

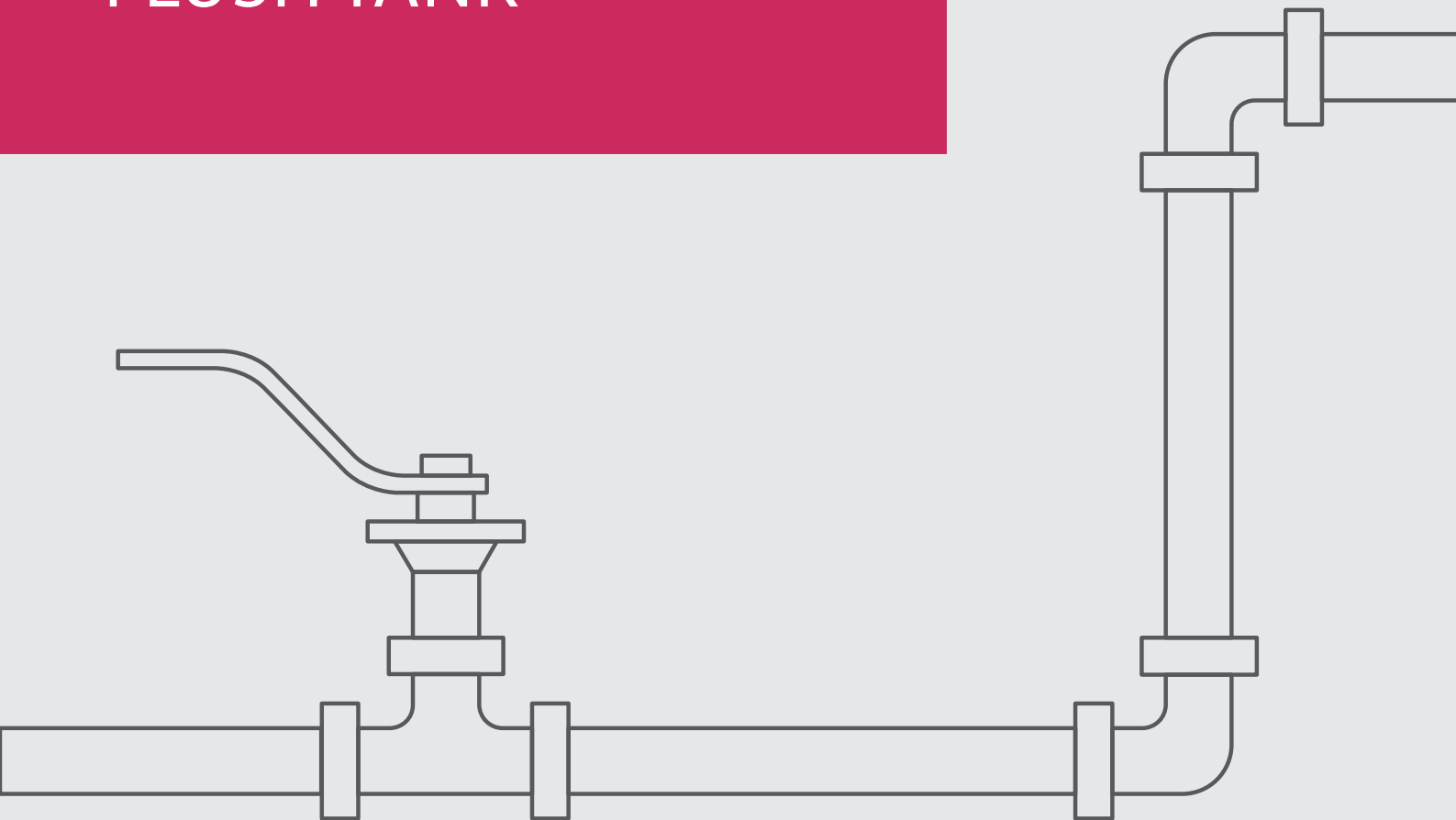
R47



General Use Industrial

FLOATING BALL

FLUSH TANK



Flush Tank Floating Ball

Introduction

The Habonim Flush Tank series incorporates all the advantages of the 3-piece ball valve 47 series and the TuBore™ 48 series. The innovation of the Flush Tank valve is the geometric design of the pad, which becomes an integral welded part of the customer's tank surface, allowing a smooth flow and preventing media stagnation. The result is a perfect adaptor between reactor and valve body.

The pad is designed for easy installation. It minimizes the diameter of the prepared tank bore, reduces installation time and welding operations and, most importantly, minimizes the stress concentration and tank deformation due to weld over-heating. The Habonim standard flush tank pad fits most tank configurations such as dished, flat, ellipsoidal, jacketed, conical or spherical. For special applications, such as replacing a conventional flush tank valve with a direct flow, higher Cv, quarter-turn flush tank ball valve, Habonim manufactures adaptive plates.

Habonim can also ship the pad independently from the valve, in order to accommodate customer requirements to simplify the vessel construction process.

Design features

Pad design

- Mirror polished
- Various geometries: dished, flat, ellipsoidal, Jacketed, conical or spherical
- Flush Pipe (FP) – Adaptive pad with the same geometry of the pipe line, designed to provide minimum 'dead volume' in pipe lines, preventing media from stagnating and fully insuring drainage of pipe cavities.

Body

- Minimum dead leg between ball sphere and tank internal surface
- Three-piece design with swing-out body, for easy maintenance
- Top mounting platform compliant with ISO 5211 for easy mounting of actuator and other accessories
- CIP/SIP purge ports ensure complete flush of the valve cavity (optional)
- Steam jacket (optional)
- Streamlined flow ensures full drainage



R47



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Mirror polished pad

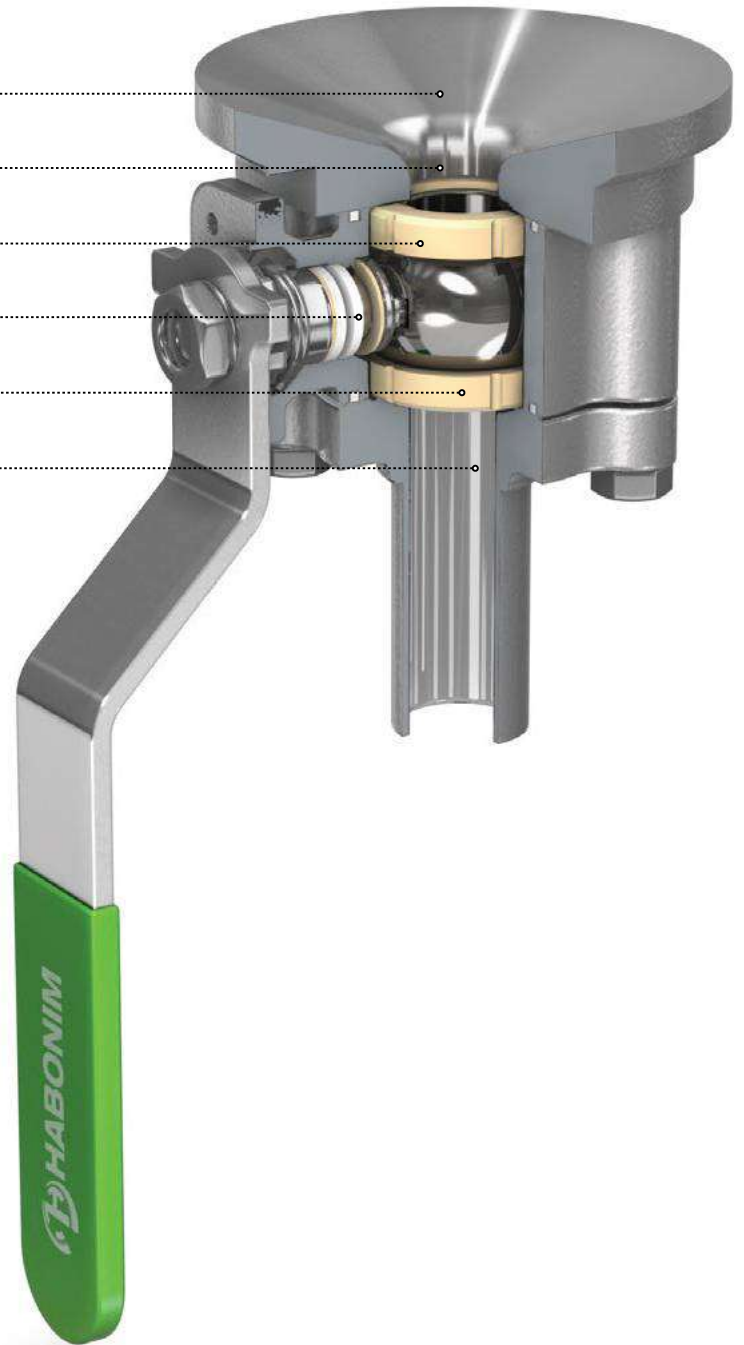
Minimum dead leg

Variety of seat materials

HermetiX™ stem seal

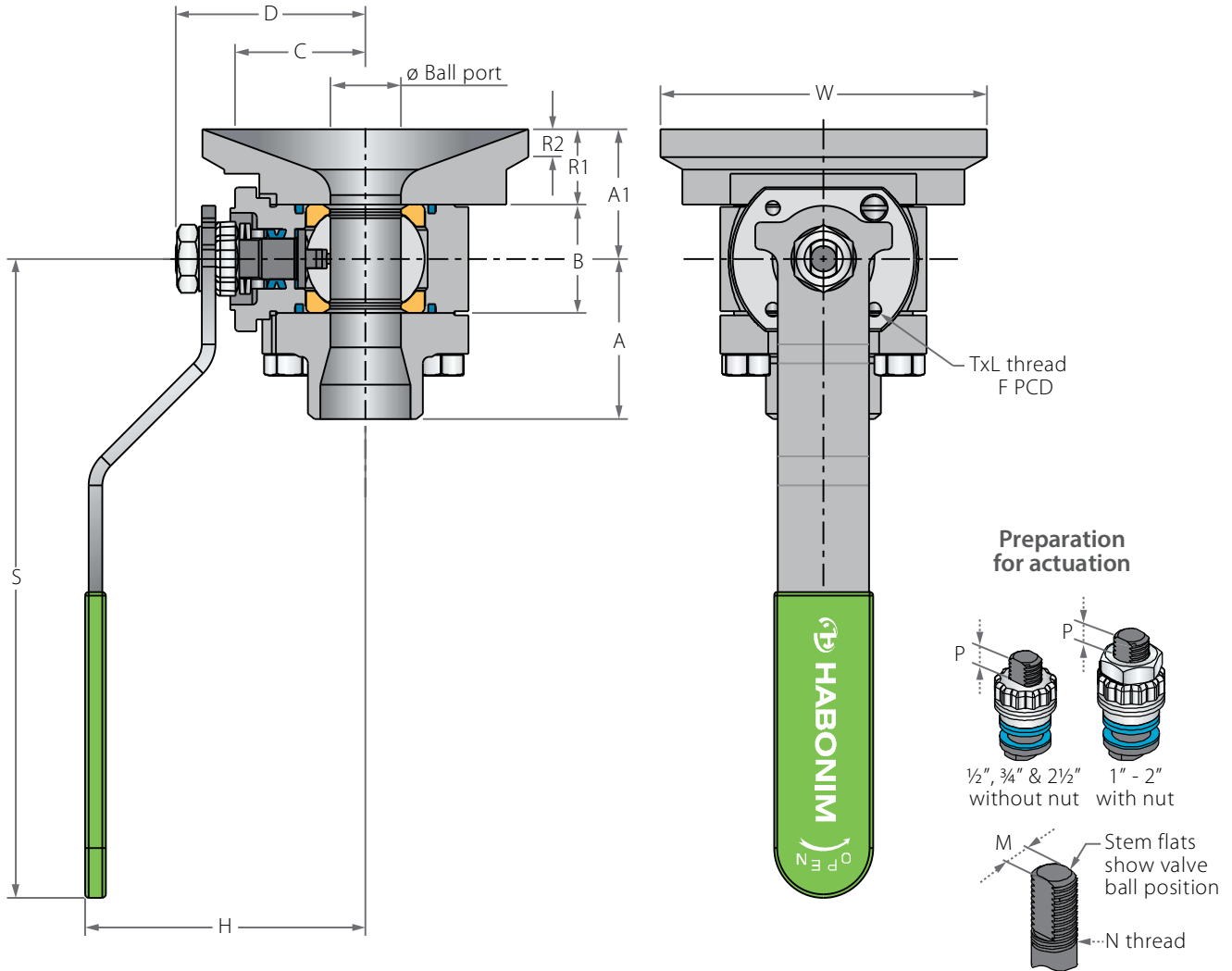
Mirror polished solid ball

No restrictions ensure full drainage



Flush Tank Floating Ball

Valve dimensions

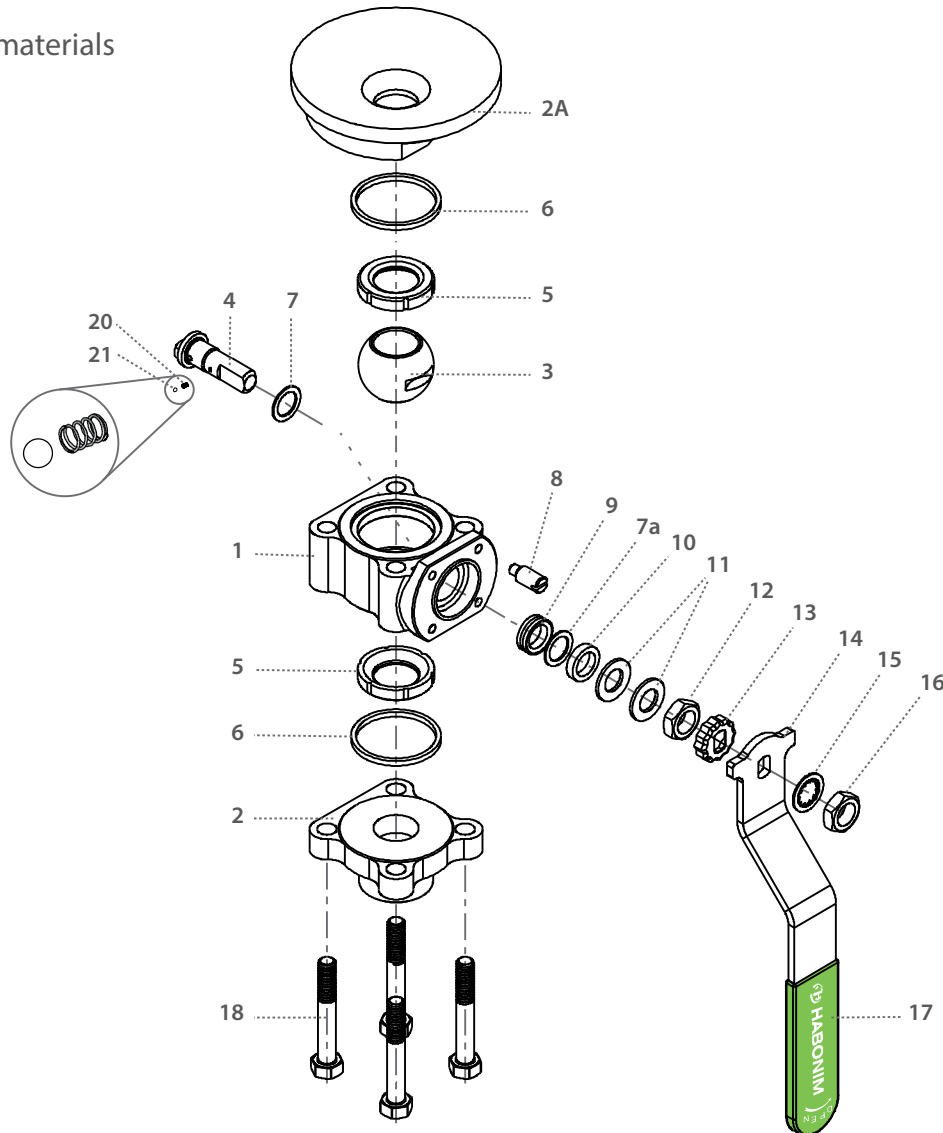


Std. port	Full port	Unit	Ball port	R1	R2	A	A1	B	C	D	H	S	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv
DN15	DN10	mm	11.15	21.00	6.00	33.00	31.30	20.60	29.00	38.70	61.50	150.00	60.00	16.00	3/8	6.65 (F03)	36.00	M5X10	0.8 / 6.9	
½"	¾"	inch	0.44	0.83	0.24	1.30	1.24	0.81	1.14	1.52	2.42	5.91	2.36	0.63	UNF	0.26	1.42		1.9 / 8.0	
DN20	DN15	mm	14.30	20.60	6.00	35.30	32.85	24.50	31.40	40.30	63.90	150.00	80.00	5.54	3/8	6.65 (F03)	36.00	M5X10	1.2 / 10	
¾"	½"	inch	0.56	0.81	0.24	1.39	1.29	0.97	1.24	1.59	2.52	5.91	3.15	0.22	UNF	0.26	1.42		2.6 / 12	
DN25	DN20	mm	20.60	21.50	8.00	46.90	37.35	31.70	38.20	55.60	79.40	187.00	95.50	7.54	1/16	7.40 (F04)	42.00	M5X10	2.1 / 28	
1"	¾"	inch	0.81	0.85	0.31	1.85	1.47	1.25	1.50	2.19	3.13	7.36	3.76	0.30	UNF	0.29	1.65		4.6 / 32	
DN32	DN25	mm	25.50	24.00	8.00	54.00	45.00	41.25	195.40	212.90	236.40	230.00	69.00	7.54	1/16	7.40 (F04)	42.00	M5X10	3.2 / 49	
1¼"	1"	inch	1.00	0.94	0.31	2.13	1.77	1.62	7.69	8.38	9.31	9.06	2.72	0.30	UNF	0.29	1.65		7.0 / 57	
DN40	DN32	mm	31.80	27.00	8.00	57.80	51.20	48.40	43.60	73.00	97.00	237.00	113.00	8.71	1/16	8.50 (F05)	50.00	M6X12	4.5 / 69	
1½"	1"	inch	1.25	1.06	0.31	2.28	2.01	1.91	1.72	2.87	3.82	9.33	4.45	0.34	UNF	0.33	1.97		9.9 / 80	
DN50	DN40	mm	38.10	29.00	10.00	64.00	57.15	56.30	48.30	77.80	101.80	237.00	138.00	8.71	1/16	8.50 (F05)	50.00	M6X12	5.8 / 102	
2"	1½"	inch	1.50	1.14	0.39	2.52	2.25	2.22	1.90	3.06	4.01	9.33	5.43	0.34	UNF	0.33	1.97		12.8 / 118	
DN65	DN50	mm	50.80	30.00	10.00	79.00	66.30	72.60	70.00	88.10	115.10	237.00	164.00	8.71	1/16	13.50 (F07)	70.00	M8X12	11.1 / 208	
2½"	2"	inch	2.00	1.18	0.39	3.11	2.61	2.86	2.76	3.47	4.53	9.33	6.46	0.34	UNF	0.53	2.76		24.4 / 241	



Flush Tank Floating Ball

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	End	Acc. Ordering Code	1
2A	Pad	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Body seal	Acc. Ordering Code	2
7*	Stem thrust seal	Acc. Ordering Code	1
7a	Anti-abrasion ring	Acc. Ordering Code	1
8	Stop pin	A582 303	1
9*	Stem seal	Acc. Ordering Code	1
10	Follower	S. Steel	1

Item	Description	Material specification	Qty.
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Locking clip	S. Steel	1
14	Handle	S. Steel	1
15	Serrated washer	S. Steel	1
16	Handle nut	S. Steel	1
17	Sleeve	PVC	1
18	Bolt	S. Steel	4
20	Anti-static spring	S. Steel	1
21	Anti-static plunger	S. Steel	1
23	Tag (not shown)	S. Steel	1

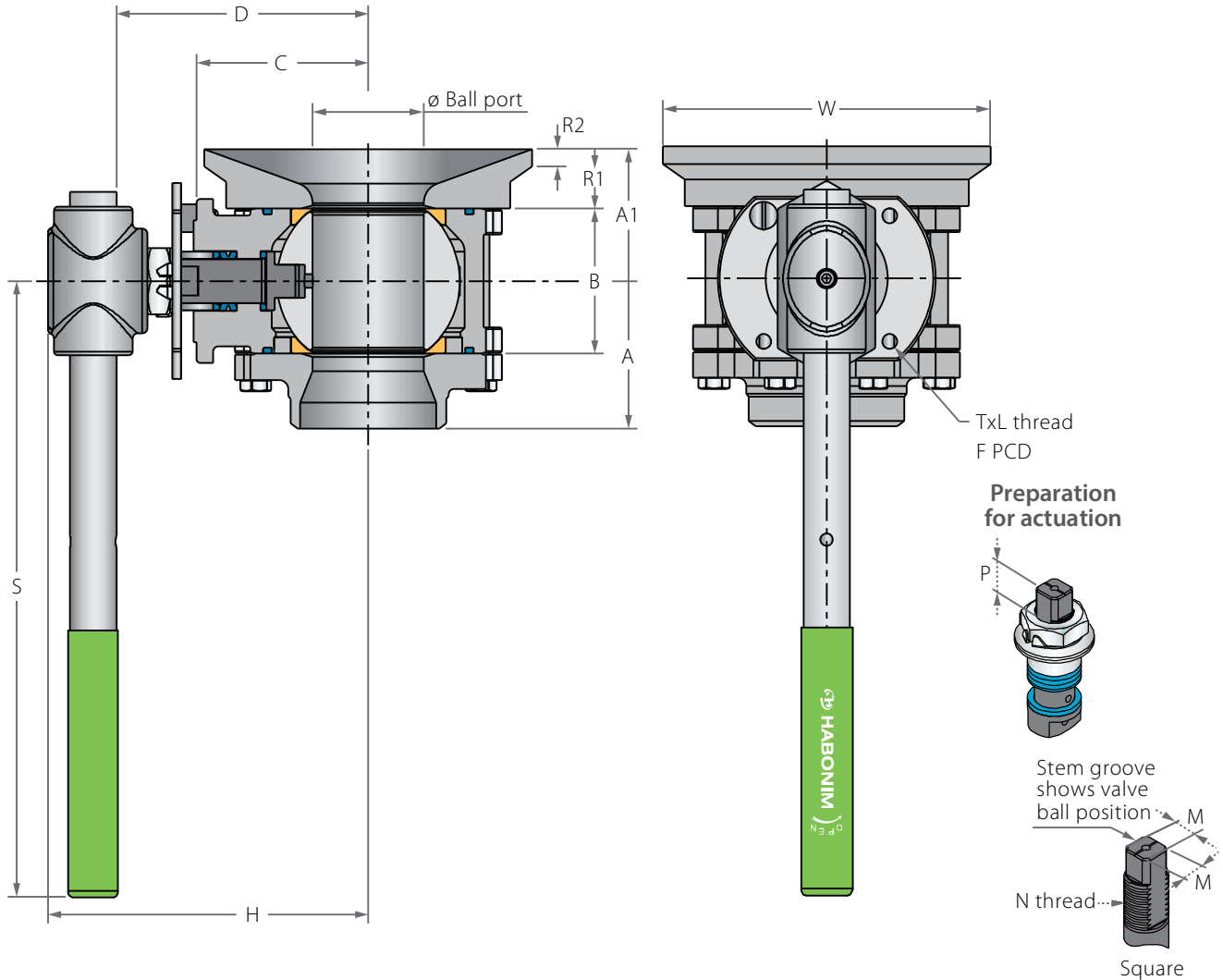
* Repair kit components

⁽¹⁾ R47P Series is Habonim's standard valve design without the HermetiX™ stem seal construction.

⁽²⁾ This material can only be used as part of the R47P design.

Flush Tank Floating Ball

Valve dimensions

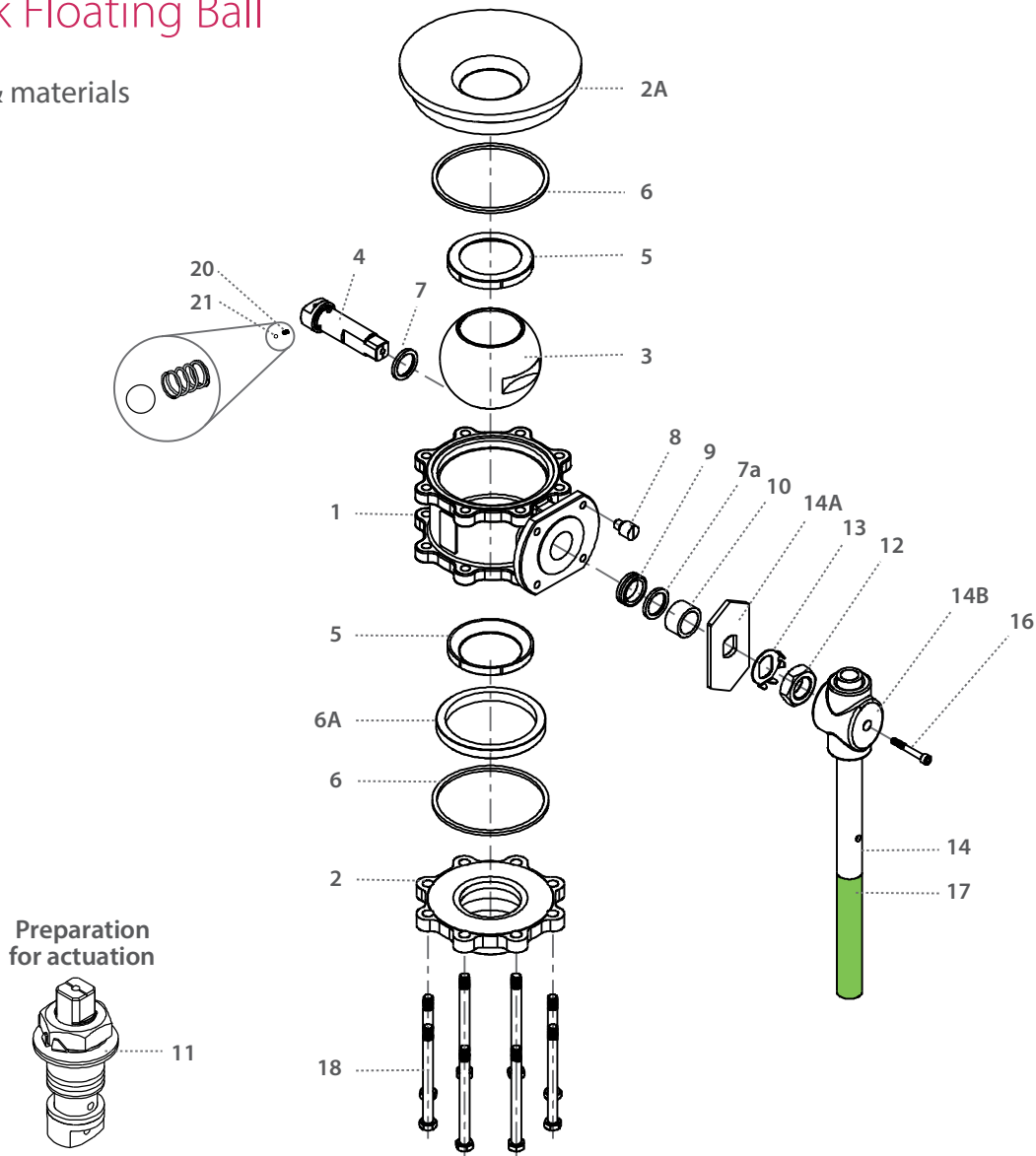


Std. port	Full port	Unit	Ball port	R1	R2	A	A1	B	C	D	H	S	W	M-DD	M	N	P	F	TxL	Weight kg/lb	Kv Cv
DN80	DN65	mm	63.50	34.00	10.00	84.50	75.65	83.30	98.30	144.90	185.00	400.00	188.00	15.90	18.90	1"-14	16.70 (F10)	102.00	M10x20	15.5	300
3"	2½"	inch	2.50	1.34	0.39	3.33	2.98	3.28	3.87	5.71	7.29	15.75	7.40	0.63	0.74	UNS-2A	0.66	4.02	M10x20	34.1	348
DN100	DN80	mm	82.60	38.00	10.00	107.00	92.40	108.80	114.10	160.70	200.00	600.00	226.00	15.90	18.90	1"-14	16.70 (F10)	102.00	M10x20	26.0	615
4"	3"	inch	3.25	1.50	0.39	4.21	3.64	4.28	4.49	6.33	7.89	23.62	6.97	0.63	0.74	UNS-2A	0.66	4.02	M10x20	57.2	713
	DN100	mm	100.00	45.00	12.00	119.50	106.50	123.00	124.00	170.50	211.00	600.00	252.00	15.90	18.90	1"-14	16.70 (F10)	102.00	M10x20	34.0	744
	4" FB	inch	3.94	1.77	0.47	4.70	4.19	4.84	4.88	6.71	8.30	23.62	8.54	0.63	0.74	UNS-2A	0.66	4.02	M10x20	74.8	863



Flush Tank Floating Ball

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	End	Acc. Ordering Code	1
2A	Pad	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Body seal	Acc. Ordering Code	2
6A	Support Ring	S. Steel	1
7*	Stem thrust seal	Acc. Ordering Code	1
7a	Anti-abrasion ring	Acc. Ordering Code	1
8	Stop pin	S. Steel	1
9*	Stem seal	Acc. Ordering Code	1
10	Follower	S. Steel	1

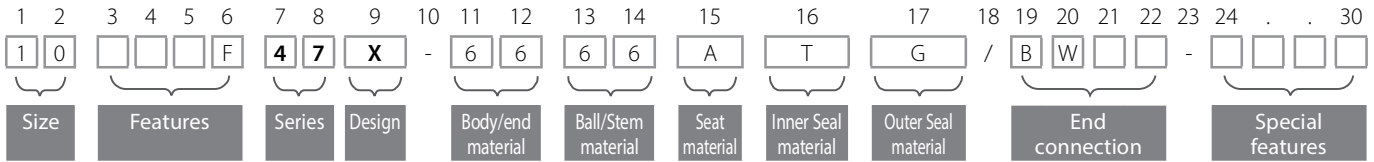
Item	Description	Material specification	Qty.
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Tab lock washer	S. Steel	1
14	Wrench handle	A240 316L	1
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
16	Wrench bolt	S. Steel	1
17	Sleeve	PVC	1
18	Body bolts	S. Steel	6-10
20	Anti-static spring	S. Steel	2
21	Anti-static plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

* Repair kit components



Flush Tank Floating Ball - Ordering Code System

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



Size (1-2)		
Code	inch	mm
05	½"	15
07	¾"	20
10	1"	25
12	1¼"	32
15	1½"	40
20	2"	50
25	2½"	65
30	3"	80
40	4"	100

Features (3-6)	
R	Flush tank
F	Fire safe
B	Full port
O	Clean assembly for O2 service
M	Ammonia service
K	Chlorine service
V	Vacuum service
Q	Cavity filler seats
I	High purity Class 10000

Series (7-8)	
47	Floating ball 3 piece

Design (9)	
X	HermetiX

Body material (11)	
6	S. SteelCF8M/CF3M
4	C. steel
W	Hasteloy-C22
S	254SMO
D	Duplex
9	Low Temp C. steel
1	Bronze
K	Super Duplex
7	Monel
A	Alloy-20
C	Hasteloy-C276

Ends material (12)	
6	S. SteelCF8M/CF3M
4	C. steel
W	Hasteloy-C22
S	254SMO
D	Duplex
9	Low Temp C. steel
1	Bronze
K	Super Duplex
7	Monel
A	Alloy-20
C	Hasteloy-C276

Ball material (13)	
6	S. SteelCF8M/CF3M
W	Hasteloy-C22
S	254SMO
D	Duplex
1	Bronze
K	Super Duplex
7	Monel
A	Alloy-20
C	Hasteloy-C276

Stem material (14)	
6	S. Steel316L
M	High Strength S. Steel
Z(1)*	Inconel 718 B637
W	Alloy-C22 B574
S	254SMO A479
A	Alloy-20 A351 CN7M
D	Duplex A479
K	Super Duplex A479
7	Monel
C	Hasteloy-C276

* Stem Only

Seat material (15)	
A	TFM
P	CF PTFE
K	CF PEEK
L	Virgin Peek
U	UHMWPE
C	PCTFE
Y	Delrin
W	PVDF
T	PTFE

Inner Seal Material (16)	
T	PTFE
A	TFM
G	Expanded graphite
U	UHMWPE
V	Viton
B	NBR

Outer Seal Material (17)	
G	Expanded graphite
A	TFM

End Connection (19-22)	
Welded ends	
BW10	Buttweld schd. 10
BW	Buttweld schd. 40
SW	Socket weld
XBW10	Extended buttweld schd. 10
XBW	Extended buttweld schd. 40
XSW	Extended socket weld
BW5	Buttweld schd. 5
BW80	Buttweld schd. 80
BWO	Buttweld tube OD
BWD	Buttweld DIN 11850
BWI	buttweld ISO
SWO	Socket weld tube OD
ETO	Extended tube OD
ETI	Extended buttweld ISO
ETD	Extended buttweld DIN

Threaded	
NPT	ASME B1.20.1 - National Pipe Taper thread
BSPT	EN 10226 - Pipe Taper thread
BSPP	ISO228-1, DIN3852 - Pipe Parallel thread
DIN3852	DIN3852 - Pipe Parallel thread
AS5202	SAE internal straight thread
MNPT	Male NPT
MBSPT	Male BSPT

Flanged	
150	ASME B16.5 #150 RF
300	ASME B16.5 #300 RF
600	ASME B16.5 #600 RF
900	ASME B16.5 #900 RF
PN16	EN1092 PN16 RF
PN40	EN1092 PN40 RF
PN64	EN1092 PN64 RF
PN100	EN1092 PN100 RF
PN160	EN1092 PN160 RF

Clamp	
LL	Compression fitting (Imperial) - No Nuts & Ferrules
LM	Compression fitting (metric) - No Nuts & Ferrules
LL-NF	Compression fitting (Imperial) - with Nuts & Ferrules
LM-NF	Compression fitting (metric) - with Nuts & Ferrules
TC	Tri-Clamp
GR	Grayloc® compatible hub (Grayloc® is a registered trademark of Grayloc Products, L.L.C.)
TC	Tri-Clamp
GR	Grayloc® compatible hub (Grayloc® is a registered trademark of Grayloc Products, L.L.C.)

Special Features (24-30)	
P250	Ball with Upstream Relief Hole
SRS	Self Relief Seat - TFM seat only
B	Body made from barstock
EP	Electropolished
J2N05	Jacketed valve - number of ports (2), type (NPT) and size (½")

Valve Special Stem Seals	
AAX	FDA compliant stem seal. TFM thrust bearing and X shape gasket
PPX	CF PTFE thrust and X shape gasket
CAX	PCTFE thrust and TFM X shape gasket
CPX	PCTFE thrust and CF PTFE X shape gasket
HC	High Cycle service
HYD	Hydrogen