104.6)	0.93 (23.5)	0.50 (12.7)	0.049 (1.24)		
BGP□□-FL8-11	1/2" FITOK Tube Fittings	0.42 (10.6)	7.5	4.04 (103.0)	—	—	—	3.94 (100.0)	2.26 (57.5)
BGP□□-ML12-11	12 mm FITOK Tube Fittings			—	—	—	—		
BGP□□-ML14-11	14 mm FITOK Tube Fittings			—	—	—	—		
BGP□□-FL10-13	5/8" FITOK Tube Fittings	0.5 (12.7)	11.3	—	—	—	—		
BGP□□-TB12-15	3/4"× 0.065" Fractional Extended Tube Plain Butt Weld	0.55 (14.0)	13	5.12 (130.0)	1.26 (32)	0.75 (19.05)	0.065 (1.65)	5.18 (131.5)	2.66 (67.5)
BGP□□-FL12-15	3/4" FITOK Tube Fittings			4.04 (103.0)	—	—	—		
BGP□□-ML18-15	18 mm FITOK Tube Fittings			—	—	—	—		
BGP□□-TB16-20	1"× 0.065" Fractional Extended Tube Plain Butt Weld	0.79 (20.0)	34	6.3 (160.0)	1.67 (42.5)	1.00 (25.4)	0.065 (1.65)		
BGP□□-FL16-20	1" FITOK Tube Fittings			5.12 (130.0)	—	—	—		
BGP□□-ML22-20	22 mm FITOK Tube Fittings			—	—	—	—		
BGP□□-ML25-20	25 mm FITOK Tube Fittings			—	—	—	—		
BGP□□-TB24-32	1 1/2"× 0.065" Fractional Extended Tube Plain Butt Weld	1.25 (31.8)	100	7.81 (198.3)	2.07 (52.6)	1.50 (38.1)	0.065 (1.65)	9.14 (232)	4.03 (102)
BGP□□-TB32-38	2"× 0.065" Fractional Extended Tube Plain Butt Weld	1.50 (38.1)	130	8.59 (218.1)	2.04 (51.8)	2.00 (50.8)			4.16 (103)

- Sizes and types listed are standard. Other sizes and types are available upon request, please contact FITOK Group or our authorized distributors.
- Connection tube length can be specified, such as BGPSS-TB4-05, if L=30 mm is required, the part number should be changed to BGPSS-TB4 × L30-05.

Locking Device

- Lock BGP series valves, locking hole diameters of: valves with orifice 05 or 07 are 0.185 in. (4.7 mm); valves with orifice 11, 13, 15, or 20 are 0.22 in. (5.7 mm); valves with orifice 32, 38 are 0.394 in. (10 mm)
- To order a ball valve with locking device, please refer to the "Ordering Number Description" and add -L to the valve ordering number
Example: BGPSS-FL8-11-L

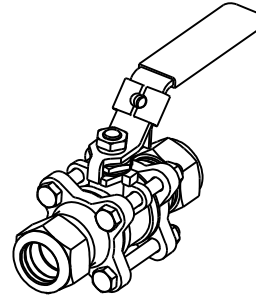


Diagram of Ball Valves with Locking Device

Low Dead Space Inserts

- Reduce fluid entrapment around the ball, stem, and seat when the valve is open or closed
- To order a ball valve with low dead space insert, please add -RZ to the valve ordering number
Example: BGPSS-FL4-05-RZ



Ordering Number Description

BGPSS - TB4 - TB6 - 05 - I L - U1D2 - RZ - AR2F3											
Series		Body Material		Connection 1 Size		Connection 2 Type	Connection 2 Size	Locking Device	Special Application		
BGP	SS	CF8M		4	1/4" or 1/4" x 0.035"	Same as Connection 1 Specified in the same way as the Connection 1		None	None		
	6L	CF3M		6	3/8" or 3/8" x 0.035" or 6 mm			L	Yes	RZ	Low Dead Space Insert
Connection 1 Type				8	1/2" or 1/2" x 0.049" or 8 mm	Orifice Size			Supplementary Testing		
TB	Fractional Extended Tube Plain Butt Weld			10	5/8" or 10 mm	05	Maximum 0.19" (4.8 mm)	None	None		
FL	Fractional Tube Fitting			12	3/4" or 3/4" x 0.065" or 12 mm	07	0.28" (7.1 mm)	U1	1/4" Tube Fitting with Plug		
ML	Metric Tube Fitting			14	14 mm	11	0.42" (10.6 mm)	U2	1/4" Male FR Fitting with Plug		
FR	Integral Male FR Metal Gasket Face Seal Fitting			16	1" or 1" x 0.065"	13	0.50" (12.7 mm)		AR2	Helium Leak Testing	
FO	FO Series O-Ring Face Seal Fitting			18	18 mm	15	0.55" (14.0 mm)		Process Specification		
				22	22 mm	20	0.79" (20.0 mm)	None	FC-02		
				24	1 1/2" x 0.065"	32	1.25" (31.8 mm)	D1	1/4" Tube Fitting with Plug	F3	FC-03 (For CF3M only)
				25	25 mm	38	1.50" (38.1 mm)	D2	1/4" Male FR Fitting with Plug		
				32	2" x 0.065"	Handle					
							Yellow Handle Cover				
							I Red Handle Cover				
							F Green Handle Cover				
							J Blue Handle Cover				