

# Three piece ball valves



## Introduction

### Habonim 3-piece ball valves 47 series

Habonim line of 3-piece ball valves is engineered for endurance and meet the most demanding industrial and international standards. The 47 series, is designed and manufactured for applications with high-flow capacity and tight shutoff, to ensure reliability and functionality. The 3-piece body construction allows for in-line maintenance and replacement of internal parts. Its sturdy construction is in compliance with ANSI B16.34 (wall thickness) and API 6D standards.

## Technical summary

<b>47 Series</b>	Standard and full port
<b>Size range</b>	¼"- 2" (DN8 - DN50)
<b>Pressure range</b>	ANSI Class 900   Vacuum 10 <sup>-6</sup> Tor to 155 bar (2250 psi)
<b>Size range</b>	2½"-6" (DN65 - DN150)
<b>Pressure range</b>	ANSI Class 400   Vacuum 10 <sup>-6</sup> Tor to 70 bar (1000 psi)
<b>Temperature range</b>	-60 °C to +260 °C (-76 °F to +500 °F)
<b>Materials</b>	Stainless steel A351 CF8M, carbon steel A216 WCB, bronze, alloy C22, alloy C276, duplex, super duplex, 254SMO, inconel 625, monel 400, titanium and more
<b>End connections</b>	Threaded, welded, flanged
<b>Operation</b>	Lever or gear operated, pneumatic or electric actuated
<b>Service</b>	Chemical, petrochemical, oil and gas, energy, pulp & paper and others

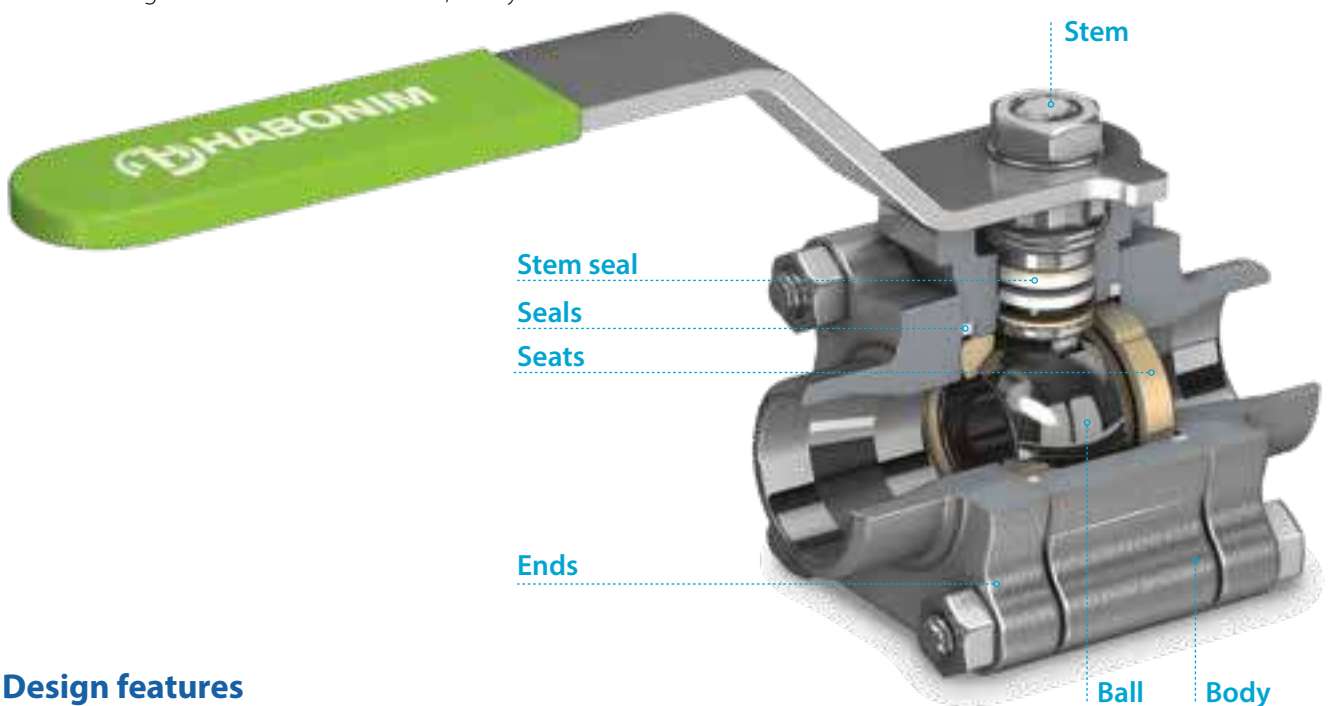
## Standards of compliance

<b>Factory certification</b>	ISO 9001:2015	Quality management system
<b>Valve design &amp; tests</b>	ASME B16.34 :2013 API 6D / ISO14313 :2007 ISO17292 :2004 ANSI B1.20.1 :2013 EN 10226-1 :2004, ISO 7-1 :2007, JIS B0203 :1999 DIN3852:2014 ANSI B16.11:2016, EN 12760:2016 ASME B16.25-2017, EN12627:1999 ASME B16.5:2017, EN 1092 -1:1997 ASME B16.10:2017, EN 558:2017 NACE MR-0175 :2015/ISO 15156 -1 :2015 NACE MR0103/ISO 17945 :2015 EN 12266-1 :2012, API 598 :2016 API 607 :2016, ISO 10497 :2010 ISO 15848-1:2015	Valve design  NPT - National Pipe Taper thread BSPT - British Standard Pipe Taper thread BSPP Socket weld end connection Buttweld end connection (schedule 5, 10, 40, 80) Flange dimensions Face-to-Face dimensions Metallic materials resistant to sulfide stress cracking in corrosive petroleum refining environments Metallic materials resistant to sulfide stress cracking in corrosive petroleum refining environments Testing of metallic valves - pressure tests, test procedures and acceptance criteria Testing of valves - fire type-testing requirements Industrial valves - measurement, test and qualification procedures for fugitive emissions
<b>Certifications</b>	PED 2014/68/EU Module H ATEX 2014/34/EU  IEC 61508-2/3 :2010 SIL2/3	Pressure equipment directive Equipment and protective systems intended for use in potentially explosive atmospheres (optional for actuated unit only) Safety integrity level - functional safety of electrical/ electronic/ programmable electronic safety-related systems (optional for actuated unit only)
<b>Documentation</b>	EN 10204 :2004 2.2/3.1/3.2	Metallic materials - types of inspection documents

## HermetiX™

Habonim standard valves that include the HermetiX™ stem seal have passed the rigorous test dictated by ISO 15848-1 with great success. Third party certifications for the complete standard product line are published on the Habonim website. The HermetiX™ stem seal is named for its distinctive “X” shaped design. The flexible “X” shape creates a dynamic sealing arrangement that allows the HermetiX™ stem seal to adjust itself as pressure builds. In the event of pressure buildup or side load, the stem seal dynamically adjusts to prevent fugitive emissions, making HermetiX™ a superior design compared with the conventional flat stem seals currently available in the market.

The HermetiX™ stem seal also includes a tough thrust bearing (CF PEEK by default) located between the stem and the valve body, and an anti-abrasion ring (CF PEEK by default) located between the soft HermetiX™ stem seal and the stainless steel follower. Both elements minimize erosion and loss of preload, thus keeping the stem components in their original condition and extending their service life above 500,000 cycles.



## Design features

### Body

- Three piece design
- Forged or cast body
- Full compliance with ASME B16.34 (wall thickness) and API 6D
- Easily serviced in-line with swing-out body
- Large range of end connections for full or standard port valves
- Rugged top mounting ISO 5211 compliant platform for easy mounting of actuator and other accessories
- Carbon steel valves are black oxidized to MIL-DTL-13924 standard or available in epoxy paint finish upon request
- Stainless steel and high alloy valves provided with natural finish
- Steam jacket - upon request

### Ball

- Mirror polished solid ball
- Bidirectional as standard
- High flow capacity with low pressure drop at full opening
- Floating ball concept for positive shutoff
- Pressure equalizing hole in the stem slot

### Stem

- One piece solid stem
- Blowout proof design
- Antistatic device
- Fire lip

### Stem seal

- HermetiX™ ISO 15848-1 certified
- High endurance up to 500 thousand cycles
- Anti-abrasion mechanism
- Live loaded

### Seats and seals

- Flexible seat design
- Reduced wear
- Low torque
- Rate A leakage tightness
- Self-relief seats (SRS) - upon request

### Handle

- Rigid handle indicating flow direction
- Optional locking devices

## Floating Ball Valves

Three piece valves

General

HermetiX™

HermetiX™  
Fire safe

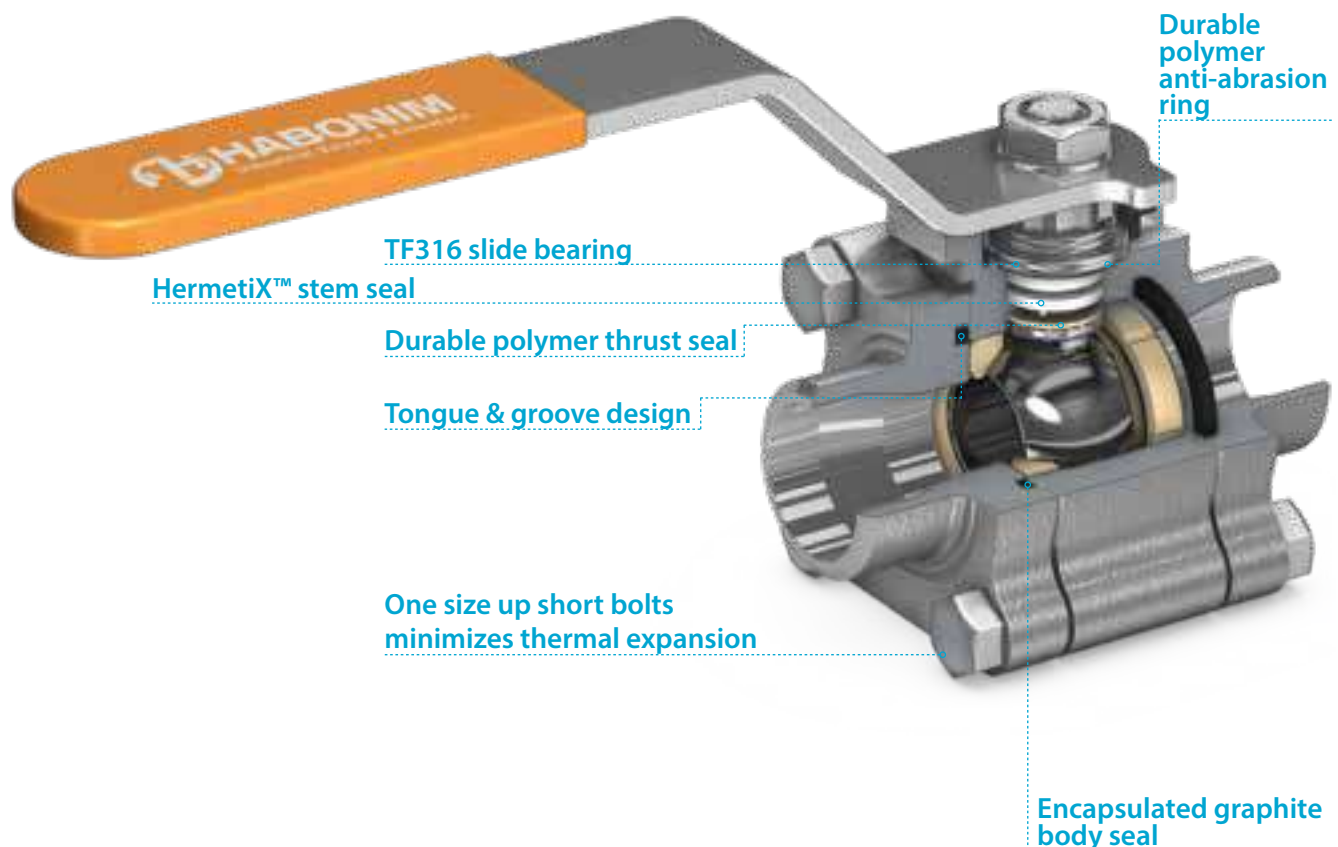
HermetiX™  
Graphite-free fire-safe

Ordering  
code system

### HermetiX™ Graphite-free fire-safe stem seal

Continuous development of the HermetiX™ technology led to Habonim's revolutionary graphite-free fire-safe stem seal design. A polymer stem seal and a unique trim construction hold the stem aligned and preloaded even after a fire. The HermetiX™ stem seal is well-suited for use in hazardous industries such as chemical, petrochemical and oil & gas, where it improves the performance of the valve stem seal up to 500,000 cycles compared to conventional porous graphite fire-safe stem seals.

The HermetiX™ fire-safe valve offers the ultimate solution with its exclusive graphite-free stem seal that eliminates the risk of graphite disintegration even after prolonged stem wear, protecting both line materials and air quality.



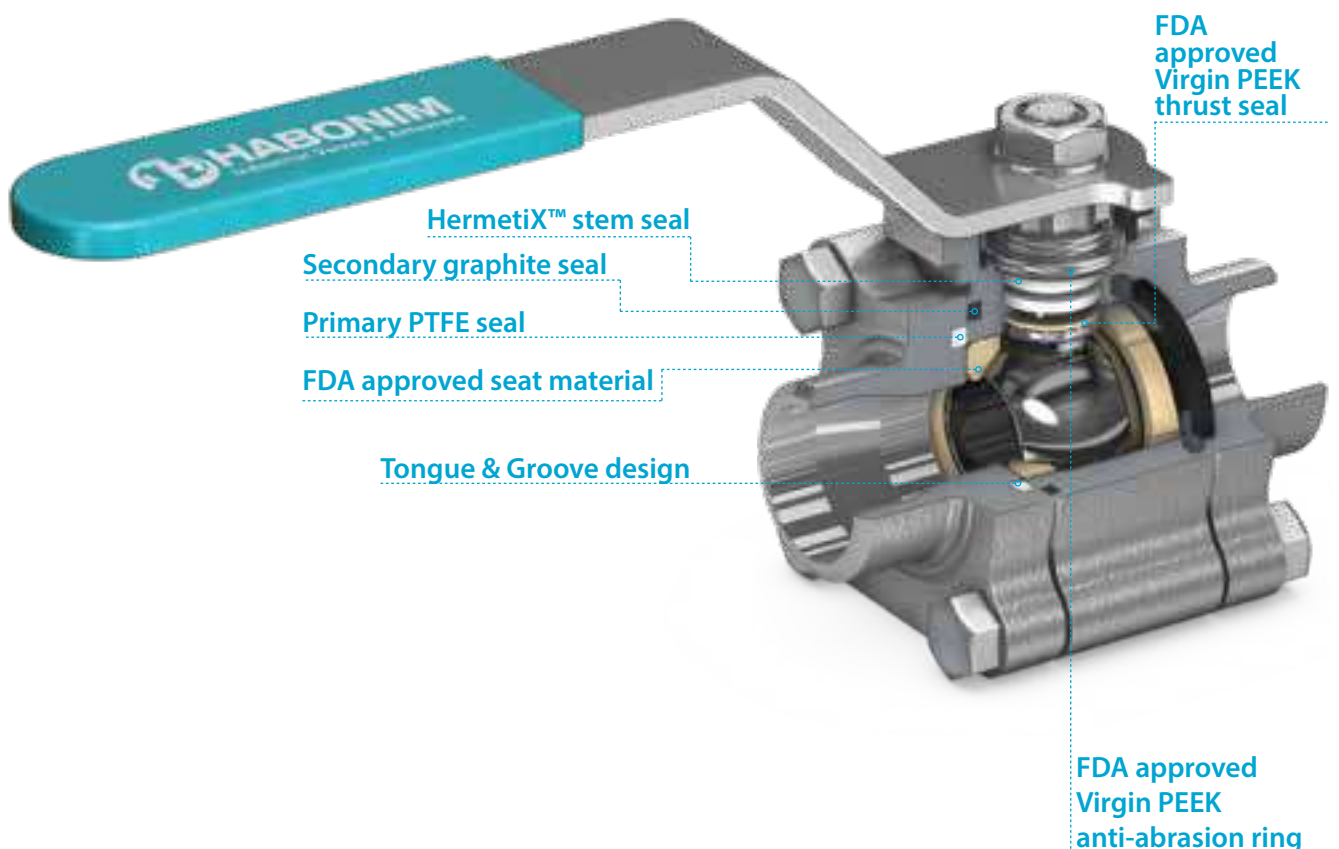
### Unique design features

- Fugitive emission certified to ISO 15848-1
- Fire safe design to API 607 and ISO 10497
- Habonim design Patent No. D598,988
- Designed to operate for 500,000 cycles without refurbishment
- Prevents media contamination from graphite particles
- Ensures uninterrupted production
- Increases site safety

## HermetiX™ Graphite-free fire-safe valve

A premium line of products based on the HermetiX™ fire safe technology.

This unique fire safe valve design includes a graphite-free HermetiX™ stem seal consisting of a virgin PEEK thrust bearing and anti-abrasion ring, and HermetiX™ stem seal made of TFM material. Both virgin PEEK and TFM are FDA approved. A double body seal set is comprised of an internal PTFE HermetiX™ body seal facing the media, and an external graphite seal to withstand the fire. This configuration effectively isolates the graphite secondary seal in a dry cavity, preventing it from coming into contact with the media, ensuring a high level of purity for high-value media.



### Unique design features

- Prevents media contamination from graphite particles
- FDA approved polymer materials
- Animal Derivative Free (ADF) assembly
- Ensures uninterrupted production
- Fugitive emission certified to ISO 15848-1
- Fire safe design to API 607 and ISO 10497
- Cleaned, assembled and packed for Biopharma / API service
- Designed to operate for 500,000 cycles without refurbishment
- Increases site safety
- Self-Relieving Seats (SRS) - upon request
- Habonim design Patent No. D598,988

# Floating Ball Valves

## Three piece valves

General

HermetiX™

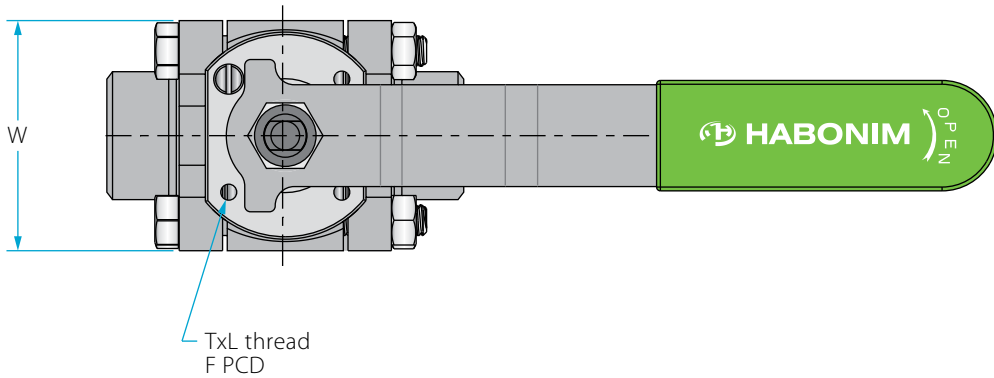
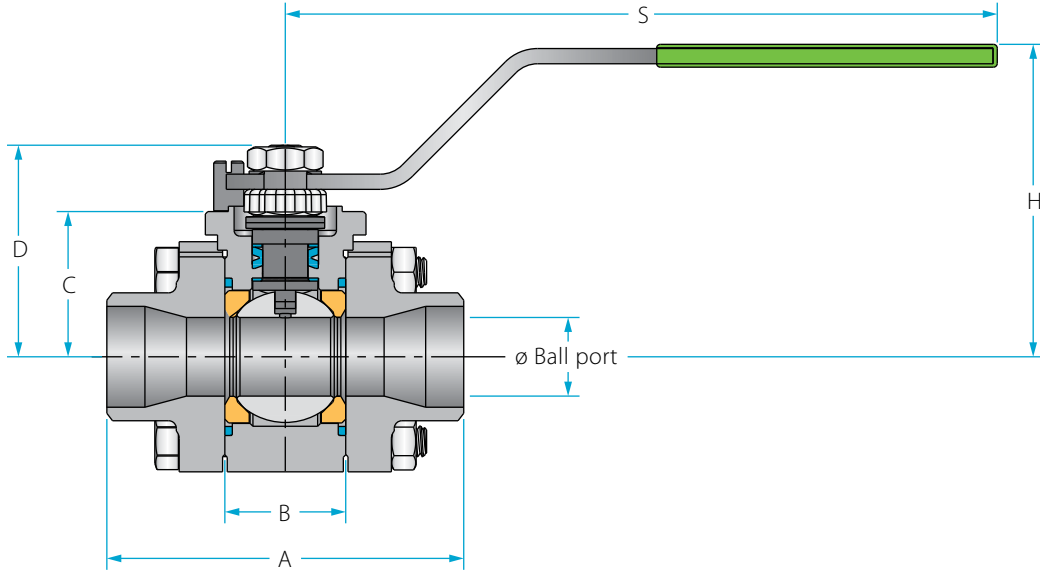
HermetiX™  
Fire safe

HermetiX™  
Graphite free - fire safe

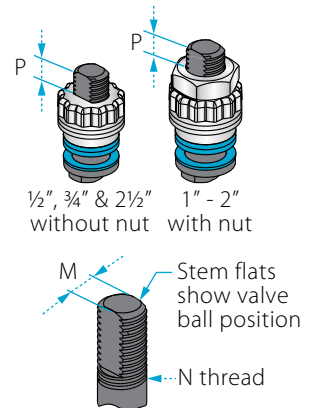
Ordering  
code system

Size 1/4" - 2 1/2" | DN8-DN65 | Class 900<sup>(3)</sup> | 47X/47P<sup>(1)</sup> Series

### Valve dimensions

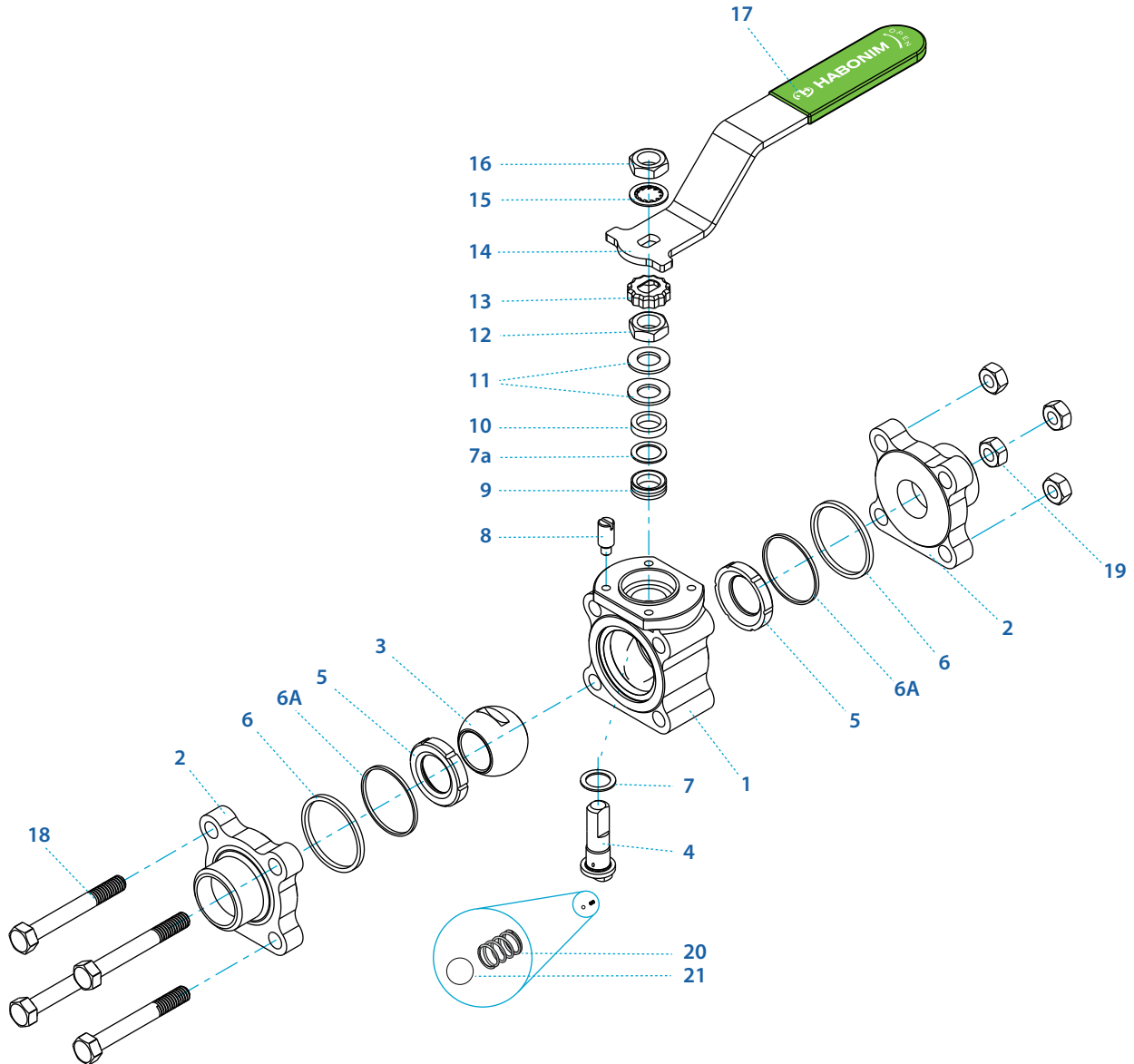


### Preparation for actuation



Std. port	Full port	Unit	Ball port	A	B	C	D	H	S	W	M	N	P	F	TxL	Weight kg/ib	Kv Cv
	DN8	mm	11.15	66.00	20.60	29.00	37.9	61.50	150.00	47.00	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.60	2.6
	1/4"	inch	0.44	2.60	0.81	1.14	1.49	2.42	5.91	1.85	0.22		0.26	1.42		1.33	3.0
DN15	DN10	mm	11.15	66.00	20.60	29.00	37.9	61.50	150.00	47.00	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.60	6.9
	1/2"	3/8"	inch	0.44	2.60	0.81	1.14	1.49	2.42	5.91	0.22		0.26	1.42		1.33	8.0
DN20	DN15	mm	14.30	70.60	24.50	31.40	40.30	63.90	150.00	53.70	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.80	10
	3/4"	1/2"	inch	0.56	2.78	0.97	1.24	1.59	2.52	5.91	0.22		0.26	1.42		1.77	12
DN25	DN20	mm	20.60	93.70	31.70	38.10	55.60	79.40	187.00	63.70	7.54	7/16 UNF	7.40 (F04)	42.00	M5X10	1.60	28
	1"	3/4"	inch	0.81	3.69	1.25	1.50	2.19	3.13	7.36	0.30		0.29	1.65		3.54	32
DN32	DN25	mm	25.40	108.00	41.30	42.70	60.20	84.10	187.00	71.70	7.54	7/16 UNF	7.40 (F04)	42.00	M5X10	2.50	49
	1 1/4"	1"	inch	1.00	4.25	1.62	1.68	2.37	3.31	7.36	0.30		0.29	1.65		5.53	57
DN40	DN32	mm	31.80	115.50	48.40	43.60	73.00	97.00	237.00	86.70	8.71	9/16 UNF	8.50 (F05)	50.00	M6X12	3.60	69
	1 1/2"	1 1/4"	inch	1.25	4.55	1.91	1.72	2.87	3.82	9.33	0.34		0.33	1.97		7.96	80
DN50	DN40	mm	38.10	128.00	56.30	48.30	77.80	101.80	237.00	96.90	8.71	9/16 UNF	8.50 (F05)	50.00	M6X12	4.50	102
	2"	1 1/2"	inch	1.50	5.04	2.22	1.90	3.06	4.01	9.33	0.34		0.33	1.97		9.95	118
DN65	DN50	mm	50.80	158.00	72.60	70.00	88.10	115.10	237.00	108.00	8.71	9/16 UNF	13.50 (F07)	70.00	M8X12	9.50	208
	2 1/2"	2"	inch	2.00	6.22	2.86	2.76	3.47	4.53	9.33	0.34		0.53	2.76		21.00	241

Components & materials



Item	Description	Material specification	Qty.
1	Body	A351 CF8M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	1
2	Ends	A351 CF3M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	2
3	Ball	A351 CF8M, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
4	Stem	A479 316L, A564 Gr.630 H1150D 17-4PH, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
5*	Seat	PTFE, RPTFE, CF PTFE, PEEK, CF PEEK, TFM, UHMWPE, VESPEL, PVDF, DELRIN, PCTFE (KEL-F)	2
6*	Body seal	PTFE, RPTFE, UHMWPE, Graphite	2
6A***	Support ring	A479 316L, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	2
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F), TFM <sup>(2)</sup> , CF PTFE <sup>(2)</sup>	1
7a**	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F), TFM <sup>(2)</sup> , CF PTFE <sup>(2)</sup>	1
8	Stop pin	A582 303	1

Item	Description	Material specification	Qty.
9*	Stem seal	CF PTFE, TFM, Graphite <sup>(2)</sup>	1
10	Follower	B783 316L, B164 N04400	1
11	Disc spring	A693 631 17-7PH	2
12	Stem nut	EN3506-2 A4-80, A194 Gr 8M	1
13	Locking clip	A167 304	1
14	Handle	C.St. A29 G10200 zinc plated, A240 430	1
15	Serrated washer	A240 410	1
16	Handle nut	A194 Gr 8M, EN3506-2 A4-80	1
17	Sleeve	PVC	1
18	Body bolt	EN 3506-1 A2-70 / A4-80, A193 Gr B8, ISO 898-1 Gr 8.8 zinc plated, A193 Gr B7 zinc plated, A320 Gr A7 zinc plated	4
19	Body nut	EN 3506-2 A4-80, A194 Gr 8M, ISO 898-2 Gr 8 zinc plated, A194 Gr 2H zinc plated	4
20	Anti-static spring	A313 302	1
21	Anti-static plunger	A479 304	1
23	Tag (not shown)	A167 304	1

\* Repair kit components

\*\* Only with HermetiX™ stem seal

\*\*\* Only with graphite body seal

<sup>(1)</sup> 47P Series is Habonim's standard valve design without the HermetiX™ stem seal construction.

<sup>(2)</sup> This material can only be used as part of the 47P design.

<sup>(3)</sup> 2 1/2" (DN65) size maximum pressure rating is Class 400.

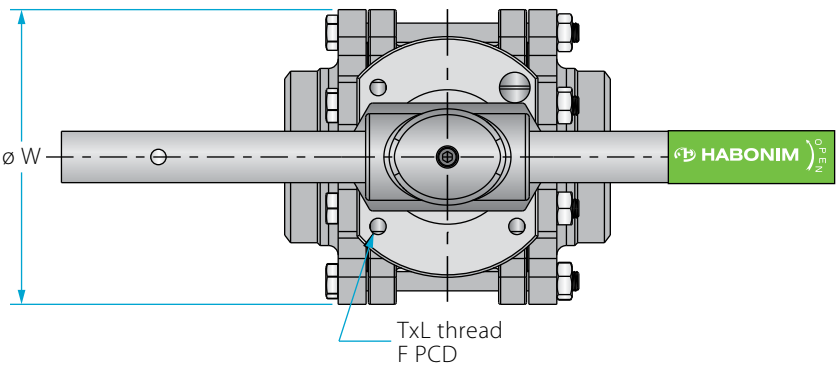
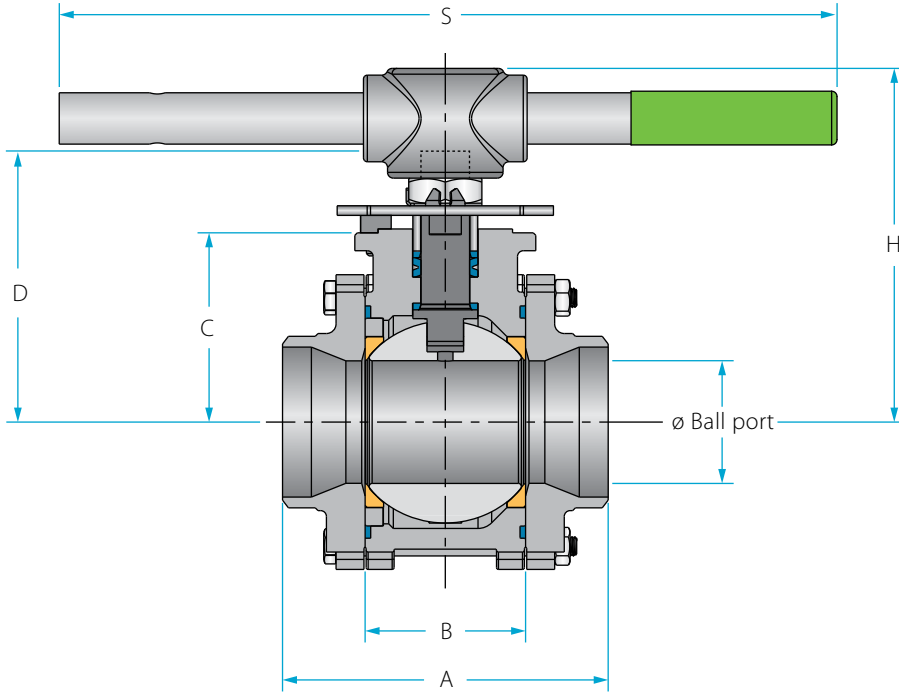
# Floating Ball Valves

**Three piece valves**

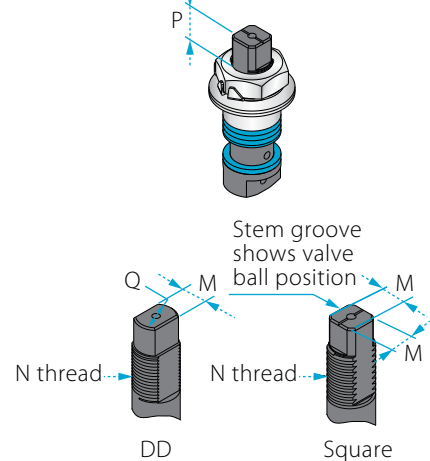
General **HermetiX™** HermetiX™ Fire safe HermetiX™ Graphite free - fire safe Ordering code system

Size 3" - 6" | DN80-DN150 | Class 400 | 47X/47P<sup>(1)</sup> Series

## Valve dimensions



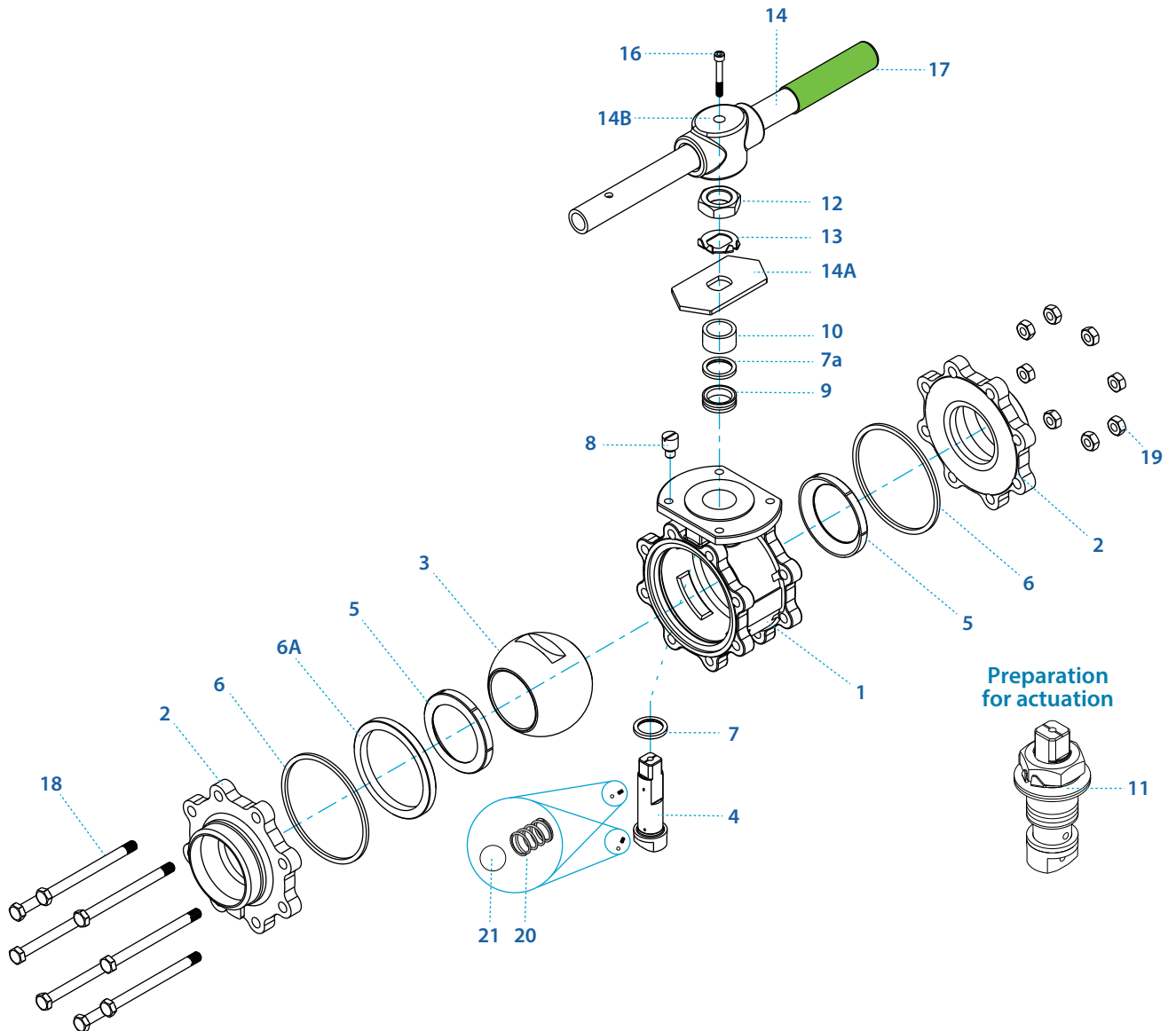
### Preparation for actuation



Std. port	Full port	Unit	Ball port	A	B	C	D	H	S	W	M	M-DD	N	P	Q	F	TxL	Weight kg/lb	Kv Cv
DN80	DN65	mm	63.50	169.00	83.30	98.30	144.90	185.00	400.00	140.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	13.70	300
3"	2½"	inch	2.50	6.65	3.28	3.87	5.71	7.29	15.75	5.50	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	30.30	348
DN100	DN80	mm	82.60	214.00	108.80	114.10	160.70	200.00	600.00	177.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	23.70	615
4"	3"	inch	3.25	8.43	4.28	4.49	6.33	7.89	23.62	6.97	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	52.40	713
	DN100	mm	100.00	239.00	123.00	124.00	170.50	211.00	600.00	217.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	30.00	744
	4"	inch	3.94	9.41	4.84	4.88	6.71	8.30	23.62	8.54	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	66.30	863
DN150		mm	111.10	346.00	146.00	157.00	226.00	286.00	916.00	266.00	28.45	23.75	1½"-12	26.20	35.20 (F12)	125.00	M12x20	63.00	872
6"		inch	4.37	13.62	5.75	6.18	8.90	11.26	36.06	10.47	1.12	0.94	UNF-2A	1.03	1.39	4.92	M12x20	138.90	1012



Components & materials



Item	Description	Material specification	Qty.
1	Body	A351 CF8M, A216 WCB, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A "	1
2	Ends	A351 CF3M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A "	2
3	Ball	A351 CF8M, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
4	Stem	A479 316L, A564 Gr.630 H1150D 17-4PH, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
5*	Seat	PTFE, RPTFE, CF PTFE, PEEK, CF PEEK, TFM, UHMWPE, VESPEL, PVDF, DELRIN, PCTFE (KEL-F)	2
6*	Body seal	PTFE, RPTFE, UHMWPE, Graphite	2
6A	Support ring	A351 CF3M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A "	1
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F), TFM <sup>(2)</sup> , CF PTFE <sup>(2)</sup>	1
7a**	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F), TFM <sup>(2)</sup> , CF PTFE <sup>(2)</sup>	1
8	Stop pin	A582 303	1

<sup>(1)</sup> 47P Series is Habonim's standard valve design without the HermetiX™ stem seal construction.

<sup>(2)</sup> This material can only be used as part of the 47P design.

Item	Description	Material specification	Qty.
9*	Stem seal	CF PTFE, TFM, Graphite <sup>(2)</sup>	1
10	Follower	B783 316L, B164 N04400	1
11	Disc spring	A693 631 17-7PH	2
12	Stem nut	C.st B18 ZP	1
13	Tab lock washer	A240 304	1
14	Handle	C.St. zinc plate, A240 316L	1
14A	Stop plate	C.St. 1.0402 zinc plate, A240 430	1
14B	Wrench head	Ductile iron A536 Gr. 65-45-12, A216 WCB, A351 CF8M	1
16	Wrench bolt	EN3506-1 A2-70 / A4-80, A193 Gr B8/B8M	1
17	Sleeve	PVC	1
18	Body bolts	EN 3506-1 A2-70 / A4-80, A193 Gr B8, ISO 898-1 Gr 8.8 zinc plated, A193 Gr B7 zinc plated, A320 Gr A7 zinc plated	8-12
19	Body nut	EN 3506-2 A4-80, A194 Gr 8M, ISO 898-2 Gr 8 zinc plated, A194 Gr 2H zinc plated	8-12
20	Anti-static spring	A313 302	2
21	Anti-static plunger	A479 304	2
23	Tag (not shown)	A167 304	1

\* Repair kit components

\*\* Only with HermetiX™ stem seal

# Floating Ball Valves

## Three piece valves

General

HermetiX™

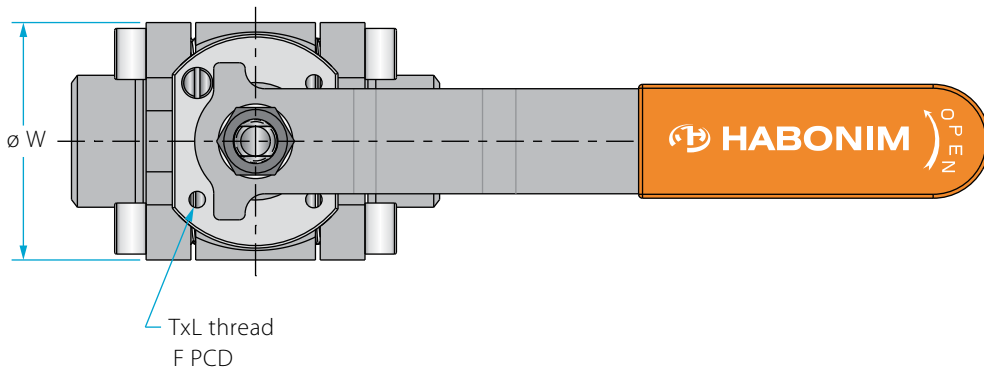
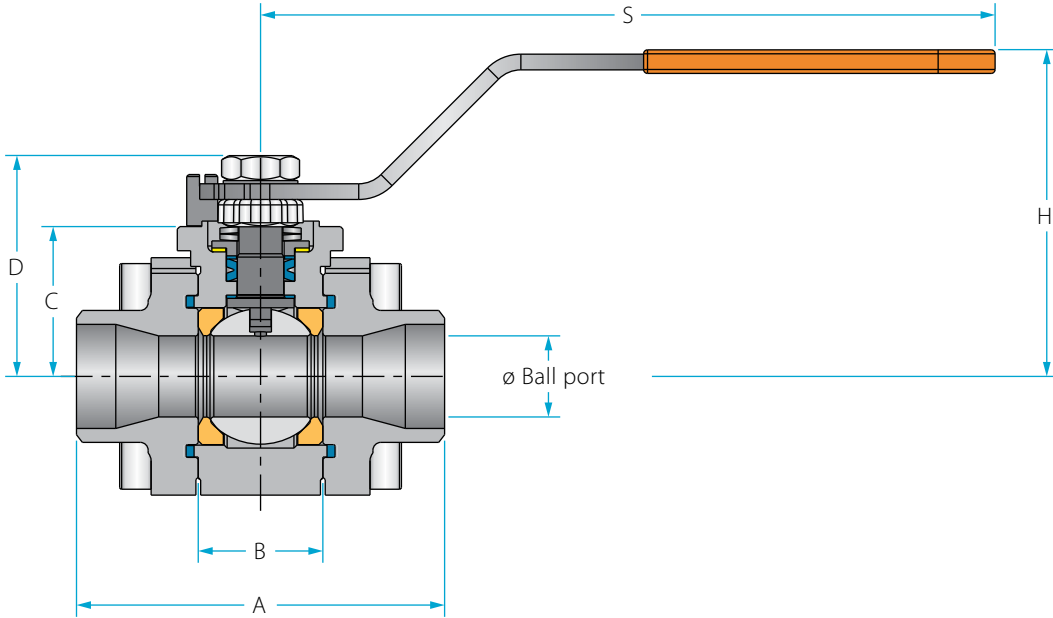
HermetiX™  
Fire safe

HermetiX™  
Graphite free - fire safe

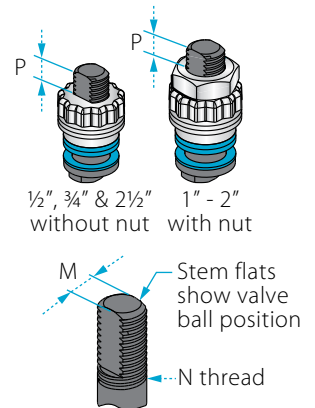
Ordering  
code system

Size 1/4" - 2 1/2" | DN8-DN65 | Class 900<sup>(2)</sup> | F47W/F47P<sup>(1)</sup> Series

### Valve dimensions

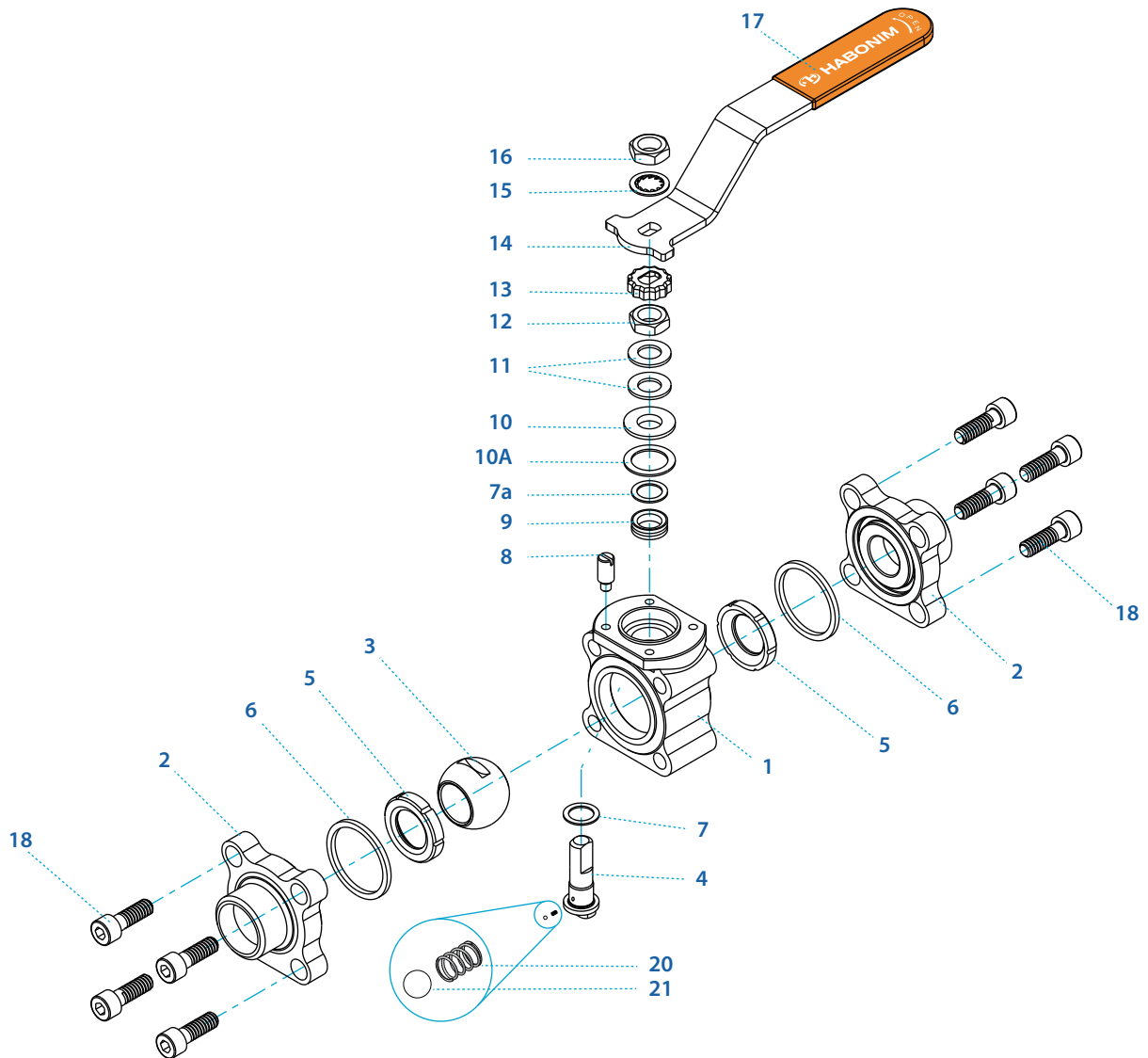


### Preparation for actuation



Std. port	Full port	Unit	Ball port	A	B	C	D	H	S	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv
	DN8	mm	11.15	66.00	20.60	29.00	37.90	61.50	150.00	47.00	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.60	2.6
	1/4"	inch	0.44	2.60	0.81	1.14	1.49	2.42	5.91	1.85	0.22		0.26	1.42		1.33	3.0
DN15	DN10	mm	11.15	66.00	20.60	29.00	37.90	61.50	150.00	47.00	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.60	6.9
	1/2"	3/8"	inch	0.44	2.60	0.81	1.14	1.49	2.42	5.91	1.85		0.22	0.26		1.42	1.33
DN20	DN15	mm	14.30	70.60	24.50	31.40	40.30	63.90	150.00	53.70	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.80	10
	3/4"	1/2"	inch	0.56	2.78	0.97	1.24	1.59	2.52	5.91	2.11		0.22	0.26		1.42	1.77
DN25	DN20	mm	20.60	93.70	31.70	38.10	55.60	79.40	187.00	63.70	7.54	7/16 UNF	7.40 (F04)	42.00	M5X10	1.60	28
	1"	3/4"	inch	0.81	3.69	1.25	1.50	2.19	3.13	7.36	2.51		0.30	0.29		1.65	3.54
DN32	DN25	mm	25.40	108.00	41.30	42.70	60.20	84.10	187.00	71.70	7.54	7/16 UNF	7.40 (F04)	42.00	M5X10	2.50	49
	1 1/4"	1"	inch	1.00	4.25	1.62	1.68	2.37	3.31	7.36	2.82		0.30	0.29		1.65	5.53
DN40	DN32	mm	31.80	115.50	48.40	43.60	73.00	97.00	237.00	86.70	8.71	9/16 UNF	8.50 (F05)	50.00	M6X12	3.60	69
	1 1/2"	1 1/4"	inch	1.25	4.55	1.91	1.72	2.87	3.82	9.33	3.41		0.34	0.33		1.97	7.96
DN50	DN40	mm	38.10	128.00	56.30	48.30	77.80	101.80	237.00	96.90	8.71	9/16 UNF	8.50 (F05)	50.00	M6X12	4.50	102
	2"	1 1/2"	inch	1.50	5.04	2.22	1.90	3.06	4.01	9.33	3.82		0.34	0.33		1.97	9.95
DN65	DN50	mm	50.80	158.00	72.60	70.00	88.10	115.10	237.00	108.00	8.71	9/16 UNF	13.50 (F07)	70.00	M8X12	9.50	208
	2 1/2"	2"	inch	2.00	6.22	2.86	2.76	3.47	4.53	9.33	4.25		0.34	0.53		2.76	21.00

Components & materials



Item	Description	Material specification	Qty.
1	Body	A351 CF8M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	1
2	Ends	A351 CF3M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	2
3	Ball	A351 CF8M, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
4	Stem	A479 316L, A564 Gr.630 H1150D 17-4PH, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
5*	Seat	PTFE, RPTFE, CF PTFE, PEEK, CF PEEK, TFM, UHMWPE, VESPEL, PVDF, DELRIN, PCTFE (KEL-F)	2
6*	Body seal	Graphite	2
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F), TFM <sup>(1)</sup> , CF PTFE <sup>(1)</sup>	1
7a*	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F), TFM <sup>(1)</sup> , CF PTFE <sup>(1)</sup>	1

Item	Description	Material specification	Qty.
8	Stop pin	A582 303	1
9*	Stem seal	CF PTFE, TFM, Graphite <sup>(1)</sup>	1
10	Follower	B783 316L, B164 N04400	1
10A*	Slide bearing	TF316	1
11	Disc spring	A693 631 17-7PH	2
12	Stem nut	EN3506-2 A4-80, A194 Gr 8M	1
13	Locking clip	A167 304	1
14	Handle	C.St. A29 G10200 zinc plated, A240 430	1
15	Serrated washer	A240 410	1
16	Handle nut	A194 Gr 8M, EN3506-2 A4-80	1
17	Sleeve	PVC	1
18	Body bolt	EN 3506-1 A2-70 / A4-80, A193 Gr B8, ISO 898-1 Gr 8.8 zinc plated, A193 Gr B7 zinc plated, A320 Gr A7 zinc plated	8
20	Anti-static spring	A313 302	1
21	Anti-static plunger	A479 304	1
23	Tag (not shown)	A167 304	1

<sup>(1)</sup> This material can only be used as part of the 47P design.

<sup>(2)</sup> 2 1/2" (DN65) size maximum pressure rating is Class 400.

<sup>(3)</sup> F47P Series is Habonim's firesafe valve design without the Graphite free HermetiX™ stem seal construction.

\* Repair kit components

# Floating Ball Valves

Three piece valves

General

HermetiX™

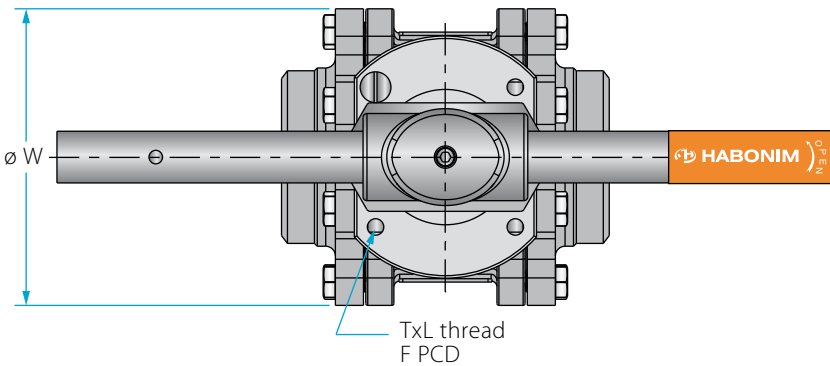
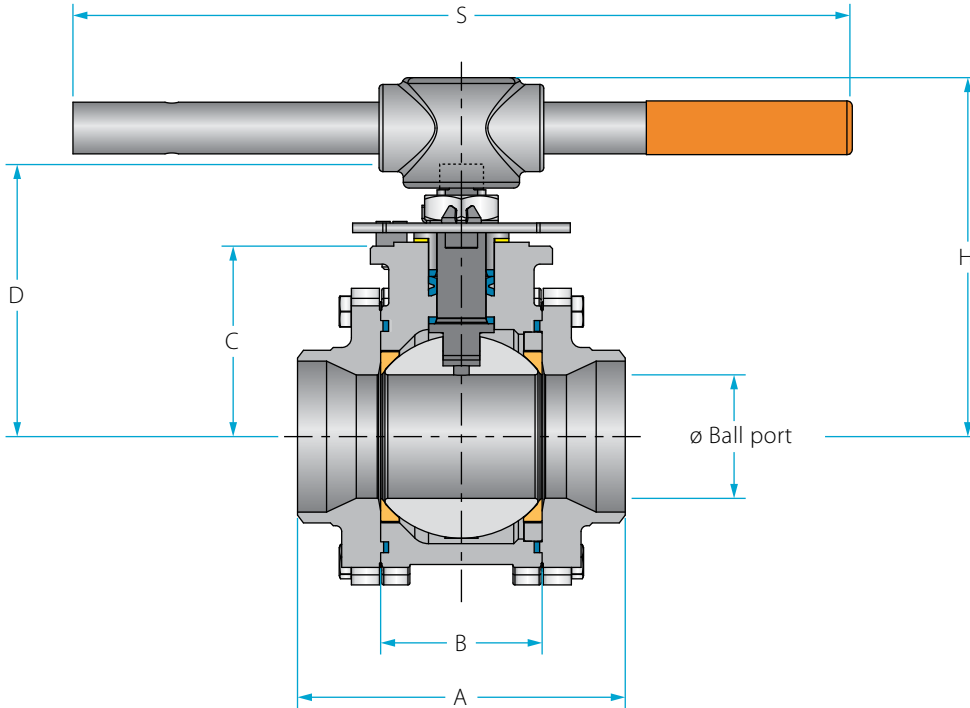
HermetiX™  
Fire safe

HermetiX™  
Graphite free - fire safe

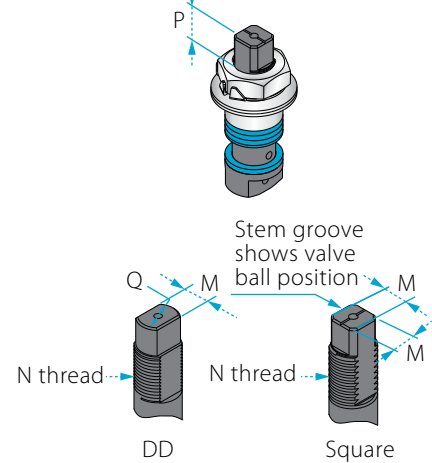
Ordering  
code system

Size 3"- 6" | DN80-DN150 | Class 400 | F47W/F47P<sup>(1)</sup> Series

## Valve dimensions

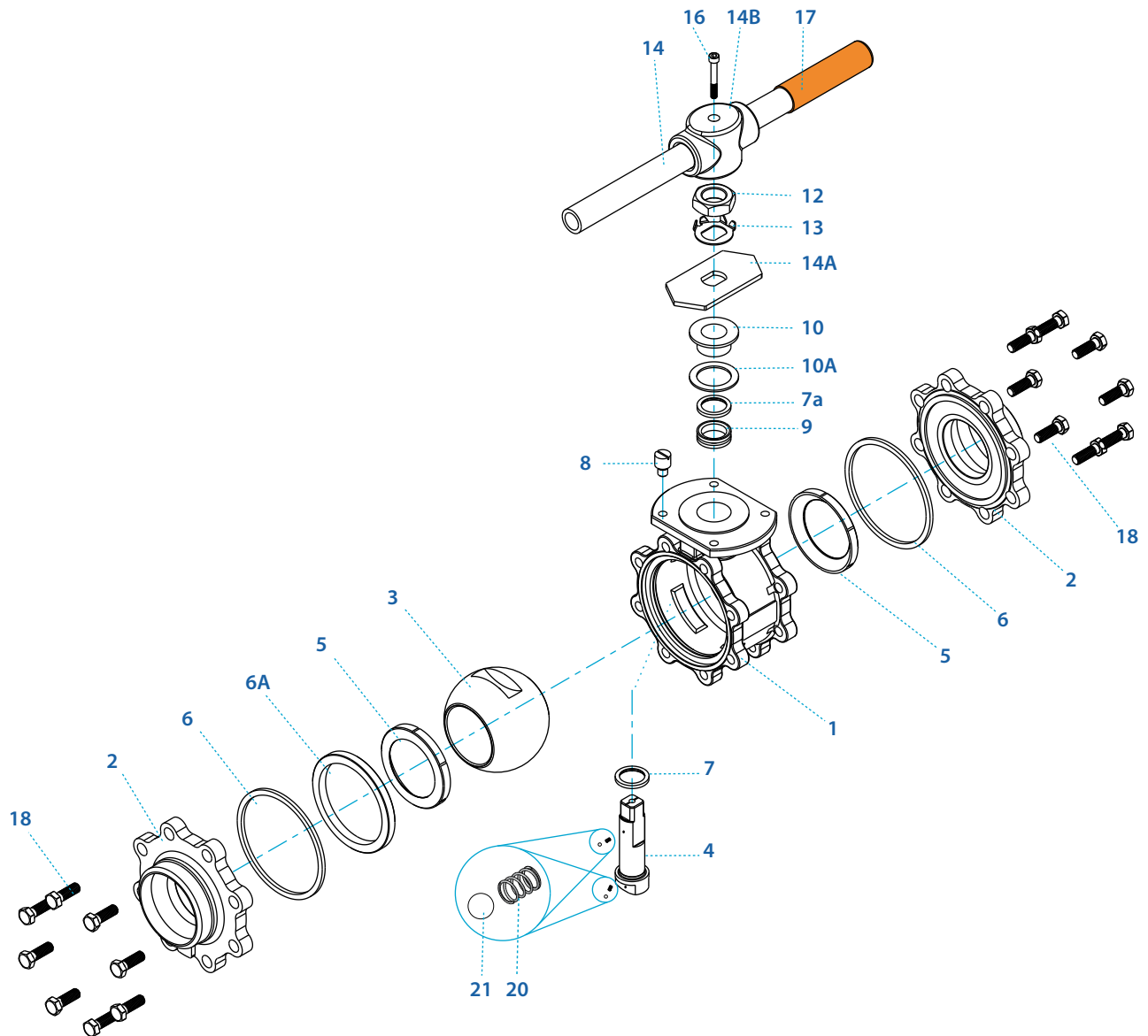


### Preparation for actuation



Std. port	Full port	Unit	Ball port	A	B	C	D	H	S	W	M	M-DD	N	P	Q	F	TxL	Weight kg/lb	Kv Cv
DN80	DN65	mm	63.50	169.00	83.30	98.30	144.90	185.00	400.00	140.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	13.70	300
3"	2½"	inch	2.50	6.65	3.28	3.87	5.71	7.29	15.75	5.50	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	30.30	348
DN100	DN80	mm	82.60	214.00	108.80	114.10	160.70	200.00	600.00	177.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	23.70	615
4"	3"	inch	3.25	8.43	4.28	4.49	6.33	7.89	23.62	6.97	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	52.40	713
	DN100	mm	100.00	239.00	123.00	124.00	170.50	211.00	600.00	217.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	30.00	744
	4"	inch	3.94	9.41	4.84	4.88	6.71	8.30	23.62	8.54	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	66.30	863
DN150		mm	111.10	346.00	146.00	157.00	226.00	286.00	916.00	266.00	28.45	23.75	1½"-12	26.20	35.20 (F12)	125.00	M12x20	63.00	872
6"		inch	4.37	13.62	5.75	6.18	8.90	11.26	36.06	10.47	1.12	0.94	UNF-2A	1.03	1.39	4.92	M12x20	138.90	1012

Components & materials



Item	Description	Material specification	Qty.
1	Body	A351 CF8M, A216 WCB, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	1
2	Ends	A351 CF3M, A216 WCB, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	2
3	Ball	A351 CF8M, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
4	Stem	A479 316L, A564 Gr.630 H1150D 17-4PH, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
5*	Seat	PTFE, RPTFE, CF PTFE, PEEK, CF PEEK, TFM, UHMWPE, VESPEL, PVDF, DELRIN, PCTFE (KEL-F)	2
6*	Body seal	Graphite	2
6A	Support ring	A351 CF3M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	1
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F), TFM <sup>(1)</sup> , CF PTFE <sup>(1)</sup>	1
7a*	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F), TFM <sup>(1)</sup> , CF PTFE <sup>(1)</sup>	1
8	Stop pin	A582 303	1

Item	Description	Material specification	Qty.
9*	Stem seal	CF PTFE, TFM, Graphite <sup>(1)</sup>	1
10	Follower	B783 316L, B164 N04400	1
10A*	Slide bearing	TF316	1
11	Disc spring	A693 631 17-7PH	2
12	Stem nut	C.st B18 ZP	1
13	Tab lock washer	A240 304	1
14	Handle	C.St. zinc plate, A240 316L	1
14A	Stop plate	C.St. 1.0402 zinc plate, A240 430	1
14B	Wrench head	Ductile iron A536 Gr. 65-45-12, A216 WCB, A351 CF8M	1
16	Wrench bolt	EN3506-1 A2-70/A4-80, A193 Gr B8/B8M	1
17	Sleeve	PVC	1
18	Body bolts	EN 3506-1 A2-70 / A4-80, A193 Gr B8, ISO 898-1 Gr 8.8 zinc plated, A193 Gr B7 zinc plated, A320 Gr A7 zinc plated	8-12
19	Body nut	EN 3506-2 A4-80, A194 Gr 8M, ISO 898-2 Gr 8 zinc plated, A194 Gr 2H zinc plated	8-12
20	Anti-static spring	A313 302	2
21	Anti-static plunger	A479 304	2
23	Tag (not shown)	A167 304	1

<sup>(1)</sup> This material can only be used as part of the 47P design.

<sup>(2)</sup> F47P Series is Habonim's firesafe valve design without the Graphite free HermetiX™ stem seal construction.

\* Repair kit components

# Floating Ball Valves

## Three piece valves

General

HermetiX™

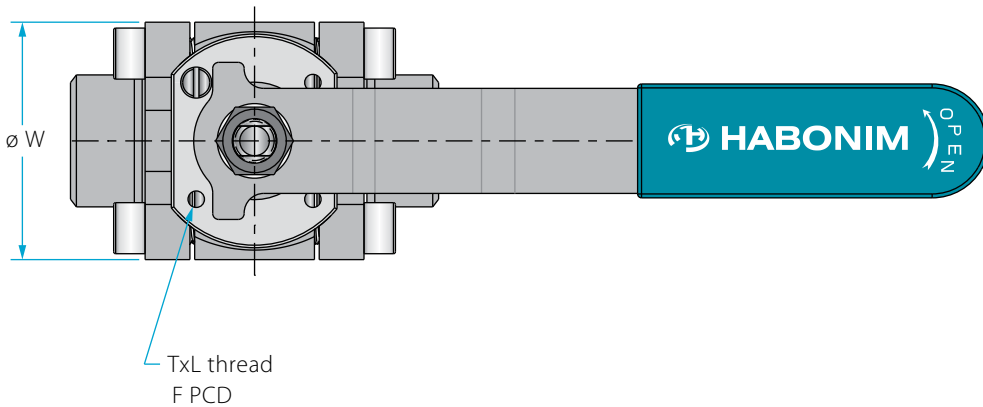
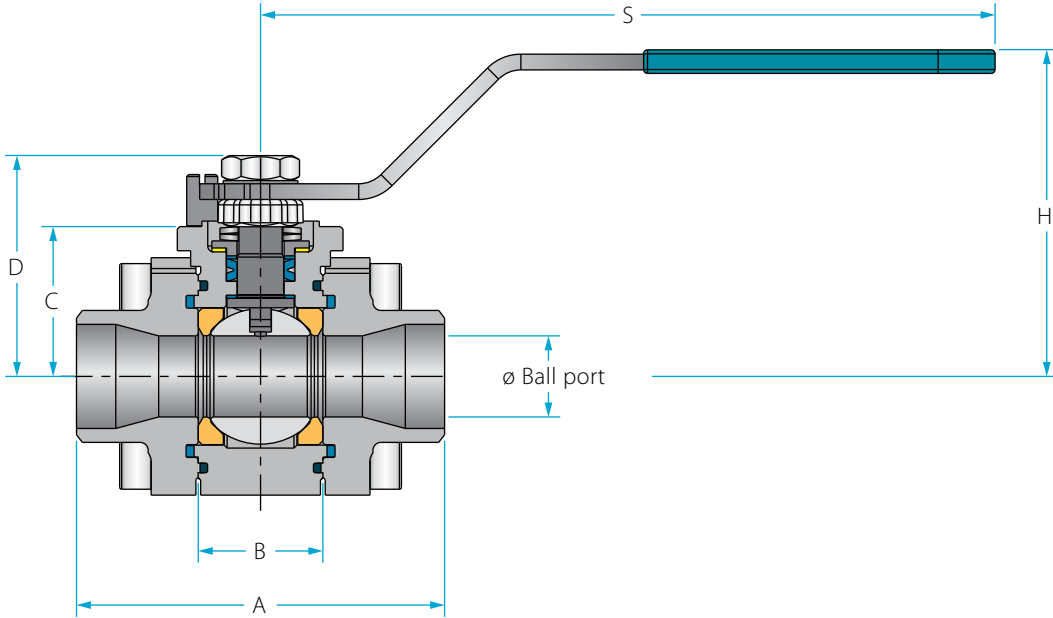
HermetiX™  
Fire safe

HermetiX™ Graphite-  
free fire-safe

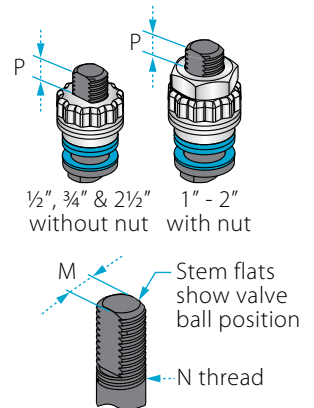
Ordering  
code system

Size 1/4" - 2 1/2" | DN8-DN65 | Class 900<sup>(1)</sup> | 47G Series

### Valve dimensions

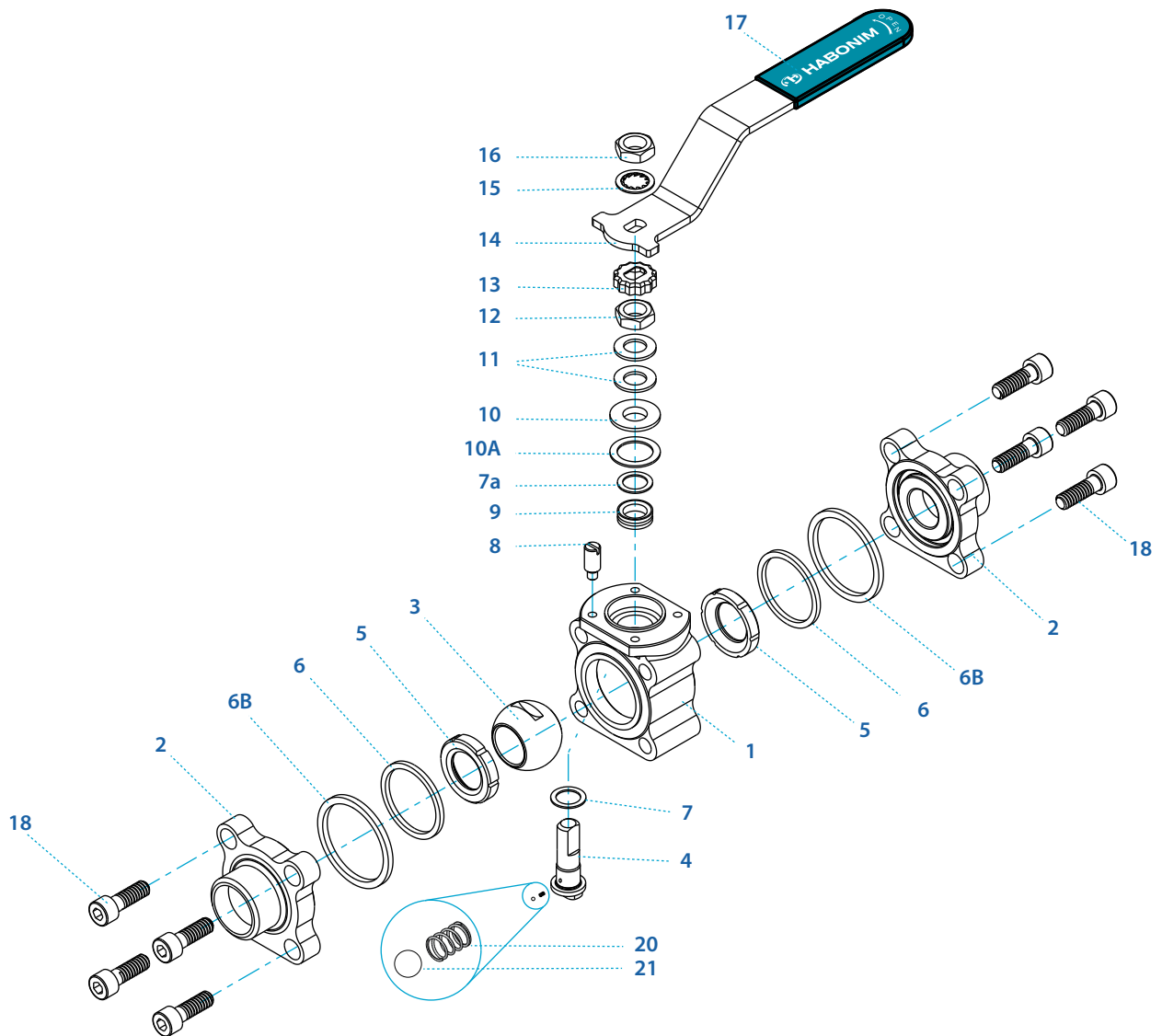


### Preparation for actuation



Std. port	Full port	Unit	Ball port	A	B	C	D	H	S	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv
	DN8	mm	11.15	66.00	20.60	29.00	37.90	61.50	150.00	47.00	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.60	2.6
	1/4"	inch	0.44	2.60	0.81	1.14	1.49	2.42	5.91	1.85	0.22		0.26	1.42		1.33	3.0
DN15	DN10	mm	11.15	66.00	20.60	29.00	37.90	61.50	150.00	47.00	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.60	6.9
	1/2"	3/8"	inch	0.44	2.60	0.81	1.14	1.49	2.42	5.91	1.85		0.22	0.26		1.42	1.33
DN20	DN15	mm	14.30	70.60	24.50	31.40	40.30	63.90	150.00	53.70	5.54	3/8 UNF	6.65 (F03)	36.00	M5X10	0.80	10
	3/4"	1/2"	inch	0.56	2.78	0.97	1.24	1.59	2.52	5.91	2.11		0.22	0.26		1.42	1.77
DN25	DN20	mm	20.60	93.70	31.70	38.10	55.60	79.40	187.00	63.70	7.54	7/16 UNF	7.40 (F04)	42.00	M5X10	1.60	28
	1"	3/4"	inch	0.81	3.69	1.25	1.50	2.19	3.13	7.36	2.51		0.30	0.29		1.65	3.54
DN32	DN25	mm	25.40	108.00	41.30	42.70	60.20	84.10	187.00	71.70	7.54	7/16 UNF	7.40 (F04)	42.00	M5X10	2.50	49
	1 1/4"	1"	inch	1.00	4.25	1.62	1.68	2.37	3.31	7.36	2.82		0.30	0.29		1.65	5.53
DN40	DN32	mm	31.80	115.50	48.40	43.60	73.00	97.00	237.00	86.70	8.71	9/16 UNF	8.50 (F05)	50.00	M6X12	3.60	69
	1 1/2"	1 1/4"	inch	1.25	4.55	1.91	1.72	2.87	3.82	9.33	3.41		0.34	0.33		1.97	7.96
DN50	DN40	mm	38.10	128.00	56.30	48.30	77.80	101.80	237.00	96.90	8.71	9/16 UNF	8.50 (F05)	50.00	M6X12	4.50	102
	2"	1 1/2"	inch	1.50	5.04	2.22	1.90	3.06	4.01	9.33	3.82		0.34	0.33		1.97	9.95
DN65	DN50	mm	50.80	158.00	72.60	70.00	88.10	115.10	237.00	108.00	8.71	9/16 UNF	13.50 (F07)	70.00	M8X12	9.50	208
	2 1/2"	2"	inch	2.00	6.22	2.86	2.76	3.47	4.53	9.33	4.25		0.34	0.53		2.76	21.00

Components & materials



Item	Description	Material specification	Qty.
1	Body	A351 CF8M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	1
2	Ends	A351 CF3M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	2
3	Ball	A351 CF8M, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
4	Stem	A479 316L, A564 Gr.630 H1150D 17-4PH, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
5*	Seat	TFM, PTFE, Virgin PEEK, PCTFE (KEL-F)	2
6*	Primary body seal	PTFE	2
6B*	Secondary body seal	Graphite	2
7*	Stem thrust seal	VIRGIN PEEK, PCTFE (KEL-F)	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE (KEL-F)	1

Item	Description	Material specification	Qty.
8	Stop pin	A582 303	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	B783 316L, B164 N04400	1
10A*	Slide bearing	TF316	1
11	Disc spring	A693 631 17-7PH	2
12	Stem nut	EN3506-2 A4-80, A194 Gr 8M	1
13	Locking clip	A167 304	1
14	Handle	C.St. A29 G10200 zinc plated, A240 430	1
15	Serrated washer	A240 410	1
16	Handle nut	A194 Gr 8M, EN3506-2 A4-80	1
17	Sleeve	PVC	1
18	Body bolt	EN 3506-1 A2-70 / A4-80, A193 Gr B8, ISO 898-1 Gr 8.8 zinc plated, A193 Gr B7 zinc plated, A320 Gr A7 zinc plated	8
20	Anti-static spring	A313 302	1
21	Anti-static plunger	A479 304	1
23	Tag (not shown)	A167 304	1

<sup>(1)</sup> 2½" (DN65) size maximum pressure rating is Class 400.

\* Repair kit components

# Floating Ball Valves

Three piece valves

General

HermetiX™

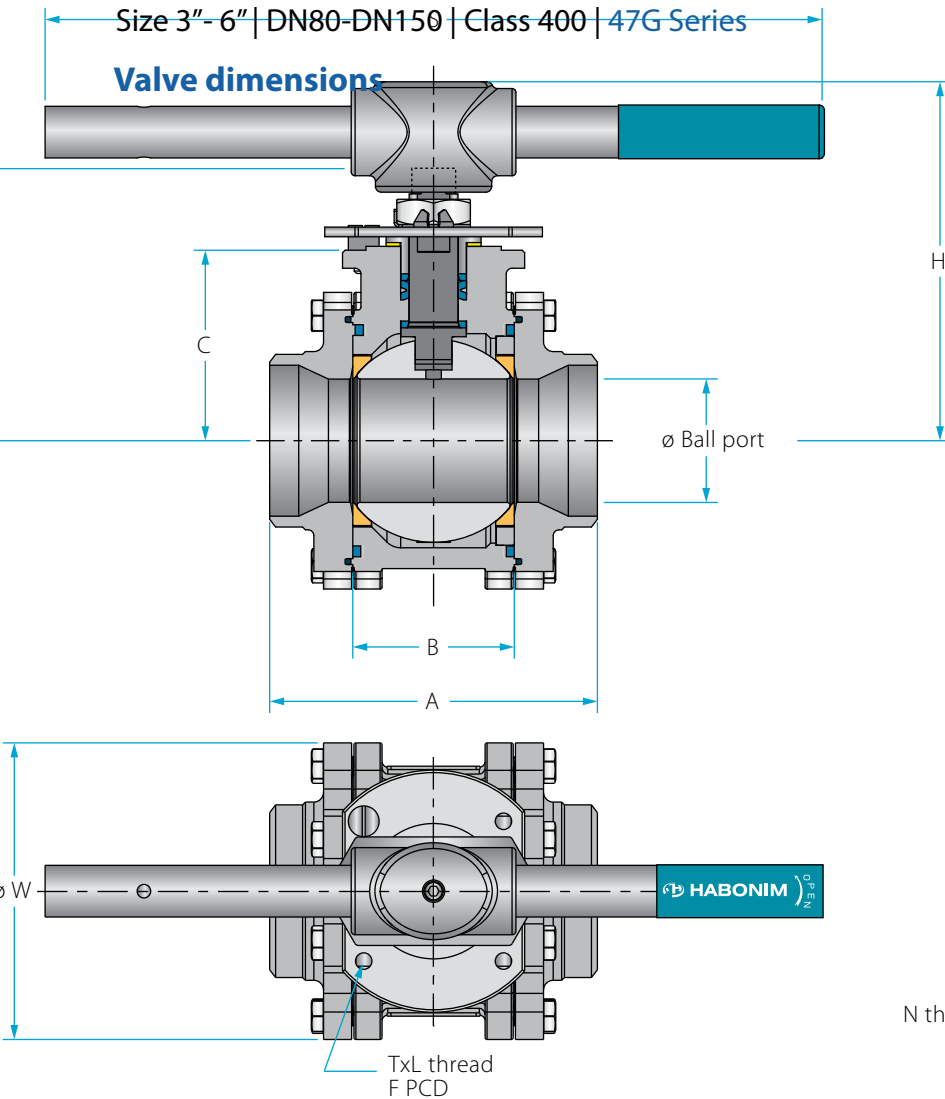
HermetiX™  
Fire safe

HermetiX™  
Graphite-free fire-safe

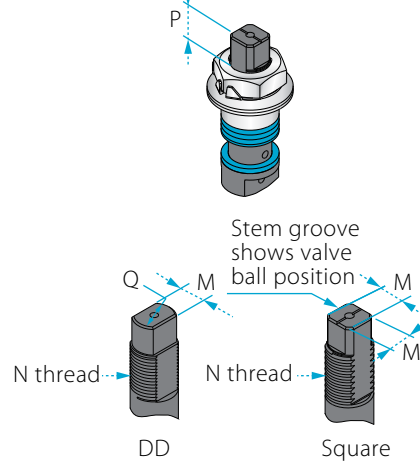
Ordering  
code system

Size 3"-6" | DN80-DN150 | Class 400 | 47G Series

Valve dimensions



Preparation  
for actuation

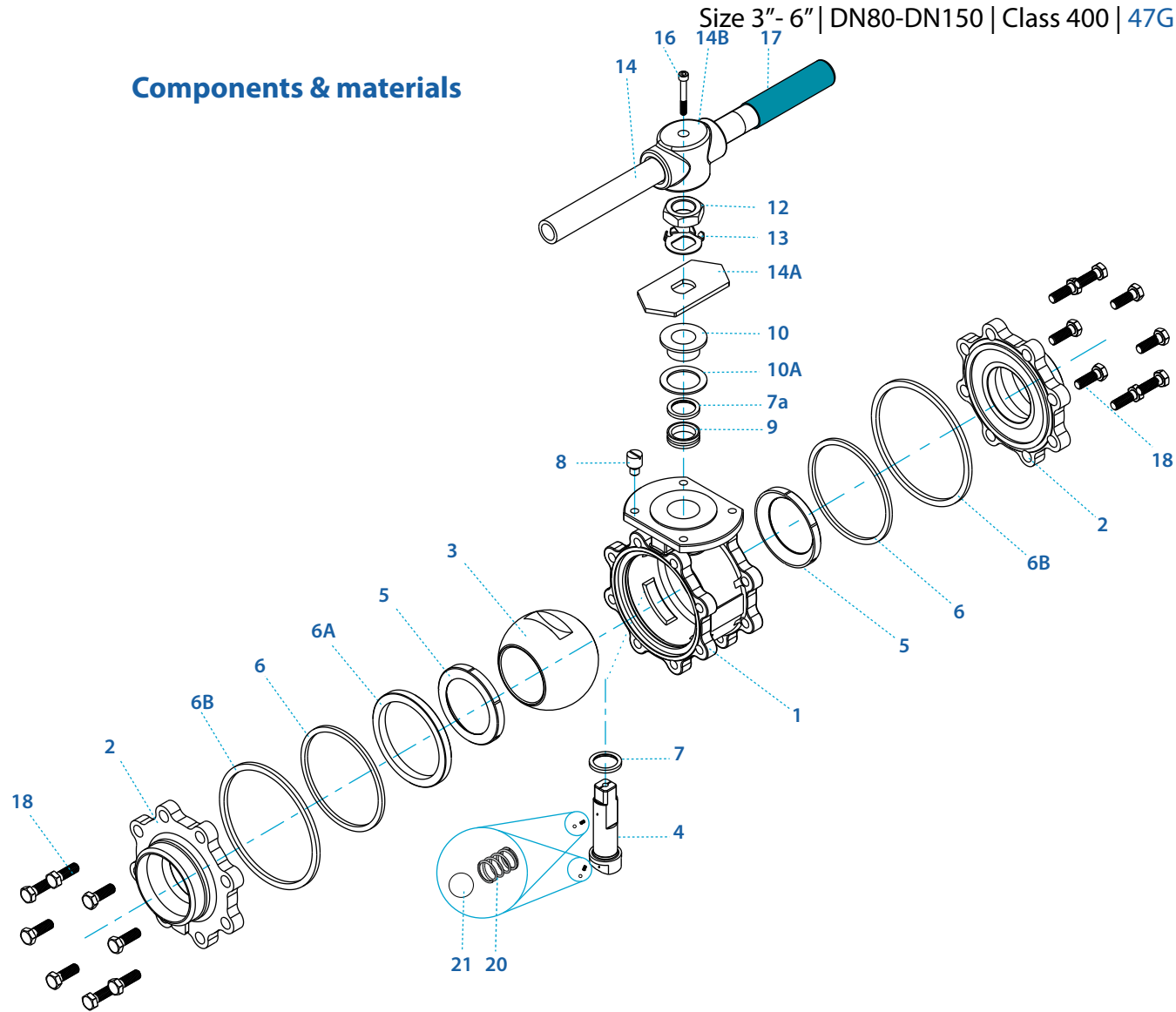


Std. port	Full port	Unit	Ball port	A	B	C	D	H	S	W	M	M-DD	N	P	Q	F	TxL	Weight kg/lb	Kv Cv
DN80	DN65	mm	63.50	169.00	83.30	98.30	144.90	185.00	400.00	140.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	13.70	300
3"	2½"	inch	2.50	6.65	3.28	3.87	5.71	7.29	15.75	5.50	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	30.30	348
DN100	DN80	mm	82.60	214.00	108.80	114.10	160.70	200.00	600.00	177.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	23.70	615
4"	3"	inch	3.25	8.43	4.28	4.49	6.33	7.89	23.62	6.97	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	52.40	713
	DN100	mm	100.00	239.00	123.00	124.00	170.50	211.00	600.00	217.00	18.90	15.90	1"-14	16.70	22.70 (F10)	102.00	M10x20	30.00	744
	4"	inch	3.94	9.41	4.84	4.88	6.71	8.30	23.62	8.54	0.74	0.63	UNS-2A	0.66	0.89	4.02	M10x20	66.30	863
DN150		mm	111.10	346.00	146.00	157.00	226.00	286.00	916.00	266.00	28.45	23.75	1½"-12	26.20	35.20 (F12)	125.00	M12x20	63.00	872
6"		inch	4.37	13.62	5.75	6.18	8.90	11.26	36.06	10.47	1.12	0.94	UNF-2A	1.03	1.39	4.92	M12x20	138.90	1012



Size 3"- 6" | DN80-DN150 | Class 400 | 47G Series

Components & materials



Item	Description	Material specification	Qty.
1	Body	A351 CF8M, A216 WCB, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	1
2	Ends	A351 CF3M, A216 WCB, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	2
3	Ball	A351 CF8M, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
4	Stem	A479 316L, A564 Gr.630 H1 150D 17-4PH, B473 N08020, B164 N04400, B574 N06022, B574 N10276, A479 S31254, A479 S31803, A479 S32750	1
5*	Seat	TFM, PTFE, Virgin PEEK, PCTFE (KEL-F)	2
6*	Primary body seal	PTFE	2
6A	Support ring	A351 CF3M, A216 WCB, A105, A351 CN7M, A494 M35-1, A494 CW-12MW, A494 CX-2MW, A351 CK3MCuN, A995 CD3MN 4A, A995 CE3MN 5A	1
6B*	Secondary body seal	Graphite	2
7*	Stem thrust seal	VIRGIN PEEK, PCTFE (KEL-F)	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE (KEL-F)	1
8	Stop pin	A582 303	1

Item	Description	Material specification	Qty.
9*	Stem seal	CF PTFE, TFM	1
10	Follower	B783 316L, B164 N04400	1
10A*	Slide bearing	TF316	1
11	Disc spring	A693 631 17-7PH	2
12	Stem nut	C.st B18 ZP	1
13	Tab lock washer	A240 304	1
14	Handle	C.St. zinc plate, A240 316L	1
14A	Stop plate	C.St. 1.0402 zinc plate, A240 430	1
14B	Wrench head	Ductile iron A536 Gr. 65-45-12, A216 WCB, A351 CF8M	1
16	Wrench bolt	EN3506-1 A2-70/A4-80, A193 Gr B8/B8M	1
17	Sleeve	PVC	1
18	Body bolts	EN 3506-1 A2-70 / A4-80, A193 Gr B8, ISO 898-1 Gr 8.8 zinc plated, A193 Gr B7 zinc plated, A320 Gr A7 zinc plated	8-12
19	Body nut	EN 3506-2 A4-80, A194 Gr 8M, ISO 898-2 Gr 8 zinc plated, A194 Gr 2H zinc plated	8-12
20	Anti-static spring	A313 302	2
21	Anti-static plunger	A479 304	2
23	Tag (not shown)	A167 304	1

\* Repair kit components







[www.habonim.com](http://www.habonim.com)

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