

CONCENTRIC WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV DUCTILE IRON BODY STAINLESS STEEL DISC ACS EPDM SEAT PN10

Wafer butterfly valve TTV excellence range for cold and hot water, drinkable water, sea water, alcohol, sodium hydroxide, demineralized water, mercury, alcalins.

Approval Bureau Veritas marine certificate., 10 years warranty.

Machined disc for a lower torque.

Ductile iron EN GJS-500-7 body, stainless steel disc and EPDM ACS seat.

Between flanges PN10/16 or class 150 according to DN.

Compatible with explosive atmosphere, ATEX Zone 1&21 and Zone 2&22 on request.

Handling possible with stainless steel handle, gearbox or, chain gearbox and stem extension.

Thanks to the ISO 5211 plate and the square stem, an actuator can be installed direct on the valve.



Size : DN40 to DN300
Connection : Between flanges PN10/16 and Class 150 (PN20)
Min Temperature : -20°C
Max Temperature : +110°C
Max Pressure : 10 Bars
Specifications : Long neck for isolation
 Wafer type
 Full crossing stem
 ISO 5211 direct mounting pad

Materials : Ductile iron GJS 500-7 body, ACS EPDM seat

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

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SPECIFICATIONS :

- Machined disc for a lower torque
- Long neck for isolation
- ISO 5211 mounting pad
- Wafer type
- Between flanges PN10/16 and Class 150 (PN20)
- Full crossing stem
- Removable EPDM seat
- Stainless steel disc
- 9 positions lever up to DN200, stop in all positions over, locking device in opened or closed position from DN32 to DN300
- Rilsan coated body color RAL 5024 , 250-300 microns thickness
- Stem extension 75 mm length (option)
- Square lever 30x30 mm for special key (option)

USE :

- Fluids : Cold and hot water, drinkable water, sea water, alcohol, sodium hydroxide (concentration 70% max), demineralized water, mercury, alcalins
- Not advisable : Hydrocarbon, steam, gas, acids, oil, Freon
- Min and max Temperature Ts : From -20°C to + 110°C
- Max Pressure Ps : 10 bars

RANGE :

- With lever from DN 32 to DN 300

ENDS :

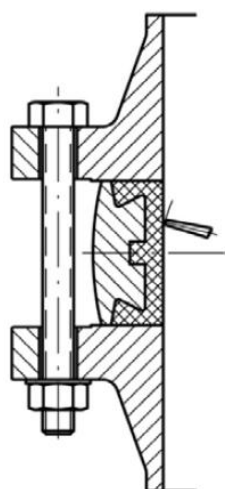
- Between flanges PN10/16 and Class 150 (PN20)

TORQUE VALUES (in Nm with safety coefficient of 30 % included) :

		DN									
	Pressure (Bar)	40	50	65	80	100	125	150	200	250	300
Torque (Nm) with machined disc (on request)	10	6	8	10	14	18	31	59	93	206	330

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MAXIMUM TIGHTENING TORQUES FOR BOLTING FLANGES :



Bolting types	Maximum torques (Nm)			
	5,6 / A307 Gr.B	8,8 / A193 B7	10,9	12,9
Bolting size				
M14 (9/16")	66,64	132,3	186,2	225,4
M16 (5/8")	102,9	205,8	289,1	347,9
M18 (3/4")	142,1	284,2	396,9	475,3
M20 (3/4")	196	401,8	568,4	676,2
M22 (7/8")	259,7	539	764,4	911,4
M24 (1")	338,1	695,8	980	1176

FLOW COEFFICIENT Kv (m3 / h) :

DN	Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
32-40	3	4	8	17	25	35	45	56	70
50	3	6	14	22	37	60	95	147	164
65	4	7	10	22	48	78	140	160	201
80	5	12	29	52	88	156	216	281	359
100	9	21	48	87	147	234	346	519	627
125	19	35	78	148	232	372	562	761	995
150	28	48	108	203	324	536	865	1211	1471
200	35	91	206	320	554	952	1427	2163	2509
250	43	143	329	562	865	1471	2336	3460	3936
300	69	216	476	770	1341	2206	3460	4758	5865

HEAD LOSS CALCULATIONS :

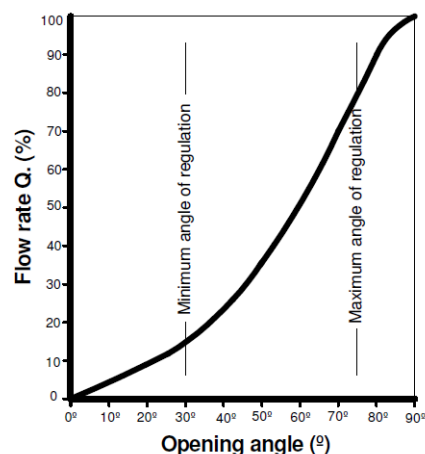
$$\Delta p = (Q / K_v)^2 \times SG$$

Q : flow in m³/h

Δp : Head loss in bar

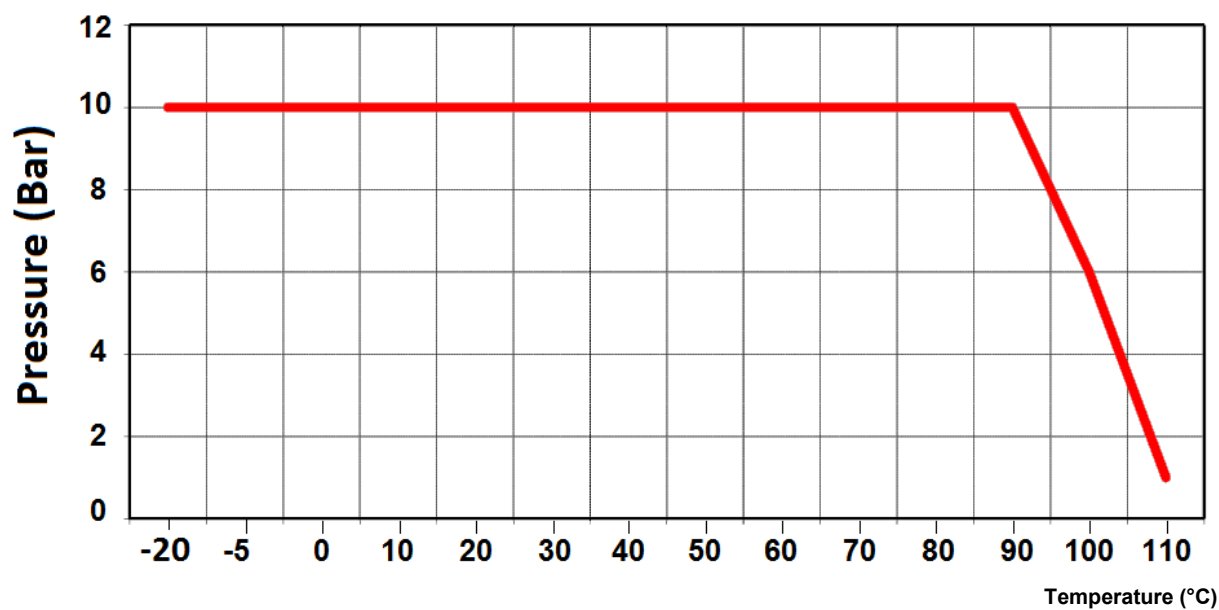
SG : Specific gravity (= 1 for water)

Kv : Volume of water in m³/h, that will flow through a given restriction or valve opening with a pressure drop of 1 bar at 20°C)



**CONCENTRIC WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV
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PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :



**CONCENTRIC WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV
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REPAIRABILITY :



SEAT



STEM



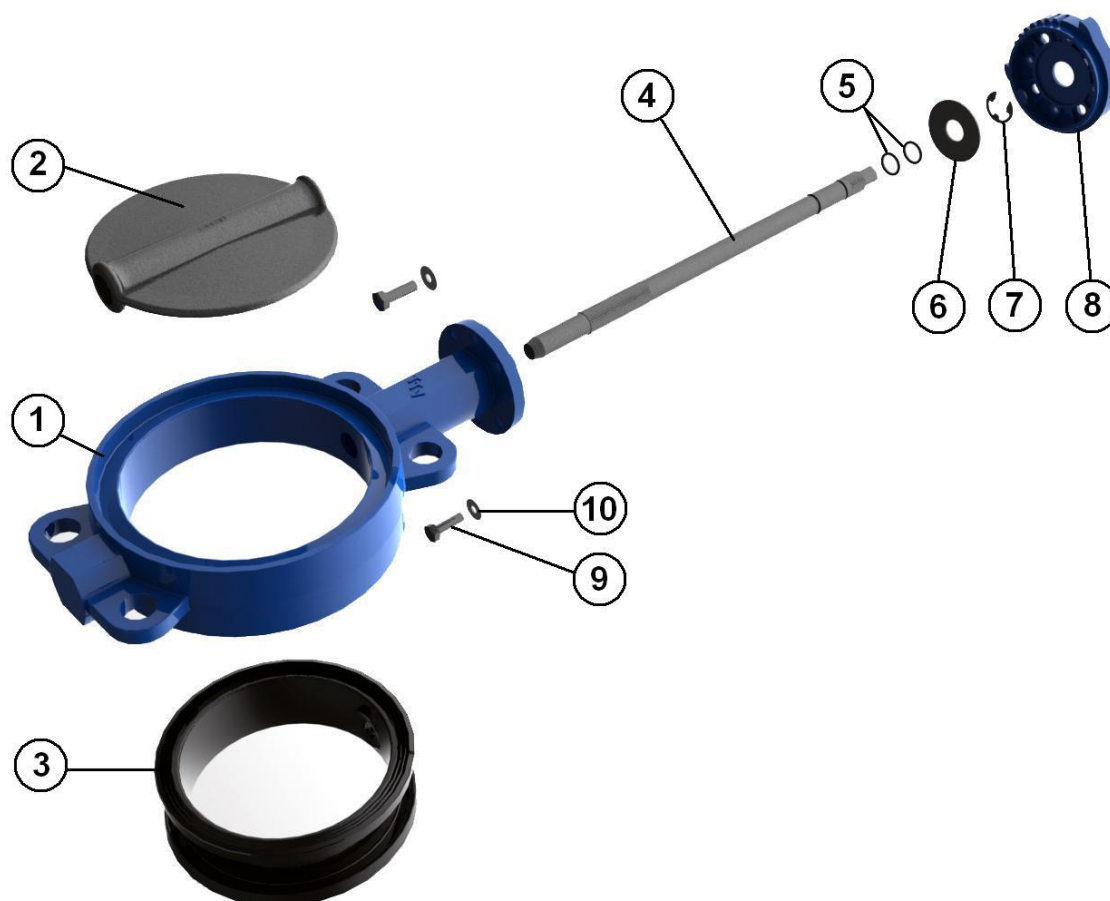
HANDLE



	DN	40	50	65	80	100	125	150	200	250	300
Seat	Ref.	9865000	9865001	9865002	9865003	9865004	9865005	9865006	9865007	9865050	9865051
Stem	Ref.	9865040	9865041	9865042	9865043	9865044	9865045	9865046	9865047	9865048	9865049
Handle	Ref.	9831331		9831332	9831333		9831334		9831335	9831336	9831337

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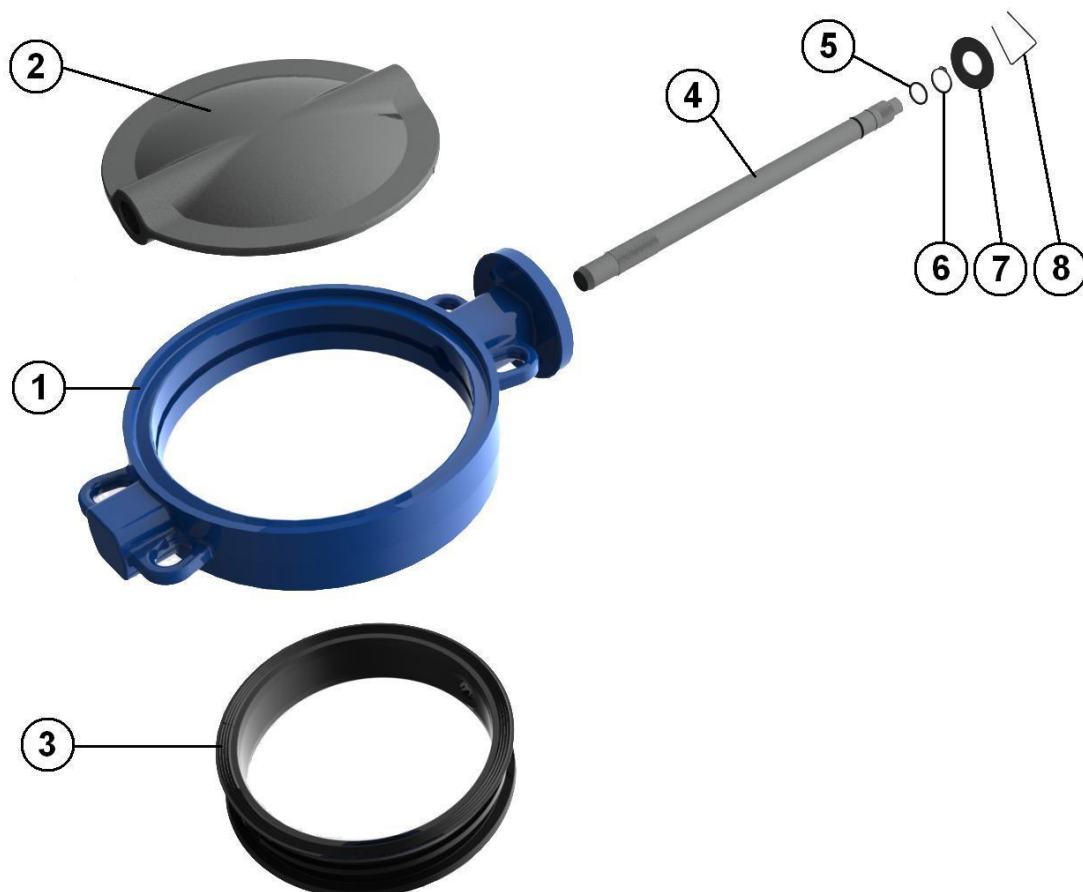
MATERIALS DN 40 - 200 :



Item	Designation	Materials
1	Body	Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 μ thickness
2	Disc	ASTM A351 CF8M
3	Seat	EPDM ACS
4	Stem	AISI 304
5	O ring	NBR
6	Ring	Steel
7	Circlips	
8	Plate	Aluminium
9	Plate screw	5.6
10	Washer	Steel
	Lever	Aluminium ADC10 with epoxy painting 50μ thickness

**CONCENTRIC WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV
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MATERIALS DN 250 - 300 :

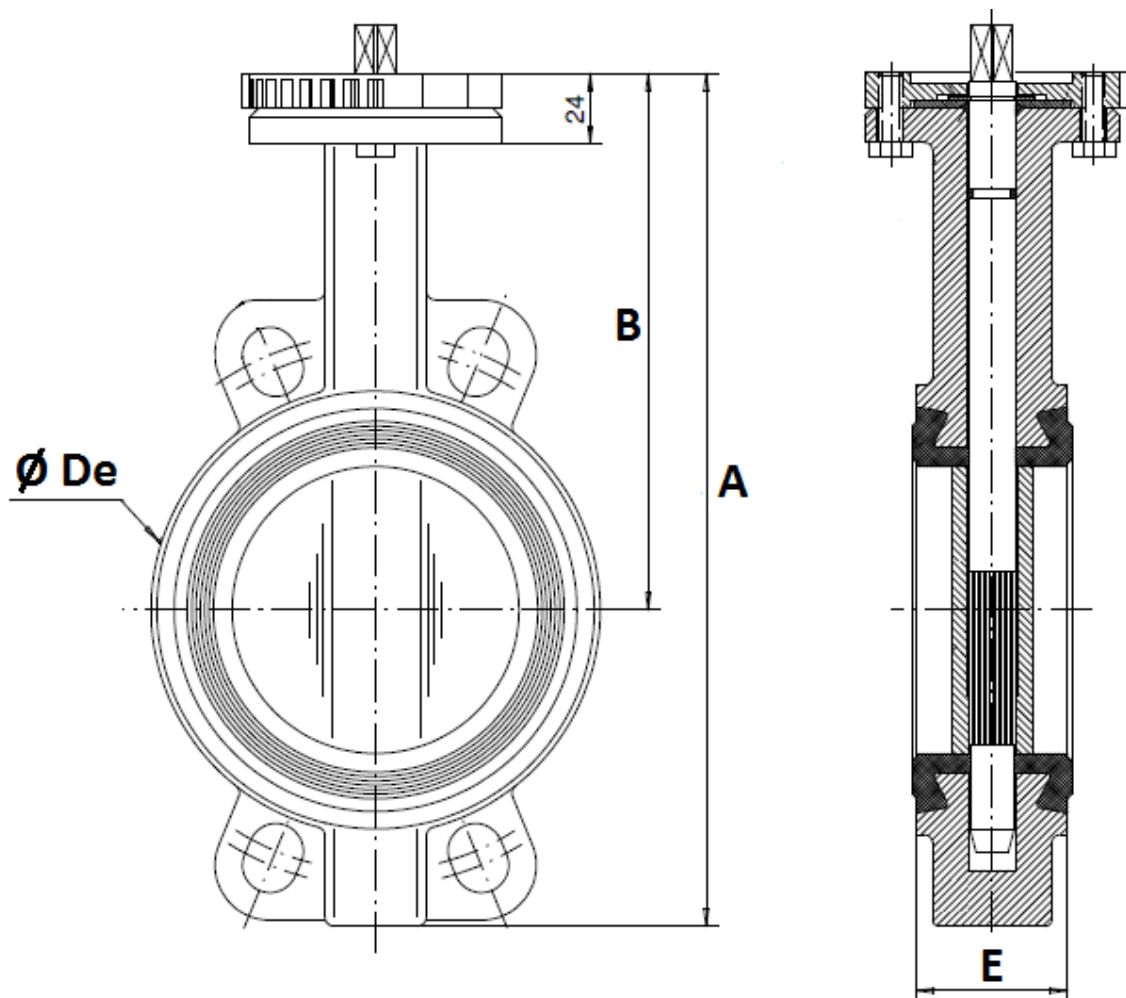


Item	Designation	Materials
1	Body	Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 μ thickness
2	Disc	ASTM A351 CF8M
3	Seat	EPDM ACS
4	Stem	AISI 304
5	O ring	NBR
6	Circlips	Steel
7	Ring	
8	Spring	
Lever		Ductile iron EN GJS-500-7 with epoxy painting 50 μ thickness

**CONCENTRIC WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV
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SIZE (in mm) :

- Valves DN 40 - 200 :

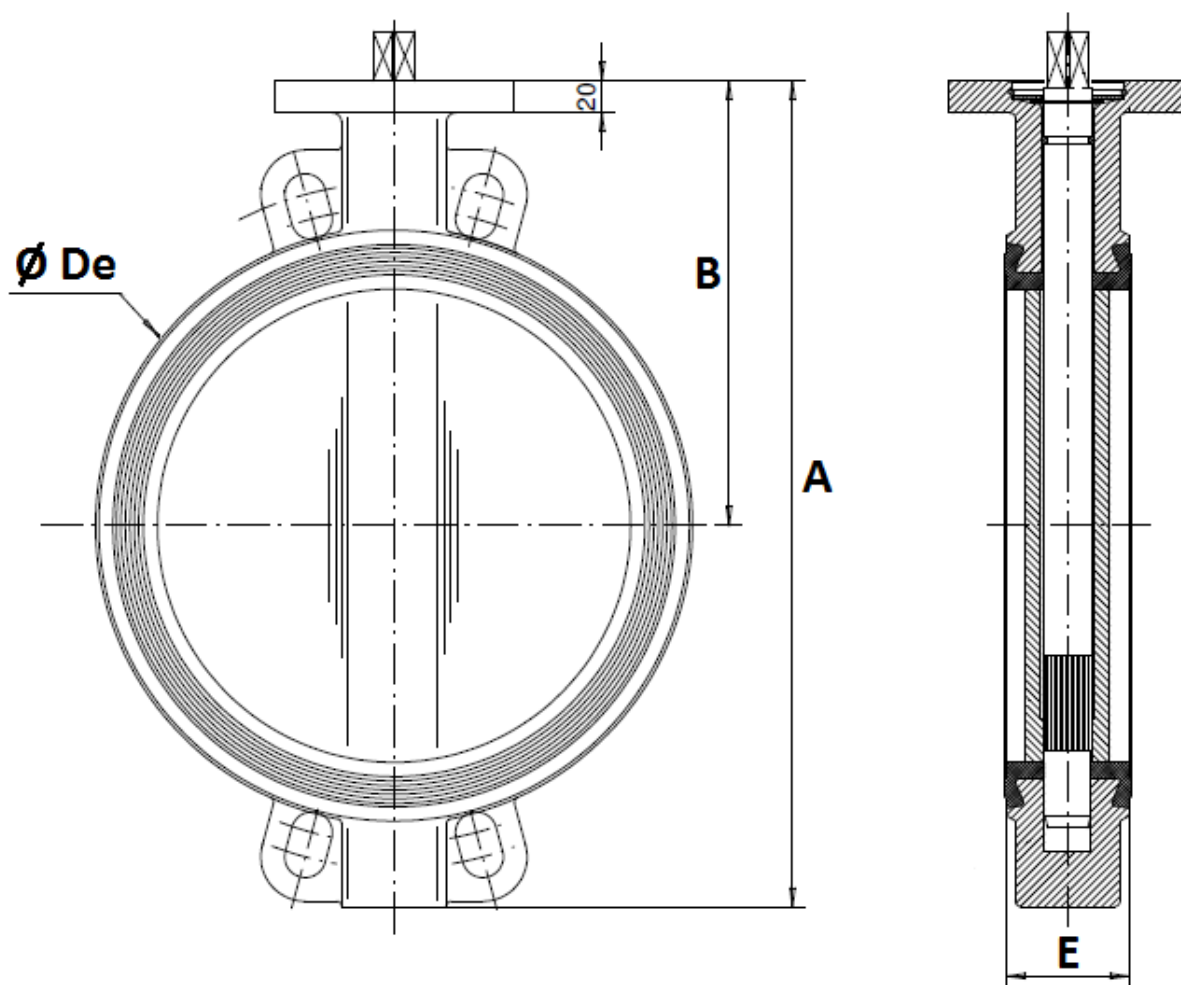


DN	40	50	65	80	100	125	150	200
A	206	228	248	265	298	331	349	430
B	140	156	161	169	187	206	215	255
Ø De	82	102	119	135	155	185	208	270
E	33	43	46	46	52	56	56	60
Weight (Kg)	2.46	3.66	4.4	4.6	6	7.6	9.2	14.7
Ref.	1153LT040	1153LT050	1153LT065	1153LT080	1153LT100	1153LT125	1153LT150	1153LT200

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SIZE (in mm) :

- **Valves DN 250 -300 :**

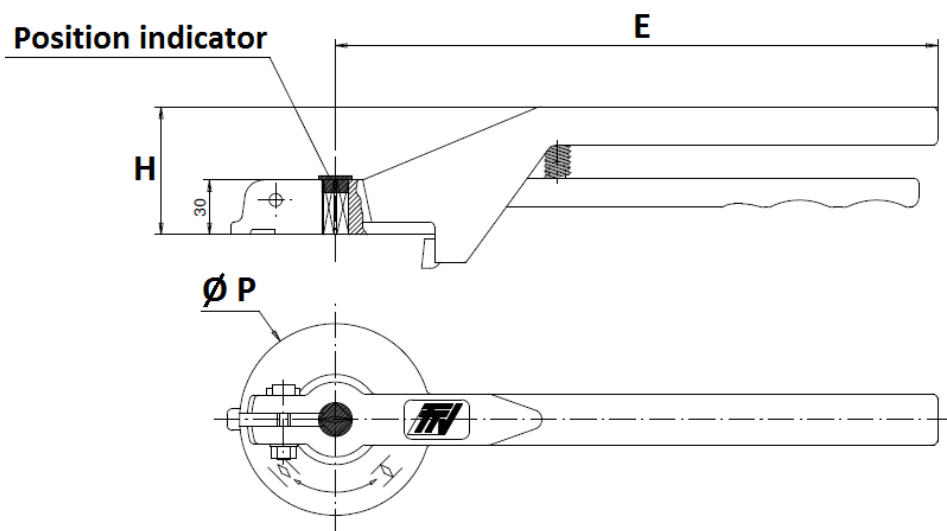


DN	250	300
A	461	524
B	248	280
Ø De	328	381
E	68	78
Weight (Kg)	24.7	33
Ref.	1153LT250	1153LT300

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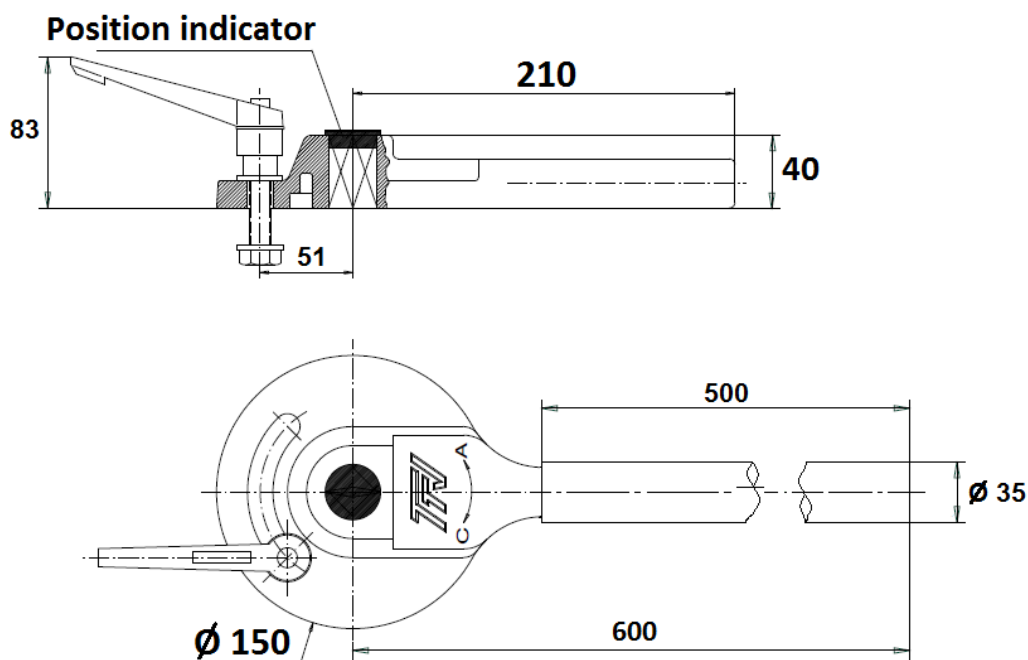
STANDARD LEVERS SIZE (in mm) :

DN 32 – 200 :



DN	32-100	125-200
E	205	330
H	57	70
Ø P	88	105

DN 250 – 300 :

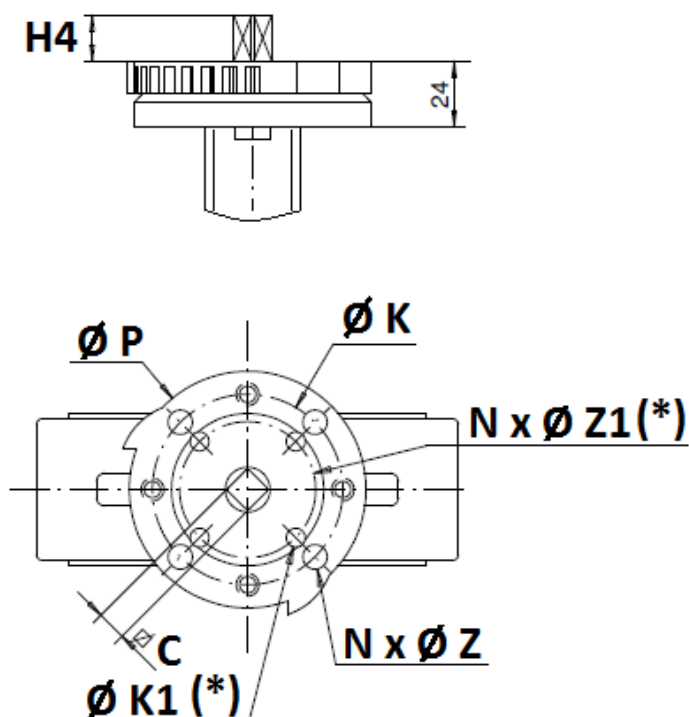
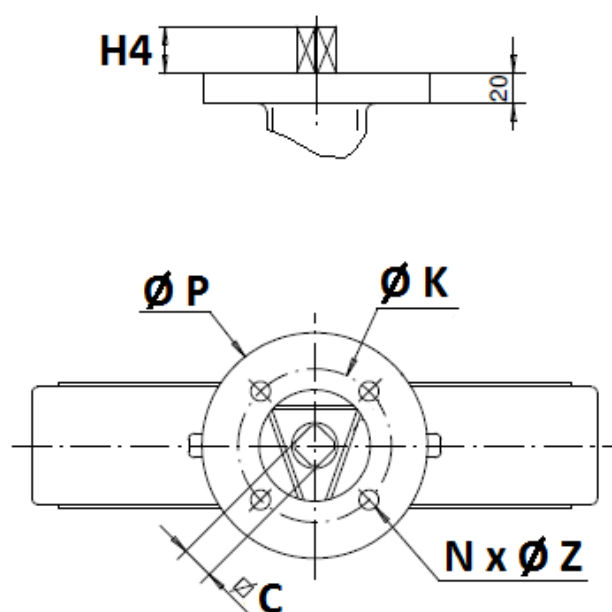


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ISO MOUNTING PAD SIZE (in mm) :

DN 40 – 200

DN250-300

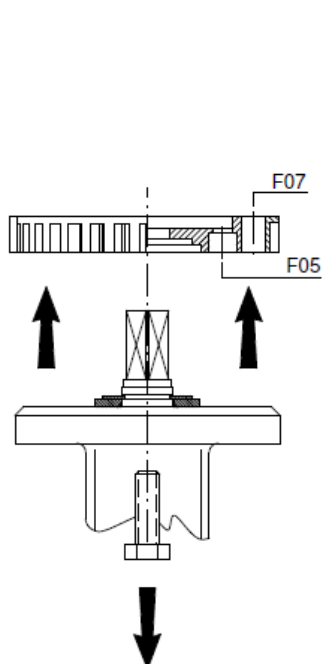


(*) : Only from DN40 to DN100 (see installation with ISO plate F05 next page)

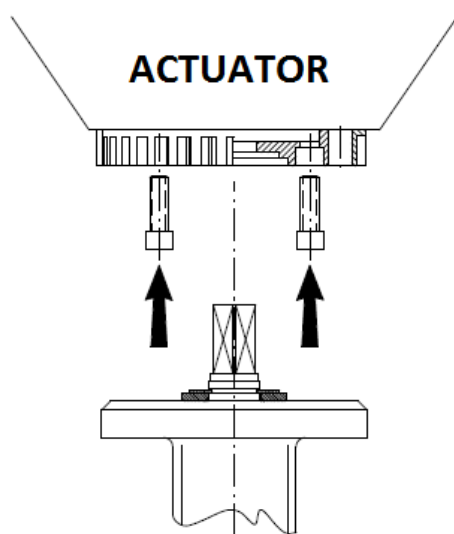
DN	40	50	65	80	100	125	150	200	250	300
H4	14	14	16	16	20	20	20	24	24	24
C	8	8	9	11	11	14	14	17	19	22
Ø K	70	70	70	70	70	70	70	70	102	102
ISO	F07	F07	F07	F07	F07	F07	F07	F07	F10	F10
N x Ø Z	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 11	4 x 11
Ø K1	50	50	50	50	50	-	-	-	-	-
ISO 1	F05	F05	F05	F05	F05	-	-	-	-	-
N x Ø Z1	4 x 7	4 x 7	4 x 7	4 x 7	4 x 7	-	-	-	-	-
Ø P	88	88	88	88	88	105	105	105	150	150

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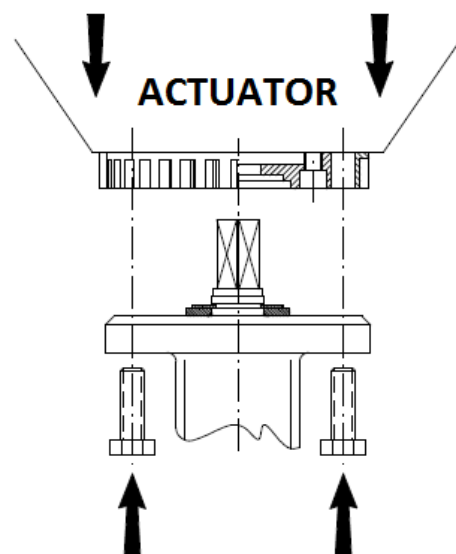
ISO PLATE INSTALLATION FOR DN40-100 ISO F05 :



Unscrew and remove the flange



Screw the flange to the actuator with hexagon socket screws

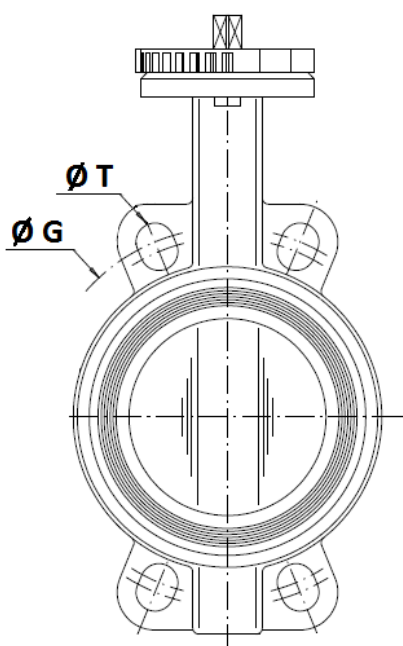


Screw the valve to the flange

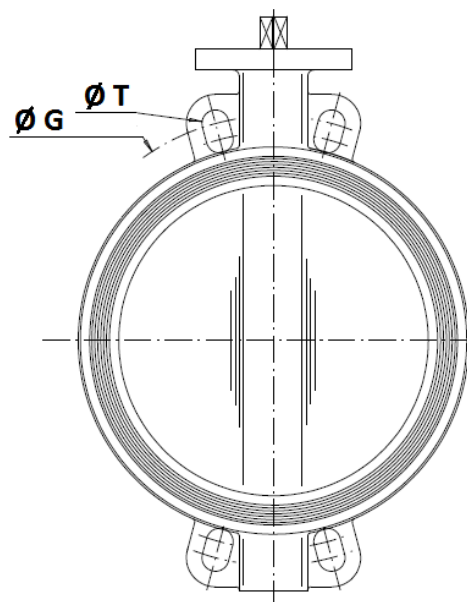
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BETWEEN FLANGES SIZE (in mm) :

DN 40-200



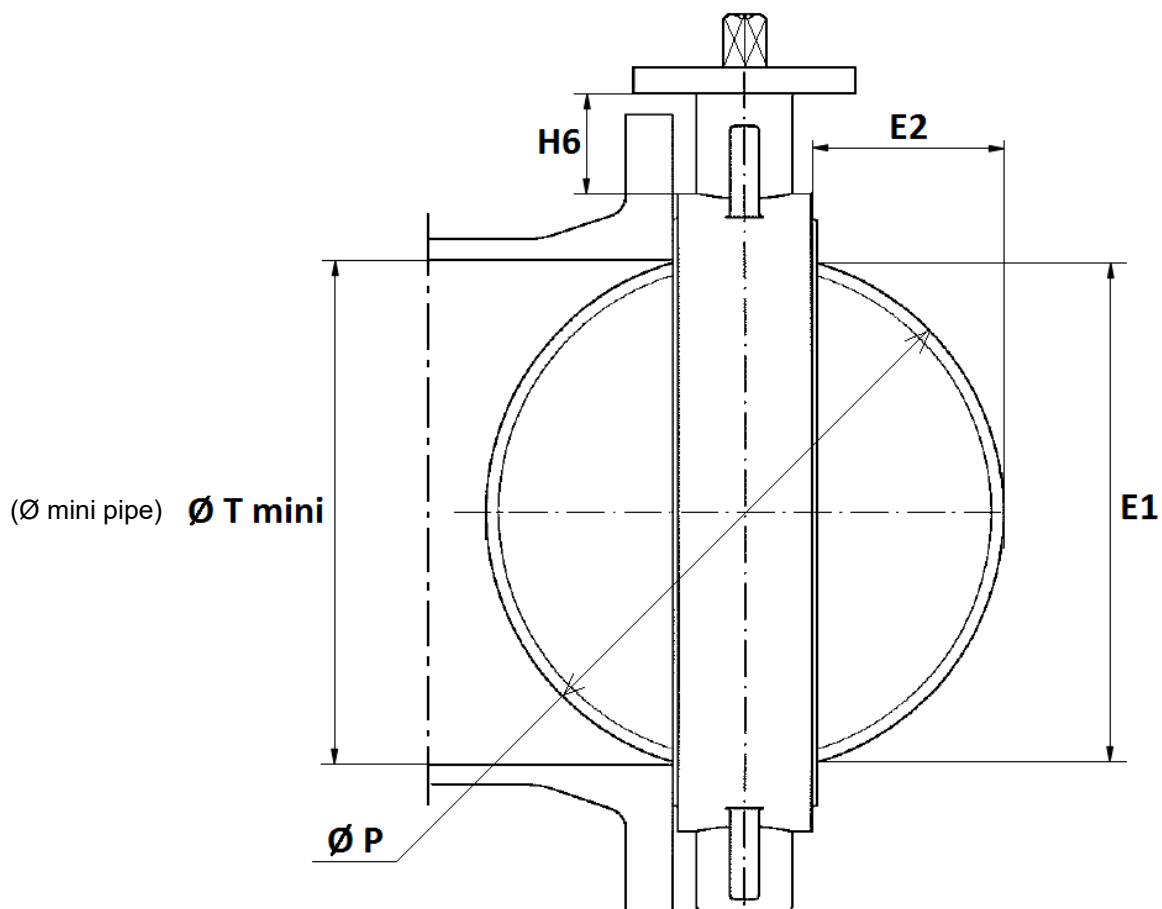
DN250 – 300



	DN (mm)	40	50	65	80	100	125	150	200	250	300
	NPS (")	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"	10"	12"
PN10	Ø G	110	125	145	160	180	210	240	295	350	400
	Ø T	18	18	18	18	18	18	23	23	23	23
PN16	Ø G	110	125	145	160	180	210	240	295	355	410
	Ø T	18	18	18	18	18	18	23	23	27	27
Class 150	Ø G	98.5	120.6	139.7	152.4	190.5	215.9	241.3	298.5	362	431.8
	Ø T	16	19	19	19	19	23	23	23	26	26

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NECK AND DISC SIZE (in mm) :



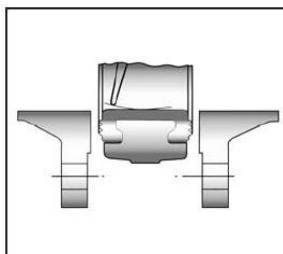
DN	40	50	65	80	100	125	150	200	250	300
E1	21	23.5	44.5	64.5	84	108	135	187	237	288
E2	2.9	3	9	16.5	23.5	33	45	68	89.5	110
H6	76	82	80	80	88	93	89	99	71	76
Ø T mini	24	26.5	47.5	67.5	87	111	138	190	240	291
Ø P	38.8	49	64	78.9	98.7	121.5	146	196	246.5	298

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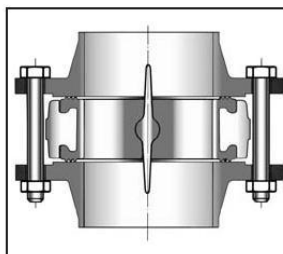
STANDARDS :

- Manufacturer certified ISO 9001:2015
- Designing according to ISO 10631 and EN 593
- DIRECTIVE 2014/68/EU : For liquids and gas of Group 1
 - DN32-100 : Risk category I, CE marking
 - DN125-300 : Risk category II, CE0094 marking
- Certificate 3.1 on request
- Pressure tests according to EN 12266-1, Rate A
- Between flanges according to EN 1092-1 PN10/16
- ISO 5211 mounting pad
- Length according to :
 - ISO 5752 short series 20
 - EN 558 series 20 (NF 29305)
 - BS 5155 series 4
 - DIN 3202 part 3, series K1
 - API 609 Table 1 up to DN600
 - ASME B16.10 Table 8 column 3 up to DN350, column 4 from DN400 to 600
- ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 & 22 (on request)
- The valves are suitable for use in a safety instrumented system up to SIL 2 in low demand mode. Under consideration of the minimum required hardware fault tolerance HFT= 1 the valves may be used in a redundant architecture up to SIL 3.
- French water agreement **A.C.S. N° 24 ACC LY 017**
- Approval certificate **Marine BUREAU VERITAS** on request

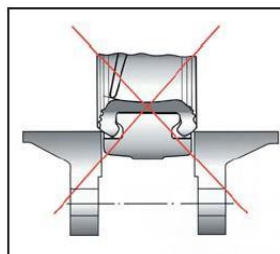
INSTALLATION INSTRUCTIONS :



Half open valve introduction



**Complete opened disc valves
when screw tightening**



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.