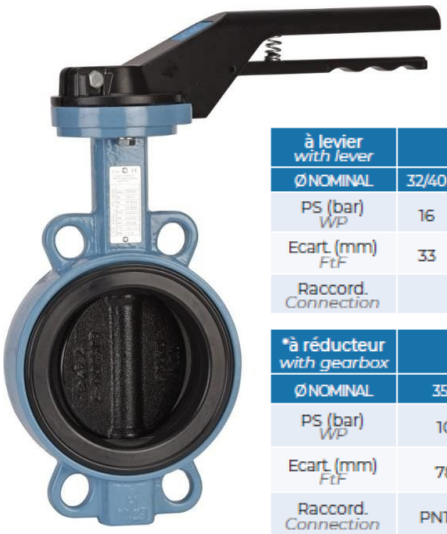
CONCENTRIC WAFER BUTTERFLY VALVE
DUCTILE IRON BODY AND ACS EPDM SEAT

Reference(s)
10CD1E1Z - 10CD1E0
10CD0EP0R* - 10CD0EOR*
(*with gearbox)



à levier *with lever*	10CD1E1Z					10CD1E0				
Ø NOMINAL	32/40	50	65	80	100	125	150	200	250	300
PS (bar) *WP*	16	16	16	16	16	16	16	16	16	16
Ecart (mm) *FtF*	33	43	46	46	52	56	56	60	68	78
Raccord. *Connection*	PN10/16 CLASS 150									

*à réducteur *with gearbox*	10CD0EP0R*		10CD0E0R*		
Ø NOMINAL	350	400	450	500	600
PS (bar) *WP*	10	10	10	10	10
Ecart (mm) *FtF*	78	102	114	127	154
Raccord. *Connection*	PN10/16 CLASS 150		PN10		



1. Standards

- ✓ Manufacturer certified ISO 9001:2015
- ✓ Designing according to ISO 10631 and EN 593
- ✓ DIRECTIVE 2014/68/EU : CE N° 0038Risk Category III module H
- ✓ 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
- ✓ The valves are suitable for use in a safety instrumented system up to SIL 2 in low demand mode. Underconsideration 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° 19 ACC LY 080**
- ✓ Approval certificate **Marine BUREAU VERITAS** on request

2. Features

Use :	Fluids : Cold and hot water, drinkable water
Size :	DN32-40 to DN100
Connection :	Between flanges PN10/16 and Class 150 (PN20)
Min Temperature :	-20°C
Max Temperature :	+110°C
Max Pressure :	16 Bars up to DN300
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

Information provided as an indication and subject to possible modification

CONCENTRIC WAFER BUTTERFLY VALVE DUCTILE IRON BODY AND ACS EPDM SEAT

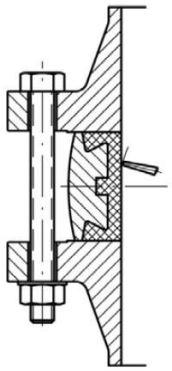
Reference(s)
10CD1E1Z - 10CD1E0
10CD0EP0R* - 10CD0EOR*
(*with gearbox)

3. Torques values (in Nm with safety coefficient of 30 % included)

		DN														
	Pressure(Bar)	32/40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Torque (Nm) with machined disc (on request)	1-5*	2	4	6	8	10	14	15	25	64	118	179	265	353	490	686
	6*	3	5	7	10	12	18	31	55	123	216	333	519	735	931	1372
	10*	6	8	10	14	18	31	59	93	206	330					
Torque (Nm)	16	9	11	20	29	47	82	130	210	360	475					

		DN													
	Pressure (Bar)	350	400	450	500	600	700	750	800	900	1000	1100	1200	1300	1400
Torque (Nm)	10	425	640	1176	1450	2850	4600	5800	7400	11000	13600	14200	16400	17800	19200
*On request	16*	760	1300	1600	2340	3300									

4. Maximum tightening torques for bolting flanges



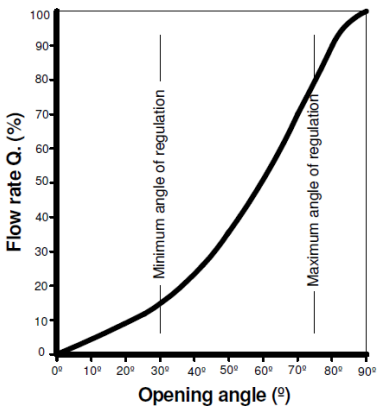
		Maximum torques (Nm)			
	Bolting types	5,6 / A307 Gr.B	8,8 / A193 B7	10,9	12,9
Bolting DN	M12 (1/2")	41,16	84,28	117,6	142,1
	M14 (9/16")	66,64	132,3	186,2	225,4
	M16 (5/8")	102,9	205,8	289,1	347,9
	M18 (3/4")	142,1	284,2	396,9	475,3
	M20 (3/4")	196	401,8	568,4	676,2
	M22 (7/8")	259,7	539	764,4	911,4
	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

5. Flow coefficient Kv (m^3/h)

DN	Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
32-40	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

6. Head loss calculations

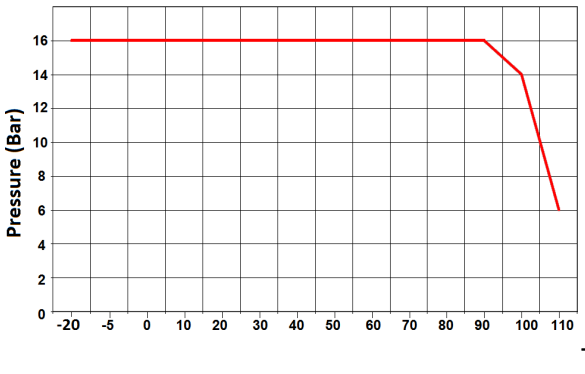
$\Delta p = (Q / Kv)^2 \times SGQ$: flow in m^3/h
Δp : Head loss in bar
SG : Specific gravity (= 1 for water)
Kv : Volume of water in m^3/h, that will flow through a given restriction or valveopening with a pressure drop of 1 bar at 20°C)



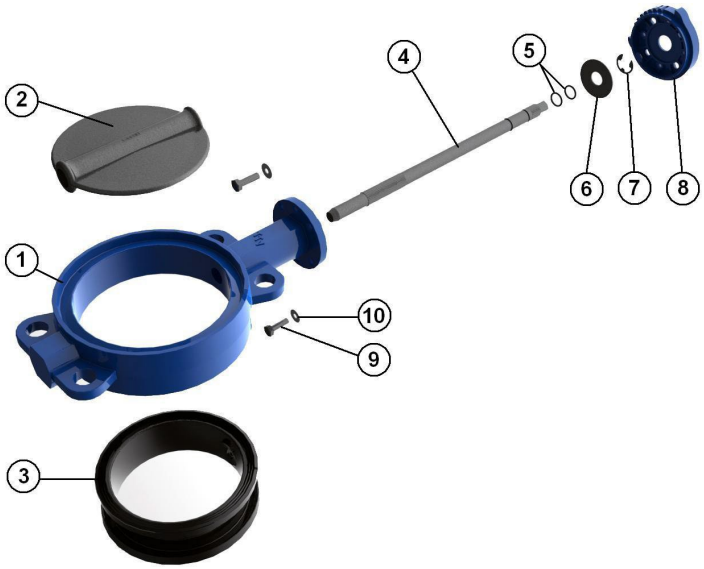
Information provided as an indication and subject to possible modification

7. Pressure / temperature graph (steam excluded)

- *Ps 16 BAR DN40-300 :*

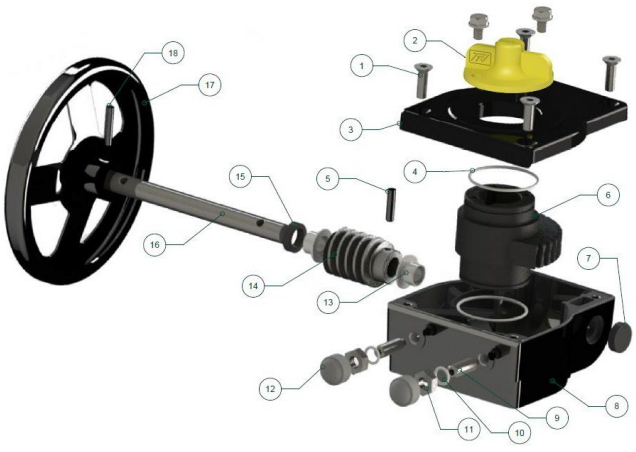


8. Materials



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	EPDM
4	Stem	AISI 420
5	O ring	NBR
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

9. Gearbox Materials



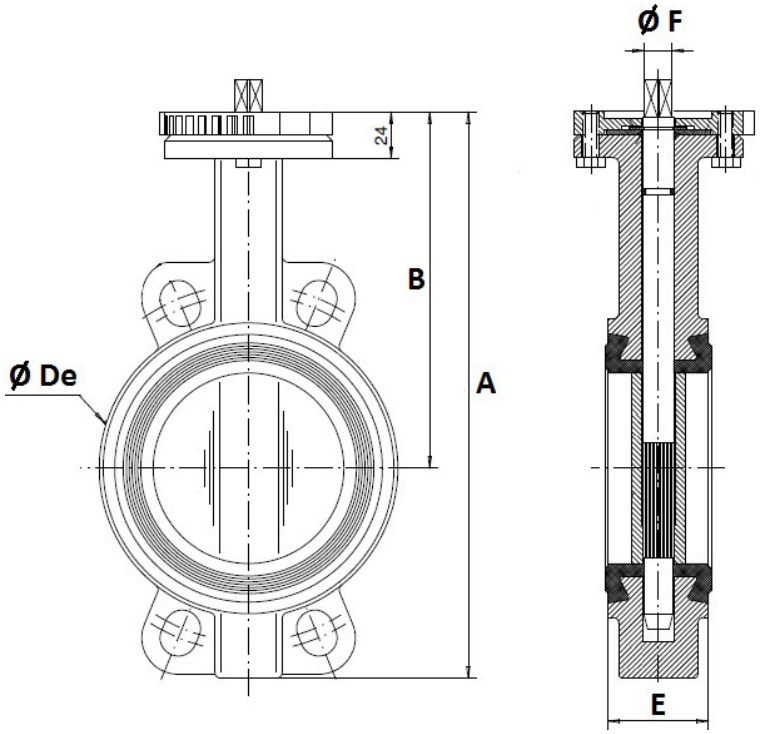
Item	Designation	Materials Ref. 1197
1	Screw	AISI 304
2	Pointer	PVC
3	Bonnet	Aluminium
4	O ring	NBR
5	Pin	Carbon steel
6	Quadrant	Ductile iron EN GJS-400-15
7	Gasket	NBR
8	Body	Aluminium
9	Adjusting bolt	Carbon steel
10	Washer	Galvanized steel
11	Nut	Galvanized steel
12	Cap	NBR 70
13	Bushing	Bronze
14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

Information provided as an indication and subject to possible modification

CONCENTRIC WAFER BUTTERFLY VALVE DUCTILE IRON BODY AND ACS EPDM SEAT

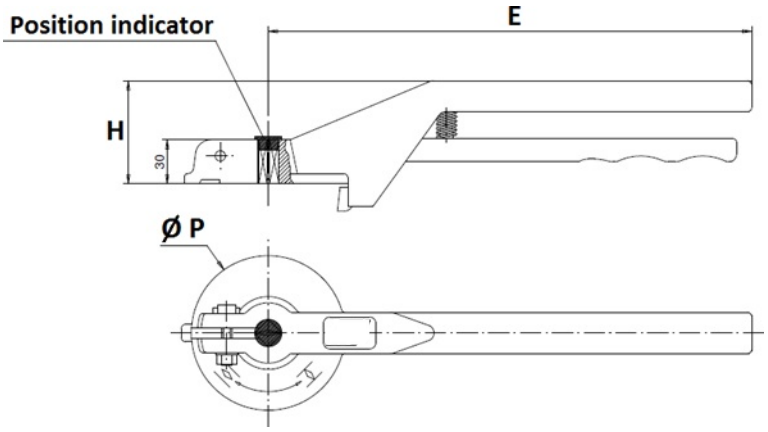
Reference(s)
10CD1E1Z - 10CD1E0
10CD0EP0R* - 10CD0EOR*
(*with gearbox)

1. Size (in mm)



DN	32/40	50	65	80	100
A	206	228	248	265	298
B	140	156	161	169	187
Ø De	82	102	119	135	155
E	33	43	46	46	52
Ø F	9.5	9.5	12	14	14
Weight (Kg)	2.46	3.66	4.4	4.6	6

Standard levers size (in mm) :



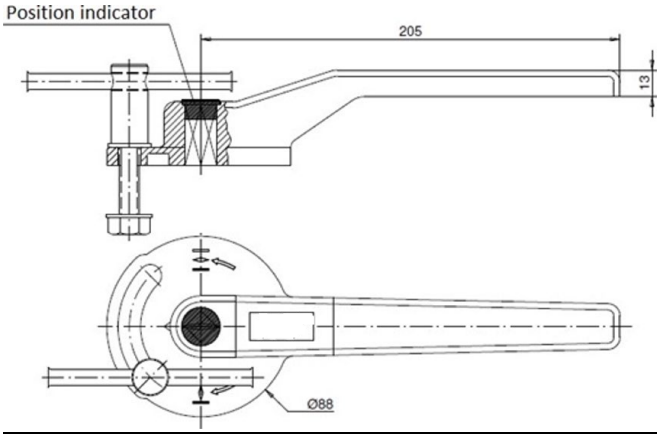
DN	32-100
E	205
H	57
Ø P	88

ASTM A351 CF8M stainless steel levers size (in mm) (on request) :

Information provided as an indication and subject to possible modification

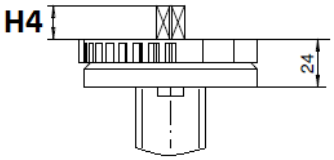
CONCENTRIC WAFER BUTTERFLY VALVE DUCTILE IRON BODY AND ACS EPDM SEAT

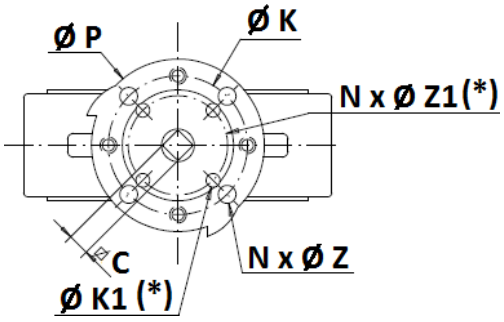
Reference(s)
10CD1E1Z - 10CD1E0
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(*with gearbox)



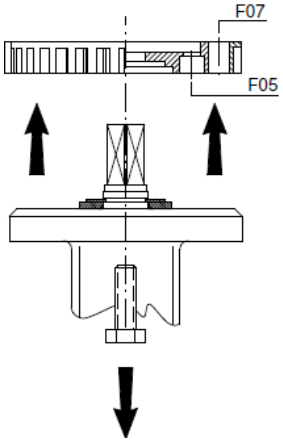
DN	32/40	50	65	80	100
H4	14	14	16	16	20
C	8	8	9	11	11
Ø K	70	70	70	70	70
ISO	F07	F07	F07	F07	F07
N x Ø Z	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9
Ø K1	50	50	50	50	50
ISO 1	F05	F05	F05	F05	F05
N x Ø Z1	4 x 7	4 x 7	4 x 7	4 x 7	4 x 7
Ø P	88	88	88	88	88

ISO mounting pad size DN 32-100 (in mm)

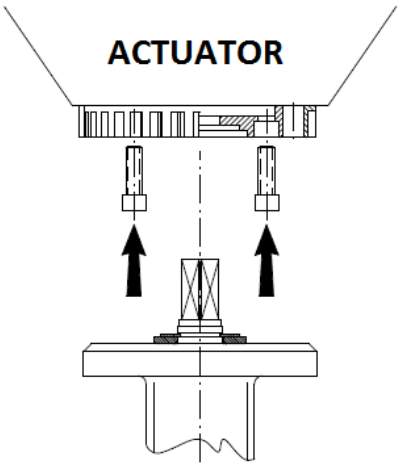




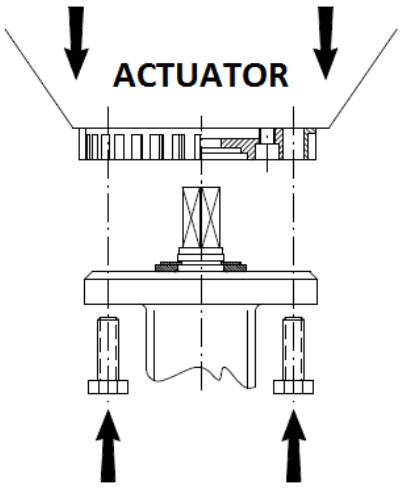
ISO plate installation for DN32-100 ISO F05 :



Unscrew and remove the flange



Screw the flange to the actuator with hexagon socket screws



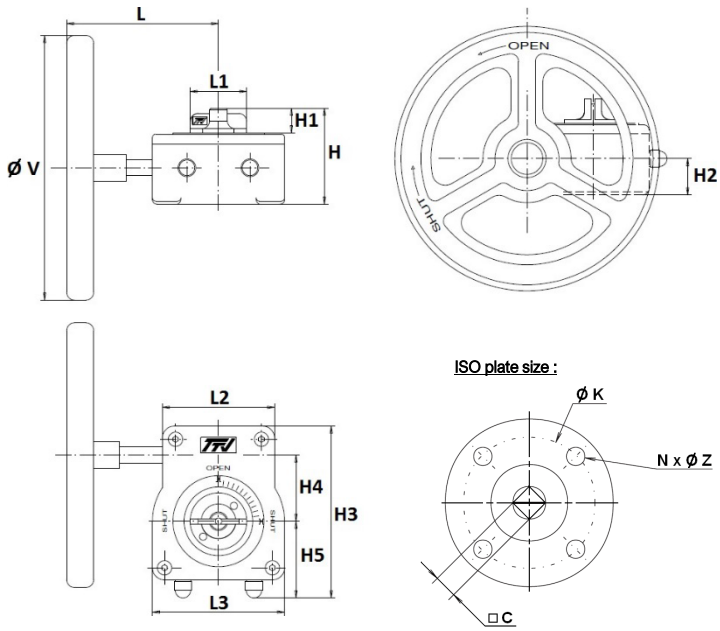
Screw the valve to the flange

Information provided as an indication and subject to possible modification

CONCENTRIC WAFER BUTTERFLY VALVE DUCTILE IRON BODY AND ACS EPDM SEAT

Reference(s)
10CD1E1Z - 10CD1E0
10CD0EP0R* - 10CD0EOR*
(*with gearbox)

Gearbox size DN32-100 (in mm) :

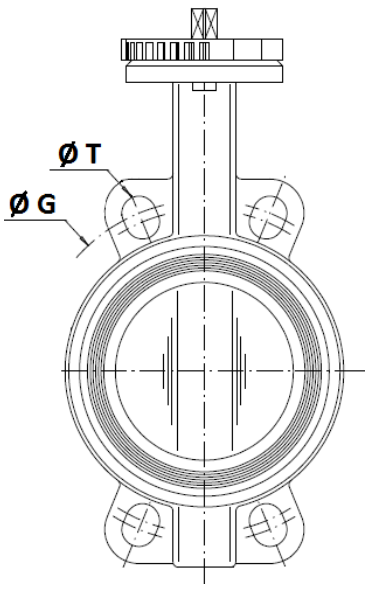


DN	32/50	65	80/100
L	115	115	115
L1	43	43	43
L2	85	85	85
L3	100	100	100
H	73	73	73
H1	19	19	19
H2	27.5	27.5	27.5
H3	130	130	130
H4	50	50	50
H5	58	58	58
Ø V	140	140	140
C	8	9	11
Ø K	70	70	70
ISO	F07	F07	F07
N x Ø Z	4 x M8	4 x M8	4 x M8
Weight (Kg)	1.35	1.35	1.35

Gearbox specifications

DN	32/50	65	80/100
Ratio factor	37 : 1	37 : 1	37 : 1
Turns number for closing / opening	9.25	9.25	9.25
Input torque (Nm)	9	9	9
Output torque (Nm)	250	250	250

Between flanges size (in mm)



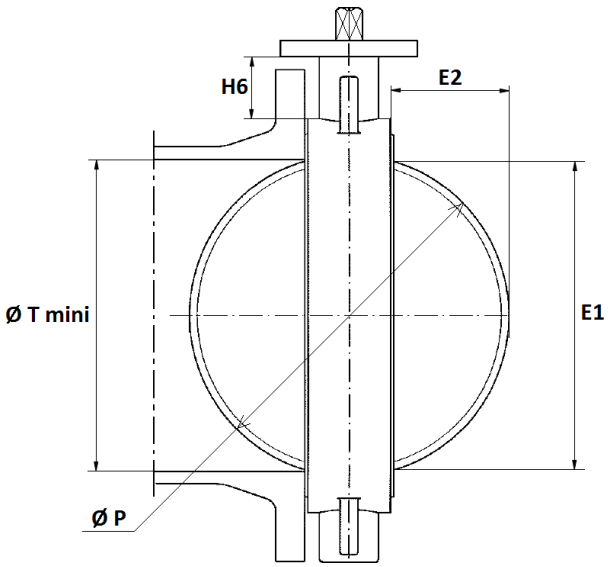
	DN (mm)	32	40	50	65	80	100
	NPS (")	1"1/4	1"1/2	2"	2"1/2	3"	4"
PN10	Ø G	100	110	125	145	160	180
	Ø T	18	18	18	18	18	18
PN16	Ø G	100	110	125	145	160	180
	Ø T	18	18	18	18	18	18
Class 150	Ø G	88.9	98.5	120.6	139.7	152.4	190.5
	Ø T	16	16	19	19	19	19

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CONCENTRIC WAFER BUTTERFLY VALVE
DUCTILE IRON BODY AND ACS EPDM SEAT

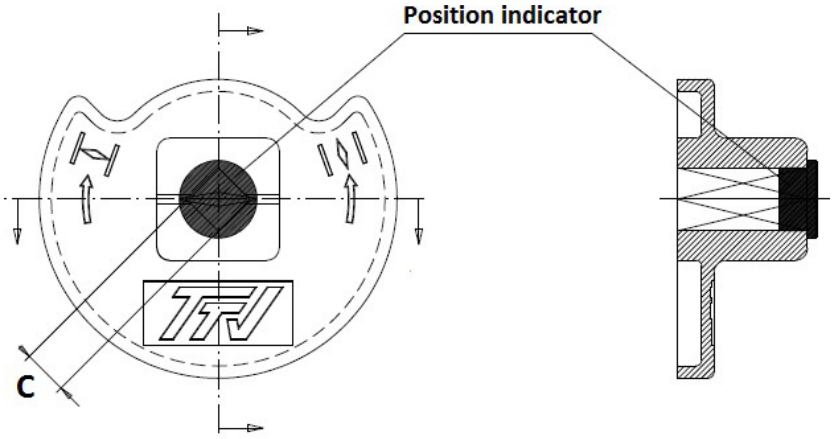
Reference(s)
10CD1E1Z - 10CD1E0
10CD0EP0R* - 10CD0EOR*
(*with gearbox)

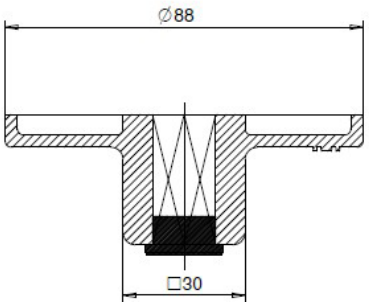
Neck and disc size (in mm)



DN	32/40	50	65	80	100
E1	23	24.5	46	65	85
E2	3.5	3.5	9.5	17	24
H6	76	82	80	80	88
Ø T mini	26	27.5	49	68	88
Ø P	40	50	65	80	100

Square lever for special key (30x30 mm) :





DN	32-50	65	80-100
C	8x8	9x9	11x11

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