

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

3 pieces stainless steel ball valve with rotating ends, 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 : DN8 to DN100

Connection : 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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SPECIFICATIONS :

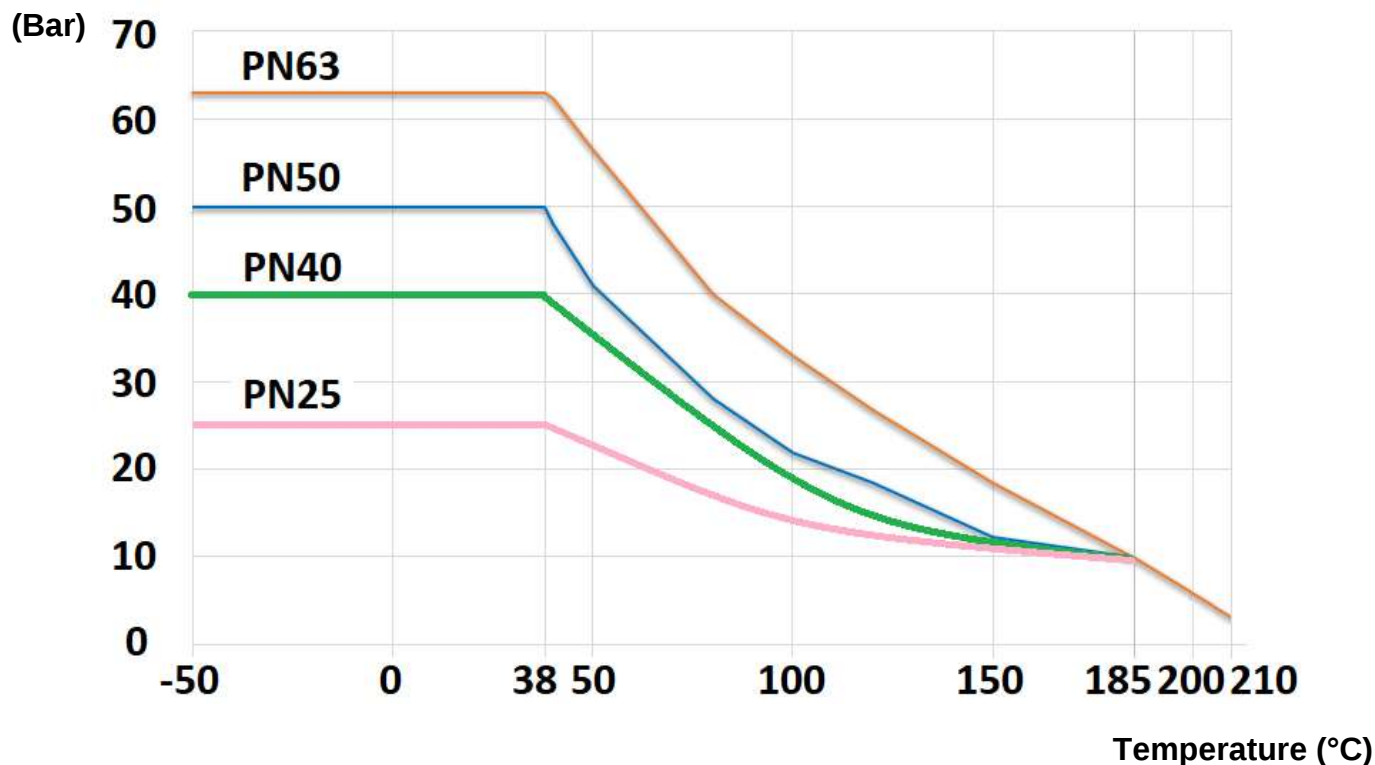
- Full bore
- Anti blow-out stem
- Packing with 3 chevrons gaskets
- Double antistatic device (ball between stem-body and stem-ball)
- Fugitive emissions according to ISO 15848-1 2015
- Lockable handle
- Oval handwheel and stem extension on request
- ISO 5211 mounting pad
- Rotating ends
- Welding possible 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)	8-12	15	20	25	32	40	50	65	80	100
NPS (")	1/4"-3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Kvs (m3/h)	17	31	59	98	159	230	418	725	1098	1768

TORQUES VALUES (in Nm without safety coefficient) :

DN (mm)	8-12	15	20	25	32	40	50	65	80	100
NPS (")	1/4"-3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Torque (Nm)	4.5	4.9	5.9	11.8	19.6	29.4	39.2	50	80	130

BOLT TIGHTENING TABLE (in Nm) :

DN (mm)	8/12	15	20	25	32	40	50	65	80	100
NPS (")	1/4"-3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Torque (Nm)	12	20	20	20	40	40	50	100	120	

RANGE :

- 3 Pieces ball valve with rotating ends EN 1.4409 full bore BW Ref. **ELITBW** from DN8 to DN100

OPTIONS :

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



DN (mm)	8	12	15	20	25	32
NPS (")	1/4"	3/8"	1/2"	3/4"	1"	1"1/4
Ref.	ELVO0812		ELVO15		ELVO20	ELVO25

- AISI 304 stem extension with ISO 5211 plate and bolting Ref. **ELRISO** (Height 63.5mm or 100mm)



DN (mm)	8	12	15	20	25	32	40	50	65-100
NPS (")	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2-4"
Ref.	ELRISO0812	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)	8	12	15	20	25	32	40	50	65
NPS (")	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2
Ref.	ELRISO0812FR	ELRISO1520FR			ELRISO25FR	ELRISO32FR	ELRISO40FR	ELRISO50FR	

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



DN (mm)	8	12	15	20	25	32	40	50	65	80	100
NPS (")	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Ref.	ELCF0812		ELCF15	ELCF20	ELCF25	ELCF32	ELCF40	ELCF50	ELCF65	ELCF80	ELCF100

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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

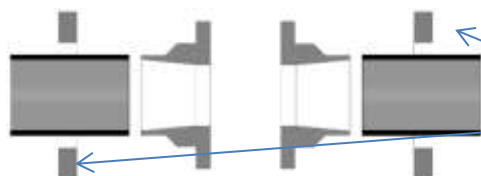
DN	Kv (m3/h) by opening angle with ball V-PORT 60°																		
	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
15	0	0	0	0	0	0	0	0,2	0,4	0,6	0,9	1,4	1,9	2,6	3,3	4,6	5,9	8,0	10,1
20	0	0	0	0	0	0,2	0,3	0,6	0,9	1,3	1,8	2,4	2,9	4,0	5,0	6,7	8,4	11,5	14,5
25	0	0,03	0,05	0,4	0,7	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

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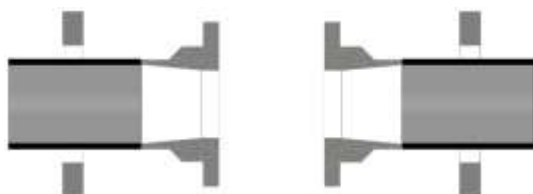
CONNECTION :

- B.W. ISO ends

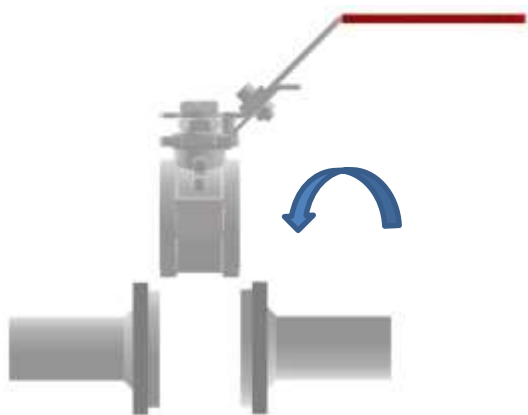
INSTALLATION :



- Insert flanges on the pipe then place the ends



- Weld the ends on the pipe and check the length between them is correct



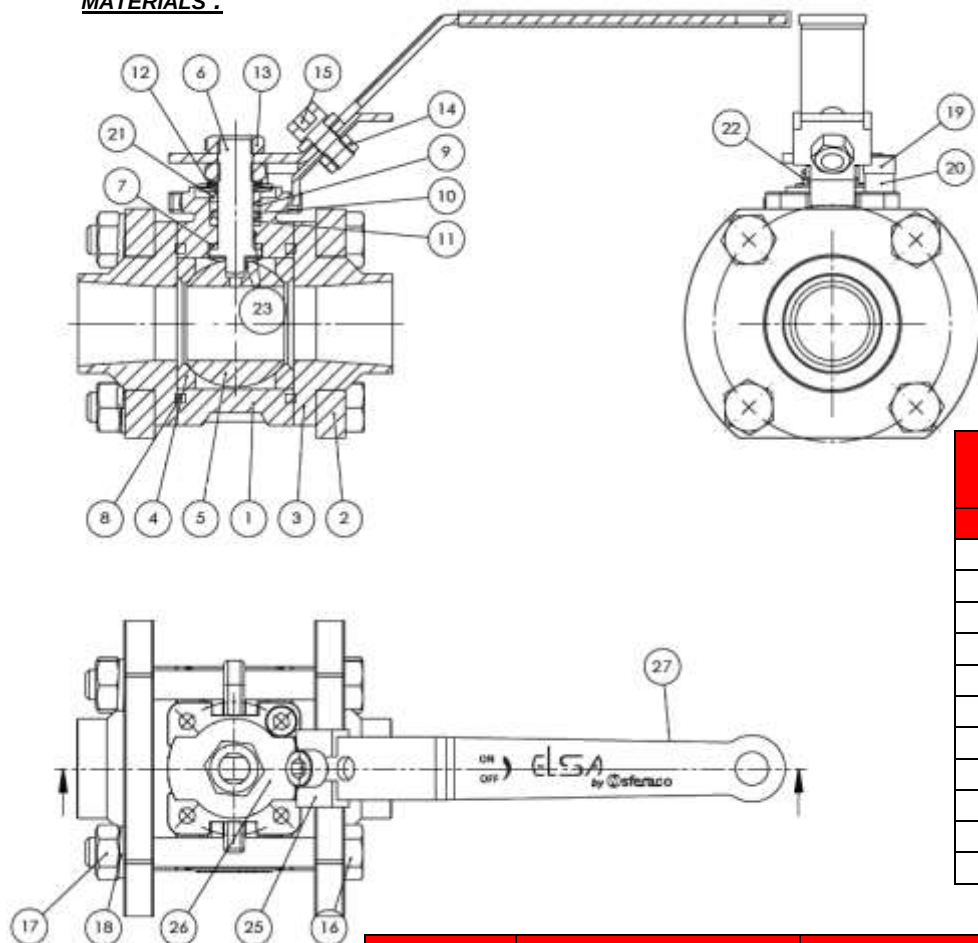
- Insert the body between the ends, thanks to the rotating ends, it's easy to place and adjust the desired angle



- Insert the studs and tightnen them at the torque indicated page 3

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

MATERIALS :



Repairability :



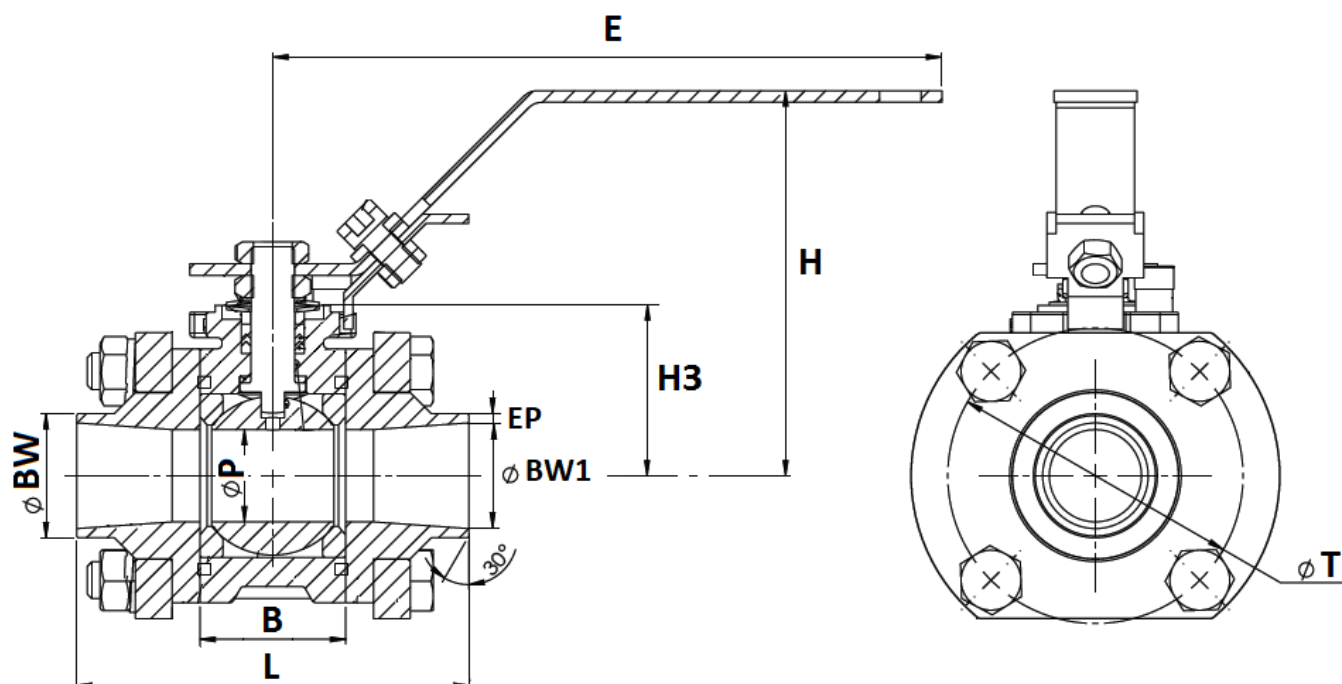
*Gasket kit (items 4, 7, 8, 9, 10 and 11)		Ball (item 5)
DN	Ref.	Ref.
DN8	98ELJOINT0812	98ELSPHERE08
DN10	98ELJOINT0812	98ELSPHERE10
DN15	98ELJOINT15	98ELSPHERE15
DN20	98ELJOINT20	98ELSPHERE20
DN25	98ELJOINT25	98ELSPHERE25
DN32	98ELJOINT32	98ELSPHERE32
DN40	98ELJOINT40	98ELSPHERE40
DN50	98ELJOINT50	98ELSPHERE50
DN65	98ELJOINT65	
DN80	98ELJOINT80	
DN100	98ELJOINT100	

(* : Included in gaskets kit)

Item	Designation	Materials
1	Body DN8-DN12	EN 1.4435
1	Body DN15-DN100	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 DN8-80	AISI 316L
	Stem DN100	Duplex ASTM A479 S31803 (F51)
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

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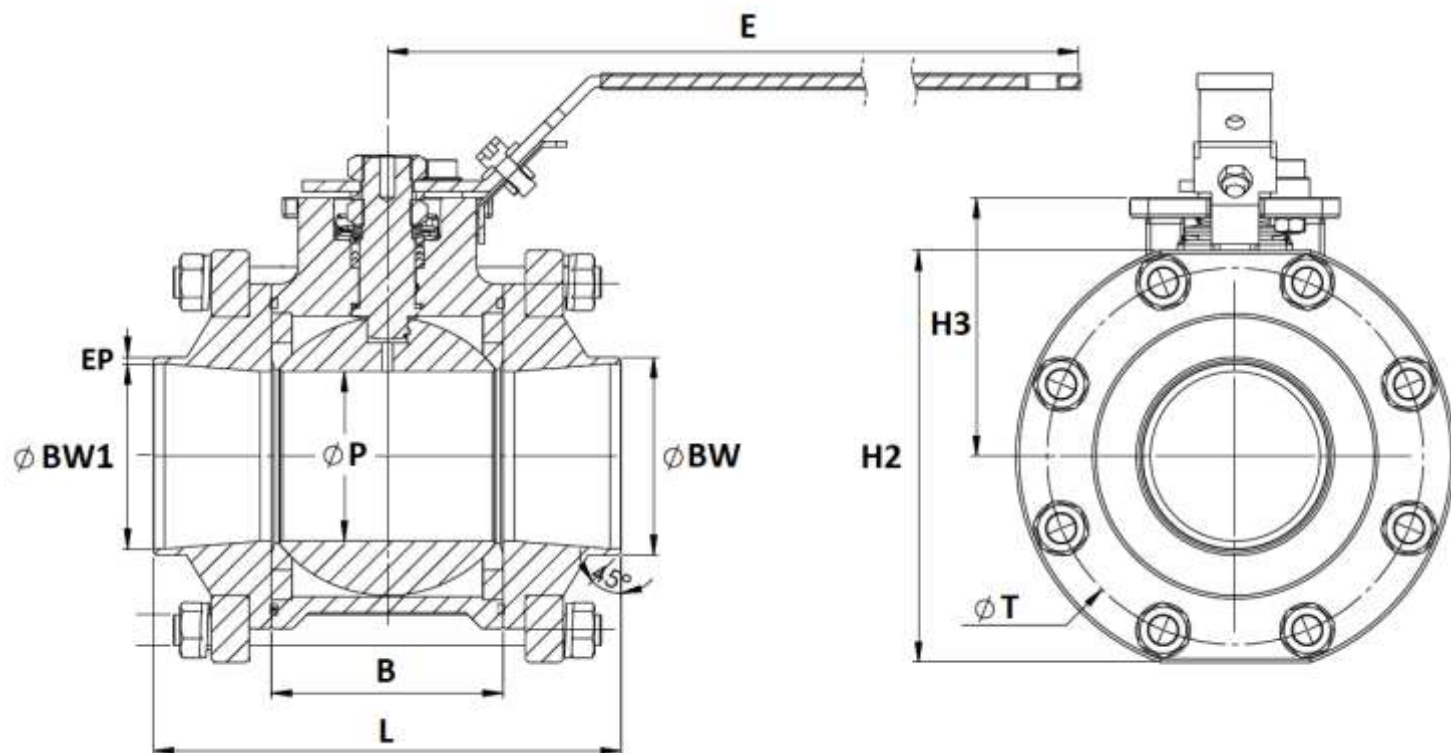
SIZE DN8-50 (in mm) :



DN (mm)	8	10	15	20	25	32	40	50
Ø P	11.3		15	20	25.4	32	38.2	50
Ø BW	13.5	17	21.3	26.9	33.8	42.4	48.3	60.3
Ø BW1	9.5	13	17.3	22.9	29.8	37.2	43.1	54.5
EP	2					2.6		2.9
L	65.2		70	85	100	110	125	150
B	20.4		24.4	31.6	41.4	48.2	56.2	71
E	130		149	149	170.5	192.5	212.5	216
H	70.3		79	83.4	106.6	110.4	108.7	139.6
H3	28		32.85	36.9	44.7	48.1	53.1	72.5
Ø T	43		53.1	64	71.4	80.9	94.2	114
Weight (in Kg)	0.6	0.6	0.88	1.42	1.95	3.1	4	7.7
Ref.	ELITBW08	ELITBW10	ELITBW15	ELITBW20	ELITBW25	ELITBW32	ELITBW40	ELITBW50

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SIZE DN65-100 (in mm) :



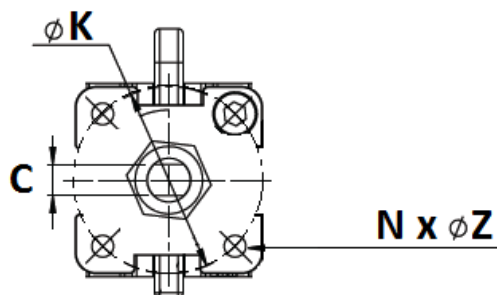
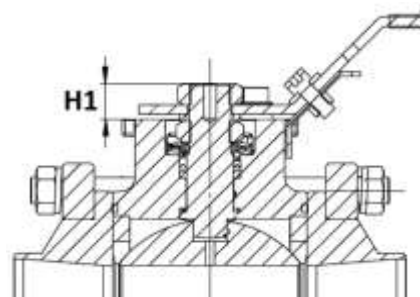
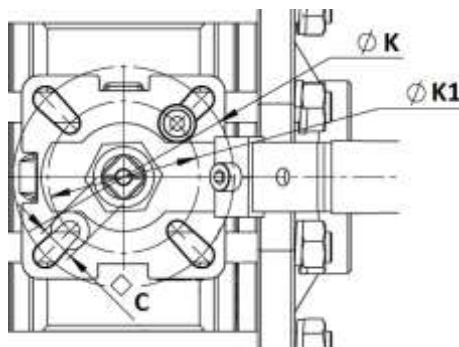
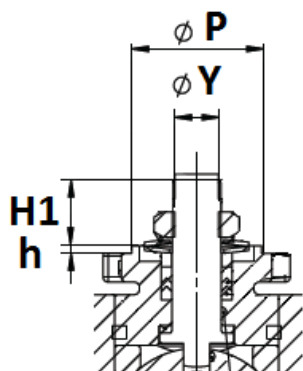
DN (mm)	65	80	100
Ø P	65	76.2	100
Ø BW	76.1	88.9	114.3
Ø BW1	70.3	83.1	107.9
EP	2.9		3.2
L	179.8	209.8	229.8
B	83.8	103.8	129.8
E	300	350	350
H2	160	185	226
H3	104.7	116.1	131.3
Ø T	146	169	208
Number of studs	6	8	8
Weight (Kg)	13.82	20.72	31.64
Ref.	ELITBW65	ELITBW80	ELITBW100

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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		

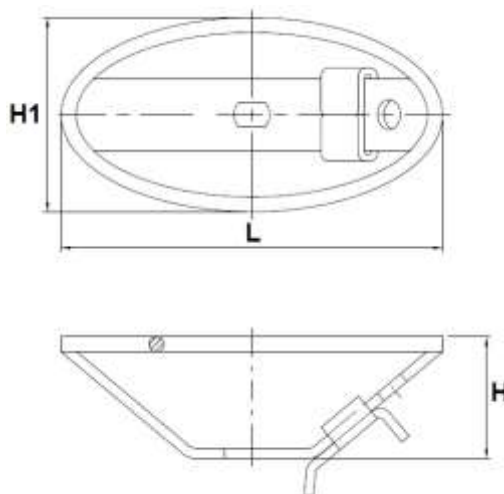
DN (mm)	8	12	15	20	25	32	40	50
NPS (")	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"
H1	4.5		12.7		17.4	18.7	23.4	31.6
h	1		1.5					
C	6				8	8	10	14
Ø Y	5/16"-24UNF		3/8"-24UNF		1/2"-20UNF	1/2"-20UNF	5/8"-18UNF	3/4"-16UNF
Ø P	25			30	30	35	35	55
Ø K	36			42	42	50	50	70
ISO	F03			F04	F04	F05	F05	F07
N x Ø Z	4 x M5x0.8					4 x M6x1		4x M8x1.25

TORQUES VALUES (in Nm without safety coefficient) :

DN (mm)	8-12	15	20	25	32	40	50	65	80	100
NPS (")	1/4"-3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Torque (Nm)	4.5	4.9	5.9	11.8	19.6	29.4	39.2	50	80	130

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

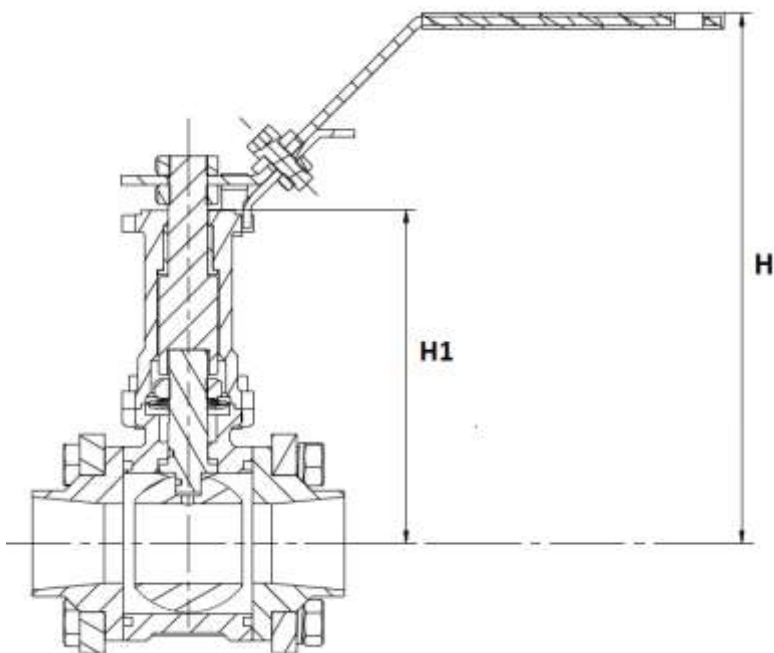
AISI 304 OVAL HANDWHEEL SIZE Ref. ELVO (in mm) :



DN (mm)	8-12	15-20		20	25
NPS (")	1/4"-3/8"	1/2"-3/4"		3/4"	1"
L	96	96	136	136	136
H	37	45	45	46	46
H1	60	60	80	80	80
ISO Plate	F03			F04	F04
Ref.	ELVO0812	ELVO15	ELVO1520	ELVO20	ELVO25

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STEM EXTENSION ELRISO SIZE (in mm) :



STEM EXTENSION HEIGHT 63.5 mm									Height 100 mm		
DN (mm)	8	12	15	20	25	32	40	50	65	80	100
NPS (")	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
H	133.8		142.5	146.9	170.1	173.9	172.2	203.1	270,7	282 ,1	297,3
H1	91.5		96.35	100.4	108.2	111.6	116.6	136	204,7	216,1	231,3
Ref. Stem extension alone (without valve and handle)	ELRISO0812		ELRISO15	ELRISO20	ELRISO25	ELRISO32	ELRISO40	ELRISO50	ELRISO6580100		

STEM EXTENSION HEIGHT 81.5 mm							
DN (mm)	8	12	15	25	32	40	50
NPS (")	1/4"	3/8"	1/2"	1"	1 1/4"	1 1/2"	2"
H	151.8		160.5		188.1	191.9	221.1
H1	109.5		114.35		126.2	129.6	154
Ref. Stem extension alone (without valve and handle)	ELRISO0812FR		ELRISO1520FR		ELRISO25FR	ELRISO32FR	ELRISO50FR

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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

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The customer must check the right choice of the products with the real service conditions.