



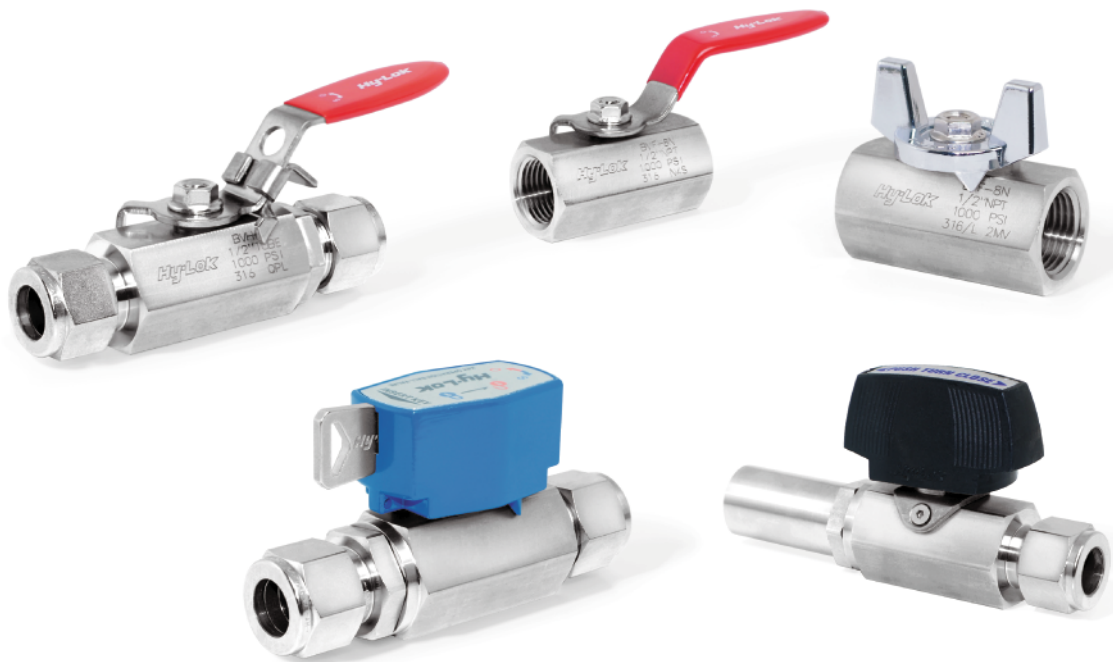
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Catalog No. H-110BV  
Feb. 2023



# 110 Series Ball Valves

General Service



- Max allowable working pressure up to 3000 psig (206 bar) at 100°F (38°C)
- Material available in 316 SS, Brass, Monel Alloy 400, Hastelloy® C-276, Super Duplex
- Size from 1/4" to 2" (Tube & Pipe Thread)

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## INTRODUCTION

110 Series ball valve is designed for most of the instrumentation. This ball valve is the economical type and becomes very basic valve in most industrial work. 110 Series ball valve is a moderate-pressure valve for general service.

## GENERAL

### Max Pressure & Temperature

Max allowable working pressure : 1000 psig (69bar) at 100°F (38°C) with PTFE seat  
 3000 psig (206bar) at 100°F (38°C) with PEEK seat (1/4" to 1")

Max allowable temperature : 450°F (232°C) with PTFE seat  
 450°F (232°C) with PEEK seat

### Size & Range

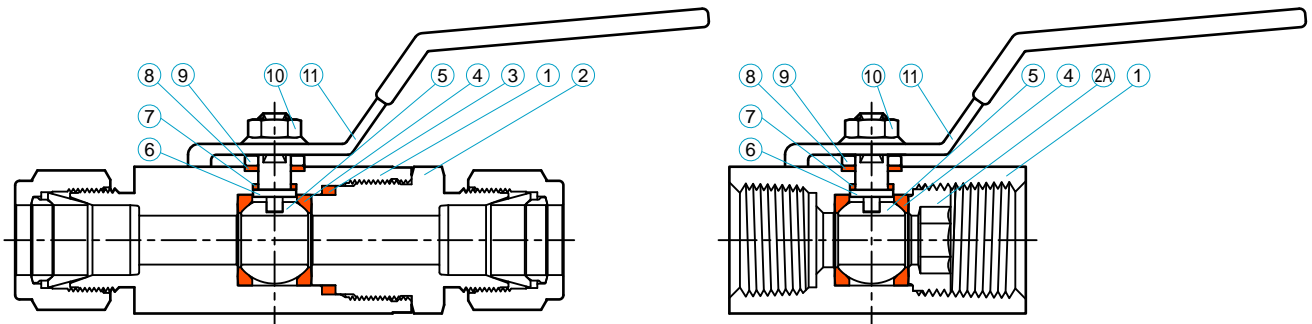
Hy-Lok Tube End : 1/4" to 1" ( 6mm to 25mm )  
 Pipe Thread End : 1/4" to 2"

### Material

Valve body : 316 Stainless Steel, Brass, Monel Alloy 400, Hastelloy® C-276, Super Duplex

### Features

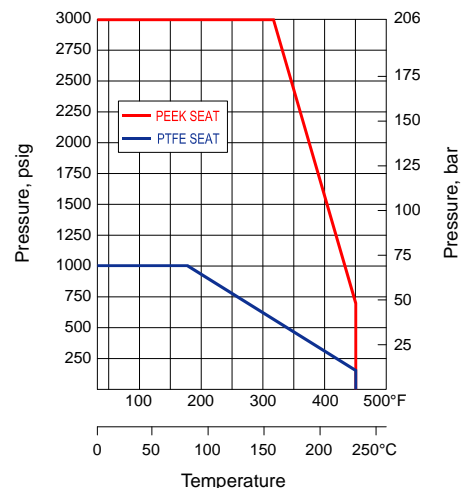
- Leak-tight shut-off, Low torque for easy operation
- Blow-out proof stem, Bi-directional flow
- Compact and economical design
- Variety of end connections
- Variety of Handle options : Butterfly, Oval, Push Turn, Self Locking, Key Lock Handle



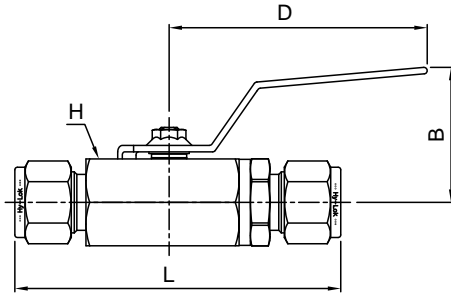
### Materials of Construction

Item	Description	Grade / ASTM Specification	
		316 SS	Brass
1	Body	316 SS / A479	Brass
2	End Connection	316 SS / A479	Brass
2A	Insert	316 Stainless Steel	
3	End Packing	Reinforced PTFE	
4	Seat	Reinforced PTFE or PEEK	
5	Ball	316 Stainless Steel	Size 1/4" ~ 1" : Brass Size 1 1/4" ~ 2" : 316 SS
6	Stem	316 Stainless Steel	
7	Inner Packing	Reinforced PTFE	
8	Outer Packing	Reinforced PTFE	
9	Gland	Stainless Steel	
10	Lock Nut	Stainless Steel	
11	Lever Handle	Stainless Steel with PVC Coated(Red)	

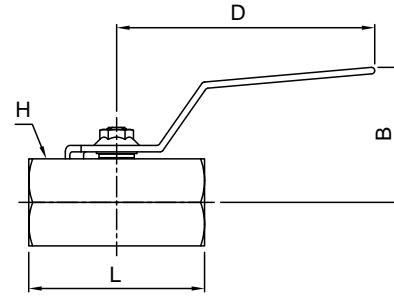
### Pressure-Temperature Rating



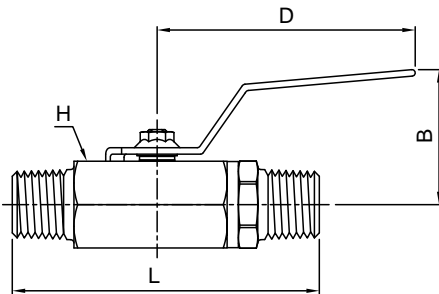
Hy-Lok Tube Fitting Ends



Female Thread Ends



Male Thread Ends



Male to Female Thread Ends

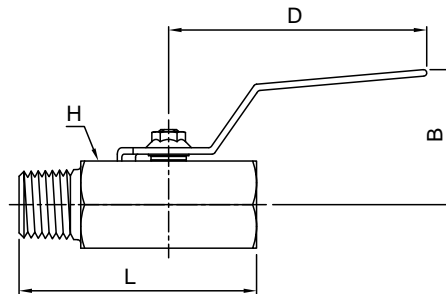


Table of Dimensions

Basic Part No.	Valve Size	Orifice (mm)	Cv	End Connections	Dimensions(mm)				Weight (kg)
					L	H(Hex.)	B	D	
BVH-6M	1/4	5.0	0.84	6mm Hy-Lok	79.5	17.0	31	60.0	0.12
BVH-4T				1/4" Hy-Lok	79.5				0.12
BVF-4N				1/4" Female NPT	40.0				0.07
BVM-4N				1/4" Male NPT	68.4				0.12
BVMF-4N				1/4" Male to Female NPT	48.2				0.08
BVH-8M	3/8	7.5	4.20	8mm Hy-Lok	90.0	20.6	40	80.0	0.20
BVH-10M				10mm Hy-Lok	90.0				0.21
BVH-6T				3/8" Hy-Lok	90.0				0.21
BVF-6N				3/8" Female NPT	45.0				0.12
BVM-6N				3/8" Male NPT	72.2				0.18
BVMF-6N	3/8" Male to Female NPT	56.2	0.15						
BVH-12M	1/2	9.0	6.50	12mm Hy-Lok	99.0	27.0	42	80.0	0.34
BVH-8T				1/2" Hy-Lok	99.0				0.34
BVF-8N				1/2" Female NPT	54.5				0.21
BVM-8N				1/2" Male NPT	96.1				0.35
BVMF-8N				1/2" Male to Female NPT	68.0				0.26
BVH-16M	3/4	12.5	8.00	16mm Hy-Lok	109.0	32.0	51	100.0	0.49
BVH-10T				5/8" Hy-Lok	109.0				0.49
BVF-12N				3/4" Female NPT	61.0				0.31
BVH-12T				3/4" Hy-Lok	110.0				0.50
BVM-12N				3/4" Male NPT	96.1				0.49
BVMF-12N	3/4" Male to Female NPT	71.0	0.36						
BVH-25M	1	16.0	25.00	25mm Hy-Lok	134.0	38.1	55	100.0	0.86
BVH-16T				1" Hy-Lok	134.0				0.86
BVF-16N				1" Female NPT	76.0				0.48
BVM-16N				1" Male NPT	119.8				0.83
BVMF-16N				1" Male to Female NPT	91.0				0.61
BVF-20N	1 1/4	21.0	-	1 1/4" Female NPT	89.0	50.0	65	151.0	1.06
BVF-24N	1 1/2	24.0	-	1 1/2" Female NPT	95.0	55.0	68	151.0	1.25
BVF-32N	2	32.0	-	2" Female NPT	110.0	70.0	73	151.0	2.22

Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable.

All dimensions are in millimeters reference only, subject to change

### Handle Option

#### ■ Butterfly & Oval Handle



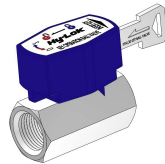
Butterfly & Oval Handle available for better installation in a restricted space.  
 - Handle Material : Butterfly - Zinc with Nickel Plated  
 Oval - Dielectric Nylon(Black)

#### ■ Self Locking Handle



The handle can be self locked in the open and closed position.  
 - Handle Material : Stainless Steel with PVC(Red)

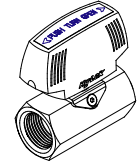
#### ■ Key Lock Handle



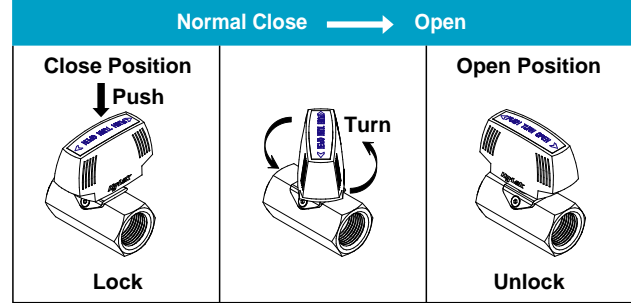
The Master key shall be inserted into the handle to operate the valve. It can prevent any incidents and accidents occurred by incorrect operation of an unskilled or unauthorized person during the installation and checking the pipeline.  
 - Handle Material : Aluminum with Painted(Blue)

#### ■ Push Turn Handle

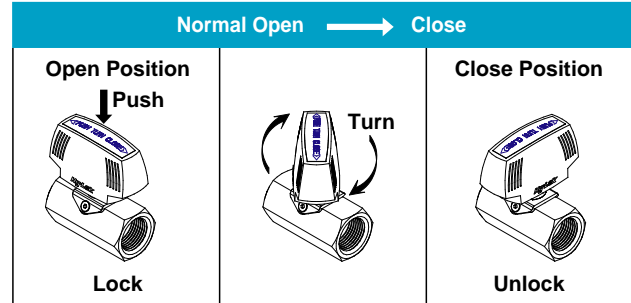
Locked in normal position(open or close) for safety. The handle is not operated unless it is pushed down at the normal position.  
 - Handle Material : Dielectric Nylon(Black)



#### Normal Close Operation



#### Normal Open Operation



#### Option of Locking Function

Option	Locking Function	
	Open Position	Close Position
Open/Close (Standard)	Lock	Lock
Normal Close	Unlock	Lock
Normal Open	Lock	Unlock

### ■ Ordering Number for Handle Kits

Valve Size	Lever	Butterfly	Oval	Self Locking	① Key Lock	① Push Turn
1/4	BVHD-1/4	BVBHD-1/4	KIT-BVNHD-1/4	XBVHD-1/4-SL	-	-
3/8	BVHD-3/8	BVBHD-3/8	KIT-BVNHD-3/8	XBVHD-3/8-SL	-	-
1/2	BVHD-1/2	BVBHD-1/2	KIT-BVNHD-1/2	XBVHD-1/2-SL	KIT-BVKHD-1/2	② KIT-BVPTHD-1/2-XX
3/4	BVHD-3/4	BVBHD-3/4	KIT-BVNHD-3/4	XBVHD-3/4-SL	KIT-BVKHD-3/4	-
1	BVHD-1	BVBHD-1	KIT-BVNHD-1	XBVHD-1-SL	KIT-BVKHD-1	-
1 1/4	BVHD-20	-	-	XBVHD-20-SL	-	-
1 1/2	BVHD-24	-	-	XBVHD-24-SL	-	-
2	BVHD-32	-	-	XBVHD-32-SL	-	-

Note : ① This is not interchangeable with other option handles.

② For locking option as per handle position [ XX : NC(Normal Close), NO(Normal Open) ], Example : KIT-BVPTHD-1/2-NC

### Ordering Information

<p><b>VBV</b></p> <p>Valve Designator</p>	<p><b>H</b></p> <p>End Connector Designator</p> <ul style="list-style-type: none"> <li>• H - Hy-Lok Tube Fitting</li> <li>• F - Female Pipe Thread</li> </ul>	<p><b>6T</b></p> <p>Size Designator</p> <p><b>Tube</b></p> <ul style="list-style-type: none"> <li>• 4T - 1/4"</li> <li>• 8T - 1/2"</li> <li>• 16T - 1"</li> <li>• 6M - 6mm</li> <li>• 12M - 12mm</li> <li>• 25M - 25mm</li> </ul> <p><b>NPT</b></p> <ul style="list-style-type: none"> <li>• 4N - 1/4"</li> <li>• 8N - 1/2"</li> <li>• 12N - 3/4"</li> <li>• 16N - 1"</li> <li>• 24N - 1 1/2"</li> <li>• 32N - 2"</li> </ul>	<p><b>PK</b></p> <p>Seat Material Designator</p> <ul style="list-style-type: none"> <li>• Nil - PTFE</li> <li>• PK - PEEK</li> </ul>	<p><b>B</b></p> <p>Handle Designator</p> <ul style="list-style-type: none"> <li>• Nil - Lever Handle</li> <li>• B - Butterfly Handle</li> <li>• N - Oval Handle</li> <li>• SL - Self Locking Handle</li> <li>• KXX - Key Lock Handle ( K : Standard, KNC : Normal Close, KNO : Normal Open )</li> <li>• PTXX - Push Turn Handle ( PTNC : Normal Close, PTNO : Normal Open )</li> </ul>	<p><b>SOG</b></p> <p>Sour Gas Designator</p> <ul style="list-style-type: none"> <li>• Nil - without(Standard)</li> <li>• SOG - NACE MR-01-75</li> </ul>	<p><b>S316</b></p> <p>Body Material Designator</p> <ul style="list-style-type: none"> <li>• S316 316 Stainless Steel</li> <li>• BRAS Brass</li> <li>• MONE Monel Alloy 400</li> <li>• C276 Hastelloy® C-276</li> <li>• F53 Super Duplex</li> </ul>
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