



aerospace
 climate control
 electromechanical
 filtration
 fluid & gas handling
 hydraulics
 pneumatics
 process control
 sealing & shielding



TB Series Ball Valves



ENGINEERING YOUR SUCCESS.

> INTRODUCTION

Parker TB Series Ball Valves, with their rugged compact design, offer positive shut off or directional control of fluids & gas in process, power and analytical applications. The unique one-piece seat/packing insure excellent sealing characteristics while accommodating a superior temperature range and cycle life.

These valves are available in 2-way, 3-way, 4-way and 5-way configurations and stainless steel construction, with a wide variety of port connections. Also, all ports are suitable as inlets to full operating pressure of the valve.



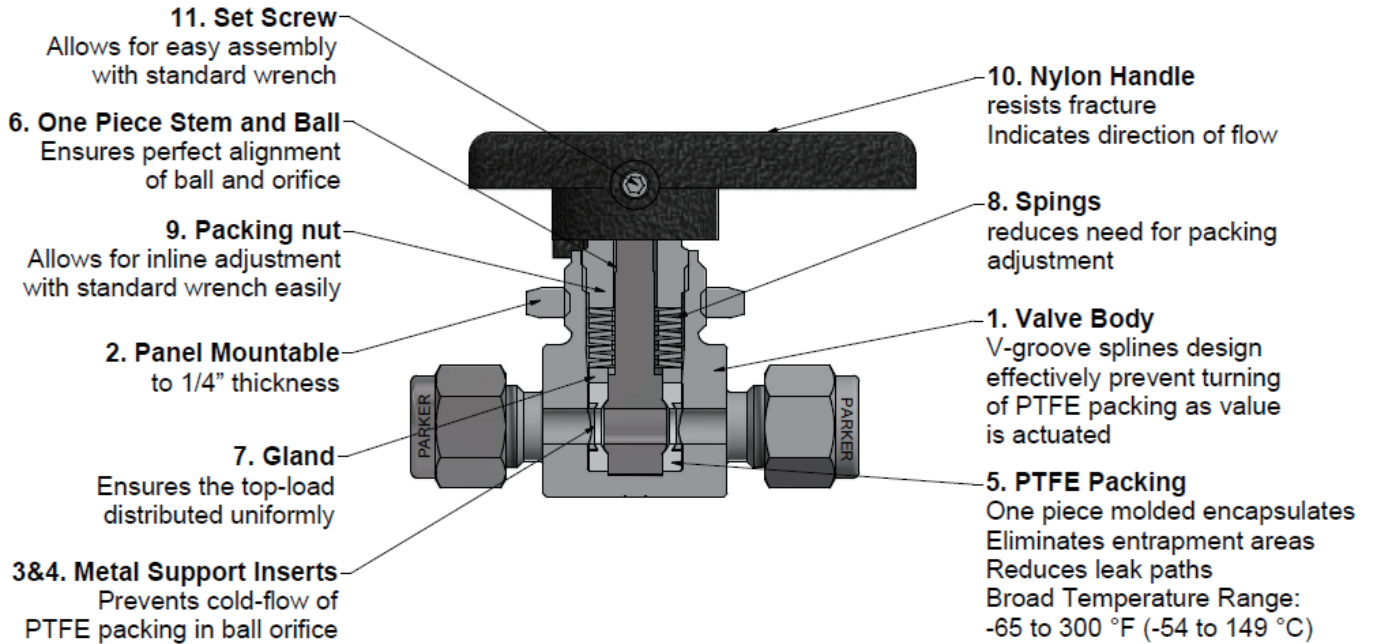
WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

> FEATURES AND SPECIFICATIONS



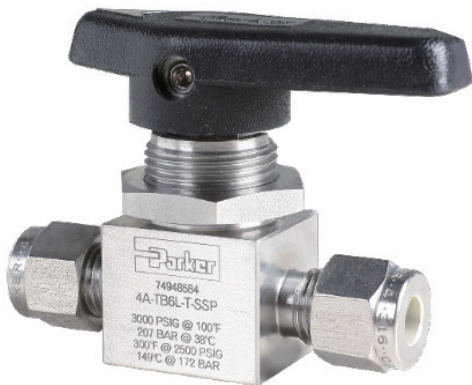
> MATERIALS OF CONSTRUCTION

Item	Part	Material
1	Valve Body	ASTM A479 TYPE 316
2	Panel Nut	316 Stainless Steel
3	Side Ring	ASTM A479 TYPE 316
4	Side Disc	ASTM A479 TYPE 316
5	Packing	Modified PTFE
6	Stem	ASTM A479 TYPE 316
7	Gland	ASTM A479 TYPE 316
8	Springs	Stainless Steel
9	Packing Nut	ASTM A479 TYPE 316
10	Handle	Nylon 6/6 with powdered metal 300 series SS insert
11	Set Screw	Stainless Steel

> SPECIFICATIONS

- Pressure rating: 3000 psig* (207 bar) CWP - TB6
2500 psig* (172 bar) CWP - TB4/TB8
- Temperature rating: -65 °F to 300 °F (-54 °C to 149 °C)
- Orifice: 0.052" and 0.406" (1.3 mm to 10.3 mm)
- Cv: 0.05 to 6.96
- Body materials: Stainless Steel
- Body configurations: 2-way (in-line and angle)
3-way, 4-way and 5-way
- Port connections: Tube compression (CPI™ / A-LOK®)
NPT (Male / Female)
BSPT, BSPP (Male / Female)
- Port size: 1/8" to 3/4" and 3mm to 12mm
- Seat/Packing: Modified PTFE

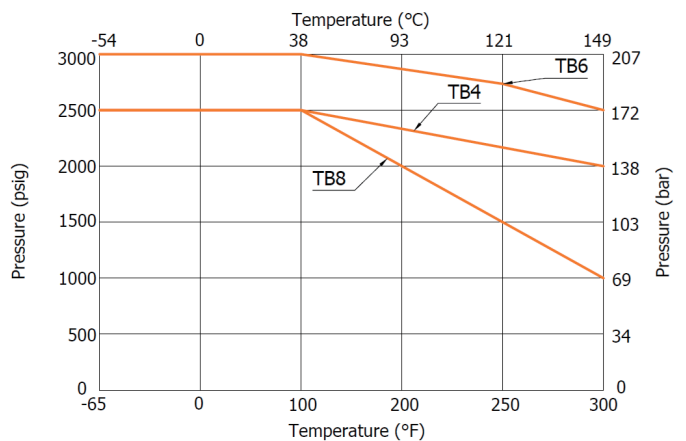
*Tested at 1200 psig with nitrogen, packing nut must be tightened to achieve higher pressures



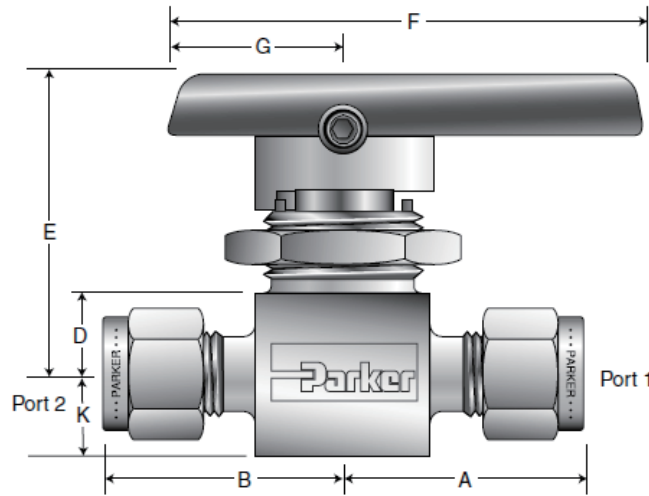
> FEATURES

- One-piece seat/packing design
- Top-loaded, live-loaded design
- Broad temperature range
- One-piece stem ball design
- Panel mountable to 1/4" thickness
- Bi-directional flow
- Handle indicates direction of flow
- Full operating pressure at any port
- Positive handle stops
- Color coded handles
- 100% factory tested
- Leak-tight center-off position on 3-way valves
- V-groove splines design effectively prevent Turning of PTFE packing

> PRESSURE VS. TEMPERATURE



NOTE: To determine MPa, multiply bar by 0.1



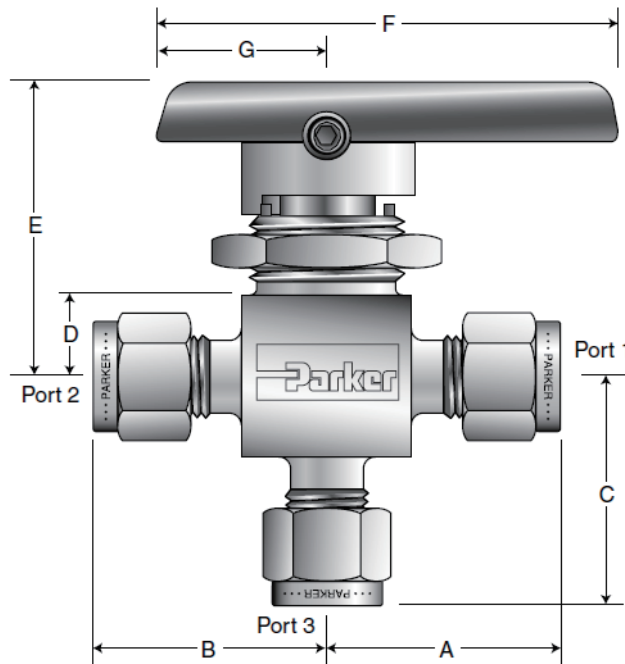
H- Maximum Panel Thickness
 I - Panel Hole Diameter
 J - Body Width

STANDARD

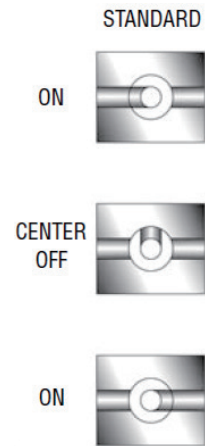


> 2-WAY IN-LINE DIMENSIONS, FLOW DATA

Port Size	Basic Type	Flow Data		End Connections		Inches(mm)									
		Orifice Inches(mm)	Cv	Port 1	Port 2	A	B	D	E	F	G	H	I	J	K
2F	TB4L	0.125 (3.2)	0.44	1/8" Female NPT		0.81 (20.6)	0.81 (20.6)	0.34 (8.6)	1.31 (33.3)	1.88 (47.8)	0.75 (19.1)	0.25 (6.4)	0.58 (14.7)	0.59 (15.06)	0.28 (7.1)
4Z				1/4" CPI™		1.11 (28.1)	1.11 (28.1)								
4A				1/4" A-LOK®											
M6Z				6mm CPI™		1.11 (28.1)	1.11 (28.1)								
M6A				6mm A-LOK®											
2Z	TB6L	0.093 (2.4)	0.18	1/8" CPI™		1.09 (27.7)	1.09 (27.7)	0.44 (11.2)	1.56 (39.6)	2.37 (60.2)	0.88 (22.4)	0.25 (6.4)	0.77 (19.6)	0.81 (20.7)	0.38 (9.5)
2A				1/8" A-LOK®											
2F		1/8" Female NPT		1.00 (25.4)	1.00 (25.4)										
4M		1/4" Male NPT		1.00 (25.4)	1.00 (25.4)										
4Z		1/4" CPI™		1.20 (30.4)	1.20 (30.4)										
4A		1/4" A-LOK®													
4F		1/4" Female NPT		1.03 (26.2)	1.03 (26.2)										
4M4Z		1/4" Male NPT	1/4" CPI™	1.00 (25.4)	1.20 (30.4)										
4M4A		1/4" Male NPT	1/4" A-LOK®												
6Z		3/8" CPI™		1.29 (32.8)	1.29 (32.8)										
6A		3/8" A-LOK®													
M6Z		6mm CPI™		1.20 (30.4)	1.20 (30.4)										
M6A		6mm A-LOK®													
M8Z		8mm CPI™		1.23 (31.2)	1.23 (31.2)										
M8A		8mm A-LOK®													
8Z	TB8L	0.406 (10.3)	10.70	1/2" CPI™		1.96 (49.8)	1.96 (49.8)	0.69 (17.5)	2.39 (60.7)	4.50 (114.3)	1.50 (38.1)	0.38 (9.7)	1.50 (38.1)	1.50 (38.1)	MB8 0.69 (17.5)
8A				1/2" A-LOK®											
8F		1/2" Female NPT		1.56 (39.6)	1.56 (39.6)										
12Z		3/4" CPI™		1.96 (49.8)	1.96 (49.8)										
12A		3/4" A-LOK®													
M12Z		12mm CPI™		1.96 (49.8)	1.96 (49.8)										
M12A		12mm A-LOK®													



H - Maximum Panel Thickness
 I - Panel Hole Diameter
 J - Body Width



> 3-WAY DIMENSIONS, FLOW DATA

Port Size	Basic Type	Flow Data		End Connections			Inches(mm)									
		Orifice Inches(mm)	Cv	Port 1	Port 2	Port 3	A	B	C	D	E	F	G	H	I	J
4Z	TB6X	0.187 (4.7)	0.70	1/4" CPI™			1.20	1.20	1.17	0.44 (11.2)	1.56 (39.6)	2.37 (60.2)	0.88 (22.4)	0.25 (6.4)	0.77 (19.6)	0.81 (20.7)
4A				1/4" A-LOK®			(30.4)	(30.4)	(29.7)							
4F				1/4" Female NPT			1.03	1.03	1.03							
4Z4Z4M				1/4" CPI™	1/4" CPI™	1/4" Male NPT	1.20	1.20	1.03							
4A4A4M				1/4" A-LOK®	1/4" A-LOK®	1/4" Male NPT	(30.4)	(30.4)	(26.2)							
6Z				3/8" CPI™			1.31	1.31	1.23							
6A				3/8" A-LOK®			(33.3)	(33.3)	(31.2)							
M6Z				6mm CPI™			1.20	1.20	1.17							
M6A				6mm A-LOK®			(30.4)	(30.4)	(29.7)							
M8Z				8mm CPI™			1.23	1.23	1.20							
M8A				8mm A-LOK®			(31.2)	(31.2)	(30.5)							

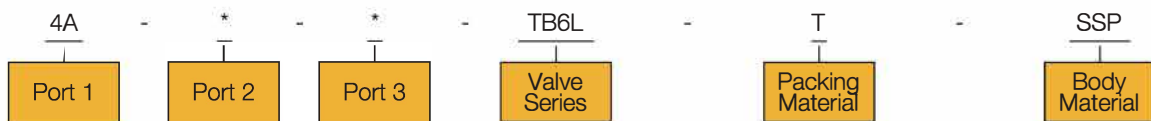
> HOW TO ORDER

The correct part number is easily derived by following the circled number sequence. The six product characteristics required are coded as shown below.

*Note: If the inlet and outlet ports are the same eliminate the outlet port designator.

Example:

4A-TB6L-T-SSP Describes a TB Series, 2-way, in-line pattern ball valve with 1/4" A-LOK® compression end connections for ports 1 and 2 Inline Body Style, PTFE seat and packing, stainless steel body construction, and a panel mounting nut.



Port1	Port2	Port3	Valve Series	Seat & Packing Material	Body Material
2F - 1/8" Female NPT 4Z - 1/4" CPI™ 4A - 1/4" A-LOK® M6Z - 6mm CPI™ M6A - 6mm A-LOK®			TB4L	T - Modified PTFE	SSP - Stainless Steel (Stainless Steel with Panel Nut)
4M - 1/4" Male NPT 4Z - 1/4" CPI™ 4A - 1/4" A-LOK® 4F - 1/4" Female NPT 6Z - 3/8" CPI™ 6A - 3/8" A-LOK® M6Z - 6mm CPI™ M6A - 6mm A-LOK® M8Z - 8mm CPI™ M8A - 8mm A-LOK®			TB6L TB6X		
8Z - 1/2" CPI™ 8A - 1/2" A-LOK® 8F - 1/2" Female NPT 12Z - 3/4" CPI™ 12A - 3/4" A-LOK® M12Z - 12mm CPI™ M12A - 12mm A-LOK®			TB8L		

Other inlet/outlet requirements, please contact Parker Hannifin.

> HOW TO ORDER OPTIONS

Oxygen Cleaning — Add the suffix **-C3** to the end of P/N to receive valves cleaned and assembled for oxygen service.

Lock-Out Devices — Add the suffix **-LD** to the end of P/N to order directly on the valve.



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MX – Mexico, Apodaca
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Parker Hannifin Instrumentation



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