H

Hydrogen Service Ball Valves (H)

Habonim's hydrogen service ball valves are designed and tested to provide safe and durable use within diverse hydrogen applications and address some leading industrial standards. With decades of proven safe and long-lasting use in hydrogen applications Habonim Hydrogen-service ball valves delivers reliability and integrity for industrial demanding applications.

Habonim is offering a full range of ball valves for hydrogen-use based on the legacy products families to cover low to very-high pressures, shut-off or control use, regular, multiport, Double Block & Bleed or custom-made designs, valve automation packages and much more.

Hydrogen

Hydrogen light atomic weight and molecule structure turning hydrogen-use equipment sealing into a challenge requires special designs, mechanisms and expertise. Hydrogen is highly combustion and flammable making leakage prevention an essence for safety and integrity of systems. In addition materials selection should be considered to prevent effects such as Hydrogen Embrittlement (HE).

Design

Habonim Hydrogen-use ball valves incorporate some design elements to best accommodate the hydrogen media:

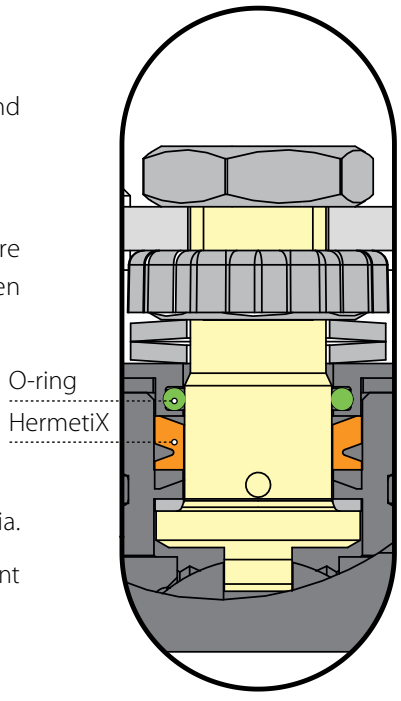
Double Stem Sealing

Habonim HermetiX patented stem seal is used with additional O-ring sealing.

The HermetiX polymeric, non-graphite stem seal design is certified for ISO 15848-1 and API641 fugitive emission prevention standards, tested with He.

An additional O-ring stem seal is added as additional sealing point.

This design has been successfully tested for 100,000 open/close cycles under pressure without any maintenance or seals replacements and well performs in demanding hydrogen applications for decades.



Registered EU Design
015025978-001

Hydrogen-use material compatibility

All material used for the valve constructions are specified for safe use with hydrogen media.

Metallic materials to be used in the valves are selected to withstand the hydrogen embrittlement effects and are compatible for hydrogen use.

Testing & Certifications

Some of the ball valves series are tested or certified for specific standard relevant for hydrogen use such as:

ISO 19880-3:2018 Gaseous hydrogen – fueling stations valve

TPED / TPE - – Transportable Pressure Equipment Directive

Marine classification (on demand): DNV GL, LR, BV, ABS, KR, RINA

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Total HermetiX integrity package

Materials selection for Hydrogen use

Unless explicitly specified in our Ordering Codes for Hydrogen Service, when using our valves for Hydrogen Service (Feature "H") material selection should be:

- Body & ends - Stainless steel.
- Inner seal - HNBR or consult Habonim.

Zero fugitive-emission stem sealing

- HermetiX stem sealing design with zero fugitive emission sealing capability.
- Tested according to ISO 15848-1 and API641 standards.
- Up to 500,000 cycles of operation with no maintenance.
- Field proven for millions of cycles.

Double body sealing

- Body double sealing for superior atmospheric sealing.
- Fugitive emission prevention.

Fire safe

- Design compatible with API 607 and ISO 10497.
- Clean fire-safe construction for no graphite contamination of the media flow.

Inline superior sealing

Quick Selection Table

Total Hermetix™ | **Port:** Standard Port | Full Port | Tube Size

Ordering Code | **End Connections:** Threaded | Coned & Threaded | Flanged | Welded

Temperature: -40°C - +260°C (-40 °F ÷ +500 °F)	Category	Ball Valve	Design Type	OC	Series	TH	Port	End Con.	Valve Size (Inches) / MWP (ANSI Class)
									¼ ⅜ ½ ⅝ ¾ 1 1¼ 1½ 2 2½ 3 4 6 8 10 12 14 16
	High Pressure	Trunnion	Threaded body	OC	H99				1,034bar (15,000psi)*
			3 Piece	OC	See High Pressure	TH	Standard Port / Full Port	Threaded / Flanged / Welded	2500
			3 Piece	OC		TH	Standard Port / Full Port	Threaded / Flanged / Welded	1500
		Floating	Threaded body	OC	H29	TH	Standard Port / Full Port	Threaded	1,034bar (15,000psi)**
			Threaded body	OC	H25	TH	Standard Port / Full Port	Threaded	550bar (8,000psi)
			Threaded body	OC	H24	TH	Standard Port / Full Port	Threaded / Coned & Threaded	500bar (7,250psi) / 2500
			3 Piece	OC	See Industrial	TH	Standard Port / Full Port	Coned & Threaded / Flanged / Welded	2500 / 1500
	Industrial Use	Trunnion	3 Piece	OC		TH	Standard Port / Full Port	Flanged / Welded	900/600/300/150
			2 Piece	OC		TH	Standard Port / Full Port	Flanged	600/300/150
		Floating	3 Piece	OC		TH	Standard Port / Full Port	Threaded / Coned & Threaded / Flanged / Welded	900/600/400/300/150
			2/1 Piece	OC		TH	Standard Port	Flanged	300/150/PN40/PN16
			DS/DBB	OC		TH	Standard Port	Threaded / Flanged / Welded	600/300/150/PN16
			Multiport / Diverter	OC		TH	Standard Port / Full Port	Threaded	600/300/150
			Control	OC	See Control	TH	Standard Port / Full Port	Threaded / Coned & Threaded / Flanged / Welded	900/400/300/150/PN40/PN16

* NPT ¾" & 1" is limited to 10,000psi (700bar)

** with TPED - 700bar (10,000psi)