



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.



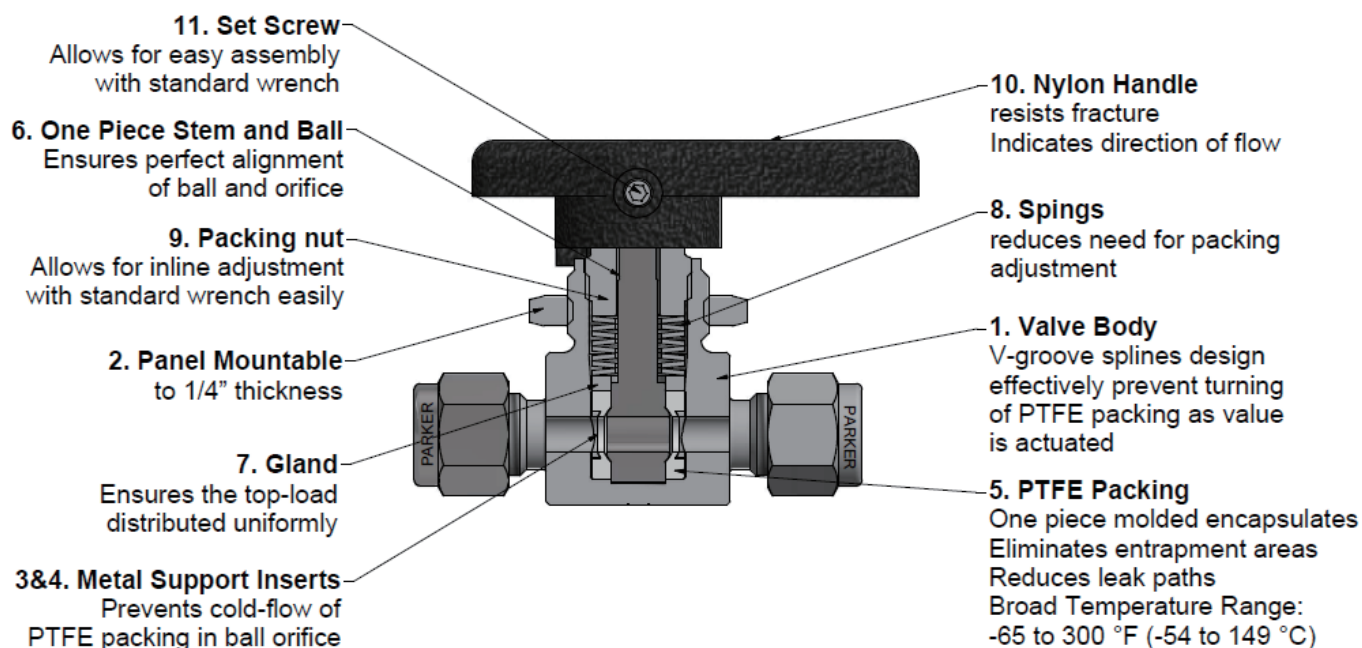
WARNING

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

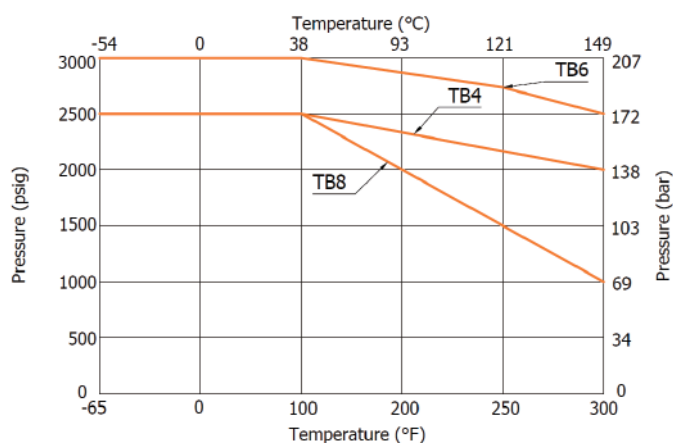
*Tested at 1200 psig with nitrogen, packing nut must be tightened to achieve higher pressures



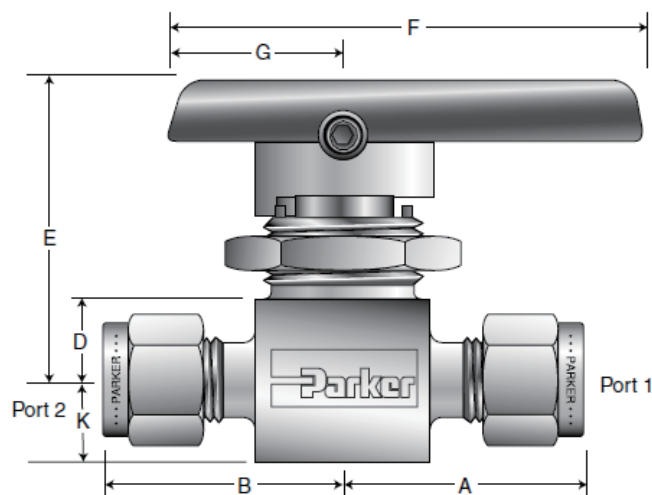
> FEATURES

- 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

ON

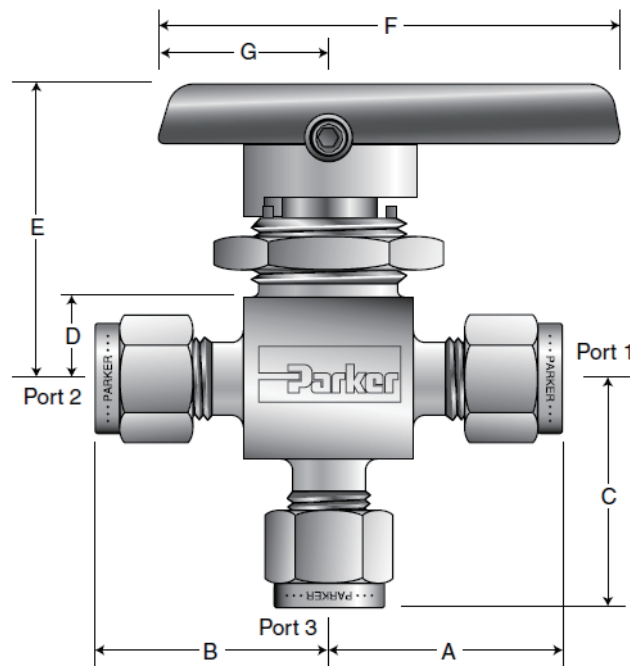


OFF

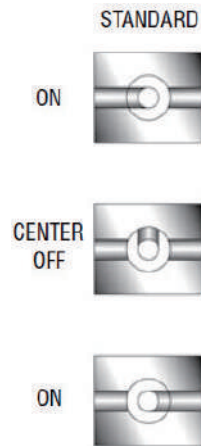


> 2-WAY IN-LINE DIMENSIONS, FLOW DATA

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®		1.11 (28.1)	1.11 (28.1)								
M6Z				6mm CPI™		1.11 (28.1)	1.11 (28.1)								
M6A				6mm A-LOK®		1.11 (28.1)	1.11 (28.1)								
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®		1.09 (27.7)	1.09 (27.7)								
2F		0.187 (4.7)	1.02	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®		1.20 (30.4)	1.20 (30.4)								
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®	1.00 (25.4)	1.20 (30.4)								
6Z				3/8" CPI™		1.29 (32.8)	1.29 (32.8)								
6A				3/8" A-LOK®		1.29 (32.8)	1.29 (32.8)								
M6Z				6mm CPI™		1.20 (30.4)	1.20 (30.4)								
M6A				6mm A-LOK®		1.20 (30.4)	1.20 (30.4)								
M8Z				8mm CPI™		1.23 (31.2)	1.23 (31.2)								
M8A				8mm A-LOK®		1.23 (31.2)	1.23 (31.2)								
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®		1.96 (49.8)	1.96 (49.8)								
8F		0.406 (10.3)	6.10	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		0.406 (10.3)	6.40	3/4" A-LOK®		1.96 (49.8)	1.96 (49.8)								
M12Z				12mm CPI™		1.96 (49.8)	1.96 (49.8)								
M12A		0.375 (9.5)	10.70	12mm A-LOK®		1.96 (49.8)	1.96 (49.8)								



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 (30.4)	1.20 (30.4)	1.17 (29.7)	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)
4A				1/4" A-LOK®												
4F				1/4" Female NPT			1.03 (26.2)	1.03 (26.2)	1.03 (26.2)							
4Z4Z4M				1/4" CPI™	1/4" CPI™	1/4" Male NPT	1.20 (30.4)	1.20 (30.4)	1.03 (26.2)							
4A4A4M				1/4" A-LOK®	1/4" A-LOK®	1/4" Male NPT										
6Z				3/8" CPI™			1.31 (33.3)	1.31 (33.3)	1.23 (31.2)							
6A				3/8" A-LOK®												
M6Z				6mm CPI™			1.20 (30.4)	1.20 (30.4)	1.17 (29.7)							
M6A				6mm A-LOK®												
M8Z				8mm CPI™			1.23 (31.2)	1.23 (31.2)	1.20 (30.5)							
M8A				8mm A-LOK®												

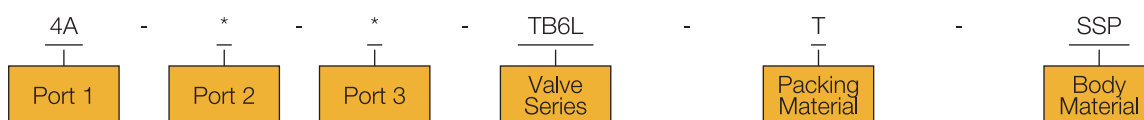
> HOW TO ORDER

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)
			TB6L TB6X		
			TB8L		
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®					
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®					

Other inlet/outlet requirements & TB8L, please contact Parker Hannifin.

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates, Dubai
Tel: +971 4 8127100
parker.me@parker.com

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles
Tel: +32 (0)67 280 900
parker.belgium@parker.com

BG – Bulgaria, Sofia
Tel: +359 2 980 1344
parker.bulgaria@parker.com

BY – Belarus, Minsk
Tel: +375 17 209 9399
parker.belarus@parker.com

CH – Switzerland, Etoy
Tel: +41 (0)21 821 87 00
parker.switzerland@parker.com

CZ – Czech Republic, Klecany
Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup
Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid
Tel: +34 902 330 001
parker.spain@parker.com

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens
Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budaörs
Tel: +36 23 885 470
parker.hungary@parker.com

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty
Tel: +7 7273 561 000
parker.easteurope@parker.com

NL – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Asker
Tel: +47 66 75 34 00
parker.norway@parker.com

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira
Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow
Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga
Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica
Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul
Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev
Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317 878
parker.uk@parker.com

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

North America

CA – Canada, Milton, Ontario
Tel: +1 905 693 3000

US – USA, Cleveland
Tel: +1 216 896 3000

Asia Pacific

AU – Australia, Castle Hill
Tel: +61 (0)2-9634 7777

CN – China, Shanghai
Tel: +86 21 2899 5000

HK – Hong Kong
Tel: +852 2428 8008

IN – India, Mumbai
Tel: +91 22 6513 7081-85

JP – Japan, Tokyo
Tel: +81 (0)3 6408 3901

KR – South Korea, Seoul
Tel: +82 2 559 0400

MY – Malaysia, Shah Alam
Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington
Tel: +64 9 574 1744

SG – Singapore
Tel: +65 6887 6300

TH – Thailand, Bangkok
Tel: +662 186 7000-99

TW – Taiwan, Taipei
Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129

BR – Brazil, Sao Jose dos Campos
Tel: +55 800 727 5374

CL – Chile, Santiago
Tel: +56 2 623 1216

MX – Mexico, Apodaca
Tel: +52 81 8156 6000

20-10-B ING-EN-8P-TB

Parker Hannifin Instrumentation



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