



INDUSTRIAL VALVES

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GENERAL USE & INDUSTRIAL VALVES

General



Habonim's General use Industrial product line valves are subject to the general Habonim valves design, materials, practices, methodologies and certifications – for more information, see Valves General chapter.



Habonim General use Industrial valves are equipped with the Total HermetiX integrity package for superior sealing, safety and environmental care (for some series).

Habonim's wide range of general use industrial ball valves are in service for many decades and have been evolved to guarantee superb long-lasting performances in demanding applications as well as for general use. The standard basic valve construction offered by Habonim is an all-in-one high-end industrial valve that meets the latest safety, environmental, durability and maintainability requirements of modern industrial systems, piping and equipment.

Habonim's standard valves are supplied with the Total HermetiX integrity package that offers superior valve construction with a higher quality level and a unified design approach to allow minimal variants of valve parts to support a wider range of applications that guarantee higher availability, lower level of spare parts and reduced total cost of ownership.

Features

Total HermetiX:

- Zero fugitive-emission no maintenance stem sealing
- Double body sealing
- Fire safe
- 100% tested
- 100% materials & processing back-tracking

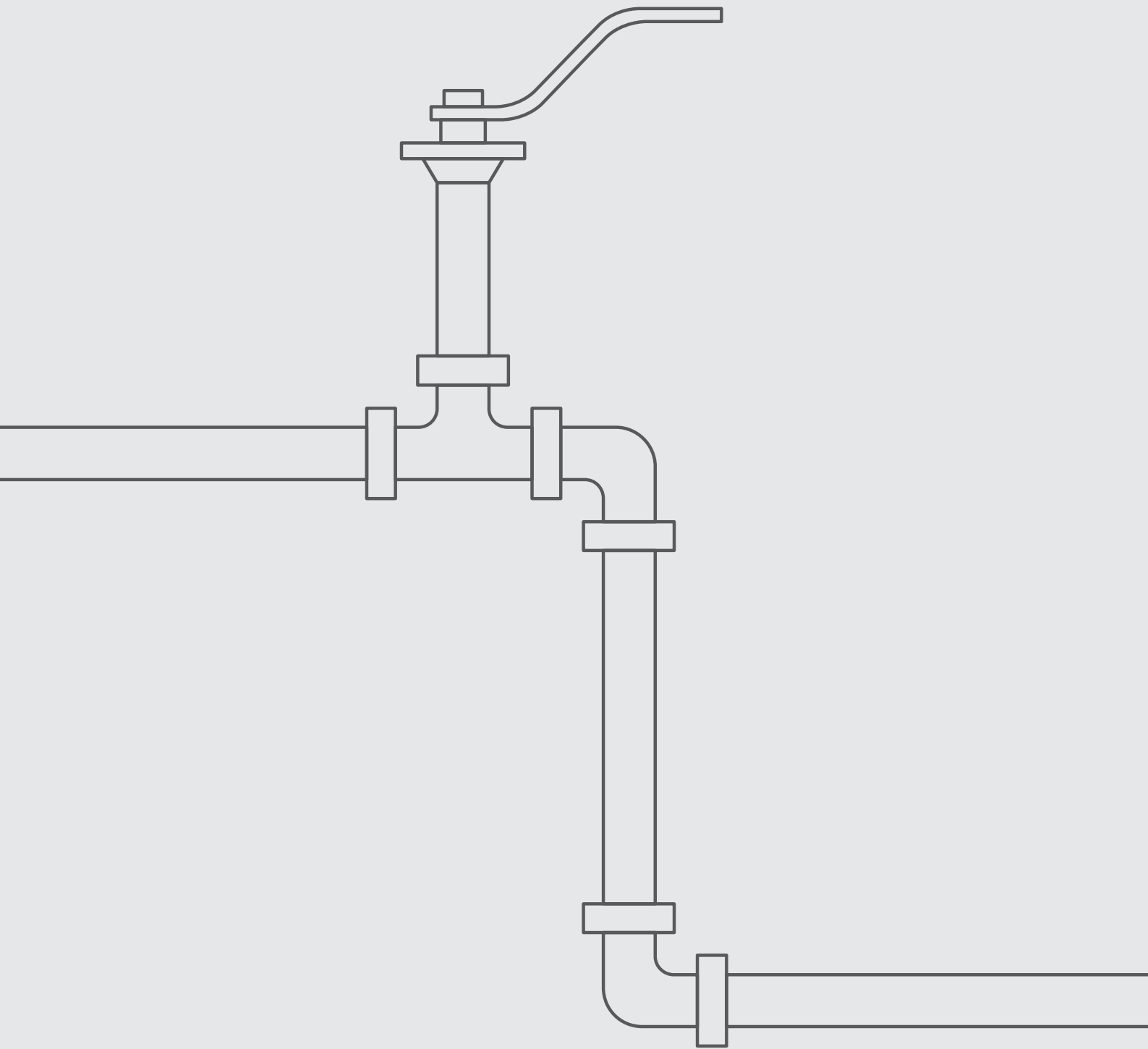
End Connections variety:

- Wide range of end connections available for assembly on a generic center section in 3 piece series, standard or full port.
- Flanged connections comply with ANSI B16.5 with standard or full

Certifications

Type tested certified by leading certification bodies and other on request (for part of the series).

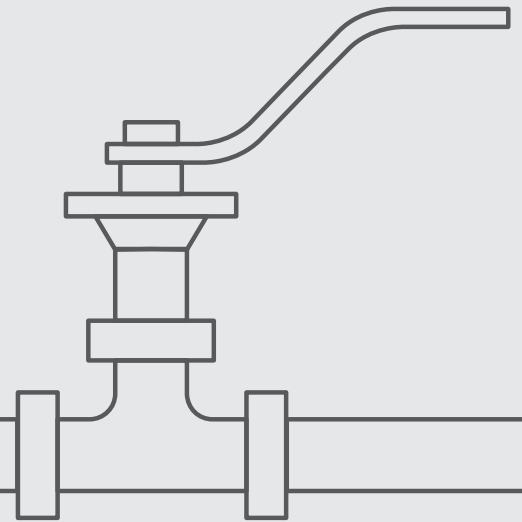






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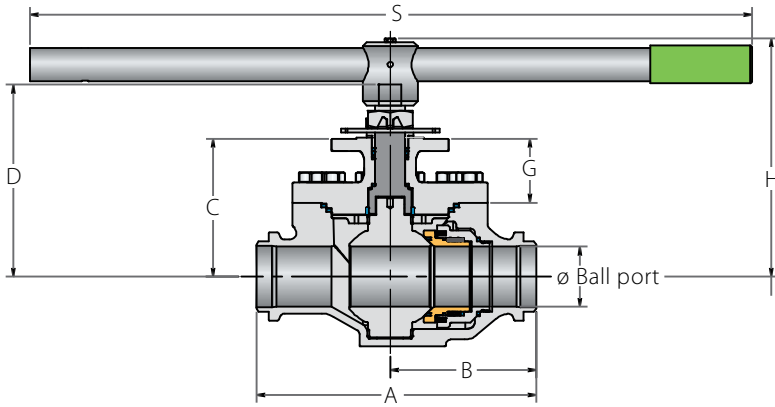
TOP ENTRY



Top Entry Trunnion Mounted Ball Valve

PATENT
PENDING

Valve dimensions



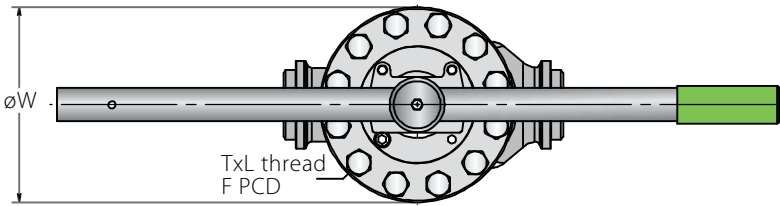
Standard stem tops

DD Type
for sizes 1/2" - 1 1/2"

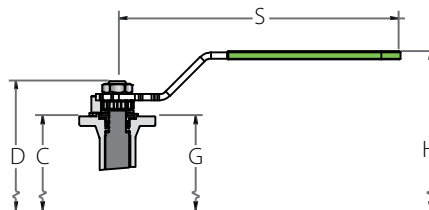
Stem flats
show valve
ball position

Square Type
for sizes 2" - 6"

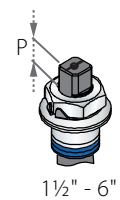
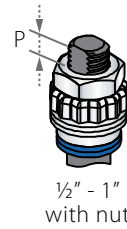
Stem groove
shows valve
ball position



Handle type for sizes 1/2" - 1"



Preparation for actuation



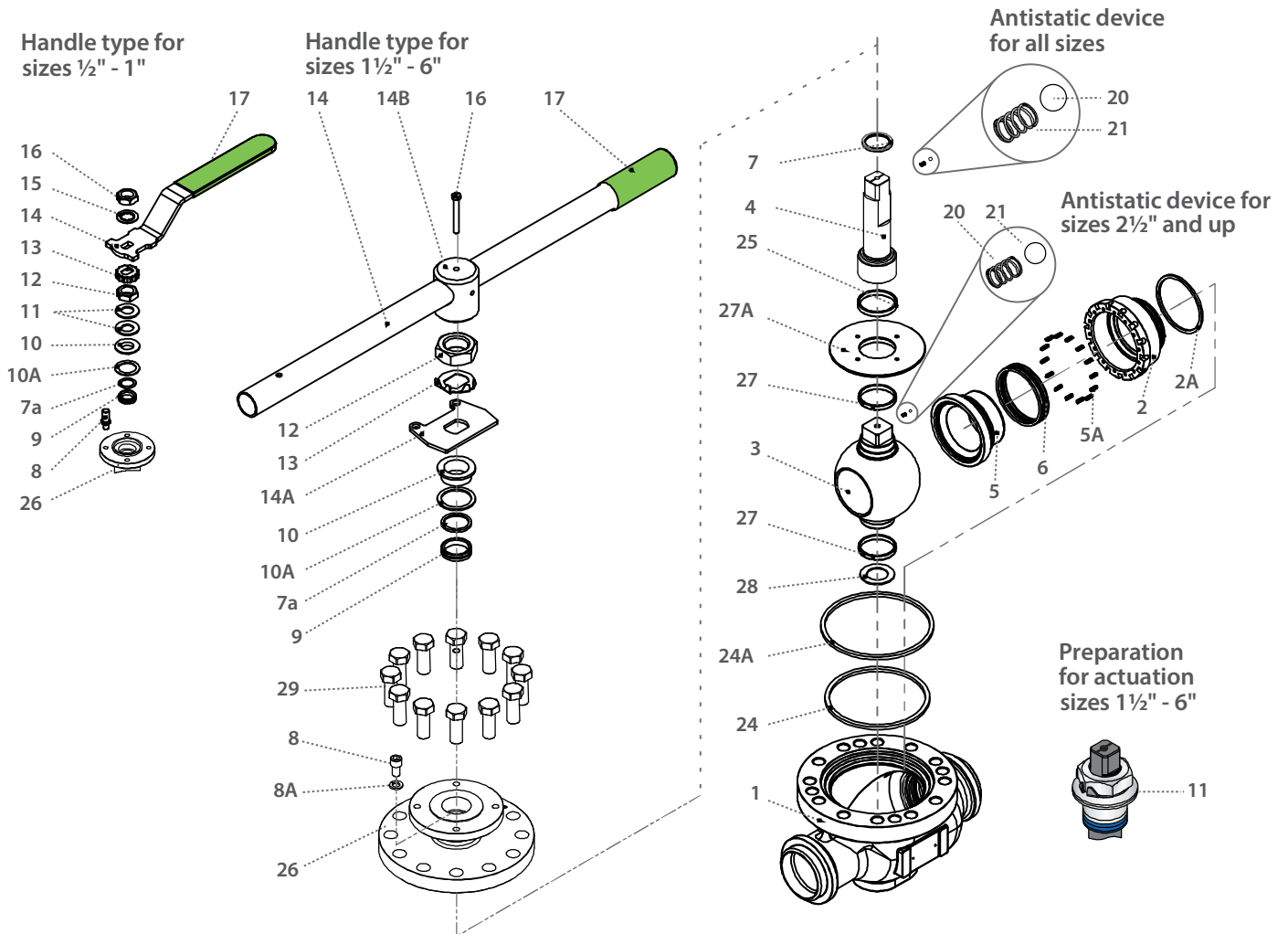
Full port	Unit	Ball port	A	B	C	D	G	H	S ⁽¹⁾	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv	
DN15	mm	14.0	165.0	88.0	69.4	86.8	30.4	112.6	187.0	105.0	7.5	7/16"-20	6.4	F04	42.0	M5x7	4.2	20
1/2"	inch	0.55	6.50	3.46	2.73	3.42	1.20	4.43	7.36	4.13	0.30	UNF	0.25		1.65		9.35	23
DN20	mm	20.0	190.0	100.0	77.0	106.5	33.0	131.5	237.0	121.0	8.7	9/16"-18	8.5	F05	50.0	M6x8	6	31
3/4"	inch	0.79	7.48	3.94	3.03	4.19	1.30	5.18	9.33	4.76	0.34	UNF	0.33		1.97		13.23	36
DN25	mm	25.4	216.0	113.0	82.0	111.5	33.0	136.5	237.0	131.0	8.7	9/16"-18	8.5	F05	50.0	M6x8	7.2	61
1"	inch	1.00	8.50	4.45	3.23	4.39	1.30	5.37	9.33	5.16	0.34	UNF	0.33		1.97		15.87	70
DN40	mm	38.2	241.0	129.0	104.6	146.2	46.0	172.2	401.0	173.0	13.9		15.2	F07	70.0	M8x9	13.6	164
1 1/2"	inch	1.50	9.49	5.08	4.12	5.76	1.81	6.78	15.79	6.81	0.55	M20x2.5	0.60		2.76		29.98	190
DN50	mm	50.8	292.0	151.0	149.5	196.0	74.5	235.5	610.0	198.0	18.9	1"-14	16.6	F10	102.0	M10x15	27	327
2"	inch	2.00	11.50	5.94	5.89	7.72	2.93	9.27	24.02	7.80	0.74	UNS"	0.65		4.02		58.79	378
DN65	mm	65.0	330.0	166.0	156.4	225.5	75.4	284.6	916.0	207.0	28.45	1 1/2"-12	26.2	F12	125.0	M12x15	41	668
2 1/2"	inch	2.56	12.99	6.54	6.16	8.88	2.97	11.20	36.06	8.15	1.12	UNF"	1.03		4.92		90.45	772
DN80	mm	76.0	356.0	186.0	175.0	244.1	81.0	303.2	916.0	248.0	28.45	1 1/2"-12	26.2	F12	125.0	M12x15	50	823
3"	inch	2.99	14.02	7.32	6.89	9.61	3.19	11.94	36.06	9.76	1.12	UNF	1.03		4.92		109.29	951
DN100	mm	100.0	432.0	224.0	192.4	261.5	80.4	321.3	916.0	305.0	28.45	1 1/2"-12	26.2	F12	125.0	M12x15	77	1678
4"	inch	3.94	17.01	8.82	7.57	10.30	3.17	12.65	36.06	12.01	1.12	UNF	1.03		4.92		170.36	1940
DN150	mm	150.0	559.0	285.0	264.0	376.7	115.0	440.7	916.0	392.0	35.9	2"-8	40.0	F14	140.0	M16x20	163	4199
6"	inch	5.91	22.01	11.22	10.39	14.83	4.53	17.35	36.06	15.43	1.41	UN	1.57		5.51		359.65	4854

⁽¹⁾ Manual gear or actuation is recommended, when the operation force on the handle overcomes 360N



Top Entry Trunnion Mounted Ball Valve

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2*	Seat Housing	S. Steel	1
2A*	Housing Seal	S. Steel	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Hybrid seat	A479 316/316L + TFM, CF PTFE, PCTFE	1
5A*	Seat spring	Inconel X750	6-18
6*	Lip seal	V-PTFE + UNS R30003	2
7*	Stem thrust seal	PCTFE, TFM	1
7a*	Anti-abrasion ring	PCTFE, TFM	1
8	Stop screw	EN 3506-1 A4-80	1
8A	Spring washer	S. Steel	1
9*	Stem seal	TFM	1
10	Follower	S. Steel	1
10A*	Slide bearing	S. Steel	1
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Locking clip (Tab lock washer for 1.5" and up)	S. Steel	1
14**	Handle	S. Steel	1

Item	Description	Material specification	Qty.
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
15	Serrated washer	S. Steel	1
16	Handle nut (Wrench bolt for 1.5" and up)	S. Steel	1
17	Sleeve	PVC	1
20	Anti static spring	S. Steel	1-2
21	Anti static plunger	S. Steel	1-2
23	Tag (not shown)	S. Steel	1
24*	Cover primary seal	TFM	1
24A*	Cover secondary seal	Graphite	1
25*	Stem bearing	TFM	1
26	Cover	S. Steel	1
27*	Ball radial bearing	316L + PTFE	2
27A	Centering plate	S. Steel	1
28*	Lower thrust washer	DIN 127 A2	1
29	Cover bolt	A193 B8M, DIN 3506 A2-70	12

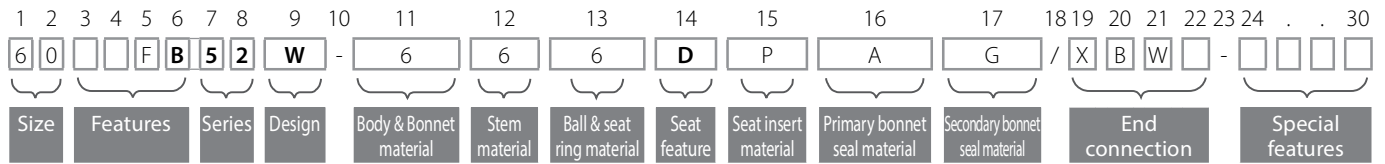
* Repair kit components

** Manual gear or actuation recommended, when the operation force on the handle overcomes 360N



Top Entry Trunnion Mounted Ball Valve - 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
15	1½"	40
20	2"	50
25	2½"	65
30	3"	80
40	4"	100
60	6"	150

Features (3-6)	
F	Fire safe
B	Full port
Series (7-8)	
52	ASME #300 Top Entry
Design (9)	
W	Total HermetiX Integrity package
Body & Bonnet material (11)	
6	S.Steel
4	C. Steel
Stem material material (12)	
6	S. Steel
M	High Strength S. Steel

Ball & seat ring material (13)	
6	S. Steel A182 F316
Seat feature (14)	
D	Double Piston Effect (DPE)
Seat insert material (15)	
P	CF PTFE
A	TFM
C	PCTFE
Primary bonnet seal material (16)	
A	TFM
Secondary bonnet Seal material (17)	
M	Graphite

End Connection (19-22)	
Welded ends	
XBW10	Extended butt weld sch 10
XBW	Extended butt weld sch 40
XBW80	Extended butt weld sch 80
ETI-S	Extended Butt weld ISO 1127, S=wall thickness in mm
Special Features (24-30)	
EXH	Extended Hub
EXS	Semi-Extended Hub

91

92

93

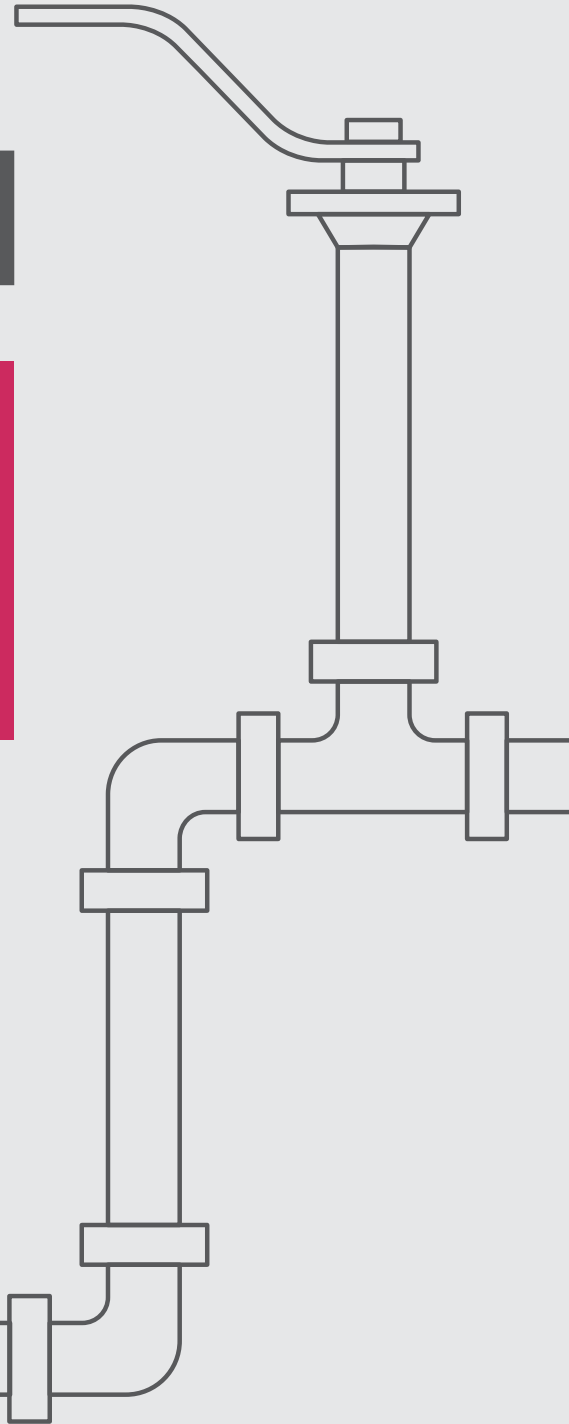
94



General Use Industrial

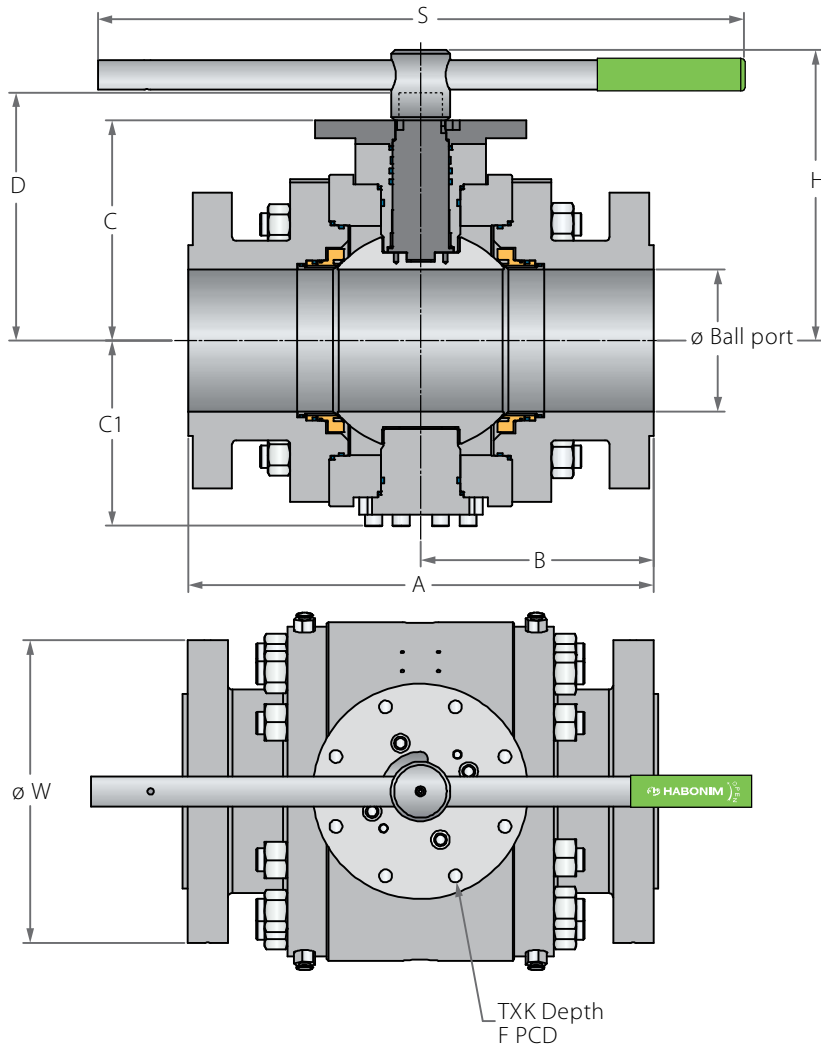
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3 PIECE

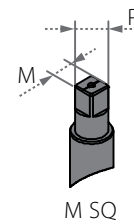


Trunnion Mounted Ball 3 Piece

Valve dimensions



Preparation for actuation

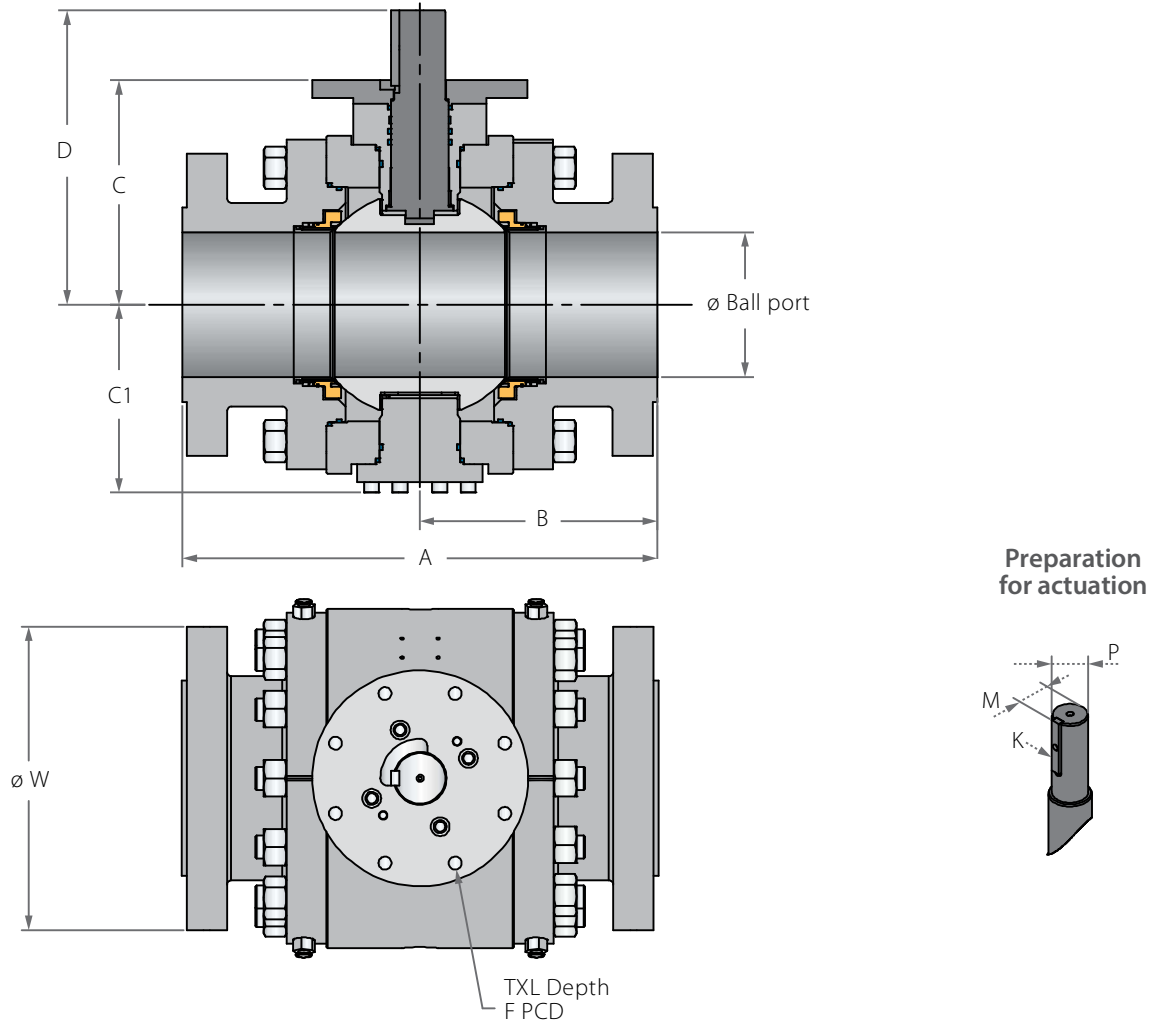


Std. port	Unit	Ball port	A		B		C	C1	D	W		Msq	Psq	H	S	F	TxL	Weight kg/lb		Kv / Cv		
			150	300	150	300				150	300							150	300	150	300	
DN50	mm	49.00	178.00	216.00	89.00	108.00	127.00	91.50	144.50	150.00	165.00	17.00	22.00	196.00	401.00	(F10)	102.00	11 X15	27	31	400	363
2"	inch	1.93	7.01	8.50	3.50	4.25	5.00	3.60	5.69	5.91	6.50	0.67	0.87	7.72	15.79	4.02	(4 holes)	60	68	463	420	
DN80	mm	74.00	203.00	283.00	101.50	128.00	148.00	117.00	172.00	190.00	210.00	22.00	32.00	223.00	610.00	(F12)	125.00	13x15	44	61	1125	952
3"	inch	2.91	7.99	11.14	4.00	5.04	5.83	4.61	6.77	7.48	8.27	0.87	1.26	8.78	24.02	4.92	(4 holes)	97	134	1300	1100	
DN100	mm	100.00	229.00	305.00	114.50	140.50	171.00	139.00	198.50	230.00	255.00	27.00	35.00	247.50	610.00	(F14)	140.00	18x15	66	100	2154	1860
4"	inch	3.94	9.02	12.00	4.51	5.53	6.73	5.47	7.81	9.06	10.04	1.06	1.38	9.74	24.02	5.51	(4 holes)	146	220	2490	2150	
DN150	mm	150.00	394.00	457.00	185.00	230.40	254.00	191.00	290.50	280.00	320.00	36.00	46.20	356.50	916.00	(F16)	165.00	22x25	180	216	4723	4628
6"	inch	5.91	15.51	17.99	7.28	9.07	10.00	7.52	11.44	11.02	12.60	1.42	1.82	14.04	36.06	6.50	(4 holes)	397	476	5460	5350	



Trunnion Mounted Ball 3 Piece

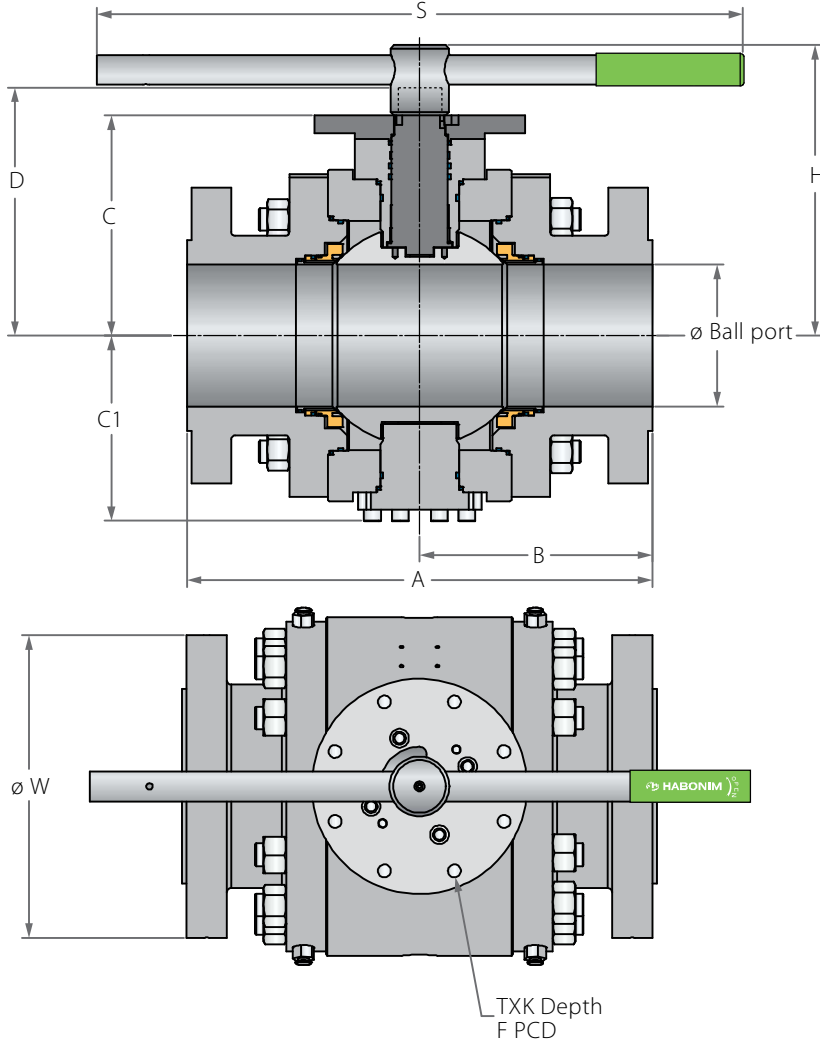
Valve dimensions



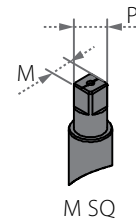
Std. port	Unit	Ball port	A		B		C		C1		D		W		P		M		K		F	TxL	Weight kg/ib		Kv / Cv		
			150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300			150	300	150	300	
DN200 8"	mm	201.00	457.00	502.00	228.50	251.00	325.00	305.00	247.00	232.00	405.50	379.50	345.00	380.00	50.00	50.00	54.00	61.00	14.00	14.00	(F16)	165.00	22x25 (4 holes)	346	378	9273	8737
	inch	7.91	17.99	19.76	9.00	9.88	12.80	12.01	9.72	9.13	15.96	14.94	13.58	14.96	1.97	1.97	2.13	2.40	0.55	0.55		6.50		763	833	10720	10100
DN250 10"	mm	252.00	533.00	568.00	270.00	287.50	353.00	359.00	297.00	299.00	430.00	454.00	405.00	445.00	50.00	60.00	54.00	65.50	14.00	18.00	(F25)	254.00	18x25 (8 holes)	473	594	15224	14792
	inch	9.92	20.98	22.36	10.63	11.32	13.90	14.13	11.69	11.77	16.93	17.87	15.94	17.52	1.97	2.36	2.13	2.58	0.55	0.71		10.00		1043	1310	17600	17100
DN300 12"	mm	303.00	610.00	648.00	298.00	313.00	388.00	368.00	324.00	305.00	468.50	464.00	485.00	520.00	60.00	60.00	63.50	65.50	18.00	18.00	(F25)	254.00	18x25 (8 holes)	723	833	23096	22404
	inch	11.93	24.02	25.51	11.73	12.32	15.28	14.49	12.76	12.01	18.44	18.27	19.09	20.47	2.36	2.36	2.50	2.58	0.71	0.71		10.00		1594	1836	26700	25900
DN350 14"	mm	334.00	686.00	762.00	343.00	381.00	425.00	400.00	372.00	330.00	555.00	520.00	535.00	585.00	72.00	72.00	78.00	78.00	20.00	20.00	(F30)	298.00	22x30 (8 holes)	1072	1237	27940	26729
	inch	13.15	27.01	30.00	13.50	15.00	16.73	15.75	14.65	12.99	21.85	20.47	21.06	23.03	2.83	2.83	3.07	3.07	0.79	0.79		11.73		2363	2727	32300	30900
DN400 16"	mm	385.00	762.00	838.00	381.00	419.00	460.50	435.00	415.50	363.00	590.50	555.00	595.00	650.00	72.00	72.00	78.00	78.00	20.00	20.00	(F30)	298.00	22x30 (8 holes)	1703	1949	38536	36763
	inch	15.16	30.00	32.99	15.00	16.50	18.13	17.13	16.36	14.29	23.25	21.85	23.43	25.59	2.83	2.83	3.07	3.07	0.79	0.79		11.73		3754	4297	44550	42500

Trunnion Mounted Ball 3 Piece

Valve dimensions



Preparation for actuation

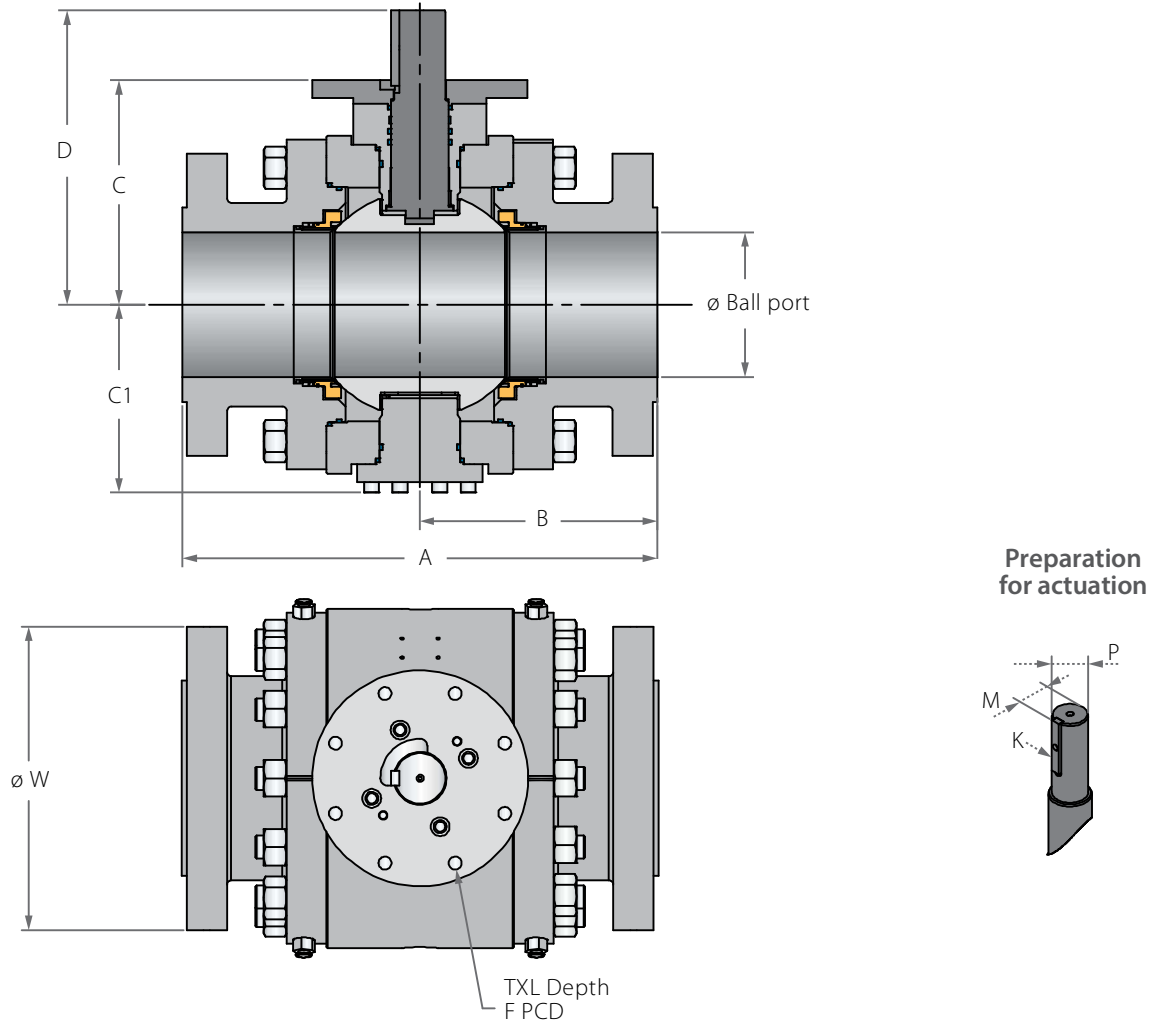


Std. port	Unit	Ball port	A		B		C		C1		D		W		Msq	Psq	H	S	F	TxL	Weight kg/lb				Kv / Cv	
			600	900	600	900	600	900	600	900	600	900	600	900							600	900	600	900		
DN50	mm	49.00	292.00	368.00	131.00	184.00	144.00	148.50	119.00	263.00	168.50	182.50	165.00	215.00	22.00	28.00	219.50	401.00	(F12)	125.00	13X15 (4 holes)	49	72	329	294	
2"	inch	1.93	11.50	14.49	5.16	7.24	5.67	5.85	4.69	10.35	6.63	7.19	6.50	8.46	0.87	1.10	8.64	15.79		4.92		108	159	380	340	
DN80	mm	74.00	356.00	381.00	161.00	190.50	191.00	214.00	160.00	152.70	215.00	237.50	210.00	240.00	22.00	28.00	266.00	610.00	(F14)	140.00	22x24 (4 holes)	103	146	874	822	
3"	inch	2.91	14.02	15.00	6.34	7.50	7.52	8.43	6.30	6.01	8.46	9.35	8.27	9.45	0.87	1.10	10.47	24.02		5.51		227	322	1010	950	
DN100	mm	100.00	432.00	457.00	216.00	228.50	217.00	193.00	184.00	184.00	246.50	259.00	275.00	290.00	27.00	36.00	316.50	916.00	(F16)	165.00	22x25 (4 holes)	166	232	1557	1471	
4"	inch	3.94	17.01	17.99	8.50	9.00	8.54	7.60	7.24	7.24	9.70	10.20	10.83	11.42	1.06	1.42	12.46	36.06		6.50		366	511	1800	1700	
DN150	mm	150.00	559.00	610.00	278.00	305.00	282.50	368.00	214.50	224.00	320.50	463.00	355.00	380.00	36.00	48.20	385.00	916.00	(F16)	165.00	22x25 (8 holes)	342	495	3893	3823	
6"	inch	5.91	22.01	24.02	10.94	12.01	11.12	14.49	8.44	8.82	12.62	18.23	13.98	14.96	1.42	1.90	15.16	36.06		6.50		754	1091	4500	4420	



Trunnion Mounted Ball 3 Piece

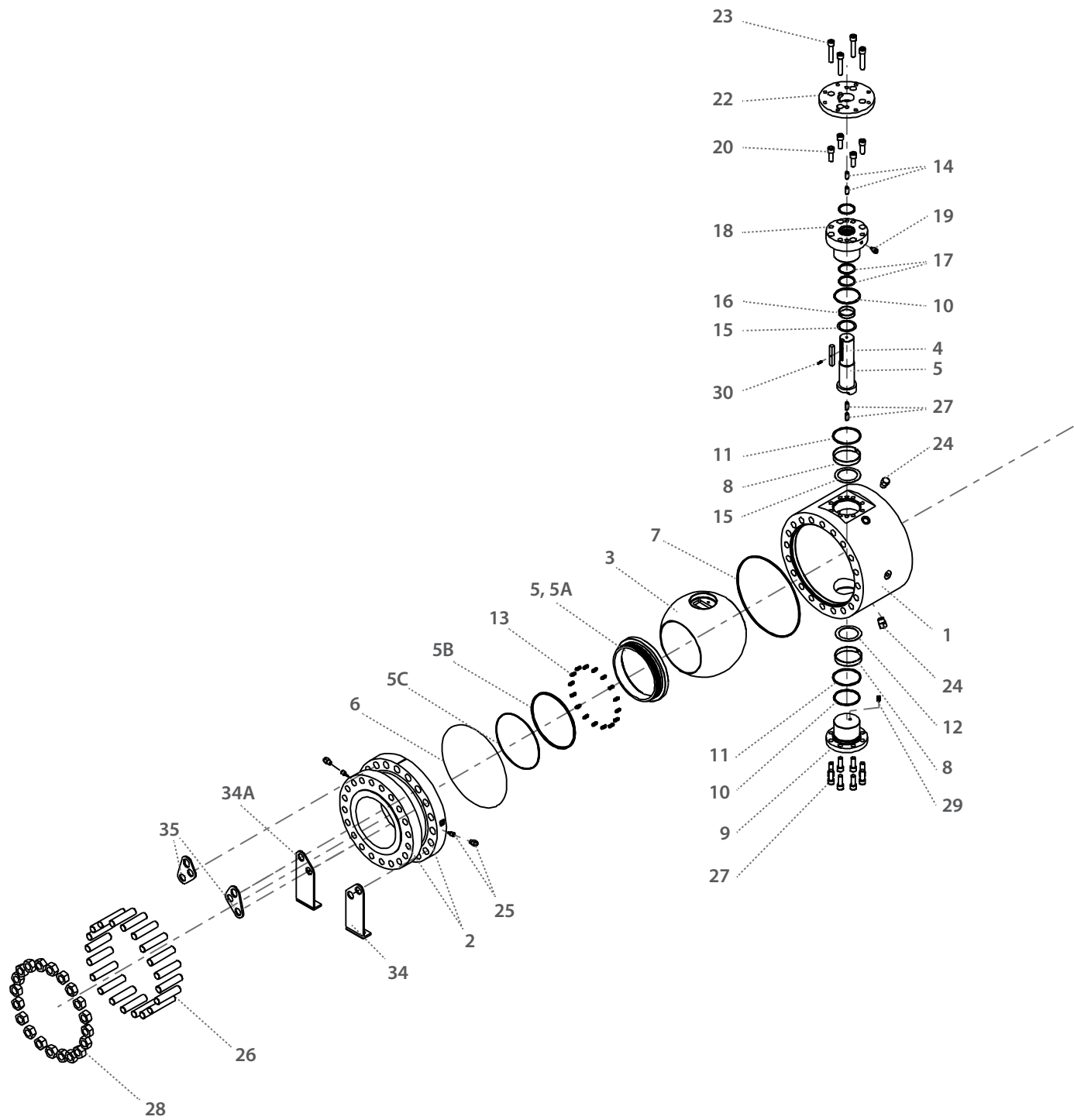
Valve dimensions



Std. port	Unit	Ball port	A		B		C		C1		D		W		P	M	K	F	TxL	Weight kg/lb		Kv / Cv		
			600	900	600	900	600	900	600	900	600	900	600	900						600	900	600	900	
DN200	mm	201.00	660.00	737.00	330.00	368.50	312.00	307.00	263.00	263.00	409.00	403.00	420.00	470.00	72.00	76.50	20.00	(F25)	254.00	18x25	577	836	7742	7344
8"	inch	7.91	25.98	29.02	12.99	14.51	12.28	12.09	10.35	10.35	16.10	15.87	16.54	18.50	2.83	3.01	0.79		10.00	(8 holes)	1272	1843	8950	8490
DN250	mm	252.00	787.00	838.00	400.00	419.00	374.00	384.00	310.00	326.00	489.50	499.00	510.00	545.00	72.00	76.50	20.00	(F25)	254.00	18x25	931	1301	12543	12110
10"	inch	9.92	30.98	32.99	15.75	16.50	14.72	15.12	12.20	12.83	19.27	19.65	20.08	21.46	2.83	3.01	0.79		10.00	(8 holes)	2052	2868	14500	14000
DN300	mm	303.00	838.00	965.00	419.00	482.50	402.00	419.00	344.00	361.00	517.00	544.00	560.00	610.00	72.00	76.50	20.00	(F25)	254.00	18x35	1126	1576	19809	18598
12"	inch	11.93	32.99	37.99	16.50	19.00	15.83	16.50	13.54	14.21	20.35	21.42	22.05	24.02	2.83	3.01	0.79		10.00	(8 holes)	2482	3474	22900	21500
DN350	mm	334.00	889.00	1029.00	444.50	514.50	435.00	503.00	412.00	433.00	565.00	633.00	605.00	640.00	80.00	87.00	22.00	(F30)	298.00	22x35	1638	2293	24739	23528
14"	inch	13.15	35.00	40.51	17.50	20.26	17.13	19.80	16.22	17.05	22.24	24.92	23.82	25.20	3.15	3.43	0.87		11.73	(8 holes)	3611	5055	28600	27200
DN400	mm	385.00	991.00	1130.00	515.00	565.00	500.00	604.00	442.00	520.00	636.00	734.00	686.00	705.00	98.00	104.00	28.00	(F30)	298.00	22x350	2258	3116	33735	32438
16"	inch	15.16	39.02	44.49	20.28	22.24	19.69	23.78	17.40	20.47	25.04	28.90	27.01	27.76	3.86	11.00	1.10		11.73	(8 holes)	4978	6870	39000	37500

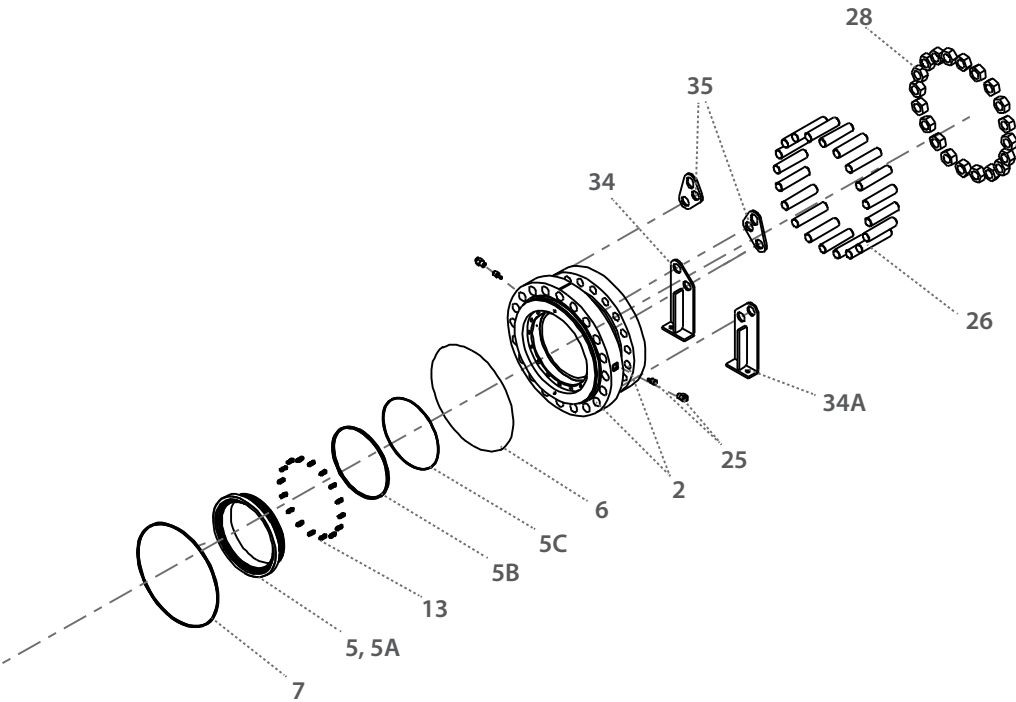
Trunnion Mounted Ball 3 Piece

Components & materials





Trunnion Mounted Ball 3 Piece



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	End	Acc. Ordering Code	2
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
5A	Seat insert	Acc. Ordering Code	2
5B	Seat seal	HNBR, VITON	2-4
5C	Seat fire safe seal	Graphite	2
6*	Body fire safe seal	Graphite	1
7*	Body seal	HNBR, VITON	1
8	Ball bearing	316L+PTFE	2
9	External trunnion	A350 LF2+ENP, A479 316L	1
10*	Gland plate & external trunnion fire safe seal	Graphite	2
11*	Gland plate & external trunnion seal	HNBR, VITON	2
12	Lower thrust washer	316L+PTFE	1
13	Seat spring	Inconel X750	10-26

Item	Description	Material specification	Qty.
14	Gland pin	C. Steel, S. Steel	4
15	Stem thrust seal	316L+PTFE	1
16	Gland plate bearing	316L+PTFE	1
17	Stem Seal	HNBR, VITON	2
18	Gland plate	A350 LF2+ENP, A479 316L, A105 +ENP	1
19	Stem grease fitting	S. St	1
20	Lower gland bolts	A320 L7, A193 B8M	2-6
21*	Stem gasket	Graphite	1
22	Iso plate	A350 LF2, A479 316L, A105	1
23	Upper gland bolts	A320 L7, A193 B8M	2-6
24	Plug drain valve	S. Steel	2
25**	Seat grease fitting + Check valve	S. Steel	4
26	Body stud	A320 L7, A193 B8M	4-20
27	External trunnion bolts	A320 L7, A193 B8M	4-12
28	Body nut	A194 GR-7, A193 GR-8M	4-20
29	Antistatic spring	Inconel X750	1
30	stem key	ST.37, H1150D 17-4PH, A182 F6A	1

* Repair kit components

** Available from 6" size only



Trunnion Mounted Ball 3 Piece - 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	.	.	30
6	0			F	B	9	1		-	4	6	4	D	V	V	G	/	1	5	0		-				
Size		Features				Series		Design		Body & ends material		Stem material	Ball material	Seat feature	Seat insert material	Inner Seal material	Outer Seal material	End connection				Special features				

Size (1-2)		
Code	inch	mm
20 *	2"	50
30	3"	80
40	4"	100
60	6"	150
80	8"	200
A0	10"	250
A2	12"	300
A4	14"	350
A6	16"	400

* Full port only

Features (3-6)	
F	Fire safe
B	Full port
Series - 3 Piece (7-8)	
91	ASME B16.5 #150 (PN20)
92	ASME B16.5 #300 (PN50)
93	ASME B16.5 #600 (PN100)
94	ASME B16.5 #900 (PN150)
Design (9)	
Blank	(Stands for future designs)
Body & ends material (11)	
4	C. Steel A105
6	S. Steel 316
F	C. Steel A350 LF2
W	Haselloy C-22
D	Duplex
K	Super Duplex
S	254SMO
Stem material (12)	
6 *	S. Steel A479 316\316L
Q **	S. Steel A182 F6A
M ***	High Strength S. Steel
Z	Inconel 718 B637 N07718
W	Haselloy C-22
D	Duplex
K	Super Duplex
S	254SMO

* for 91,92 not for 93, 94

** for 93, not for 94

*** for 94

Ball material (13)	
6	S. Steel A182 F316
4	C. Steel A105+ENP
F	C. Steel A350 LF2+ENP
Seat feature (14)	
D	Double Piston Effect (DPE) (API 6D DIB-1)
S	Single Piston Effect (SPE) (API 6D DBB)
C	DPE & SPE combination (API 6D DIB-2)
Seat insert material (15)	
V	Devlon
P	CF PTFE
K	CF PEEK
Inner Seal material (16)	
V	Viton
H	HNBR
Outer Seal material (17)	
G	Graphite

End Connection (19-22)	
Welded ends	
150	ASME B16.5 #150
300	ASME B16.5 #300
600	ASME B16.5 #600
900	ASME B16.5 #900
PN16	DIN EN 1092-1 PN16
PN40	DIN EN 1092-1 PN40
PN63	DIN EN 1092-1 PN63
PN100	DIN EN 1092-1 PN100
PN160	DIN EN 1092-1 PN160
Flanged RTJ	
600RTJ	ASME B16.5 #600 RTJ
900RTJ	ASME B16.5 #900 RTJ
Welded	
XBW	Extended butt weld sch 40
XBW80	Extended butt weld sch 80
Special Features (24-30)	
L *	seat greasing point
D	Drain & Vent
Blank	Greasing point, Drain & vent is capped
PT **	Basic paint system
P1	Offshore, Temp Ambient up to 93°C (200°F)
P2	Offshore, up to 537°C (1000°F)

* for 6" and up

** colors RAL 1018 or 7036
(other colors upon request)

81

82

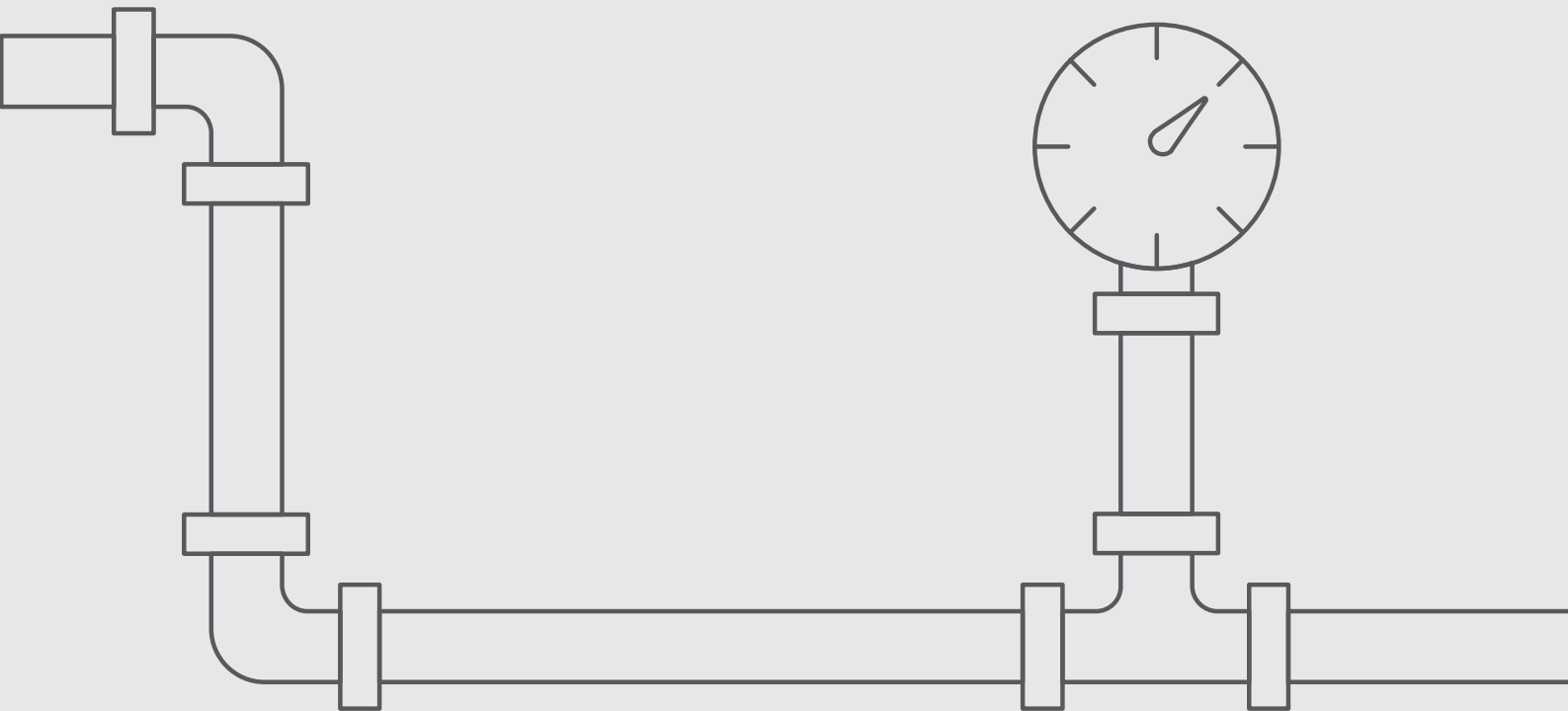
83



General Use Industrial

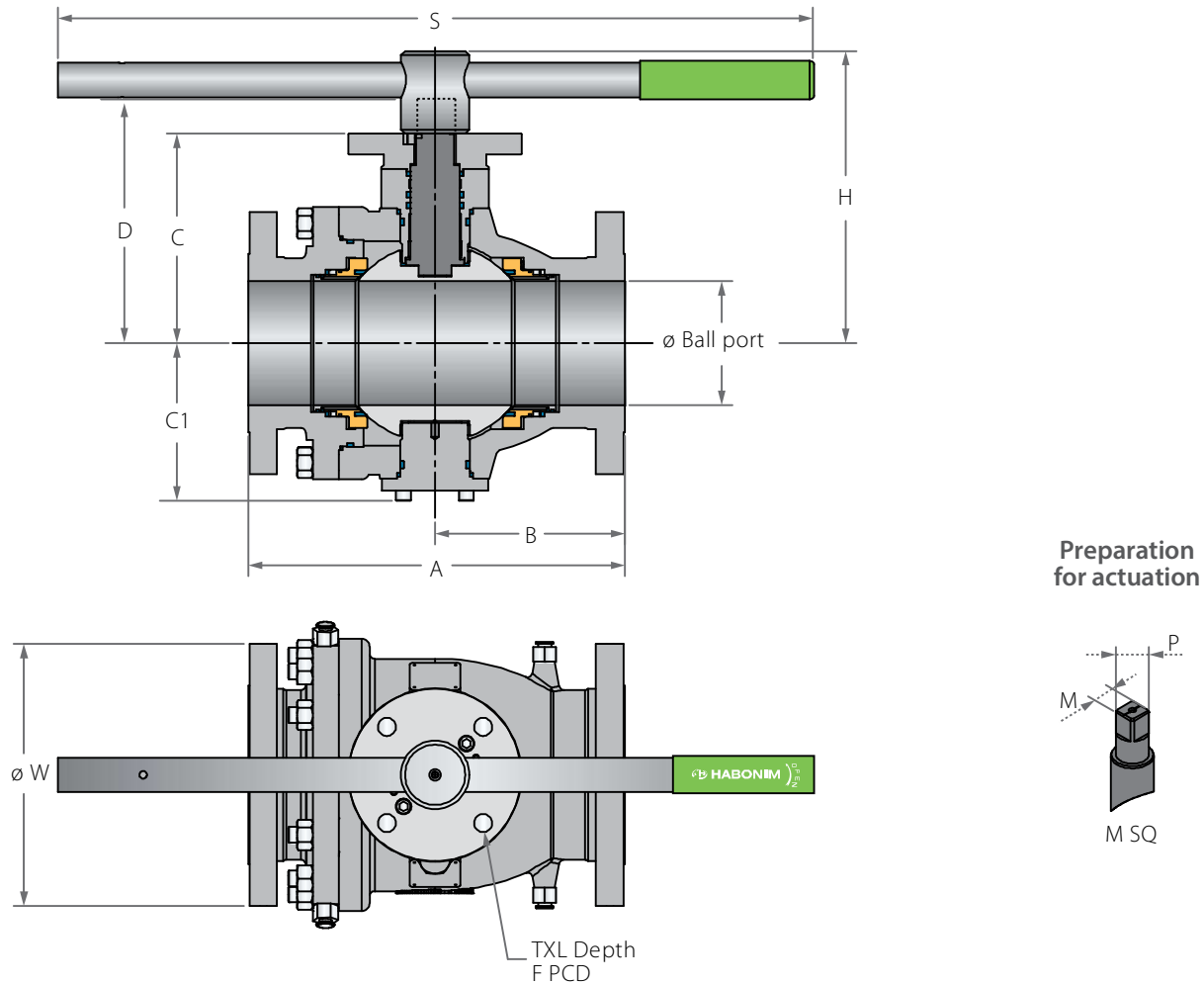
TRUNNIION

2 PIECE



Trunnion Mounted Ball 2 Piece

Valve dimensions

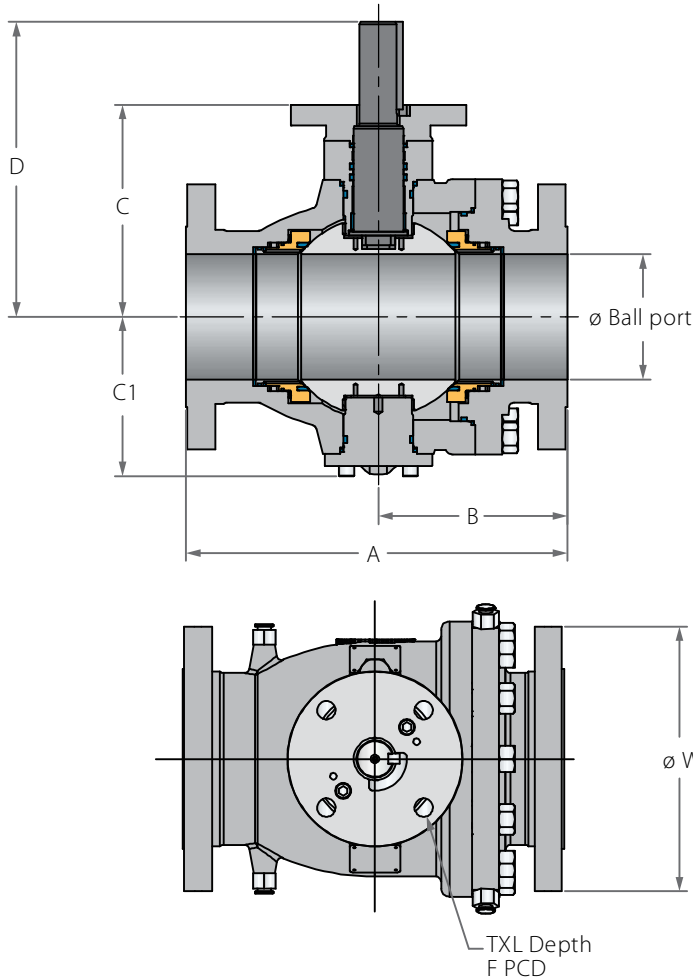


Std. port	Unit	Ball port	A		B		C	C1	D	W		MSQ	PSQ	H	S	F	TxL	Weight kg/lb		Kv / Cv		
			150	300	150	300				150	300							150	300	150	300	
DN50	mm	49.00	178.00	216.00	89.00	108.00	127.00	91.50	144.50	150.00	165.00	17.00	22.00	196.00	401.00	(F10)	102.00	11x15 (4 holes)	19	23	400	363
2"	inch	1.93	7.01	8.50	3.50	4.25	5.00	3.60	5.69	5.91	6.50	0.67	0.87	7.72	15.79	4.02			42	51	463	420
DN80	mm	74.00	203.00	283.00	101.50	128.00	148.00	117.00	172.00	190.00	210.00	22.00	32.00	223.00	610.00	(F12)	125.00	13x15 (4 holes)	33	44	1125	952
3"	inch	2.91	7.99	11.14	4.00	5.04	5.83	4.61	6.77	7.48	8.27	0.87	1.26	8.78	24.02	4.92			73	97	1300	1100
DN100	mm	100.00	229.00	305.00	114.50	140.50	171.00	139.00	198.50	230.00	255.00	27.00	35.00	247.50	610.00	(F14)	140.00	18x15 (4 holes)	49	69	2154	1860
4"	inch	3.94	9.02	12.00	4.51	5.53	6.73	5.47	7.81	9.06	10.04	1.06	1.38	9.74	24.02	5.51			108	152	2490	2150
DN150	mm	150.00	394.00	403.00	185.00	230.40	254.00	191.00	290.50	280.00	320.00	36.00	46.20	356.50	916.00	(F16)	165.00	22x25 (4 holes)	133	166	4723	4628
6"	inch	5.91	15.51	17.99	7.28	9.07	10.00	7.52	11.44	11.02	12.60	1.42	1.82	14.04	36.06	6.50			293	366	5460	5350

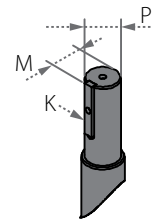


Trunnion Mounted Ball 2 Piece

Valve dimensions



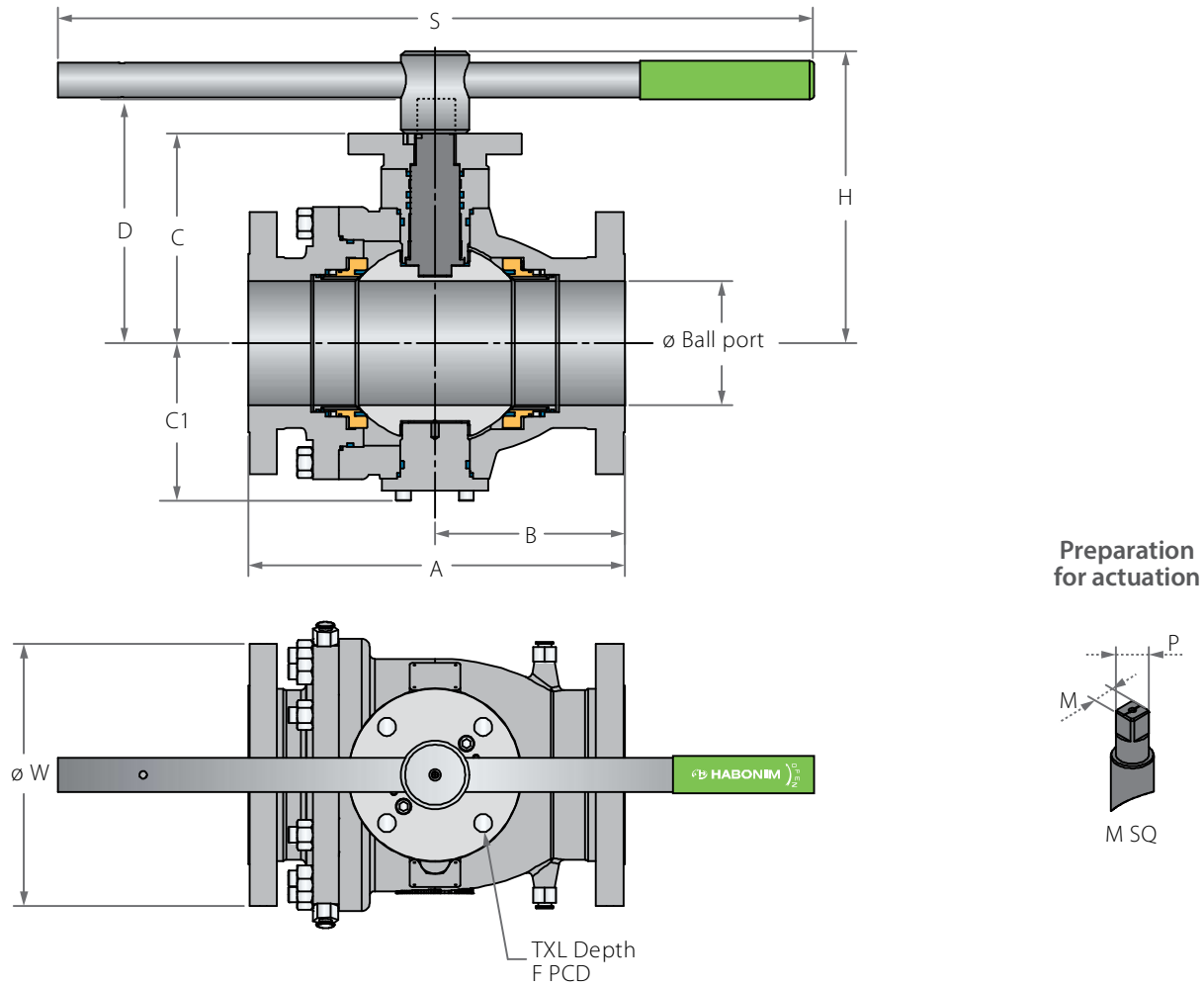
Preparation for actuation



Std. port	Unit	Ball port	A		B		C	C1	D	W		P	M	K	F	TxL	Weight kg/lb		Kv / Cv		
			150	300	150	300				150	300						150	300	150	300	
DN200	mm	201.00	457.00	502.00	228.50	251.00	325.00	247.00	405.50	345.00	380.00	50.00	54.00	14.00	(F16)	165.00	22x25	222	262	9273	8737
8"	inch	7.91	17.99	19.76	9.00	9.88	12.80	9.72	15.96	13.58	14.96	1.97	2.13	0.55		6.50	(4 holes)	489	578	10720	10100
DN250	mm	252.00	533.00	568.00	270.00	287.50	353.00	297.00	430.00	405.00	445.00	50.00	54.00	14.00	(F25)	254.00	18x25	358	424	15224	14792
10"	inch	9.92	20.98	22.36	10.63	11.32	13.90	11.69	16.93	15.94	17.52	1.97	2.13	0.55		10.00	(8 holes)	789	935	17600	17100
DN300	mm	303.00	610.00	648.00	298.00	313.00	388.00	324.00	468.50	485.00	520.00	60.00	63.50	18.00	(F25)	254.00	18x25	527	613	23096	22404
12"	inch	11.93	24.02	25.51	11.73	12.32	15.28	12.76	18.44	19.09	20.47	2.36	2.50	0.71		10.00	(8 holes)	1162	1351	26700	25900
DN350	mm	334.00	686.00	762.00	343.00	381.00	425.00	372.00	555.00	535.00	585.00	72.00	78.00	20.00	(F30)	298.00	22x30	794	896	27940	26729
14"	inch	13.15	27.01	30.00	13.50	15.00	16.73	14.65	21.85	21.06	23.03	2.83	3.07	0.79		11.73	(8 holes)	1750	1975	32300	30900
DN400	mm	385.00	762.00	838.00	381.00	419.00	460.50	415.50	590.50	595.00	650.00	72.00	78.00	20.00	(F30)	298.00	22x30	1215	1344	38536	36763
16"	inch	15.16	30.00	32.99	15.00	16.50	18.13	16.36	23.25	23.43	25.59	2.83	3.07	0.79		11.73	(8 holes)	2679	2963	44550	42500

Trunnion Mounted Ball 2 Piece

Valve dimensions

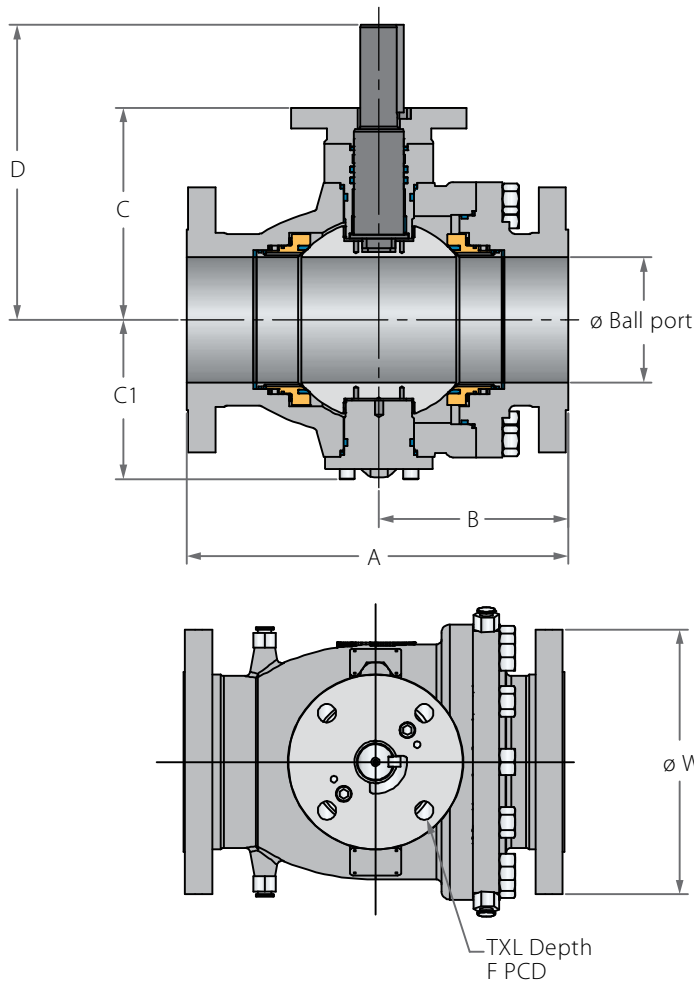


Std. port	Unit	Ball port	A	B	C	C1	D	W	MSQ	PSQ	H	S	F	TxL	Weight kg/ib	Kv Cv	
DN50	mm	49.00	292.00	131.00	144.00	119.00	168.50	165.00	22.00	28.00	219.50	401.00	(F12)	125.00	13X15 (4 holes)	35	329
2"	inch	1.93	11.50	5.16	5.67	4.69	6.63	6.50	0.87	1.10	8.64	15.79		4.92		77	380
DN80	mm	74.00	356.00	161.00	191.00	160.00	215.00	210.00	22.00	28.00	266.00	610.00	(F14)	140.00	18X24 (4 holes)	71	874
3"	inch	2.91	14.02	6.34	7.52	6.30	8.46	8.27	0.87	1.10	10.47	24.02		5.51		157	1010
DN100	mm	100.00	432.00	216.00	217.00	184.00	246.50	275.00	27.00	36.00	316.50	916.00	(F16)	165.00	22X25 (4 holes)	123	1557
4"	inch	3.94	17.01	8.50	8.54	7.24	9.70	10.83	1.06	1.42	12.46	36.06		6.50		271	1800
DN150	mm	150.00	559.00	278.00	282.50	214.50	320.50	355.00	36.00	48.20	385.00	916.00	(F16)	165.00	22X25 (4 holes)	244	3893
6"	inch	5.91	22.01	10.94	11.12	8.44	12.62	13.98	1.42	1.90	15.16	36.06		6.50		538	4500

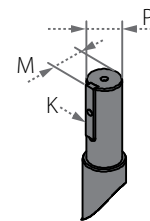


Trunnion Mounted Ball 2 Piece

Valve dimensions



Preparation for actuation



Std. port	Unit	Ball port	A	B	C	C1	D	W	P	M	K	F	TxL	Weight kg/lb	Kv Cv	
DN200	mm	201.00	660.00	330.00	312.00	263.00	409.00	420.00	72.00	76.50	20.00	(F25)	254.00	18x25	412	7742
8"	inch	7.91	25.98	12.99	12.28	10.35	16.10	16.54	2.83	3.01	0.79		10.00	(8 holes)	908	8950
DN250	mm	252.00	787.00	400.00	374.00	310.00	489.50	510.00	72.00	76.50	20.00	(F25)	254.00	18x25	665	12543
10"	inch	9.92	30.98	15.75	14.72	12.20	19.27	20.08	2.83	3.01	0.79		10.00	(8 holes)	1466	14500
DN300	mm	303.00	838.00	419.00	402.00	344.00	517.00	560.00	72.00	76.50	20.00	(F25)	254.00	18x25	804	19809
12"	inch	11.93	32.99	16.50	15.83	13.54	20.35	22.05	2.83	3.01	0.79		10.00	(8 holes)	1772	22900
DN350	mm	334.00	889.00	444.50	435.00	412.00	565.00	605.00	80.00	87.00	22.00	(F30)	298.00	22x35	1170	24739
14"	inch	13.15	35.00	17.50	17.13	16.22	22.24	23.82	3.15	3.43	0.87		11.73	(8 holes)	2579	28600
DN400	mm	385.00	991.00	515.00	500.00	442.00	636.00	686.00	98.00	104.00	28.00	(F30)	298.00	22x35	1613	33735
16"	inch	15.16	39.02	20.28	19.69	17.40	25.04	27.01	3.86	4.11	1.10		11.73	(8 holes)	3556	39000

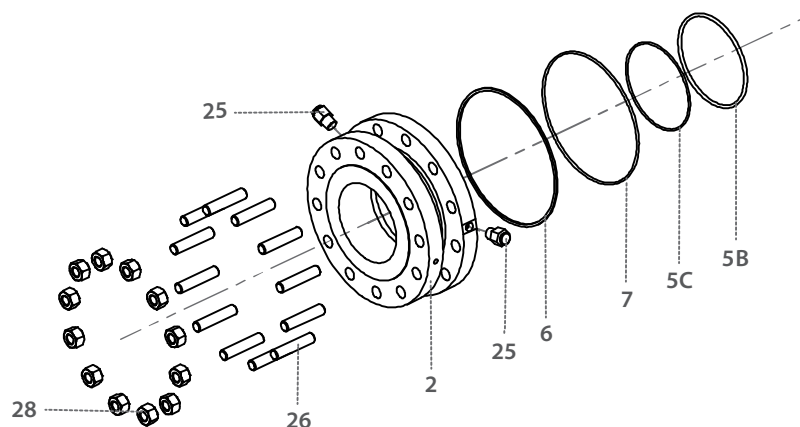
Trunnion Mounted Ball 2 Piece

Components & materials

Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	End	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
5A	Seat insert	Acc. Ordering Code	2
5B	Seat seal	HNBR, VITON	2-4
5C	Seat fire safe seal	Graphite	2
6*	Body fire safe seal	Graphite	1
7*	Body seal	HNBR, VITON	1
8	Ball bearing	316L+PTFE	2
9	External trunnion	A350 LF2+ENP, A479 316L, A182 F6A	1
10*	Gland plate & External trunnion fire safe seal	Graphite	2
11*	Gland plate & External trunnion seal	HNBR, VITON	2
12	Lower thrust washer	316L+PTFE	1
13	Seat spring	Inconel X750	10-26
14	Gland pin	C. Steel, S. Steel	4
15	Stem thrust seal	316L+PTFE	1
16	Gland plate bearing	316L+PTFE	1
17	Stem seal	HNBR, VITON	2
18	Gland plate	A350 LF2+ENP, A479 316L, A182 F6A	1
19	Stem grease fitting	S. Steel	1
20	Lower gland bolts	A320 L7, A193 B8M	2-6
21*	Stem gasket	Graphite	1
22	Iso plate	A350 LF2, A479 316L, A182 F6A	1
23	Upper gland bolts	A320 L7, A193 B8M	2-6
24	Plug drain valve	S. Steel	2
25**	Seat grease fitting + check valve	S. Steel	4

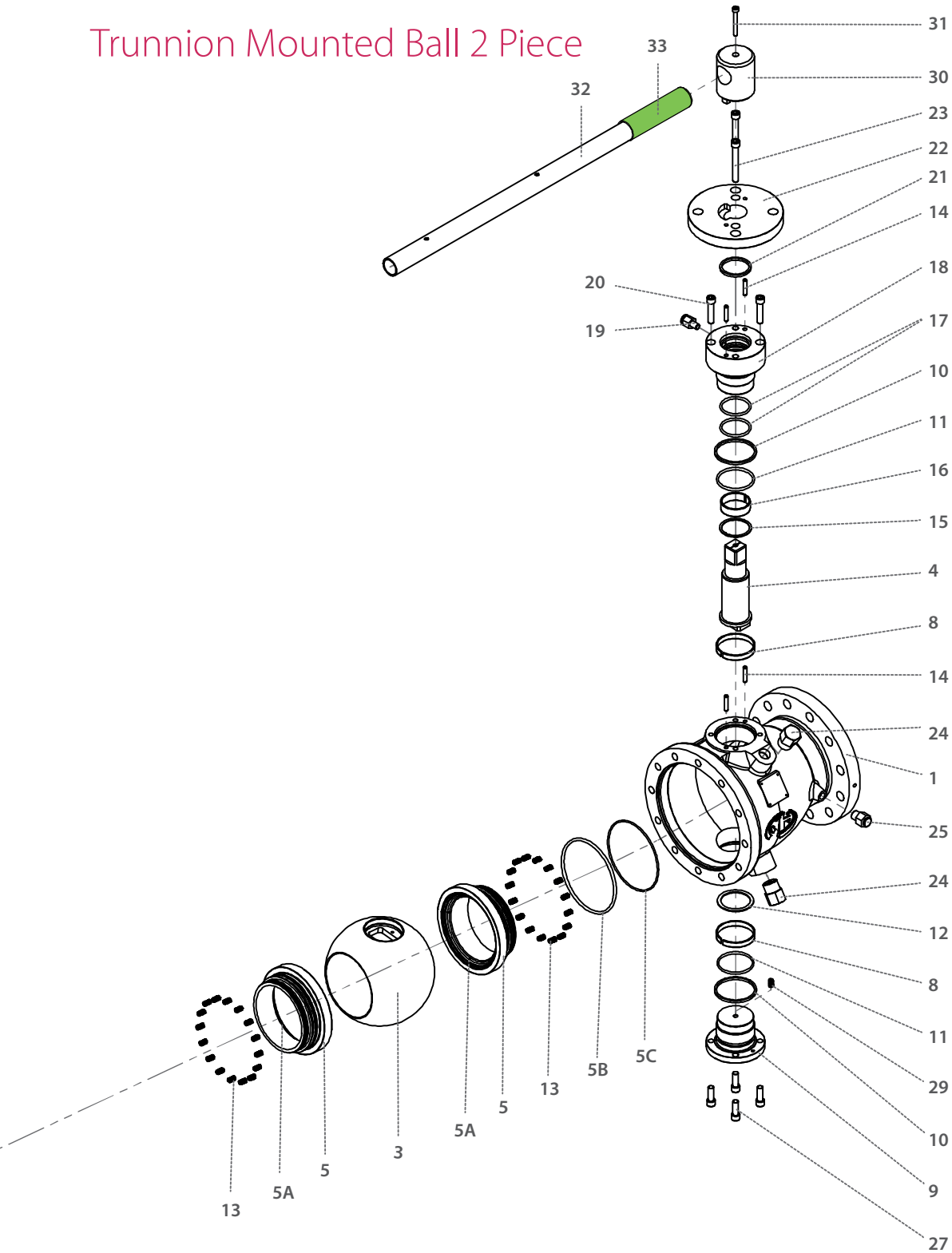
Item	Description	Material specification	Qty.
26	Body stud	A320 L7, A193 B8M	4-20
27	External trunnion bolts	A320 L7, A193 B8M	4-12
28	Body nut	A194 GR-7, A193 GR-8M	4-20
29	Anti-static spring	S. Steel	1
30	Wrench head	S. Steel	1
31	Wrench head bolt	A193 B8M, EN3506-1 A4-80	1
32	Pipe handle	C.St Zink plate, S.St	1
33	Sleeve	PVC	1
33	Sleeve	PVC	1

* Repair kit components
 ** Available from 6" size only





Trunnion Mounted Ball 2 Piece





Trunnion Mounted Ball 2 Piece - 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	.	.	30
6	0			F	B	8	1		-	4	6	6	D	V	V	G	/	1	5	0					
Size		Features				Series		Design		Body & ends material		Stem material	Ball material	Seat feature	Seat insert	Inner Seal material	Outer Seal material	End connection				Special features			

Size (1-2)		
Code	inch	mm
20	2"	50
30	3"	80
40	4"	100
60	6"	150
80	8"	200
A0	10"	250
A2	12"	300
A4	14"	350

Features (3-6)	
F	Fire safe
B	Full port
Series - 2 Piece Cast (7-8)	
81	ASME B16.5 #150 Flanged RF
82	ASME B16.5 #300 Flanged RF
83	ASME B16.5 #600 Flanged RF
Design (9)	
Blank	(Stands For future designs)
Body & ends material (11)	
4	C. Steel A216 WCB
6	S. Steel A351 CF8M
Stem material (12)	
6 *	S. Steel A479 316\316L
Q **	S. Steel A182 F6A
M	High Strength S. Steel
Z	Inconel 718 B637 N07718
W	Haselloy C-22
D	Duplex
K	Super Duplex
S	254SMO

* for 81, 82 not for 83

** for 83

Ball material (13)	
6	S. Steel A182 F316
4	C. Steel A350 LF2+ENP
F	C. Steel A105+ENP
Seat feature (14)	
D	Double Piston Effect (DPE) (API 6D DIB-1)
S	Single Piston Effect (SPE) (API 6D DBB)
C	DPE & SPE combination
Seat insert (15)	
V	Devlon
P	CF PTFE
K	CF PEEK
Inner Seal (16)	
V	Viton
H	HNBR
Outer Seal (17)	
G	Graphite

End Connection (19-22)		
Flanged		Series
150	ASME B16.5 #150	81
300	ASME B16.5 #300	82
600	ASME B16.5 #600	83
Special Features (23-30)		
L *	seat greasing point	
D	Drain & Vent	
Blank	Greasing point, Drain & vent is capped	
PT **	Basic paint system	
P1	Offshore, Temp Ambient up to 93°C (200°F)	
P2	Offshore, up to 537°C (1000°F)	

* for 6" and up

** colors RAL 1018 or 7036 (other colors upon request)

47

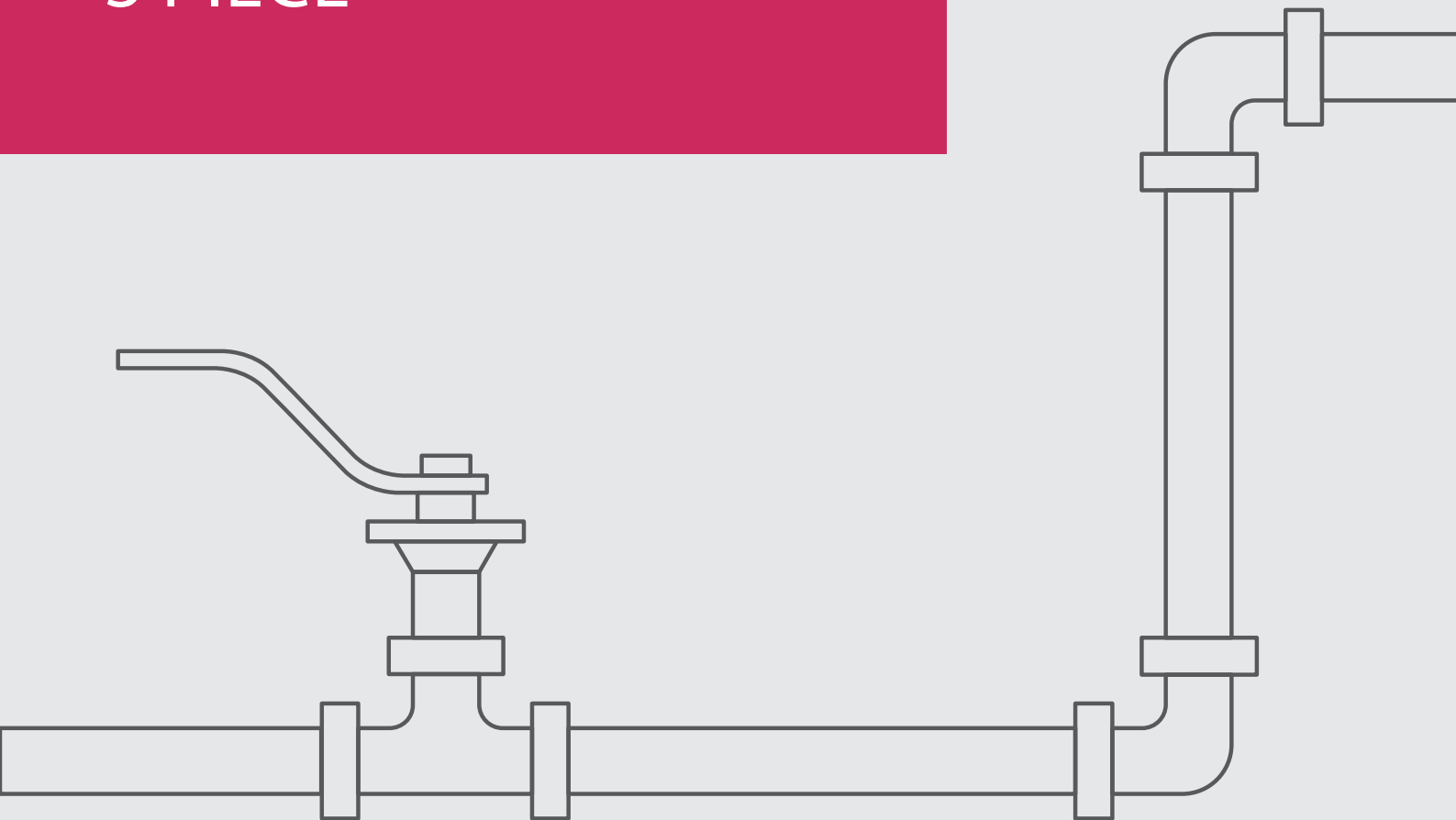
26



General Use Industrial

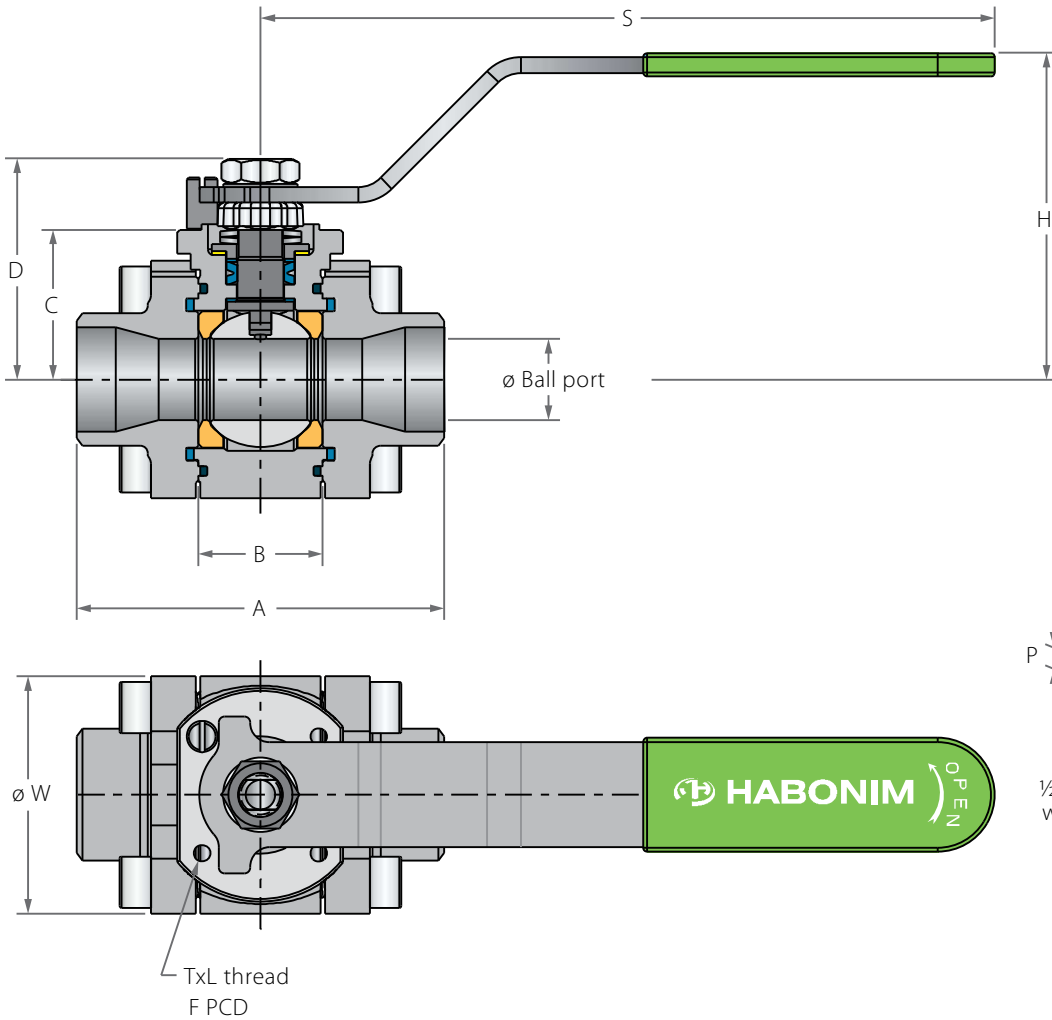
FLOATING BALL

3 PIECE



Floating Ball 3 Piece

Valve dimensions



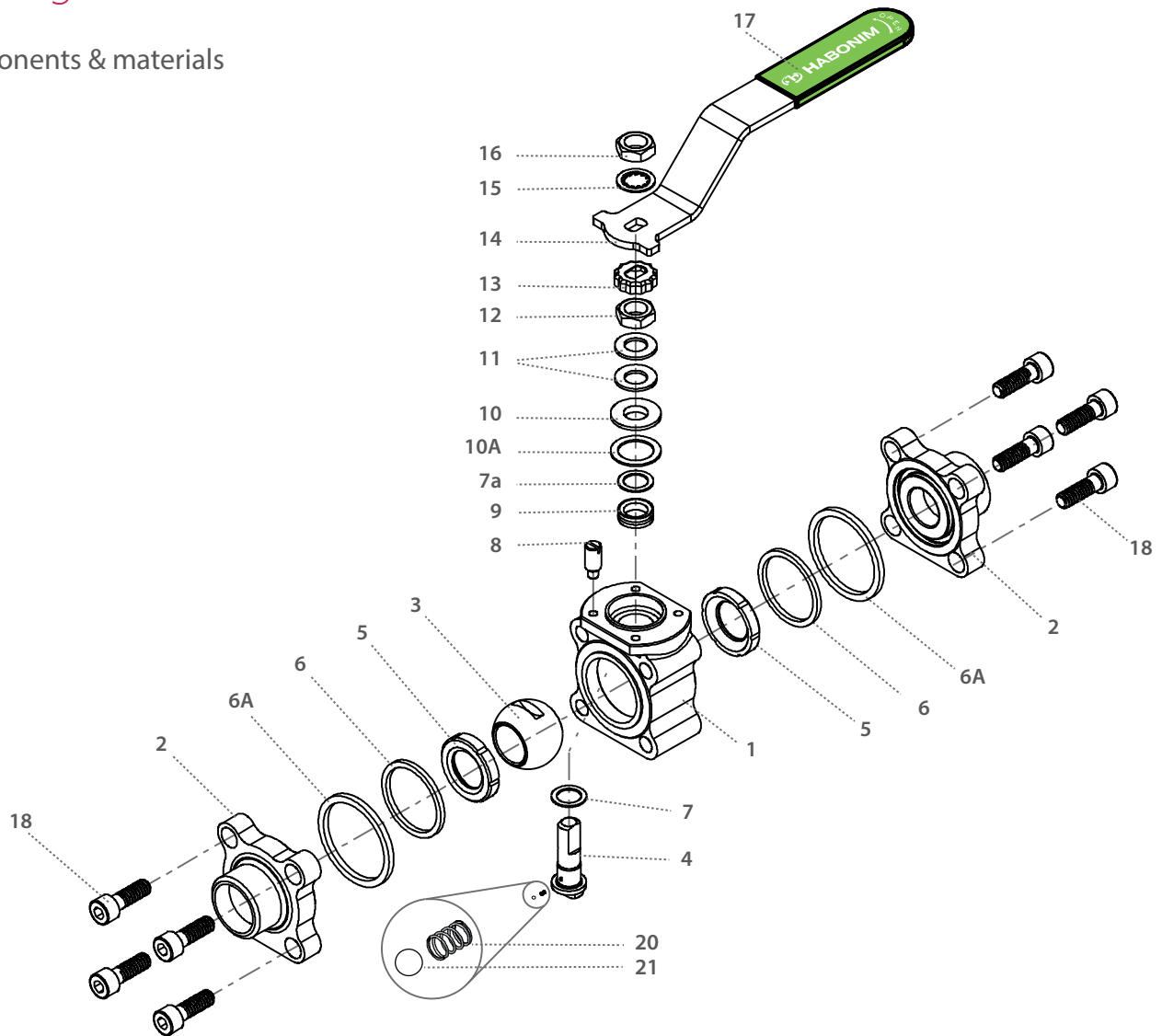
Valve Face To Face sizes are according to Habonim catalog data only, for Extended-weald/Flanged/Tri-clamp end see Face To Face sizes page.

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	DN8	mm	11.15	66.00	20.60	29.00	37.90	61.50	150.00	47.00	5.54	3 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 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 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	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	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	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	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	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



Floating Ball 3 Piece

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	PTFE	2
6A*	Outer seal	Acc. Ordering Code	2
7*	Stem thrust seal	VIRGIN PEEK, PCTFE	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1

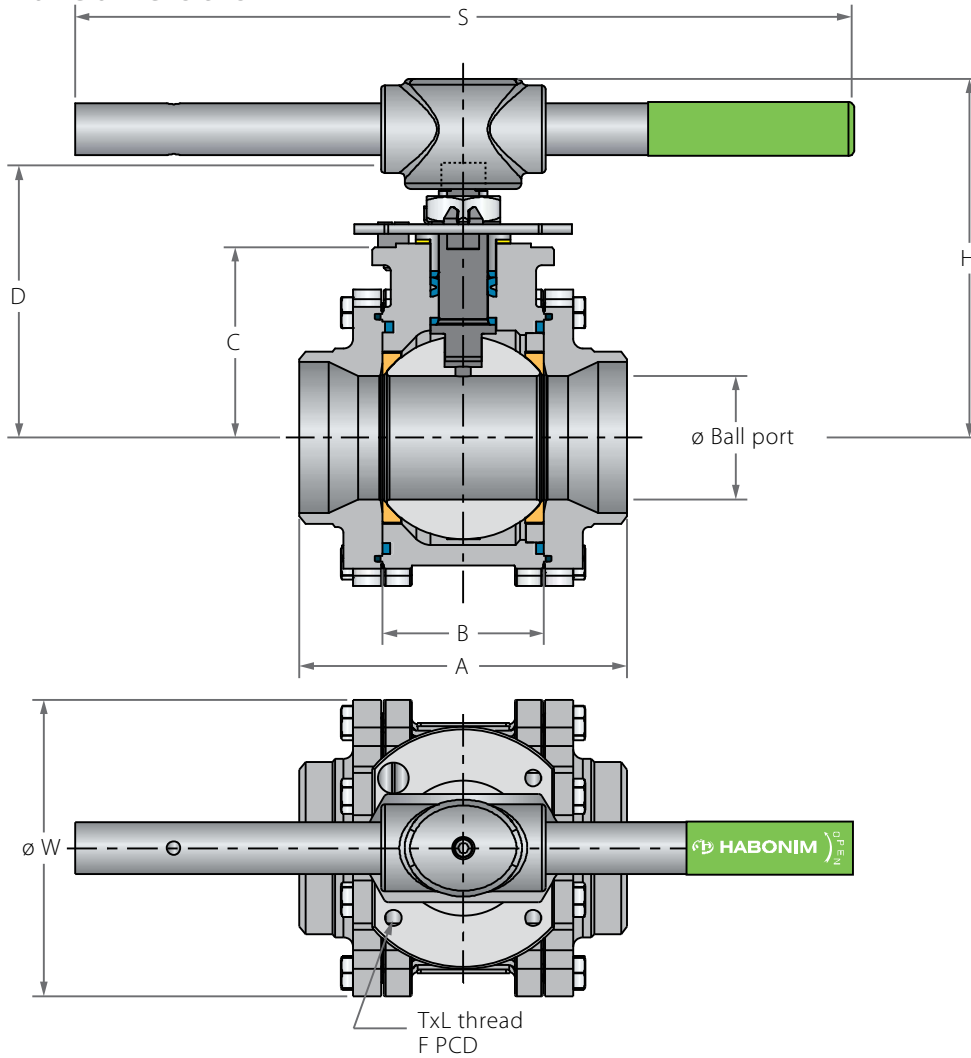
⁽¹⁾ 2 1/2" (DN65) size maximum pressure rating is Class 400.

Item	Description	Material specification	Qty.
10A*	Slide bearing	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	1
15	Serrated washer	S. Steel	1
16	Handle nut	S. Steel	1
17	Sleeve	PVC	1
18	Body bolt	S. Steel	8
20	Anti-static spring	S. Steel	1
21	Anti-static plunger	S. Steel	1
23	Tag (not shown)	A167S. Steel304	1

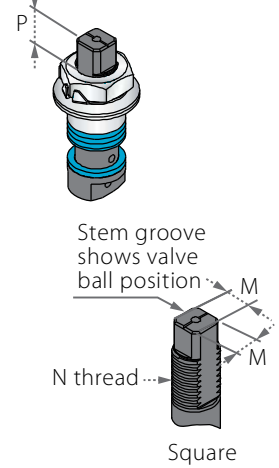
* Repair kit components

Floating Ball 3 Piece

Valve dimensions



Preparation for actuation



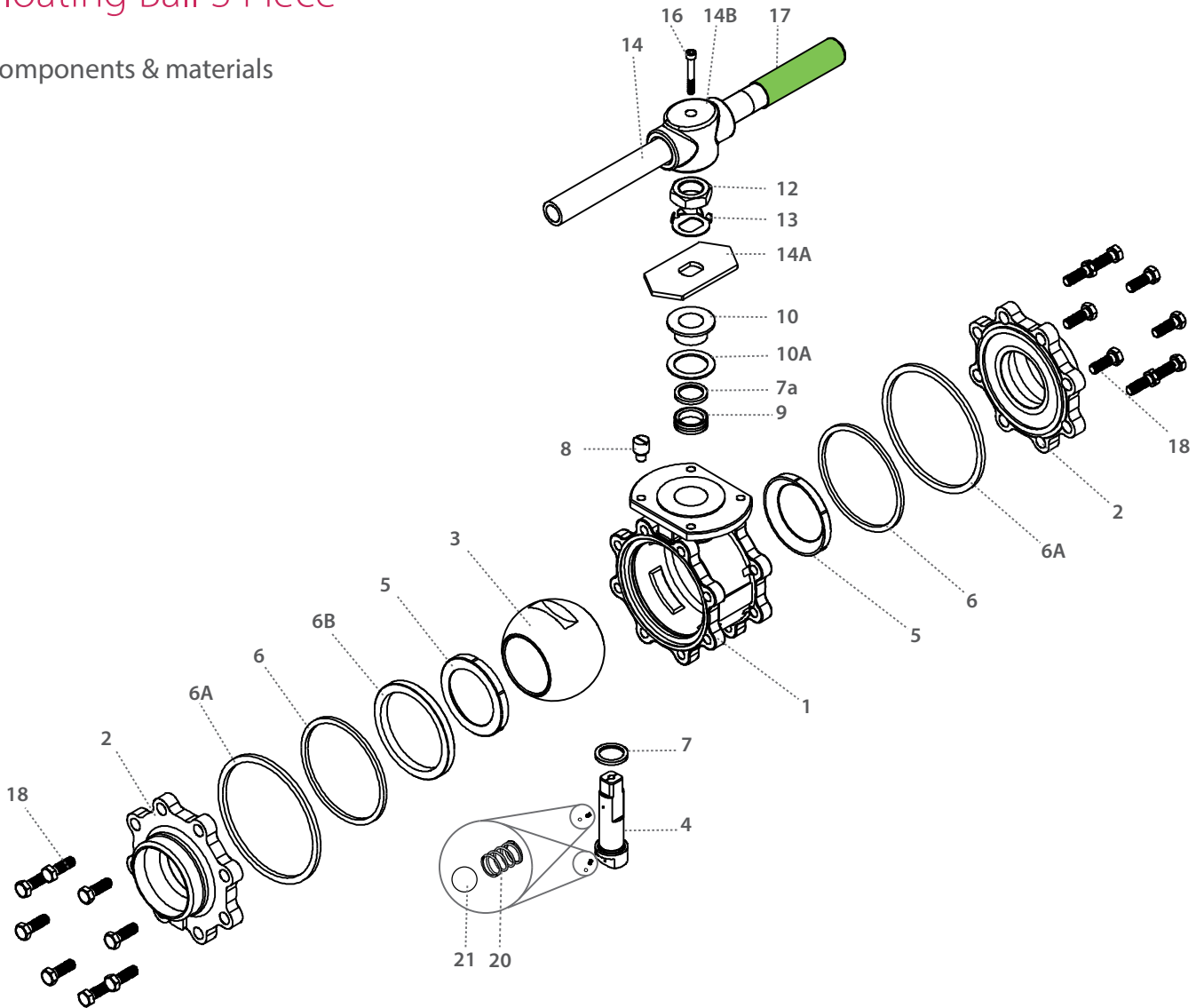
Valve Face To Face sizes are according to Habonim catalog data only, for Extended-weald/Flanged/Tri-clamp end see Face To Face sizes page.

Std. port	Full port	Unit	Ball port	A	B	C	D	H	S	W	M	M-DD	N	P	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 (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	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 (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	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 (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	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 (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	4.92	M12x20	138.90	1012



Floating Ball 3 Piece

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	PTFE	2
6A*	Outer seal	Acc. Ordering Code	2
6B	Support ring	S. Steel	1
7*	Stem thrust seal	VIRGIN PEEK, PCTFE (KEL-F)	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1
10A*	Slide bearing	S. Steel	1

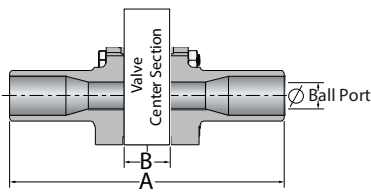
Item	Description	Material specification	Qty.
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Tab lock washer	S. Steel	1
14	Handle	S. Steel	1
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
16	Wrench bolt	S. Steel	1
17	Sleeve	PVC	1
18	Body bolts	S. Steel	16-24
20	Anti-static spring	S. Steel	2
21	Anti-static plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

* Repair kit components

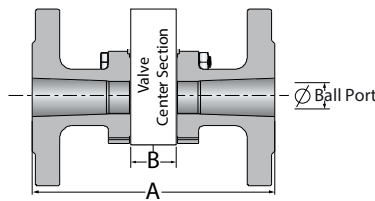
Face To Face Sizes

Valve Size	Unit	B		A-XBW		A-ETO	A-Flanged		A-TC
		Std. port	Full port	Std. port	Full port	Std. port	Std. port	Full port	Full port
DN10	mm	20.6	20.6	140.6	143.0	108.6			
3/8"	inch	0.8	0.8	5.5	5.6	4.3			
DN15	mm	20.6	24.6	140.6	147.0	137.0	140.0	152.0	88.8
1/2"	inch	0.8	1.0	5.5	5.8	5.4	5.5	6.0	3.5
DN20	mm	24.6	31.7	147.0	168.7	147.0	152.0	165.1	101.6
3/4"	inch	1.0	1.2	5.8	6.6	5.8	6.0	6.5	4.0
DN25	mm	31.7	41.3	168.7	179.3	164.1	165.1	178.1	114.3
1"	inch	1.2	1.6	6.6	7.1	6.5	6.5	7.0	4.5
DN32	mm	41.3	48.4	179.3	189.4	179.3	178.1	190.0	
1 1/4"	inch	1.6	1.9	7.1	7.5	7.1	7.0	7.5	
DN40	mm	48.4	56.3	189.4	200.3	184.0	190.0	216.1	139.8
1 1/2"	inch	1.9	2.2	7.5	7.9	7.2	7.5	8.5	5.5
DN50	mm	56.3	72.6	200.3	232.6	193.5	216.1	241.0	158.9
2"	inch	2.2	2.9	7.9	9.2	7.6	8.5	9.5	6.3
DN65	mm	72.6	83.4	232.6	283.4	222.6	241.0	282.0	213.0
2 1/2"	inch	2.9	3.3	9.2	11.2	8.8	9.5	11.1	8.4
DN80	mm	83.4	108.8	283.4	348.8	250.4	282.0	282.0	215.8
3"	inch	3.3	4.3	11.2	13.7	9.9	11.1	11.1	8.5
DN100	mm	108.8	123.0	348.8	390.0	348.8	305.0	305.0	245.4
4"	inch	4.3	4.8	13.7	15.4	13.7	12.0	12.0	9.7
DN200	mm	146.1	180.0	444.1	180.0	444.1	403.1	403.0	146.1
6"	inch	5.8	7.1	17.5	7.1	17.5	15.9	15.9	5.8

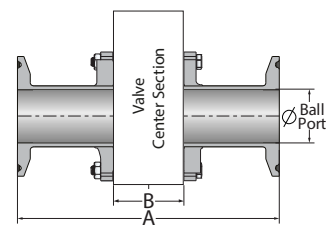
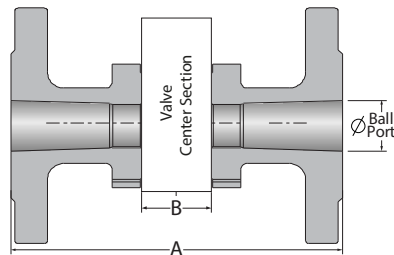
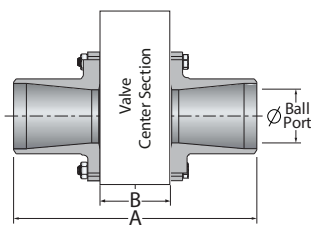
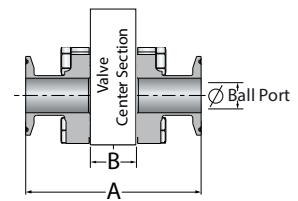
XBW / ETO



Flanged

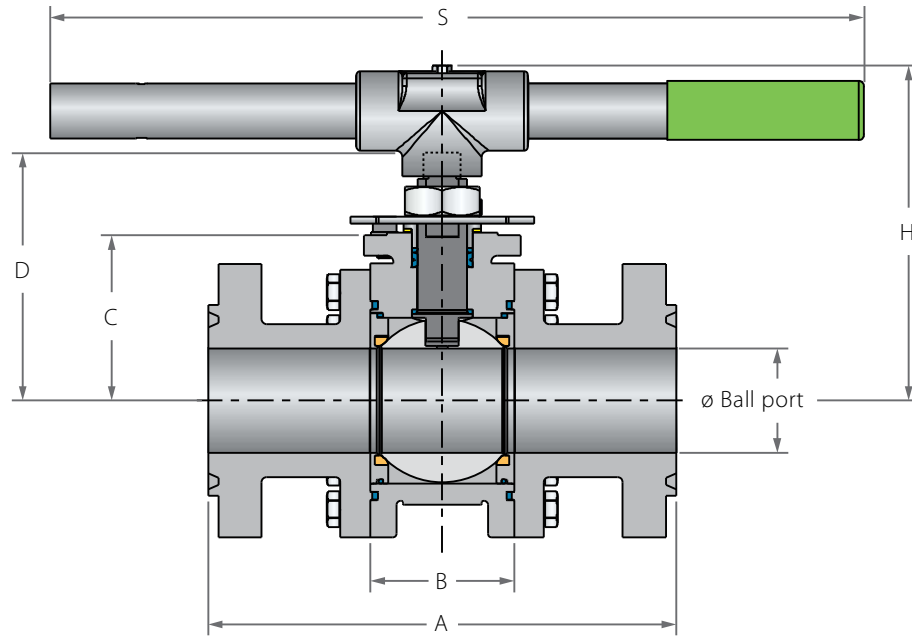


TC

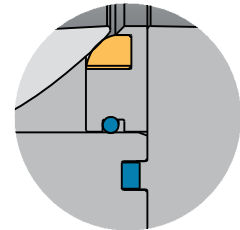


Floating Ball 3 Piece

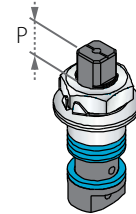
Valve dimensions



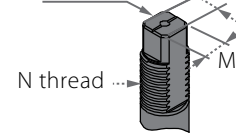
Optional hybrid seat U-shape



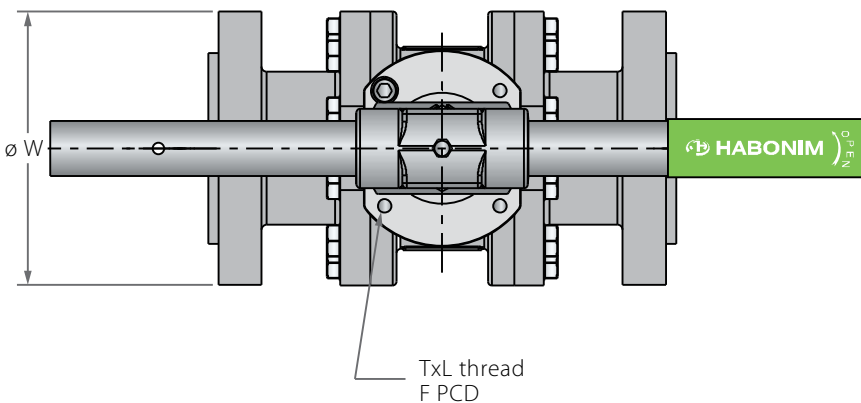
Preparation for actuation



Stem groove shows valve ball position



Square



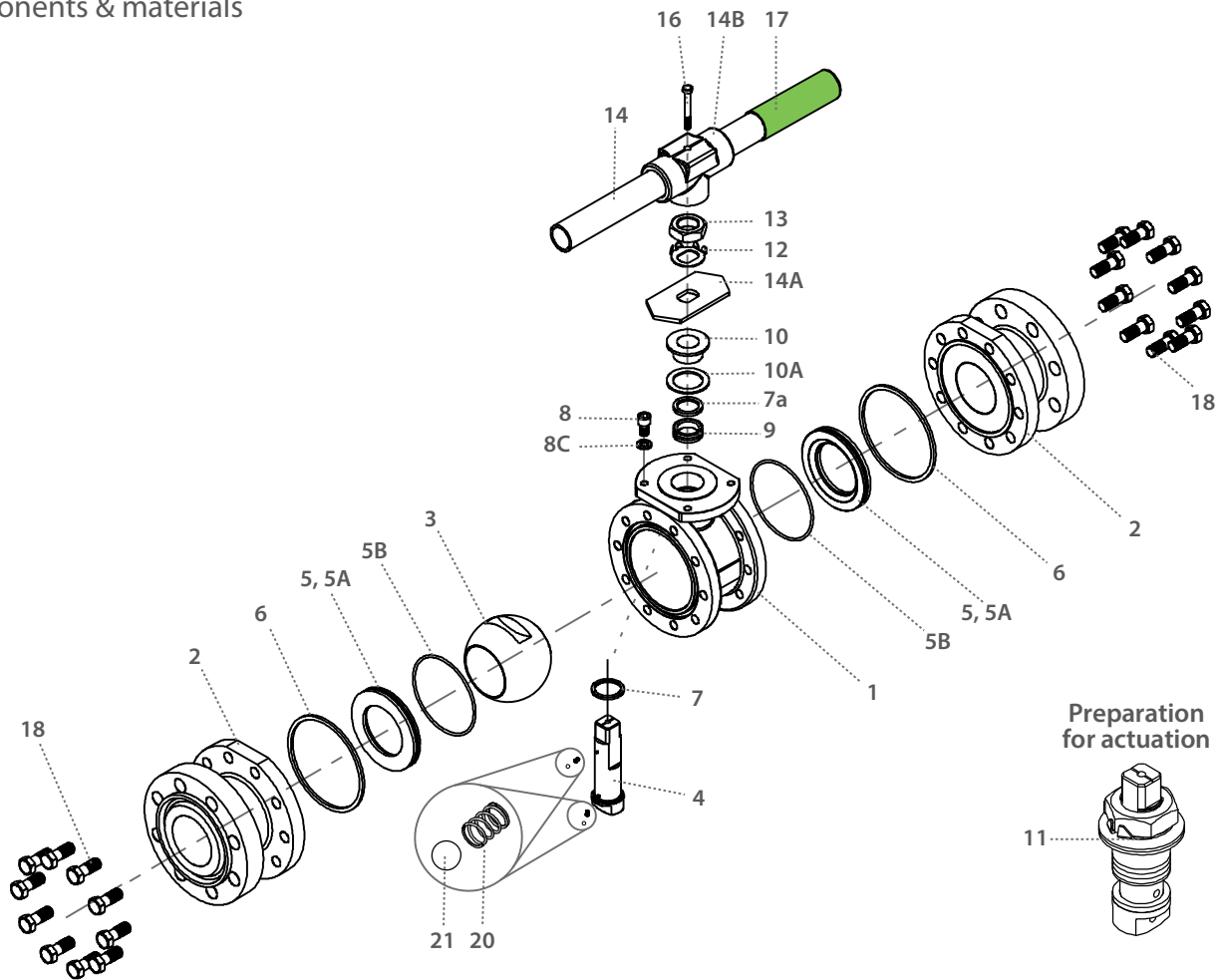
Std. port	Unit	Ball port	A (RF)	A (RTJ)	B	C	D	H	S	W	M	M-DD	N	P	Q	F	TxL	Weight kg/lb	Kv Cv	
DN50	mm	51.00	292.10	292.15	75.00	87.50	134.00	174.45	401.00	165.10	18.90	15.90	1"-14	16.70	22.70	(F10)	102.00	M10x12	14.20	430
2"	inch	2.01	11.50	11.62	2.95	3.44	5.28	6.87	15.79	6.50	0.74	0.63	UNS-2A	0.66	0.89		4.02		31.30	499
DN80	mm	80.00	355.60	358.65	110.00	126.50	195.90	256.60	916.00	209.55	28.45	23.75	1½"-12	26.20	35.20	(F12)	125.00	M12x16	37.00	1000
3"	inch	3.15	14.00	14.12	4.33	4.98	7.71	10.10	36.06	8.25	1.12	0.94	UNF-2A	1.03	1.39		4.92		81.60	1160
DN100	mm	100.00	431.80	434.85	135.00	142.40	211.90	273.00	916.00	273.05	28.45	23.75	1½"-12	26.20	35.20	(F12)	125.00	M12x18	58.00	1830
4"	inch	3.94	17.00	17.12	5.31	5.61	8.34	10.75	36.06	10.75	1.12	0.94	UNF-2A	1.03	1.39		4.92		128.00	2123
DN150	mm	150.00	558.80	561.85	190.00	194.00	307.00	-	-	355.60	35.92	35.92	2"-8	40.00	46.50	(F14)	140.00	M16x18	126.00	4380
6"	inch	5.91	22.00	22.12	7.48	7.64	12.09	-	-	14.00	1.41	1.41	UN-2A	1.57	1.83		5.51		278.00	5081
DN200	mm	200.00	660.40	663.45	275.00	245.00	400.00	-	-	419.10	45.90	45.90	2¾"-8	50.00	55.00	(F16)	165.00	M20x28	314.00	8070
8"	inch	7.87	26.00	26.12	10.83	9.65	15.75	-	-	16.50	1.81	1.81	UN-2A	1.97	2.17		6.50		692.20	9361

⁽¹⁾ Due to high valve torque, pipe handle cannot be used. A manual gear or automation means should be used to operate the valve.



Floating Ball 3 Piece

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 insert	Acc. Ordering Code	2
5A*	Seat housing	S. Steel	2
5B*	Seat seal	Graphite, PTFE	2
6*	Inner seal	Graphite, PTFE	2
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE	1
7a*	Anti-abrasion ring	PEEK, CF PEEK, PCTFE	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1
10A*	Slide bearing	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**	Handle	S. Steel	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	20-24-32
20	Anti-static spring	S. Steel	2
21	Anti-static plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

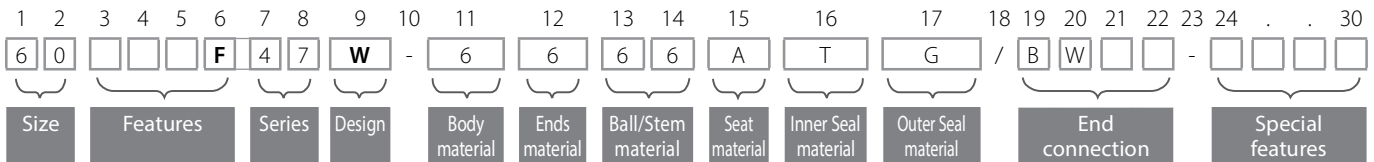
* Repair kit components

** Gear operator should be used for size 6" DN150 and above (handle components are not included)



Floating Ball 3 Piece - 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
02	¼"	8
03	⅜"	10
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
60	6"	150

Features (3-6)	
F	Fire safe
B	Full port
O	Oxygen 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)	
W	Total HermetiX Integrity package
G	Total HermetiX Integrity package - FDA compliant

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	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

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
G	Expanded graphite
U	UHMWPE
V	Viton
B	NBR

Outer Seal Material (17)	
G	Expanded graphite
A	TFM

End Connection (19-22)	
Welded	
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

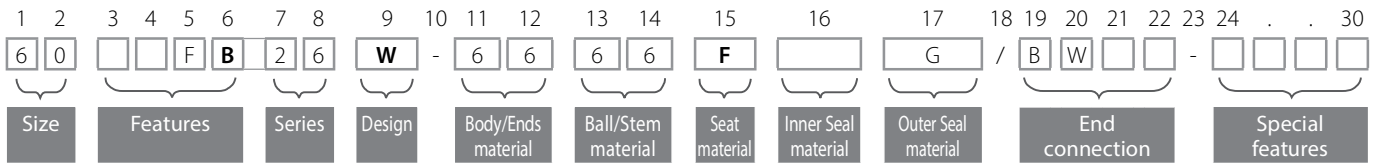
Flanged	
150	ASME B16.5 #150 RF
300	ASME B16.5 #300 RF
600	ASME B16.5 #600 RF
900	ASME B16.5 #900 RF
PN16	EN1092 PN16 RF
PN40	EN1092 PN40 RF
PN64	EN1092 PN64 RF
PN100	EN1092 PN100 RF
PN160	EN1092 PN160 RF

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.)



Floating Ball 3 Piece - 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
20	2"	50
30	3"	80
40	4"	100
60	6"	150
80	8"	200
Features (3-6)		
F	Fire safe	
B	Full port	
O	Clean assembly for O2 service	
M	Ammonia service	
K	Chlorine service	
Series (7-8)		
26	Floating ball 3 piece	
Design (9)		
W	HermetiX Fire - Safe	

Body/Ends material (11-12)	
6	S. Steel CF8M
4	C. steel A216 WCB/A105
9	C. steel A352 LCB
Ball material (13)	
6	S. Steel316L
Stem material (14)	
6	S. Steel316L
M	High Strength S. Steel
Z	Inconel 718 B637
Seat material (15)	
F	Hybrid Seat (info in special features)
Outer Seal Material (17)	
G	Expanded graphite
T	PTFE

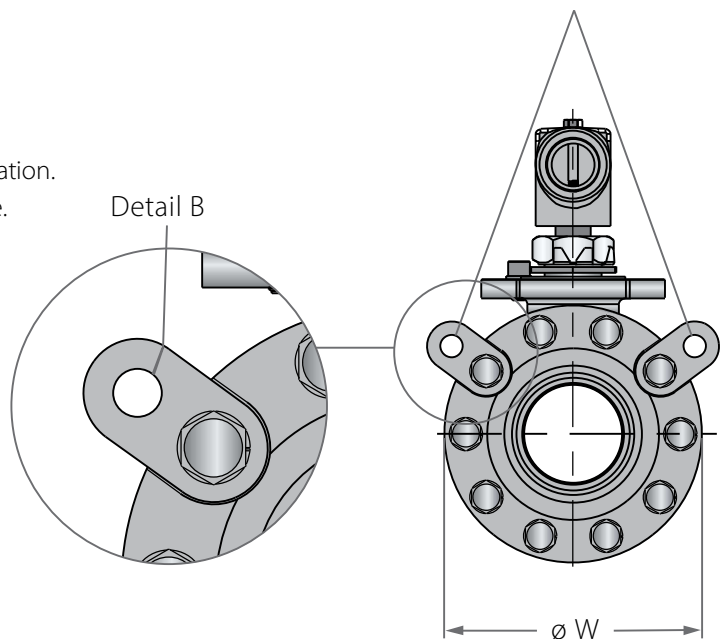
End Connection (19-22)	
Welded	
XBW40	Extended buttweld schd. 40
XBW80	Extended buttweld schd. 80
Flanged	
600	ASME B16.5 #600 RF
PN64	EN1092 PN64 RF
PN100	EN1092 PN100 RF
Special Features (24-30)	
RTJ	Ring Type Joint
P250	Ball with Upstream Relief Hole
Valve Special Stem Seals	
HC	High Cycle service
LAX	FDA Compliant, Stem seal, Virgin Peek thrust and TFM, X shape, gasket

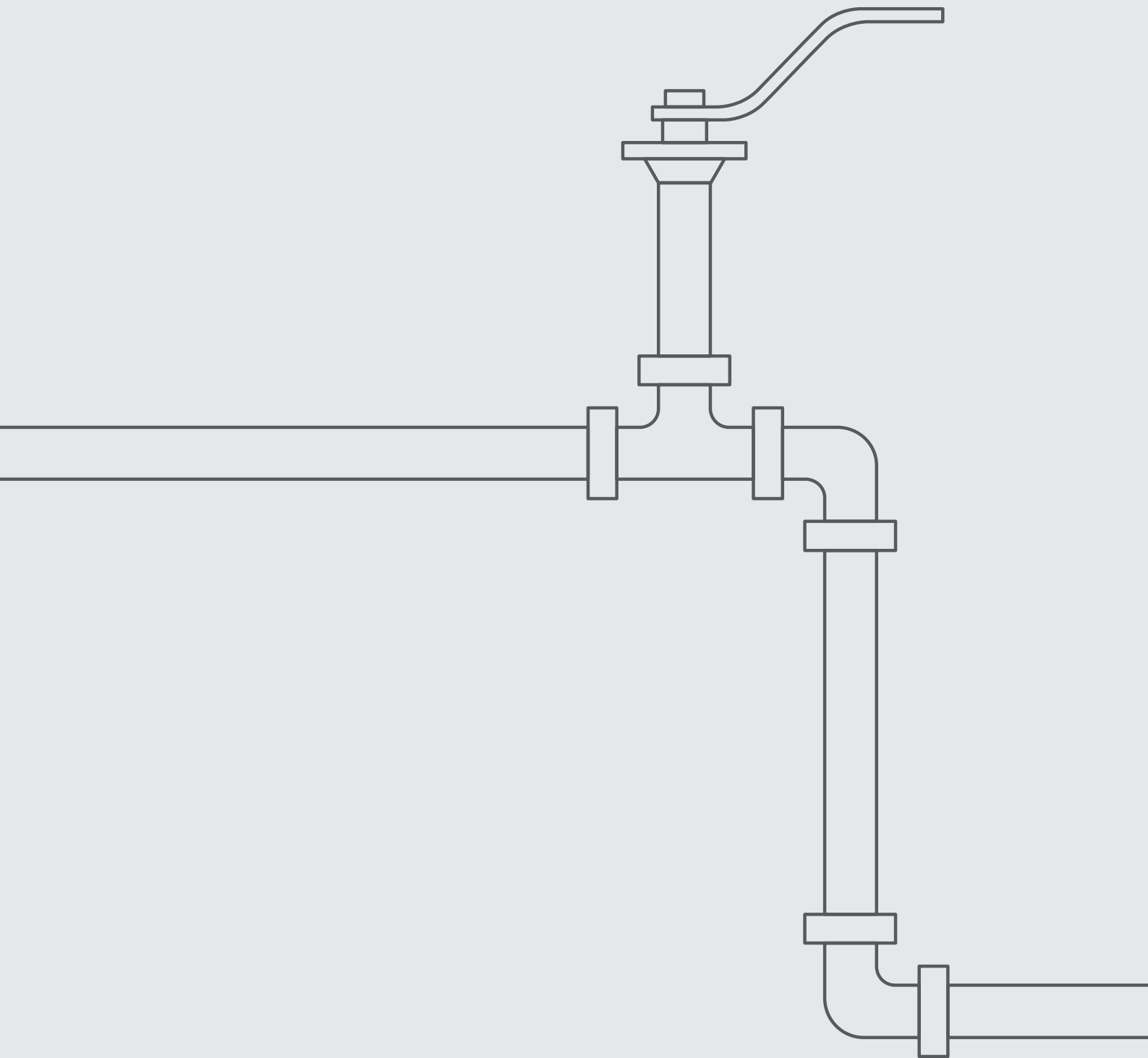
Hybrid Seats (24-27)	
Insert material	
K	CF PEEK
P	CF PTFE
W	PVDF
Upstream/Downstream	
1	Hybrid seats on upstream and downstream
Insert Shape	
1	Round
Seal Type	
0	U+Viton
6	L+PTFE
1	U+NBR
3	U+Low Temp. NBR
5	L+Graphite

Lifting Device

The 26 Series is equipped with a lifting device to ease installation. The maximum allowable load is indicated in the below table.

Std. port	Unit	Weight
DN50	kg	1000
2"	lb	2205
DN80	kg	3000
3"	lb	6614
DN100	kg	4400
4"	lb	9700
DN150	kg	5800
6"	lb	12787
DN200	kg	5800
8"	lb	12787





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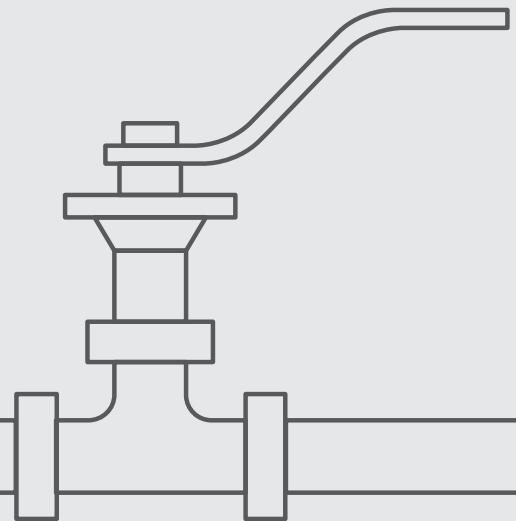
78



General Use Industrial

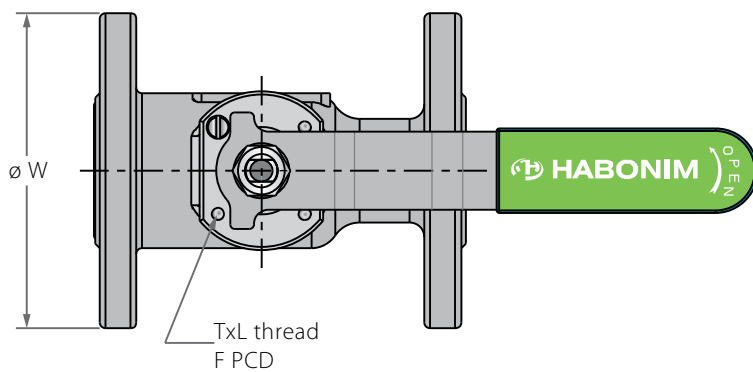
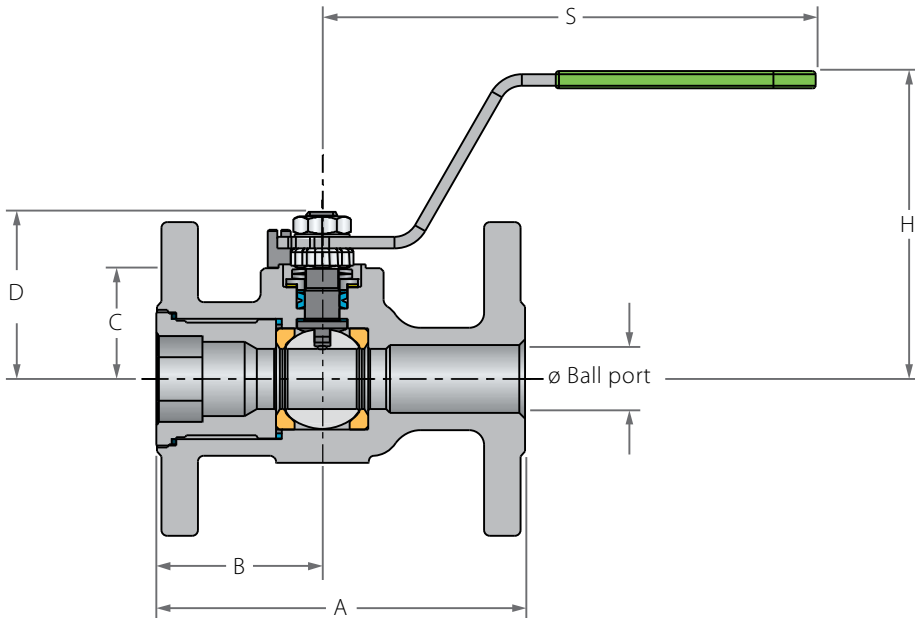
FLOATING BALL

FLANGED

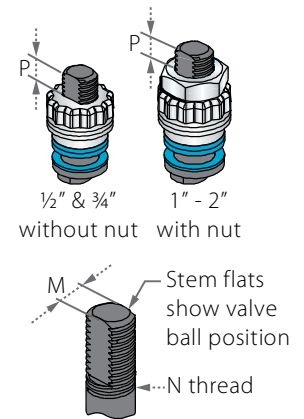


Floating Ball Flanged

Valve dimensions



Preparation for actuation

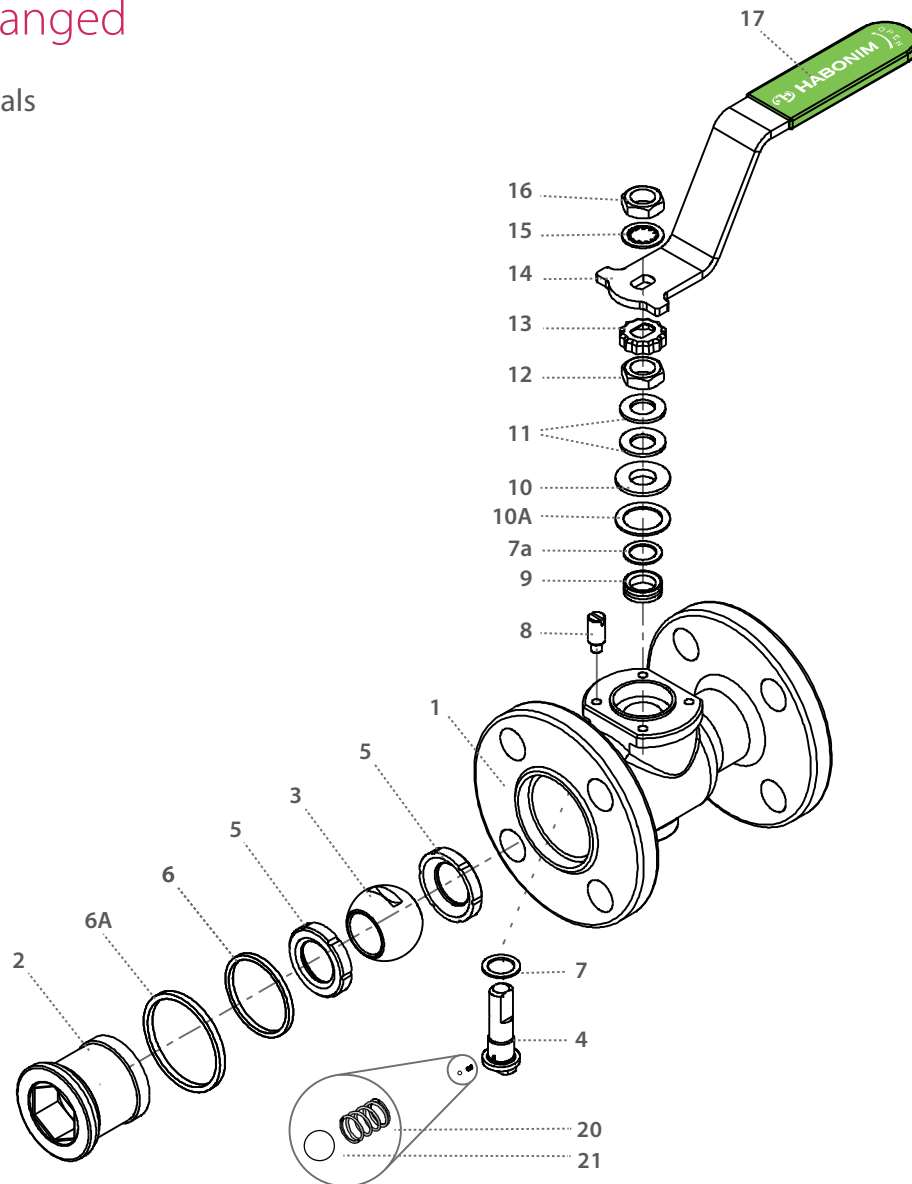


Std. port	Unit	Ball port	A		B	C	D	H	S	W		M	N	P	F	TxL	Weight kg/lb		Kv Cv
			150	300						150	300						150	300	
DN15	mm	11.15	108.00	140.00	46.00	29.00	38.00	92.00	151.00	88.90	95.25	5.54	3 - UNF	6.65 (F03)	36.00	M5x10	1.70	2.40	6.9
1/2"	inch	0.44	4.25	5.50	1.81	1.14	1.50	3.62	5.94	3.50	3.75	0.22		0.26	1.42		3.80	5.30	8.0
DN20	mm	14.30	117.00	152.00	49.00	31.40	40.30	94.00	151.00	98.55	163.07	5.54	3 - UNF	6.65 (F03)	36.00	M5x10	2.30	3.30	10
3/4"	inch	0.56	4.61	6.00	1.93	1.24	1.59	3.70	5.94	3.88	6.42	0.22		0.26	1.42		5.10	7.30	12
DN25	mm	20.60	127.00	165.00	57.00	38.20	55.60	103.50	170.00	107.95	123.95	7.54	7/16 - UNF	7.40 (F04)	42.00	M5x10	3.10	4.60	28
1"	inch	0.81	5.00	6.50	2.25	1.50	2.19	4.07	6.69	4.25	4.88	0.30		0.29	1.65		7.30	10.20	32
DN40	mm	31.80	165.00	190.00	62.00	43.60	73.10	119.20	220.50	127.00	155.52	8.71	1/2 - UNF	8.50 (F05)	50.00	M6x12	5.50	8.70	69
1 1/2"	inch	1.25	6.50	7.50	2.44	1.72	2.88	4.70	8.68	5.00	6.10	0.34		0.33	1.97		12.20	19.30	80
DN50	mm	38.20	178.00	216.00	68.00	48.30	77.80	123.90	220.50	152.40	165.10	8.71	9/16 - UNF	8.50 (F05)	50.00	M6x12	8.10	10.80	102
2"	inch	1.50	7.00	8.50	2.67	1.90	3.06	4.88	8.68	6.00	6.50	0.34		0.33	1.97		18.00	24.00	118



Floating Ball Flanged

Components & materials



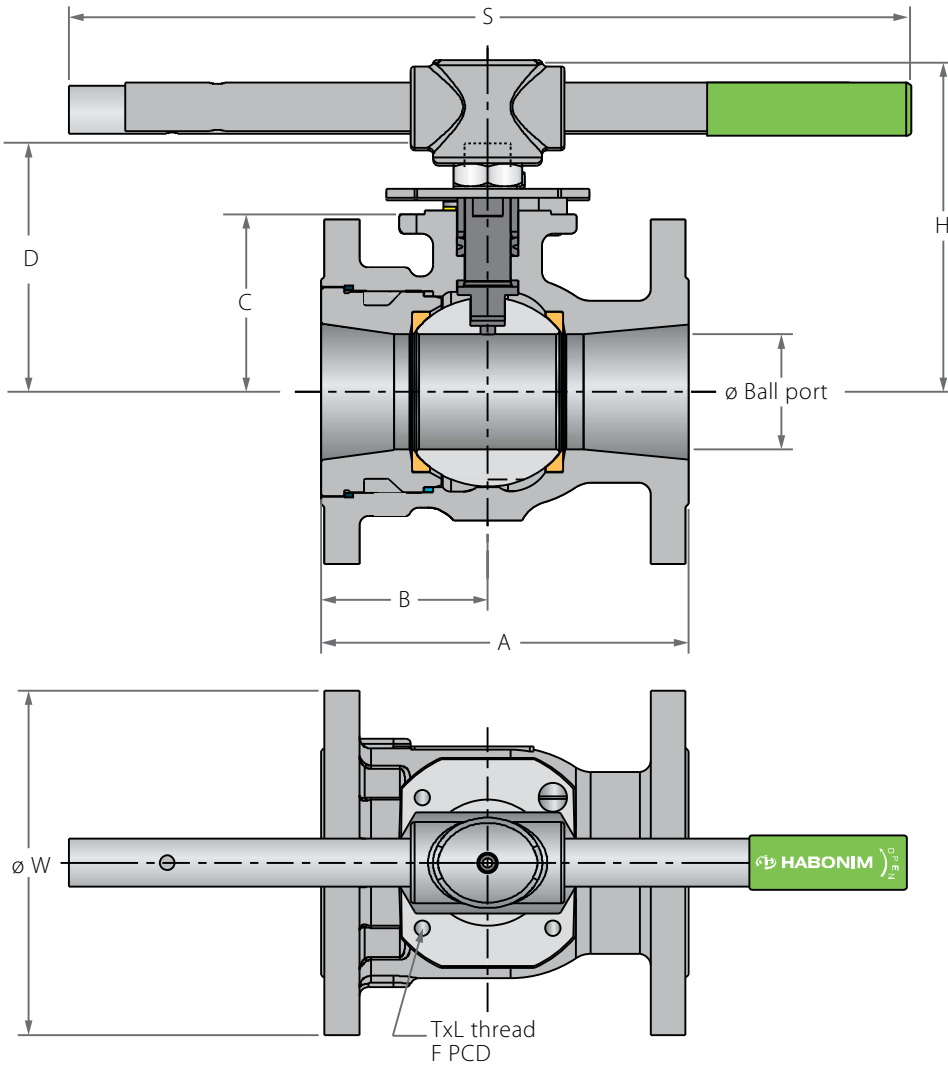
Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Plug	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Inner seal	PTFE	1
6A*	Outer seal	Acc. Ordering Code	1
7*	Stem thrust seal	VIRGIN PEEK, PCTFE (KEL-F)	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1

Item	Description	Material specification	Qty.
10A*	Slide bearing	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	1
15	Serrated washer	S. Steel	1
16	Handle nut	S. Steel	1
17	Sleeve	PVC	1
20	Anti-static spring	S. Steel	1
21	Anti-static plunger	S. Steel	1
23	Tag (not shown)	S. Steel	1

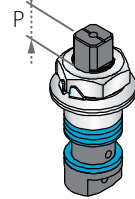
* Repair kit components

Floating Ball Flanged

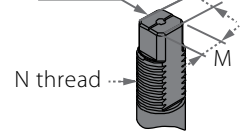
Valve dimensions



Preparation for actuation



Stem grooves show valve ball position



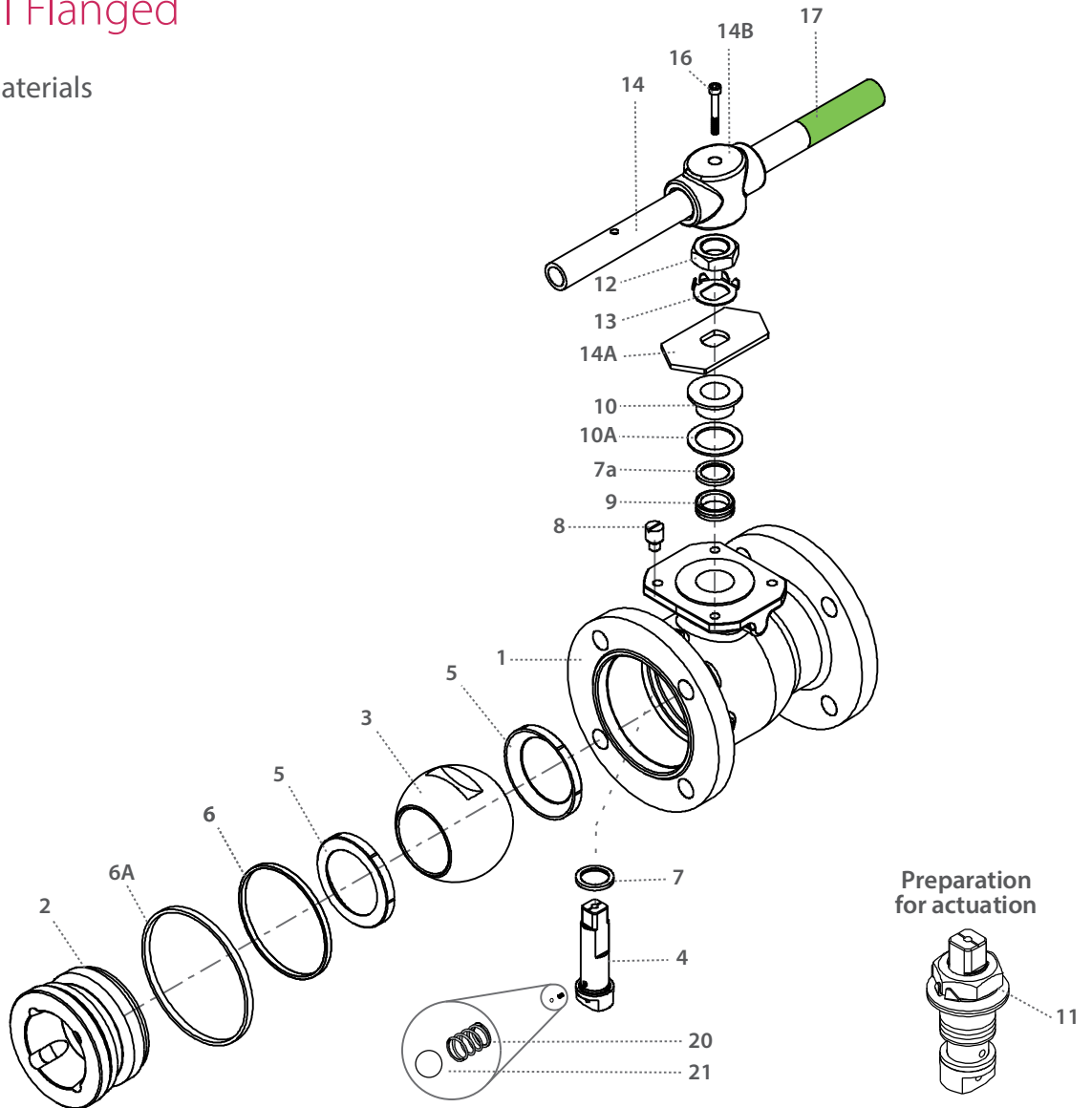
Square

Std. port	Unit	Ball port	A		B	C	D	H	S	W		M	M-DD	N	P	F	TxL	Weight kg/lb		Kv
			150	300						150	300							150	300	
DN80	mm	63.50	203.00	284.00	92.00	98.40	145.00	185.10	400.00	190.50	209.55	18.90	15.90	1"-14	16.70 (F10)	102.00	M10x20	18.00	22.70	300
3"	inch	2.50	8.00	11.18	3.62	3.88	5.72	7.28	15.75	7.50	8.25	0.74	0.63	UNS-2A	0.66	4.02	M10x20	40.00	50.40	348
DN100	mm	82.60	229.00	305.00	102.00	114.10	161.00	201.00	610.00	228.60	254.00	18.90	15.90	1"-14	16.70 (F10)	102.00	M10x20	28.20	36.30	615
4"	inch	3.25	9.00	12.00	4.00	4.49	6.34	7.91	24.01	9.00	10.00	0.74	0.63	UNS-2A	0.66	4.02	M10x20	62.80	80.60	713
DN150	mm	111.10	267.00	403.20	108.00	157.40	226.00	285.90	916.00	279.40	317.50	28.45	23.75	1½"-12	26.20 (F12)	125.00	M12x20	41.00	69.00	872
6"	inch	4.38	10.50	15.88	4.25	6.20	8.91	11.25	36.08	11.00	12.50	1.12	0.94	UNF-2A	1.03	4.92	M12x20	91.00	153.00	1012
DN200	mm	144.40	292.00	419.00	163.50	185.20	254.00	313.60	916.00	342.90	381.00	28.45	23.75	1½"-12	26.20 (F12)	125.00	M12x20	82.00	105.00	1552
8"	inch	5.68	11.50	16.50	5.37	7.30	10.00	12.34	36.08	13.50	15.00	1.12	0.94	UNF-2A	1.03	4.92	M12x20	182.00	233.00	1800



Floating Ball Flanged

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Plug	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Inner seal	PTFE	1
6A*	Outer seal	Acc. Ordering Code	1
7*	Stem thrust seal	VIRGIN PEEK, PCTFE (KEL-F)	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1
10A*	Slide bearing	S. Steel	1

Item	Description	Material specification	Qty.
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Tab lock washer	A240 304	1
14	Handle	S. Steel	1
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
16	Wrench bolt	S. Steel	1
17	Sleeve	PVC	1
20	Anti-static spring	S. Steel	2
21	Anti-static plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

* Repair kit components

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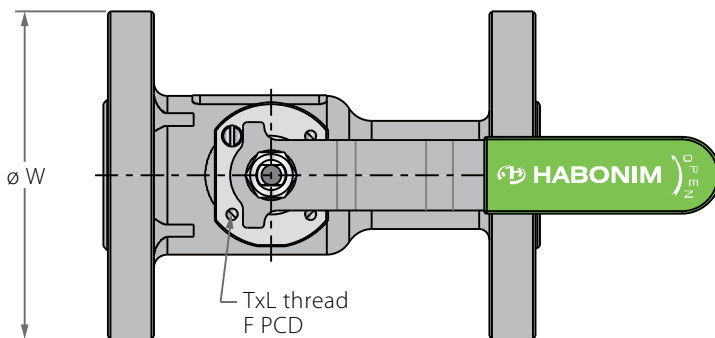
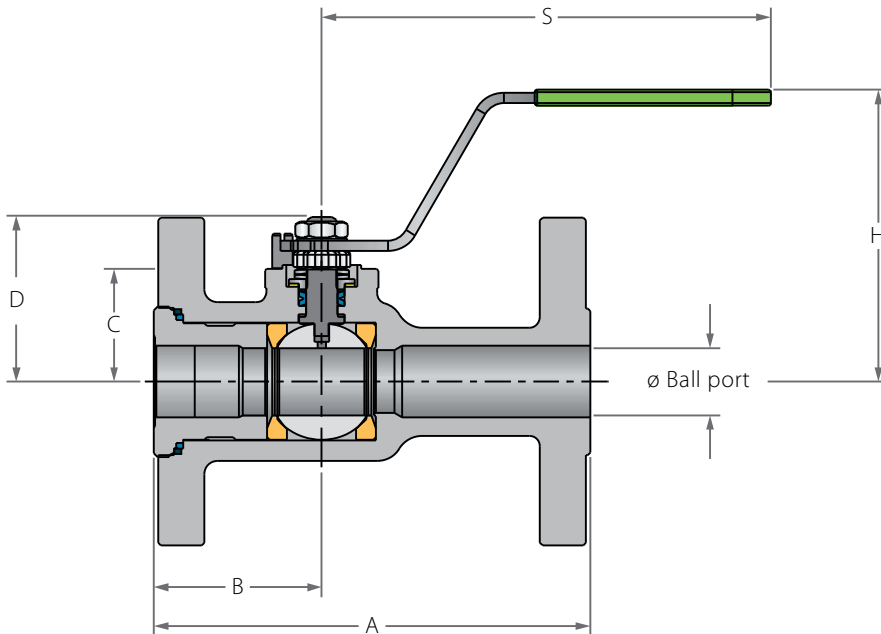
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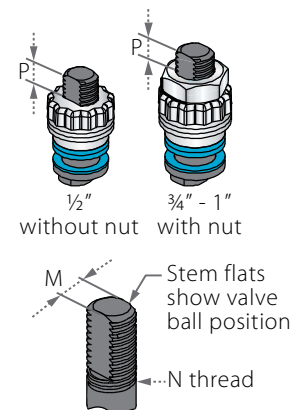
½"-1" | DN15-DN25 | CLASS 150/300/PN 40

Floating Ball Flanged

Valve dimensions



Preparation for actuation



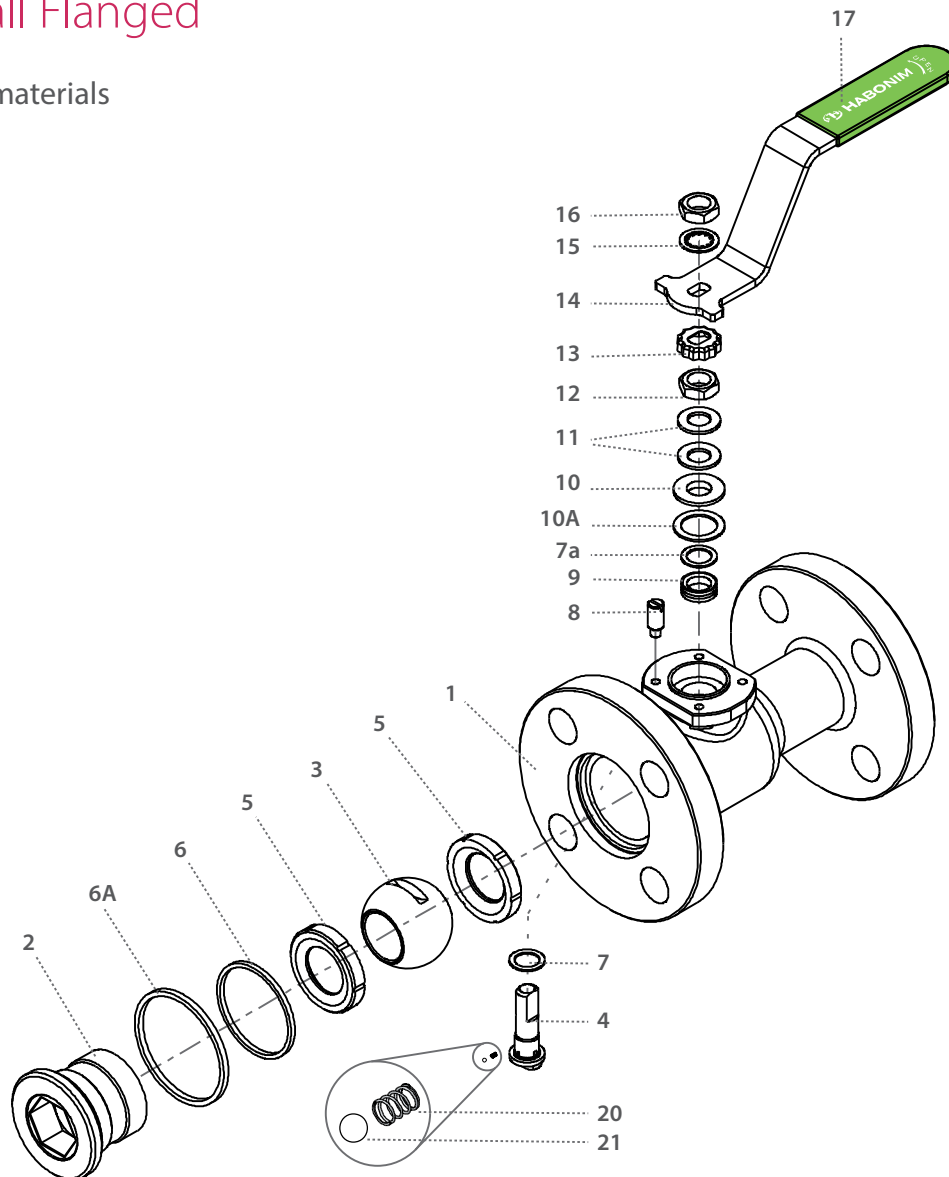
Std. port	Unit	Ball port	A		B	C	D	H	S	W		M	N	P	F	TxL	Weight kg/lb		Kv
			150	300						150	300						150	300	
			Cv	Cv						Cv	Cv								
DN15	mm	14.3	108	140	47	31.40	40.5	94	151	89	95	5.54	1"-14	6.65 (F03)	36	M5x10	1.8	2.3	28
½"	inch	0.56	4.25	5.51	1.85	1.25	1.59	3.70	5.95	3.50	3.74	0.22	UNF-2A"	0.26	1.42	M5x10	4	5.1	32
DN20	mm	20.6	117	152	57	38.20	55.6	103.5	170	98	117	7.54	1"-14	7.4 (F04)	42	M5x10	2.2	3.3	46
¾"	inch	0.81	4.61	5.98	2.24	1.50	2.19	4.08	6.69	3.86	4.61	0.30	UNF-2A"	0.29	1.65	M5x10	4.8	7.3	53
DN25	mm	25.4	127	165	62	42.70	60.3	108	170	108	124	7.54	1"-14	7.4 (F04)	42	M5x10	3.2	4.6	80
1"	inch	1.00	5.00	6.50	2.44	1.68	2.37	4.25	6.69	4.25	4.88	0.30	UNF-2A"	0.29	1.65	M5x10	7	10.1	93

Std. port	Unit	Ball port	A		B	C	D	H	S	W	M	N	P	F	TxL	Weight kg/lb		Kv
			F1	F4												F1	F4	
			Cv	Cv												Cv	Cv	
DN15	mm	14.3	130	115	48	31.50	40.5	98.6	151	95	5.54	1"-14	6.65 (F03)	36	M5x10	2.2	2.1	28
½"	inch	0.56	5.12	4.53	1.89	1.24	1.59	3.88	5.95	3.74	0.22	UNF-2A"	0.26	1.42	M5x10	4.8	4.6	32
DN20	mm	20.6	150	120	58	38.30	56.5	105	170	105	7.54	1"-14	7.4 (F04)	42	M5x10	3.2	3	46
¾"	inch	0.81	5.91	4.72	2.28	1.51	2.22	4.13	6.69	4.13	0.30	UNF-2A"	0.29	1.65	M5x10	7	6.6	53
DN25	mm	25.4	160	125	63.5	41.80	61	108	170	115	7.54	1"-14	7.4 (F04)	42	M5x10	4.2	4	80
1"	inch	1.00	6.30	4.92	2.50	1.65	2.40	4.25	6.69	4.53	0.30	UNF-2A"	0.29	1.65	M5x10	9.2	8.8	93



Floating Ball Flanged

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Insert	A351 CF8M, A216 WCB, A351 CN7M, A494	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Inner seal	PTFE	1
6A*	Outer seal	Acc. Ordering Code	1
7*	Stem thrust seal	VIRGIN PEEK, PCTFE (KEL-F)	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1

Item	Description	Material specification	Qty.
10A*	Slide bearing	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	1
15	Serrated washer	S. Steel	1
16	Handle nut	S. Steel	1
17	Sleeve	PVC	1
20	Anti-static spring	S. Steel	1
21	Anti-static plunger	S. Steel	1
23	Tag (not shown)	S. Steel	1

* Repair kit components

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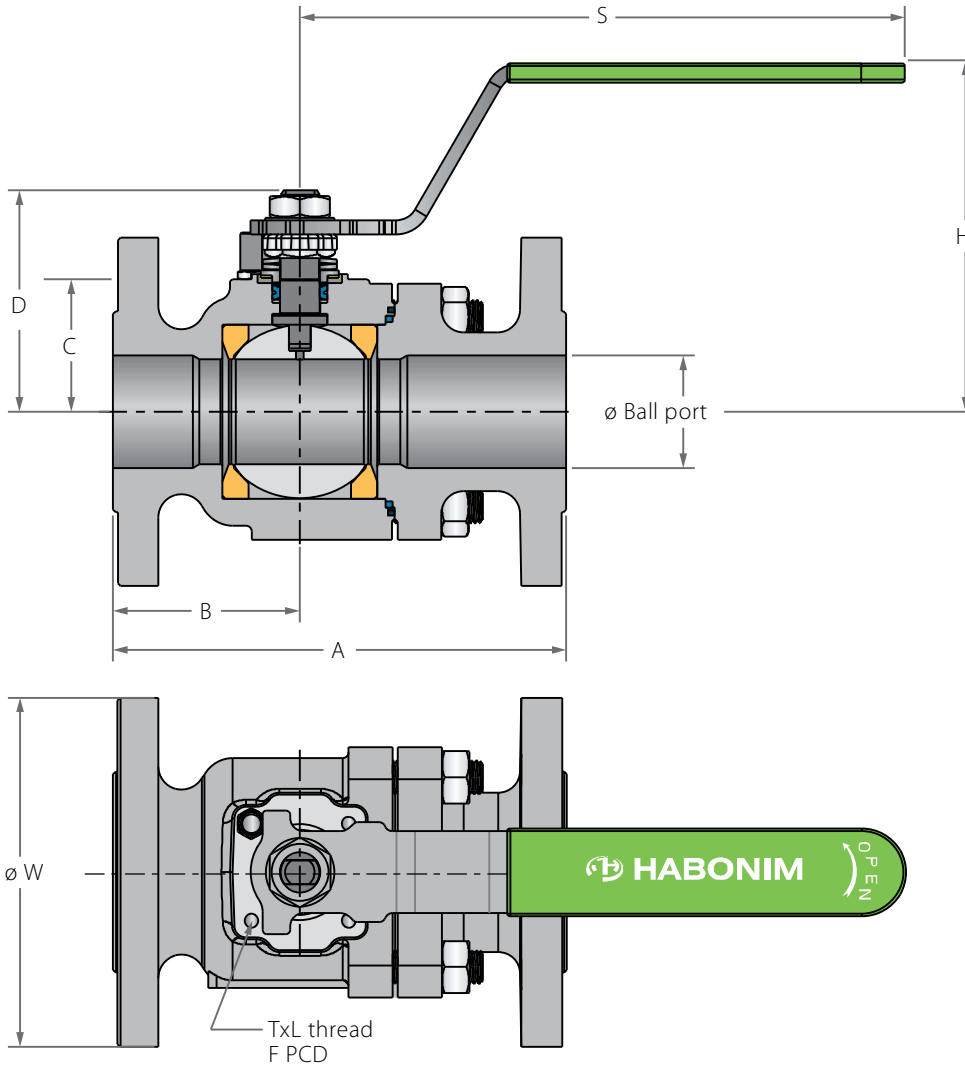
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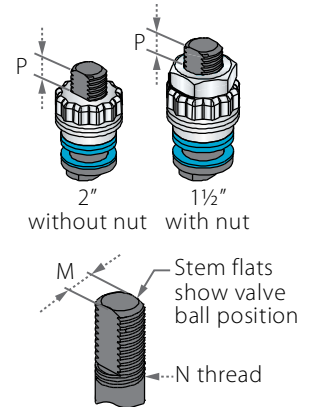
1¼"-2" | DN40-DN50 | CLASS 150/300/PN 40

Floating Ball Flanged

Valve dimensions



Preparation for actuation



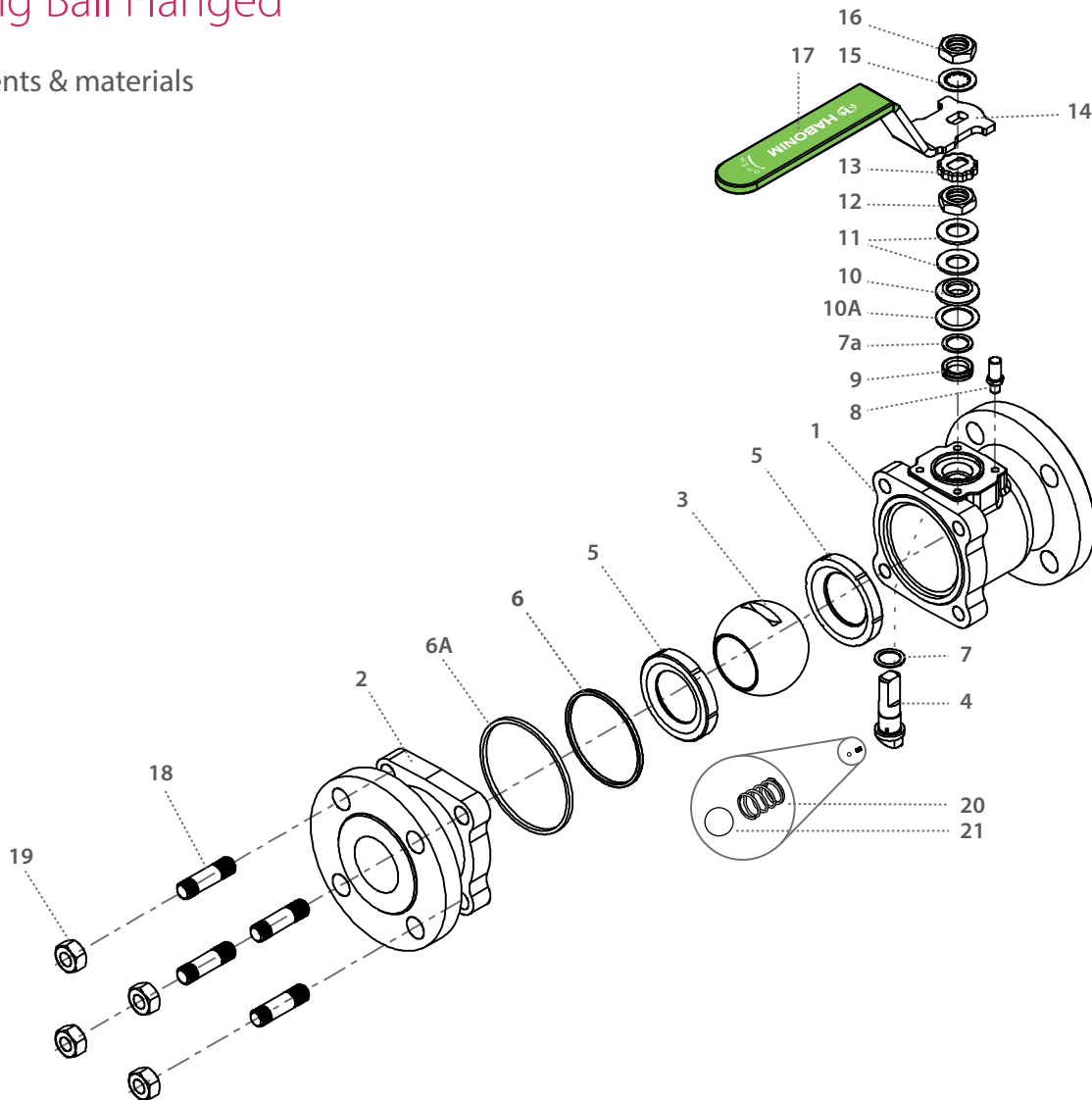
Std. port		Unit	Ball port	A		B		C	D	H	S	W		M	N	P	F	TxL	Weight kg/lb		Kv
150	300			150	300	150	300					150	300						150	300	
DN32	mm	31.8	140	178	59	-	49.00	73	120.5	220.1	115	135	8.71	9/16" UNF	8.5 (F05)	50	M6x12	-	-	-	
1¼"	inch	1.25	5.51	7.00	2.32	-	1.92	2.87	4.74	8.66	4.53	5.31	0.34	9/16" UNF	0.33	1.97	M6x12	-	-	-	
DN40	mm	38.1	165	190	97	110	48.30	77.8	124	220.1	127	156	8.71	9/16" UNF	8.5 (F05)	50	M6x12	6.6	9.8	220	
1½"	inch	1.50	6.50	7.50	3.82	4.33	1.90	30.60	4.88	8.66	5.00	6.14	0.34	9/16" UNF	0.33	1.97	M6x12	14.5	21.5	255	
DN50	mm	50	178	216	109	141	70.00	88	134.2	220.1	152	165	8.71	9/16" UNF	13.5 (F07)	70	M8x12	13	15	430	
2"	inch	2.00	7.00	8.50	4.29	5.55	2.75	3.46	5.28	8.66	5.98	6.50	0.34	9/16" UNF	0.53	2.75	M8x12	28.6	33	499	

Std. port		Unit	Ball port	A		B	C	D	H	S	W	M	N	P	F	TxL	Weight kg/lb		Kv
F1	F4			F1	F4												F1	F4	
DN32	mm	31.8	180	130	56	49.00	73	121.4	220.1	140	8.71	9/16" UNF	8.5 (F05)	50	M6x12	-	-	-	
1¼"	inch	1.25	7.10	5.11	2.20	1.92	2.87	4.78	8.66	5.51	0.34	9/16" UNF	0.33	1.97	M6x12	-	-	-	
DN40	mm	38.1	200	140	65.9	48.30	77.8	124	220.1	150	8.71	9/16" UNF	8.5 (F05)	50	M6x12	10.9	10.3	220	
1½"	inch	1.50	7.87	5.51	2.59	1.90	30.60	4.88	8.66	5.91	0.34	9/16" UNF	0.33	1.97	M6x12	24	22.7	255	
DN50	mm	50	230	150	60.7	78.00	119	137.3	220.1	165	8.71	9/16" UNF	13.5 (F07)	70	M8x12	15	13	430	
2"	inch	2.00	9.06	5.91	2.39	30.70	4.69	5.41	8.66	6.50	0.34	9/16" UNF	0.53	2.75	M8x12	33	28.6	499	



Floating Ball Flanged

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	End	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Inner seal	PTFE	1
6A*	Outer seal	Acc. Ordering Code	1
7*	Stem thrust seal	VIRGIN PEEK, PCTFE (KEL-F)	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1
10A*	Slide bearing	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	Body bolts	S. Steel	4
19	Body nuts	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

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2½"-8" | DN65-DN200 | CLASS 150/300

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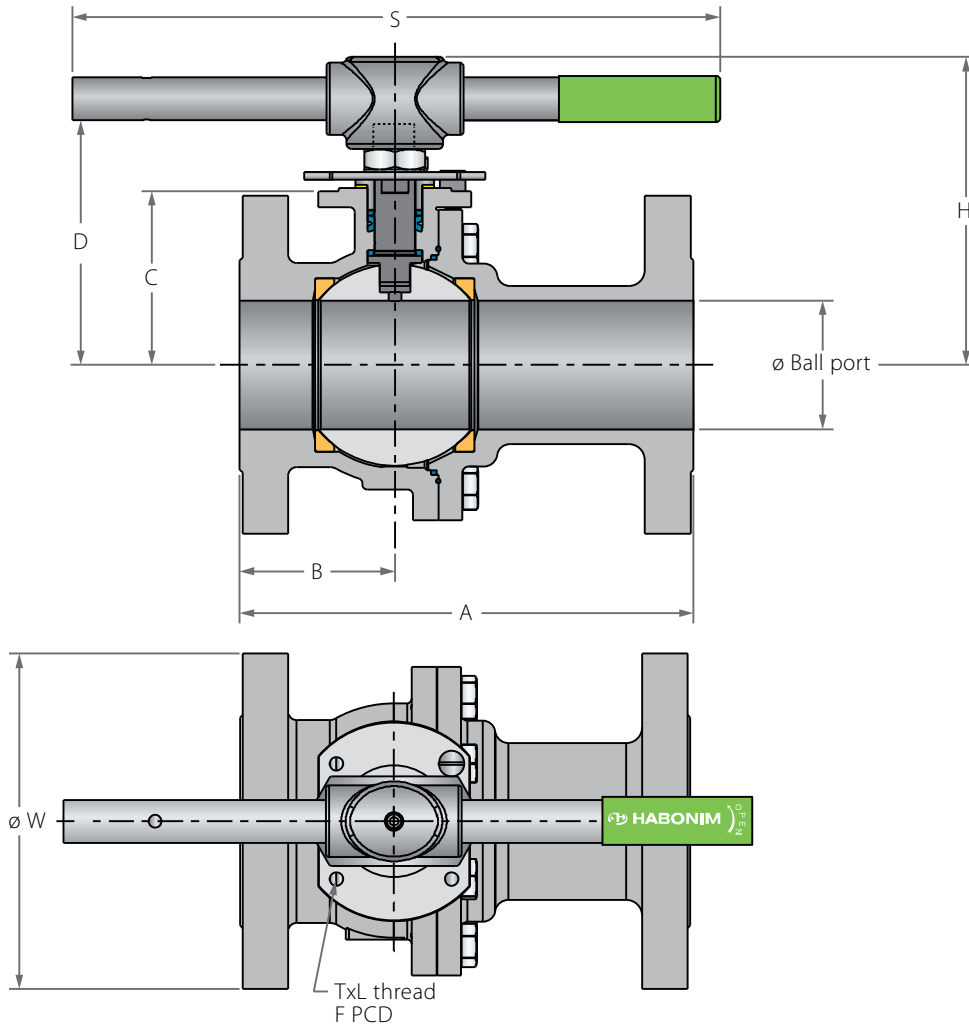
3"-8" | DN80-DN200 | PN 16

78

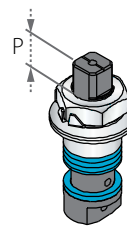
2½" | DN65 | PN40

Floating Ball Flanged

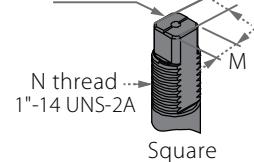
Valve dimensions



Preparation
for actuation



Stem groove
shows valve
ball position



73 74 2½"-8"

Std. port	Unit	Ball port	A		B		C	D	H	S	W			M	M-DD	N	P	F	TxL	Weight kg/lb		Kv
			150	300	150	300					150	300	150							300	150	
DN65	mm	65	190	241	83	-	119	165.5	194.8	400	180	190	18.9	15.9	1"-14	16.7	(F10)	102	M10x20	-	-	-
2½"	inch	2.56	7.48	9.48	3.26	-	4.76	6.51	7.67	15.75	7.08	7.48	0.74	0.63	UNS-2A	0.66		4.02	M10x20	-	-	-
DN80	mm	80	203	282.5	77.5	96.4	108	154.6	194.8	400	191	210	18.9	15.9	1"-14	16.7	(F10)	102	M10x20	22	28.2	1111
3"	inch	3.20	7.99	11.12	3.05	3.80	4.25	6.09	7.67	15.75	7.52	8.27	0.74	0.63	UNS-2A	0.66		4.02	M10x20	48.5	62.2	1300
DN100	mm	100	228.5	304.8	84.5	104.5	124	170.5	211	610	230	254	18.9	15.9	1"-14	16.7	(F10)	102	M10x20	39	44.5	2051
4"	inch	3.94	9.00	12.00	3.33	4.11	4.88	6.69	8.31	24.02	9.06	10.00	0.74	0.63	UNS-2A	0.66		4.02	M10x20	86	98.1	2400
DN150	mm	150	394	403.5	163.5	174.5	179	248.5	308	916	2794	328	284.5	23.75	1½"-12	26.2	(F12)	125	M12x20	82	100	4615
6"	inch	5.91	15.51	15.89	6.44	6.87	7.05	9.78	12.13	36.06	11.00	12.91	1.12	0.94	UNS-2A	1.03		4.92	M12x20	180.8	220.5	5400
DN200	mm	200	457.2	502	242.5	241	241	353.7	-	-	460	460	35.92	35.92	2"-8	37.5	(F14)	140	M16x240	190	225	7949
8"	inch	7.87	18.00	19.76	9.55	9.49	9.49	19.93	-	-	18.11	18.11	1.41	1.41	UNS-2A	1.48		5.51	M16x240	418.9	496	9300

78 2½" 77 3"-8"

Std. port	Unit	Ball port	A 16/40			B		C 16/40	D 16/40	H	S	W 16/40	M	M-DD	N	P	F	TxL	Weight kg/lb			Kv
			F5/F1	F4	16	40	F5												F4	Cv		
DN65	mm	65	-	170	83	70	119	165.5	194.8	400	185	18.9	15.9	1"-14	16.7	(F10)	102	M10x20	-	-	-	
2½"	inch	2.56	-	6.69	3.26	2.75	4.68	6.51	7.67	15.75	7.28	0.74	0.63	UNS-2A	0.66		4.02	M10x20	-	-	-	
DN80	mm	80	-	180	77.5	-	108.00	162	194.8	400	200	18.9	15.9	1"-14	16.7	(F10)	102	M10x20	-	24	1111	
3"	inch	3.20	-	7.09	3.05	-	4.25	6.40	7.67	15.75	7.87	0.74	0.63	UNS-2A	0.66		4.02	M10x20	-	52.8	1300	
DN100	mm	100	-	190	84.5	-	132.00	186	211	610	225	18.9	15.9	1"-14	16.7	(F10)	102	M10x20	-	30	2051	
4"	inch	3.94	-	7.48	3.33	-	5.20	7.32	8.31	24.02	8.86	0.74	0.63	UNS-2A	0.66		4.02	M10x20	-	66	2400	
DN150	mm	150	350	-	163.5	-	178.00	236	308	916	328	284.5	23.75	1½"-12	26.2	(F12)	125	M12x20	63	-	4615	
6"	inch	5.91	13.78	-	6.44	-	7.01	9.29	12.13	36.06	12.91	1.12	0.94	UNS-2A	1.03		4.92	M12x20	139	-	5400	
DN200	mm	200	400	-	242.5	-	226.00	286	-	-	395	35.92	35.92	2"-8	37.5	(F14)	140	M16x24	97	-	7949	
8"	inch	7.87	15.75	-	9.55	-	8.91	11.26	-	-	15.55	1.41	1.41	UNS-2A	1.48		5.51	M16x24	213	-	9300	

73

74

2½"-8" | DN65-DN200 | CLASS 150/300



77

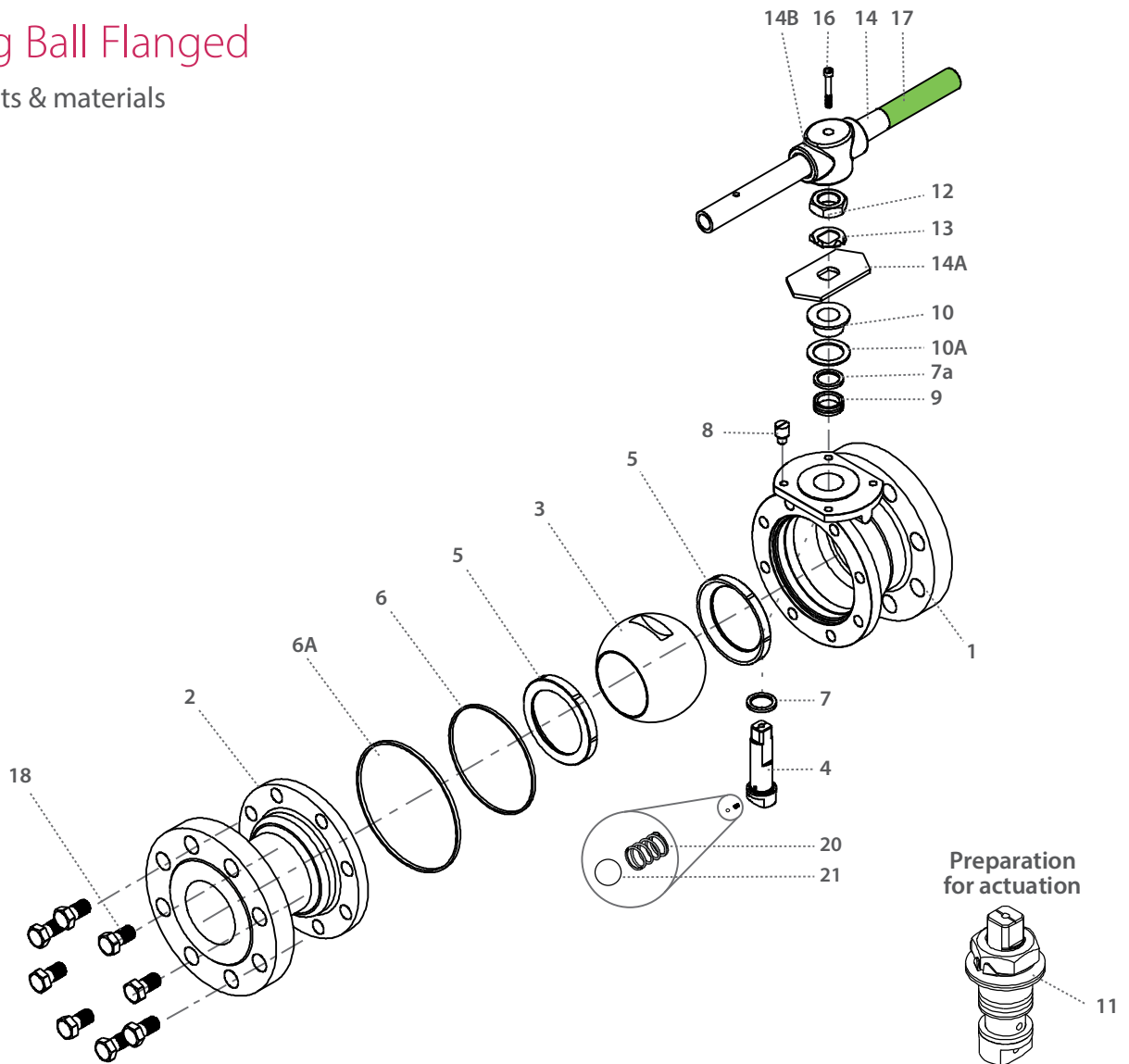
3"-8" | DN80-DN200 | PN 16

78

2½" | DN65 | PN40

Floating Ball Flanged

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	End	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Inner seal	PTFE	1
6A*	Outer seal	Acc. Ordering Code	1
7*	Stem thrust seal	VIRGIN PEEK, PCTFE (KEL-F)	1
7a*	Anti-abrasion ring	VIRGIN PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1
10A*	Slide bearing	S. Steel	1
11	Disc spring	S. Steel	2

Item	Description	Material specification	Qty.
12	Stem nut	S. Steel	1
13	Tab lock washer	A240 304	1
14**	Handle	S. Steel	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	8-12
20	Anti-static spring	S. Steel	2
21	Anti-static plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

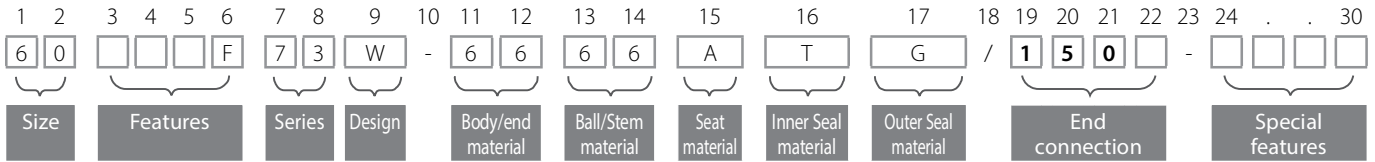
* Repair kit components

** Gear operator should be used for size 8" DN200 (handle components are not included)



Floating Ball Flanged - 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
60	6"	150
80	8"	200

Features (3-6)	
F	Fire safe
N	Control service
O	Clean assembly for O2 service
M	Ammonia service
K	Chlorine service
V	Vacuum service

Series (7-8)	
31	ANSI #150 std. port
32	ANSI #300 std. port
73	ANSI #150 full port
74	ANSI #300 full port
77	DIN PN 16 full port
78	DIN PN 40 full port

Design (9)	
W	Total HermetiX Integrity package
G	Total HermetiX Integrity package - FDA compliant

Body/Ends material (11-12)	
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
M	High Strength S. Steel
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	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

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 (17)	
G	Expanded graphite
A	TFM

End Connection (19-22)	
Welded ends	
150	ASME B16.5 #150 RF
300	ASME B16.5 #300 RF
PN16	EN1092 PN16 RF
PN40	EN1092 PN40 RF

Special Features (24-30)	
P250	Ball with Upstream Relief Hole
SRS	Self Relief Seat
J2N05	Jacketed valve- number of ports (2), type (NPT) and size (½")

Valve Special Stem Seals	
LAX	FDA Compliant, Stem seal, Virgin Peek thrust and TFM, X shape, gasket
HC	High Cycle service
HYD	Hydrogen

Face To Face sizes	
F4 *	F4 - DIN 3202-1 RF (½" - 4")
F1 **	F1 - DIN 3202-1 RF (½" - 2")
F5 ***	F5 - DIN 3202-1 RF (6")

* Standard offer: ½" to 1¼" & 2½" to 4"
 ** Standard offer: 1½" & 2"
 *** Standard offer: 6"

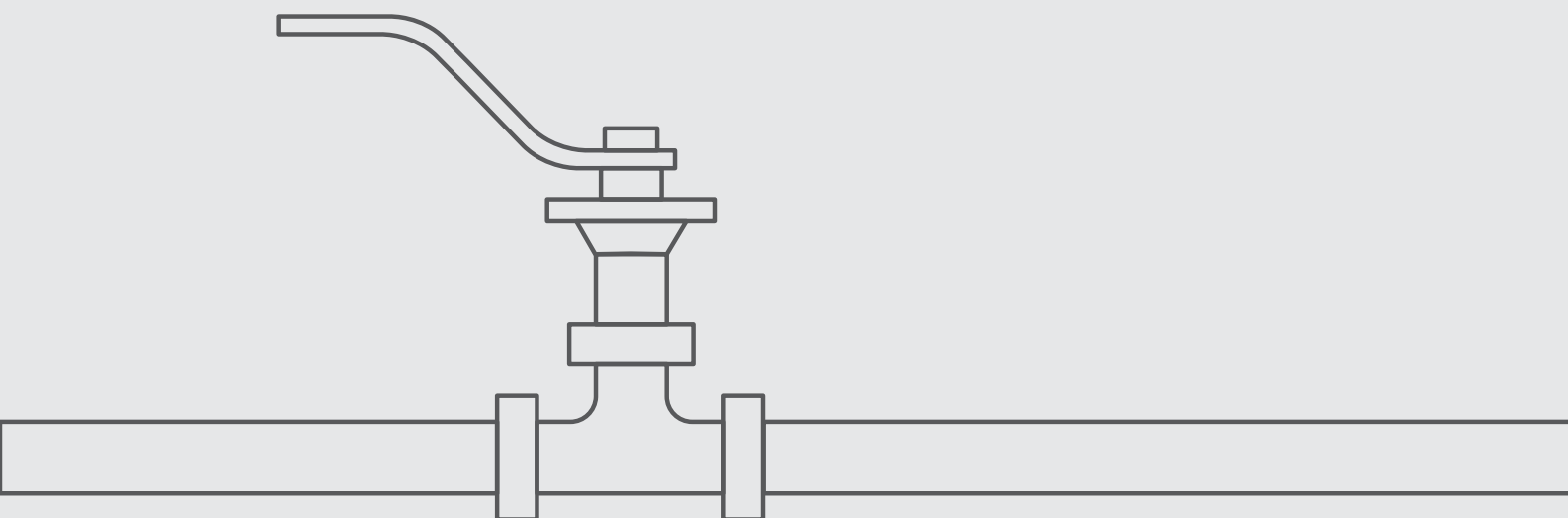
47DC



General Use Industrial

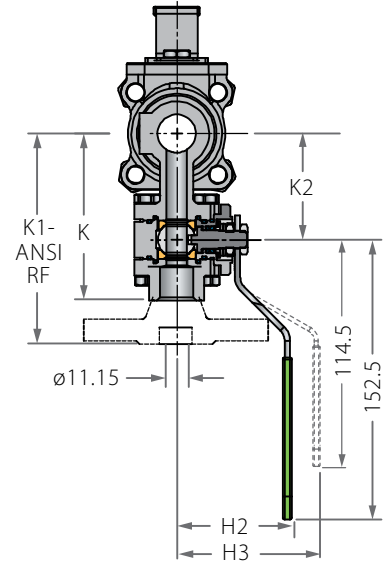
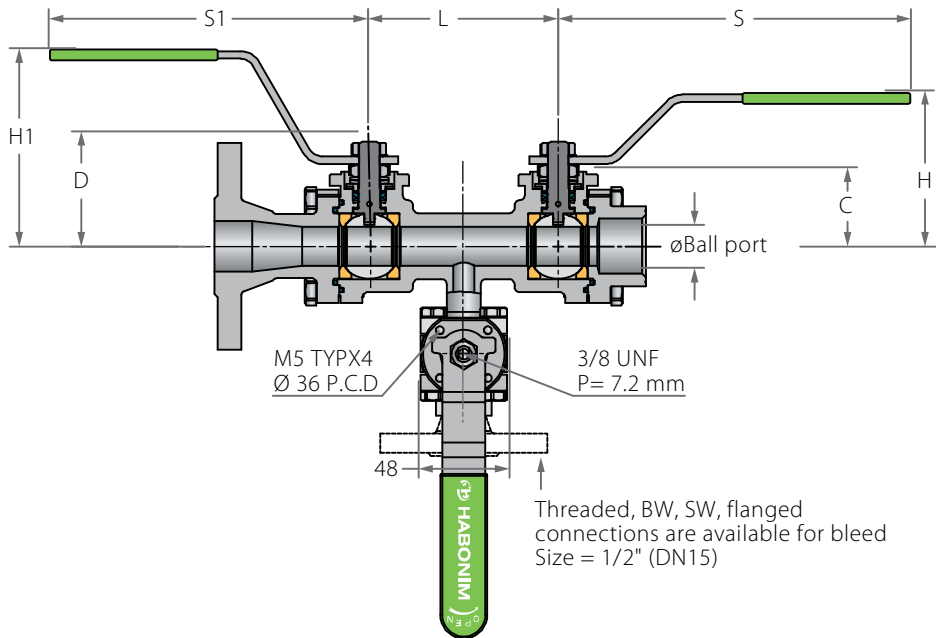
FLOATING BALL

DUAL SAFE /
DOUBLE BLOCK & BLEED
3 PIECE

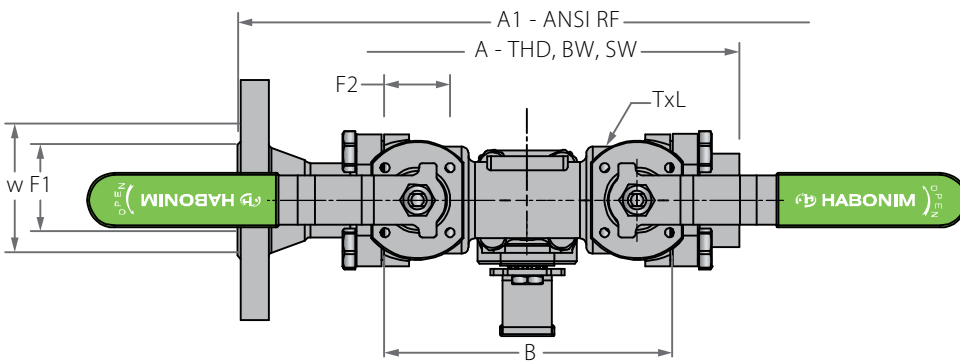
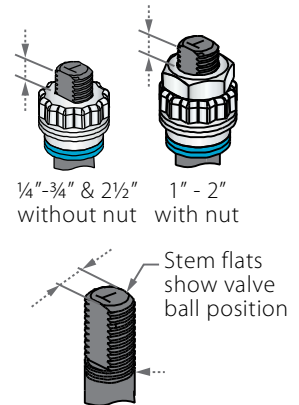


Dual Safe | Double Block & Bleed Floating Ball 3 Piece

Valve dimensions



Preparation for actuation



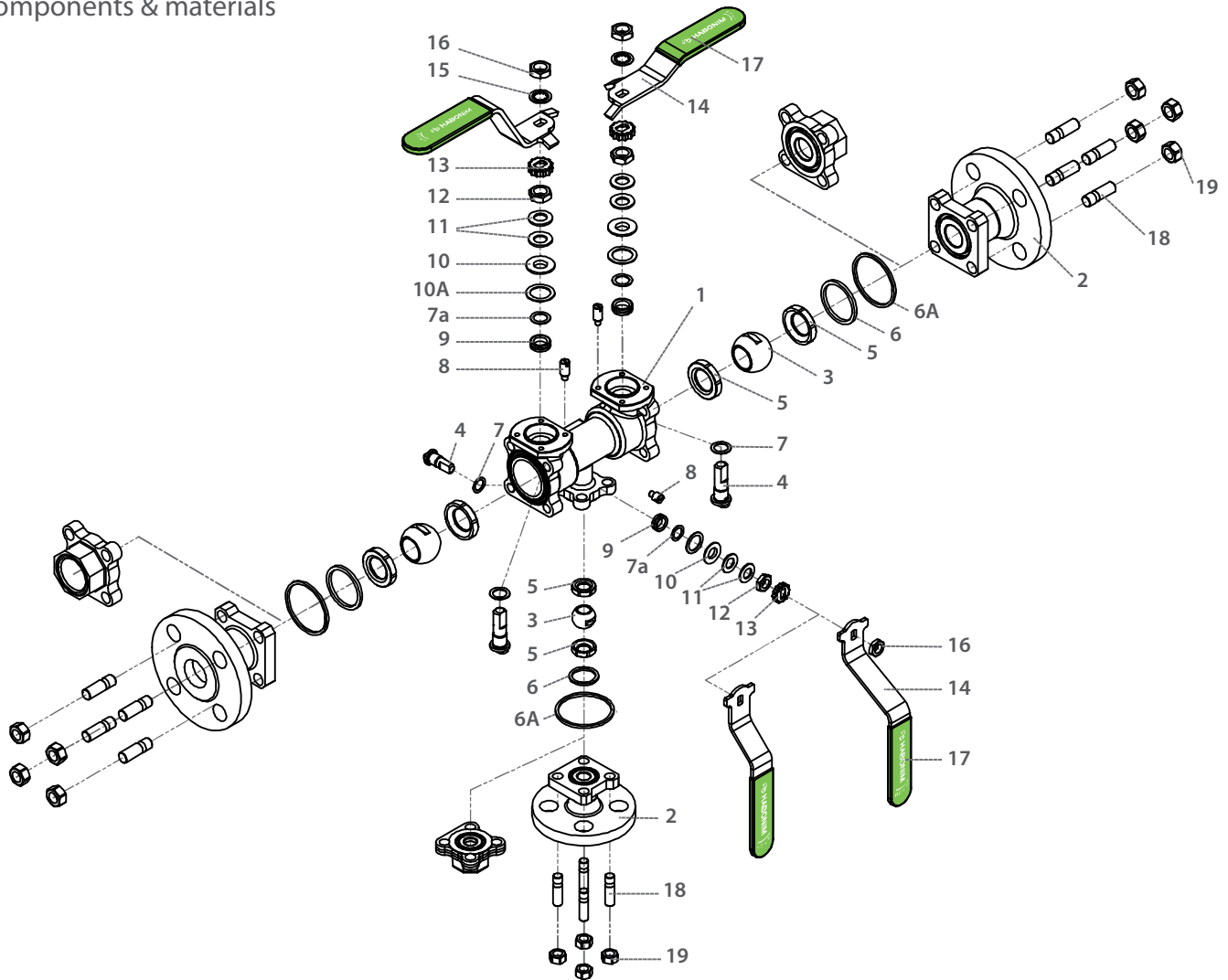
Valve Face To Face sizes are according to Habonim catalog data only, for Extended-weald/Flanged/Tri-clamp end see Face To Face sizes page.

Std. port	Unit	Ball Port	A1-RF	A	B	C	D	H	H1	H2	H3	K	K1	K2	L	S	S1	W	N	P	F	TxL	Kv
																							Cv
DN15	mm	11.15	212.6	138.4	93.2	29.00	37.8	91	47	62	92	90.3	127.4	57.4	72.6	114.5	152.5	47	3/8 UNF	6.65 (F03)	36	M5X10	6.9
1/2"	inch	0.44	8.05	5.43	3.65	1.14	1.49	3.58	1.85	2.44	3.62	3.54	5.01	2.26	2.85	4.51	6	1.84		0.26	1.41		8
DN20	mm	14.3	235.2	153.2	107.2	31.40	40.3	93	49	62	92	86.3	127	53.4	82.65	114.5	152.5	53.7	3/8 UNF	6.65 (F03)	36	M5X10	10
3/4"	inch	0.56	9.22	6.01	4.2	1.23	1.59	3.66	1.93	2.44	3.62	3.38	5.00	2.1	3.24	4.51	6	2.11		0.26	1.41		12
DN25	mm	20.65	265.9	193.9	131.9	38.15	55.6	106	62	62	92	90.3	126	57.4	100.5	146	163	63.7	7/16 UNF	7.4 (F04)	42	M5X10	28
1"	inch	0.81	10.43	7.6	5.17	1.50	2.19	4.17	2.44	2.44	3.62	3.54	4.96	2.26	3.94	5.75	6.42	2.50		0.29	1.65		32
DN32	mm	25.5	279.2	209.3	142.2	42.65	60.2	109.5	90.5	88	118	92.3	127.2	59.4	100.95	146	163	71.7	7/16 UNF	7.4 (F04)	42	M5X10	49
1 1/4"	inch	1	10.95	8.21	5.58	1.67	2.37	4.31	3.56	3.46	4.65	3.62	5.00	2.34	3.96	5.75	6.42	2.81		0.29	1.65		57
DN40	mm	31.8	318.2	241.9	176.2	43.55	73	121.5	99.6	88	118	98.3	135.6	65.4	127.85	180	259	86.7	9/16 UNF	8.5 (F05)	50	M6X12	69
1 1/2"	inch	1.25	12.48	9.49	6.91	1.71	2.87	4.78	3.92	3.46	4.65	3.85	5.34	2.57	5.01	7.09	10.2	3.40		0.33	1.96		80
DN50	mm	38.15	344.2	254.2	184.2	48.25	77.8	125	103	88	118	104.3	149.2	71.4	127.9	180	259	96.9	9/16 UNF	8.5 (F05)	50	M6X12	102
2"	inch	1.5	13.5	9.97	7.22	1.89	3.06	4.95	4.06	3.46	4.65	4.09	5.87	2.81	5.02	7.09	10.2	3.80		0.33	1.96		118
DN65	mm	51.05	398.2	314.6	229.2	70.00	88.1	138	116	88	118	111.3	152.8	78.4	156.54	180	259	108	9/16 UNF	13.5 (F07)	70	M8X12	208
2 1/2"	inch	2.01	15.61	12.34	8.99	2.75	3.47	5.43	4.57	3.46	4.65	4.36	6.01	3.08	6.14	7.09	10.2	4.24		0.53	2.75		241



Dual Safe | Double Block & Bleed Floating Ball 3 Piece

Components & materials



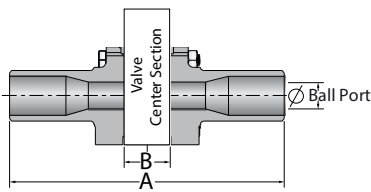
Item	Description	Material specifications	Qty.
1	Body	Acc. Ordering Code	1
2	Ends	Acc. Ordering Code	3
3	Ball	Acc. Ordering Code	3
4	Stem	Acc. Ordering Code	3
5*	Seat	Acc. Ordering Code	6
6*	Body seal	PTFE, RPTFE, TFM, UHMWPE, Graphite	3
6A	Outer seal	Acc. Ordering Code	
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F), TFM, CF PTFE	3
7a**	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F), TFM, CF PTFE	3
8	Stop pin	S. Steel	3
9*	Stem seal	CF PTFE, TFM, Graphite	3
10	Follower	S. Steel	3
10A	Slide bearing	S. Steel	3

Item	Description	Material specifications	Qty.
11	Disc spring	S. Steel	6
12	Stem nut	S. Steel	3
13	Locking clip	S. Steel	3
14	Handle	S. Steel	3
15	Serrated washer	S. Steel	2
16	Handle nut	S. Steel	3
17	Sleeve	PVC	3
18	Body bolt	S. Steel	12
19	Body nut	S. Steel	12
20	Anti-static spring	S. Steel	3
21	Anti-static plunger	S. Steel	3
23	Tag (not shown)	S. Steel	1

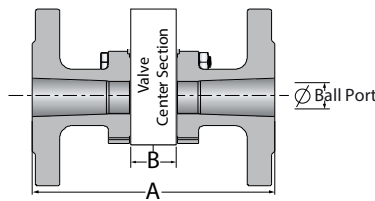
Face To Face Sizes

Valve Size	Unit	B		A-XBW		A-ETO	A-Flanged		A-TC
		Std. port	Full port	Std. port	Full port	Std. port	Std. port	Full port	Full port
DN10	mm	93.2	93.2	213.2	215.6	181.2			
3/8"	inch	3.7	3.7	8.4	8.5	7.1			
DN15	mm	93.2	107.2	213.2	229.6	209.6	212.6	234.6	161.4
1/2"	inch	3.7	4.2	8.4	9.0	8.3	8.4	9.2	6.4
DN20	mm	107.2	132.2	229.6	269.2	229.6	234.6	265.6	184.2
3/4"	inch	4.2	5.2	9.0	10.6	9.0	9.2	10.5	7.3
DN25	mm	132.2	142.2	269.2	280.2	264.6	265.6	279.0	214.8
1"	inch	5.2	5.6	10.6	11.0	10.4	10.5	11.0	8.5
DN32	mm	142.2	176.2	280.2	317.2	280.2	279.0	317.8	
1 1/4"	inch	5.6	6.9	11.0	12.5	11.0	11.0	12.5	
DN40	mm	176.2	184.2	317.2	328.2	311.8	317.8	344.0	267.6
1 1/2"	inch	6.9	7.3	12.5	12.9	12.3	12.5	13.5	10.5
DN50	mm	184.2	229.2	328.2	389.2	321.4	344.0	397.6	286.8
2"	inch	7.3	9.0	12.9	15.3	12.7	13.5	15.7	11.3
DN65	mm	229.2		389.2		379.2	397.6		369.6
2 1/2"	inch	9.0		15.3		14.9	15.7		14.6

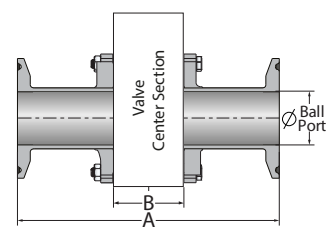
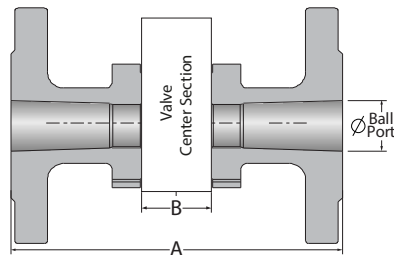
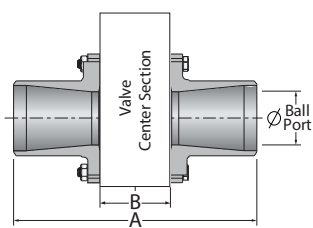
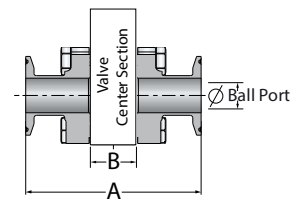
XBW / ETO



Flanged



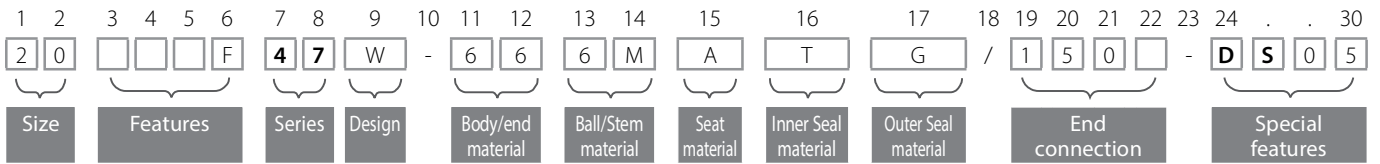
TC





Dual Safe | Double Block & Bleed - 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

* Std. port only

Features (3-6)	
F	Fire safe
B	Full port
I	High purity Class 10000

Series (7-8)	
47	Floating ball 3 piece

Design (9)	
W	Total HermetiX Integrity package
G	Total HermetiX Integrity package - FDA compliant

Body material (11)	
6	S. Steel
4	C. steel A216 WCB/ A105

End material(12)	
6	S. Steel
4	C. steel A216 WCB/ A105

Ball material (13)	
6	S. Steel 316L
M	High Strength S. Steel

Stem material (14)	
M	High Strength S. Steel
6	S. Steel

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

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

Outer Seal (17)	
G	Expanded graphite
T	PTFE
A	TFM
U	UHMWPE
V	Viton
B	NBR

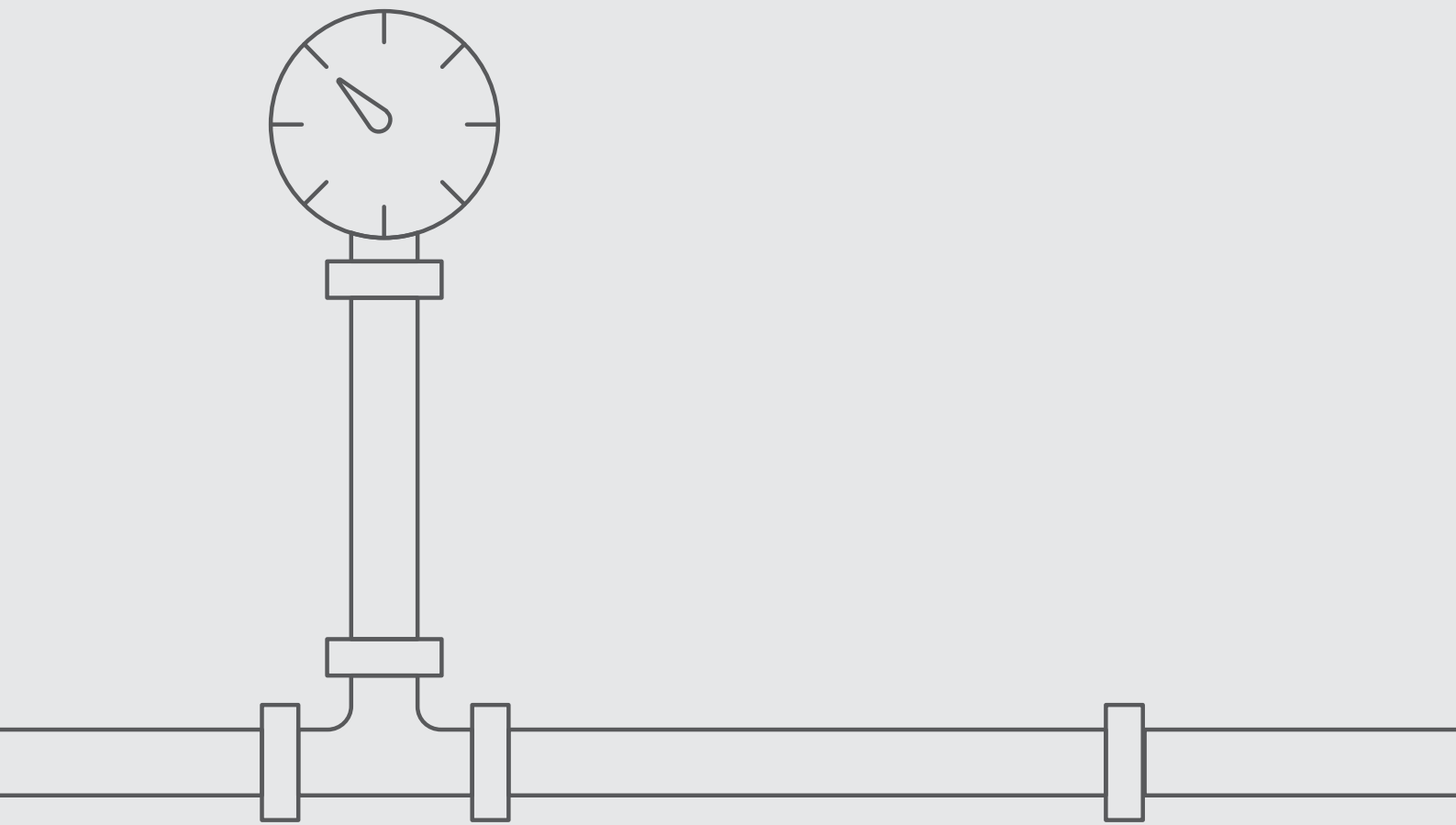
End Connection (19-22)	
Welded	
BW10	Buttweld schd. 10
BW	Buttweld schd. 40
SW	Socket weld
XBW10	Extended buttweld schd. 10
XBW	Extended buttweld schd. 40
XSW	Extended socket weld
BW5	Buttweld schd. 5
BW80	Buttweld schd. 80
BWO	Buttweld tube OD
BWD	Buttweld DIN 11850
BWI	buttweld ISO
SWO	Socket weld 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.)0

Special Features (24-30)	
Dual Safe Features	
DS	Dual Safe with Ball Valve Bleed
DSN	Dual Safe with Needle Valve Bleed
Bleed Connection Size	
05	½" (DN15)
02	¼" (DN8)
03	⅜" (DN10)
Bleed Connection	
Blank	The same as the line connection
N	NPT
D	DIN3852
B	BSPT
BW	BW



73DS

74DS

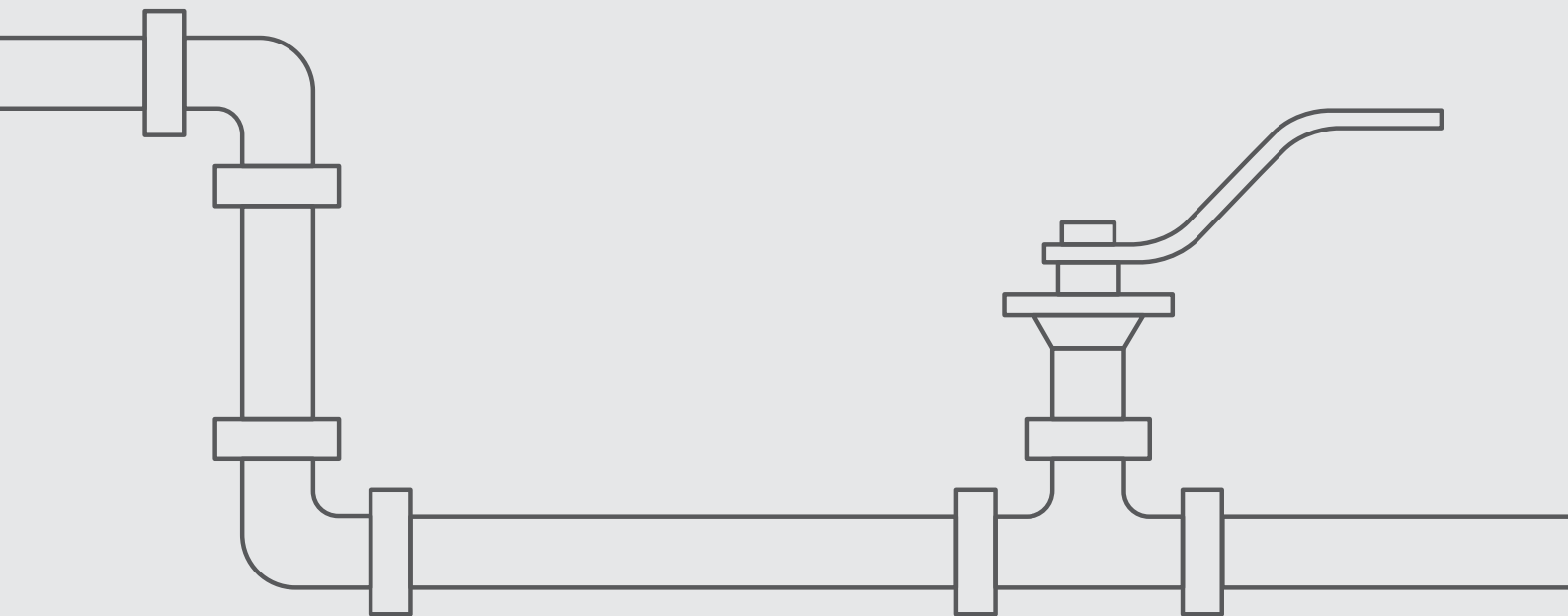
77DS



General Use Industrial

FLOATING BALL

DUAL SAFE /
DOUBLE BLOCK & BLEED
FLANGED



73DS

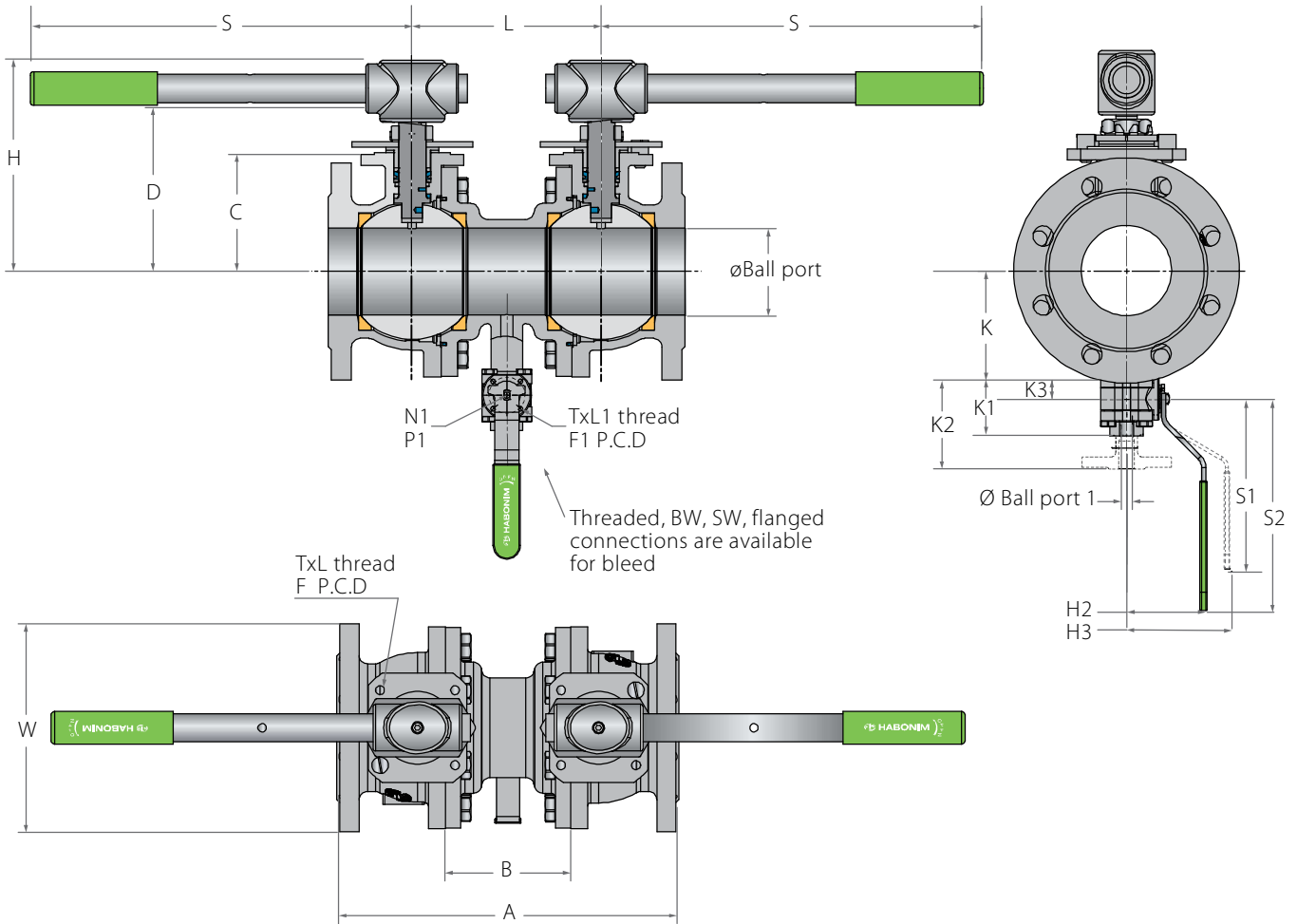
74DS

77DS

2 1/2"-6" | DN65-DN150
CLASS 150/300/PN 16

Dual Safe | Double Block & Bleed Floating Ball Flanged

Valve dimensions



Bore dimensions

Std. port	Unit	Ball Port	A			B	C_73/74	D_73/74	H	K	L	S	W		W_16/40	N	P	F	TxL	Kv	
			150	300	PN								150	300						Cv	
DN65	mm	65	375	400.5	349	155	119.00	165.5	184.5	90	209	288.1	180	190	185	1"-14	16.7 (F10)	102	M10X20	6.9	
2 1/2"	inch	2.55	14.71	15.71	13.69	6.08	4.67	6.49	7.24	3.53	8.2	11.30	7.08	7.48	7.28	UNF-2A"	0.65	4.00			8
DN80	mm	80	369	406.8	369	160	108.00	154.5	194.9	95	214	350	191	210	200	1"-14	16.7 (F10)	102	M10X20	10	
3"	inch	3.14	14.47	15.95	14.47	6.27	4.24	6.06	7.64	3.73	8.39	13.73	7.52	8.27	7.87	UNF-2A"	0.65	4.00			12
DN100	mm	100	442	482	442	215	124.00	170.5	210.9	115	273	350	230	254	225	1"-14	16.7 (F10)	102	M10X20	28	
4"	inch	3.92	17.33	18.9	17.33	8.43	4.86	6.69	8.27	4.51	10.71	13.73	9.06	10.00	8.86	UNF-2A"	0.65	4.00			32
DN150	mm	150	681	703.2	681	280	179.00	248.4	302.2	165	354.00	846.5	279.4	328	328	1 "-12	26.2 (F12)	125	M16X30	49	
6"	inch	5.88	26.71	27.58	26.71	10.98	7.02	9.74	11.85	6.47	13.88	33.20	11.00	12.91	12.91	UNF-1A"	1.03	4.90			57

Bleed dimensions

Std. port	Unit	Ball Port 1	K1	K2	K3	S1	S2	H2	H3	N1	P1	F1	TxL
DN20	mm	17.5	57.15	98.15	21.9	114.5	152.5	93	49	3/8 UNF	6.65 (F03)	36	M5X10
3/4"	inch	0.69	2.24	3.85	0.86	4.51	6	3.66	1.93		0.26	1.41	
DN25	mm	23.5	74.85	110.75	28.2	146	163	106	62	7/16 UNF	7.4 (F04)	42	M5X10
1"	inch	0.92	2.94	4.34	1.11	5.75	6.42	4.17	2.44		0.29	1.65	

73DS

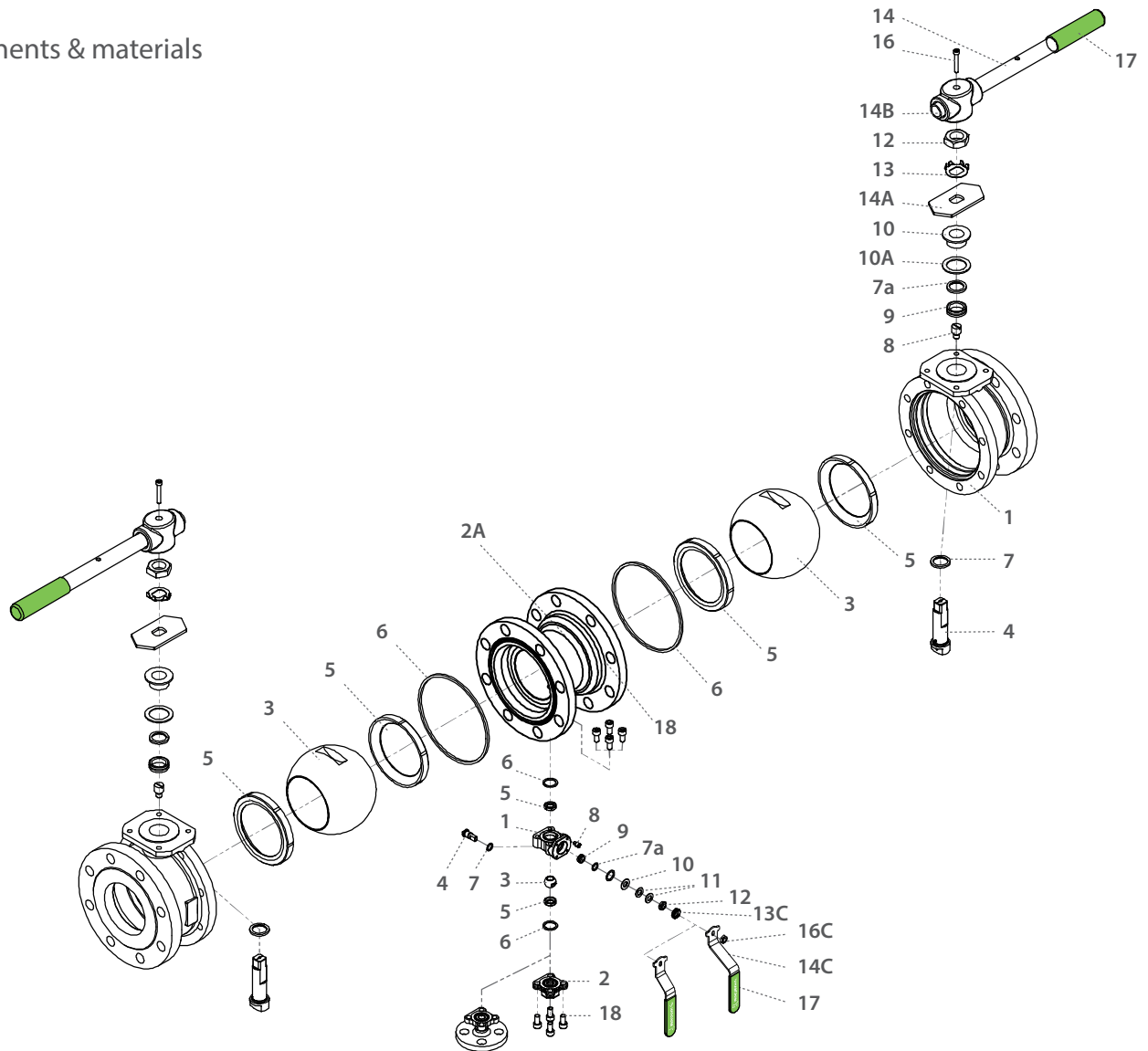
74DS

77DS

2 1/2"-6" | DN65-DN150
CLASS 150/300/PN 16

Dual Safe | Double Block & Bleed Floating Ball Flanged

Components & materials



Item	Description	Material specifications	Qty.
1	Body	Acc. Ordering Code	3
2	Ends	Acc. Ordering Code	1
2A	Connection spool	S.St A479 316/316L, C.St A350 LF2	1
3	Ball	Acc. Ordering Code	3
4	Stem	Acc. Ordering Code	3
5*	Seat	Acc. Ordering Code	6
6*	Body seal	PTFE, RPTFE, TFM, UHMWPE, Graphite	4
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F)	3
7a*	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F)	3
8	Stop pin	S. Steel	3
9*	Stem seal	CF PTFE, TFM, Graphite	3
10	Follower	S. Steel	3
10A*	Slide bearing	TF316	3
11	Disc spring	S. Steel	2

Item	Description	Material specifications	Qty.
12	Stem nut	S. Steel	3
13	Tab lock washer	S. Steel	2
13C	Locking clip	S. Steel	1
14	Handle	S. Steel	2
14C	Handle	S. Steel	1
14A	Stop plate	S. Steel	2
14B	Wrench head	S. Steel	2
16	Wrench bolt	S. Steel	2
16C	Handle nut	S. Steel	1
17	Sleeve	PVC	3
18	Body bolt	S. Steel	24-32
20	Anti-static spring	S. Steel	3
21	Anti-static plunger	S. Steel	3
23	Tag (not shown)	S. Steel	1

73DS

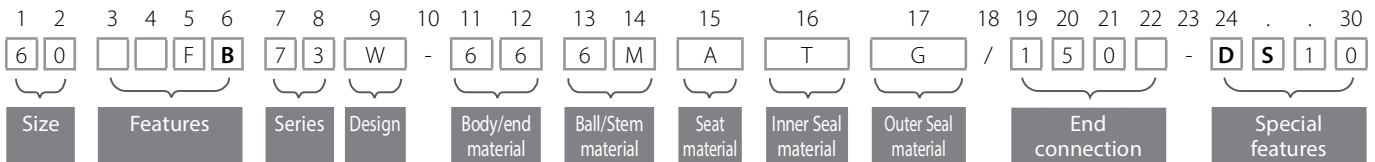
74DS

77DS



Dual Safe | Double Block & Bleed - 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
25	2½"	65
30	3"	80
40	4"	100
60	6"	150

Features (3-6)	
F	Fire safe
B	Full port
I	High purity Class 10000

Series (7-8)	
73	ANSI #150 full port
74	ANSI #300 full port
77	DIN PN 16 full port

Design (9)	
W	Total HermetiX Integrity package
G	Total HermetiX Integrity package - FDA compliant

Body material (11)	
6	S. Steel
4	C. steel A216 WCB/A105

End material (12)	
6	S. Steel
4	C. steel A216 WCB/A105

Ball material (13)	
6	S. Steel 316L
M	High Strength S. Steel

Stem material (14)	
M	High Strength S. Steel
6	S. Steel

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

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

Outer Seal (17)	
G	Expanded graphite
T	PTFE
A	TFM
U	UHMWPE
V	Viton
B	NBR

End Connection (19-22)	
Welded ends	
150(1)	ASME B16.5 #150 RF
300(1)	ASME B16.5 #300 RF
PN16(1)	EN1092 PN16 RF

Special Features (24-30)	
Dual Safe Features	
DS	Dual Safe with Ball Valve Bleed
DSN	Dual Safe with Needle Valve Bleed

Bleed Connection Size	
10	1" (DN25)
07	¾" (DN20)

Bleed Connection	
Blank	The same as the line connection
N	NPT
D	DIN3852
B	BSPT
BW	BW

61

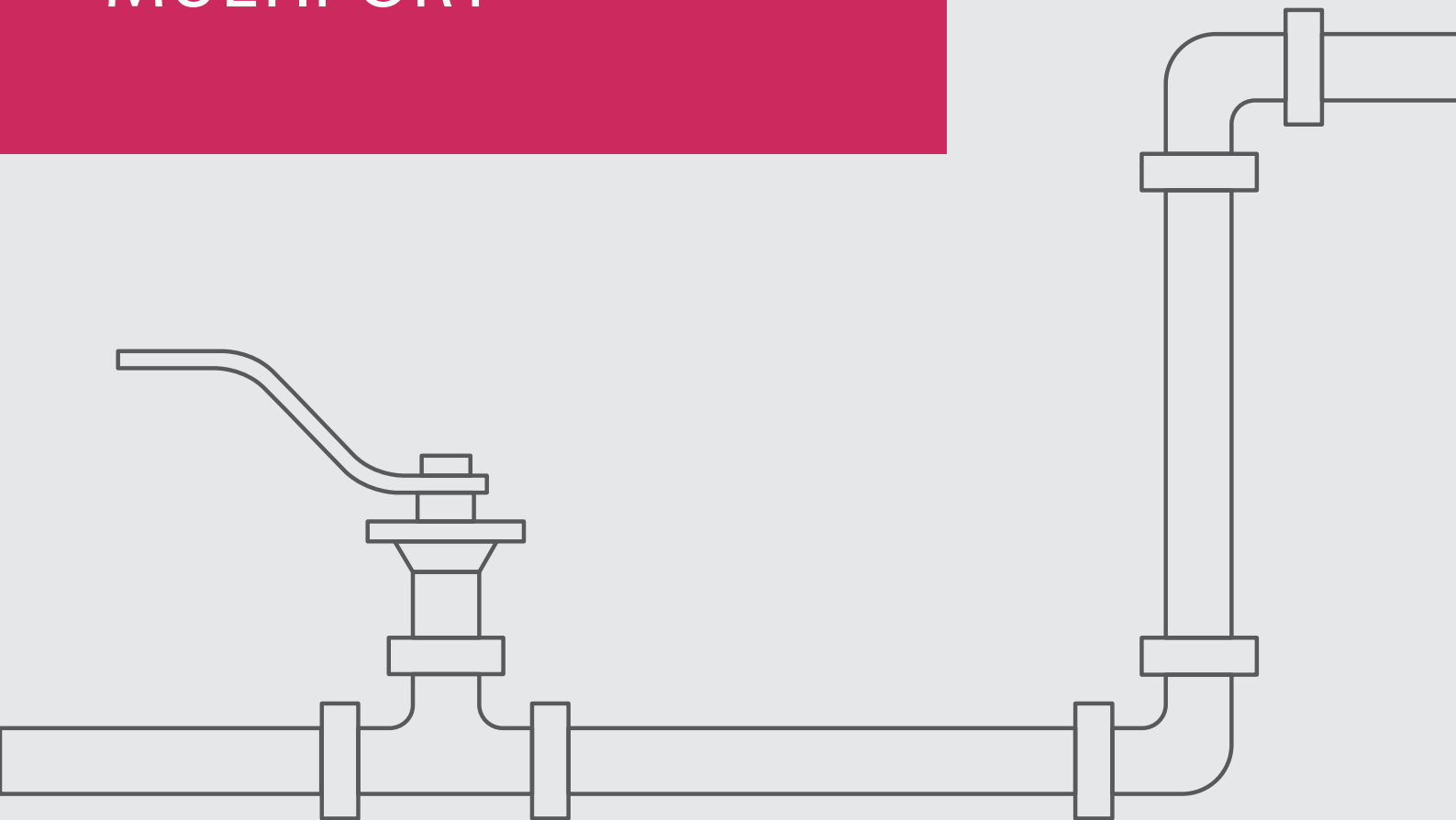
62



General Use Industrial

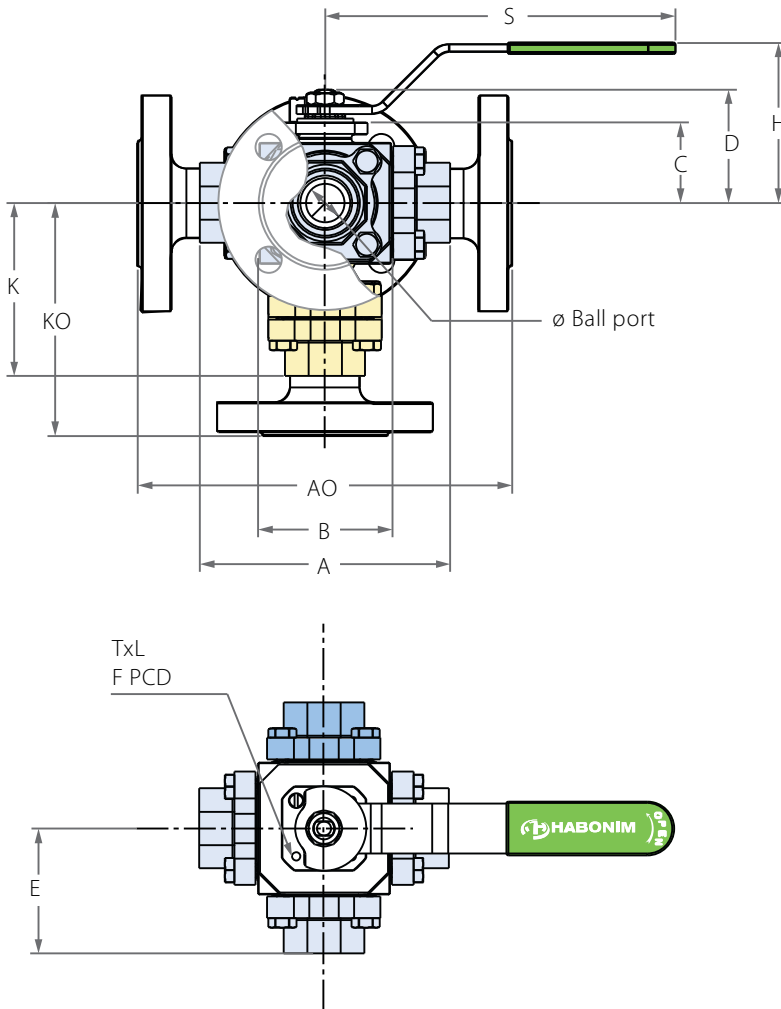
FLOATING BALL

MULTIPOINT

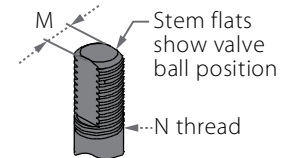
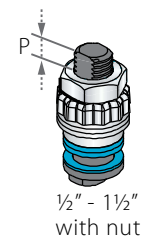


Multiport Floating Ball

Valve dimensions



Preparation for actuation



Valve Face To Face sizes are according to Habonim catalog data only, for Extended-weald/Flanged/Tri-clamp end see Face To Face sizes page.

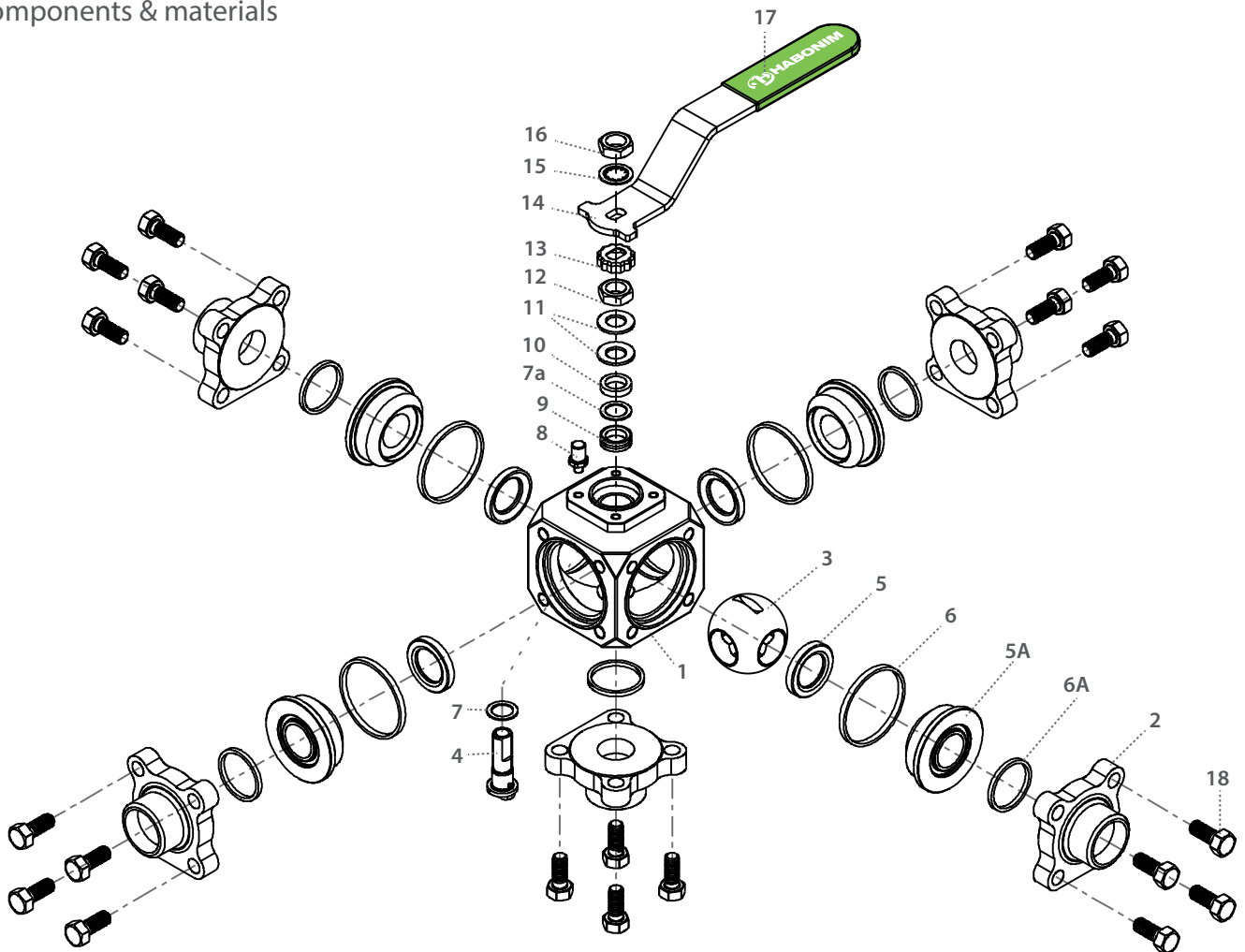
Std. port	Unit	Ball port	A	AO			B	C	D	E (E0)	K	KO			H	M	N	P	TxL	F	S	Weight kg/lb
				ANSI 150	ANSI 300	PN16 PN40						ANSI 150	ANSI 300	DIN								
DN15	mm	14.30	108.00	154.50	190.00	187.50	62.00	37.50	50.00	A/2 (A0/2)	110.50	133.70	151.50	150.20	80.00	7.54	1/16"	7.40	M5X10	(F04)	187.00	2.75
1/2"	inch	0.56	4.25	6.08	7.48	7.38	2.44	1.47	2.16		4.35	5.26	5.96	5.91	3.14	0.30	UNF	0.29			7.36	6.06
DN20	mm	14.30	108.00	154.50	190.00	187.50	62.00	37.50	50.00	A/2 (A0/2)	110.50	133.70	151.50	150.20	80.00	7.54	1/16"	7.40	M5X10	(F04)	187.00	2.75
3/4"	inch	0.56	4.25	6.08	7.48	7.38	2.44	1.47	2.16		4.35	5.26	5.96	5.91	3.14	0.30	UNF	0.29			7.36	6.06
DN25	mm	20.70	135.00	167.00	205.00	200.00	71.60	43.00	60.50	A/2 (A0/2)	93.20	109.20	128.20	125.70	85.50	7.54	7/16"	7.40	M5X10	(F04)	187.00	4.00
1"	inch	0.81	5.31	6.57	8.07	7.87	2.81	1.69	2.38		3.66	4.29	5.04	4.94	3.36	0.30	UNF	0.29			7.36	8.82
DN32	mm	25.50	144.00	174.50	205.50	207.50	76.00	48.00	65.50	A/2 (A0/2)	102.00	117.20	132.70	133.70	90.00	7.54	1/16"	7.40	M5X10	(F04)	187.00	5.80
1 1/4"	inch	1.00	5.66	6.87	8.09	8.16	2.99	1.88	2.57		4.01	4.61	5.22	5.26	3.54	0.30	UNF	0.29			7.36	12.78
DN40	mm	31.65	158.00	208.00	233.50	243.00	91.00	49.50	79.00	A/2 (A0/2)	106.00	131.00	143.70	148.50	103.00	8.71	1/16"	8.50	M6X12	(F05)	237.00	7.50
1 1/2"	inch	1.24	6.22	8.18	9.19	9.56	3.58	1.94	3.11		4.17	5.15	5.65	5.84	4.05	0.34	UNF	0.33			9.33	16.53

Valve Size		Flow Coefficients	
mm	inch	KV	CV
DN20	3/4"	9	11
DN25	1"	27	31
DN32	1 1/4"	47	55
DN40	1 1/2"	67	78



Multiport Floating Ball

Components & materials



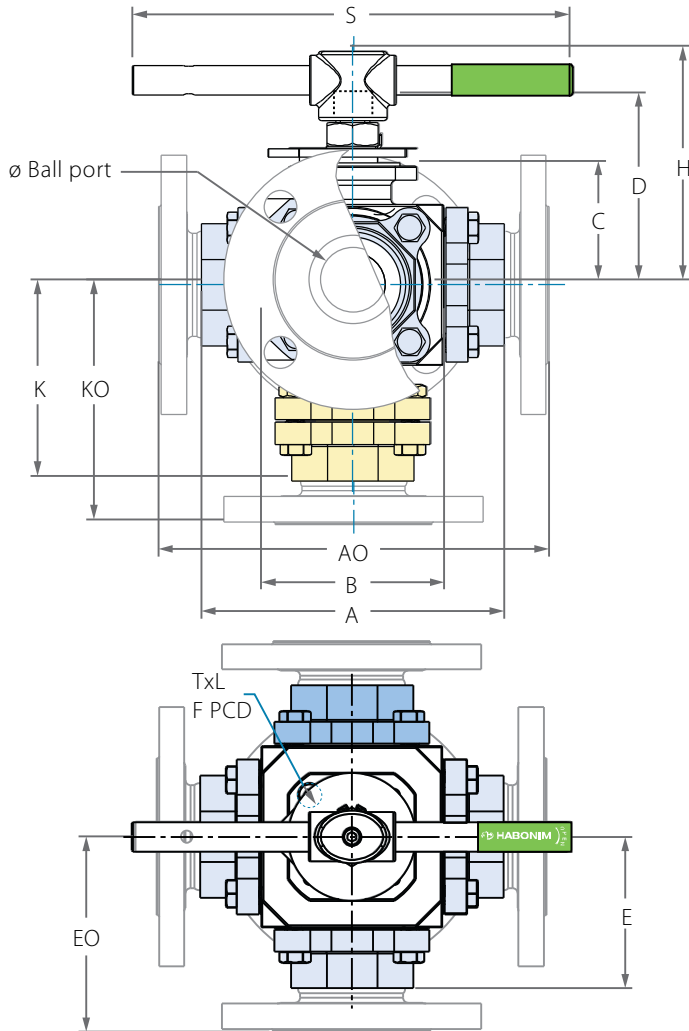
Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Ends	Acc. Ordering Code	4
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	4
5A	Support seat	Acc. Ordering Code	4
6	Inner seal	PTFE, RPTFE, UHMWPE	5
6A	Outer seal	Graphite, PTFE	4
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F) ¹	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F) ¹	1
8	Stop pin	S. Steel	1

Item	Description	Material specification	Qty.
9*	Stem seal	CF PTFE,TFM	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	1
15	Serrated washer	S. Steel	1
16	Handle nut	S. Steel	1
17	Sleeve	PVC	1
18	Body bolt	S. Steel	20
23	Tag (not shown)	S. Steel	1

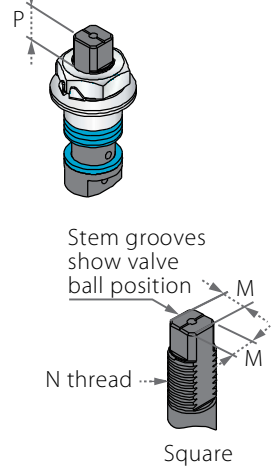
* Repair kit components

Multiport Floating Ball

Valve dimensions



Preparation for actuation



Valve Face To Face sizes are according to Habonim catalog data only, for Extended-weald/Flanged/Tri-clamp end see Face To Face sizes page.

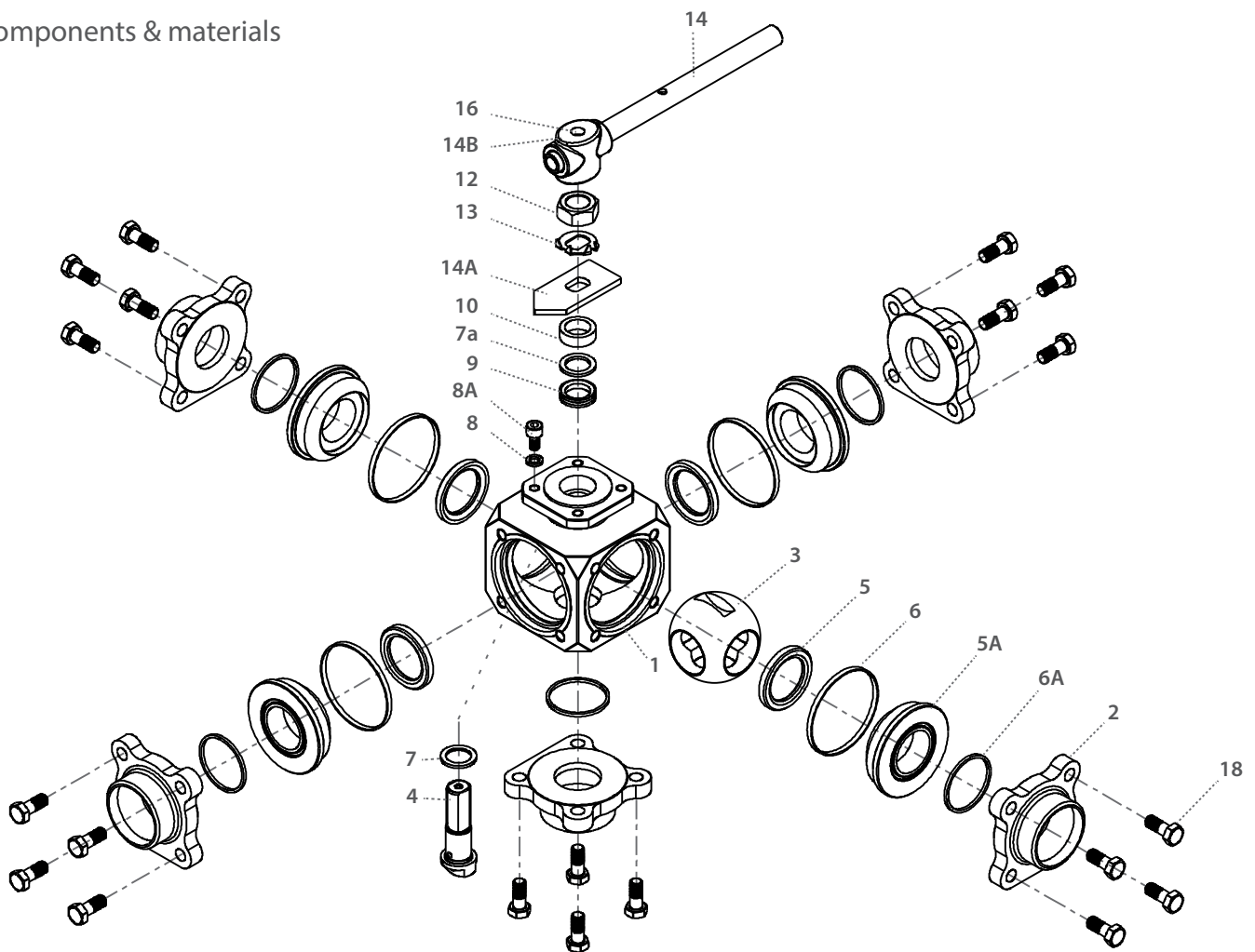
Std. port	Unit	Ball port	A	A0			B	C	D	E (E0)	K	K0			H	M	M-DD	N	P	TxL	F	S	Weight kg/lb
				ANSI 150	ANSI 300	PN16 PN40						ANSI 150	ANSI 300	PN16 PN40									
DN50	mm	38.10	178.00	228.70	266.80	280.90	107.20	69.60	111.20	A/2 (A0/2)	115.00	140.50	159.50	166.30	139.40	13.90	-	M20x2.5	14.60	M8X12	(F07)	400.00	90
2"	inch	1.50	7.00	9.00	10.50	11.05	4.22	2.74	4.37		4.52	5.53	6.27	6.54	5.48	0.55	-		0.57				15.75
DN65	mm	50.80	210.40	242.90	293.70	342.40	125.00	78.50	120.10	A/2 (A0/2)	143.20	159.50	184.80	209.20	150.90	13.90	-	M20x2.5	14.60	M8X12	(F07)	400.00	183
2½"	inch	2.00	8.28	9.56	11.56	13.48	4.92	3.09	4.72		5.63	6.27	7.27	8.23	5.94	0.55	-		0.57				15.75
DN80	mm	60.00	250.00	283.90	363.20	390.60	164.00	102.00	149.00	A/2 (A0/2)	149.00	158.00	158.00	158.00	139.40	18.90	15.90	1"-14	16.70	M10x20	(F10)	610.00	264
3"	inch	2.36	9.84	11.17	14.29	15.37	6.45	4.01	5.86		5.87	6.22	6.22	6.22	5.48	0.74	0.63	UNS-2A	0.66				24.00
DN100	mm	76.00	309.80	324.80	401.00	446.20	205.00	116.70	168.00	A/2 (A0/2)	190.00	200.00	200.00	200.00	150.90	28.45	23.75	1"-14	26.20	M10x20	(F10)	920.00	541
4"	inch	2.99	12.19	12.19	15.78	17.56	8.07	4.59	6.61		7.48	7.87	7.87	7.87	5.94	0.74	0.63	UNS-2A	0.66				36.20

Valve Size		Flow Coefficients	
mm	inch	KV	CV
DN50	2"	87	101
DN65	2½"	201	233
DN80	3"	267	310
DN100	4"	484	562



Multiport Floating Ball

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Ends	Acc. Ordering Code	4
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	4
5A	Support seat	Acc. Ordering Code	4
6	Inner seal	PTFE, RPTFE, UHMWPE	5
6A	Outer seal	Graphite, PTFE	4
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F)	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F)	1
8	Spring Washer	S. Steel	1
8A	Stop Bolts	S. Steel	1

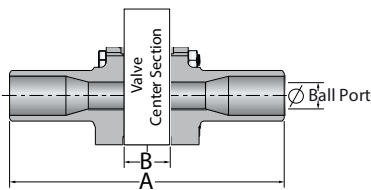
Item	Description	Material specification	Qty.
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1
12	Stem nut	S. Steel	1
13	Tab Lock Washer	S. Steel	1
14	Wrench Handle	C.St. Zinc Plate	1
14A	Stop Plate	S. Steel	1
14B	Wrench Head	S. Steel	1
16	Wrench Bolt	S. Steel	1
17	Sleeve	PVC	1
18	Body bolt	S. Steel	20
23	Tag (not shown)	S. Steel	1

* Repair kit components

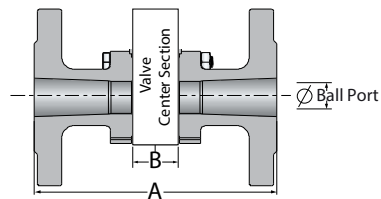
Face To Face Sizes

Valve Size	Unit	B		A-XBW		A-ETO	A-Flanged		A-TC
		Std. port	Full port	Std. port	Full port	Std. port	Std. port	Full port	Full port
DN10	mm	62.0	62.0	182.0	184.4	150.0			
3/8"	inch	2.4	2.4	7.2	7.3	5.9			
DN15	mm	62.0	62.0	182.0	184.4	178.4	181.4	189.4	130.2
1/2"	inch	2.4	2.4	7.2	7.3	7.0	7.1	7.5	5.1
DN20	mm	62.0	71.6	184.4	208.6	184.4	189.4	205.0	139.0
3/4"	inch	2.4	2.8	7.3	8.2	7.3	7.5	8.1	5.5
DN25	mm	71.6	76.0	208.6	214.0	204.0	205.0	212.8	154.2
1"	inch	2.8	3.0	8.2	8.4	8.0	8.1	8.4	6.1
DN32	mm	76.0	91.0	214.0	232.0	214.0	212.8	232.6	
1 1/4"	inch	3.0	3.6	8.4	9.1	8.4	8.4	9.2	
DN40	mm	91.0	107.2	232.0	251.2	226.6	232.6	267.0	182.4
1 1/2"	inch	3.6	4.2	9.1	9.9	8.9	9.2	10.5	7.2
DN50	mm	107.2	125.0	251.2	285.0	244.4	267.0	293.4	209.8
2"	inch	4.2	4.9	9.9	11.2	9.6	10.5	11.6	8.3
DN65	mm	125.0	164.0	285.0	364.0	275.0	293.4	362.6	265.4
2 1/2"	inch	4.9	6.5	11.2	14.3	10.8	11.6	14.3	10.4
DN80	mm	164.0	205.0	364.0	445.0	331.0	362.6	378.2	296.4
3"	inch	6.5	8.1	14.3	17.5	13.0	14.3	14.9	11.7
DN100	mm	205.0		445.0	267.0	445.0	401.2	182.0	341.6
4"	inch	8.1		17.5	10.5	17.5	15.8	7.2	13.4
DN200	mm			298.0	0.0	298.0	257.0	223.0	0.0
6"	inch			11.7	0.0	11.7	10.1	8.8	0.0

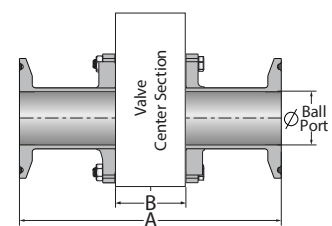
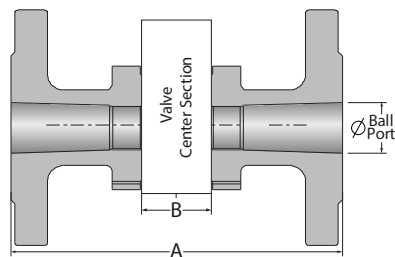
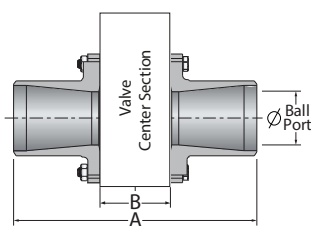
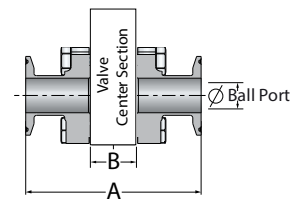
XBW / ETO



Flanged



TC





Multiport Floating Ball - 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	29	30
2	0					6	1	X	-	6	6	6	6	A	T		/	B	W			#	0	3	4				
Size		Features				Series		Design	-	Body/end material		Ball/Stem material		Seat material	Inner Seal material	Outer Seal material	/	End connection			Flow pattern code				Special features				

Size (1-2)		
Code	inch	mm
02	¼"	8
03	⅜"	10
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)	
B *	Full port
F	Shell only - fire safe
O	Clean assembly for O2 service

* up to 3"

Series (7-8)	
61	Multiport with three horizontal ports
62	Multiport with four horizontal ports

Design (9)	
X	Hermetic stem seal

Body/Ends material (11-12)	
6	S. SteelCF8M/CF3M
1	Bronze
4	C. steel A216 WCB/A105
9	C. steel A352 LCB
7	Monel
A	Alloy-20 A351 CN7M
W	Alloy-C22 B574
D	Duplex A479
K	Super Duplex A479
S	254SMO A479

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

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

Seat material (15)	
A	TFM
U	UHMWPE
P	CF PTFE
C	PCTFE
K	CF PEEK
L	Virgin Peek

Inner Seal Material (16)	
T	PTFE
G	Expanded graphite
A	TFM
U	UHMWPE

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

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

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

Flow pattern code (23 -26)	
#001-	Flow pattern
#085	(see following pages)

Special Features (27-30)	
B	Body made from rolled bar
EP	Electropolished
G...	Internal surface finish (G24, G32)

Valve Special Stem Seals	
HC	High Cycle service
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

MULTIPORT FLOATING BALL

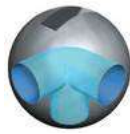
Ball Types



L - Horizontal



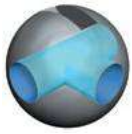
L - Vertical



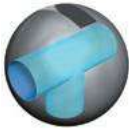
LL



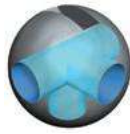
X (LL)



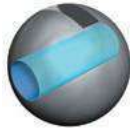
T - Horizontal



T - Vertical



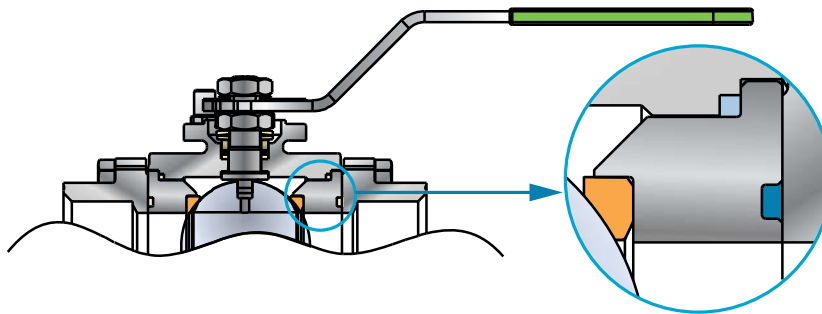
TT



I

Seats & body seals

The 61/62 series valves have 4 seats that provide enhanced sealing characteristics. The seats are inserted into a support ring which is sealed with 2 separate body seals - 1 seal between the support ring and the body and the other between the support ring and the end connector. Both body seals are encapsulated and thus provide tighter compression of the seal for higher



How to Use the Valve Selection

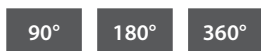
1. Select the valve type
3 Way Valve - Side Entry



2. Select the ball type
T - Horizontal



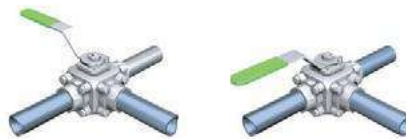
3. Select the rotation angle



4. Select the rotation direction (ccw/cw)



5. Select the starting position and flow pattern
Flow is indicated by a blue pipeline

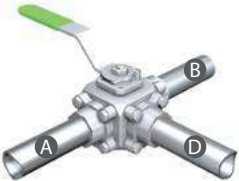



6. Use the flow pattern code number to order the appropriate valve

90°	CCW ⌚	
	# 001	# 002
Start		



3 Way Valve | Side Entry

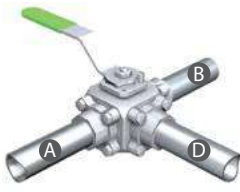
90°	CCW ⦿				CW ⦿			
	# 001	# 002	# 003	# 004	# 005	# 006	# 007	# 008
Start								
2 nd								
180°	CCW ⦿				CW ⦿			
	# 009	# 010	# 011	# 012	# 013	# 014	# 015	# 016
Start								
2 nd								
3 rd								
360°	CCW ⦿	CW ⦿	  <p>T - Horizontal</p>					
	# 017	# 018						
Start								
2 nd								
3 rd								
4 th								


MULTIPORT FLOATING BALL

3 Way Valve | Side Entry

90°	CCW ⌚			CW ⌚		
	# 019	# 020	# 021	# 022	# 023	# 024
Start						
2 nd						

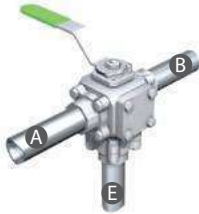

180°	CCW ⌚		CW ⌚	
	# 025	# 026	# 027	# 028
Start				
2 nd				
3 rd				

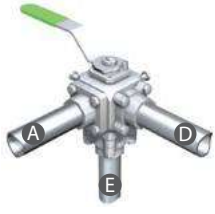



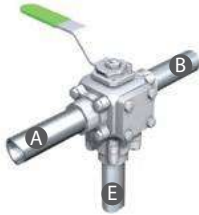



L - Horizontal

3 Way Valve | Bottom Entry

90°	CCW ⌚			LL
	# 029			
Start				
2 nd				

90°	CCW ⌚			L - Vertical
	# 031			
Start				
2 nd				

180°	CCW ⌚			L - Vertical
	# 030			
Start				
2 nd				
3 rd				

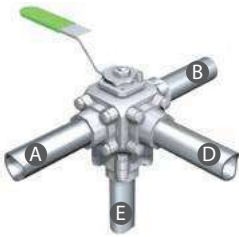


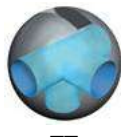
4 Way Valve | Bottom Entry D61

90°	CCW ⌚				CW ⌚			
	# 032	# 033	# 034	# 035	# 036	# 037	# 038	# 039
Start								
2 nd								

180°	CCW ⌚				CW ⌚			
	# 040	# 041	# 042	# 043	# 044	# 045	# 046	# 047
Start								
2 nd								
3 rd								

360°	CCW ⌚	CW ⌚
	# 048	# 049
Start		
2 nd		
3 rd		
4 th		





TT

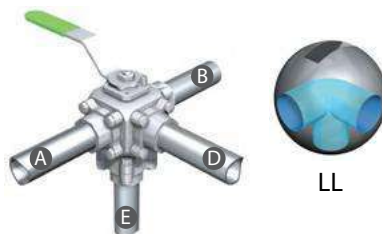
MULTIPORT FLOATING BALL

4 Way Valve | Bottom Entry D61

90°	CW ◯ # 050
Start	
2 nd	

180°	CCW ◯				CW ◯			
	# 051	# 052	# 053	# 054	# 055	# 056	# 057	# 058
Start								
2 nd								
3 rd								

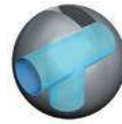
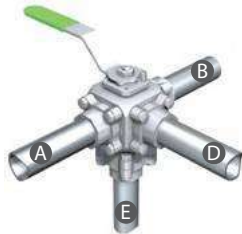
360°	CCW ◯	CW ◯
	# 059	# 060
Start		
2 nd		
3 rd		
4 nd		





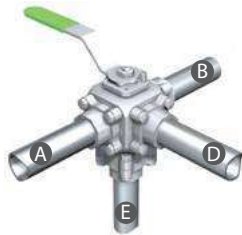
4 Way Valve | Bottom Entry D61

90°	CCW ⦿ # 061
Start	
2 nd	

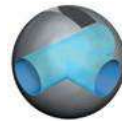
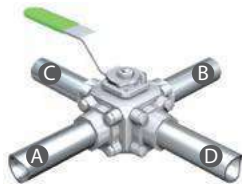


T - Vertical

360°	CCW ⦿	CW ⦿
	# 062	# 063
Start		
2 nd		
3 rd		
4 th		



L - Vertical



T - Horizontal

4 Way Valve | Side Entry

90°	CCW ⦿	CW ⦿
	# 064	# 065
Start		
2 nd		

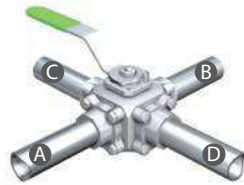
180° 2 positions	CW ⦿
	# 066
Start	
2 nd	

180° 3 positions	CCW ⦿	CW ⦿
	# 067	# 068
	Start	
2 nd		
3 rd		

MULTIPORT FLOATING BALL

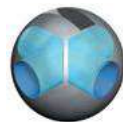
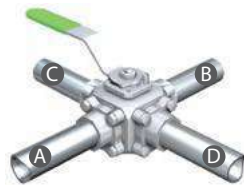
4 Way Valve | Side Entry

180°	CCW 
	# 069
Start	
2 nd	






L - Horizontal

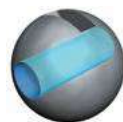
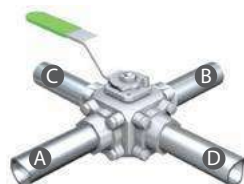
360°	CCW 	CW 
	# 070	# 071
Start		
2 nd		
3 nd		
4 nd		



X (LL)

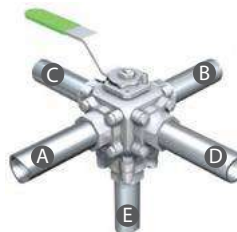
90°	CCW 
	# 072
Start	
2 nd	

90°	CCW 
	# 073
Start	
2 nd	



I

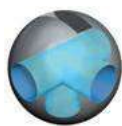
5 Way Valve - Bottom Entry D62



90°	CCW ◯	CW ◯
	# 074	# 075
Start		
2 nd		

180°	CCW ◯	CW ◯
	# 076	# 077
Start		
2 nd		
3 rd		

360°	CCW ◯	CW ◯
	# 078	# 079
Start		
2 nd		
3 rd		
4 th		



TT - Horizontal

360°	CCW ◯	CW ◯
	# 081	# 082
Start		
2 nd		
3 rd		
4 th		



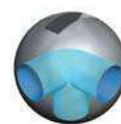
L - Vertical

90°	CCW ◯
	# 080
Start	
2 nd	



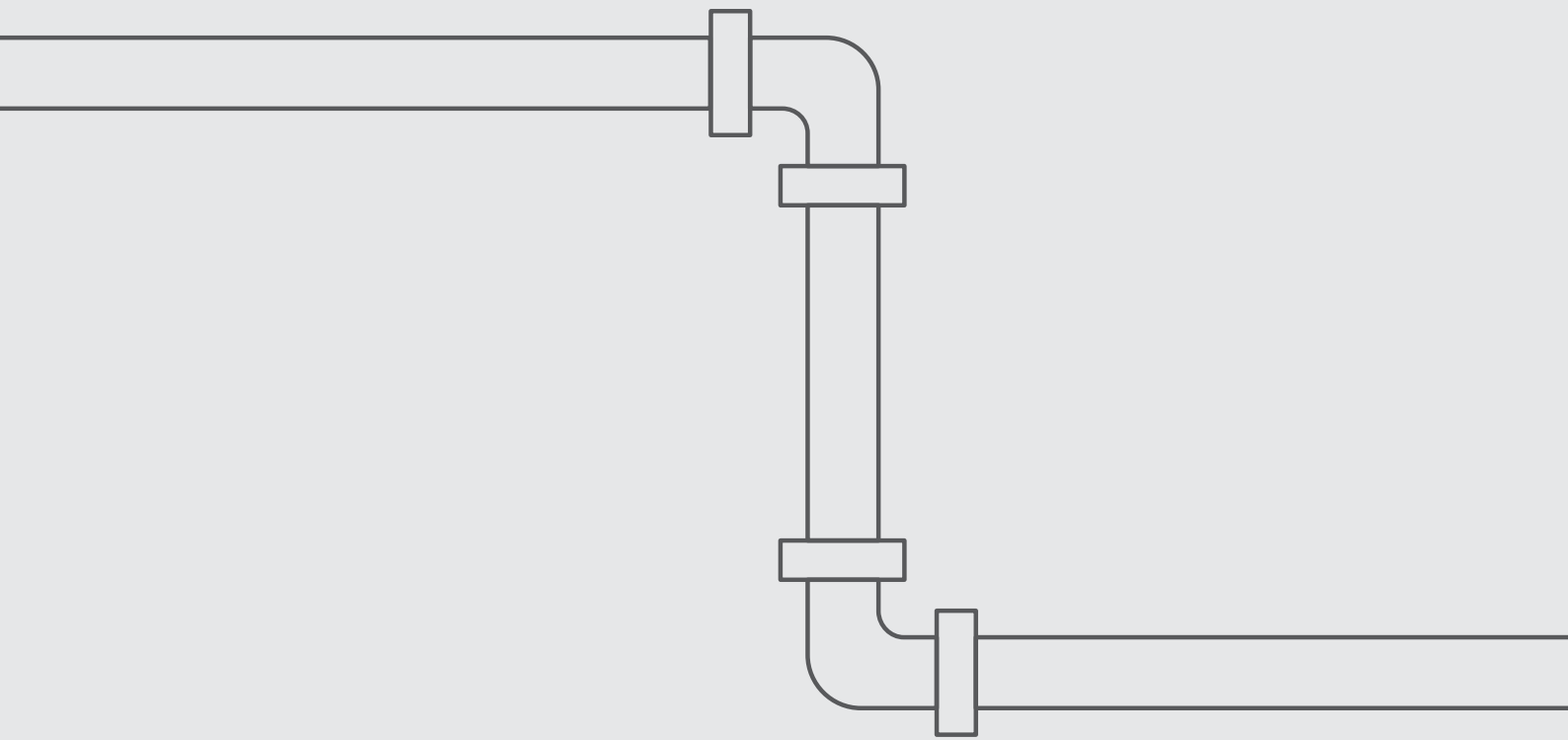
T - Vertical

180° 2 positions	CCW ◯
	# 083
Start	
2 nd	



LL

360°	CCW ◯	CW ◯
	# 084	# 085
Start		
2 nd		
3 rd		
4 th		



D47

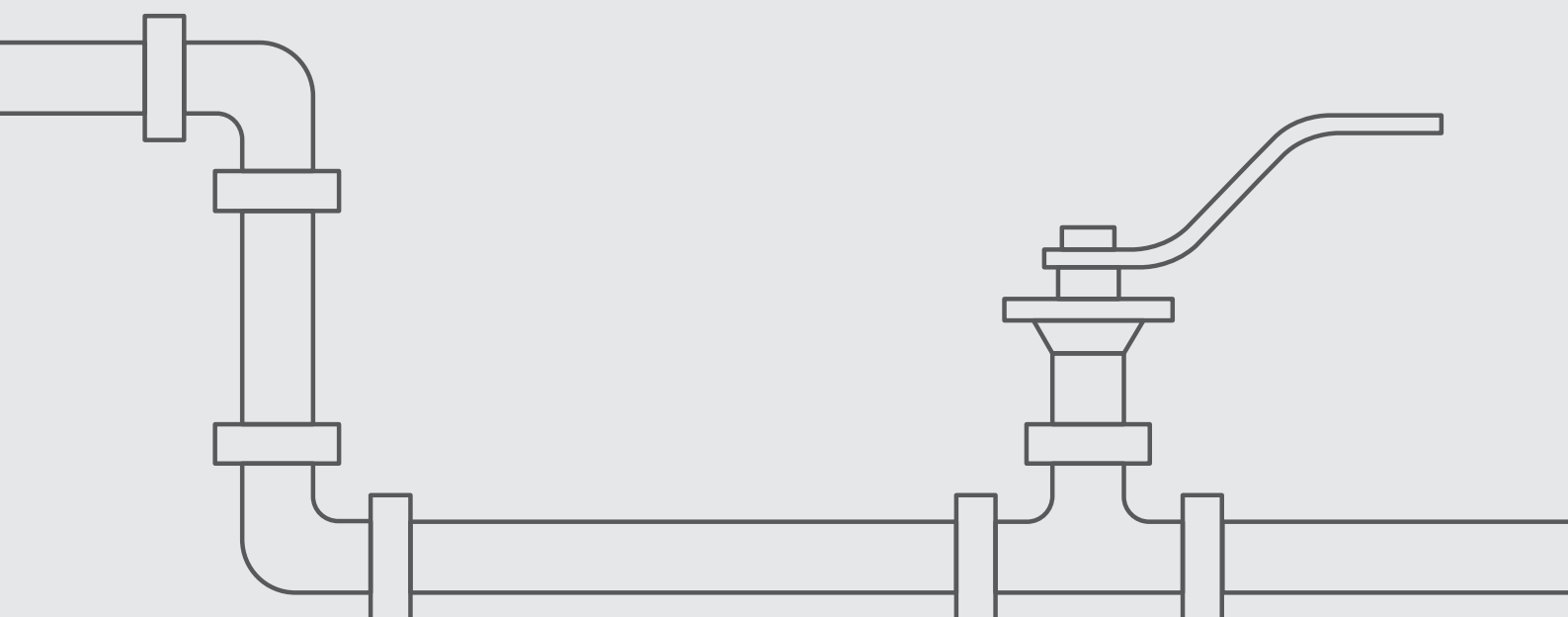
S47



General Use Industrial

FLOATING BALL

DIVERTER
SIDE ENTRY - 3 PIECE



D47

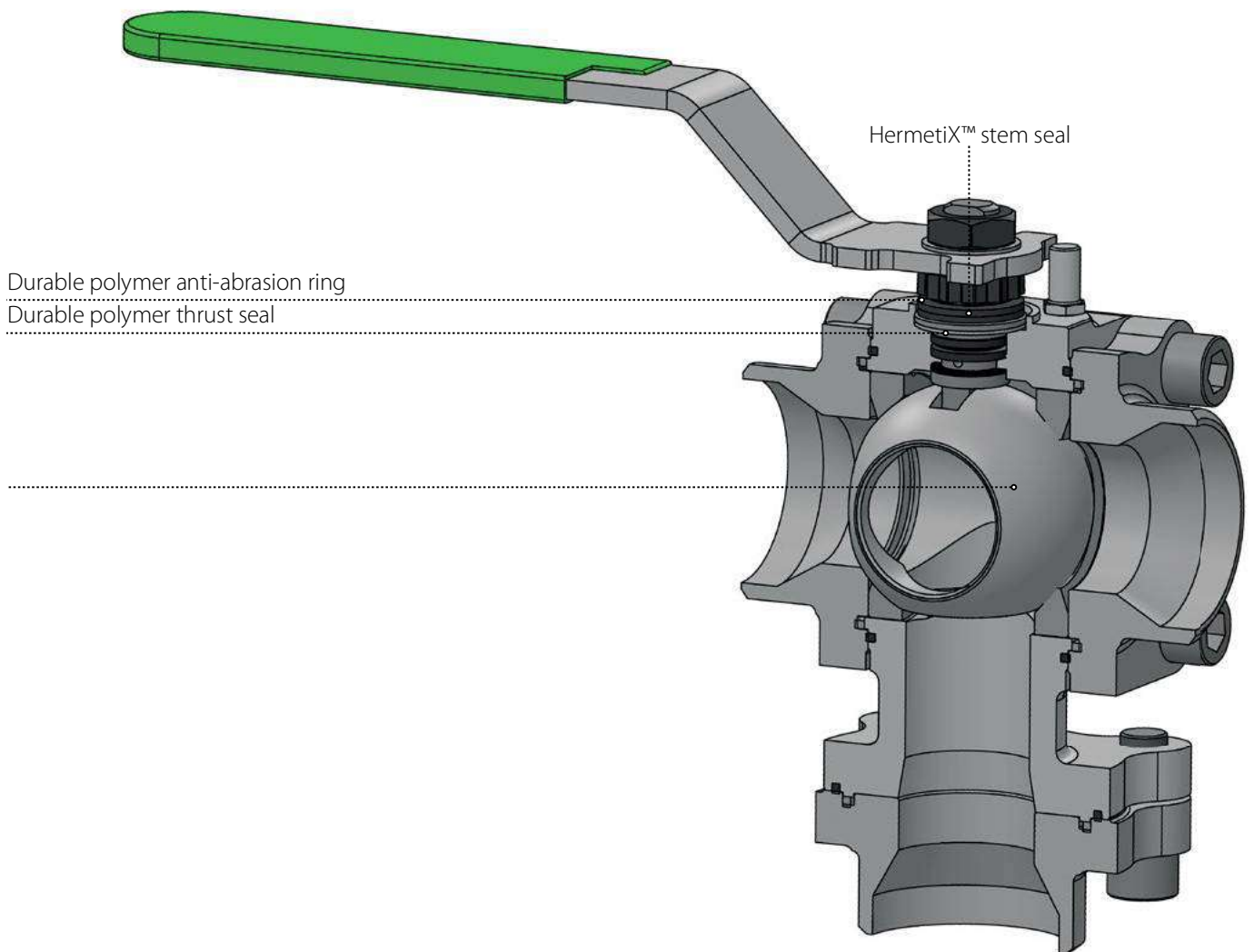
S47

Diverter | Side Entry

Design features

Body

- Three piece design
- Forged or cast body
- Full compliance with ASME B16.34 (wall thickness)
- Easy in-line serviceable with swing-out body
- Large range of end connections for full or standard port valves
- Rugged top mounting platform compliant with ISO 5211 for easy mounting of actuator and other accessories



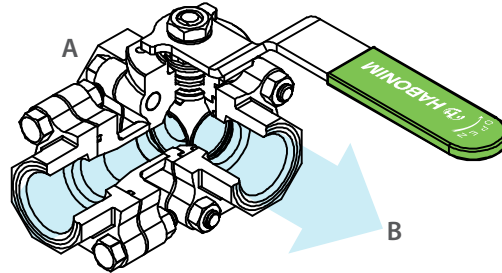
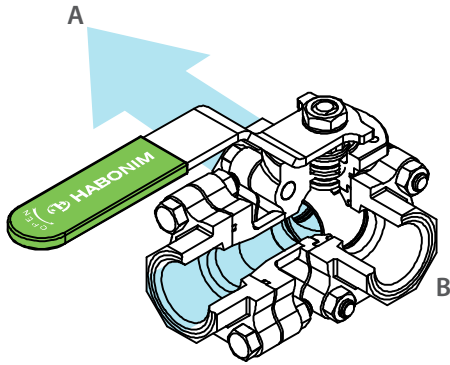
D47

S47



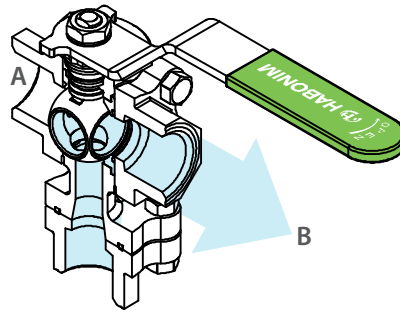
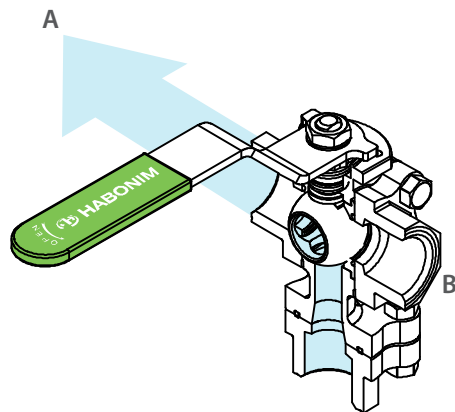
Side Entry - S47

Rotation: 90°



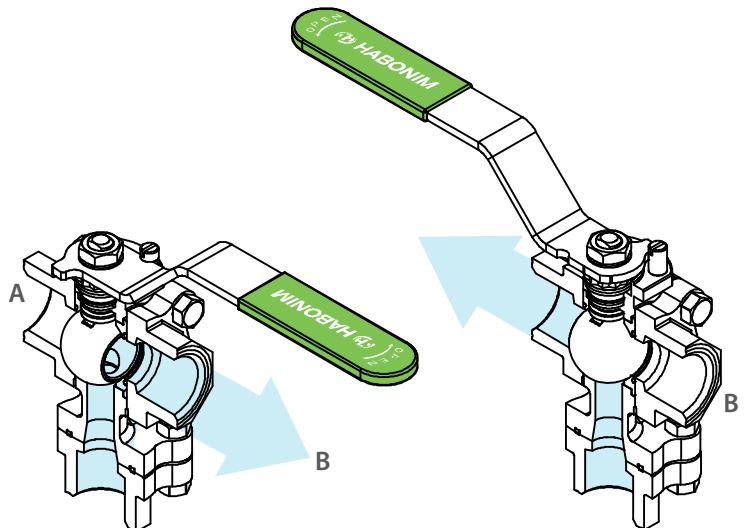
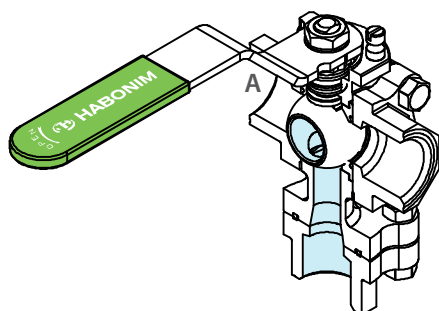
Bottom Entry - D47

Rotation: 90°



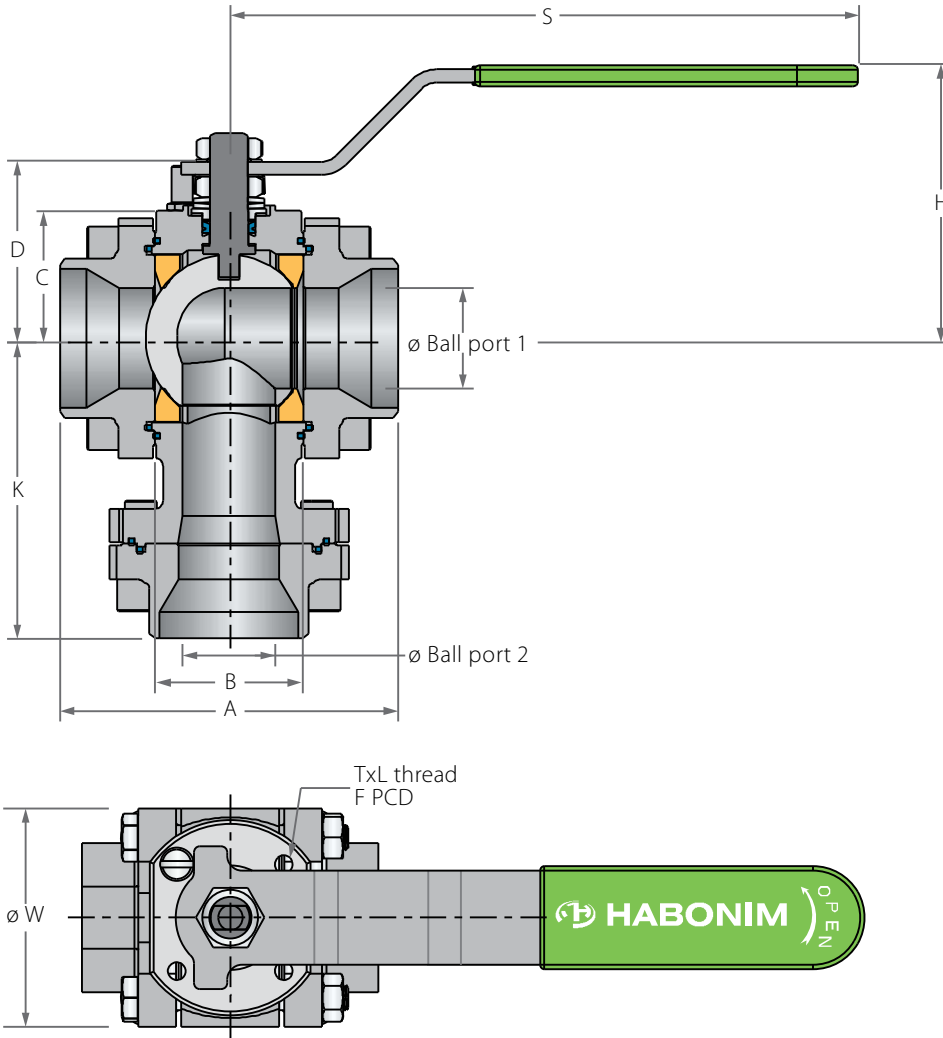
Bottom Entry - D47

Rotation: 180°

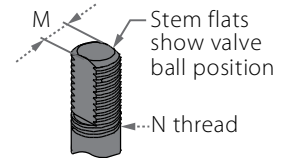
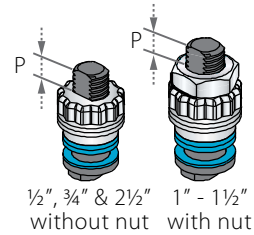


Diverter Floating Ball 3 Piece

Valve dimensions



Preparation for actuation

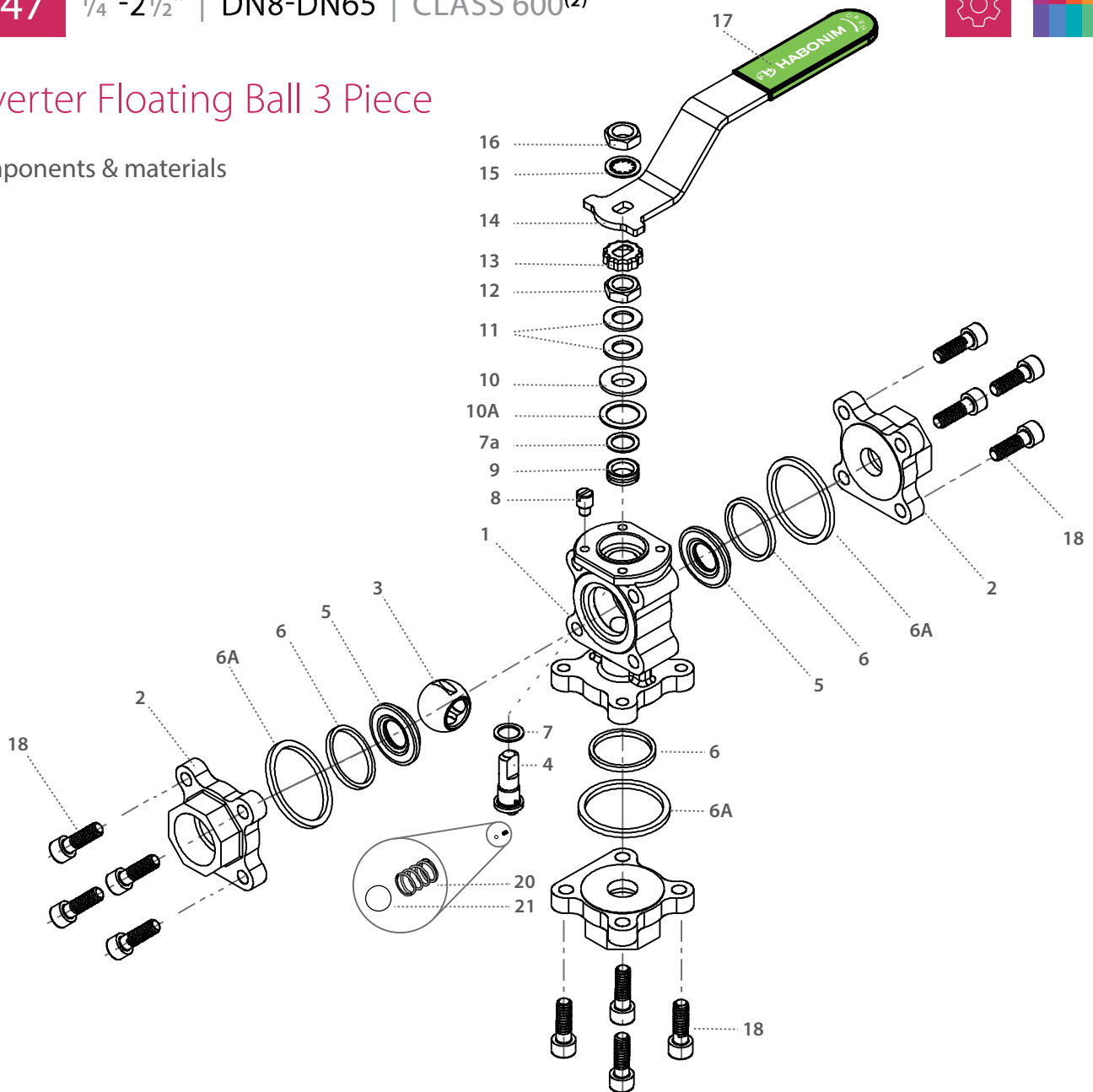


Std. port	Full port	Unit	Ball port1	Ball port2	A	B	C	D	H	K	S	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv
	DN8	mm	10.50	9.50	66.00	20.60	29.00	37.90	61.50	88.20	150.00	47.00	5.54		6.65 (F03)	36.00	M5X10	1.00	2.4
	1/4"	inch	0.41	0.37	2.60	0.81	1.14	1.49	2.42	3.48	5.91	1.85	0.22		0.26	1.42	M5X10	2.20	2.8
DN15	DN10	mm	10.50	9.50	66.00	20.60	29.00	37.90	61.50	88.20	150.00	47.00	5.54		6.65 (F03)	36.00	M5X10	1.00	2.8
1/2"	3/8"	inch	0.41	0.37	2.60	0.81	1.14	1.49	2.42	3.48	5.91	1.85	0.22		0.26	1.42	M5X10	2.20	3.3
DN20	DN15	mm	14.30	11.90	70.60	24.50	31.40	40.30	63.90	93.70	150.00	53.70	5.54		6.65 (F03)	36.00	M5X10	1.20	4
3/4"	1/2"	inch	0.56	0.47	2.78	0.97	1.24	1.59	2.52	3.68	5.91	2.11	0.22		0.26	1.42	M5X10	2.64	5
DN25	DN20	mm	20.60	15.90	93.70	31.70	38.10	55.60	79.40	119.00	187.00	63.70	7.54	7/16 UNF	7.40 (F04)	42.00	M5X10	2.40	8
1"	3/4"	inch	0.81	0.63	3.69	1.25	1.50	2.19	3.13	4.68	7.36	2.51	0.30		0.29	1.65	M5X10	5.29	9
DN32	DN25	mm	25.40	20.50	108.00	41.30	42.70	60.20	84.10	130.15	187.00	71.70	7.54		7.40 (F04)	42.00	M5X10	4.00	16
1 1/4"	1"	inch	1.00	0.81	4.25	1.62	1.68	2.37	3.31	5.13	7.36	2.82	0.30		0.29	1.65	M5X10	8.82	19
DN40	DN32	mm	31.80	26.60	115.50	48.40	43.60	73.00	97.00	139.05	237.00	86.70	8.71		8.50 (F05)	50.00	M6X12	5.50	40
1 1/2"	1 1/4"	inch	1.25	1.05	4.55	1.91	1.72	2.87	3.82	5.47	9.33	3.41	0.34		0.33	1.97	M6X12	12.12	46
DN50	DN40	mm	38.10	35.00	128.00	56.30	48.30	77.80	101.80	149.45	237.00	96.90	8.71		8.50 (F05)	50.00	M6X12	6.90	42
2"	1 1/2"	inch	1.50	1.38	5.04	2.22	1.90	3.06	4.01	5.88	9.33	3.82	0.34		0.33	1.97	M6X12	15.21	49
DN65	DN50	mm	50.80	48.00	158.00	72.60	70.00	88.10	115.10	175.40	237.00	108.00	8.71		13.50 (F07)	70.00	M8X12	14.45	96
2 1/2"	2"	inch	2.00	1.89	6.22	2.86	2.76	3.47	4.53	6.90	9.33	4.25	0.34		0.53	2.76	M8X12	31.85	111



Diverter Floating Ball 3 Piece

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Ends	Acc. Ordering Code	3
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Body seal	Acc. Ordering Code	3
6A*	Outer seal	Acc. Ordering Code	3
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE	1
7a**	Anti-abrasion ring	PEEK, CF PEEK, PCTFE	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1

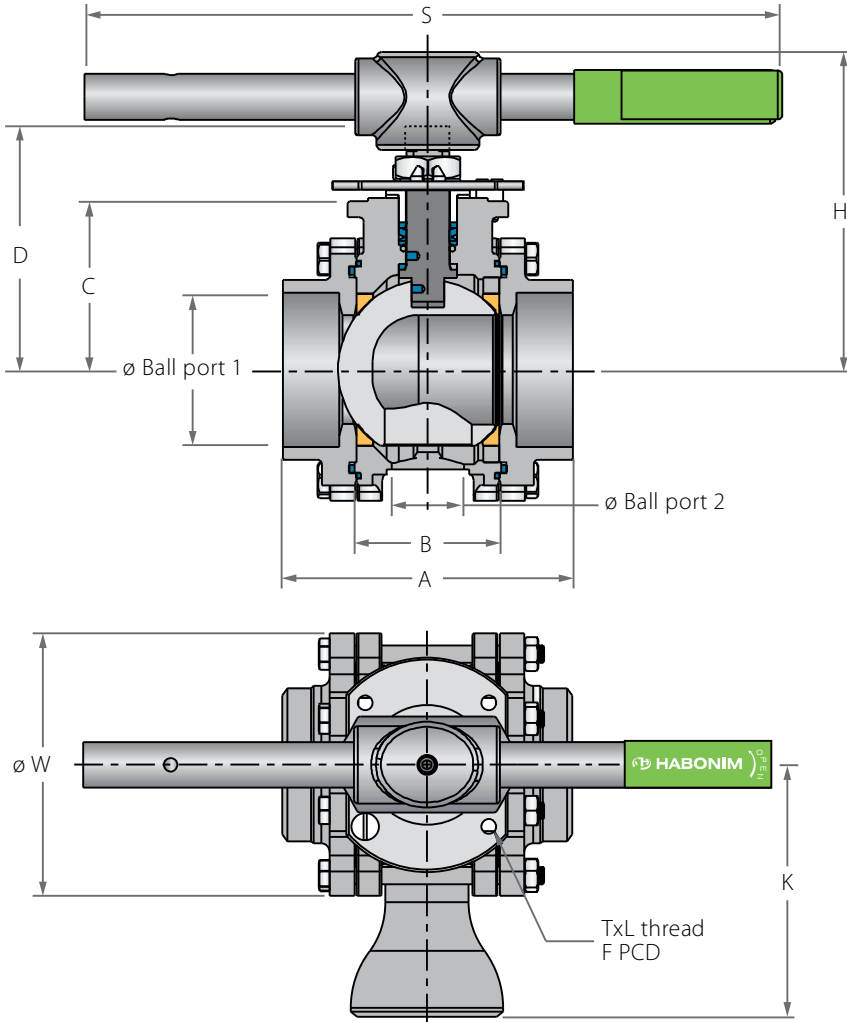
Item	Description	Material specification	Qty.
10A	Slide bearing	S. Steel	1
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Locking clip	S. Steel	1
14	Handle	S. Steel	1
15	Serrated washer	S. Steel	1
16	Handle nut	S. Steel	1
17	Sleeve	PVC	1
18	Body bolt	S. Steel	12
20	Anti-static spring	S. Steel	1
21	Anti-static plunger	S. Steel	1
23	Tag (not shown)	S. Steel	1

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

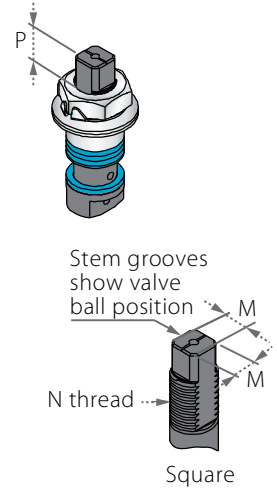
* Repair kit components

Diverter Floating Ball 3 Piece

Valve dimensions



Preparation for actuation

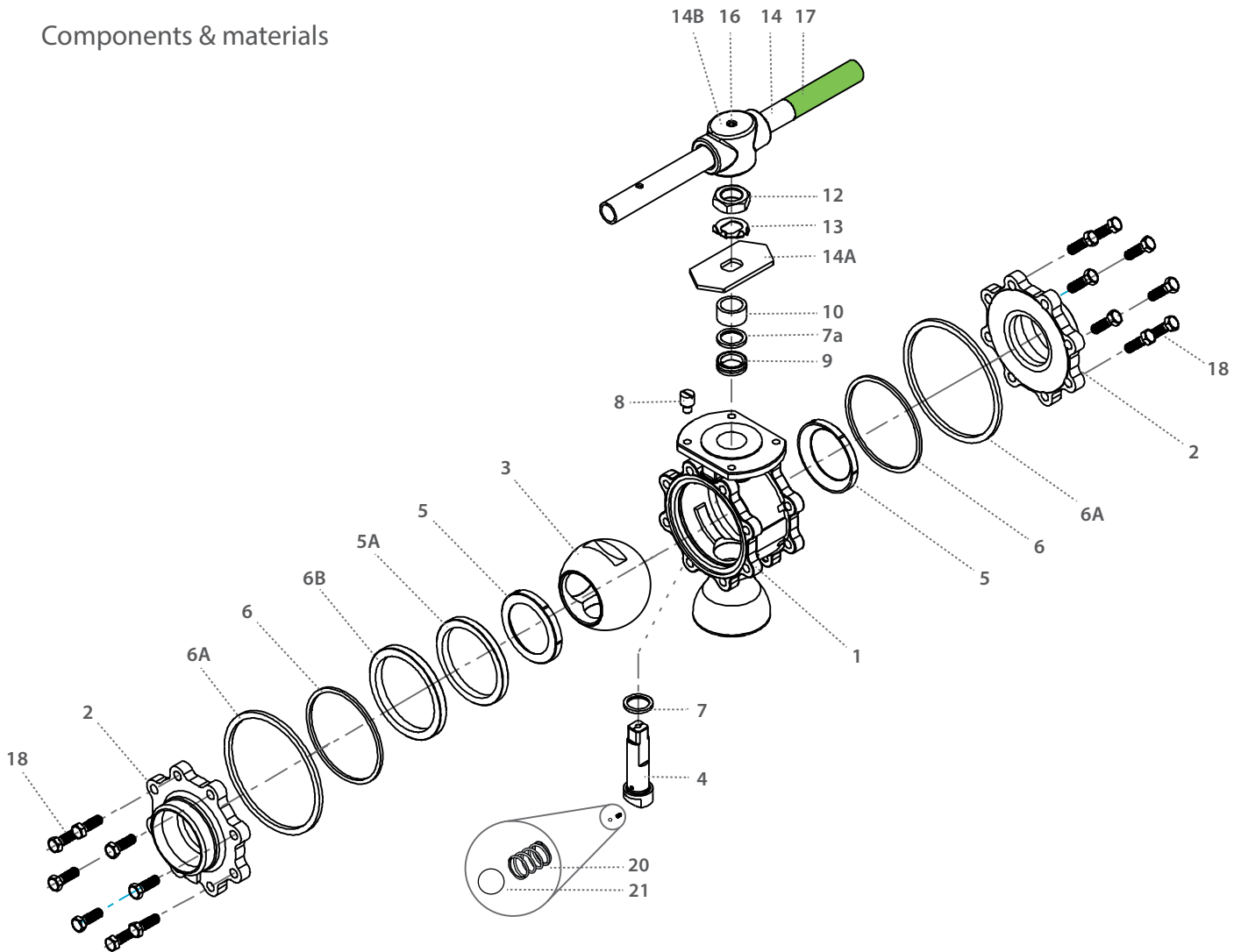


Std. port	Full port	Unit	Ball port 1	Ball port 2	A	B	C	D	H	K	S	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv
DN80	DN65	mm	63.75	80.50	169	83.3	98.3	144.9	185	163	400	18.90	15.90	1"-14	16.70 (F10)	102.00	M10x20	18.00	129
3"	2½"	inch	2.51	3.17	6.65	3.28	3.87	5.70	7.28	6.42	15.75	0.74	0.63	UNS-2A	0.66	4.02	M10x20	39.67	150
DN100	DN80	mm	80.00	63.25	214	108.8	114.1	160.7	200	183	600	18.90	15.90	1"-14	16.70 (F10)	102.00	M10x20	28.20	182
4"	3"	inch	3.15	2.49	8.43	4.28	4.49	6.33	7.87	7.20	23.62	0.74	0.63	UNS-2A	0.66	4.02	M10x20	62.15	211
	DN100	mm	92.00	67.00	239	123	124	170.5	211	200	600	18.90	15.90	1"-14	16.70 (F10)	102.00	M10x20	36.00	334
	4"	inch	3.62	2.64	9.41	4.84	4.88	6.71	8.31	7.87	23.62	0.74	0.63	UNS-2A	0.66	4.02	M10x20	79.34	388
DN150		mm	111.35	77.90	346	146	157	226	286	212	916	28.45	23.75	1½"-12	26.20 (F12)	125.00	M12x20	41.00	437
6"		inch	4.38	3.07	13.62	5.75	6.18	8.90	11.26	8.35	36.06	1.12	0.94	UNF-2A	1.03	4.92	M12x20	90.36	507



Diverter Floating Ball 3 Piece

Components & materials



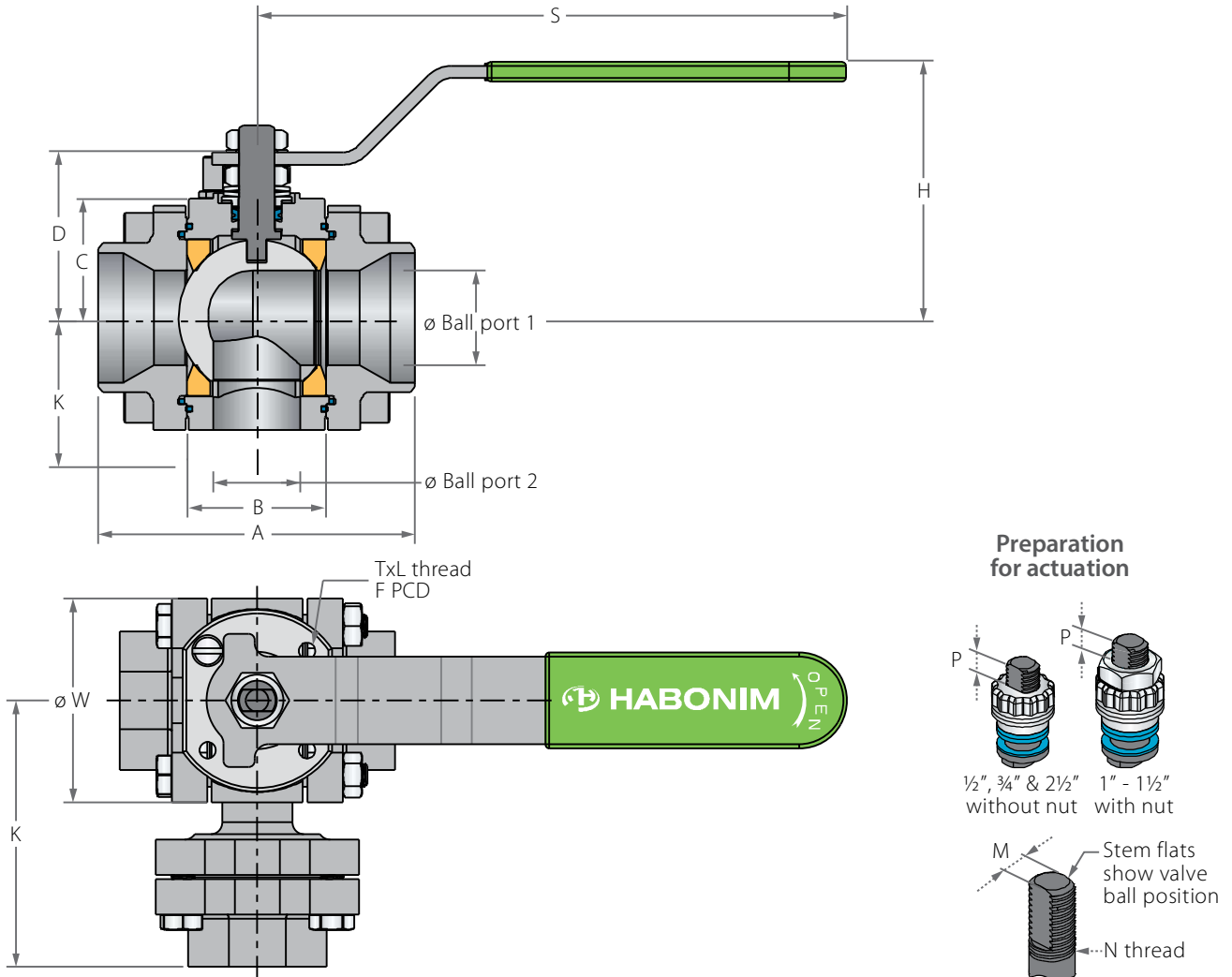
Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Plug	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Body seal	Acc. Ordering Code	2
6A*	Outer seal	Acc. Ordering Code	2
6B	Support ring	S. Steel	1
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F)	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	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	Handle	S. Steel	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 bolt	S. Steel	16
20	Anti-static spring	S. Steel	2
21	Anti-static plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

* Repair kit components

Side Entry Floating Ball 3 Piece

Valve dimensions

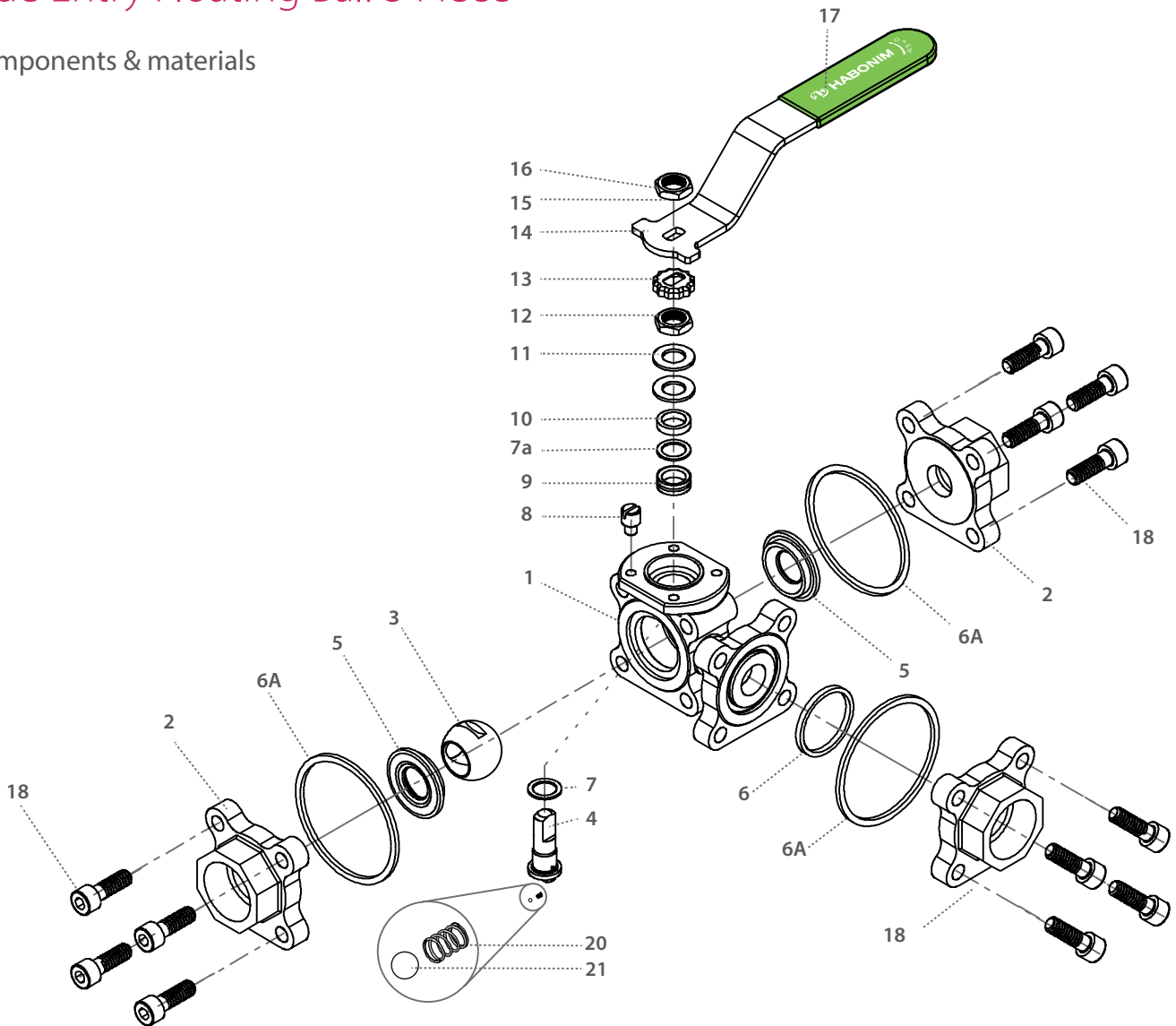


Std. port	Full port	Unit	Ball port1	Ball port2	A	B	C	D	H	K	S	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv
	DN8	mm	10.50	9.50	66.00	20.60	29.00	37.90	61.50	88.20	150.00	47.00	5.54		6.65 (F03)	36.00	M5X10	1.00	2.4
	1/4"	inch	0.41	0.37	2.60	0.81	1.14	1.49	2.42	3.48	5.91	1.85	0.22		0.26	1.42	M5X10	2.20	2.8
DN15	DN10	mm	10.50	9.50	66.00	20.60	29.00	37.90	61.50	88.20	150.00	47.00	5.54		6.65 (F03)	36.00	M5X10	1.00	2.8
1/2"	3/8"	inch	0.41	0.37	2.60	0.81	1.14	1.49	2.42	3.48	5.91	1.85	0.22		0.26	1.42	M5X10	2.20	3.3
DN20	DN15	mm	14.30	11.90	70.60	24.50	31.40	40.30	63.90	93.70	150.00	53.70	5.54		6.65 (F03)	36.00	M5X10	1.20	4
3/4"	1/2"	inch	0.56	0.47	2.78	0.97	1.24	1.59	2.52	3.68	5.91	2.11	0.22		0.26	1.42	M5X10	2.64	5
DN25	DN20	mm	20.60	15.90	93.70	31.70	38.10	55.60	79.40	119.00	187.00	63.70	7.54	7/16 UNF	7.40 (F04)	42.00	M5X10	2.40	8
1"	3/4"	inch	0.81	0.63	3.69	1.25	1.50	2.19	3.13	4.68	7.36	2.51	0.30		0.29	1.65	M5X10	5.29	9
DN32	DN25	mm	25.40	20.50	108.00	41.30	42.70	60.20	84.10	130.15	187.00	71.70	7.54		7.40 (F04)	42.00	M5X10	4.00	16
1 1/4"	1"	inch	1.00	0.81	4.25	1.62	1.68	2.37	3.31	5.13	7.36	2.82	0.30		0.29	1.65	M5X10	8.82	19
DN40	DN32	mm	31.80	26.60	115.50	48.40	43.60	73.00	97.00	139.05	237.00	86.70	8.71		8.50 (F05)	50.00	M6X12	5.50	40
1 1/2"	1 1/4"	inch	1.25	1.05	4.55	1.91	1.72	2.87	3.82	5.47	9.33	3.41	0.34		0.33	1.97	M6X12	12.12	46
DN50	DN40	mm	38.10	35.00	128.00	56.30	48.30	77.80	101.80	149.45	237.00	96.90	8.71		8.50 (F05)	50.00	M6X12	6.90	42
2"	1 1/2"	inch	1.50	1.38	5.04	2.22	1.90	3.06	4.01	5.88	9.33	3.82	0.34		0.33	1.97	M6X12	15.21	49
DN65	DN50	mm	50.80	48.00	158.00	72.60	70.00	88.10	115.10	175.40	237.00	108.00	8.71		13.50 (F07)	70.00	M8X12	14.45	96
2 1/2"	2"	inch	2.00	1.89	6.22	2.86	2.76	3.47	4.53	6.90	9.33	4.25	0.34		0.53	2.76	M8X12	31.85	111



Side Entry Floating Ball 3 Piece

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Ends	Acc. Ordering Code	3
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Body seal	Acc. Ordering Code	3
6A	Outer seal	Acc. Ordering Code	3
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	1
10	Follower	S. Steel	1

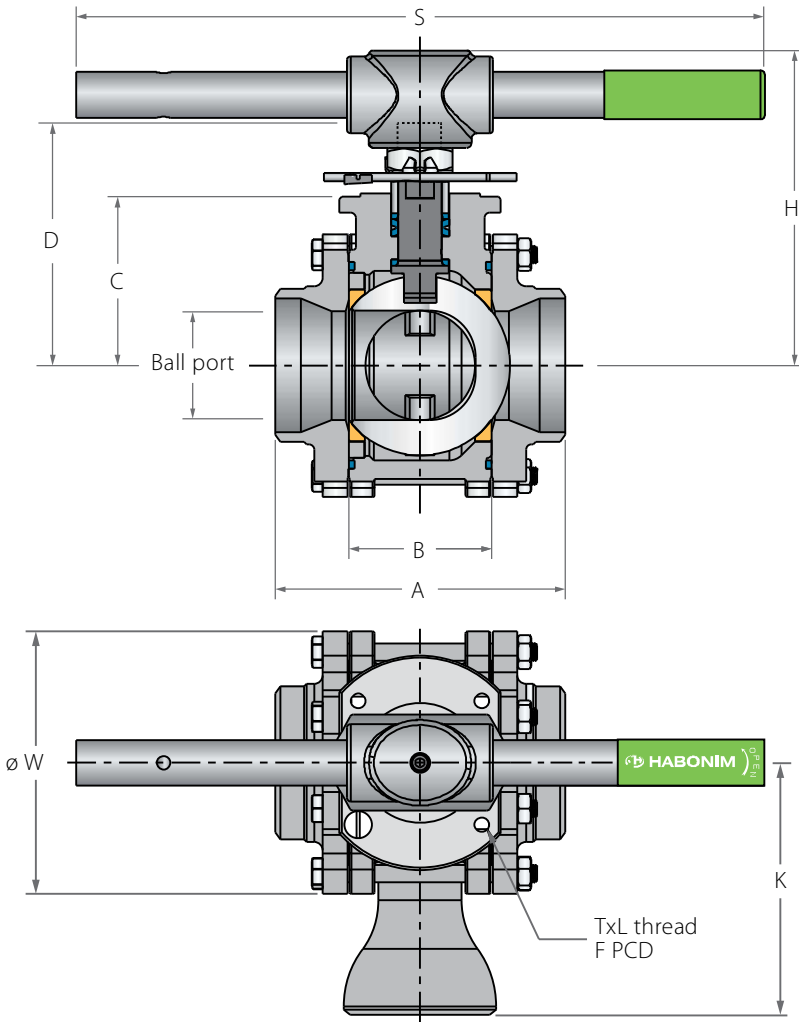
⁽¹⁾ One body seal is used in case of Seat-Seal one piece construction (item #5), otherwise three body seals are used

Item	Description	Material specification	Qty.
10A	Slide bearing	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	1
15	Serrated washer	S. Steel	1
16	Handle nut	S. Steel	1
17	Sleeve	PVC	1
18	Body 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

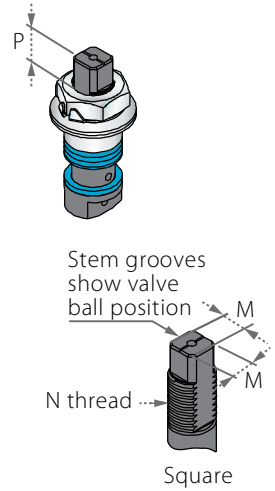
* Repair kit components

Side Entry Floating Ball 3 Piece

Valve dimensions



Preparation for actuation

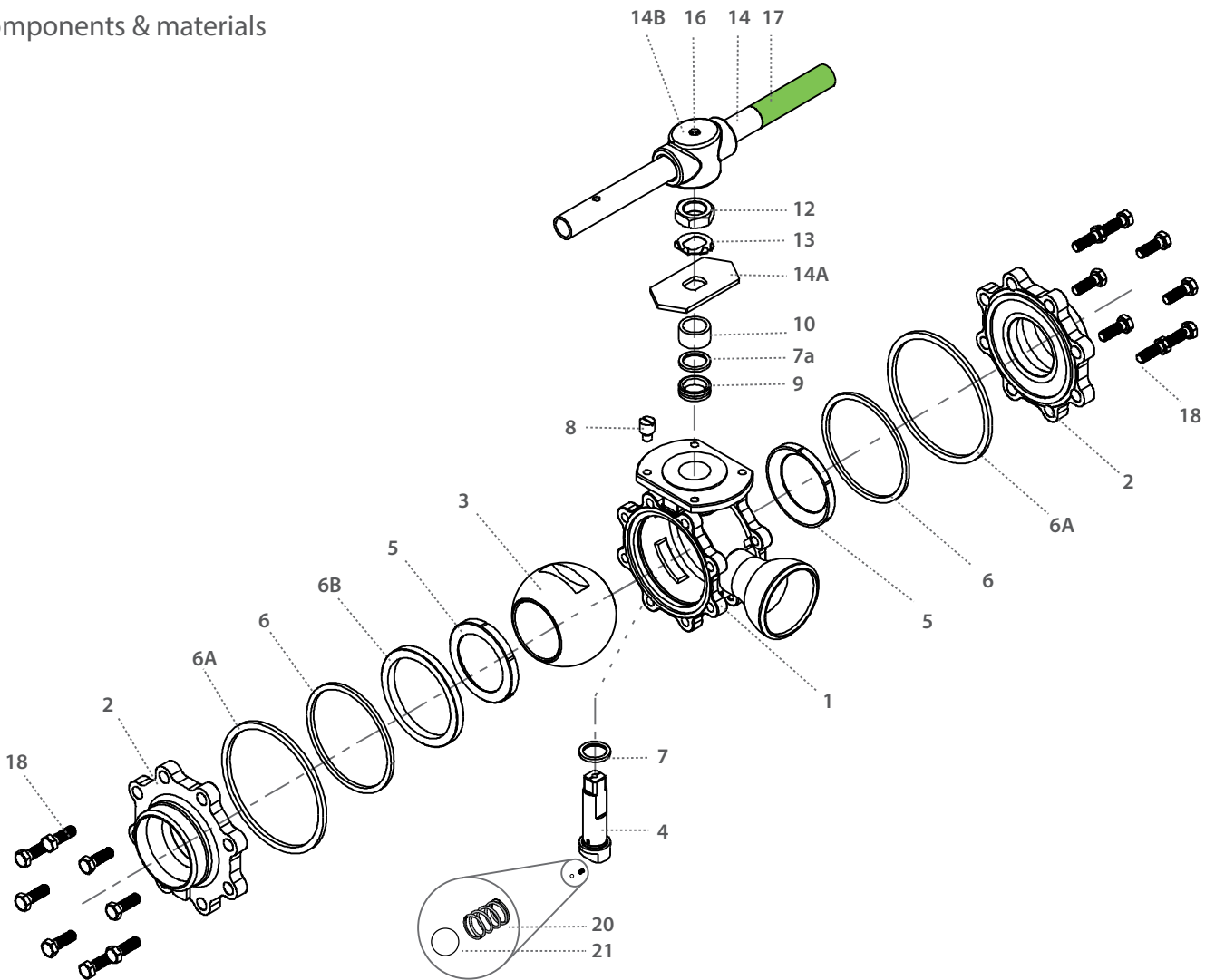


Std. port	Full port	Unit	Ball port 1	Ball port 2	A	B	C	D	H	K	S	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv
DN80	DN65	mm	63.75	80.50	169	83.3	98.3	144.9	185	163	400	140.00	18.90	1"-14	16.70 (F10)	102.00	M10x20	18.00	129
3"	2½"	inch	2.51	3.17	6.65	3.28	3.87	5.70	7.28	6.42	15.75	5.50	0.74	UNS-2A	0.66	4.02	M10x20	39.67	150
DN100	DN80	mm	80.00	63.25	214	108.8	114.1	160.7	200	183	600	177.00	18.90	1"-14	16.70 (F10)	102.00	M10x20	28.20	182
4"	3"	inch	3.15	2.49	8.43	4.28	4.49	6.33	7.87	7.20	23.62	6.97	0.74	UNS-2A	0.66	4.02	M10x20	62.15	211
	DN100	mm	92.00	67.00	239	123	124	170.5	211	200	600	217.00	18.90	1"-14	16.70 (F10)	102.00	M10x20	36.00	334
	4"	inch	3.62	2.64	9.41	4.84	4.88	6.71	8.31	7.87	23.62	8.54	0.74	UNS-2A	0.66	4.02	M10x20	79.34	388
DN150		mm	111.35	77.90	346	146	157	226	286	212	916	266.00	28.45	1½"-12	26.20 (F12)	125.00	M12x20	41.00	437
6"		inch	4.38	3.07	13.62	5.75	6.18	8.90	11.26	8.35	36.06	10.47	1.12	UNF-2A	1.03	4.92	M12x20	90.36	507



Side Entry Floating Ball 3 Piece

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Plug	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	1
6A	Outer seal	Acc. Ordering Code	
6B	Support ring	Acc. Ordering Code	
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F)	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F)	1
8	Stop pin	Acc. Ordering Code	1
9*	Stem seal	CF PTFE, TFM, Graphite	1
10	Follower	S. Steel	1

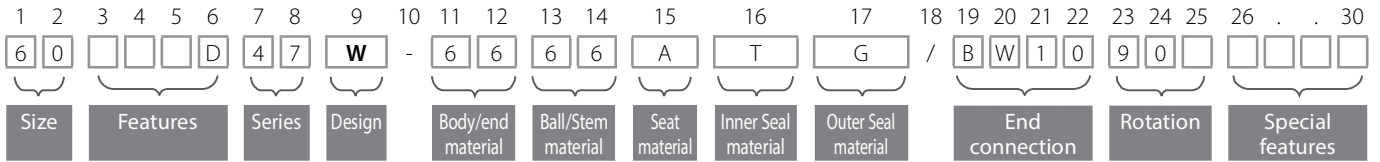
Item	Description	Material specification	Qty.
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Tab lock washer	S. Steel	1
14	Handle	S. Steel	1
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
16	Wrench bolt	S. Steel	1
17	Sleeve	PVC	1
20	Antistatic spring	S. Steel	2
21	Antistatic plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

* Repair kit components



Diverter | Side Entry 3 Piece - 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
02	¼"	8
03	⅜"	10
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
60	6"	150
80	8"	200

Features (3-6)	
D	Diverter bottom entry
B	Full port
O	Clean assembly for O2 service
K	Chlorine service
F	Shell only - fire safe

Series (7-8)	
D47	3 piece bottom entry
S47	3 piece side entry

Design (9)	
W	Total HermetiX Integrity package

Body/Ends material (11-12)	
6	S. SteelCF8M/CF3M
1	Bronze
4	C. steel A216 WCB/A105
9	C. steel A352 LCB
7	Monel
A	Alloy-20 A351 CN7M
W	Alloy-C22 B574
D	Duplex A479
K	Super Duplex A479
S	254SMO A479

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	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

Seat material (15)	
A	TFM(3)
U	UHMWPE
T	PTFE(3)
P	CF PTFE(3)
C	PCTFE
K	CF PEEK
L	Virgin Peek
Y	Delrin
W	PVDF

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

Outer Seal Material (17)	
G	Expanded graphite
T	PTFE
A	TFM
U	UHMWPE
V	Viton
B	NBR

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.)

Rotation (23-25)	
90	90 degrees rotation
180	180 degrees rotation applicable for bottom entry diverter valve L

Special Features (24-30)	
B	Body made from rolled bar
EP	Electropolished
WR	DD stem
G...	Internal surface finish (G24, G32)

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

D31

S31

D32

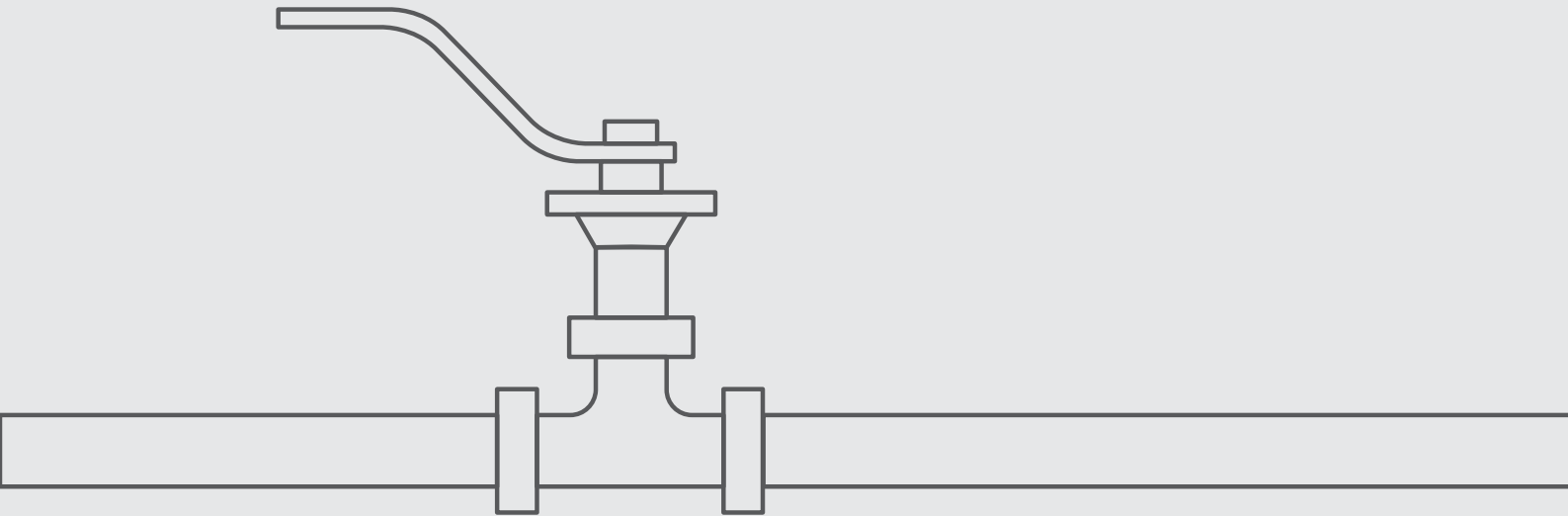
S32



General Use Industrial

FLOATING BALL

DIVERTER
SIDE ENTRY FLANGED





D31

S32

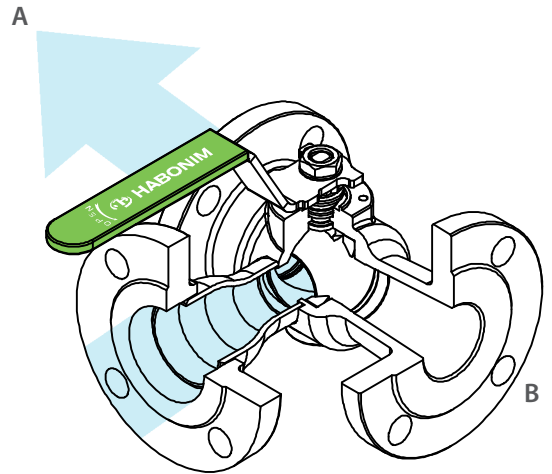
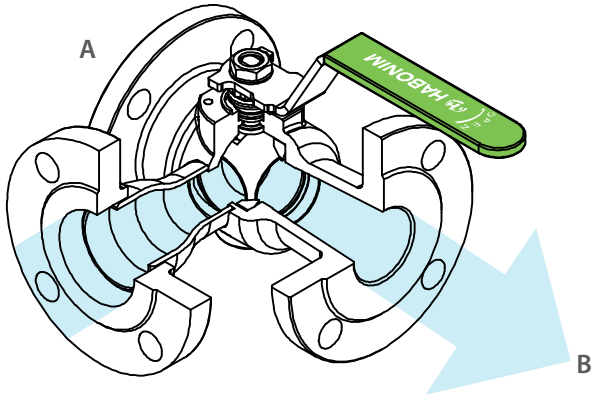
D32

S32



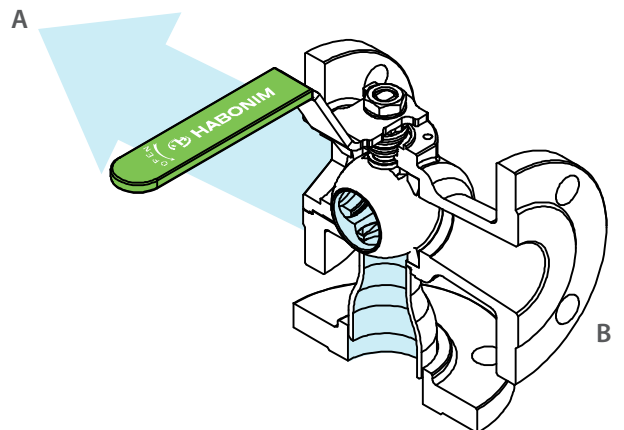
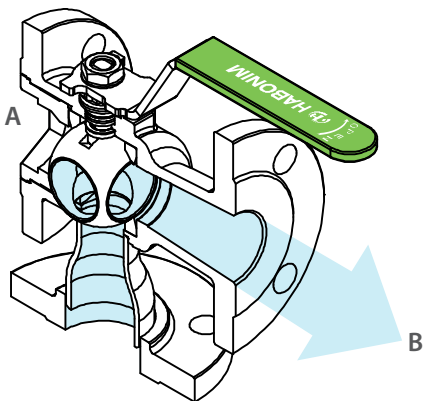
Side Entry - S31, S32

Rotation: 90°



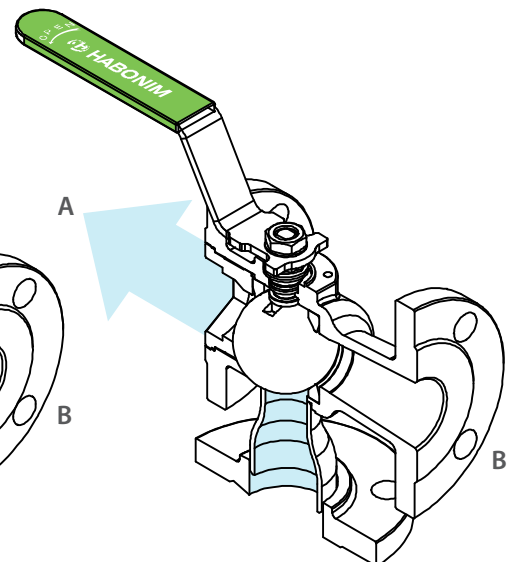
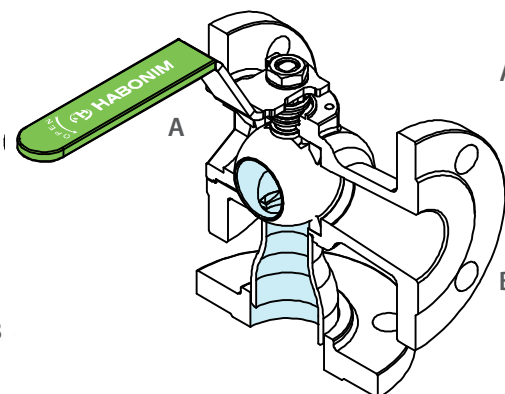
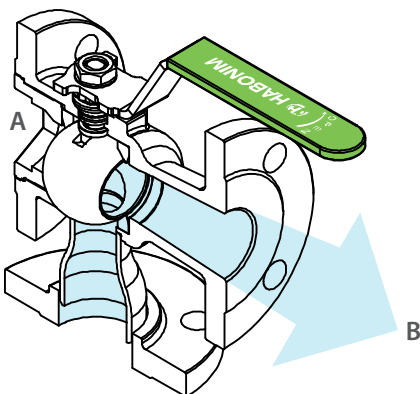
Bottom Entry - D31, D32

Rotation: 90°



Bottom Entry - D31, D32

Rotation: 180°



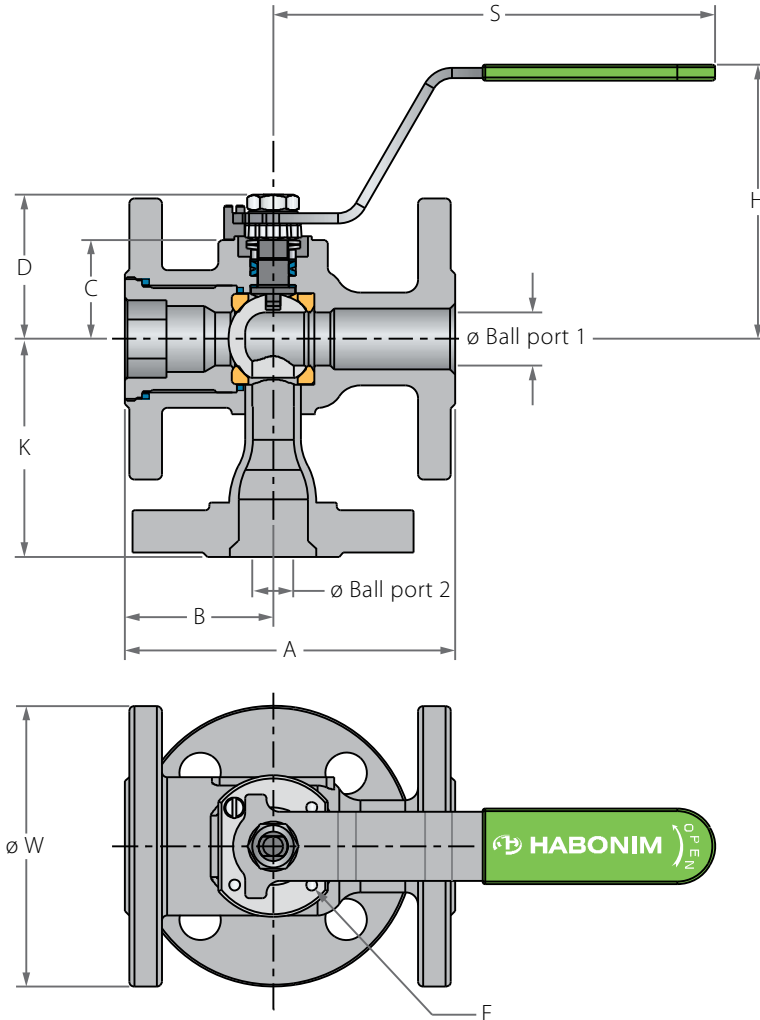
D31

D32

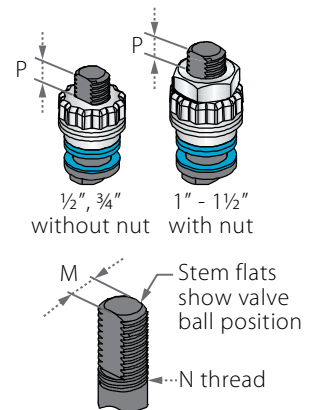
1/2"-2" | DN15-DN50 | CLASS 150/300

Diverter Floating Ball Flanged

Valve dimensions



Preparation for actuation



Std. port	Unit	Ball port1	Ball port2	A		B	C	D	H	K	S	W		M	N	P	F	Weight kg/lb		Kv
				150	300							150	300					150	300	
DN15	mm	10.5	9.5	108.00	140.00	46.00	29.00	38.00	92.00	70.00	151.00	88.90	95.25	5.54	3/8	6.65 (F03)	36.00	1.7	2.4	2.8
1/2"	inch	0.41	0.37	4.25	5.50	1.81	1.14	1.50	3.62	2.76	5.94	3.50	3.75	0.22	UNF	0.26	1.42	3.8	5.3	3.3
DN20	mm	14.3	11.9	117.00	152.00	49.00	31.40	40.30	94.00	85.00	151.00	98.55	163.07	5.54	3/8	6.65 (F03)	36.00	2.3	3.3	4
3/4"	inch	0.56	0.47	4.61	6.00	1.93	1.24	1.59	3.70	3.35	5.94	3.88	6.42	0.22	UNF	0.26	1.42	5.1	7.3	5
DN25	mm	20.6	15.9	127.00	165.00	57.00	38.20	55.60	103.50	90.00	170.00	107.95	123.95	7.54	7/16	7.40 (F04)	42.00	3.1	4.6	8
1"	inch	0.81	0.63	5.00	6.50	2.25	1.50	2.19	4.07	3.54	6.69	4.25	4.88	0.30	UNF	0.29	1.65	7.3	10.2	9
DN40	mm	31.8	26.6	165.00	190.00	62.00	43.60	73.10	119.20	161.00	220.50	127.00	155.52	8.71	1/2	8.50 (F05)	50.00	5.5	8.7	40
1 1/2"	inch	1.25	1.05	6.50	7.50	2.44	1.72	2.88	4.70	6.34	8.68	5.00	6.10	0.34	UNF	0.33	1.97	12.2	19.3	46
DN50	mm	38.1	35.0	178.00	216.00	68.00	48.30	77.80	123.90	130.00	220.50	152.40	165.10	8.71	9/16	8.50 (F05)	50.00	8.1	10.8	42
2"	inch	1.5	1.38	7.00	8.50	2.67	1.90	3.06	4.88	5.12	8.68	6.00	6.50	0.34	UNF	0.33	1.97	18	24	49

D31

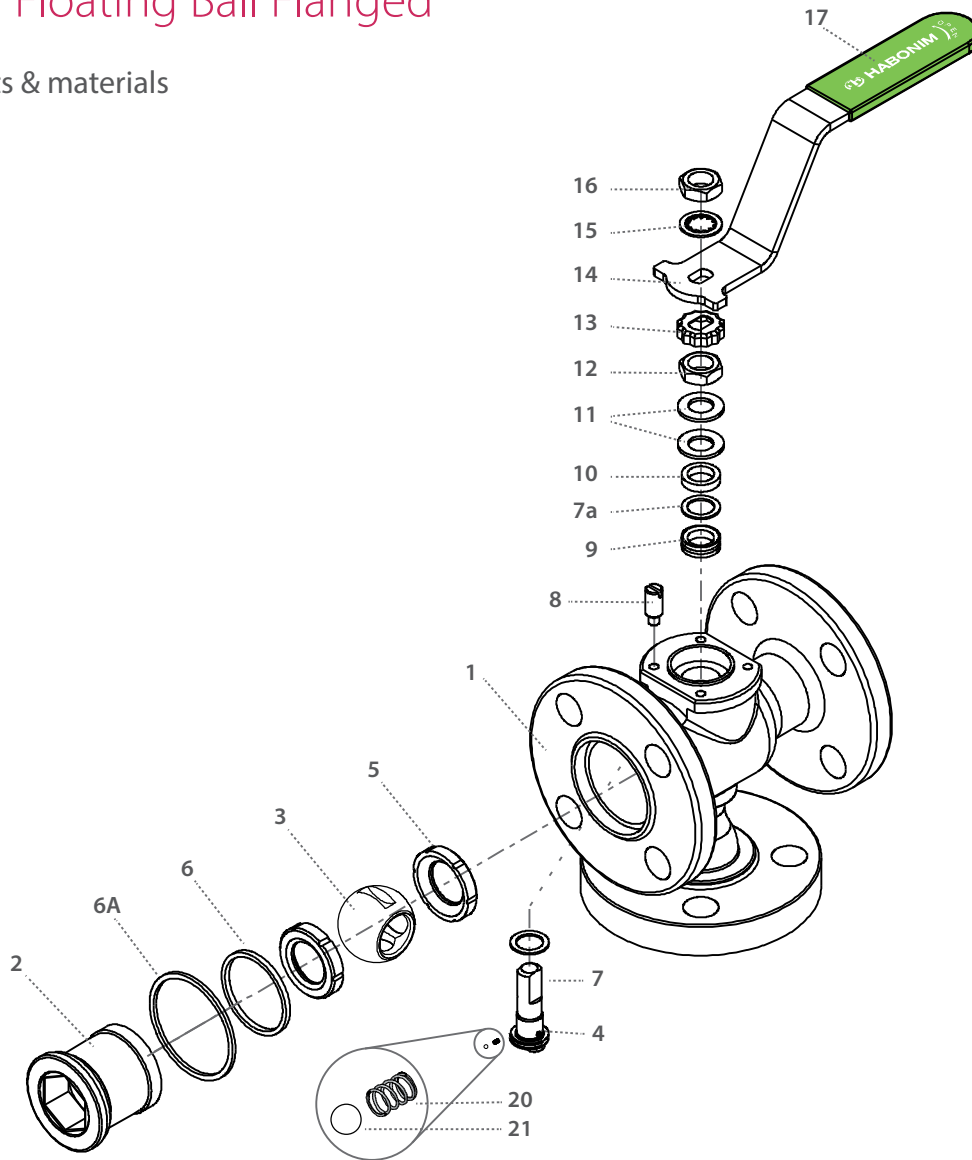
D32

1/2"-2" | DN15-DN50 | CLASS 150/300



Diverter Floating Ball Flanged

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Plug	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Inner seal	PTFE	1
6A	Outer seal	Acc. Ordering Code	
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F)	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	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
20	Anti-static spring	S. Steel	1
21	Anti-static plunger	S. Steel	1
23	Tag (not shown)	S. Steel	1

* Repair kit components

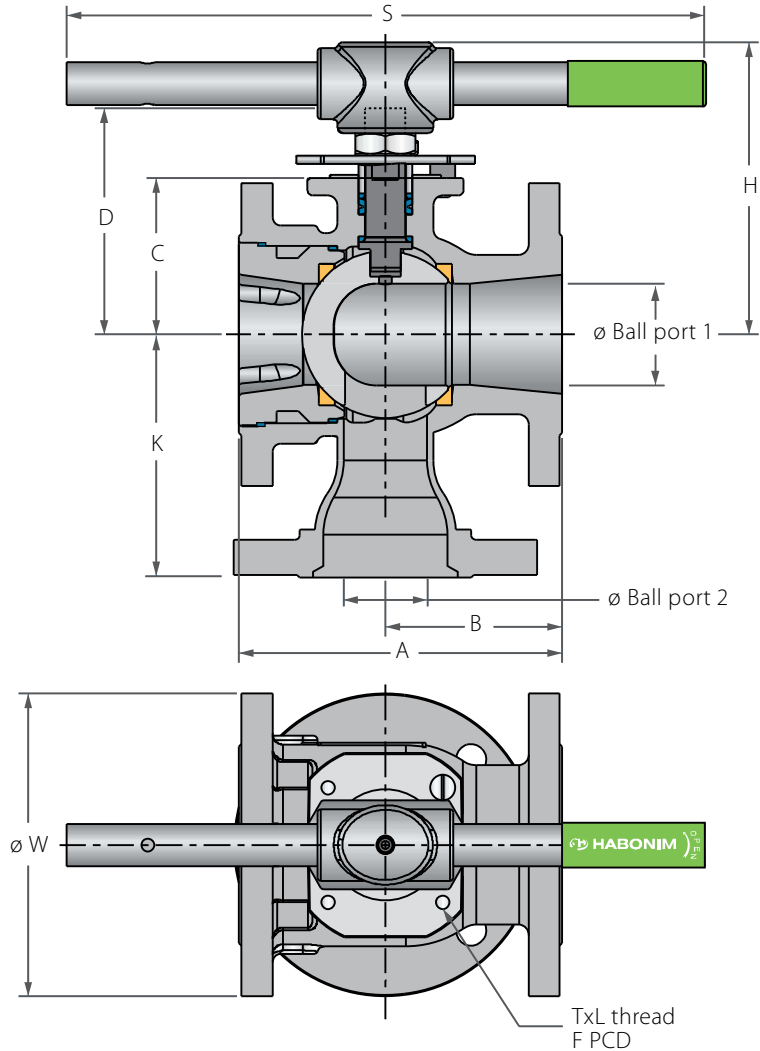
D3 1

D32

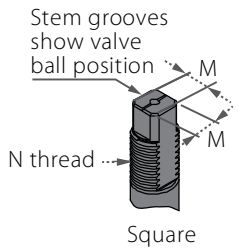
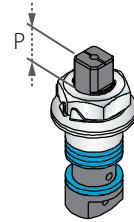
3"-8" | DN80-DN200 | CLASS 150/300

Diverter Floating Ball Flanged

Valve dimensions



Preparation for actuation

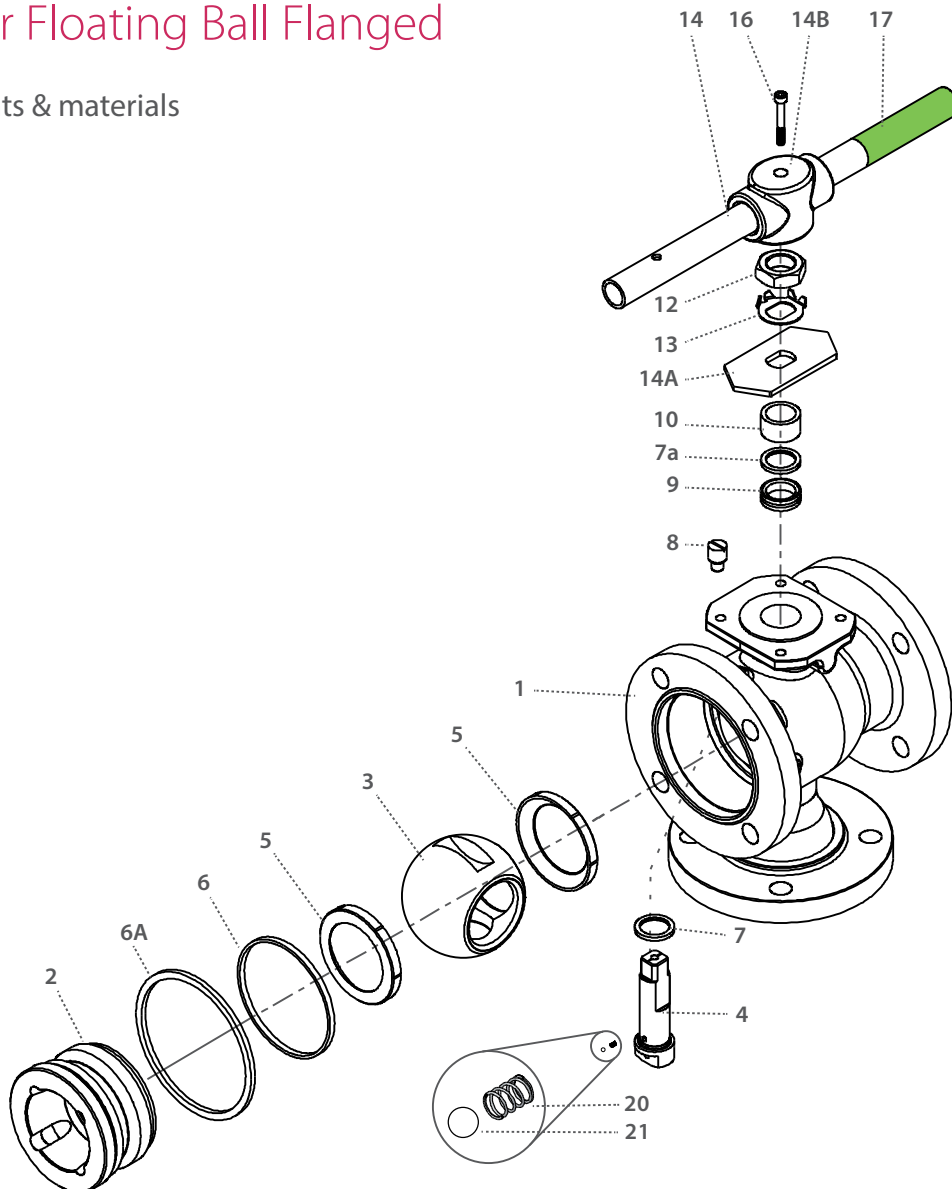


Std. port	Unit	Ball port1	Ball port2	A		B	C	D	H	K	S	W		M	M-DD	N	P	F	TxL	Weight kg/lb		Kv
				150	300							150	300							150	300	
DN80	mm	63.50	50.00	203.00	284.00	92.00	98.40	145.00	185.10	153.00	400.00	190.50	209.55	18.90	15.90	1"-14	16.70 (F10)	102.00	M10x20	18.00	22.70	129
3"	inch	2.50	1.97	8.00	11.18	3.62	3.88	5.72	7.28	6.02	15.75	7.50	8.25	0.74	0.63	UNS-2A	0.66	4.02	M10x20	40.00	50.40	150
DN100	mm	82.60	63.00	229.00	305.00	102.00	114.10	161.00	201.00	185.00	610.00	228.60	254.00	18.90	15.90	1"-14	16.70 (F10)	102.00	M10x20	28.20	36.30	182
4"	inch	3.25	2.48	9.00	12.00	4.00	4.49	6.34	7.91	7.28	24.01	9.00	10.00	0.74	0.63	UNS-2A	0.66	4.02	M10x20	62.80	80.60	211
DN150	mm	111.10	78.00	267.00	403.20	108.00	157.40	226.00	285.90	250.00	916.00	279.40	317.50	28.45	23.75	1½"-12	26.20 (F12)	125.00	M12x20	41.00	69.00	437
6"	inch	4.38	3.07	10.50	15.88	4.25	6.20	8.91	11.25	9.84	36.08	11.00	12.50	1.12	0.94	UNF-2A	1.03	4.92	M12x20	91.00	153.00	507
DN200	mm	144.40	98.00	292.00	419.00	163.50	185.20	254.00	313.60	300.00	916.00	342.90	381.00	28.45	23.75	1½"-12	26.20 (F12)	125.00	M12x20	82.00	105.00	698
8"	inch	5.68	3.86	11.50	16.50	5.37	7.30	10.00	12.34	11.81	36.08	13.50	15.00	1.12	0.94	UNF-2A	1.03	4.92	M12x20	182.00	233.00	810



Diverter Floating Ball Flanged

Components & materials



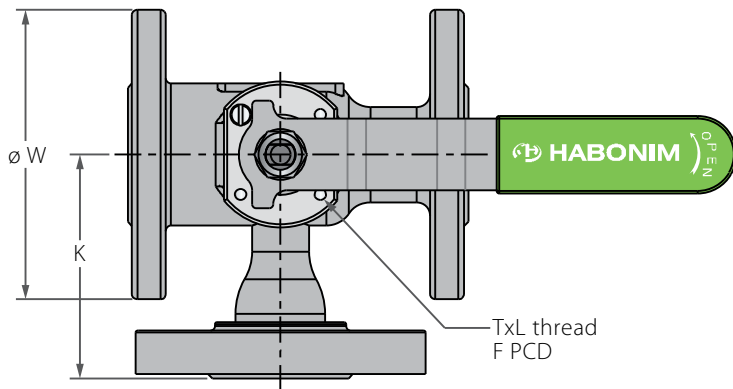
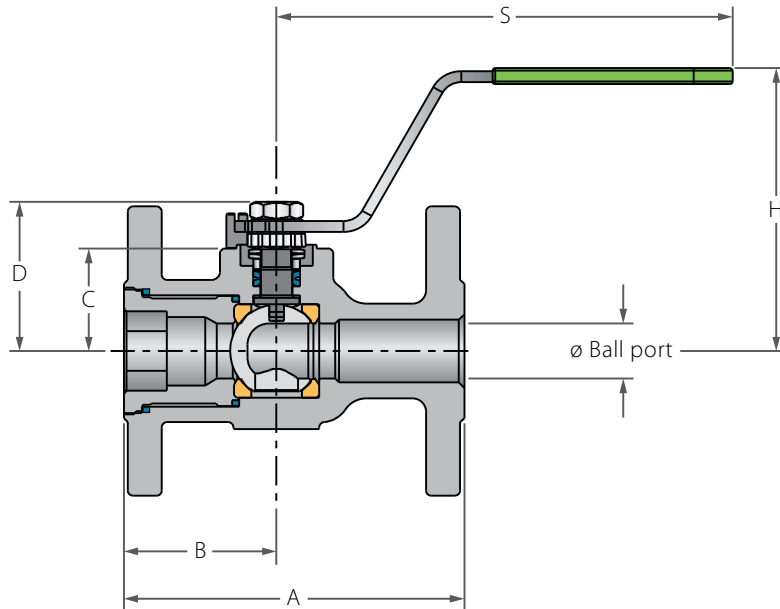
Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Plug	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Body seal	PTFE	1
6A	Outer seal	Acc. Ordering Code	
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F)	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	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	Handle	S. Steel	1
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
16	Wrench bolt	S. Steel	1
17	Sleeve	PVC	1
20	Anti-static spring	S. Steel	2
21	Anti-static plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

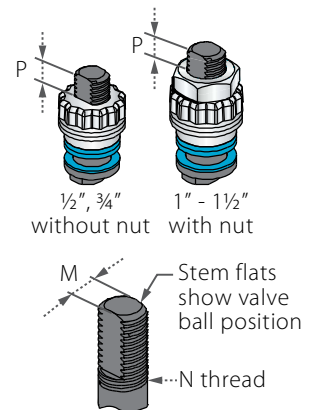
* Repair kit components

Side Entry Floating Ball Flanged

Valve dimensions



Preparation for actuation

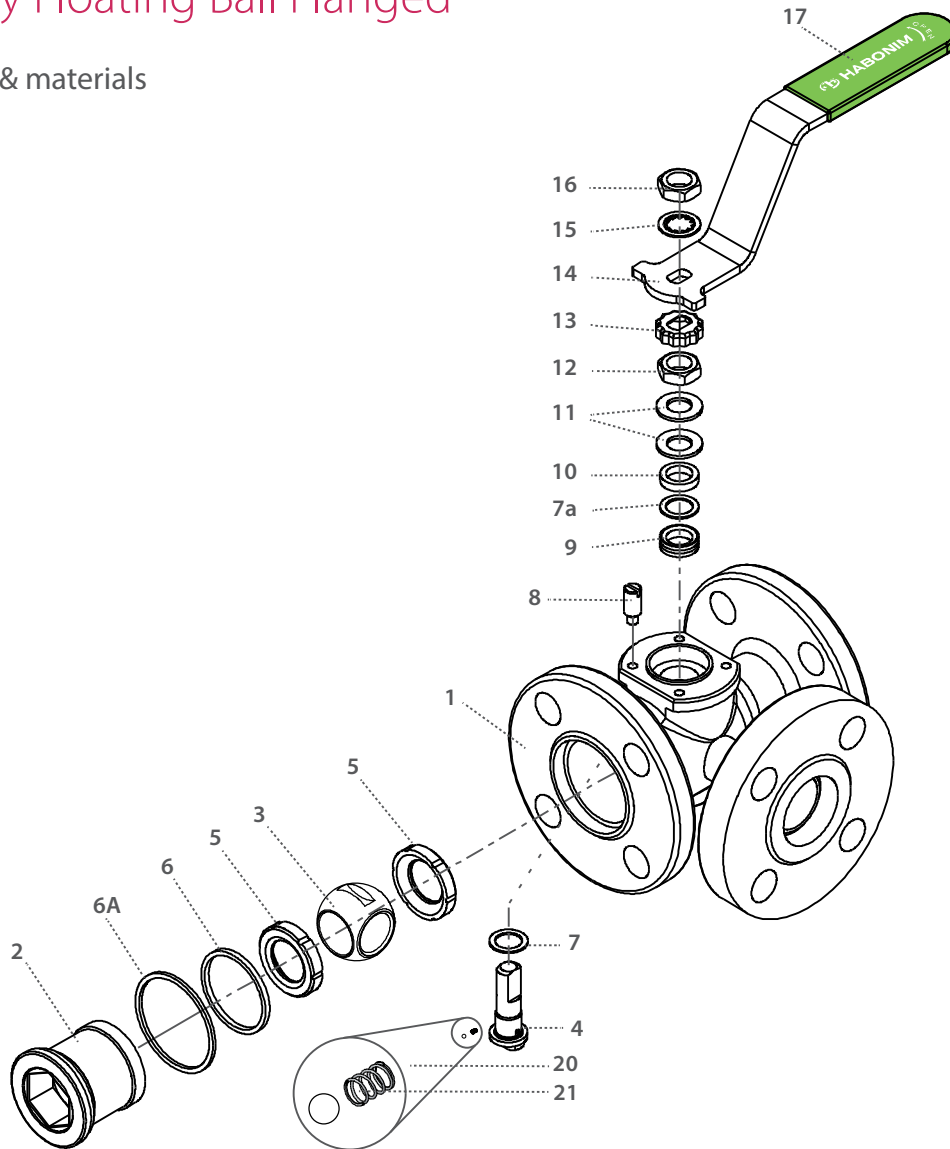


Std. port	Unit	Ball port1	Ball port2	A		B	C	D	H	K	S	W		M	N	P	F	Weight kg/lb			Kv
				150	300							150	300					150	300	Cv	
DN15	mm	13.50	11.15	108.00	140.00	46.00	29.00	38.00	92.00	70.00	151.00	88.90	95.25	5.54	3/8	6.65 (F03)	36.00	1.7	2.4	2.8	
1/2"	inch	0.53	0.44	4.25	5.50	1.81	1.14	1.50	3.62	2.76	5.94	3.50	3.75	0.22	UNF	0.26	1.42	3.8	5.3	3.3	
DN20	mm	17.50	14.30	117.00	152.00	49.00	31.40	40.30	94.00	85.00	151.00	98.55	163.07	5.54	3/8	6.65 (F03)	36.00	2.3	3.3	4	
3/4"	inch	0.69	0.56	4.61	6.00	1.93	1.24	1.59	3.70	3.35	5.94	3.88	6.42	0.22	UNF	0.26	1.42	5.1	7.3	5	
DN25	mm	23.50	20.60	127.00	165.00	57.00	38.20	55.60	103.50	90.00	170.00	107.95	123.95	7.54	7/16	7.40 (F04)	42.00	3.1	4.6	8	
1"	inch	0.93	0.81	5.00	6.50	2.25	1.50	2.19	4.07	3.54	6.69	4.25	4.88	0.30	UNF	0.29	1.65	7.3	10.2	9	
DN40	mm	39.00	31.80	165.00	190.00	62.00	43.60	73.10	119.20	110.00	220.50	127.00	155.52	8.71	1/2	8.50 (F05)	50.00	5.5	8.7	40	
1 1/2"	inch	1.54	1.25	6.50	7.50	2.44	1.72	2.88	4.70	4.33	8.68	5.00	6.10	0.34	UNF	0.33	1.97	12.2	19.3	46	
DN50	mm	48.00	38.20	178.00	216.00	68.00	48.30	77.80	123.90	130.00	220.50	152.40	165.10	8.71	9/16	8.50 (F05)	50.00	8.1	10.8	42	
2"	inch	1.89	1.50	7.00	8.50	2.67	1.90	3.06	4.88	5.12	8.68	6.00	6.50	0.34	UNF	0.33	1.97	18	24	49	



Side Entry Floating Ball Flanged

Components & materials



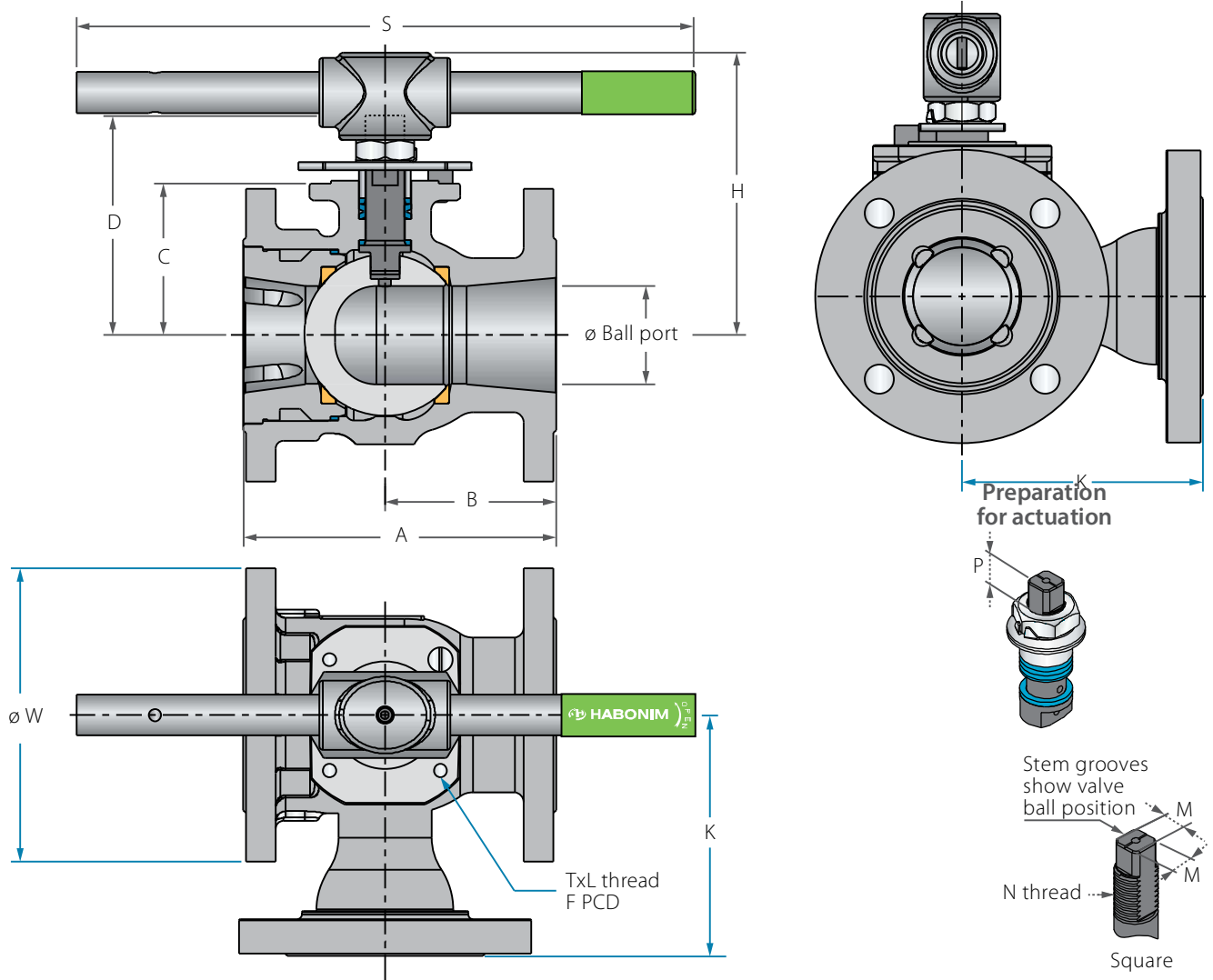
Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Plug	Acc. Ordering Code	1
3	Ball	Acc. Ordering Code	1
4	Stem	Acc. Ordering Code	1
5*	Seat	Acc. Ordering Code	2
6*	Body seal	PTFE	1
6A	Outer seal	Acc. Ordering Code	1
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F)	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	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
20	Anti-static spring	S. Steel	1
21	Anti-static plunger	S. Steel	1
23	Tag (not shown)	S. Steel	1

* Repair kit components

Side Entry Floating Ball Flanged

Valve dimensions

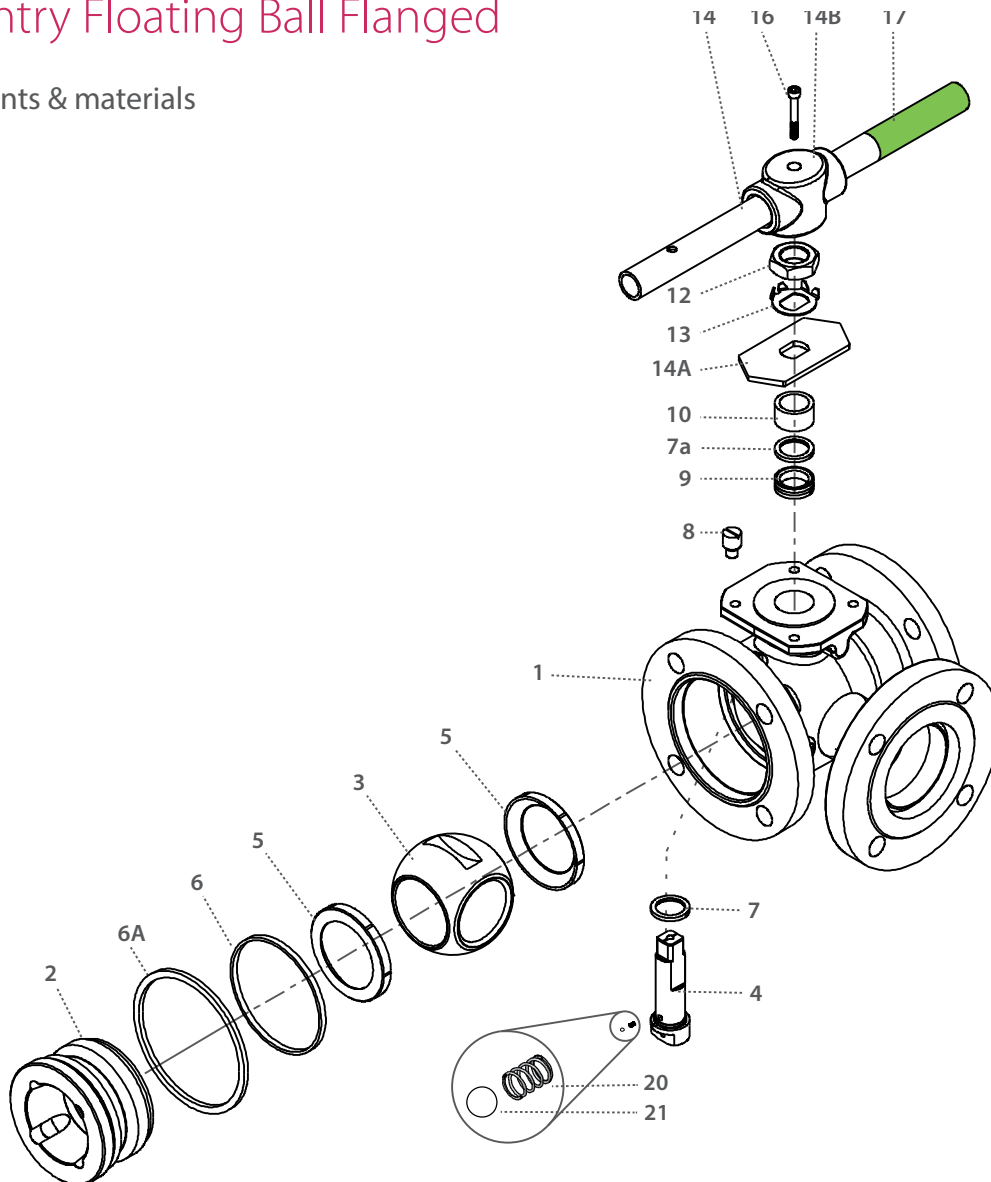


Std. port	Unit	Ball port1	Ball port2	A		B	C	D	H	K	S	W		M	M-DD	N	P	F	TxL	Weight kg/lb		Kv
				150	300							150	300							150	300	
DN80	mm	63.50	50.00	203.00	284.00	92.00	98.40	145.00	185.10	153.00	400.00	190.50	209.55	18.90	15.90	1"-14 UNS-2A	16.70 (F10)	102.00	M10x20	18.00	22.70	129
3"	inch	2.50	1.97	8.00	11.18	3.62	3.88	5.72	7.28	6.02	15.75	7.50	8.25	0.74	0.63		0.66	4.02		40.00	50.40	150
DN100	mm	82.60	63.00	229.00	305.00	102.00	114.10	161.00	201.00	185.00	610.00	228.60	254.00	18.90	15.90	1"-14 UNS-2A	16.70 (F10)	102.00	M10x20	28.20	36.30	182
4"	inch	3.25	2.48	9.00	12.00	4.00	4.49	6.34	7.91	7.28	24.01	9.00	10.00	0.74	0.63		0.66	4.02		62.80	80.60	211
DN150	mm	111.10	78.00	267.00	403.20	108.00	157.40	226.00	285.90	250.00	916.00	279.40	317.50	28.45	23.75	1½"-12 UNF-2A	26.20 (F12)	125.00	M12x20	41.00	69.00	437
6"	inch	4.38	3.07	10.50	15.88	4.25	6.20	8.91	11.25	9.84	36.08	11.00	12.50	1.12	0.94		1.03	4.92		91.00	153.00	507
DN200	mm	144.40	98.00	292.00	419.00	163.50	185.20	254.00	313.60	300.00	916.00	342.90	381.00	28.45	23.75	1½"-12 UNF-2A	26.20 (F12)	125.00	M12x20	82.00	105.00	698
8"	inch	5.68	3.86	11.50	16.50	5.37	7.30	10.00	12.34	11.81	36.08	13.50	15.00	1.12	0.94		1.03	4.92		182.00	233.00	810



Side Entry Floating Ball Flanged

Components & materials



Item	Description	Material specification	Qty.
1	Body	Acc. Ordering Code	1
2	Plug	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	PTFE	1
6A	Outer seal	Acc. Ordering Code	
7*	Stem thrust seal	PEEK, CF PEEK, PCTFE (KEL-F)	1
7a	Anti-abrasion ring	PEEK, CF PEEK, PCTFE (KEL-F)	1
8	Stop pin	S. Steel	1
9*	Stem seal	CF PTFE, TFM	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	Handle	S. Steel	1
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
16	Wrench bolt	S. Steel	1
17	Sleeve	PVC	1
20	Anti-static spring	S. Steel	2
21	Anti-static plunger	S. Steel	2
23	Tag (not shown)	S. Steel	1

* Repair kit components

D31

S31

D32

S32



Diverter I Side Entry Floating Ball Flanged - 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	#	26	.	.	30
6	0				D	3	1	X	-	6	6	6	6	A	T	G	/	B	W	1	0	9	0					
Size		Features				Series		Design		Body/end material		Ball/Stem material		Seat material	Inner Seal material	Outer Seal material		End connection			Rotation		Special features					

Size (1-2)		
Code	inch	mm
05	½"	15
07	¾"	20
10	1"	25
15	1½"	40
20	2"	50
30	3"	80
40	4"	100
60	6"	150
80	8"	200

Features (3-6)	
D	Diverter bottom entry
O	Clean assembly for O2 service
Series (7-8)	
D31	ANSI #150 flanged bottom entry
S31	ANSI #150 flanged side entry
D32	ANSI #300 flanged bottom entry
D32	ANSI #300 flanged side entry

Design (9)	
X	Total HermetiX Integrity package

Body/Ends material (11-12)	
6	S. SteelCF8M/CF3M
4	C. steel A216 WCB/A105
D	Duplex A479
K	Super Duplex A479
S	254SMO A479

Ball material (13)	
6	S. SteelCF8M/CF3M
M	High Strength S. Steel
S	254SMO
D	Duplex
K	Super Duplex

Stem material (14)	
6	S. Steel316L
M	High Strength S. Steel
Z	Inconel 718 B637
D	Duplex A479
K	Super Duplex A479
S	254SMO A479

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 (17)	
G	Expanded graphite
T	PTFE
A	TFM
U	UHMWPE
V	Viton
B	NBR

End Connection (19-22)	
Flanged	
150	ASME B16.5 #150 RF
300	ASME B16.5 #300 RF
PN16	EN1092 PN16 RF
PN40	EN1092 PN40 RF

Rotation (23 -25)	
90	90 degrees rotation
180	180 degrees rotation applicable for bottom entry diverter valve L

Special Features (24-30)	
Valve Special Stem Seals	
HC	High Cycle service
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
HYD	Hydrogen

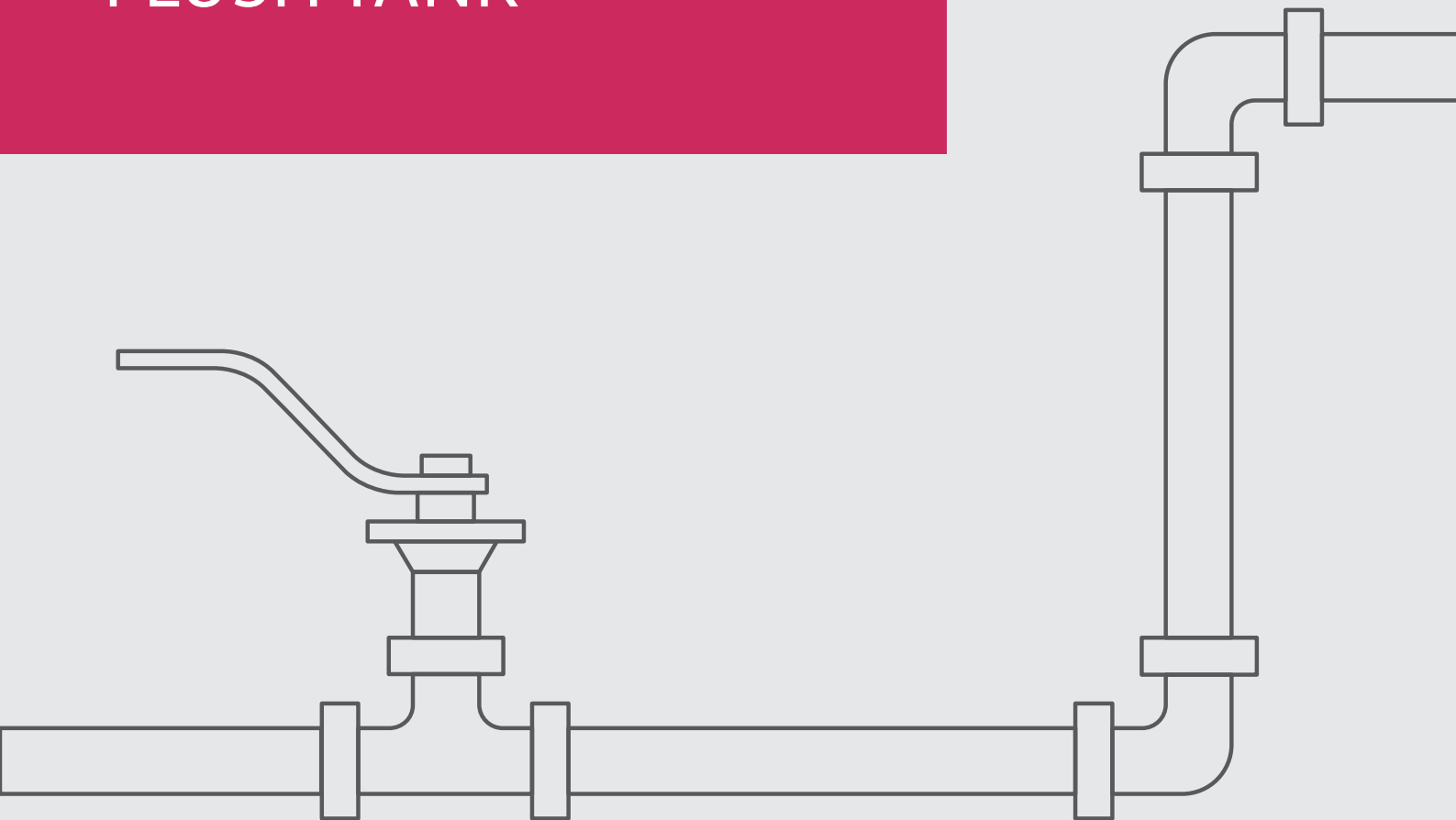
R47



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



Flush Tank Floating Ball

Mirror polished pad

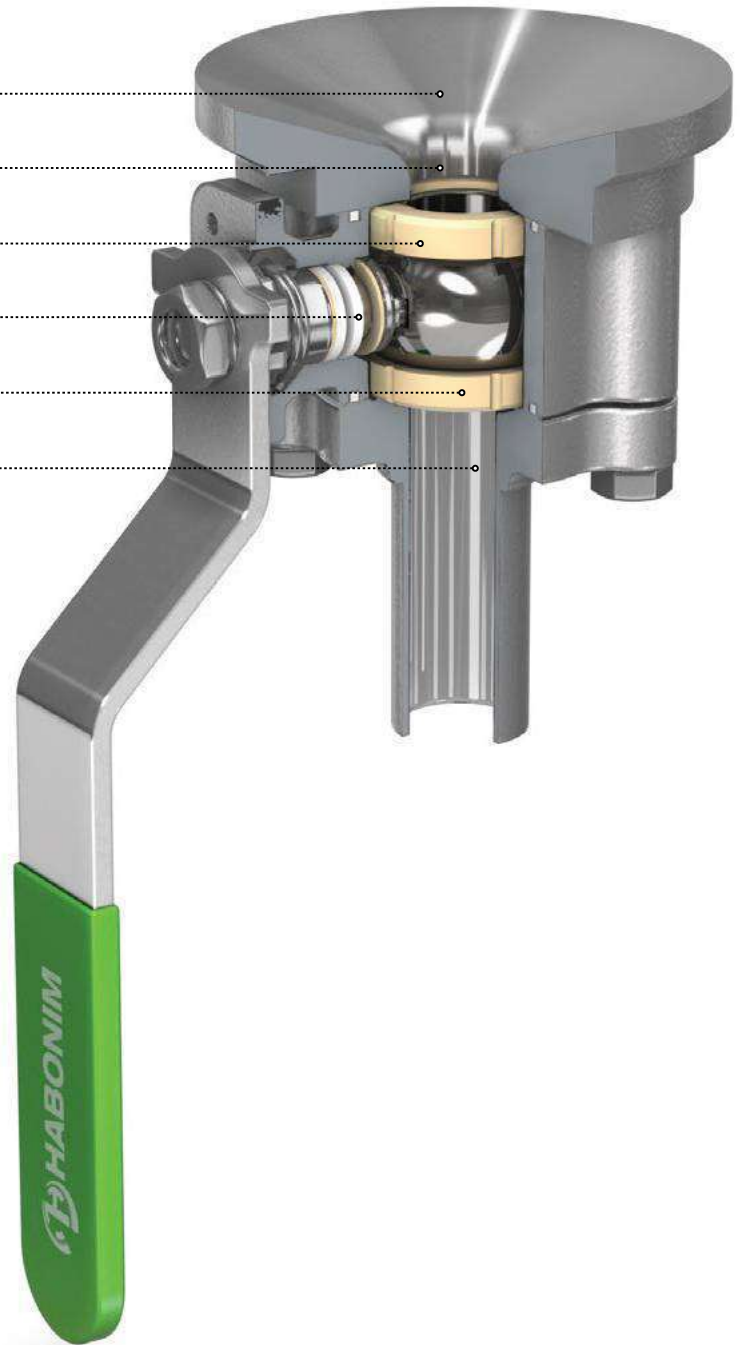
Minimum dead leg

Variety of seat materials

HermetiX™ stem seal

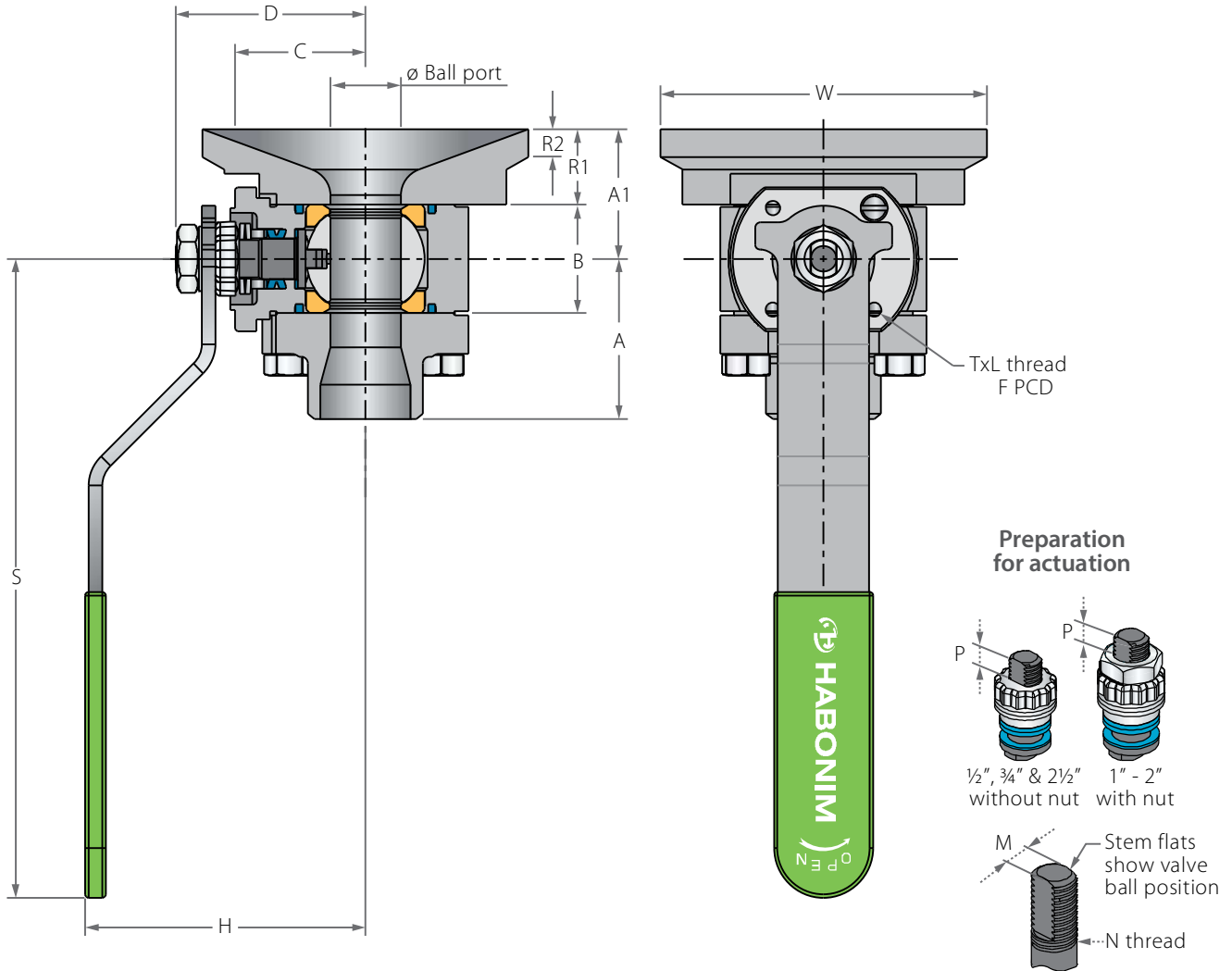
Mirror polished solid ball

No restrictions ensure full drainage



Flush Tank Floating Ball

Valve dimensions

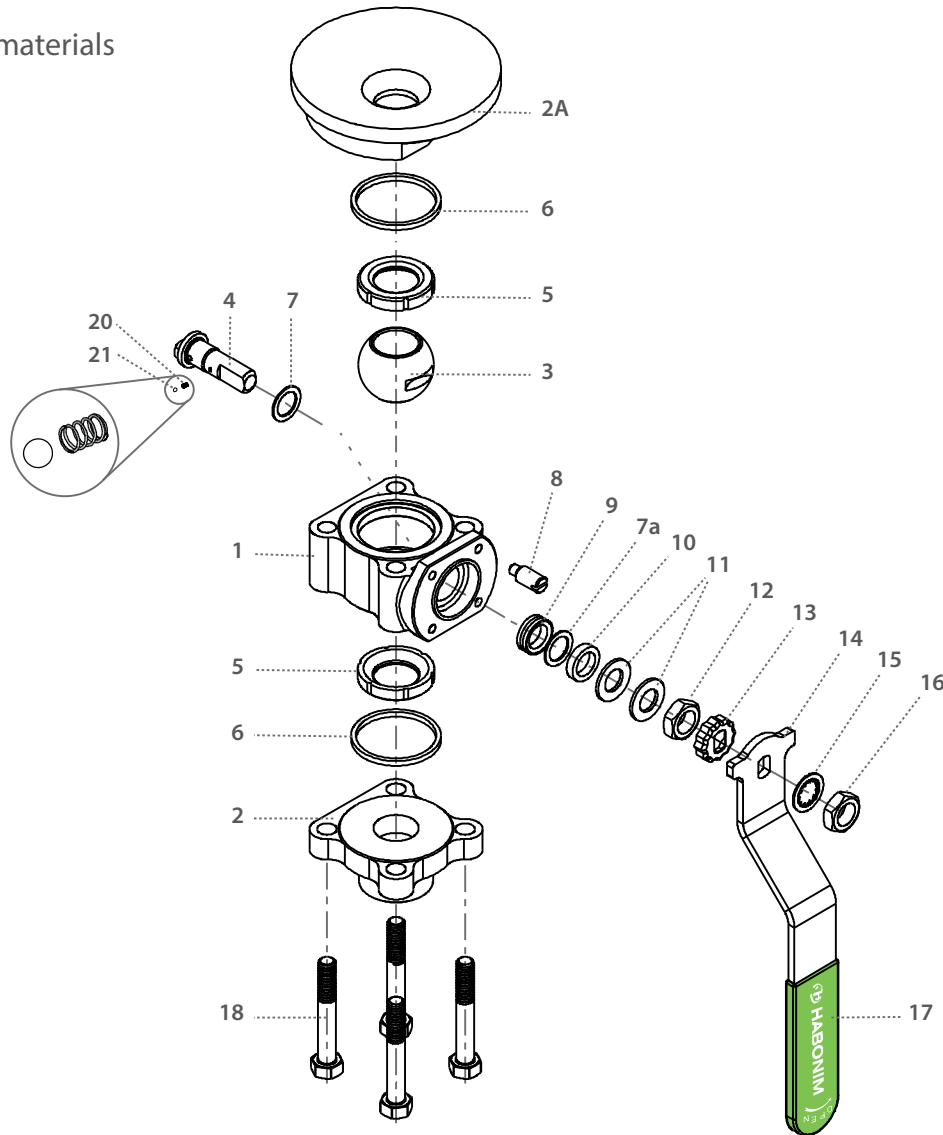


Std. port	Full port	Unit	Ball port	R1	R2	A	A1	B	C	D	H	S	W	M	N	P	F	TxL	Weight kg/lb	Kv Cv
DN15	DN10	mm	11.15	21.00	6.00	33.00	31.30	20.60	29.00	38.70	61.50	150.00	60.00	16.00	3/8	6.65 (F03)	36.00	M5X10	0.8	6.9
½"	¾"	inch	0.44	0.83	0.24	1.30	1.24	0.81	1.14	1.52	2.42	5.91	2.36	0.63	UNF	0.26	1.42	M5X10	1.9	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	M5X10	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	M5X10	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	M5X10	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	M6X12	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	M6X12	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	M8X12	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

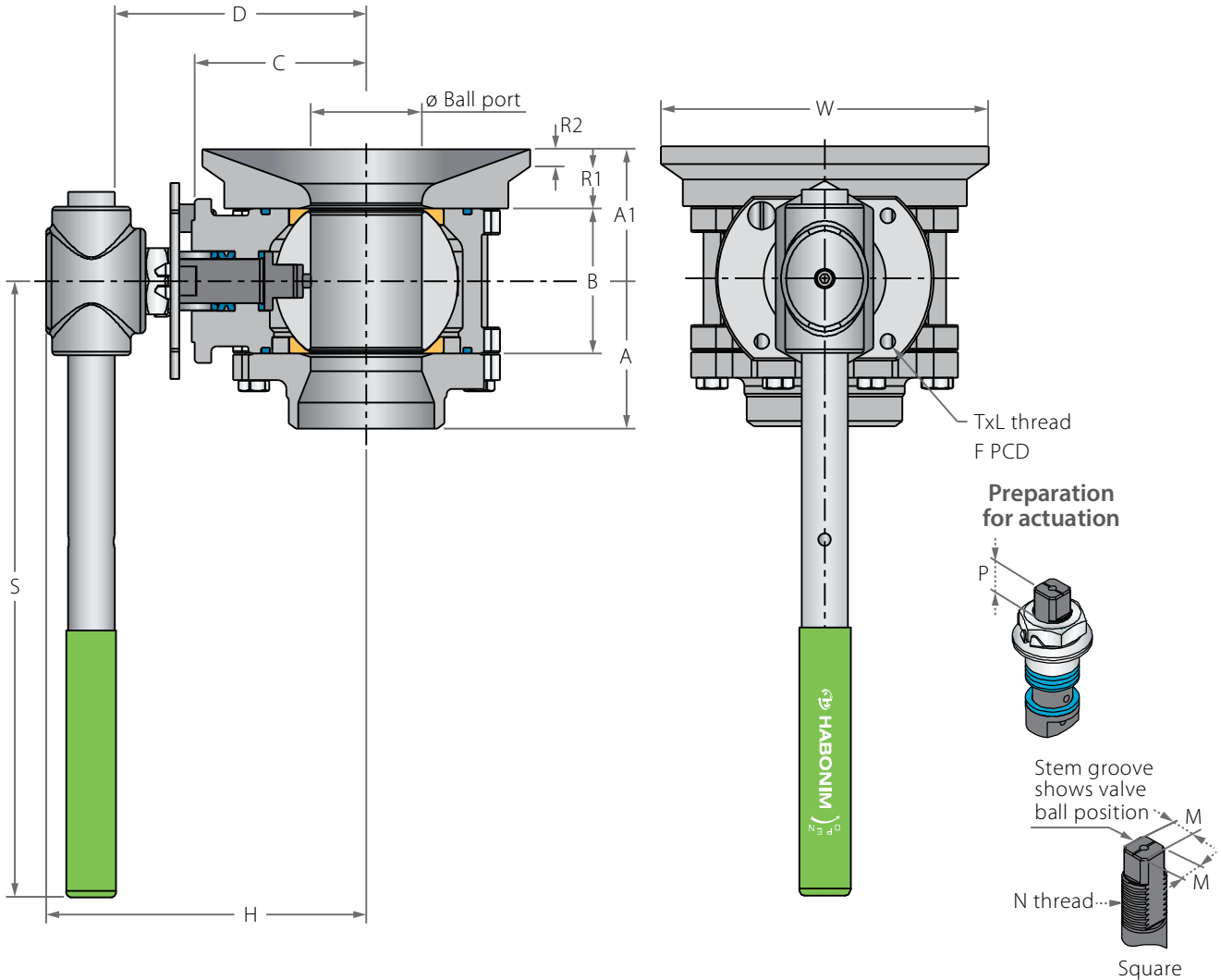
* Repair kit components

⁽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

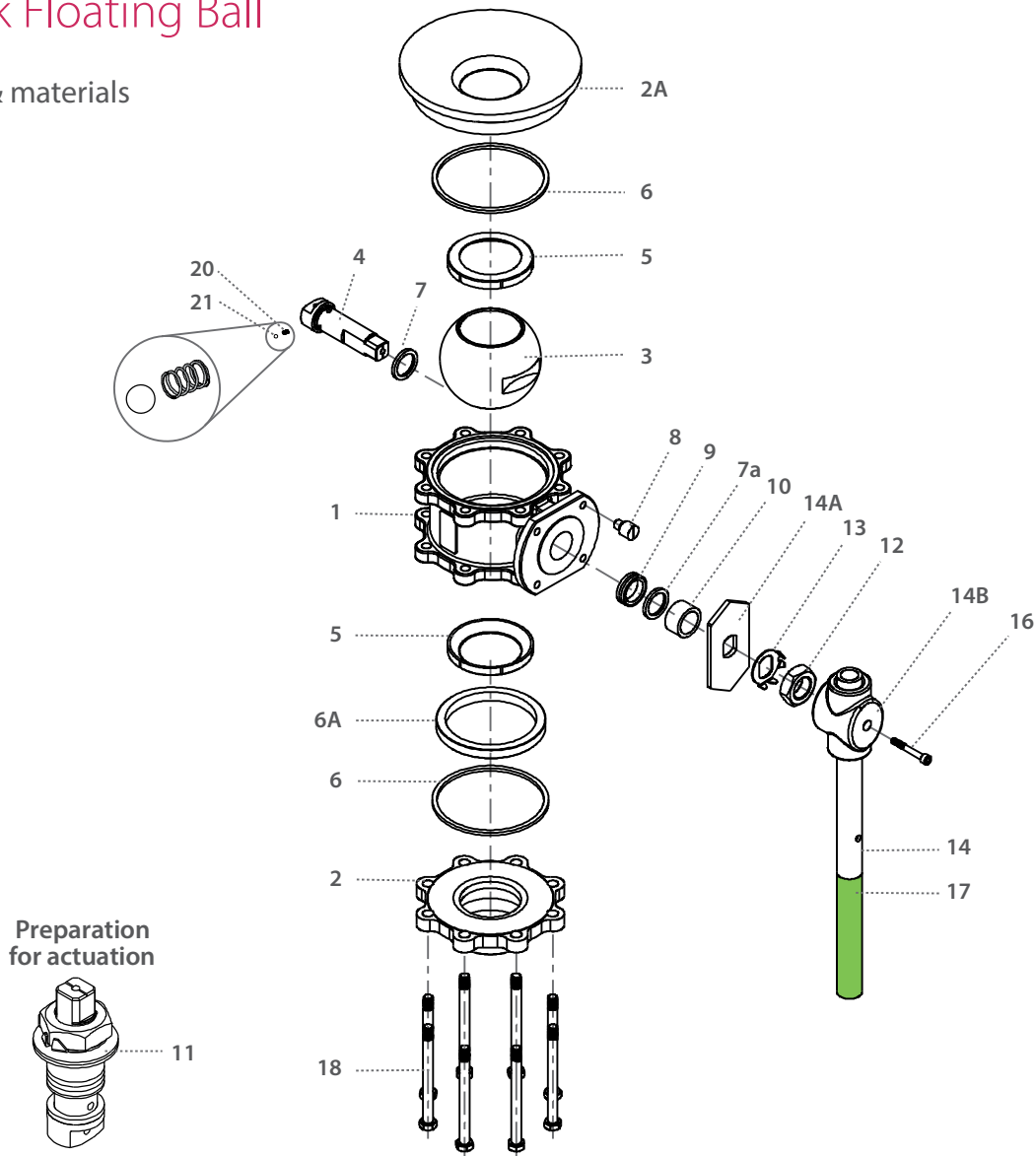


Std. port	Full port	Unit	Ball port	R1	R2	A	A1	B	C	D	H	S	W	M-DD	M	N	P	F	TxL	Weight kg/lb	Kv Cv
DN80	DN65	mm	63.50	34.00	10.00	84.50	75.65	83.30	98.30	144.90	185.00	400.00	188.00	15.90	18.90	1"-14	16.70 (F10)	102.00	M10x20	15.5	300
3"	2½"	inch	2.50	1.34	0.39	3.33	2.98	3.28	3.87	5.71	7.29	15.75	7.40	0.63	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

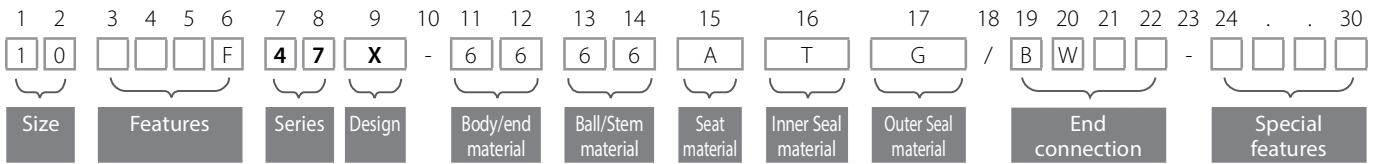
Item	Description	Material specification	Qty.
11	Disc spring	S. Steel	2
12	Stem nut	S. Steel	1
13	Tab lock washer	S. Steel	1
14	Wrench handle	A240 316L	1
14A	Stop plate	S. Steel	1
14B	Wrench head	S. Steel	1
16	Wrench bolt	S. Steel	1
17	Sleeve	PVC	1
18	Body bolts	S. Steel	6-10
20	Anti-static spring	S. 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

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