

INSTRUMENT

High Pressure Bar Stock Ball Valves VB6B



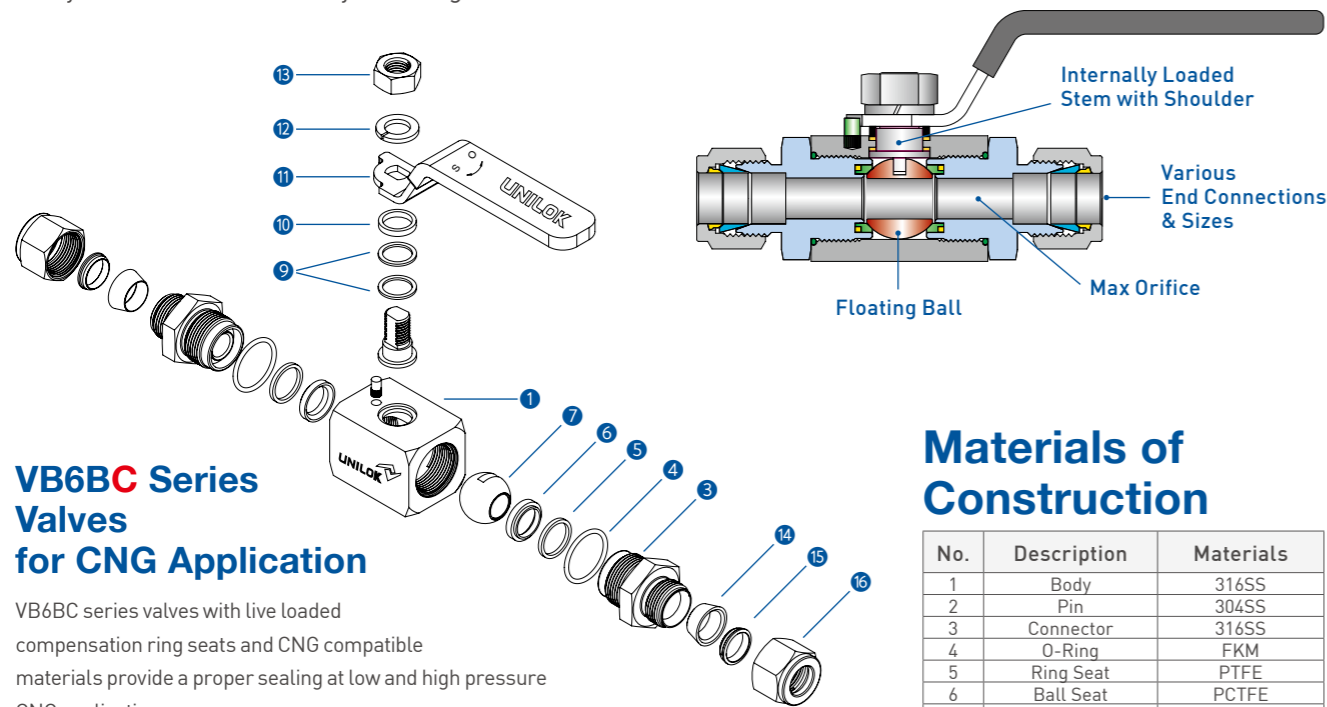
High Pressure Bar Stock Ball Valves VB6B

CONTENTS

Features	144	How To Order	145
Materials of Construction	144	VB6B series	146
CNG Application	144	VB6BX series	147
Application	145	Pressure-Temperature Ratings	148
Testing	145	Valve Actuation Torque	148
Cleaning	145	Panel Mounting	148
Important Notification	145		

Features

- Pressure rating up to 6000psig (413bar) @21°C(70) with standard PCTFE seats
- 10000psig (689bar) @21°C(70°F) with optional PEEK seats for CNG application
- Temperature rating from -30°C(-22°F) to 180°C (355°F) with standard PCTFE seats
- Robust body for high pressure application
- Floating ball design ensures leak proof shut-off at high pressure
- Blow-out proof design with internally loaded ball stem with shoulder
- Lever handle with PVC coat allows easy and quick operation with low torque and 1/4 turn to open and close
- Max orifice minimizes the pressure drop Panel mounting is available as optional
- 2 way shut off valves and 3 way switching valves are available



VB6BC Series Valves for CNG Application

VB6BC series valves with live loaded compensation ring seats and CNG compatible materials provide a proper sealing at low and high pressure CNG application. The CNG compatible materials listed in red are standard materials for VB6BC series valves.

⑥ PEEK : Ball Seats ⑤ PCTFE : Ring Seats ④ H-NBR : O-rings

To order, add **C** next to valve series number.

Example : VB6BC2U-12T-SS.

Materials of Construction

No.	Description	Materials
1	Body	316SS
2	Pin	304SS
3	Connector	316SS
4	O-Ring	FKM
5	Ring Seat	PTFE
6	Ball Seat	PCTFE
7	Ball	316SS
8	Stem	316SS
9	Packing	PTFE
10	Bushing	316SS
11	Handle	304SS+PVC
12	Spring Washer	304SS
13	Nut	304SS
14	Front Ferrule	316SS
15	Back Ferrule	316SS
16	Nut	316SS

Application

Internally live loaded ball stem to ensure sealing at low and high pressure CNG application .

PEEK and PCTFE seats are compatible with CNG

VB6B series valves are requiring in a wide range onshore and offshore applications to offer a safe and reliable perform.

Sour Environment Services

UNILOK valves are comply with NACE MR-0175/ISO 15156 for sour oilfield application or NACE MR-0103 for petroleum refining operations. To order, add-N to the end of part number.

Testing

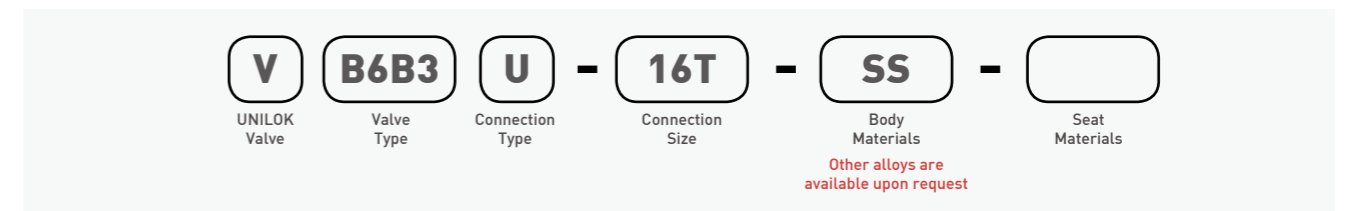
Every valve is 100% factory tested with air and nitrogen at 1000psig(69bar) for leakage at the seat and packing. Each test is performed to a maximum allowable leak rate of 0.1scc/min.

Hydrostatic shell test to be performed at 1.5 time of the working pressure is available as optional.

How To Order

UNILOK VB6B series ball valves are ordered by part number as shown below.

Example: The following part number, **VB6B3U-16T-SS** is designated for VB6B series ball valve with both 1" UNILOK tube fitting, 316SS, PCTFE seat.



Valve Type	
B6B	2 Way Type
B6BC	2 Way Type, CNG Application
B6BX	3 Way Type

Connection Size						
Fractional(Inch) Tube O.D. Designation						
Tube O.D.	inch	1/4	3/8	1/2	3/4	1
	mm	6.35	9.52	12.70	19.05	25.40
Designator		04T	06T	08T	12T	16T

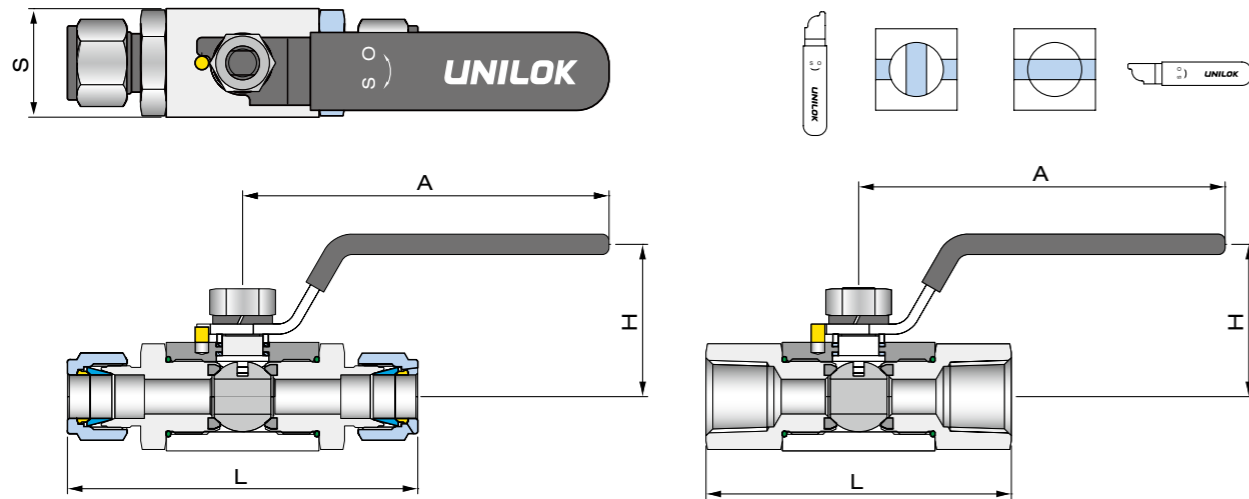
Seat Materials	
None	PCTFE
PK	PEEK

Connection Type	
U	UNILOK Tube Fitting
F	Female NPT or ISO7/1(PT)
M	Male NPT or ISO7/1(PT)

Pipe Size Designation (NPT or ISO7/1-PT)					
Pipe Size	1/4	3/8	1/2	3/4	1
Designator	04N/R	06N/R	08N/R	12N/R	16N/R

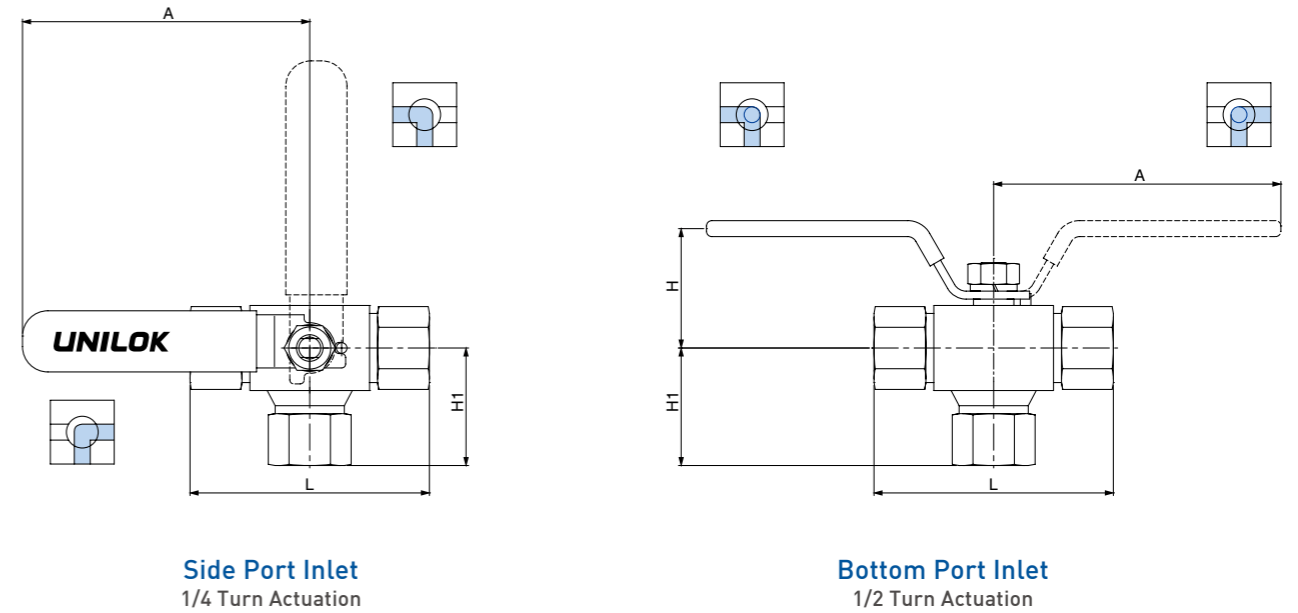
VB6B series

(2 Way, Shut-Off Both UNILOK Tube Fittings or Both Female or Male Threads)



VB6BX series

(3 Way, Switching UNILOK Tube Fittings or Female or Male Threads)



Ordering Information & Dimensions

Part No.	End Connections		Orifice	CV	Dimensions (mm)					
	Inlet	Outlet			L	S	H	A		
VB6B1	U-04T-	1/4" UNILOK	4.8	1.2	92.0	32.0	45.0	108.0		
	U-06T-	3/8" UNILOK	7.1	3.7	95.0					
	U-08T-	1/2" UNILOK			103.0					
	F-04N-	1/4" Female NPT	10.0	7.5	70.0					
	F-06N-	3/8" Female NPT			75.0					
	F-08N-	1/2" Female NPT			90.0					
	M-04N-	1/4" Male NPT	7.1	3.7	85.0					
	M-06N-	3/8" Male NPT	9.7	7.2	85.0					
	M-08N-	1/2" Male NPT	10.0	7.5	85.0					
VB6B2	U-12T-	3/4" UNILOK	12.7	10.0	110.6	40.0	55.0	148.0		
	F-08N-	1/2" Female NPT			90.0					
	F-12N-	3/4" Female NPT			98.0					
	M-12N-	3/4" Male NPT			105.0					
VB6B3	U-12T-	3/4" UNILOK	19.0	30.0	118.6	50.0	60.0	148.0		
	U-16T-	1" UNILOK			127.5					
	F-12N-	3/4" Female NPT			15.8				19.0	95.0
	F-16N-	1" Female NPT			19.0				30.0	106.0
	M-12N-	3/4" Male NPT			15.8				19.0	115.0
	M-16N-	1" Male NPT			19.0				30.0	125.0

ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VB6B series valves. Add "R" as a suffix instead of "N".

Dimensions are for reference only and are subject to change without prior notice.

Ordering Information & Dimensions

Part No.	End Connections		Orifice	Dimensions (mm)					
	Inlet	Outlet		L	S	H	H _i	A	
VB6BxB1	U-04T-	1/4" UNILOK	4.8	92.0	32.0	44.9	53.5	108.0	
	U-06T-	3/8" UNILOK	7.1	95.0			55.0		
	U-08T-	1/2" UNILOK		106.0			57.5		
	F-04N-	1/4" Female NPT	10.0	72.0			36.7		
	F-06N-	3/8" Female NPT		75.0			40.2		
	F-08N-	1/2" Female NPT		89.0			44.2		
	F-12N-	3/4" Female NPT		102.0			55.2		
VB6BxB2	U-12T-	3/4" UNILOK	12.7	115.0	40.0	55.0	65.5	148.0	
	F-08N-	1/2" Female NPT		93.0			49.7		
	F-12N-	3/4" Female NPT		102.0			55.2		
VB6BxB3	U-12T-	3/4" UNILOK	15.8	125.0	50.0	60.0	70.0	148.0	
	U-16T-	1" UNILOK		134.0			76.6		
	F-12N-	3/4" Female NPT		20.0			119.0		56.7
	F-16N-	1" Female NPT					129.0		60.8

Female ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VB6BX series valves. Add "R" as a suffix instead of "N".

Bottom and Side Port Entry Valve Ordering Information

To order side port entry valve, replace B with S

Examples : VB6BxB1U-04T-SS, VB6BXS1U-04T-SS

Dimensions are for reference only and are subject to change without prior notice.

Pressure-Temperature Ratings

Valve Group	Sealing Materials			Pressure Rating	Temperature Rating
	Seat	Stem Packing	End Seal		
2 Way					
VB6B1	PCTFE	PTFE	FKM	6000psig(413bar)	-22°F~-320°F (-30°C~160°C)
	PEEK			10000psig(689bar)	-40°F~-446°F (-40°C~230°C)
VB6B2 VB6B3	PCTFE	PTFE	FKM	5000psig(344bar)	-10°F~-320°F (-23°C~160°C)
	PEEK			6000psig(413bar)	-10°F~-376°F (-23°C~191°C)
3 Way					
VB6BX1	PCTFE	PTFE	FKM	4000psig(275bar)	-22°F~-320°F (-30°C~160°C)
	PEEK			6000psig(413bar)	-40°F~-446°F (-40°C~230°C)
VB6BX2 VB6BX3	PCTFE	PTFE	FKM	3000psig(206bar)	-10°F~-320°F (-23°C~160°C)
	PEEK			4000psig(275bar)	-10°F~-376°F (-23°C~191°C)

Valve Actuation Torque

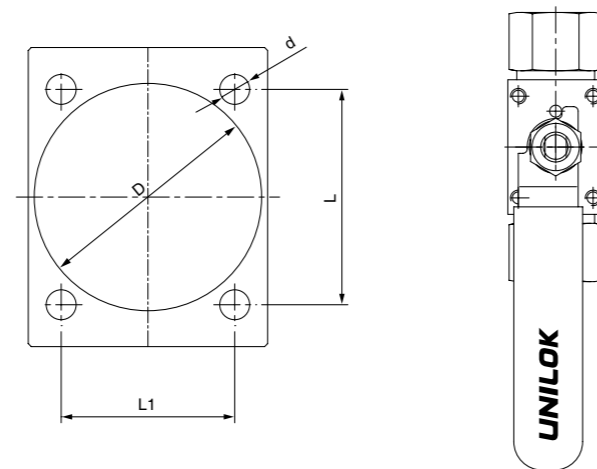
Valve Group	Pressure (psig)		
	0	5000	6000
Way	Torque (Nm)		
VB6B1	3.92	-	6.37
VB6B2	7.35	10.30	-
VB6B3	12.26	19.61	-
	0	3000	4000
3 Way	Torque (Nm)		
VB6BX1	3.92	-	4.90
VB6BX2	7.35	7.85	-

Panel Mounting

Screw hole panel mounting is available with four screw holes on the top of VB6B series valves, M4 x 6mm depth.

To order, add -M to end of part number.

Disassemble the handle before panel mounting.



Valve Group	Dimensions(mm)			
	L	L ₁	d	D
VB6B1	34	25	5	30
VB6B2	36	29	5	38
VB6B3	40	35	5	38