

3 PIECES STAINLESS STEEL BALL VALVE TANK BOTTOM ELSA BW

3 pieces stainless steel ball valve tank bottom, full bore for chemical, fine chemical, pharmaceutical, food, cosmetics and cooling industries networks.

Easy installation thanks to the rotating ends.

TFM1600 packing with 3 chevrons gaskets and one thrust washer on stem, body gasket and seat in TFM1600.

Fugitive emission according to EN 15848-1 :2015 for an excellent tightness on the stem and to prevent external leakage.

Compatible with explosive atmosphere, ATEX Zone 1&21 and Zone 2&22 thanks to the double antistatic device.

Valve in accordance with the regulation (EC) N° **1935/2004**, **FDA** and **USP Class VI** on request.

Handling with lockable handle, locking oval handwheel or stem extension with ISO5211 plate.

Thanks to the ISO 5211 plate, an actuator can be installed on the valve.



Size : DN15 to DN100
Connection : Tank Bottom - BW ISO
Min Temperature : -50°C
Max Temperature : +210°C
Max Pressure : 63 Bars up to DN40
Specifications : Rotating ends
 ISO 5211 mounting pad
 Anti blow-out stem, Full bore
 Double antistatic device, ATEX
 Fugitive Emissions, EC 1935/2004 and FDA

Materials : Stainless Steel EN 1.4409

*the installation defects and wear defects are not covered by the guarantee

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Page 1 sur 9

Rev.01

Information provided as an indication and subject to possible modification

3 PIECES STAINLESS STEEL BALL VALVE TANK BOTTOM ELSA BW

SPECIFICATIONS :

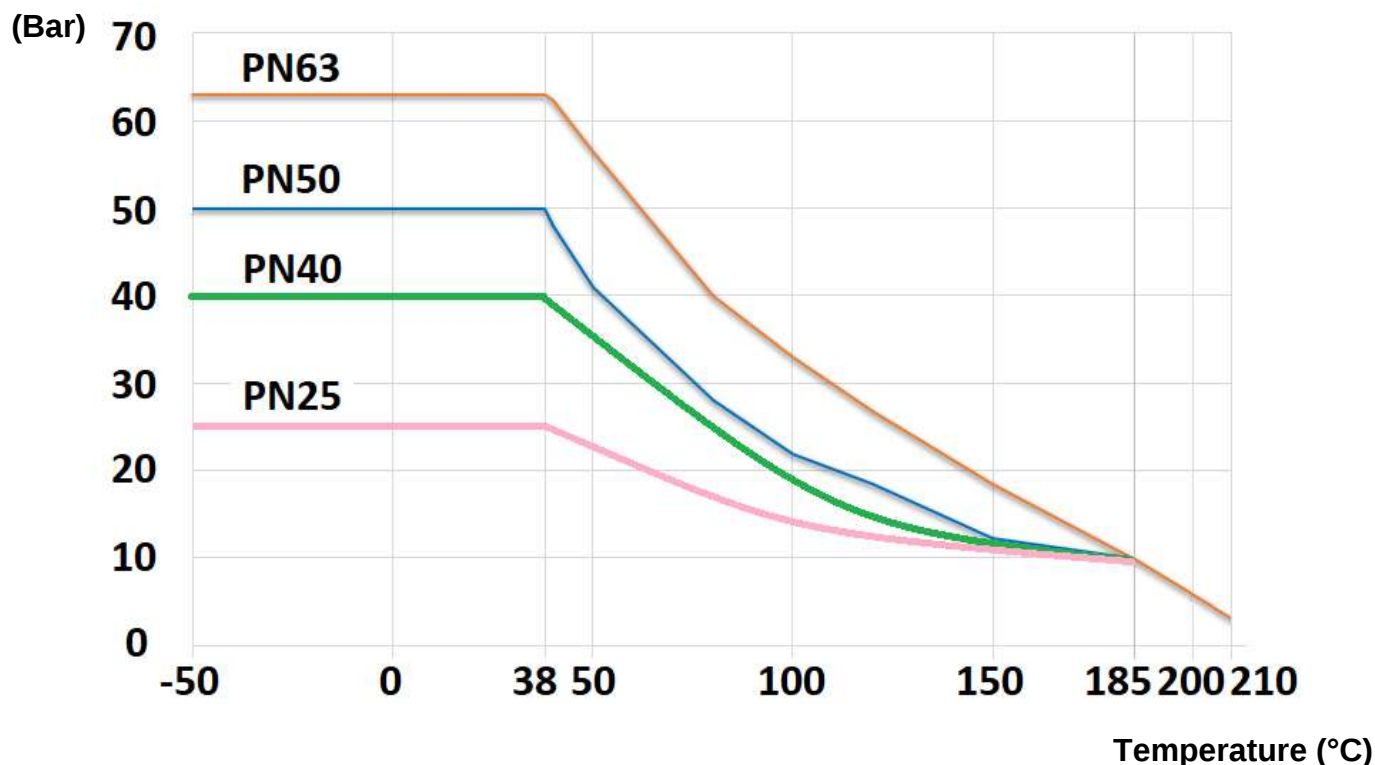
- Tank Bottom connection
- Full bore
- Anti blow-out stem
- Packing with 3 chevrons gaskets
- Double antistatic device (ball between stem-body and stem-ball)
- Fugitive emissions according to ISO 15848-1 2015
- Lockable handle
- Oval handwheel and stem extension on request
- ISO 5211 mounting pad
- Rotating ends
- Welding possible without removing the central part if the valve is in opened position
- **EC 1935/2004** for food industries
- Seat with notches for automatic decompression in the dead area
- With exhaust hole in the ball (located in the top of the ball to avoid overpressure in it in opened position)
- Roughness Ra 0.4 for the ball, Ra 0.8 for the ends

USE :

- Chemical, fine chemical, pharmaceutical, food industries, cosmetics and cooling
- Vacuum 10^{-3} mbar (without back pressure)
- Min and max Temperature Ts : -50°C to + 210°C
- Max Pressure Ps : 63 bars up to DN40, 50 bars for DN50, 40 bars from DN65 to DN80, 25 bars for DN100 (see graph under)
- Steam : 10 bars max

PRESSURE / TEMPERATURE graph for full bore types (STEAM EXCLUDED) :

Pressure



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FLOW COEFFICIENT Kvs (M3 / h) :

DN (mm)	15	20	25	32	40	50	65	80	100
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Kvs (m3/h)	31	59	98	159	230	418	725	1098	1768

TORQUES VALUES (in Nm without safety coefficient) :

DN (mm)	15	20	25	32	40	50	65	80	100
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Torque (Nm)	4.9	5.9	11.8	19.6	29.4	39.2	50	80	130

BOLT TIGHTENING TABLE (in Nm) :

DN (mm)	15	20	25	32	40	50	65	80	100
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Torque (Nm)	20	20	20	40	40	50	100	120	

RANGE :

- 3 Pieces ball valve with rotating ends EN 1.4409 full bore Tank Bottom - BW Ref. ELITBWFC from DN15 to DN100

OPTIONS :

- AISI 304 Oval Handwheel Ref. ELVO0812-25 (see page 11)

DN (mm)	15	20	25	32
NPS (")	1/2"	3/4"	1"	1"1/4
Ref.	ELVO15	ELVO20	ELVO25	

- AISI 304 stem extension with ISO 5211 plate and bolting Ref. ELRISO0812-ELRISO50 (Height 63.5mm)

DN (mm)	15	20	25	32	40	50	65-100
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2-4"
Ref.	ELRISO15	ELRISO20	ELRISO25	ELRISO32	ELRISO40	ELRISO50	ELRISO6580100

- AISI 304 stem extension with ISO 5211 plate and bolting Ref. ELRISO0812FR-ELRISO50FR (Height 81.5)

DN (mm)	15	20	25	32	40	50	65
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2
Ref.	ELRISO1520FR		ELRISO25FR	ELRISO32FR	ELRISO40FR	ELRISO50FR	

- Pocketless seats TFM1600 (kit of 2 semi-seats) Ref. ELCF0812-ELCF100

DN (mm)	15	20	25	32	40	50	65	80	100
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Ref.	ELCF15	ELCF20	ELCF25	ELCF32	ELCF40	ELCF50	ELCF65	ELCF80	ELCF100

3 PIECES STAINLESS STEEL BALL VALVE TANK BOTTOM ELSA BW

OPTIONS (SUITE) :

- Ball V-PORT 60° Ref. ELIV615-ELIV650



DN (mm)	15	20	25	40	50
NPS (")	1/2"	3/4"	1"	1 1/2"	2"
Ref. Full bore	ELIV615	ELIV620	ELIV625	ELIV640	ELIV650

DN	Kv (m3/h) by opening angle with ball V-PORT 60°																		
	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
15	0	0	0	0	0	0	0	0,2	0,4	0,6	0,9	1,4	1,9	2,6	3,3	4,6	5,9	8,0	10,1
20	0	0	0	0	0	0,2	0,3	0,6	0,9	1,3	1,8	2,4	2,9	4,0	5,0	6,7	8,4	11,5	14,5
25	0	0,03	0,05	0,4	0,7	1,1	1,5	2,0	2,6	3,2	3,9	5,1	6,2	8,0	9,7	12,6	15,5	20,0	24,5
40	0	0,01	0,02	0,5	0,9	1,7	2,4	3,8	5,2	6,4	7,6	10,1	12,6	15,7	18,8	24,7	30,6	39,3	47,9
50	0	0,22	0,44	1,3	2,1	3,4	4,7	6,7	8,7	11,2	13,6	17,9	22,3	28,6	34,9	43,7	52,4	66,9	81,4

CONNECTION :

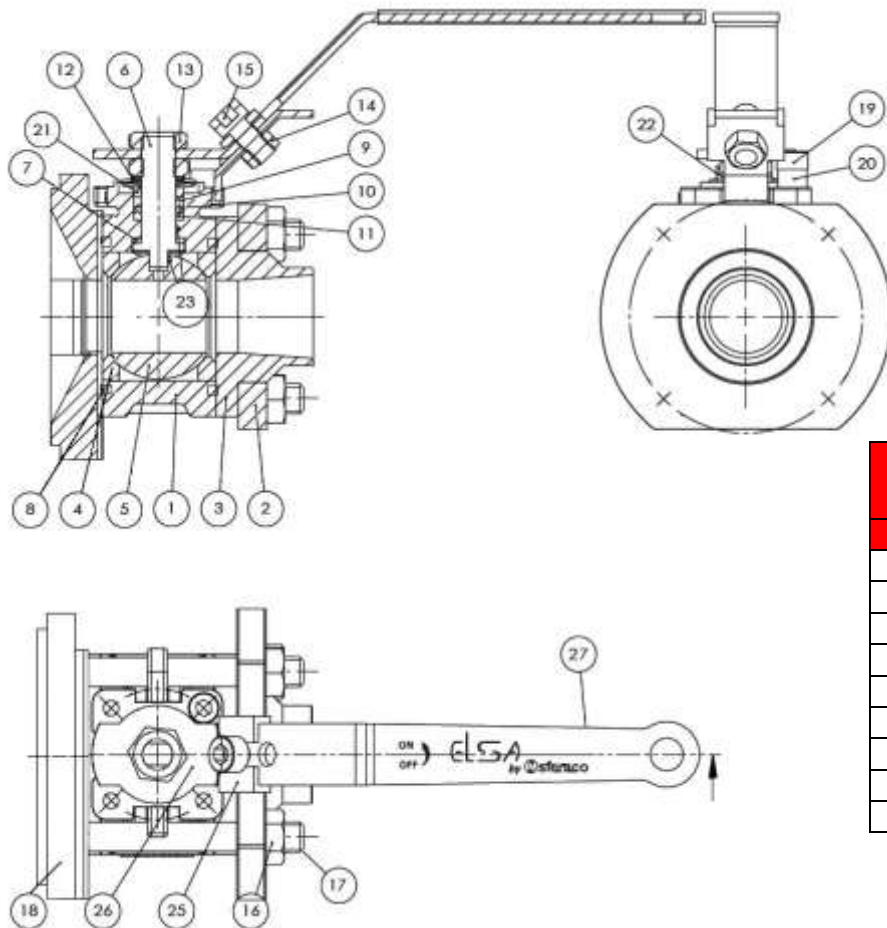
- Tank Bottom - B.W. ISO

On request, other connection possible : BSP, SW, flanges, Orbital ISO, ASME, SMS or DIN



3 PIECES STAINLESS STEEL BALL VALVE TANK BOTTOM ELSA BW

MATERIALS :



Repairability :



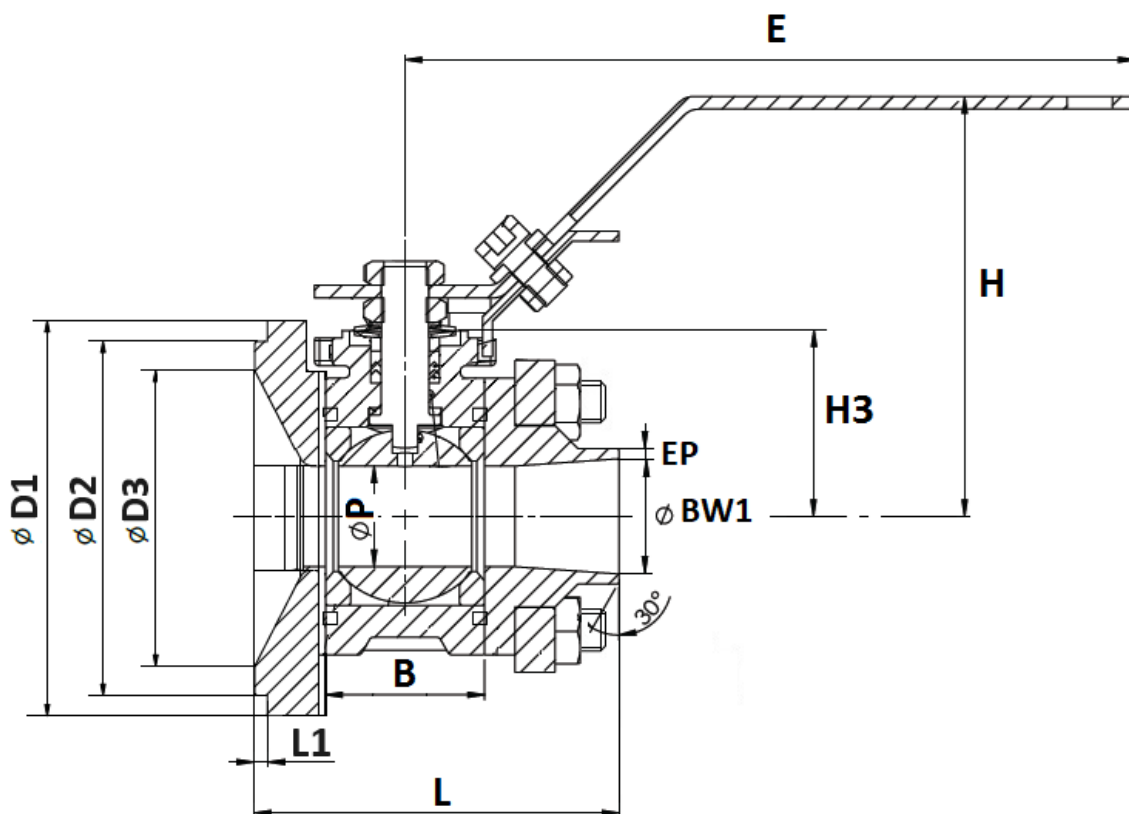
*Gasket kit (items 4, 7, 8, 9, 10 and 11)		Ball (item 5)
DN	Ref.	Ref.
DN15	98ELJOINT15	98ELSPHERE15
DN20	98ELJOINT20	98ELSPHERE20
DN25	98ELJOINT25	98ELSPHERE25
DN32	98ELJOINT32	98ELSPHERE32
DN40	98ELJOINT40	98ELSPHERE40
DN50	98ELJOINT50	98ELSPHERE50
DN65	98ELJOINT65	
DN80	98ELJOINT80	
DN100	98ELJOINT100	

Item	Designation	Materials
1	Body	EN 1.4409
2	Flange	EN 1.4308
3	Ends	EN 1.4409 Ra 0.8
4*	Seat	TFM1600
5	Ball	CF3M Ra 0.4
6	Stem	AISI 316L
7*	Thrust washer	TFM1600
8*	Body gasket	
9*, 10*, 11*	Packing (chevrons)	
12	Elastic rings	AISI 301
13	Handle nut	AISI 304
14, 15	Screw and nut	
16, 17	Studs and nut	A2-70
18	Washer	AISI 304
19, 20	Screw and stop	
21	Gland	
23	Antistatic device	AISI 316
25	Locking device	AISI 304
26	Handle	
27	Handle cover	PVC

(* : Included in gaskets kit)

3 PIECES STAINLESS STEEL BALL VALVE TANK BOTTOM ELSA BW

SIZE (in mm) :

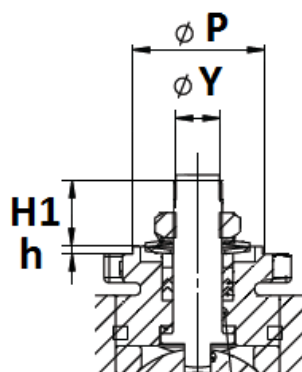


DN (mm)	15	20	25	32	40	50	65	80	100
Ø P	15	20	25.4	32	38.2	50	65	76.2	100
Ø BW	21.3	26.9	33.8	42.4	48.3	60.3	76.1	88.9	114.3
Ø BW1	17.3	22.9	29.8	37.2	43.1	54.5	70.3	83.1	107.9
EP	2			2.6		2.9			3.2
L	62.7	74.3	85.7	98.1	109.6	134	155.3	180.3	203.3
L1	3				4	6	5	4	5
B	24.4	31.6	41.4	48.2	56.2	71	83.8	103.8	129.8
E	149	149	170.5	192.5	212.5	216	300	350	350
H	79	83.4	106.6	110.4	108.7	139.6	160.4	171.5	186.6
H3	32.85	36.9	44.7	48.1	53.1	72.5	104.7	116.1	131.3
Ø D1	74.5	84.5	94.5	103.7	117	148	174.5	197	236
Ø D2	64.8	74.8	84.8	100	110	138	164.5	190	227
Ø D3	50	63	71	87.5	98	126	125	167	180
Weight (in Kg)	1.3	1.9	2.49	3.89	5.21	9.38	16.47	23.91	40.43
Réf.	ELITBWFC15	ELITBWFC20	ELITBWFC25	ELITBWFC32	ELITBWFC40	ELITBWFC50	On request	On request	On request

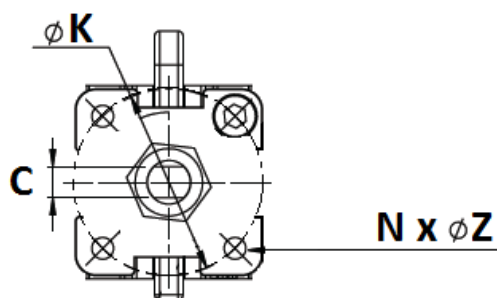
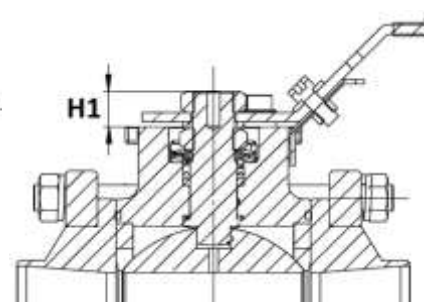
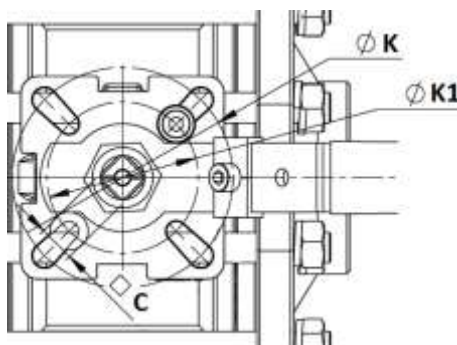
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ISO MOUTING PAD AND STEM SIZE (in mm) :

DN8-50



DN65-100



DN (mm)	65	80	100
NPS (")	2"1/2	3"	4"
H1	18.95		18.7
C	17		
Ø K	102		
ISO	F10		
Ø K1	70		
ISO1	F07		

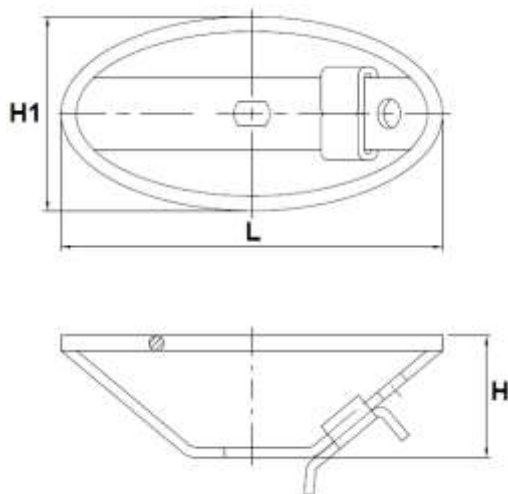
DN (mm)	15	20	25	32	40	50
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"
H1	12.7		17.4	18.7	23.4	31.6
h	1.5					
C	6		8	8	10	14
Ø Y	3/8"-24UNF		1/2"-20UNF	1/2"-20UNF	5/8"-18UNF	3/4"-16UNF
Ø P	25	30	30	35	35	55
Ø K	36	42	42	50	50	70
ISO	F03	F04	F04	F05	F05	F07
N x Ø Z	4 x M5x0.8			4 x M6x1		4x M8x1.25

TORQUES VALUES (in Nm without safety coefficient) :

DN (mm)	15	20	25	32	40	50	65	80	100
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Torques (Nm)	4.9	5.9	11.8	19.6	29.4	39.2	50	80	130

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AISI 304 OVAL HANDWHEEL SIZE Ref. ELVO (in mm) :



DN (mm)	15-20		20	25
NPS (")	1/2"-3/4"		3/4"	1"
L	96	136	136	136
H	45	45	46	46
H1	60	80	80	80
ISO plate	F03		F04	F04
Ref.	ELVO15	ELVO1520	ELVO20	ELVO25

3 PIECES STAINLESS STEEL BALL VALVE TANK BOTTOM ELSA BW**STANDARDS :**

- Manufacturer certified ISO 9001:2015 and ISO 14001 : 2015
- DIRECTIVE 2014/68/EU : For liquids and gas of Group 1
 - DN8-25 : Article 4, §3 (SEP), no CE marking
 - DN32-100 : Risk Category II, CE0035 marking
- Certificate 3.1 on request
- Design according to EN 12516-2&3
- Pressure tests according to EN 12266-1, Rate A
- B.W. ends according to ISO 1127/4200 and ASME Sch.10
- ISO 5211 mounting pad
- ATEX Group II Category 2 G/2Dc Zone 1 & 21 Zone 2 & 22 (optional marking) according to directive 2014/34/EU
- Fugitive Emissions according to ISO 15848-1 : 2015 BH Class
- Valve in accordance with the regulation **(EC) N° 1935-2004, FDA and USP Class VI** on request
- SIL2 according to IEC/EN 61508, SIL 3 possible according to the type of installation

ADVICE : Our opinion and our advice are not guaranteed and SFERACO shall not be liable for the consequences of damages.
The customer must check the right choice of the products with the real service conditions.

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