WAFER BUTTERFLY VALVE EXCELLENCE RANGE PN25

Marine & Offshore Division

Certificate 3.1

Size :	DN 40 to 200 mm
Ends :	Between flanges PN25
Min Temperature :	- 20°C
Max Temperature :	+ 110°C
Max Pressure :	25 Bars
Specifications :	Long neck for isolation Wafer type Full crossing stem reinforced ISO 5211 mounting pad
Materials :	Ductile iron body, EPDM seat vulcanized

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

WAFER BUTTERFLY VALVE EXCELLENCE RANGE PN25

SPECIFICATIONS :

- Long neck for isolation
- ISO 5211 mounting pad
- Wafer type
- Between flanges PN25
- Full crossing stem reinforced
- Vulcanized EPDM seat
- Stainless steel disc up to DN100
- Ductile iron black rilsan coated disc +/- 300 µ over DN100
- 9 positions lever with locking device
- 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
- Min and max Temperature Ts : From -20°C to + 110°C
- Max Pressure Ps : 25 bars (see graph page 4)

RANGE :

- With lever from DN 40 to DN 300
- IP65 gear box possible (**Ref. 1197**) from DN 40 to DN 200
- IP65 chain gear box (**Ref. 1194**) from DN 40 to DN 200
- On request, stem extension with special length (**Ref. 98665**)
- On request, CF8M stainless steel handle and bolting **Ref. 9831250-9831264**

ENDS :

- Between flanges PN25

TORQUE VALUES (in Nm with safety coefficient of 30 % included) at 16 Bars and 25 Bars :

DN	40	50	65	80	100	125	150	200
Torque (Nm)	9	11	20	29	47	82	130	210

TORQUE VALUES (in Nm with safety coefficient of 30 % included) at 10 Bars :

DN	40	50	65	80	100	125	150	200
Torque (Nm)	8	10	14	18	31	59	93	206

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FLOW COEFFICIENT Kv (m3 / h) :

DN	Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
40	3	5	10	16	22	31	36	36	36
50	3	7	15	33	44	48	54	54	54
65	6	10	21	40	57	86	102	102	102
80	7	16	37	56	84	182	246	246	246
100	9	22	51	88	134	187	255	336	336
125	21	33	91	153	232	331	468	560	560
150	45	69	149	281	302	597	822	1015	1072
200	55	131	254	420	631	904	1388	1758	1758

HEAD LOSS CALCULATIONS :

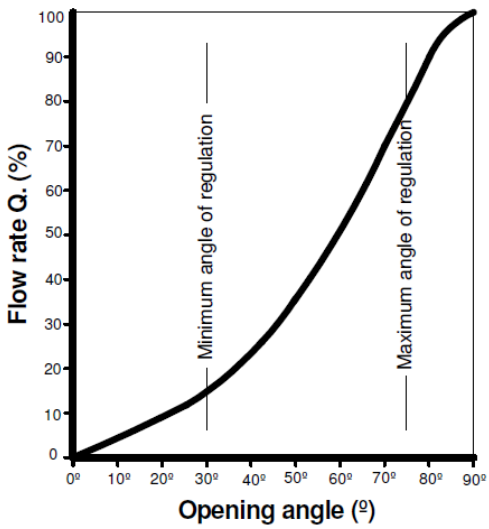
Δp = (Q / Kv)² x SG

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 20ºC)



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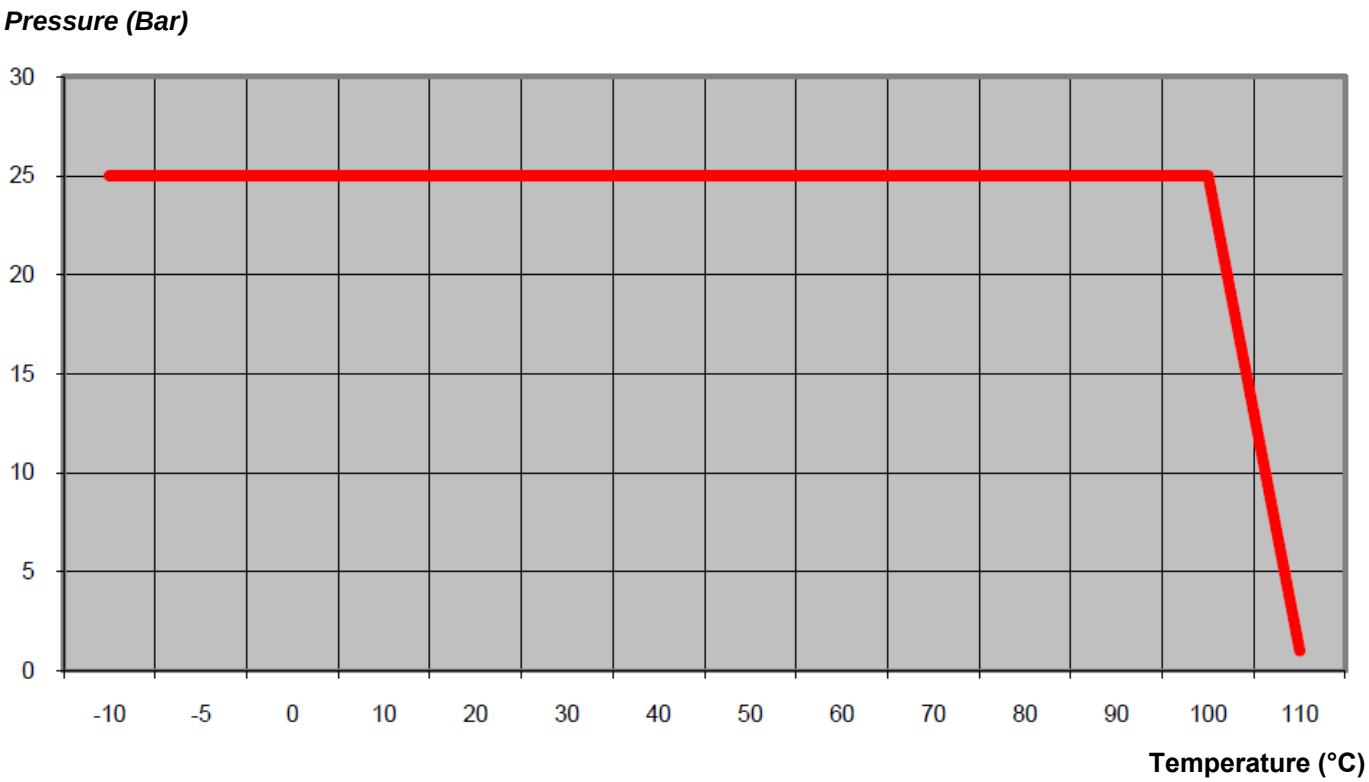
PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :



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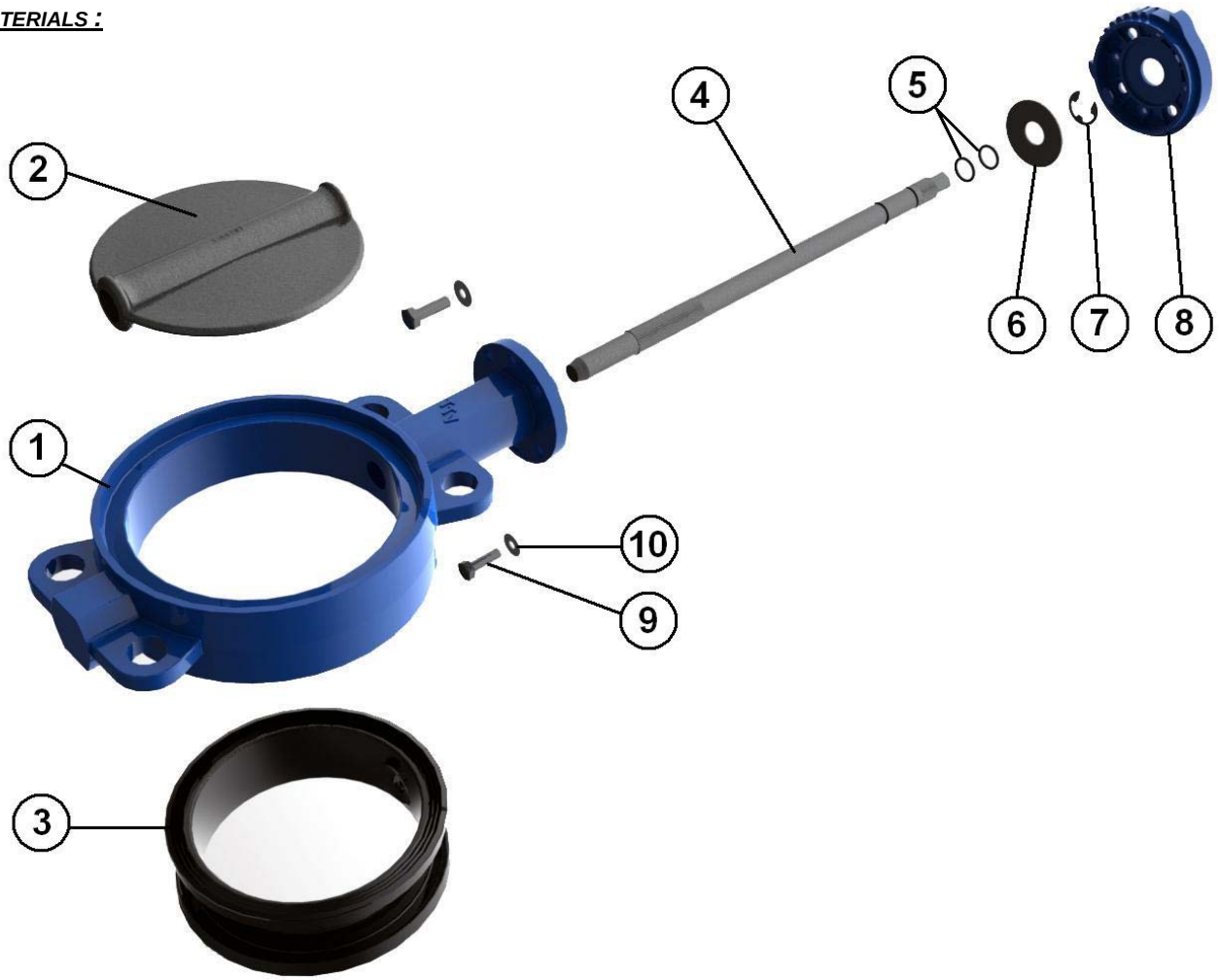
MATERIALS :



Item	Designation	Materials
1	Body	Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 µ thickness
2	Disc DN32-100	ASTM A351 CF8M
2	Disc DN125-200	EN GJS-500-7 black rilsan coated disc +/- 300 µ
3	Seat	Vulcanized EPDM
4	Stem	AISI 17-4 PH 1.4542
5	O ring	EPDM
6	Ring	Steel
7	Circlips	Steel
8	Plate	Aluminium
9	Plate screw	5.6
10	Washer	Steel
	Lever	Aluminium ADC10 with epoxy painting 50µ thickness

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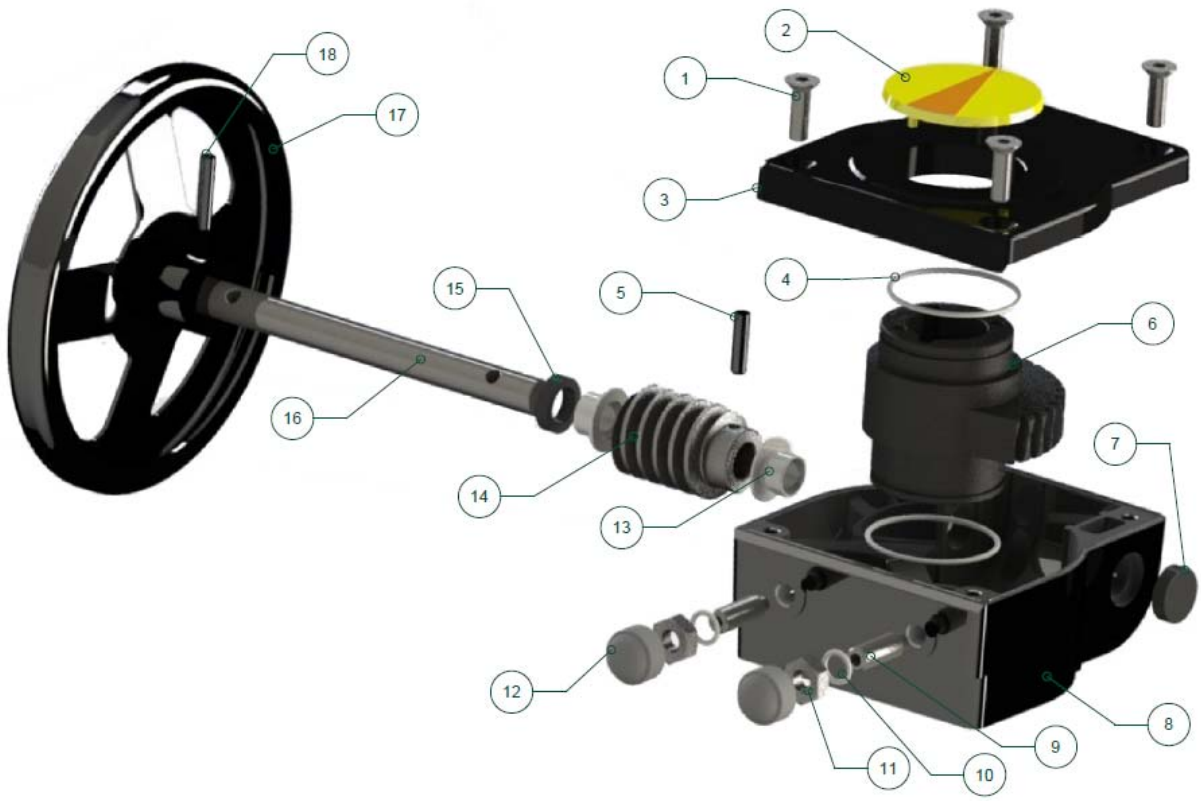
GEARBOX MATERIALS REF. 1197 :



Item	Designation	Materials Ref. 1197
1	Screw	AISI 304
2	Pointer	Polypropylene
3	Bonnet	Aluminium
4	O ring	NBR
5	Pin	Carbon steel
6	Quadrant	Ductile iron EN GJS-400-15
7	Gasket	NBR
8	Body	Aluminium
9	Adjusting bolt	Carbon steel
10	Washer	Galvanized steel
11	Nut	Galvanized steel
12	Cap	NBR 70
13	Bushing	Bronze
14	Worm	Carbon steel 45
15	Gasket	NBR
16	Stem	Carbon steel 45
17	Handwheel	Carbon steel
18	Pin	Carbon steel

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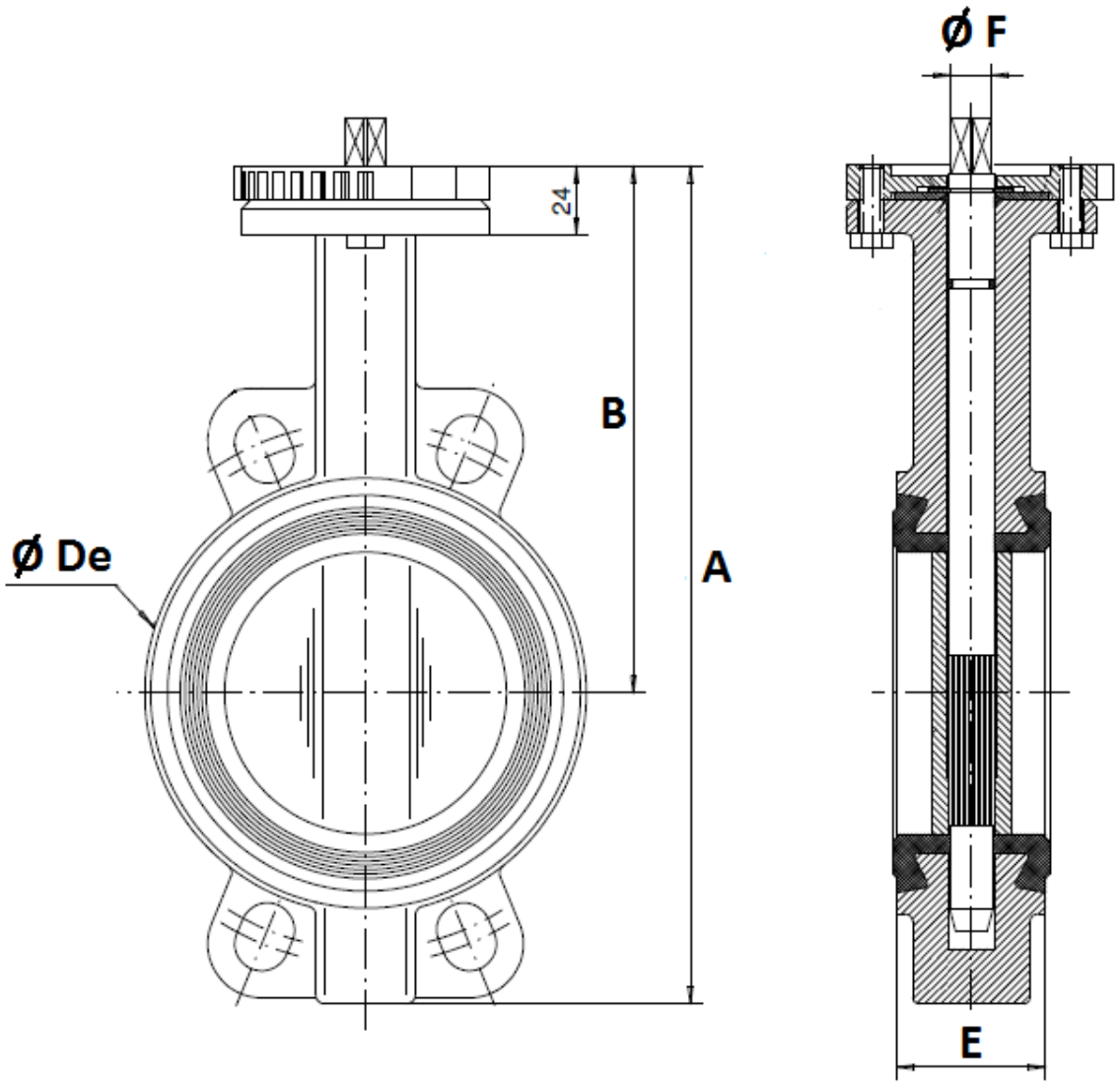
SIZE (in mm) :



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
Ø F	9.5	9.5	12	14	14	17	17	21
Weight (Kg)	2.46	3.66	4.4	4.6	6	7.6	9.2	14.7

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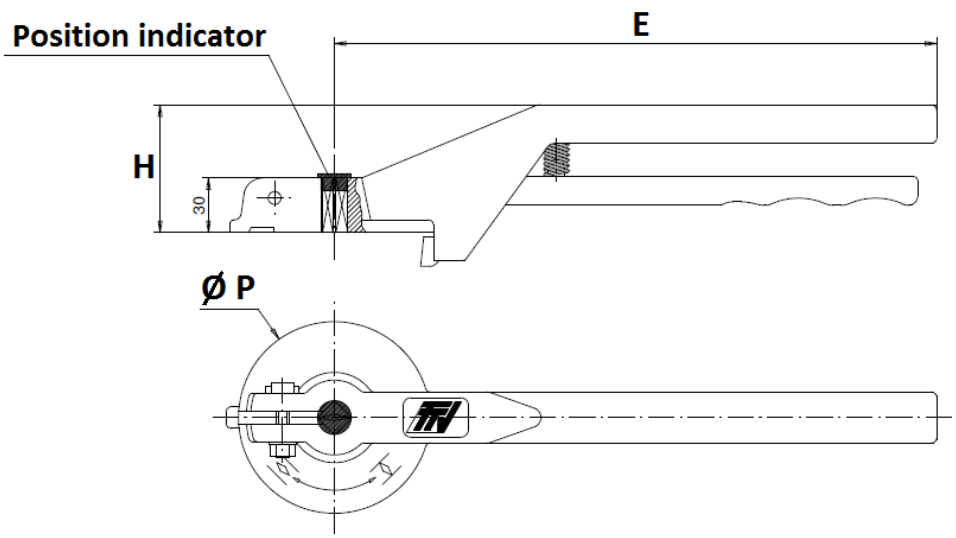
STANDARD LEVERS SIZE (in mm) :



DN	40-100	125-200
E	205	330
H	57	70
Ø P	88	105

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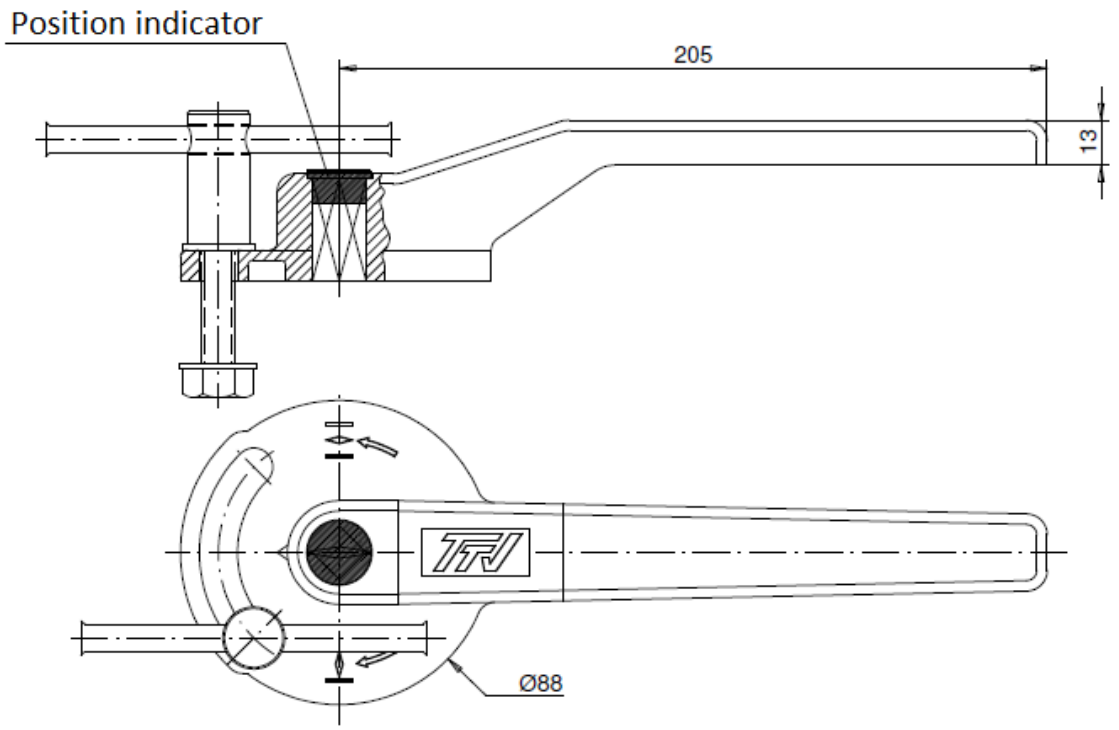
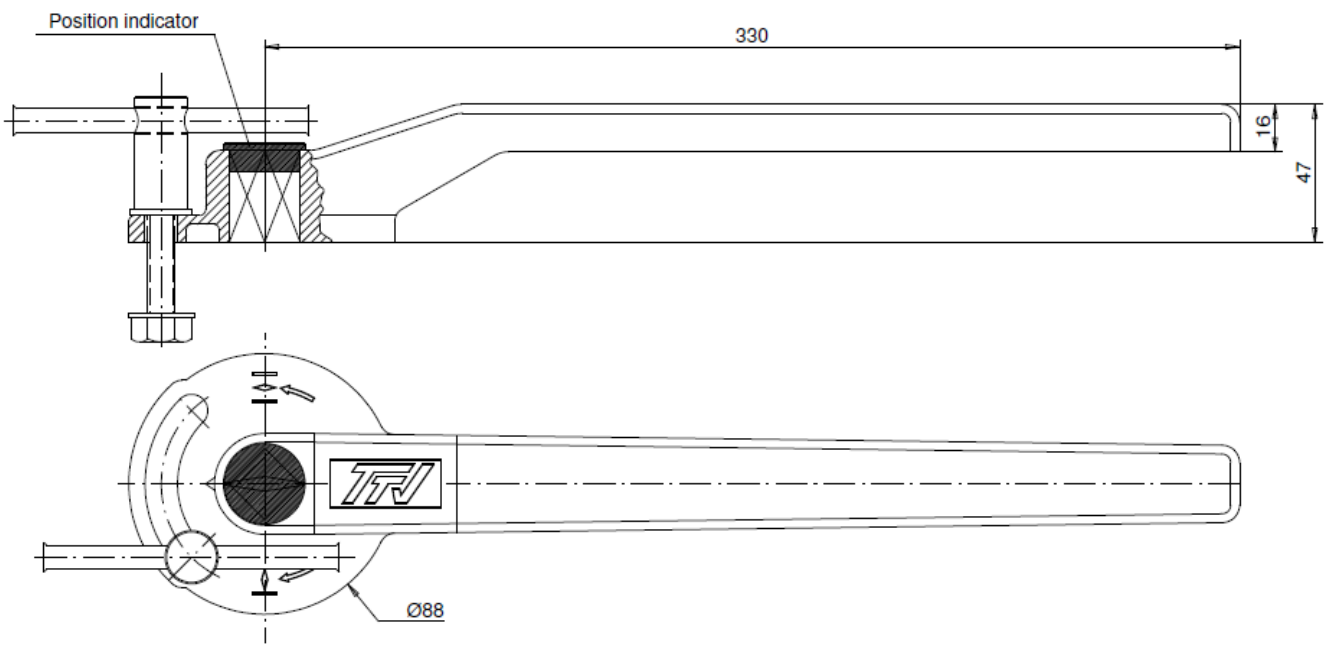
ASTM A351 CF8M STAINLESS STEEL LEVERS SIZE (in mm) (ON REQUEST) :

DN 40 - 100



DN 125 - 200



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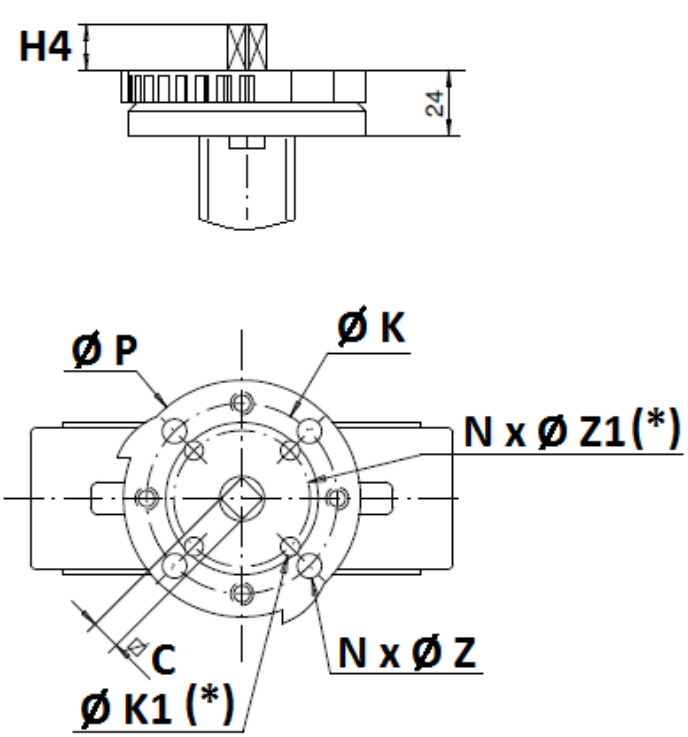
ISO MOUNTING PAD SIZE (in mm) :



(*) : Only from DN32 to DN100

DN	40	50	65	80	100	125	150	200
H4	14	14	16	16	20	20	20	24
C	8	8	9	11	11	14	14	17
Ø K	70	70	70	70	70	70	70	70
ISO	F07	F07	F07	F07	F07	F07	F07	F07
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
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	-	-	-

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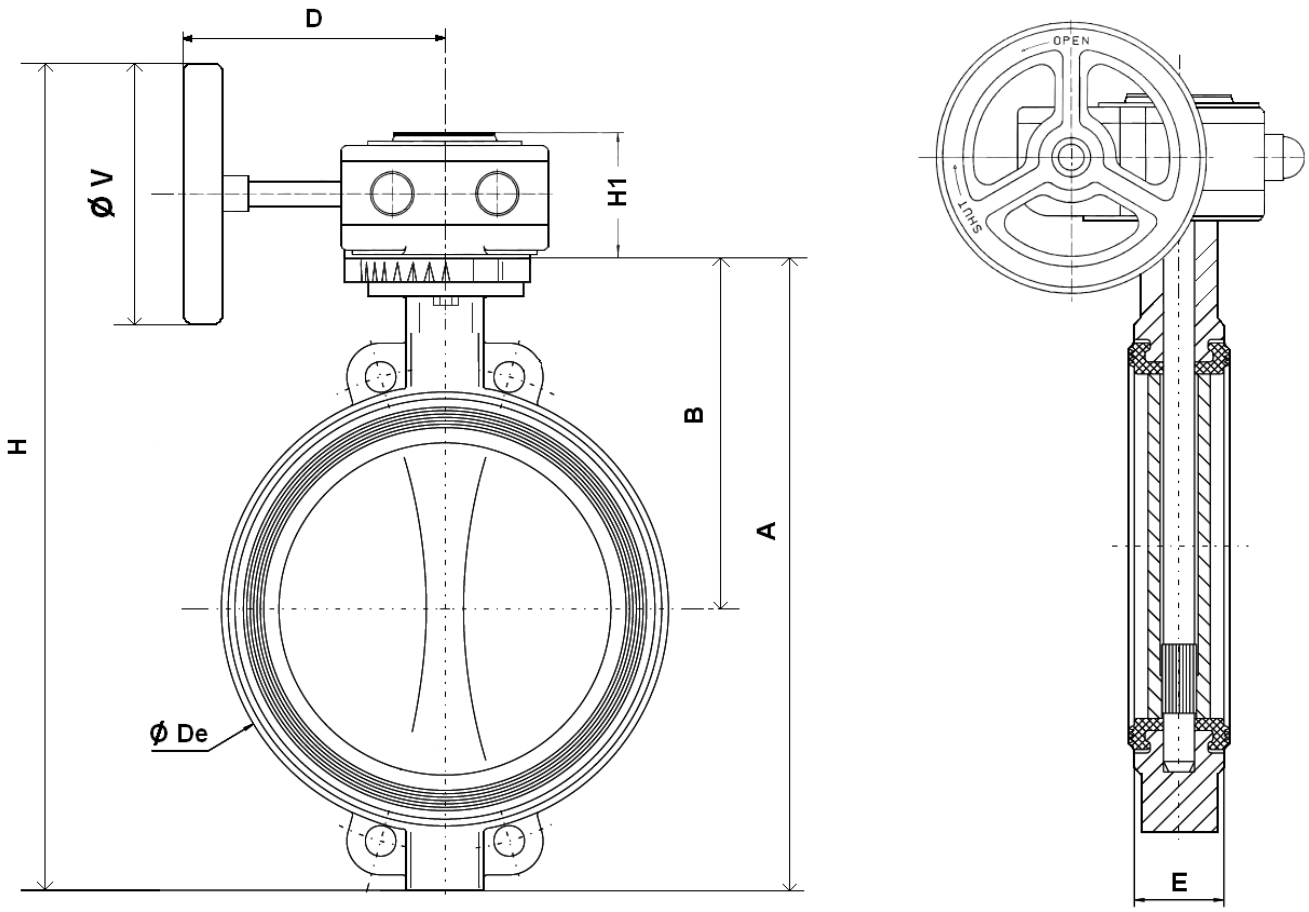
SIZE (in mm) :

- **Valves with gear box :**



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
D	120	120	120	120	120	136	136	136
E	33	43	46	46	52	56	56	60
H	304	326	341	364	392	452	477	566
H1	58	58	58	58	58	58	58	58
Ø V	140	140	140	140	140	200	200	200
Weight (Kg)	3.81	5.01	5.75	5.95	7.35	9.35	10.95	16.45

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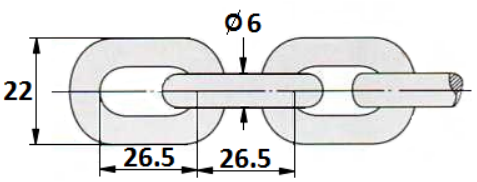
SIZE (in mm) :

- **Valves with chain gear box :**

Chain size :



DN	40	50	65	80	100	125	150	200
D	120	120	120	120	120	126	126	126
H1	58	58	58	58	58	58	58	58
L	128	128	128	128	128	128	128	128
L1	100	100	100	100	100	100	100	100
L2	50	50	50	50	50	50	50	50
L3	56	56	56	56	56	56	56	56
Ø V	160	160	160	160	160	210	210	210
Weight (Kg)	4.81	6.01	6.75	6.95	8.35	10.35	11.95	17.45

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GEARBOX SPECIFICATIONS :

DN	40/50	65	80/100	125/150	200
Ref.	1197050	1197065	1197100	1197150	1197200
Ratio factor	37 : 1	37 : 1	37 : 1	37 : 1	37 : 1
Turns number for closing / opening	9.25	9.25	9.25	9.25	9.25
Input torque (Nm)	12.5	12.5	12.5	12.5	12.5
Output torque (Nm)	300	300	300	300	300

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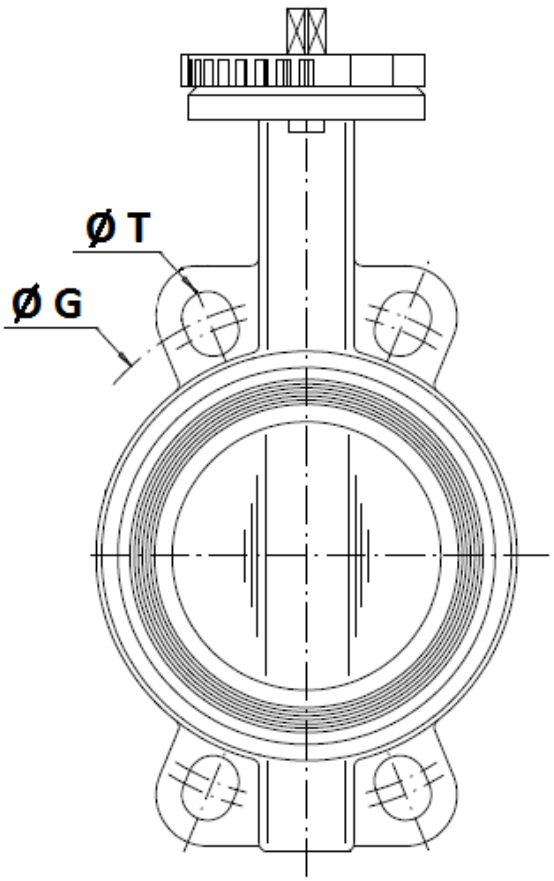
BETWEEN FLANGES SIZE (in mm) :



	DN (mm)	40	50	65	80	100	125	150	200
PN25	Ø G	110	125	145	160	190	220	250	310
	Ø T	18	18	18	18	22	26	26	26

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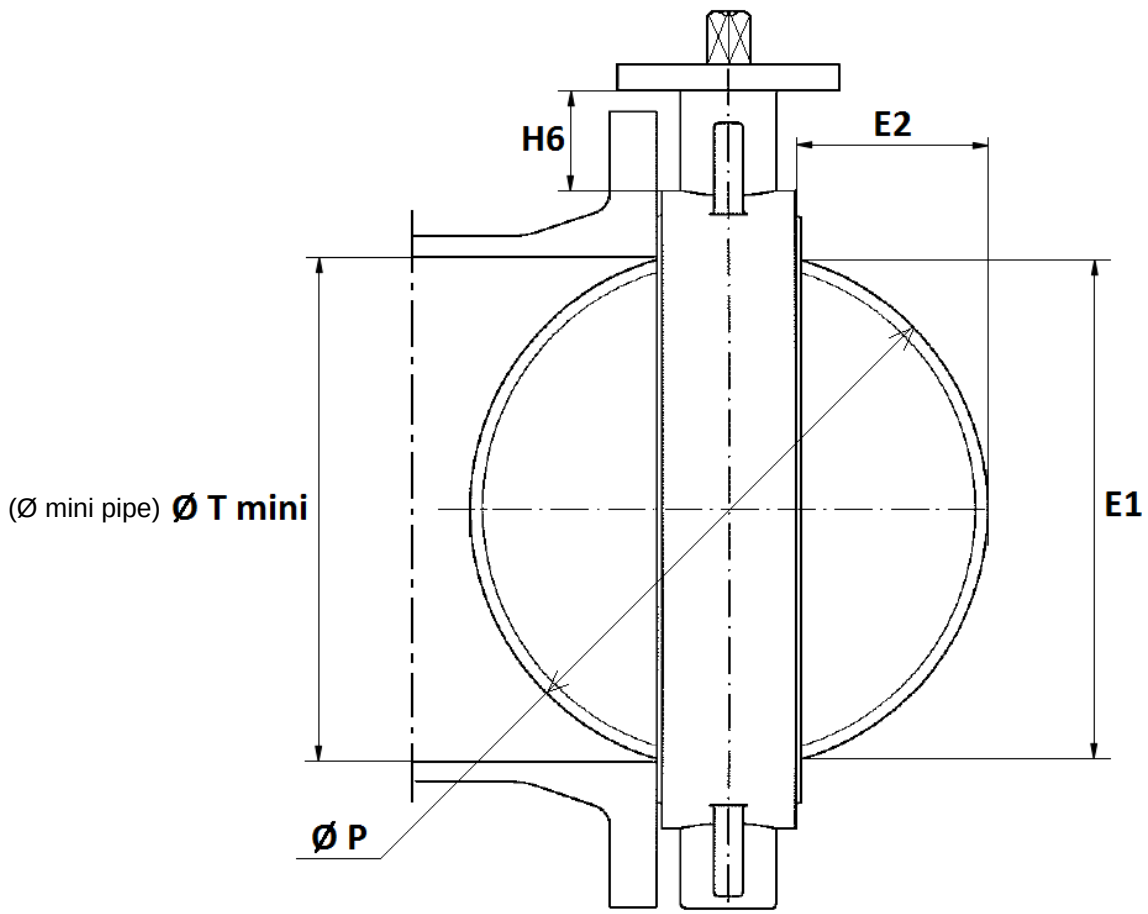
NECK AND DISC SIZE (in mm) :



DN	40	50	65	80	100	125	150	200
E1	23	24.5	46	65	85	109	136	188
E2	3.5	3.5	9.5	17	24	33.5	45.5	69
H6	76	82	80	80	88	93	89	99
Ø T mini	26	27.5	49	68	88	112	139	191
Ø P	40	50	65	80	100	123	147	198

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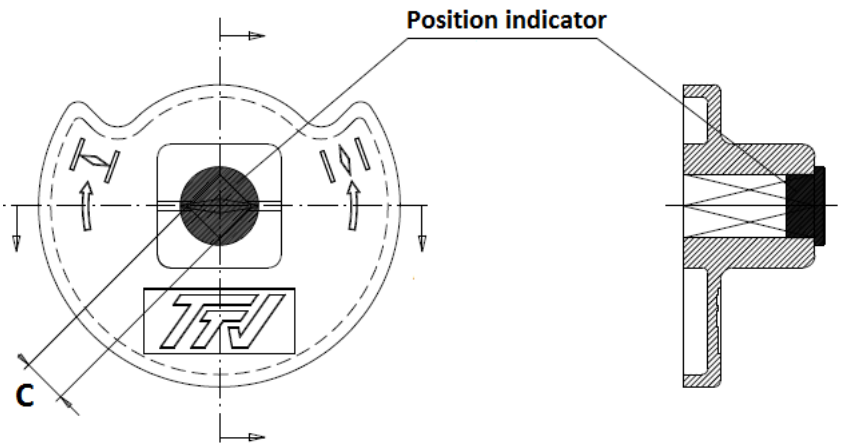
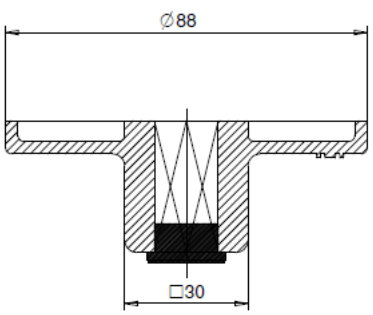
SIZE (in mm) :

- **Square lever for special key (30x30 mm) :**





DN	40-50	65	80-100	125-150	200
C	8x8	9x9	11x11	14x14	17x17
Ref.	9866501	9866502	9866503	9866504	9866505

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STANDARDS :

- Fabrication according to ISO 9001:2008
- Designing according to ISO 10631 and EN 593
- DIRECTIVE 2014/68/EU : CE N° 0038
  Risk Category III module H
- Certificate 3.1 on request
- Pressure tests according to ISO 5208, Rate A
- Between flanges according to EN 1092-1 PN25
- ISO 5211 mounting pad
- Length according to ISO 5752 short series 20, EN 558 series 20 (NF 29305),BS 5155 Wafer short/medium, DIN 3202 part 3, series K1
- ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 &22 (optional marking)
- Approval certificate **Marine BUREAU VERITAS,** N° 14087/C0 BV from DN32 to 1000
- OTAN agreement (N° 286B)

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.

INSTALLATION INSTRUCTIONS

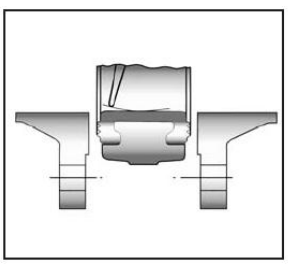
GENERAL GUIDELINES :

- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid,pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves to be installed are of correct strenght to be able to support the capacity of their usage.
- **Installation of all circuits should ensure that their function can be automatically tested on a regular basis (at least two times a year).**

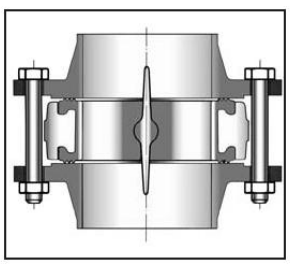
WAFER BUTTERFLY VALVE EXCELLENCE RANGE PN25

INSTALLATION INSTRUCTIONS :

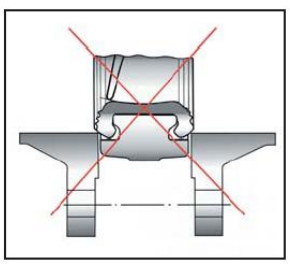
- **Before installing the valves,clean and remove any objects from the pipes** (in particular bits of sealing and metal) which could obstruct and block the valves.
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned (if they're not,the valves may not work correctly).**
- **Make sure that the two sections of the pipe (upstream and downstream) match,the valve unit will not absorb any gaps.Any distortions in the pipes may affect the thightness of the connection,the working of the valve and can even cause a rupture.**To be sure,place the kit in position to ensure the assembling will work.
- **If sections of piping do not have their final support in place,they should be temporarily fixed.This is to avoid unnecessary strain on the valve.**
- The valve must be inserted between flanges with disc half opened but the disc must not overpass the valve thickness. Position the bolts to keep centered the valve. Then open fully the valve and tighten the bolts. **See graph under**.



Half open valve introduction



Complete opened disc valves when screw tightening



- Tighten the bolts in cross.
- The disc must move easily inside the pipe.
- Valves must be opened during cleaning operation.
- Tests must be done with a cleaned pipe.
- Tests must be done with opened valve. Test pressure must not be higher than the valve specification according to ISO 5208.
- Then open slowly the valve.
- **Do not mount butterfly valves with stainless steel pressed collars and turning flanges without strias.**
- **And not on flat face flanges without strias (example : painted cast iron fittings)**

MAINTENANCE :

- We recommend to operate fully the valve 1 to 2 times per year.

- During maintenance operation, ensure that the pipe isn't under pressure, that there's no fluid in the pipe and that the valve is isolated. If there's a fluid in the pipe , evacuate it. Ensure that there are no risks due to the temperature or the fluid (like acids). If the fluid is corrosive , inert the installation before maintenance operation.