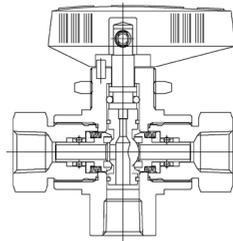


2-Way Valve

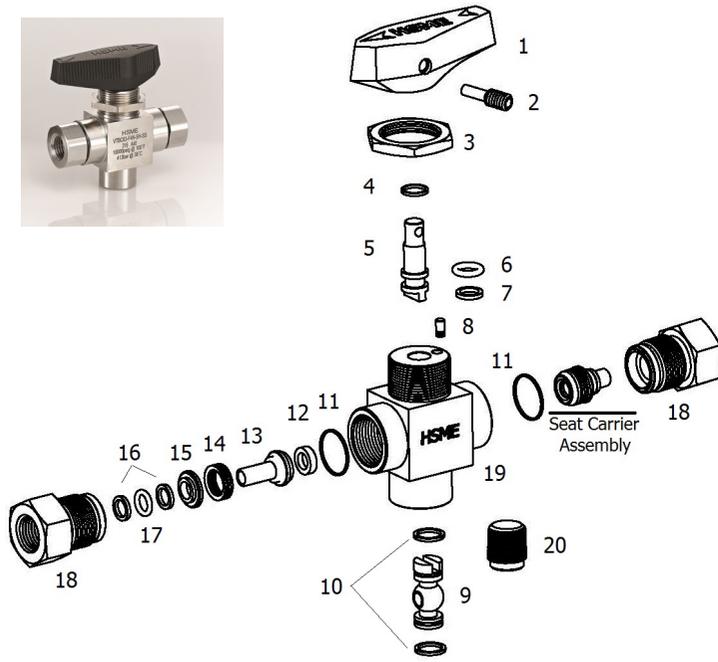


3-Way Valve

Features

- Designed for gas, liquid, and vacuum applications.
- Blow-out proof bottom-loaded trunnion ball.
- No packing to adjust.
- Handle indicates flow direction
- Flow direction indicated on the top of the stem
- Panel mountable.
- Optional pneumatic actuation.

Materials of Construction



Valve contains the **arrow marking** on the top of stem. This helps handle set to flow direction once the handle is disassembled for panel mounting.

Component		Stainless Steel Valves	
		Material Grade / ASTM Standard	
		VTB6, VTB63	VTB10, VTB103
1	Handle	Black Nylon with Brass insert	
2	Set Screw	Stainless Steel	
3	Panel Nut	A479, A276 Type316	
4	Stem Washer	PEEK	
5	Stem PTFE coated	A479, A276 Type316	
6	O-Ring Back-Up Ring	PTFE	
7	Stem O-Ring	FKM	
8	Handle Stop Pin	Stainless Steel	
9	Trunnion Ball	ASTM A276 Type316	
10	Ball O-Ring (2)	PEEK	
11	End Connector Seal (2)	PTFE	
12	Seat(2)	PCTFE	PEEK
13	Seat Retainer (2)	ASTM A276 Type316	
14	Disc Springs (12)	ASTM A313 Type631	
15	Disc Springs Gland (2)	A276 Type 316	
16	Retainer Back-Up Ring (4)	PTFE	
17	Retainer O-Ring (2)	FKM	
18	End Connector (2)	A479, A276 Type316	
19	Body		
20	Hollow Hex Plug for 2-way construction		

- Wetted components listed in **BOLD** letters.
- Wetted component lubrication: Silicon-based lubricant.

Technical Data

Valve Series	Standard Seat Material	Standard O-Ring Material	Pressure Rating @38 °C (100 °F) bar (psi)	Temperature Rating, °C (°F)	Flow Pattern
VTB6	PCTFE	FKM	413 (6000)	-17 to 121 (0 to 250)	2-way
VTB63					3-way
VTB10	PEEK	FKM	689 (10 000)	-17 to 232 (0 to 450)	2-way
VTB103					3-way
VTB6C	PEEK	HNBR	413 (6000)	-40 to 120 (-40 to 250)	2-way
VTB63C					3-way

Factory Test and Cleaning

- Every valve is factory tested @ 1000 psi (69 bar) nitrogen for leakage at seats to a maximum allowable leak rate of 0.1 std cm³/min.
- Valve stem seal integrity is tested @ 1000psi (69 bar) nitrogen for no detectable leakage.
- Every valve is cleaned and packaged in accordance with HSME cleaning standard CS-01. Special cleaning standard CS-11 in compliance with ASTM G93 Level C is optional.

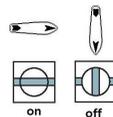
Valve Operation

- Valves that have not been actuated for a period of time may have a higher initial actuation torque.
- Valves are designed to control fluid in full open or in full closed position; using the valve to throttle the fluid may reduce valve cycle life.
- 2-way On-Off valve designed to isolate fluid in off-position.
- 3-way Selector valve designed to select fluid taking it from any port at full pressure.
- VTB6C and VTB63C are for CNG application.

VTB Series Trunnion Ball Valves

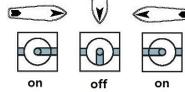
VTB6 & VTB10 Series 2-way On-Off Valves

2-Way for 90° Actuation



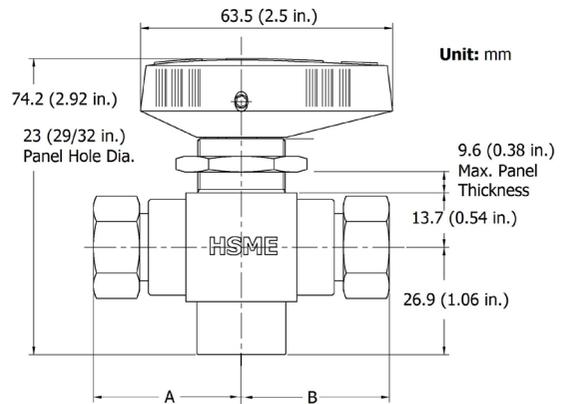
VTB63 & VTB103 Series 3-way Selector Valve

3-Way for 180° Actuation



VTB6C & VTB63C Series

For CNG application



Ordering Information and Dimensions

Complete Ordering Number		End Connections		Orifice, mm (in.)	Cv		Dimensions, mm (in.)	
2-way, 3-way		Inlet	Outlet		2-way	3-way	A	B
2-way VTB6- VTB10-	A4T-SS	1/4 in. OD M Tube Fitting		4.8 (0.188)	1.6	0.75	52.6 (2.07)	52.6 (2.07)
	A6T-SS	3/8 in. OD M Tube Fitting			1.4		55.6 (2.19)	55.6 (2.19)
	A8T-SS	1/2 in. OD M Tube Fitting			1		58.4 (2.30)	58.4 (2.30)
3-way VTB63- VTB103-	A6M-SS	6mm OD M Tube Fitting			1.6		52.6 (2.07)	52.6 (2.07)
	A8M-SS	8mm OD M Tube Fitting			1.5		52.6 (2.07)	52.6 (2.07)
	A10M-SS	10mm OD M Tube Fitting			1.3		55.9 (2.20)	55.9 (2.20)
CNG Valve VTB6C- VTB63C-	A12M-SS	12mm OD M Tube Fitting			1		58.4 (2.30)	58.4 (2.30)
	F2N-SS	1/8 in. Female NPT			1.2		37.3 (1.47)	37.3 (1.47)
	F4N-SS	1/4 in. Female NPT			1		37.3 (1.47)	37.3 (1.47)

All dimensions shown are reference only and subject to change. Dimensions with M Tube Fitting are in finger-tight position.

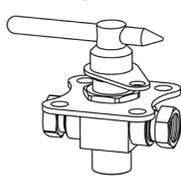
Ordering Information: To order, select a complete ordering number. Example: VTB6-A4T-SS

Options

Bar Handle



Locking Device



Stainless Steel Bar Handle Option

To order the valve with the bar handle option, insert "SH" designator into the valve ordering number. Example: VTB6-A4T-SH-SS

Locking Device Option

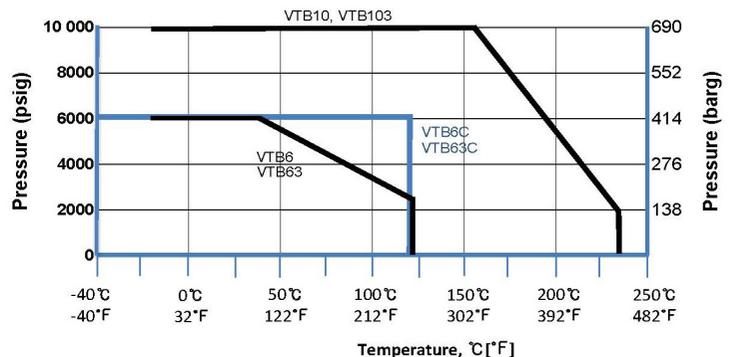
This option is applicable to 2-way and 3-way valve with bar handle. The valve with locking device is manually locked out in the valve open or close position with a padlock. The padlock is not supplied. To order, insert "LD" in the valve ordering number. Example: VTB6-A4T-LD-SS

Flow Data @20 °C (70 °F)

Valve Pattern	Pressure Drop to Atmosphere (Δp) bar (psi)	Water Flow U.S. gal/min (L/min)	Air Flow std ft ³ /min (std L/min)
2-way Cv 1.2	0.68 (10)	3.8 (14)	14 (390)
	3.4 (50)	8.5 (32)	36 (1000)
	6.8 (100)	12 (45)	64 (1800)
	10.3 (150)	15 (56)	92 (2600)
	41.3 (600)	29 (100)	340 (9600)
3-way Cv 0.75	0.68 (10)	2.4 (9.0)	8 (220)
	3.4 (50)	5.3 (20)	23 (650)
	6.8 (100)	7.5 (28)	40 (1100)
	10.3 (150)	9.2 (34)	57 (1600)
	41.3 (600)	18 (68)	210 (5900)
	68.9 (1000)	24 (90)	350 (9900)

Pressure-Temperature Ratings

Pressure-Temperature ratings are based on seat materials, O-Ring, and PTFE back-up rings.



Safe Valve Selection

The selection of a valve for any application or system must be considered to ensure safe performance. Valve rating, valve function, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. HSME Corporation accepts no liability for any improper selection, compatibility, installation, operation or maintenance.