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**HAYWARD®**



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# TBH Series True Union Ball Valve Product Guide

FLOW CONTROL

define  
design

deliver

WORKING PRESSURE (PSI)

120

100

80

60

40

20

0

60

80

100

120

140

160

180

200

TEMPERATURE (°F)

2" DN50 TBH F05IF07

PVC

17

QUALITY

SERVICE

INTEGRITY



**NEW**

## TBH Series True Union Ball Valve

### OVERVIEW

A new generation of thermoplastic floating ball valves. The TBH Series features a low maintenance design with new patent pending System2™ Sealing Technology. Assisting users in protecting property and life, a standard integral lock-out feature secures onto the body of the valve. Actuator ready design with ISO 5211 pattern – on all sizes.

Available in 1/4" - 2" / DN8 - DN50 in PVC and CPVC materials with either EPDM or FPM seals.



**TBH Series  
True Union Ball Valve**

### KEY FEATURES AND BENEFITS

- System2™ Sealing Technology provides longer cycle life
- 250 PSI / 16 Bar, non-shock at 70°F/23°C full pressure rating
- Consistent operating torque with adjustment-free design
- Lockout/Tagout mechanism that secures directly to valve body for enhanced safety
- Ergonomic handle for improved grip and comfort
- ISO mounting flange simplifies actuation
- Permanent markings, eliminates labels
- Integral footpad for skid or panel mount
- FPM or EPDM seals
- Double O-Ring stem seals
- Reversible PTFE seats – standard
- Easy replacement for existing Hayward TB Series
- NSF/ANSI 61 and NSF/ANSI 372 Listed

### OPTIONS AND ACCESSORIES

- Pneumatic or Electric Actuators
- Stem Extensions
- Manual Limit Switch or Spring Return Handle

### MATERIALS

- PVC per ASTM D1784 Cell Class 12454
- CPVC per ASTM D1784 Cell Class 23447
- GFPP per ASTM D4101 Cell Class 85580 (Handle & Lock Plate)



**TBH Series  
True Union Ball Valve  
Actuator Ready**



BACKED BY HAYWARD FLOW  
CONTROL'S EXCLUSIVE  
TWO YEAR WARRANTY



**Buy  
American**



# TBH Series True Union Ball Valve

## ACTUATION AND CONTROL OPTIONS



### HRS Series On/Off/Proportional Electric Actuators

#### KEY FEATURES

- On/Off or Proportional Control (2-10 vdc / 4-20mA Inputs & Outputs)
- NEMA 4/4X
- Powder Coated Aluminum Alloy Housing
- Multiple AC and DC Voltages
- Anti-Condensate Heater Standard
- Manual Override



### ECP Series Glass Filled Polypropylene Electric Actuators

#### KEY FEATURES

- On/Off or Proportional Control (2-10 vdc / 4-20mA Inputs & Outputs)
- NEMA 4/4X
- Auto Switching Voltage
- Corrosion-Resistant GFPP Housing
- LED Status Light
- Anti-Condensation Heater
- Manual Override



### PCD/PCS Series Pneumatic Actuators

#### KEY FEATURES

- For All Sizes of Ball and Butterfly Valves
- Four-Piston Rack and Pinion Design
- Compact, Lightweight Design
- Position Indicator
- Namur-Style Solenoid Mounting
- Adjustable Travel Stops



### PMD/PMS/PMD4/PMS4 Series Pneumatic Actuators

#### KEY FEATURES

- Corrosion-Resistant Thermoplastic Housing in GFPP or Polyamide
- Permanently Lubricated Gear Train
- Two-Piston Rack and Pinion Design
- Namur-Style Solenoid Mounting
- Position Indicator



### LHB Series Manual Limit Switch

#### KEY FEATURES

- Two Adjustable SPDT 10 Amp at 120 VAC Switches (Open/Close Position) - CSA Listed Switches
- For Remote Monitoring of Critical Services
- Robust GFPP Body, Cover and Plate
- 304 Stainless Steel Stem and FPM Seals
- 1/2" Conduit Port
- Terminal Blocks for Ease of Wiring
- NEMA 4/4X
- Patent No. 9,010,721 and 9,010,722
- Available with "Dead-Man" Spring Return Handle or Hand Lever (LHB-SR)



# TBH Series True Union Ball Valve

## FEATURES

250 PSI /16 Bar Rating,  
Non-Shock at 70°F / 23°C

Ergonomic Handle  
with UV Inhibitor

Lock-Out Plate – Standard

ISO 5211 Top Flange

True Union  
End Connections

Permanent  
Marking

**HAYWARD**  
**2" TBH Series  
Ball Valve**  
BODY PVC  
SEALS EPDM  
SEATS PTFE  
Made in USA



Made in USA!

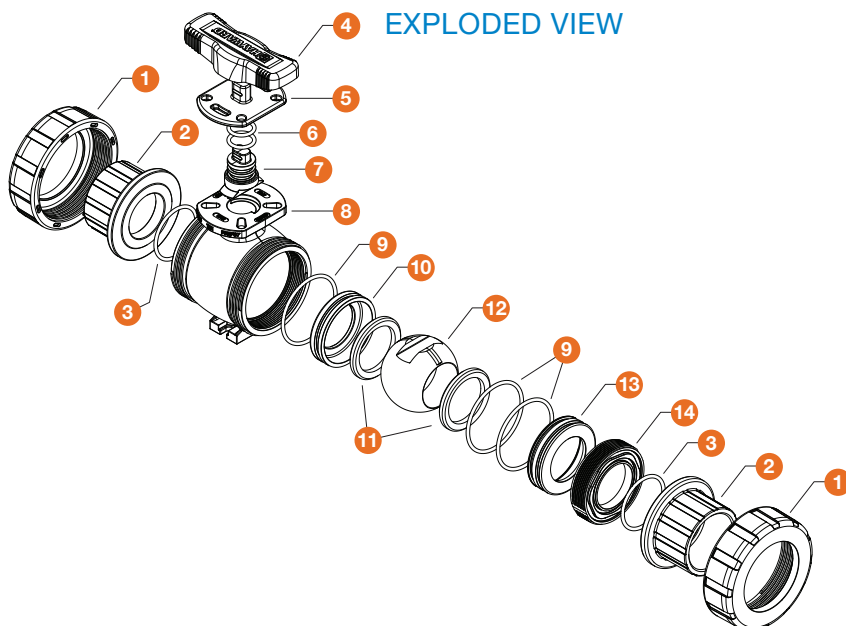
Integral Foot Pad

Uses Same Nut  
as Hayward TB Series  
Ball Valve

## PARTS LIST

- |                             |                             |
|-----------------------------|-----------------------------|
| 1. Nut (2)                  | 8. Body                     |
| 2. End Connector (2)        | 9. Seat Carrier O-Ring (3)  |
| 3. End Connector O-Ring (2) | 10. Closed End Seat Carrier |
| 4. Handle                   | 11. Seats (2)               |
| 5. Lock Plate               | 12. Ball                    |
| 6. Stem O-Rings (2)         | 13. Open End Seat Carrier   |
| 7. Stem                     | 14. Seat Retainer           |

## EXPLODED VIEW



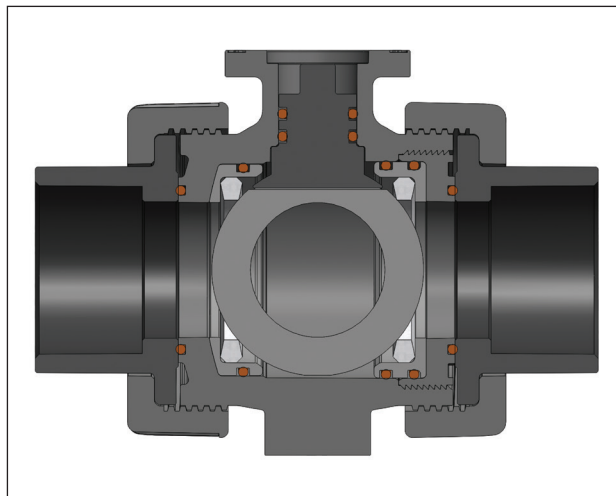


# TBH Series True Union Ball Valve

## BENEFITS

### Longevity

- New Patent Pending System2™ Sealing Technology
- As with standard floating ball valves, a primary seal is formed between the ball and the downstream seat upon valve closure
- The new System2™ Sealing Technology allows the upstream seat to float against the ball which causes a backup secondary seal between the upstream seat and the ball, and increases the sealing load on the downstream seat
- System2™ Sealing Technology is fully bi-directional
- Pressure rating of 250 PSI / 16 Bar, non-shock at 70°F/23°C
- Decreased maintenance due to System2™ Sealing Technology, requires no adjustment of the seat in service
- System2™ Sealing Technology leads to a facility with less downtime



### Dependability and Comfort

- Ergonomic handle to improve grip
- Symmetric handle for operation from either side of valve, left or right handed
- UV inhibited material for extended life
- Consistent operating torque with adjustment free design
- Designed with no metal fasteners



### Safety

- Facilitates implementation of lockout/tagout
- Accommodates up to 4 different keyed locks for increased protection
- Padlock secures lock plate to body to avoid removal
- Handle position and windows in lock plate indicate valve is open or closed



### Versatility

- Direct mount to actuators with ISO 5211 mounting pads
- Consistent valve torque due to System2™ Sealing Technology
- Actuator Ready valve priced lower than valve with handle and lock plate
- ISO 5211 couplings available in 9mm, 11mm and 14mm
- Integral panel mount facilitates one person installation
- Hex flats engage standard and metric fasteners





# **TBH Series True Union Ball Valve** ONE VALVE PLATFORM

## **TBH Series**



## **CVH Series**



Same TBH Series System2™ technology with a Profile2™ ball.

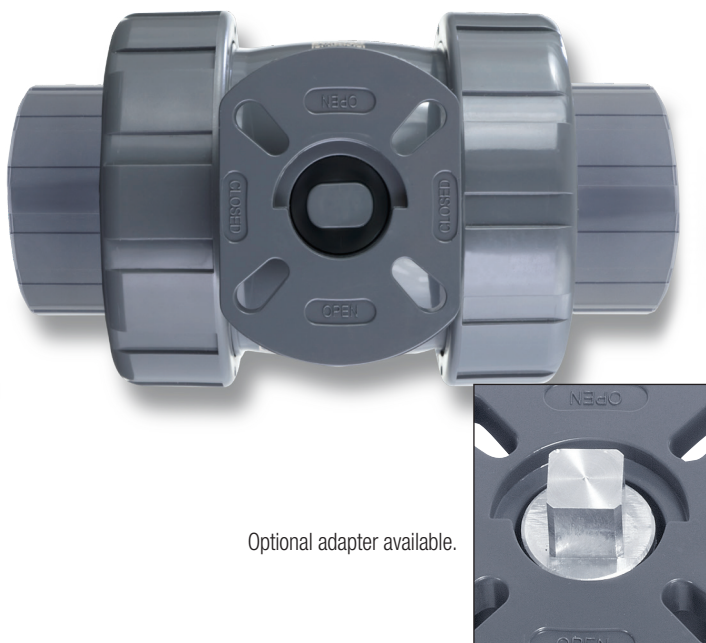
## **TBH Series “Z-Ball”**



TBH Series with black handle identifier, drilled ball for sodium hypochlorite applications.

Flow arrow indicates unidirectional seat design.

## **Actuator Ready**



Optional adapter available.

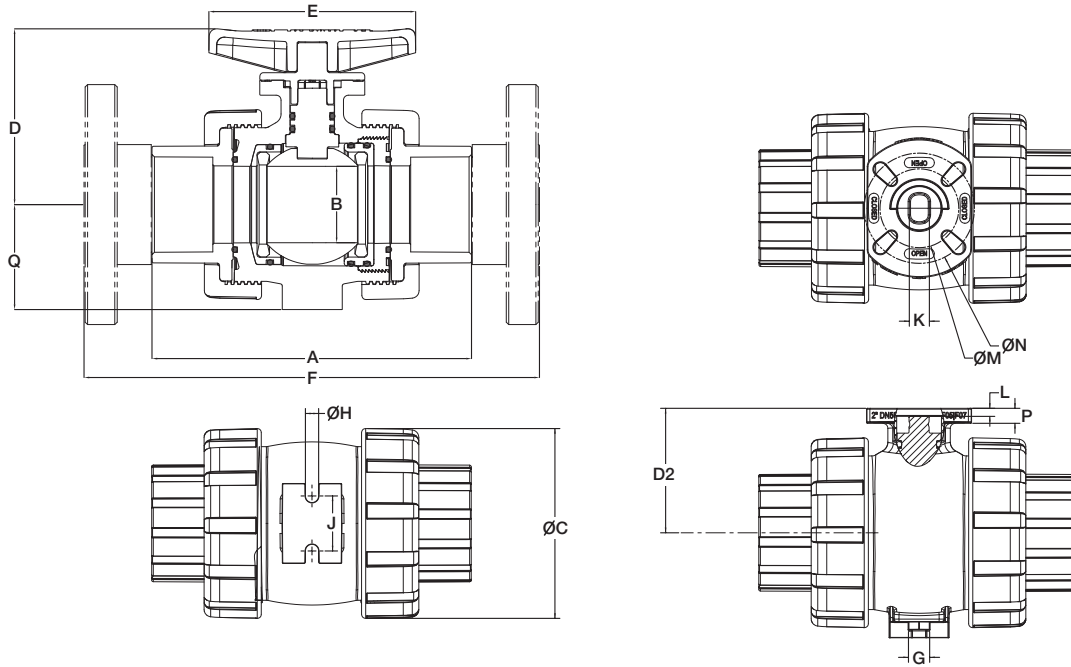
Hayward Flow Control provides a range of mounting options to adapt to our actuators or to your preferred actuator. With the TBH Series ISO top integral flanges, all that is required is just the ISO 5211 coupling and bolting to adapt from the TBH Series stem to Hayward actuators or those actuators with ISO 5211 square drives.



# TBH Series True Union Ball Valve

## TECHNICAL INFORMATION

### 2D DRAWINGS



### DIMENSIONS – INCHES / MILLIMETERS

SIZE	A	B	C	D1	D2	E	F	G	H	J	K	L	M	N	P	Q
inches / DN	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm	in / mm
1/4 / 8	4.63 / 118	0.53 / 13	2.25 / 57	2.82 / 72	1.75 / 44	3.50 / 89	N/A	0.45 / 11	0.27 / 7	0.75 / 19	0.50 / 13	0.17 / 4	1.97 / 50	N/A	0.29 / 7	1.37 / 35
3/8 / 10	4.63 / 118	0.53 / 13	2.25 / 57	2.82 / 72	1.75 / 44	3.50 / 89	N/A	0.45 / 11	0.27 / 7	0.75 / 19	0.50 / 13	0.17 / 4	1.97 / 50	N/A	0.29 / 7	1.37 / 35
1/2 / 15	4.65 / 118	0.53 / 13	2.25 / 57	2.82 / 72	1.75 / 44	3.50 / 89	6.65 / 169	0.45 / 11	0.27 / 7	0.75 / 19	0.50 / 13	0.17 / 4	1.97 / 50	N/A	0.29 / 7	1.37 / 35
3/4 / 20	4.79 / 122	0.72 / 18	2.62 / 67	2.98 / 76	1.91 / 49	3.50 / 89	7.17 / 182	0.45 / 11	0.27 / 7	0.75 / 19	0.50 / 13	0.17 / 4	1.97 / 50	N/A	0.29 / 7	1.56 / 40
1 / 25	5.34 / 136	0.94 / 24	3.00 / 76	3.25 / 83	2.18 / 55	4.00 / 102	8.05 / 204	0.45 / 11	0.27 / 7	1.00 / 25	0.50 / 13	0.20 / 5	1.97 / 50	N/A	0.29 / 7	1.75 / 44
1-1/4 / 32	6.83 / 173	1.48 / 38	4.00 / 102	3.89 / 99	2.60 / 66	5.17 / 131	9.61 / 244	0.53 / 13	0.33 / 8	1.38 / 35	0.50 / 13	0.20 / 5	1.97 / 50	2.76 / 70	0.34 / 9	2.25 / 57
1-1/2 / 40	7.39 / 188	1.48 / 38	4.00 / 102	3.89 / 99	2.60 / 66	5.17 / 131	10.65 / 271	0.53 / 13	0.33 / 8	1.38 / 35	0.50 / 13	0.20 / 5	1.97 / 50	2.76 / 70	0.34 / 9	2.25 / 57
2 / 50	7.99 / 203	1.91 / 49	4.75 / 121	4.40 / 112	3.11 / 79	5.17 / 131	11.51 / 292	0.53 / 13	0.33 / 8	1.38 / 35	0.50 / 13	0.20 / 5	1.97 / 50	2.76 / 70	0.34 / 9	2.63 / 67

\* 1-1/4" and 1-1/2" are 0.56" (14mm) longer than TB Series.

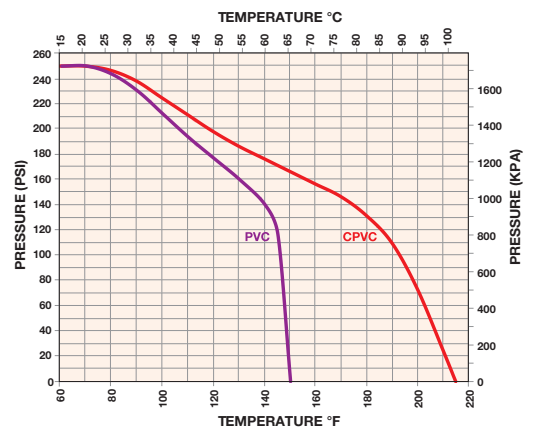
### WEIGHT – LBS / KG

SIZE	Weight with Socket/Threaded Ends	Weight with Flanged Ends	Weight Bare Stem with Socket/Threaded Ends	Weight Bare Stem with Flanged Ends
	lbs / kg	lbs / kg	lbs / kg	lbs / kg
1/2 / 15	0.70 / 0.32	1.12 / 0.51	0.59 / 0.27	1.01 / 0.46
3/4 / 20	0.90 / 0.41	1.50 / 0.68	0.79 / 0.36	1.39 / 0.63
1 / 25	1.18 / 0.54	1.98 / 0.90	1.05 / 0.48	1.85 / 0.84
1-1/4 / 32	2.57 / 1.17	3.51 / 1.59	2.32 / 1.05	3.26 / 1.48
1-1/2 / 40	2.62 / 1.19	3.82 / 1.73	2.37 / 1.08	3.57 / 1.62
2 / 50	3.87 / 1.76	6.37 / 2.89	3.62 / 1.64	6.12 / 2.78

### CV VALUES

SIZE in / DN	Cv VALUES
1/4 / 8	1.0
3/8 / 10	2.8
1/2 / 15	8.0
3/4 / 20	16.0
1 / 25	29.0
1-1/4 / 32	75.0
1-1/2 / 40	90.0
2 / 50	150.0

### PRESSURE / TEMPERATURE CHART\*



\* Flanged valves rated to 150 PSI



