



# INSTRUMENTATION **BALL VALVES** VB3 Series

[www.unilok.com](http://www.unilok.com)



**UNILOK** 

## Features

Pressure rating with standard PTFE seats

3000psig (206bar) only for the valves with orifice 4.8  
2500psig (172bar) for the other valves

Temperature rating from 10°C(50°F) to 65°C(150°F)  
with standard PTFE packing

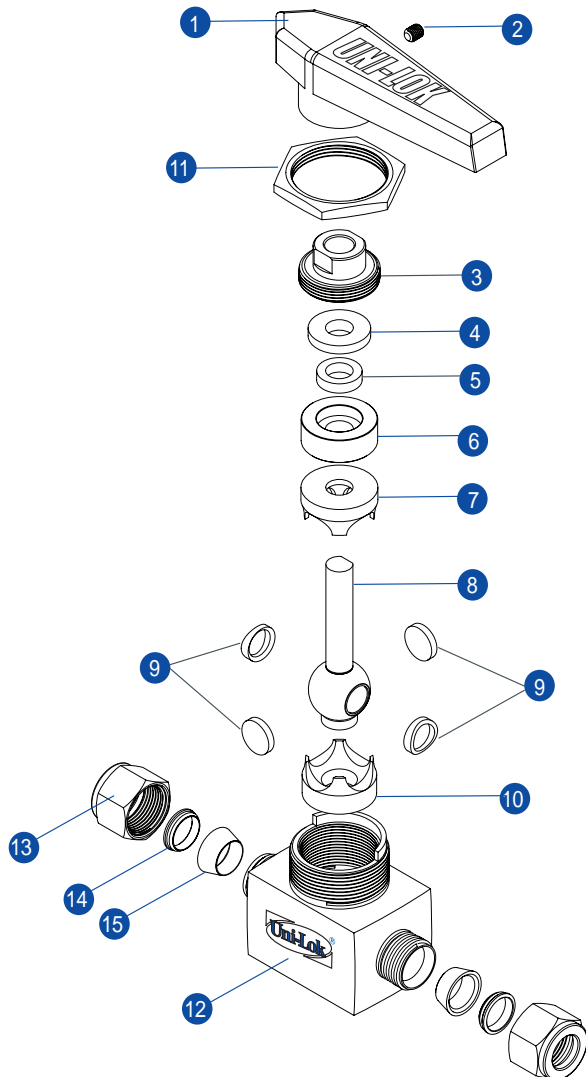
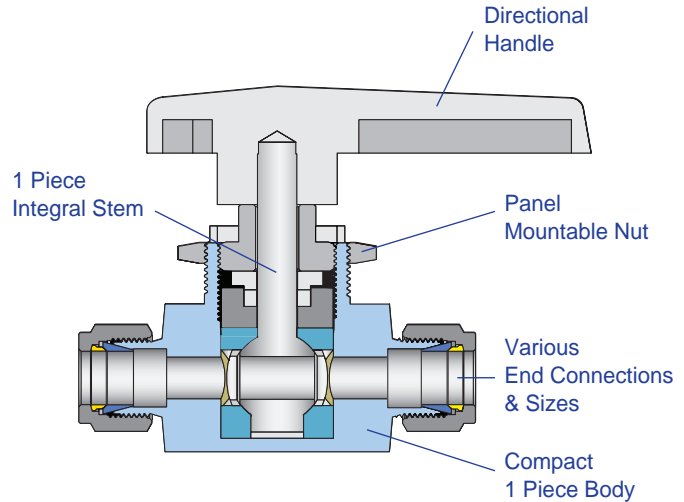
Compact designed one piece body to reduce space  
and possible leak point

One piece integral ball stem to eliminate backlash and  
to encapsulate ball seats perfectly

Panel mounting for easy installation

Wide choice of end connections : Uni-Lok tube fittings,  
Female NPT or ISO7/1(PT) thread

2 way shut off valves and 3 way switching valves are  
available



## Materials of Construction

No.	Description	Materials	
		Body Material	
1	Handle	Nylon	
2	Set Screw	Steel	
3	Packing Bolt	316SS	Brass
4	Upper Gland	316SS	
5	Lower Bushing	PTFE	
6	Lower Gland	316SS	Brass
7	Upper Packing	PTFE	
8	Ball Stem	316SS	
9	Side Disk	316SS	
10	Lower Packing	PTFE	
11	Panel Nut	304SS	Brass
12	Body	316SS	Brass
13	Nut	316SS	Brass
14	Back Ferrule	316SS	Brass
15	Front Ferrule	316SS	Brass

## Application

VB3, VB3X series ball valves with lowest dead volume is required in analytical purpose to prevent fluid entrapment which can cause contamination.

## Sour Environment Services

Uni-Lok valves are comply with NACE MR-0175/ISO 115156 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.

## How To Order

Uni-Lok VB3 series ball valves are ordered by part number as shown as below.

## Cleaning

Uni-Lok valves are free from machine oils, loose particles and grease throughout the close cleaning process.

The special cleaning for high purity application is available upon request.

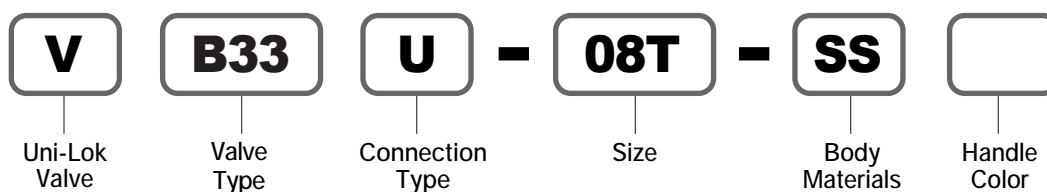
## Important Notification

Uni-Lok ball valves are designed to be operated in a fully open or fully closed position.

The packing adjustment may be required during the valve's service life.

Proper installation, materials compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.

**Example :** The following part number, **VB33U-08T-SS** is designated for VB3 series ball valve with both 1/2" Uni-Lok tube fitting, 316SS, PTFE seat.



Valve Type	
B3	2 Way Type
B3X	3 Way Type
B3C	Compact Type, 2 & 3 Way
B3CA	Compact Type, Angle Pattern

Connection Type	
U	Uni-Lok Tube Fitting
F	Female NPT or ISO7/1(PT)

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

Metric Tube O.D. Designation					
Tube O.D.	mm	6	8	10	12
Designator		M06T	M08T	M10T	M12T

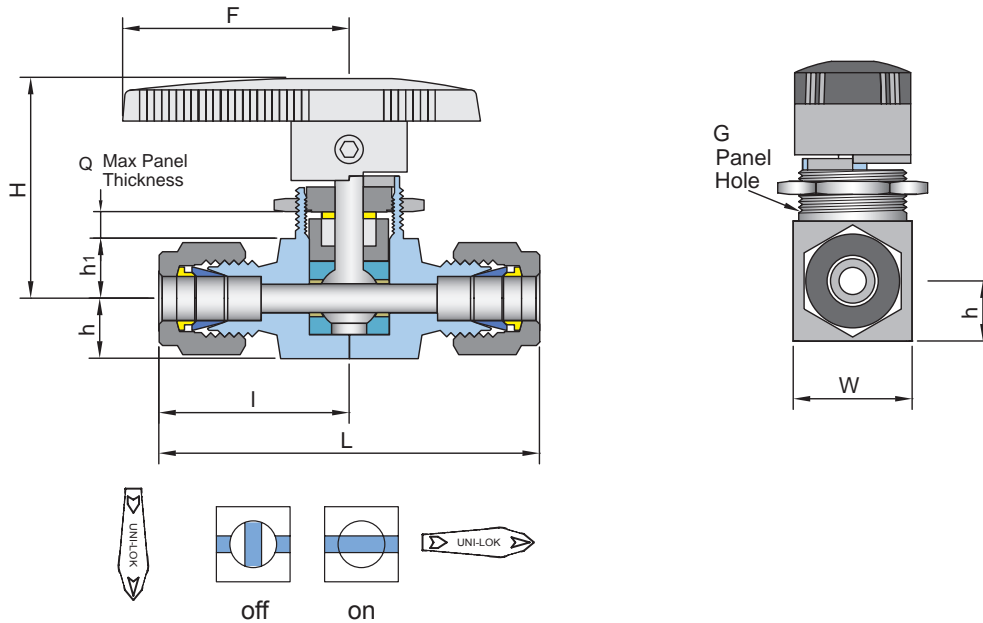
Pipe Size Designation (NPT or ISO7/1-PT)				
Pipe Size	1/8	1/4	3/8	1/2
Designator	02N/R	04N/R	06N/R	08N/R

Materials	
SS	316SS
BS	Brass

Colored directional handles are available only for VB3C series, compact type ball valves.

## VB3 series

### (2 Way, Shut-Off Both Uni-Lok Tube Fittings or Both Female Threads)



### Ordering Information & Dimensions

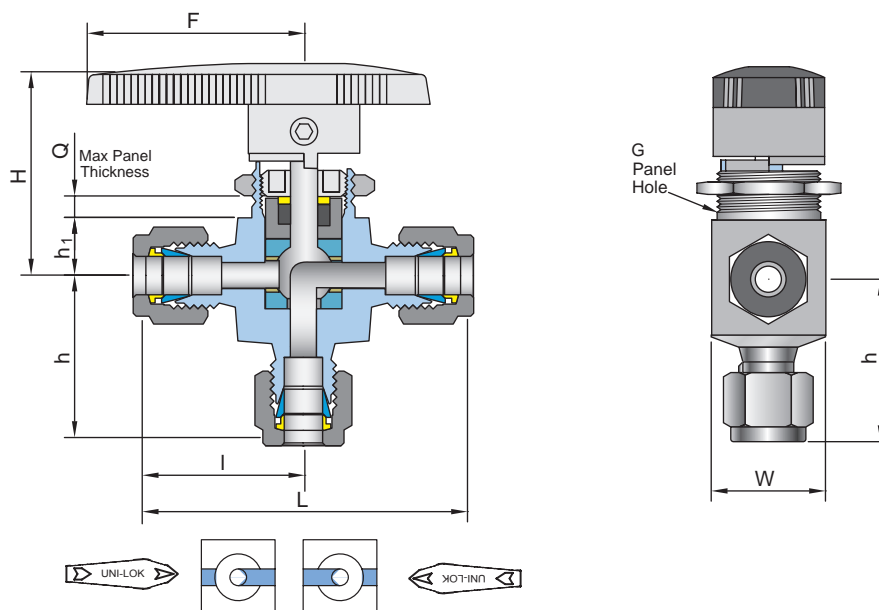
Part No.		End Connection		Orifice	CV	Dimensions (mm)								
		Inlet	Outlet			L	I	h	h <sub>1</sub>	H	G	Q	W	F
VB31	U-04T-	1/4" Uni-Lok		4.8	2.4	62.6	31.3	10.0	10.6	39.6	19.8	4.8	19.8	40.0
	U-06T-	3/8" Uni-Lok			1.5	66.6	33.3							
	U-M06T-	6mm Uni-Lok			2.4	62.6	31.3							
	U-M08T-	8mm Uni-Lok			1.5	63.2	31.6							
	F-02N-	1/8" Female NPT			1.2	50.8	25.4							
	F-04N-	1/4" Female NPT			0.9	52.4	26.2							
VB32	U-06T-	3/8" Uni-Lok		7.1	6.0	77.8	38.9	14.3	14.5	52.8	28.0	9.0	28.6	51.0
	U-M10T-	10mm Uni-Lok			6.0	77.8	38.9							
	F-04N-	1/4" Female NPT			3.0	63.6	31.8							
	F-06N-	3/8" Female NPT			2.6	63.6	31.8							
VB33	U-08T-	1/2" Uni-Lok		10.3	12.0	98.6	49.3	18.0	17.5	61.9	38.1	9.4	38.1	76.2
	U-12T-	3/4" Uni-Lok			6.4	99.2	49.6							
	U-M12T-	12mm Uni-Lok			12.0	98.8	49.4							
	U-M20T-	20mm Uni-Lok			6.4	100.0	50.0							
	F-08N-	1/2" Female NPT			6.3	80.0	40.0							

Female ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VB3F series valves.  
Add "R" as a suffix instead of "N".

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

# VB3X series

## (3 Way, Switching Uni-Lok Tube Fittings or Female Threads)



## Ordering Information & Dimensions

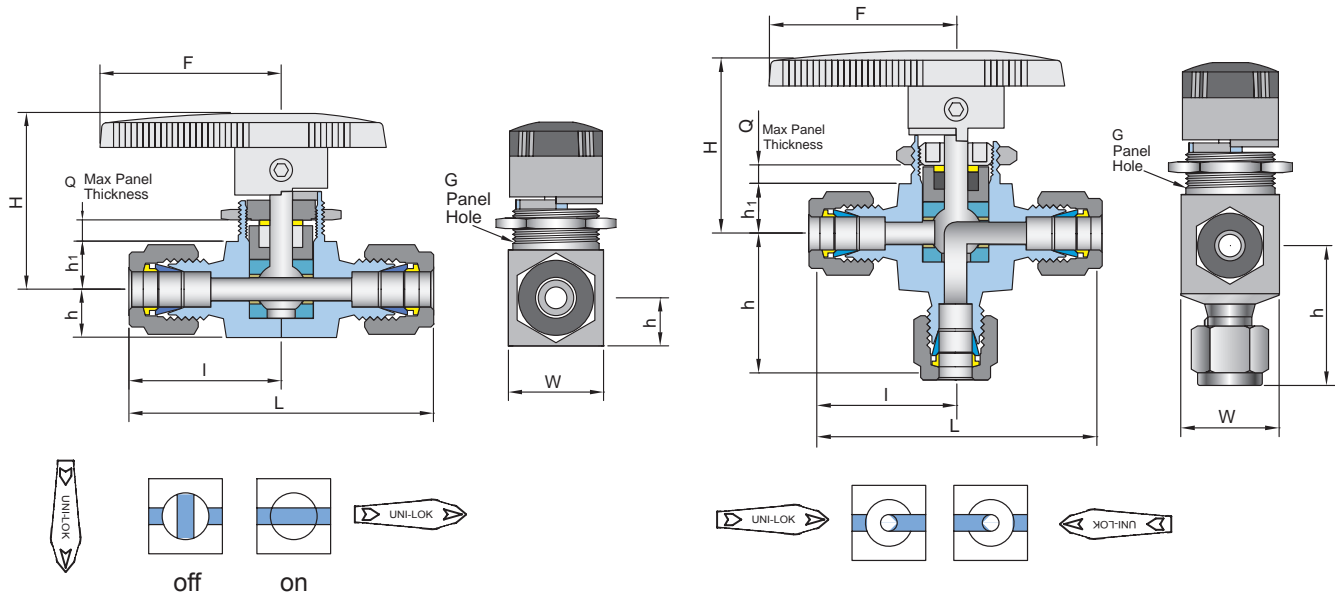
Part No.		End Connection		Orifice	CV	Dimensions (mm)								
		Inlet	Outlet			L	I	h	h <sub>1</sub>	H	G	Q	W	F
VB3X1	U-04T-	1/4" Uni-Lok		4.8	0.90	59.8	29.9	29.9	10.6	39.6	19.8	4.8	19.8	40.0
	U-M06T-	6mm Uni-Lok			0.90	59.8	29.9	29.9						
	U-M08T-	8mm Uni-Lok			0.80	62.6	31.3	31.2						
	F-04N-	1/4" Female NPT			0.75	50.8	25.4	26.2						
VB3X2	U-06T-	3/8" Uni-Lok		7.1	2.00	73.2	36.6	35.8	14.5	52.8	28.0	9.0	28.6	51.0
	U-M10T-	10mm Uni-Lok			2.00	73.2	36.6	35.8						
	F-04N-	1/4" Female NPT			1.70	63.6	31.8	31.8						
	F-06N-	3/8" Female NPT			1.50	63.6	31.8	31.8						
VB3X3	U-08T-	1/2" Uni-Lok		10.3	4.60	88.0	44.0	44.0	17.5	61.9	38.1	9.4	38.1	76.2
	U-M12T-	12mm Uni-Lok			4.80	88.0	44.0	44.0						
	F-08N-	1/2" Female NPT			3.50	79.2	39.6	39.6						

Female ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VB3XF series valves.  
Add "R" as a suffix instead of "N".

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## VB3C series

### (Compact Type Ball Valve 2 Way, Shut Off & 3 Way, Switching)



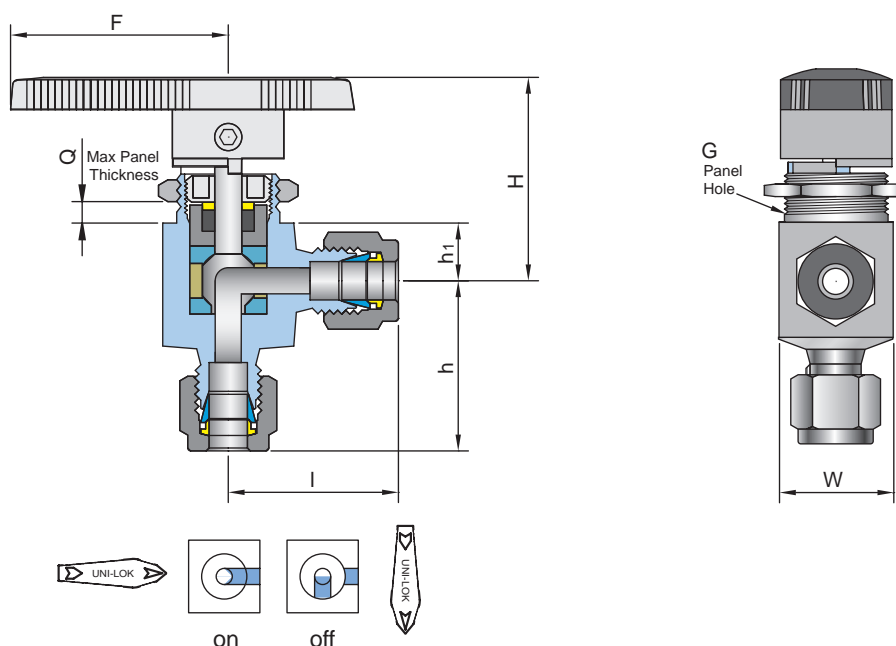
### Ordering Information & Dimensions

Part No.	End Connection		Orifice	CV	Dimensions (mm)								
	Inlet	Outlet			L	I	h	h <sub>1</sub>	H	G	Q	W	F
2 Way													
VB3CU-02T-	1/8" Uni-Lok		2.3	0.2	51.0	25.5	8.8	8.8	34.0	15.0	4.8	17.0	28.0
VB3CU-M03T-	3mm Uni-Lok			0.2	50.8	25.4							
VB3CU-04T-	1/4" Uni-Lok		3.2	0.6	55.4	27.7							
VB3CU-M06T-	6mm Uni-Lok			0.6	55.4	27.7							
VB3CF-04N-	1/8" Female NPT			0.5	41.2	20.6							
3 Way													
VB3CXU-02T-	1/8" Uni-Lok		2.3	0.15	51.0	25.5	24.8	8.8	34.0	15.0	4.8	17.0	28.0
VB3CXU-M03T-	3mm Uni-Lok				50.8	25.4	25.4						
VB3CXU-04T-	1/4" Uni-Lok		3.2	0.35	55.4	27.7	26.7						
VB3CXU-M06T-	6mm Uni-Lok				55.4	27.7	26.7						
VB3CXF-04N-	1/8" Female NPT				41.2	20.6	20.6						

Female ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VB3CF and VB3CXF series valves.  
Add "R" as a suffix instead of "N".

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

## VB3C series (Compact Type Ball Valve Angle Pattern)



### Ordering Information & Dimensions

Part No.	Part No.	End Connection		Orifice	CV	Dimensions (mm)							
		Inlet	Outlet			l	h	h <sub>1</sub>	H	G	Q	W	F
VB3CA1	U-02T-	1/8" Uni-Lok		2.3	0.15	25.5	24.8	8.8	34.0	15.0	4.8	17.0	28.0
	U-M03T-	3mm Uni-Lok				25.4	25.4						
VB3CA2	U-04T-	1/4" Uni-Lok		3.2	0.35	26.7	26.7						
	U-M06T-	6mm Uni-Lok				26.7	26.7						
	F-02N-	1/8" Female NPT				20.6	20.6						

Female ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VB3CA2F series valves.  
Add "R" as a suffix instead of "N".

### Application

VB3C series valve with compact size, directional indication of flow and high flow capacity are required at sampling system, process instrument, equipment.

### Color Coding Handle

Colored handle are available for VB3C series, compact type ball valves. To order, add the designator to the end of part number.

Color	Designator
Black	B
Blue	S
Red	R
Green	G
Yellow	Y

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



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