

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.



Fugitive Emissions



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 or Reduced 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 :

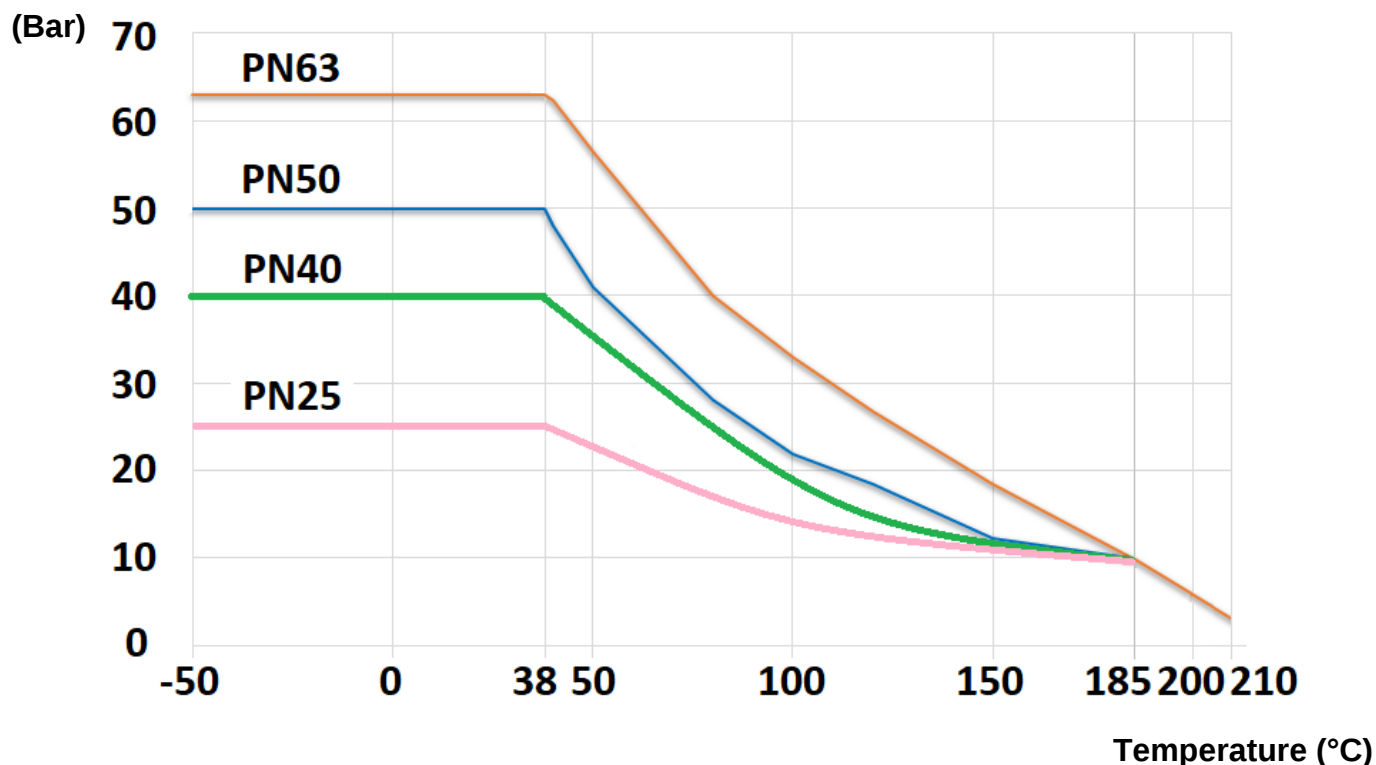
- Full or reduced (venturi) bore
- Anti blow-out stem
- Packing with 3 chevrons gaskets
- Double antistatic device (ball between stem-body and stem-ball)
- Fugitive emissions according to ISO 15848-1 2015
- Lockable handle
- Oval handwheel and stem extension on request
- ISO 5211 mounting pad
- Rotating 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^{-2} bar (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) for full bore types :

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 for full bore types (in Nm without safety coefficient) :

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"
Torque (Nm)	4.5	4.9	5.9	11.8	19.6	29.4	39.2

BOLT TIGHTENING TABLE For full bore types (in Nm) :

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"
Torque (Nm)	12	20	20	20	40	40	50

RANGE :

- 3 Pieces ball valve with rotating ends EN 1.4409 full bore BW **Ref. ELITBW** from DN8 to DN100
- 3 Pieces ball valve with rotating ends EN 1.4409 reduced (venturi) bore BW **Ref. ELITBWR** from DN15 to DN65

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. Full bore	ELVO0812		ELVO15	ELVO20	ELVO25	
Ref. Reduced bore			ELVO0812	ELVO15	ELVO20	ELVO25

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



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. Full bore	ELRISO0812		ELRISO15	ELRISO20	ELRISO25	ELRISO32	ELRISO40	ELRISO50	
Ref. Reduced bore			ELRISO0812	ELRISO15	ELRISO20	ELRISO25	ELRISO32	ELRISO40	ELRISO50

- 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. Full bore	ELRISO0812FR		ELRISO1520FR		ELRISO25FR	ELRISO32FR	ELRISO40FR	ELRISO50FR	
Ref. Reduced bore			ELRISO0812FR	ELRISO1520FR		ELRISO25FR	ELRISO32FR	ELRISO40FR	ELRISO50FR

- Pocketless seats TFM1600 (kit of 2 semi-seats) **Ref. ELCF0812-ELCF50**



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"
Ref. Full bore	ELCF0812		ELCF15	ELCF20	ELCF25	ELCF32	ELCF40	ELCF50

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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

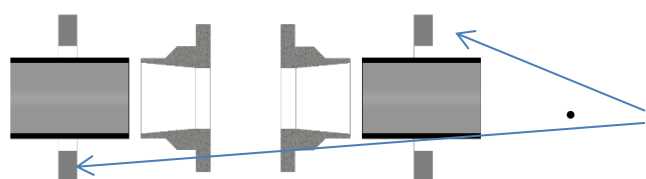
DN	Kv (m3/h) by opening angle with ball V-PORT 60°																		
	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
15	0	0	0	0	0	0	0	0,2	0,4	0,6	0,9	1,4	1,9	2,6	3,3	4,6	5,9	8,0	10,1
20	0	0	0	0	0	0,2	0,3	0,6	0,9	1,3	1,8	2,4	2,9	4,0	5,0	6,7	8,4	11,5	14,5
25	0	0,03	0,05	0,4	0,7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

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

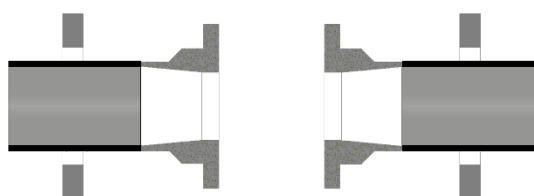
CONNECTION :

- B.W. ISO ends

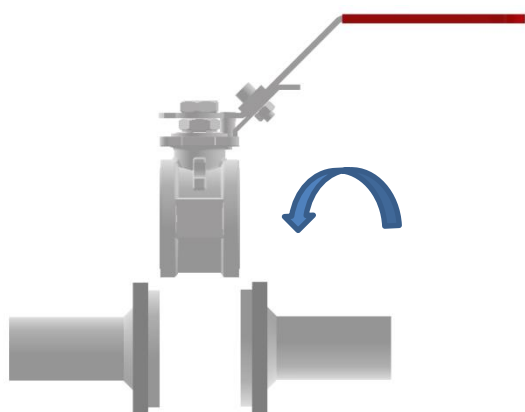
INSTALLATION :



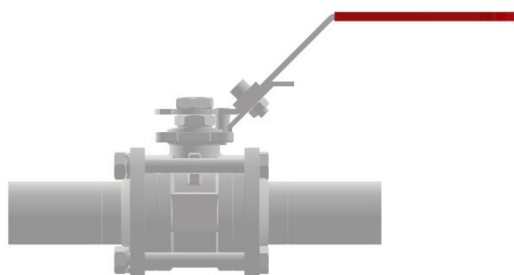
- Insert flanges on the pipe then place the ends



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



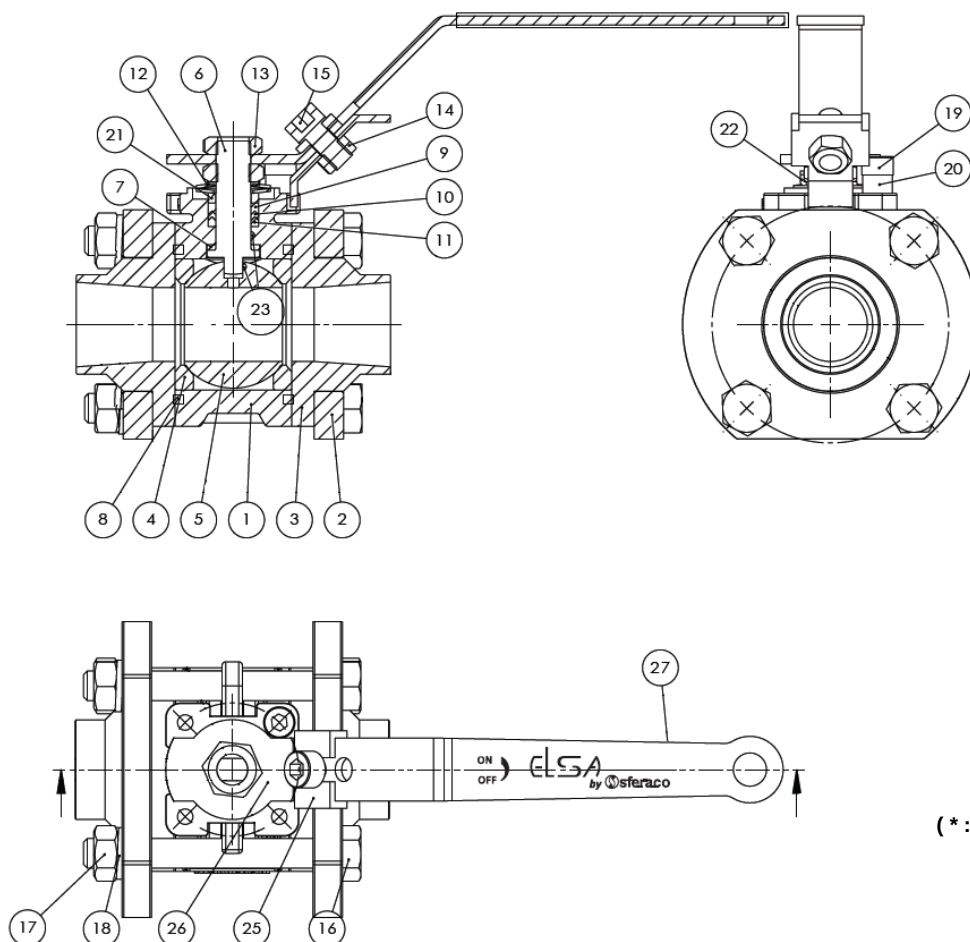
- Insert the body between the ends, thanks to the rotating ends, it's easy to place and adjust the desired angle



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

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

MATERIALS :

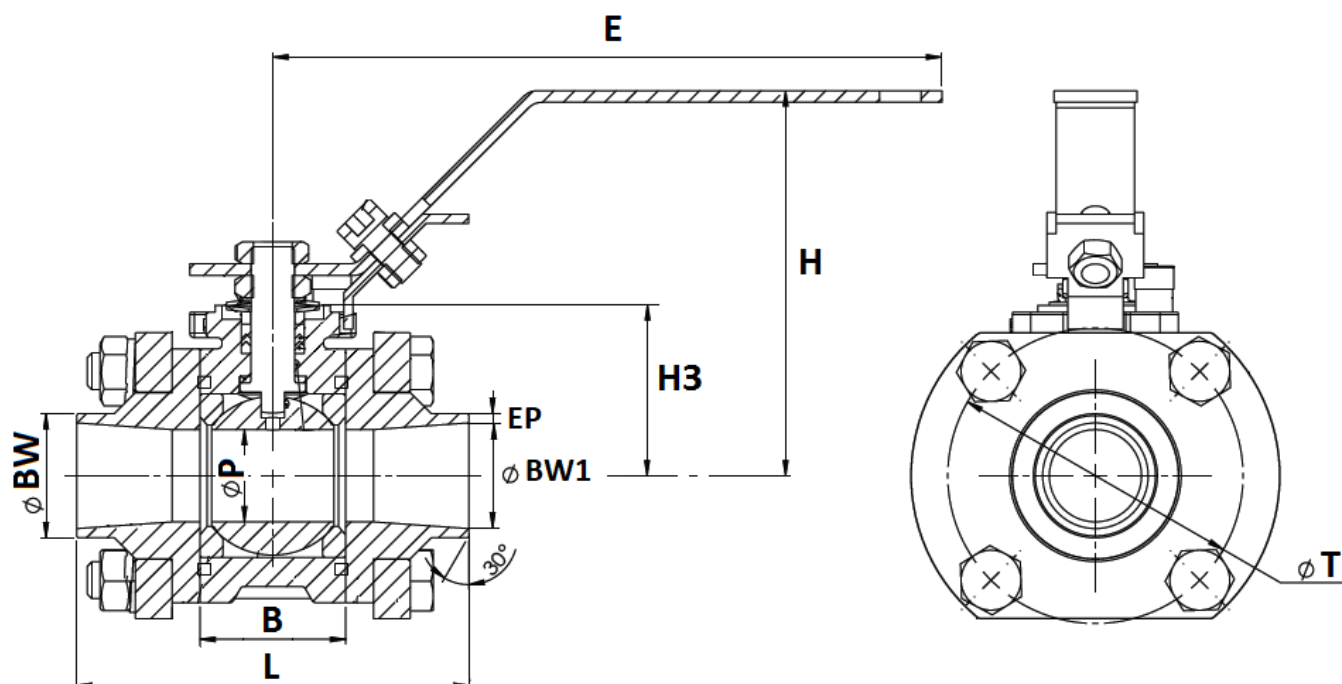


(* : Included in gaskets kit)

Item	Designation	Materials
1	Body DN8-DN12	EN 1.4435
1	Body DN15-DN50	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

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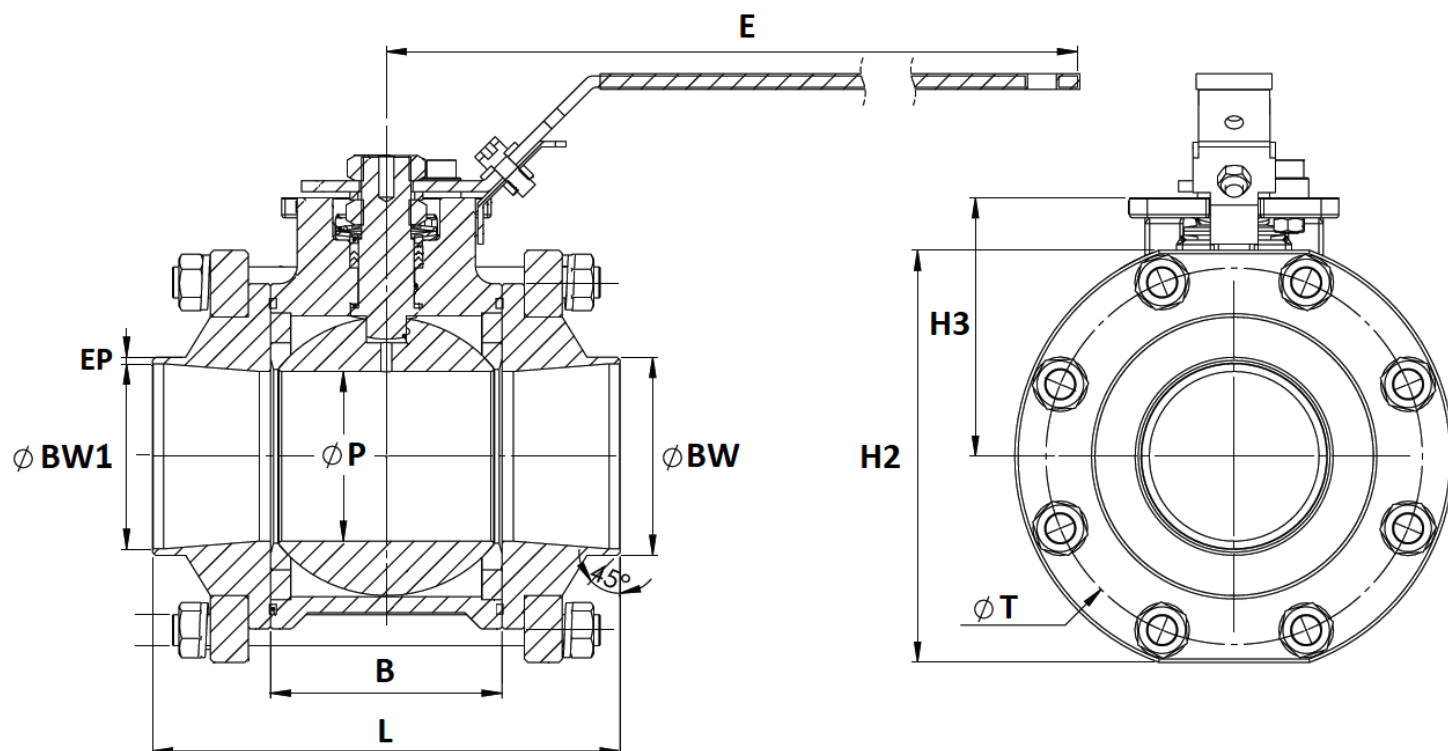
SIZE BW Type with Full bore DN8-50 (in mm) :



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. Full bore	ELITBW08	ELITBW10	ELITBW15	ELITBW20	ELITBW25	ELITBW32	ELITBW40	ELITBW50

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SIZE BW Type with Full bore DN65-100 (in mm) :



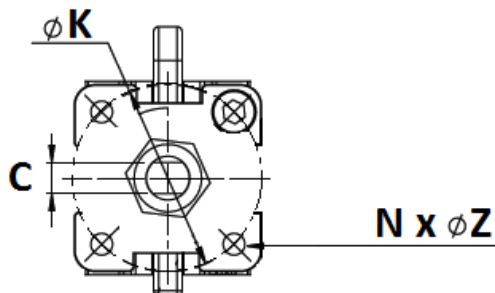
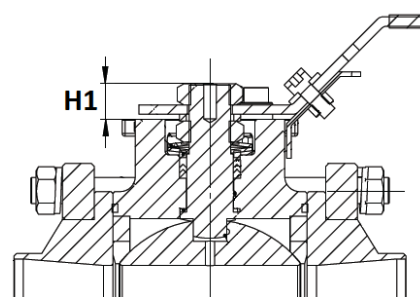
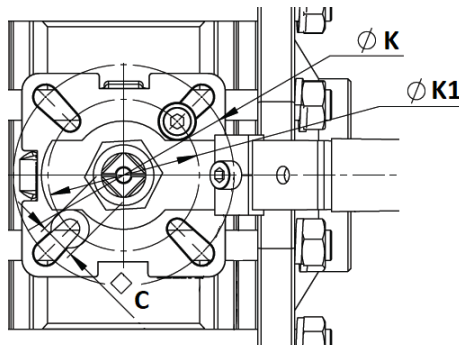
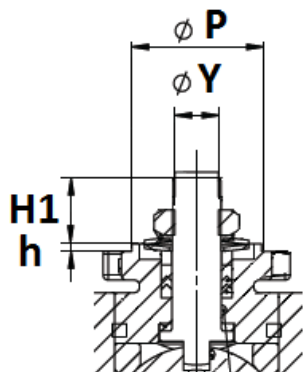
DN (mm)	65	80	100
Ø P	65	76.2	100
Ø BW	76.1	88.9	114.3
Ø BW1	70.3	83.1	107.9
EP	2.9		3.2
L	179.8	209.8	229.8
B	83.8	103.8	129.8
E	300	350	350
H2	160	185	226
H3	104.7	116.1	131.3
Ø T	146	169	208
Number of studs	6	8	8
Ref. Full bore	ELITBW65	ELITBW80	ELITBW100

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

ISO MOUTING PAD AND STEM SIZE for Full bore type (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		

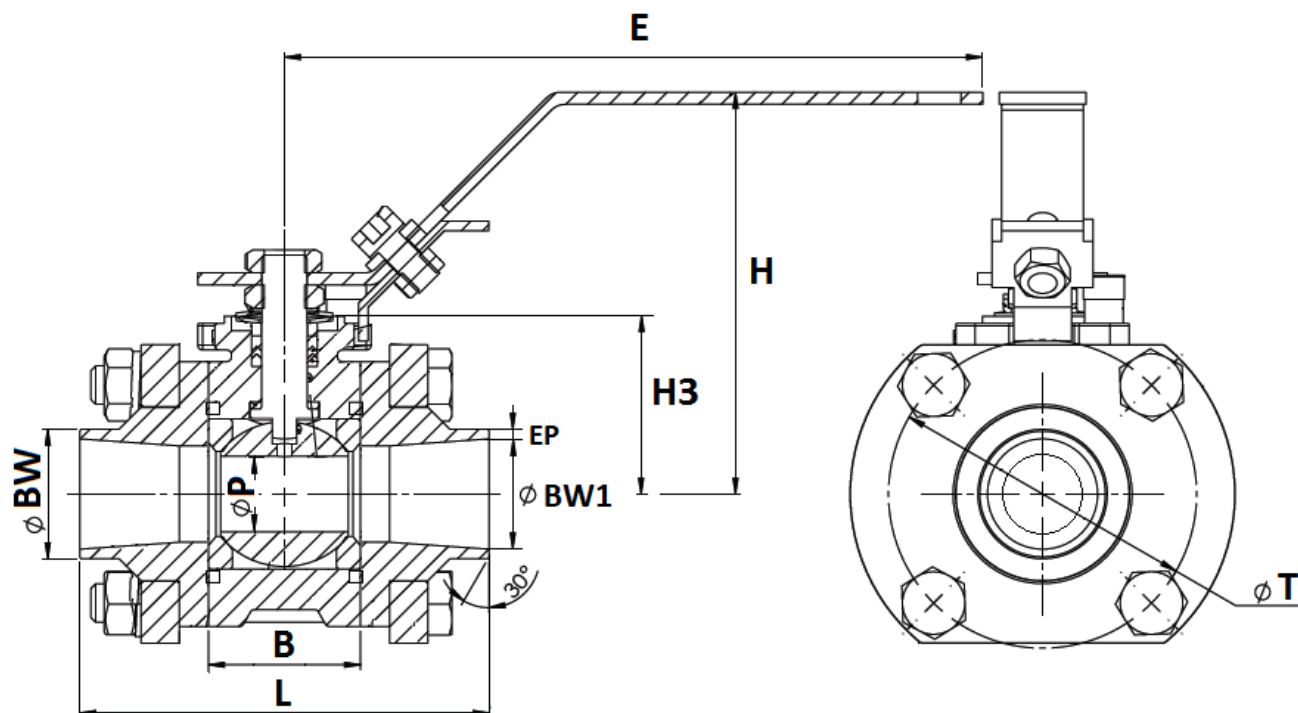
DN (mm)	8	12	15	20	25	32	40	50
NPS (")	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"
H1	4.5		12.7		17.4	18.7	23.4	31.6
h	1		1.5					
C	6				8	8	10	14
Ø Y	5/16"-24UNF		3/8"-24UNF		1/2"-20UNF	1/2"-20UNF	5/8"-18UNF	3/4"-16UNF
Ø P	25			30	30	35	35	55
Ø K	36			42	42	50	50	70
ISO	F03			F04	F04	F05	F05	F07
N x Ø Z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

TORQUES VALUES for full bore types (in Nm without safety coefficient) :

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

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

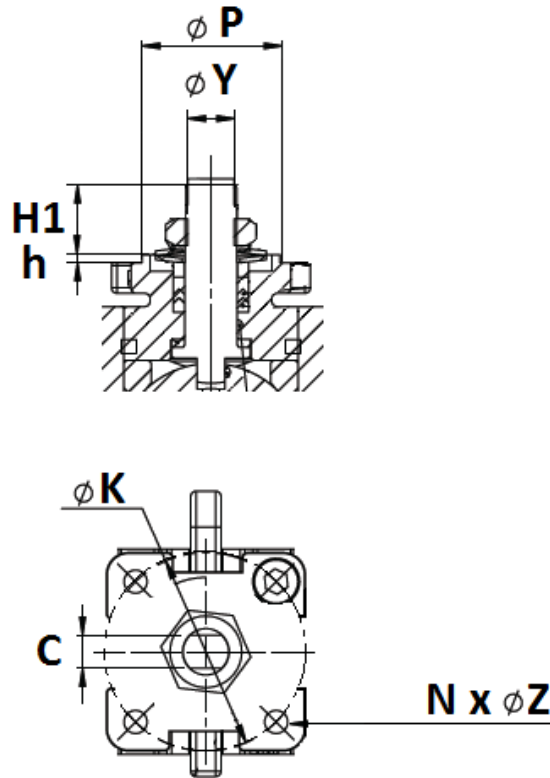
SIZE BW Type with Reduced (Venturi) bore (in mm) :



DN (mm)	15	20	25	32	40	50	65
Ø P	10	15	20	25.4	32	38.2	50
Ø BW	21.3	26.9	33.8	42.4	48.3	60.3	76.1
Ø BW1	17.3	22.9	29.8	37.2	43.1	54.5	70.3
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
Ref. Reduced bore	ELITBW15R	ELITBW20R	ELITBW25R	ELITBW32R	ELITBW40R	ELITBW50R	ELITBW65R

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

ISO MOUNTING PAD AND STEM SIZE for Reduced (Venturi) type (in mm) :



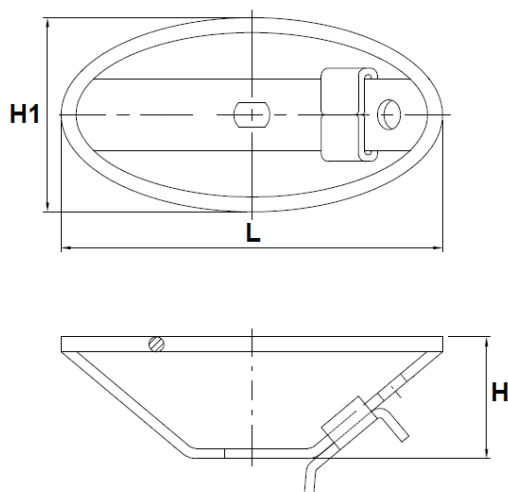
DN (mm)	15	20	25	32	40	50	65
NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2
H1	4.5	12.7		17.4	18.7	23.4	31.6
h	1	1.5					
C	6	6		8	8	10	14
Ø Y	5/16"-24UNF	3/8"-24UNF		1/2"-20UNF	1/2"-20UNF	5/8"-18UNF	3/4"-16UNF
Ø P	25		30	30	35	35	55
Ø K	36		42	42	50	50	70
ISO	F03		F04	F04	F05	F05	F07
N x Ø Z	4 x M5x0.8				4 x M6x1		4x M8x1.25

TORQUES VALUES for reduced bore types (in Nm without safety coefficient) :

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

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

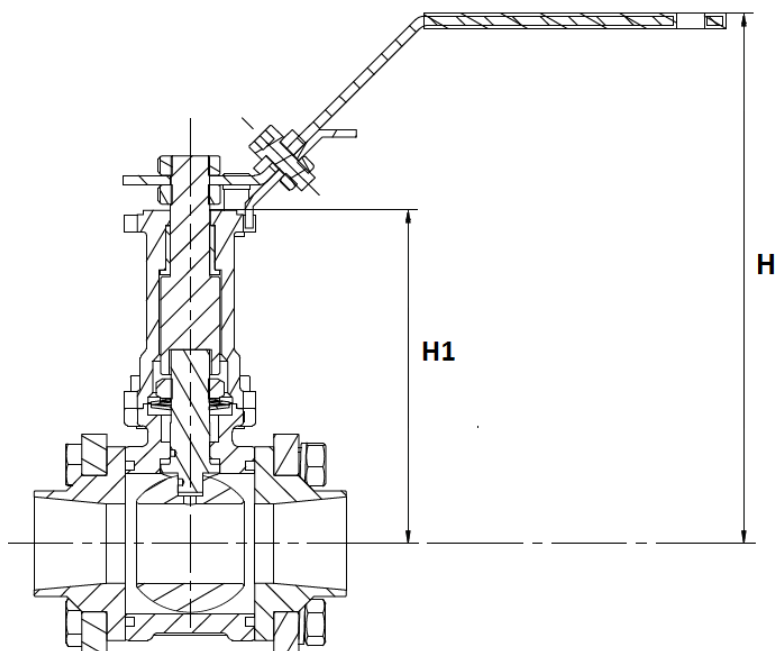


DN (mm)	8-12	15-20		20	25
NPS (")	1/4"-3/8"	1/2"-3/4"		3/4"	1"
L	96	96	136	136	136
H	37	45	45	46	46
H1	60	60	80	80	80
ISO Plate	F03			F04	F04
Ref. Full bore	ELVO0812	ELVO15	ELVO1520	ELVO20	ELVO25

DN (mm)	15	20-25		25	32
NPS (")	1/2"	3/4"-1"		1"	1"1/4"
L	96	96	136	136	136
H	37	45	45	46	46
H1	60	60	80	80	80
ISO Plate	F03			F04	F04
Ref. Reduced bore	ELVO0812	ELVO15	ELVO1520	ELVO20	ELVO25

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW

ELSA VALVE FULL BORE WITH STEM EXTENSION ELRISO SIZE (in mm) :



STEM EXTENSION HEIGHT 63.5 mm								
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"
H	133.8		142.5	146.9	170.1	173.9	172.2	203.1
H1	91.5		96.35	100.4	108.2	111.6	116.6	136
Ref. Stem extension alone (without valve and handle)	ELRISO0812		ELRISO15	ELRISO20	ELRISO25	ELRISO32	ELRISO40	ELRISO50

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	190.2	221.1
H1	109.5		114.35	126.2	129.6	134.6	154
Ref. Stem extension alone (without valve and handle)	ELRISO0812FR		ELRISO1520FR	ELRISO25FR	ELRISO32FR	ELRISO40FR	ELRISO50FR

3 PIECES STAINLESS STEEL BALL VALVE WITH ROTATING ENDS ELSA BW**STANDARDS :**

- Manufacturer certified ISO 9001:2015
- 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, CE 0035 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.