

# 110-Series Ball Valves

## General Service

**Hy-Lok**



**FLOWTEKNIK**  
SCANDINAVIA APS



# 110-SERIES BALL VALVES

- 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)

## 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

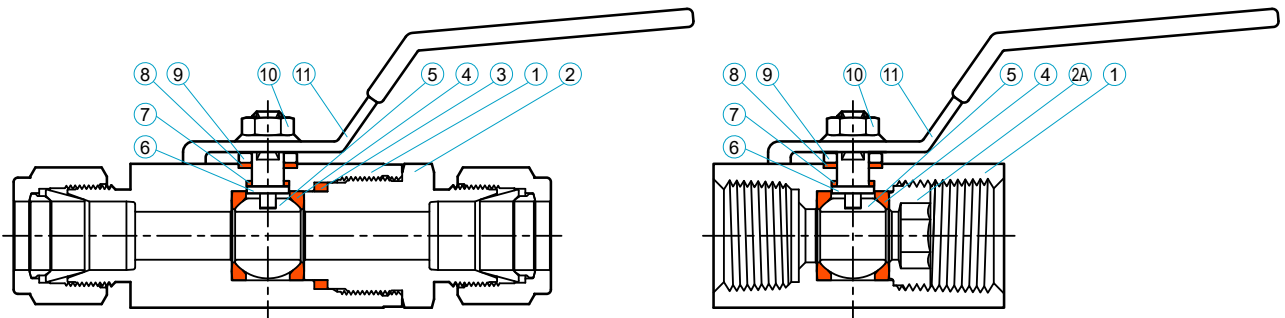
Hy-Lok Tube End : 1/4" to 1" ( 6mm to 25mm )  
 Pipe Thread End : 1/4" to 2"

### ■ Material

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

### ■ Features

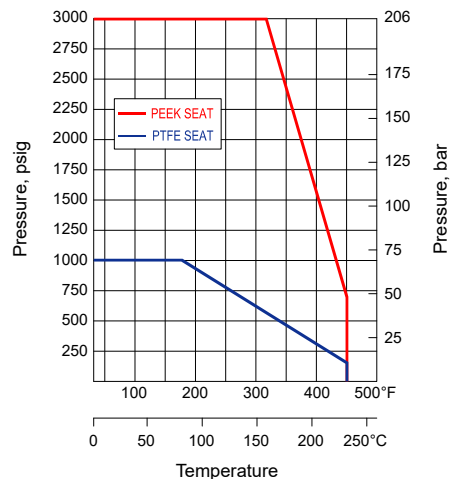
- Leak-tight shut-off, Low torque for easy operation
- Blow-out proof stem, Bi-directional flow
- Compact and economical design
- Variety of end connections
- Variety of Handle options : Butterfly, Oval, Push Turn, Self Locking, Key Lock Handle



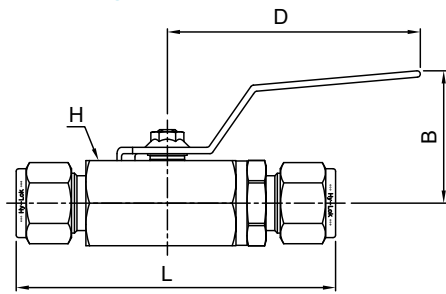
### ■ Materials of Construction

| 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<br>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) |   |

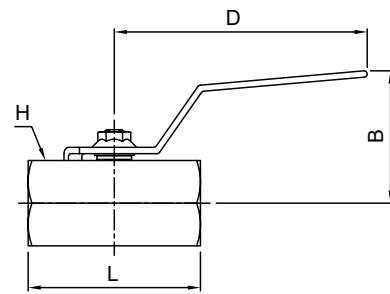
### ■ Pressure-Temperature Rating



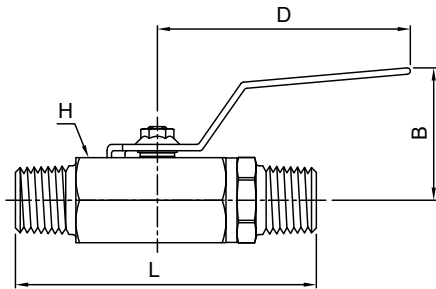
## Hy-Lok Tube Fitting Ends



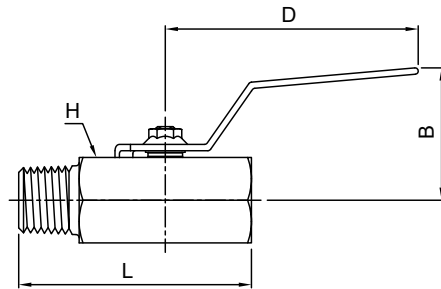
## Female Thread Ends



## 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           |         |    |       |             |
| BVF-4N         |                         |              |       | 1/4" Female NPT         | 40.0           |         |    |       |             |
| BVM-4N         |                         |              |       | 1/4" Male NPT           | 68.4           |         |    |       |             |
| BVMF-4N        |                         |              |       | 1/4" Male to Female NPT | 48.2           |         |    |       |             |
| 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           |         |    |       |             |
| BVH-6T         |                         |              |       | 3/8" Hy-Lok             | 90.0           |         |    |       |             |
| BVF-6N         |                         |              |       | 3/8" Female NPT         | 45.0           |         |    |       |             |
| BVM-6N         |                         |              |       | 3/8" Male NPT           | 72.2           |         |    |       |             |
| BVMF-6N        | 3/8" Male to Female NPT | 56.2         |       |                         |                |         |    |       |             |
| 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           |         |    |       |             |
| BVF-8N         |                         |              |       | 1/2" Female NPT         | 54.5           |         |    |       |             |
| BVM-8N         |                         |              |       | 1/2" Male NPT           | 96.1           |         |    |       |             |
| BVMF-8N        |                         |              |       | 1/2" Male to Female NPT | 68.0           |         |    |       |             |
| 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          |         |    |       |             |
| BVF-12N        |                         |              |       | 3/4" Female NPT         | 61.0           |         |    |       |             |
| BVH-12T        |                         |              |       | 3/4" Hy-Lok             | 110.0          |         |    |       |             |
| BVM-12N        |                         |              |       | 3/4" Male NPT           | 96.1           |         |    |       |             |
| BVMF-12N       | 3/4" Male to Female NPT | 71.0         |       |                         |                |         |    |       |             |
| 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          |         |    |       |             |
| BVF-16N        |                         |              |       | 1" Female NPT           | 76.0           |         |    |       |             |
| BVM-16N        |                         |              |       | 1" Male NPT             | 119.8          |         |    |       |             |
| BVMF-16N       |                         |              |       | 1" Male to Female NPT   | 91.0           |         |    |       |             |
| 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.

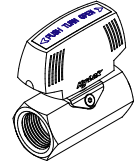
- Handle Material : Aluminum with Painted(Blue)



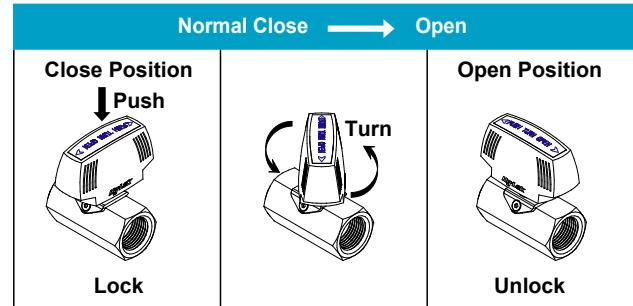
▪ **Push Turn Handle**

Locked in normal position(open or close) for safety. The handle is not operated unless it is pushed down at the normal position.

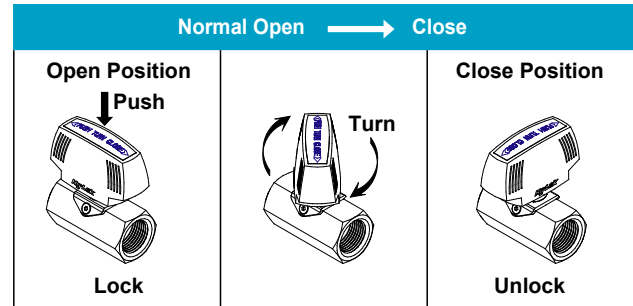
- Handle Material : Dielectric Nylon(Black)



**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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***Hy-Lok*** The graphic element consists of three horizontal, parallel red lines of varying lengths, positioned to the right of the 'Hy-Lok' text.

CONTACT YOUR AUTHORIZED HY-LOK REPRESENTATIVE  
PG FLOWTEKNIK SCANDINAVIA APS