

**CONCENTRIC PN25 WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV DUCTILE
IRON BODY AND EPDM SEAT**

PN25 Wafer butterfly valve TTV excellence range for cold and hot water.

Approval Bureau Veritas marine certificate. 10 years warranty.

Ductile iron EN GJS-500-7 body, stainless steel disc up to DN100 and EPDM seat.

Between flanges PN25 or class 150 according to DN.

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.



Certificate
3.1



Size : DN40 to DN200

Connection : Between flanges PN25 and Class 150 (PN20)

Min Temperature : -20°C

Max Temperature : +110°C

Max Pressure : 25 Bars

Specifications : Long neck for isolation

Wafer type

Full crossing stem

ISO 5211 direct mounting pad

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

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

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SPECIFICATIONS :

- Long neck for isolation
- ISO 5211 mounting pad
- Wafer type
- Between flanges PN25 and Class 150 (PN20)
- Full crossing stem reinforced
- Vulcanized EPDM seat, dovetail type above DN40
- Stainless steel disc up to DN100
- Ductile iron disc with cataphoresic coating from DN125 to 200
- 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
- Not for hydrocarbon, steam, gas, acids, oil, freon
- Min and max Temperature Ts : From -20°C to + 110°C
- Max Pressure Ps : 25 bars (see graph page 5)

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**

CONNECTION :

- Between flanges PN25 and Class 150 (PN20)

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

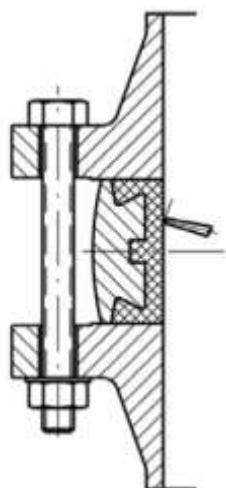
DN	40	50	65	80	100	125	150	200
Torque (Nm)	9	11	20	29	47	82	130	210

TORQUE VALUES (in Nm with safety coefficient of 30 % included) at 10 Bars on request, with machined disc :

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

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MAXIMUM TIGHTENING TORQUES FOR BOLTING FLANGES :



		Maximum torques (Nm)			
Bolting types		5,6 / A307 Gr.B	8,8 / A193 B7	10,9	12,9
Bolting DN	M12 (1/2")	41,16	84,28	117,6	142,1
	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
	M27 (1"1/8)	499,8	1029	1470	1764
	M30 (1"1/4)	666,4	1421	1960	2352

**CONCENTRIC PN25 WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV DUCTILE
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FLOW COEFFICIENT Kv (m³ / h) :

DN	Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
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

HEAD LOSS CALCULATIONS :

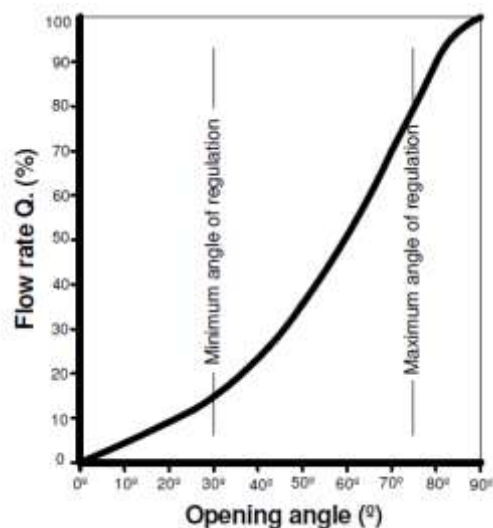
$$\Delta p = (Q / K_v)^2 \times SG$$

Q : flow in m³/h

Δp : Head loss in bar

SG : Specific gravity (= 1 for water)

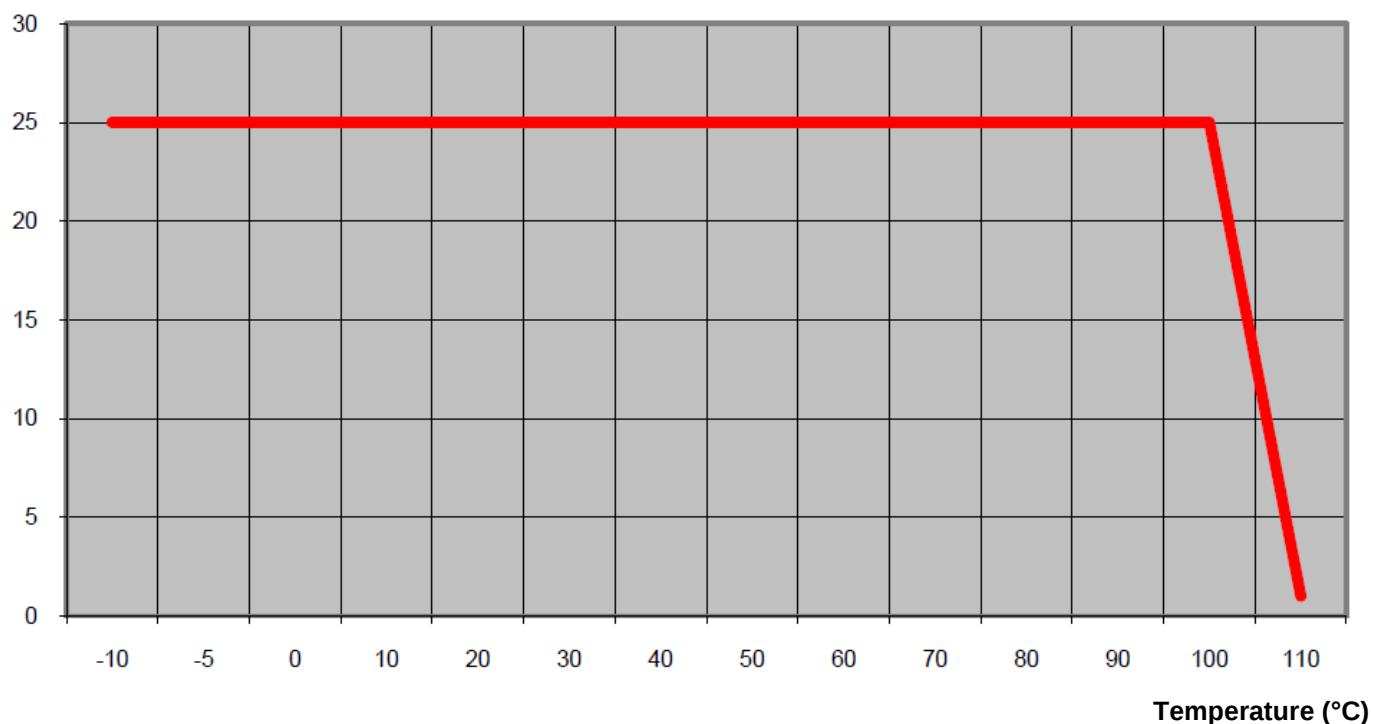
Kv : Volume of water in m³/h, that will flow through a given restriction or valve opening with a pressure drop of 1 bar at 20°C)



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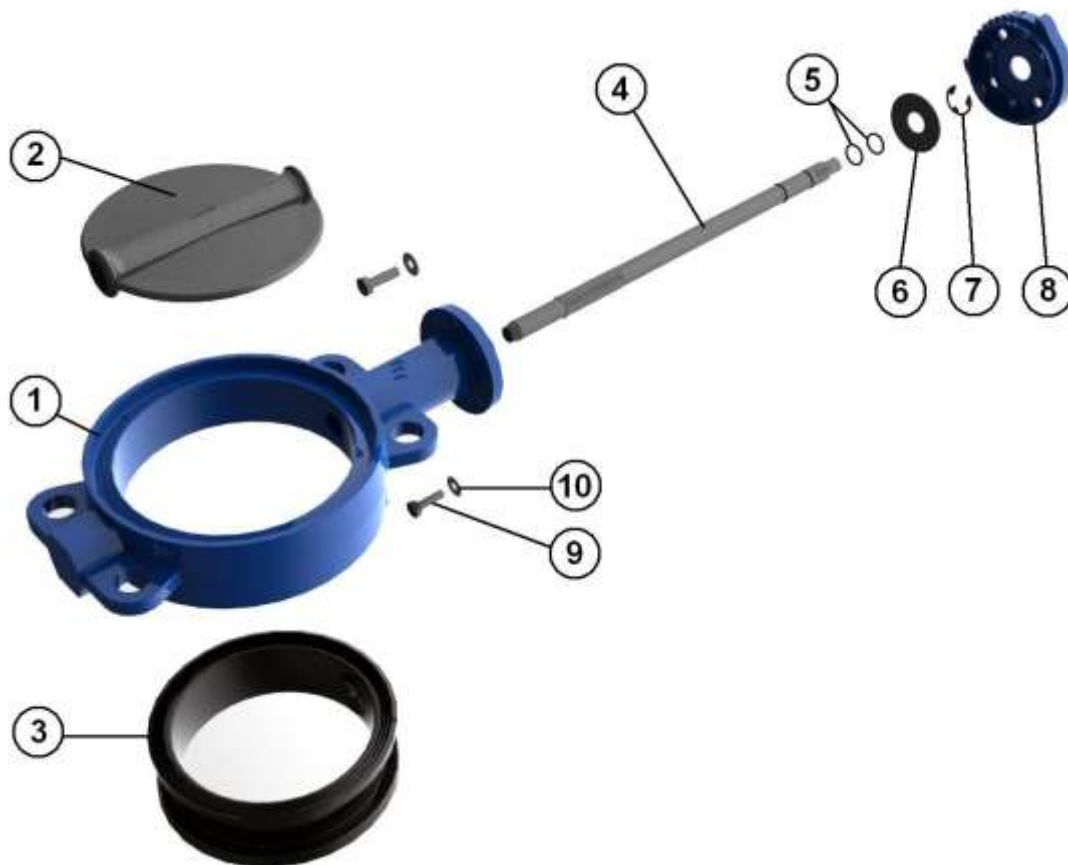
PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :

Pressure (Bar)



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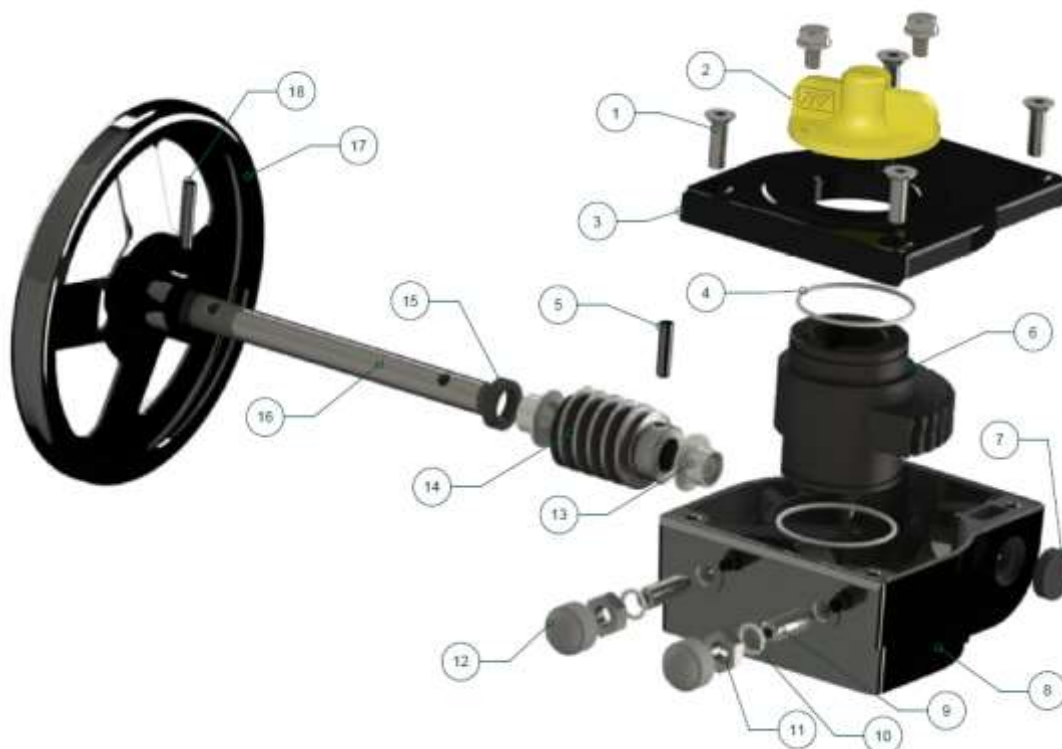
MATERIALS :



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 cataphoresic coated
3	Seat	Vulcanized EPDM
4	Stem	AISI 17-4 PH 1.4542
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

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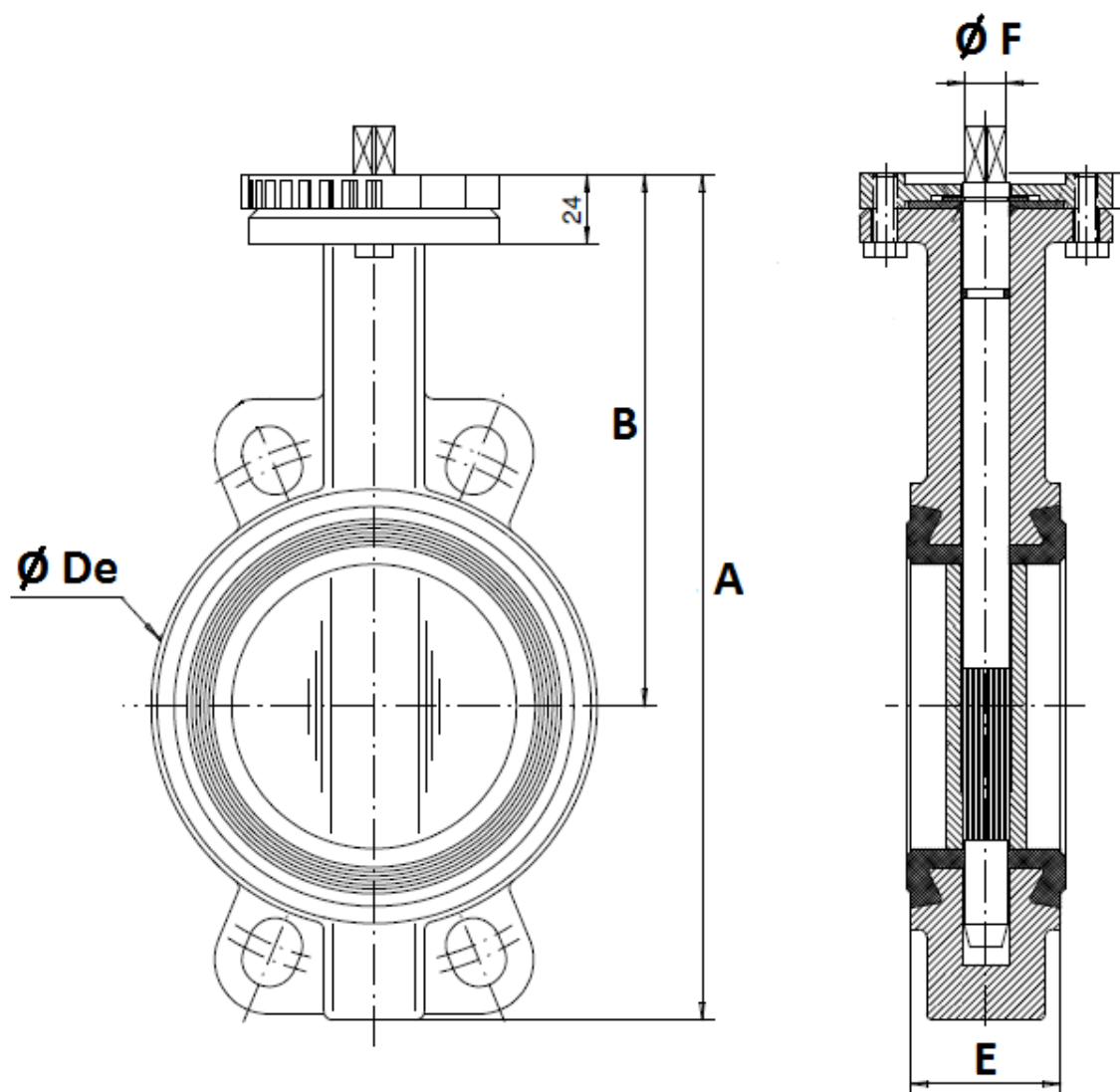
GEARBOX MATERIALS REF. 1197 :



Item	Designation	Materials Ref. 1197
1	Screw	AISI 304
2	Pointer	PVC
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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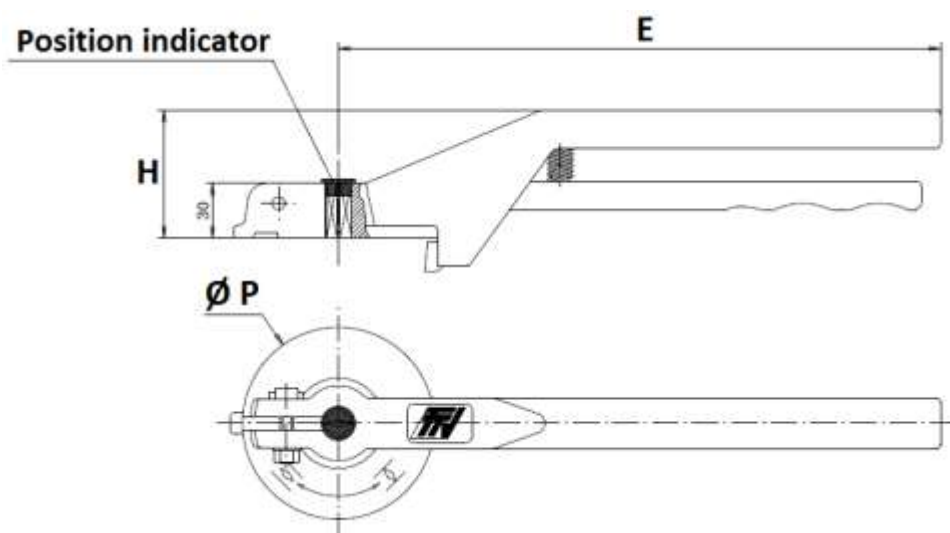
SIZE (in mm) :



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) :

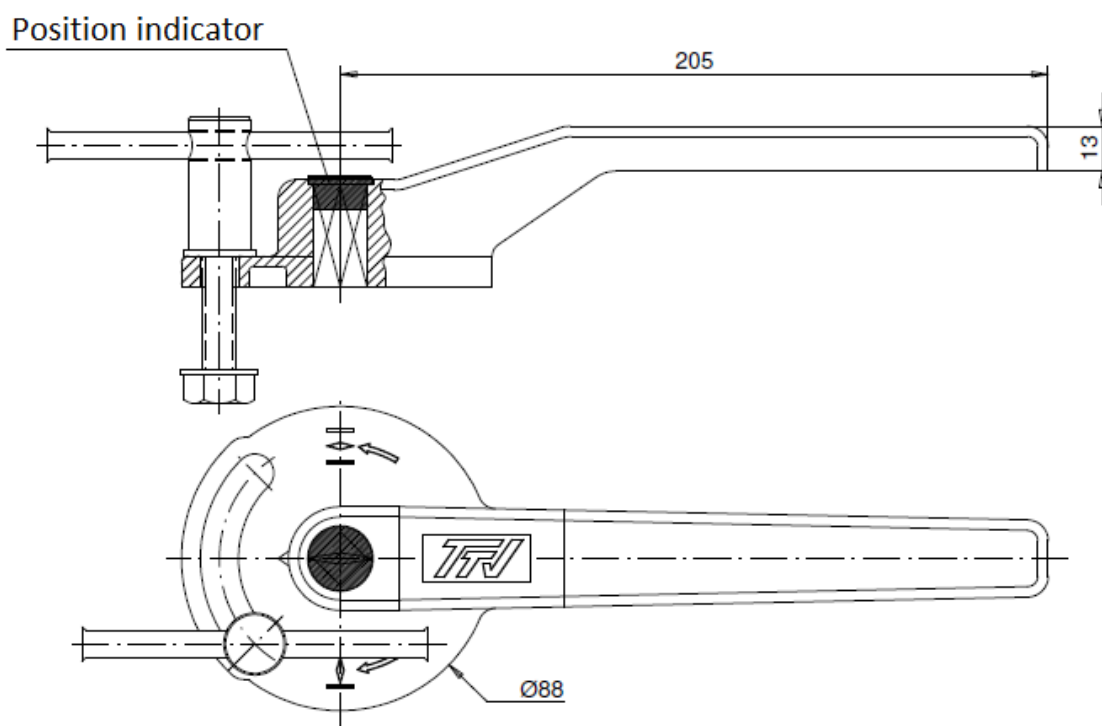


DN	40-100	125-200
E	205	330
H	57	70
Ø P	88	105

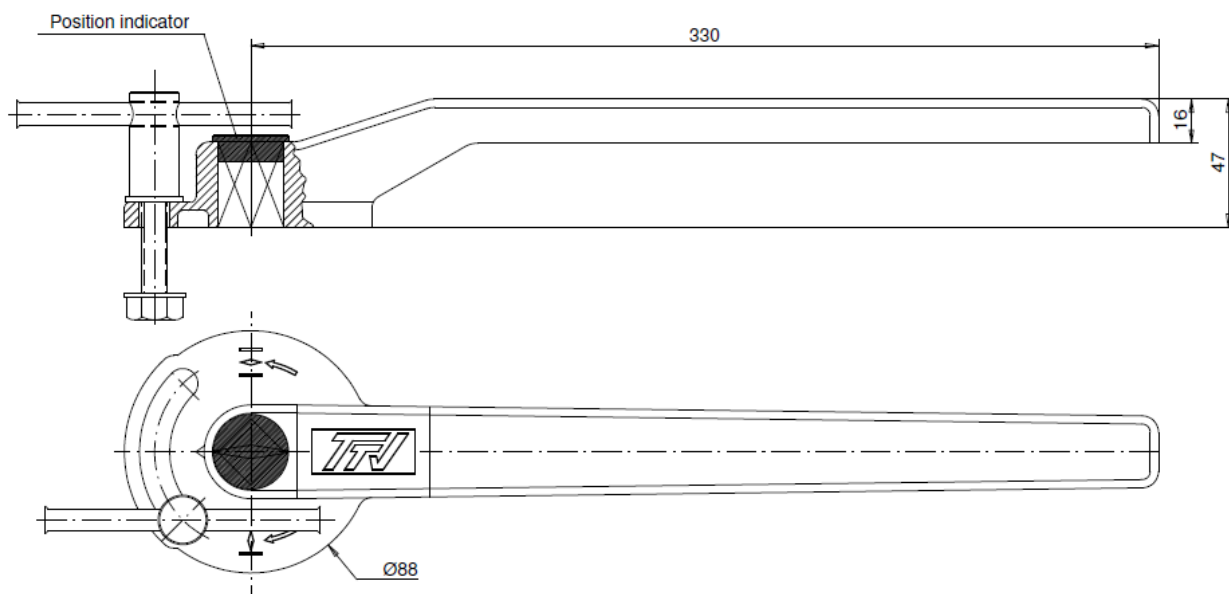
**CONCENTRIC PN25 WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV DUCTILE
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ASTM A351 CF8M STAINLESS STEEL LEVERS SIZE (in mm) (ON REQUEST) :

DN 40 - 100

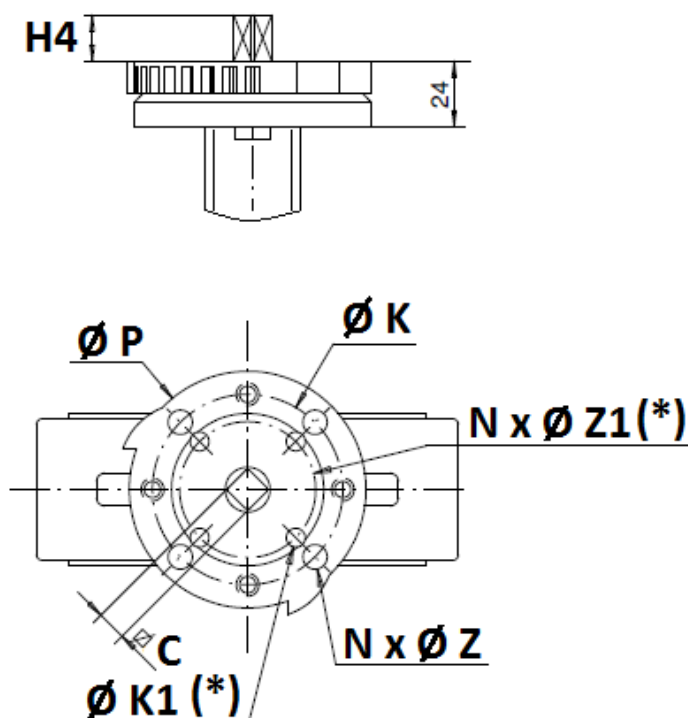


DN 125 - 200



**CONCENTRIC PN25 WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV DUCTILE
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ISO MOUNTING PAD SIZE (in mm) :

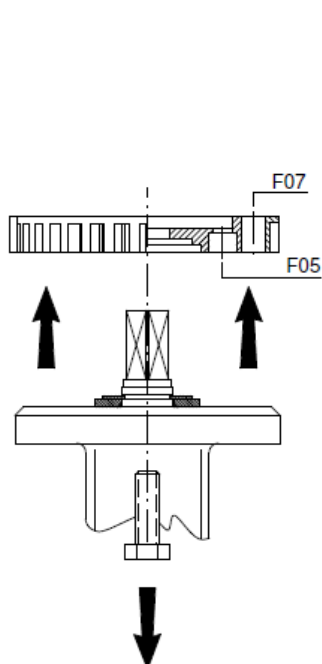


(*) : Only from DN32 to DN100 (see installation with ISO plate F05 next page)

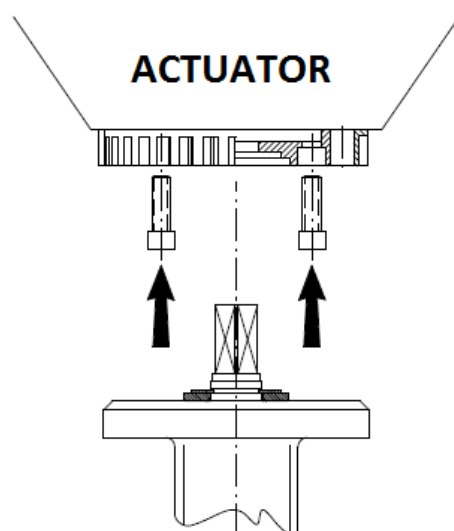
DN	40	50	65	80	100	125	150	200
H4	14		16		20			24
C	8		9	11		14		17
Ø K	70							
ISO	F07							
N x Ø Z	4 x 9							
Ø K1	50					-		
ISO 1	F05							
N x Ø Z1	4 x 7							
Ø P	88					105		

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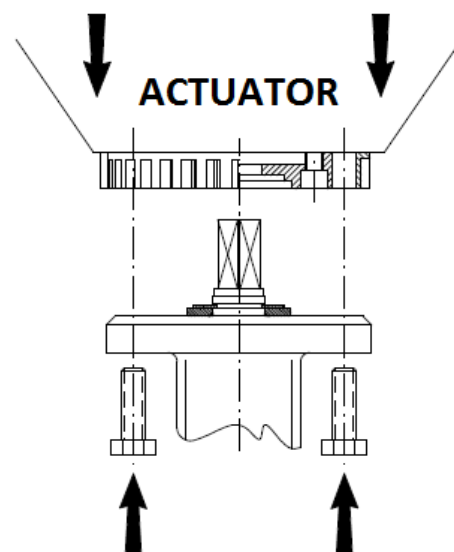
ISO PLATE INSTALLATION FOR DN32-100 ISO F05 :



Unscrew and remove the flange



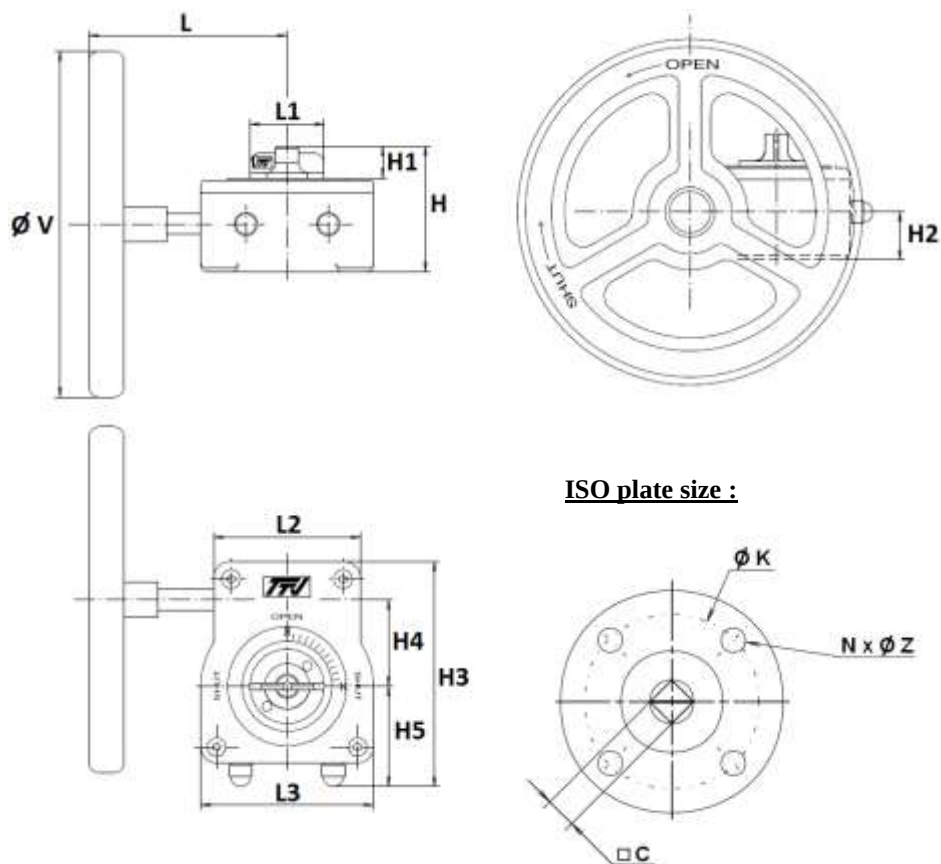
Screw the flange to the actuator with hexagon socket screws



Screw the valve to the flange

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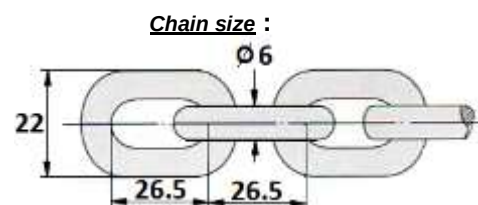
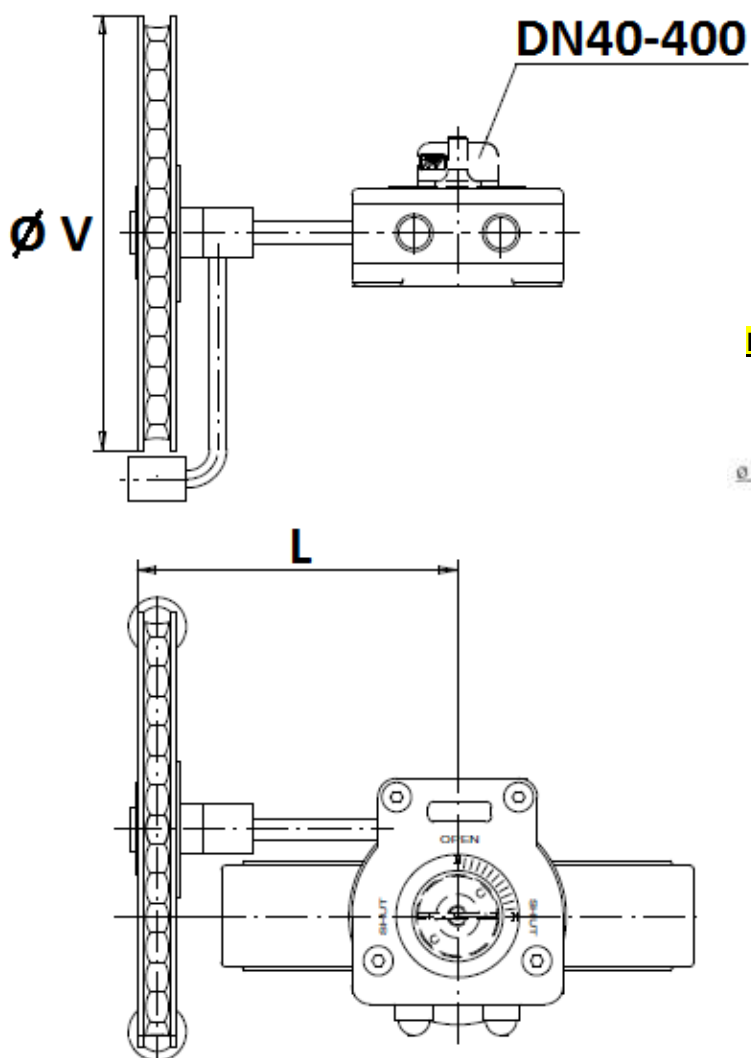
GEARBOX SIZE REF.1197 DN32-400 (in mm) :



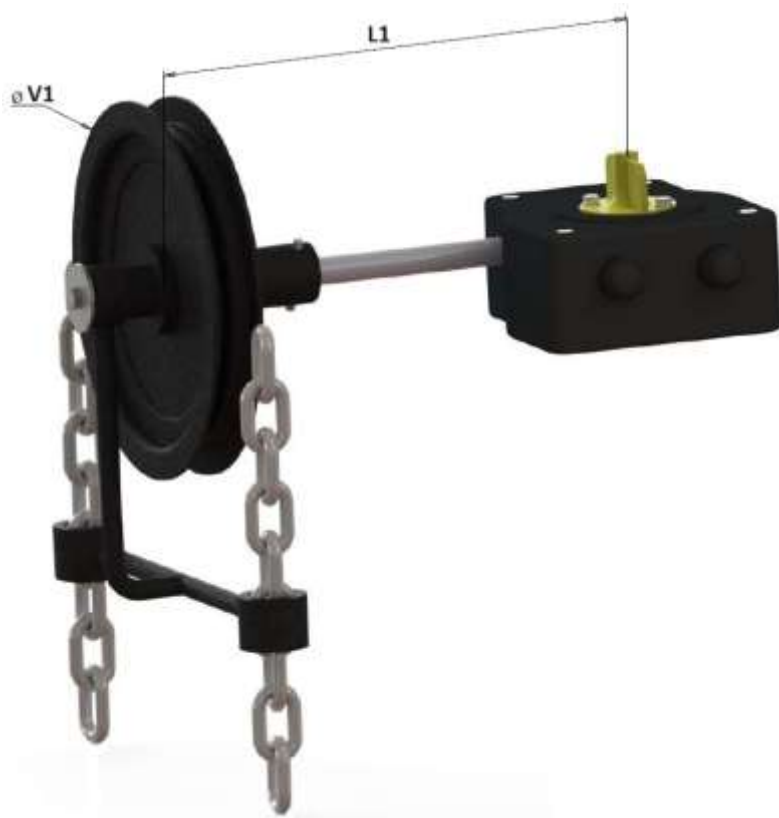
DN	32/50	65	80/100	125/150	200
L	115	115	115	115	115
L1	43	43	43	43	43
L2	85	85	85	85	85
L3	100	100	100	100	100
H	73	73	73	73	73
H1	19	19	19	19	19
H2	27.5	27.5	27.5	27.5	27.5
H3	130	130	130	130	130
H4	50	50	50	50	50
H5	58	58	58	58	58
Ø V	140	140	140	200	200
C	8	9	11	14	17
Ø K	70	70	70	70	70
ISO	F07	F07	F07	F07	F07
N x Ø Z	4 x M8	4 x M8	4 x M8	4 x M8	4 x M8
Weight (Kg)	1.35	1.35	1.35	1.75	1.75
Ref.	1197050	1197065	1197100	1197150	1197200

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CHAIN GEARBOX SIZE REF.1194 (in mm) :



NEW TYPE (MODIFICATION IN PROGRESS) :



DN	32/50	65	80/100	125/150	200
L	120			215	
L1	110				
Ø V	160			210	
Ø V1					
Weight (in Kg)	2.35	2.35	2.35	2.75	2.75
Ref.	1194050	1194065	1194100	1194150	1194200

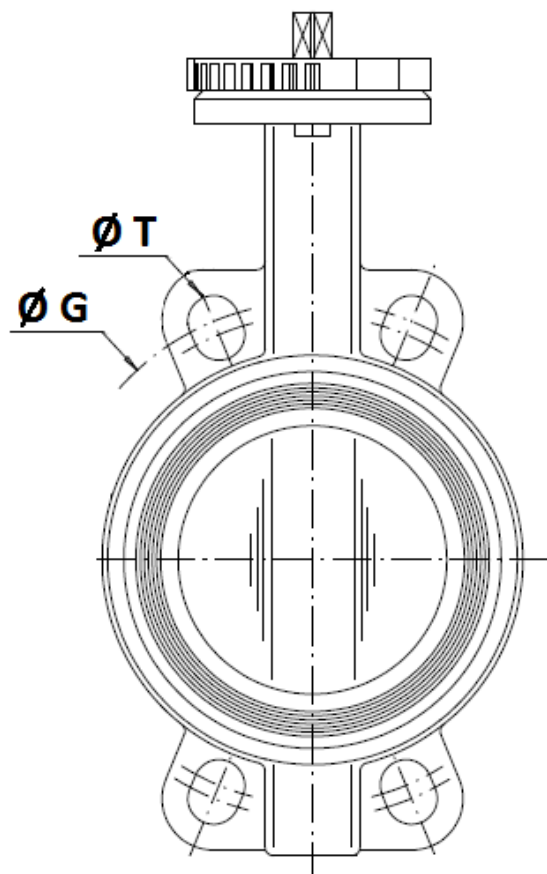
**CONCENTRIC PN25 WAFER BUTTERFLY VALVE EXCELLENCE RANGE TTV DUCTILE
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GEARBOX SPECIFICATIONS :

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)	9	9	9	9	9
Output torque (Nm)	250	250	250	250	250

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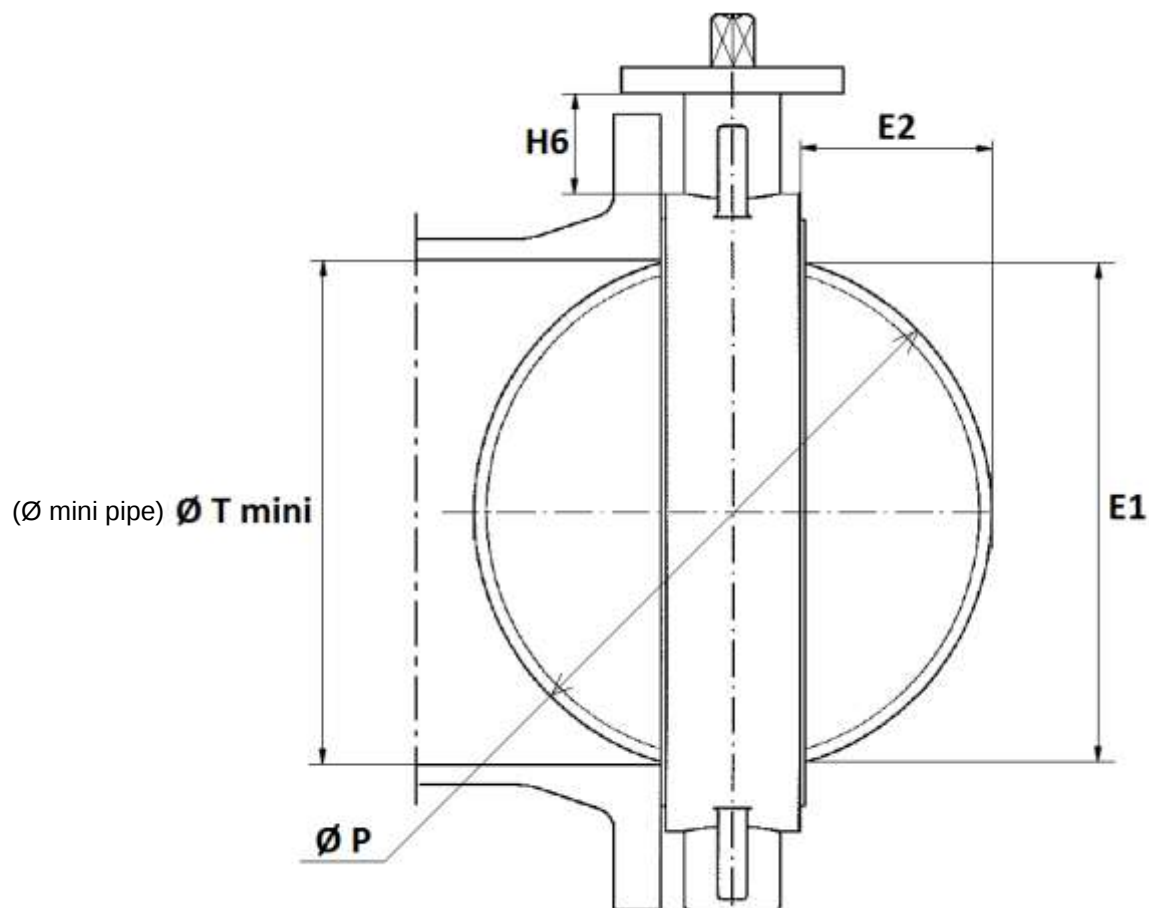
BETWEEN FLANGES SIZE (in mm) :



	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) :

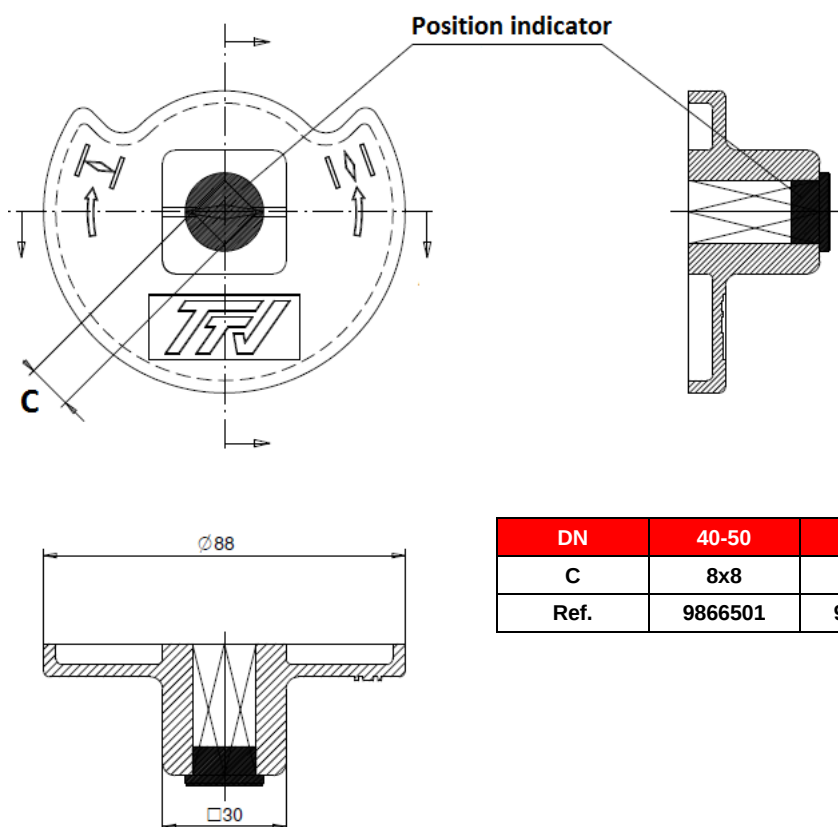


DN	40	50	65	80	100	125	150	200
E1	23	24.5	46	65	85	109	136	188
E2	3.5	3.5	9.5	17	24	33.5	45.5	69
H6	76	82	80	80	88	93	89	99
Ø T mini	26	27.5	49	68	88	112	139	191
Ø P	40	50	65	80	100	123	147	198

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SIZE (in mm) :

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

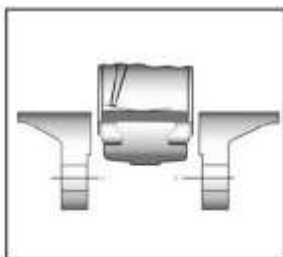


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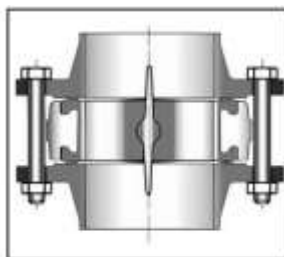
STANDARDS :

- Manufacturer certified ISO 9001 : 2015
- Designing according to ISO 10631 and EN 593
- DIRECTIVE 2014/68/EU : For liquids or Gas of Group 1
 - DN32-40 : Risk category I, CE marking
 - DN50-125 : Risk category II, CE0094 marking
 - DN150-200 : Risk category III, CE0094 marking
- Certificate 3.1 on request
- Pressure tests according to EN 12266-1, 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 series 4
 - DIN 3202 part 3, series K1
 - API 609 Table 1 up to DN600
 - ASME B16.10 Table 8 column 3
- 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.
- Approval certificate **Marine BUREAU VERITAS on request**

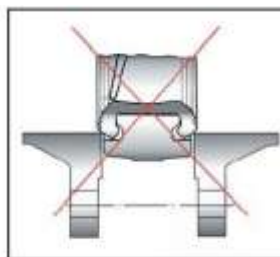
INSTALLATION INSTRUCTIONS :



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.