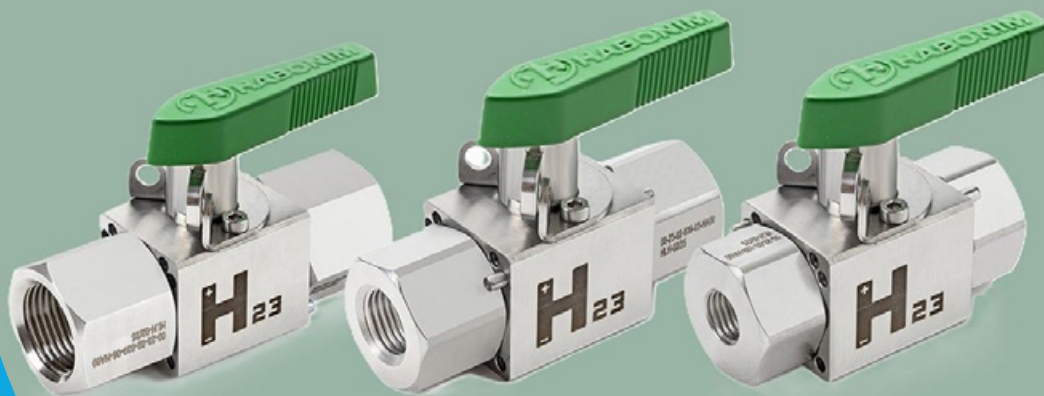


Habonim H23

Hydrogen Service

Ultra High Pressure

Floating Ball Valve



HABONIM H23

HYDROGEN SERVICE ULTRA HIGH PRESSURE FLOATING BALL VALVE

Functionality

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

The forged, cast, or rolled bar 3-piece threaded-body design is comprised of a body (center section) and a variety of end connectors (thread, Coned & Threaded) to facilitate a wide range of construction configurations. The no-bolts design of the valve is suitable for high and very-high pressures.

Features and Benefits

- Total HermetiX Integrity Package: * HermetiX™ stem sealing design with zero fugitive emission sealing capability. * Double body sealing. * Fire-safe design, according to API 607 & ISO 10497.
- Double Stem Sealing
- Hydrogen-use material compatibility

Operating Conditions

Maximum Working Pressure

ORIFICE Port

- Size ¼" (DN8) - 9/16" (DN16) : Class #6000 / 15000psi / 1000bar

Working Temperatures

- -40°F ÷ +185°F (-40°C ÷ +85°C)



Options

- Locking Device (LD)

Standards and Certifications

ISO 9001

SIL Combined

EAC - DOC&COC TR032

ISO 16232 standard

AD2000 merckblatt HP0

EXVF-000179

CRN - ALBERTA (H)

CRN - BC (H)

CRN - Manitoba (H)

CRN - PEI (H)

CRN - QUEBEC (H)

CRN-SASKATCHEWAN (H)

CRN - NF&L (H)

CRN - NT (H)

CRN - NS (H)

CRN - Nunavut (H)

CRN - Ontario (H)

CRN - Yukon (H)

SIL - H23

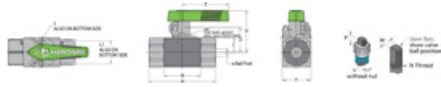
ISO 15848-1 [3"-12"]

EAC - DOC&COC TR032

H23 HYDROGEN SERVICE ULTRA HIGH PRESSURE FLOATING

Drawing Body Type A

Size 1/4" (DN8) - 9/16" (DN16)



Dimensions

Minimal valve orifice Port																
ORIFICE Port	Unit	Ball Port	A	B	C	D	H	L	L1	W	M	N	P	S	Y	Weight kg/l
DN8	mm	6.35	64.5	35.0	14.0	23.8	41.5	M4x7	22.0	16.0	4.0	M6x1.0	4.0	67.5	28.0	0.35
1/4"	inch	0.25	2.54	1.38	0.55	0.94	1.63		0.87	0.63	0.16		0.16	2.66	1.10	0.77
DN10	mm	6.35	74.5	35.0	14.0	23.8	41.5	M4x7	22.0	16.0	4.0	M6x1.0	4.0	67.5	28.0	0.40
3/8"	inch	0.25	2.93	1.38	0.55	0.94	1.63		0.87	0.63	0.16		0.16	2.66	1.10	0.88
DN16	mm	6.35	82.5	35.0	14.0	23.8	41.5	M4x7	22.0	16.0	4.0	M6x1.0	4.0	67.5	28.0	0.40
9/16"	inch	0.25	3.25	1.38	0.55	0.94	1.63		0.87	0.63	0.16		0.16	2.66	1.10	0.88

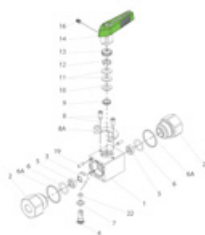
H23 HYDROGEN SERVICE ULTRA HIGH PRESSURE FLOATING

Components List

Item	Description	Material Specifications	Qty.
1	Body	Acc. Ordering Code	1
2	Ends	Acc. Ordering Code	2
3	Ball	Acc. Ordering Code	1
3A	Ball Bearing	SS+PTEE	2
3B	Slide Bearing	PTEE	1
4	Stem	Acc. Ordering Code	1
5	Seat	Acc. Ordering Code	2
5A	Seat Seal	Acc. Ordering Code	2
5B	Seat Backup Ring	V. peek	2
5C	Seat Spring	Inconel 718	2
5D	Seat FS Seal	Graphit	2
6	Inner Seal	Acc. Ordering Code	2
6A	Outer Seal	Graphit	2
6B	Seal Backup Ring	V. peek	2

Item	Description	Material Specifications	Qty.
7	Stem Thrust Seal	VIRGEN PEEK, PCTFE	1
8	Stop Pin	S. Steel	1
9	Stem Seal	Acc. Ordering Code	2
9A	Stem Backup Ring	V. peek	2
14	Handle	S. Steel	1
15	Serrated Washer	S. Steel	1
16	Handle Nut	S. Steel	1
17	Sleeve	PVC	1
18	Stem Gland	Acc. Ordering Code	1
18A	Gland Seal	Acc. Ordering Code	1
18B	Gland Backup Ring	V. peek	1
18C	Gland FS Seal	S. Steel	1
19	Locking Plate	S. Steel	2
19A	Locking Bolt	Graphit	4

Components Drawing Body A



Ordering Code

"Mandatory option" options are marked with **green background** | "Standard offer" options are marked with **light green background**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30
0	2			F	H	2	3	W	-	6	6	M	M	L	H	G	/	C	T	M		-						
Size		Features				Series		Design		Body/Ends material		Ball material	Stem material	Seat material	Inner Seal	Outer Seal		End Connection					Special features					

Size (1-2)		
Code	inch	mm
02	¼"	8
03	⅜"	10
06	⅝"	14

Features (3-6)	
H	Hydrogen use
F	Fire safe

Series (7-8)	
23	HP Float 3 piece

Design (9)	
W	Total HermetiX Integrity package
Body/Ends material (11-12)	
6	S. Steel 316L
Ball material (13)	
M	High Strength S. Steel
Stem material (14)	
M	High Strength S. Steel
Seat material (15)	
L	Virgin PEEK
Inner Seal Material (16)	
H	HNBR
V	Viton
A	TFM

Outer Seal Material (17)	
G	Expanded graphite
A	TFM
End connections (19-22)	
CTM	Coned & Threaded medium pressure
NPT*	ASME B1.20.1 - National Pipe Taper Thread
BSPP*	ISO 228-1 - Pipe Parallel Thread
DIN3852*	DIN 3852 - Pipe Parallel Thread
BSPT*	EN 10226 - Pipe Taper Thread

* Available only in size ¼"

H23 1/4"-9/16" | DN8-DN14 | PN1,034 (15,000PSI)

Hydrogen Service High Pressure Floating Ball Valve

Habonim H23 Hydrogen service valve is specifically designed to provide long life, reliable and durable solution for compressed Hydrogen through the various stages of the hydrogen supply chain. The H23 is the only valve in its orifice scale to have an anti-blowout stem design.

Technical Information

Operation

Maximum Working Pressure: 1,034bar (15,000psi)

Working temperature: -40°C up to +85°C (-40°F up to +185°F)

Design

- Anti blowout stem design
- Integral locking device for manual version
- Bi-directional
- Threaded body
- AutomationPanel mounting from top and bottom side by rigid screwed connection

- Total HermetiX Integrity package with:
 - ISO 15848-1 and API 641 emission standard certificated design
 - ISO 10497 and API607 fire-safe standard certificated design
 - Double body sealing
- O-ring enhanced stem sealing

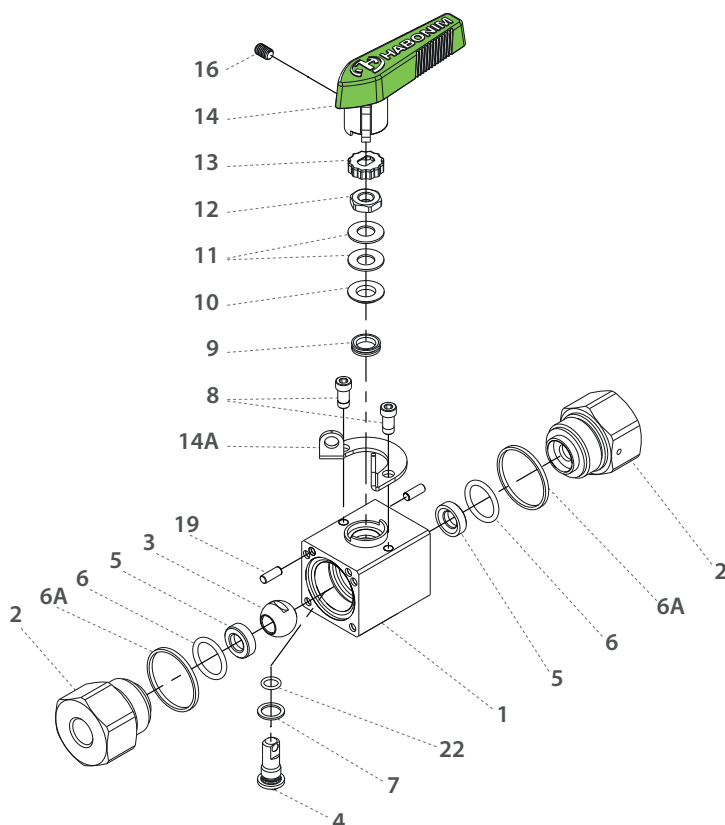
Testing & Certifications

- ATEX IIC
- SIL2(3)
- 100% shell & inline leak tested
- Marine classification (on demand): DNV GL, LR, BV, ABS, KR, RINA, others

Materials

- Stainless steel body & ends
- All materials compatible with Hydrogen use

Components & Materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Ends	Acc. Ordering Code	2
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Inner Seal	Acc. Ordering Code	2
6A*	Outer Seal	Acc. Ordering Code	2
7*	Stem Thrust Seal	PEEK, PCTFE	1
8	Locking Device Screws	S. Steel	2
9*	Stem seal	TFM, CF PTFE	1
10	Follower	S. Steel	1
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Locking clip	S. Steel	1
14	Handle	S. Steel + PA	1
14A	Locking Device Plate	S. Steel	1
16	Handle screw	S. Steel	1
19*	Dowel pin	S. Steel	2
22*	O-Ring	Acc. to 6	1

* Maintenance kit components

H23 1/4"-9/16" | DN8-DN14 | PN1,034 (15,000PSI)

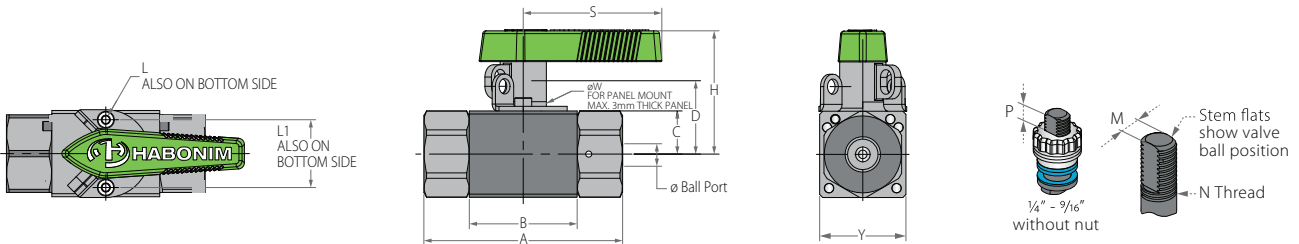


Hydrogen Service High Pressure Floating Ball Valve

End Connections

Valve size code	Connection		Orifice mm (in)	Cv	Kv
02	Medium Pressure Coned & Threaded	CTM	1/4"	2.8 (0.11")	0.38
03		CTM	3/8"	5.2 (0.2")	1.40
06		CTM	9/16"	7.9 (0.31")	1.96
02	Threaded	NPT/BSPP/DIN3852/BSPT	1/4"	6.35 (0.25")	1.49

Valve Dimensions



Port	Unit	Ball port	A	B	C	D	H	L	L1	W	M	N	P	S	Y	Weight kg/lb
DN8	mm	6.35	64.5	35.0	14.0	23.8	40.0	M4x7	22.0	16.0	4.0	M6x1.0	4.0	45.0	28.0	0.35
1/4"	inch	0.25	2.54	1.38	0.55	0.94	1.57		0.87	0.63	0.16		0.16	1.77	1.10	0.77
DN10	mm	6.35	74.5	35.0	14.0	23.8	40.0		22.0	16.0	4.0		4.0	45.0	28.0	0.40
3/8"	inch	0.25	2.93	1.38	0.55	0.94	1.57		0.87	0.63	0.16		0.16	1.77	1.10	0.88
DN14	mm	6.35	82.5	35.0	14.0	23.8	40.0		22.0	16.0	4.0		4.0	45.0	28.0	0.40
9/16"	inch	0.25	3.25	1.38	0.55	0.94	1.57		0.87	0.63	0.16		0.16	1.77	1.10	0.88

Ordering Code System

"Mandatory option" options are marked with **green background** | "Standard offer" options are marked with **light green background**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30
0	2			F	H	2	3	W	-	6	6	M	M	L	H	G	/	C	T	M		-						
Size		Features				Series		Design	Body/Ends material		Ball material	Stem material	Seat material	Inner Seal	Outer Seal	End Connection		Special features										

Size (1-2)		
Code	inch	mm
02	1/4"	8
03	3/8"	10
06	9/16"	14

Features (3-6)		
H	Hydrogen use	
F	Fire safe	

Series (7-8)		
23	HP Float 3 piece	

Design (9)	
W	Total HermetiX Integrity package
Body/Ends material (11-12)	
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CTM	Coned & Threaded medium pressure
NPT*	ASME B1.20.1 - National Pipe Taper Thread
BSPP*	ISO 228-1 - Pipe Parallel Thread
DIN3852*	DIN 3852 - Pipe Parallel Thread
BSPT*	EN 10226 - Pipe Taper Thread

* Available only in size 1/4"



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