

**WAFER BUTTERFLY VALVE WITH NITRILE CARBOXYLE SEAT  
EXCELLENCE RANGE**

**armat**  
spol. s r.o.  
MADE OF STAINLESS ...



**BUREAU  
VERITAS**



**Lloyd's  
Register**

PED 97/23/CE



**Size :** DN 32 to 300 mm

**Ends :** Between flanges PN10/16 and Class 150 (PN20)

**Min Temperature :** - 10°C

**Max Temperature :** + 90°C

**Max Pressure :** 16 Bars

**Specifications :** Long neck for isolation  
Wafer type

Full crossing stem

ISO 5211 mounting pad

**Materials :** Ductile iron body EN GJS 500-7

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

## WAFER BUTTERFLY VALVE WITH NITRILE CARBOXYLE SEAT EXCELLENCE RANGE

### SPECIFICATIONS :

Long neck for isolation  
 ISO 5211 mounting pad  
 Wafer type  
 Between flanges PN10/16 from DN32/40 to 300 and Class 150 (PN20) from DN40 to 300  
 Full crossing stem  
 Removable Nitrile Carboxyle seat  
 9 positions lever with locking device up to DN200 , stop in all positions but non lockable from DN250 to 300  
 Stainless steel disc up to DN100  
 Ductile iron disc epoxy coated +/- 40 μ from DN125 to 300  
 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 : Powders, abrasives products  
 Min and Max Temperature Ts : - 10°C to + 90°C  
 Max Pressure Ps : 16 bars (see graph page 4)

### RANGE :

With lever from DN 32 to DN 300  
 IP65 Gear box possible ( **Ref. 1197** ) from DN 32 to DN 300  
 On request, IP65 chain gear box ( **Ref. 1194** ) from DN 32 to DN 300  
 On request, stem extension with special length ( **Ref. 98665** )  
 On request, stainless steel lever and bolting ( **Ref. 9831250-9831264** )

### ENDS :

Between flanges PN10/16 from DN32/40 to 300 and Class 150 (PN20) from DN40 to 300

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

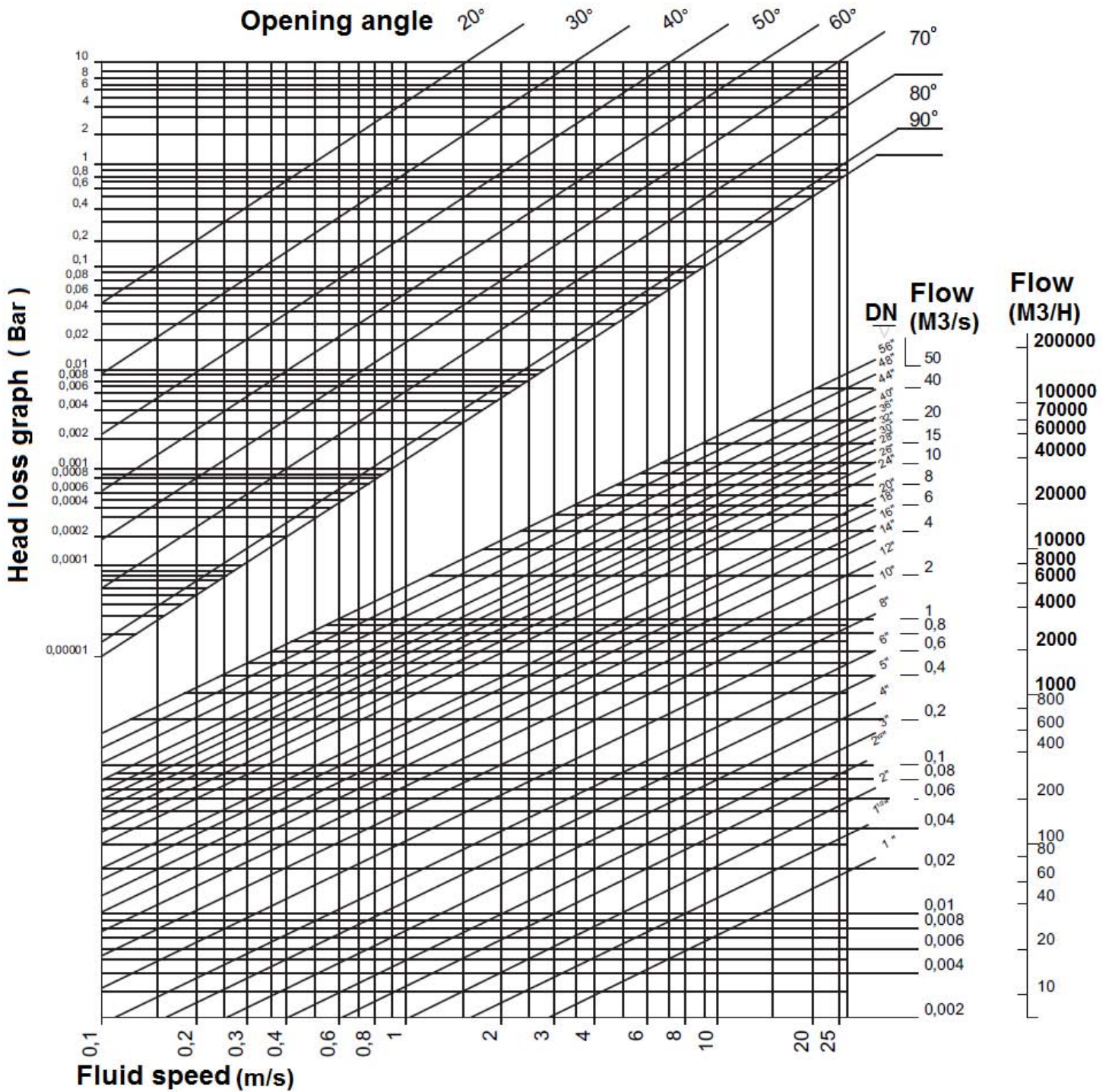
DN	32/40	50	65	80	100	125	150	200	250	300
Torque ( Nm )	9	11	20	29	47	82	130	210	360	475

### FLOW COEFFICIENT Kvs ( m3 / h ) :

DN	32/40	50	65	80	100	125	150	200	250	300
Kvs ( m3/h )	70	109	200	334	551	901	1427	2383	3825	5659

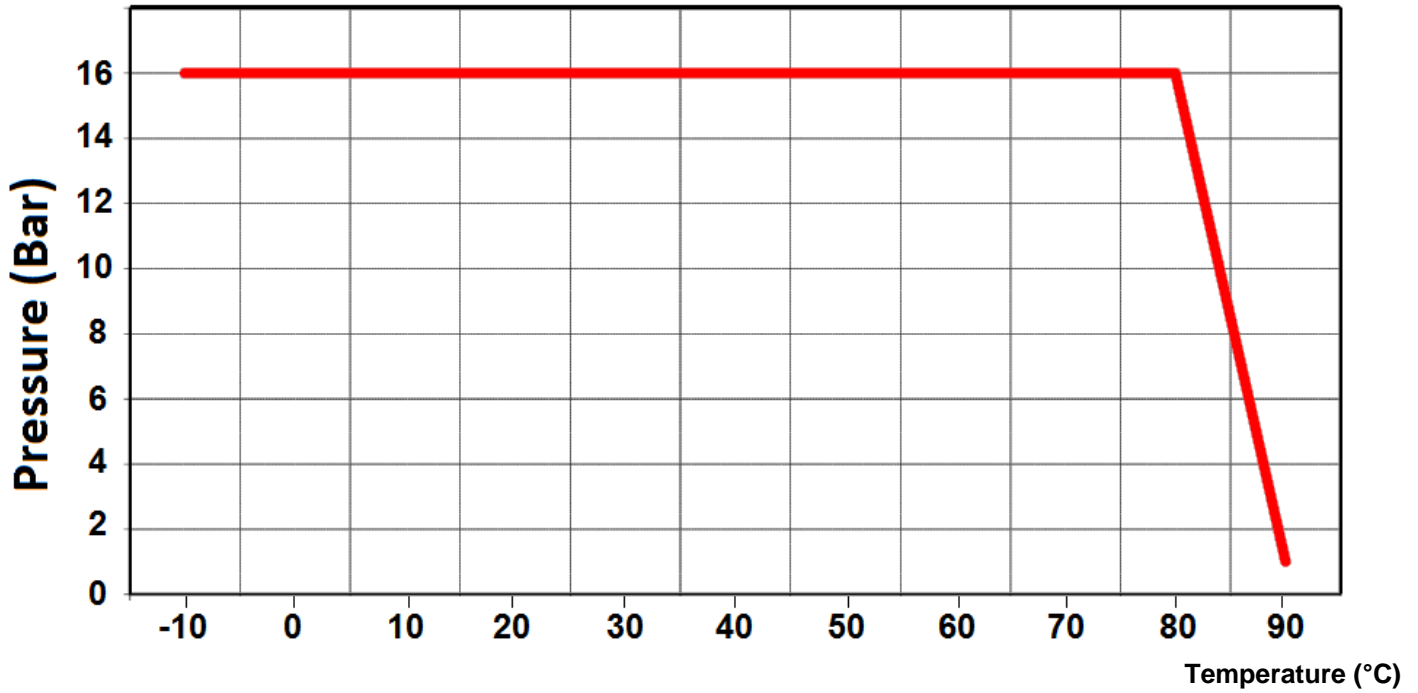
**WAFER BUTTERFLY VALVE WITH NITRILE CARBOXYLE SEAT  
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HEAD LOSS GRAPH :



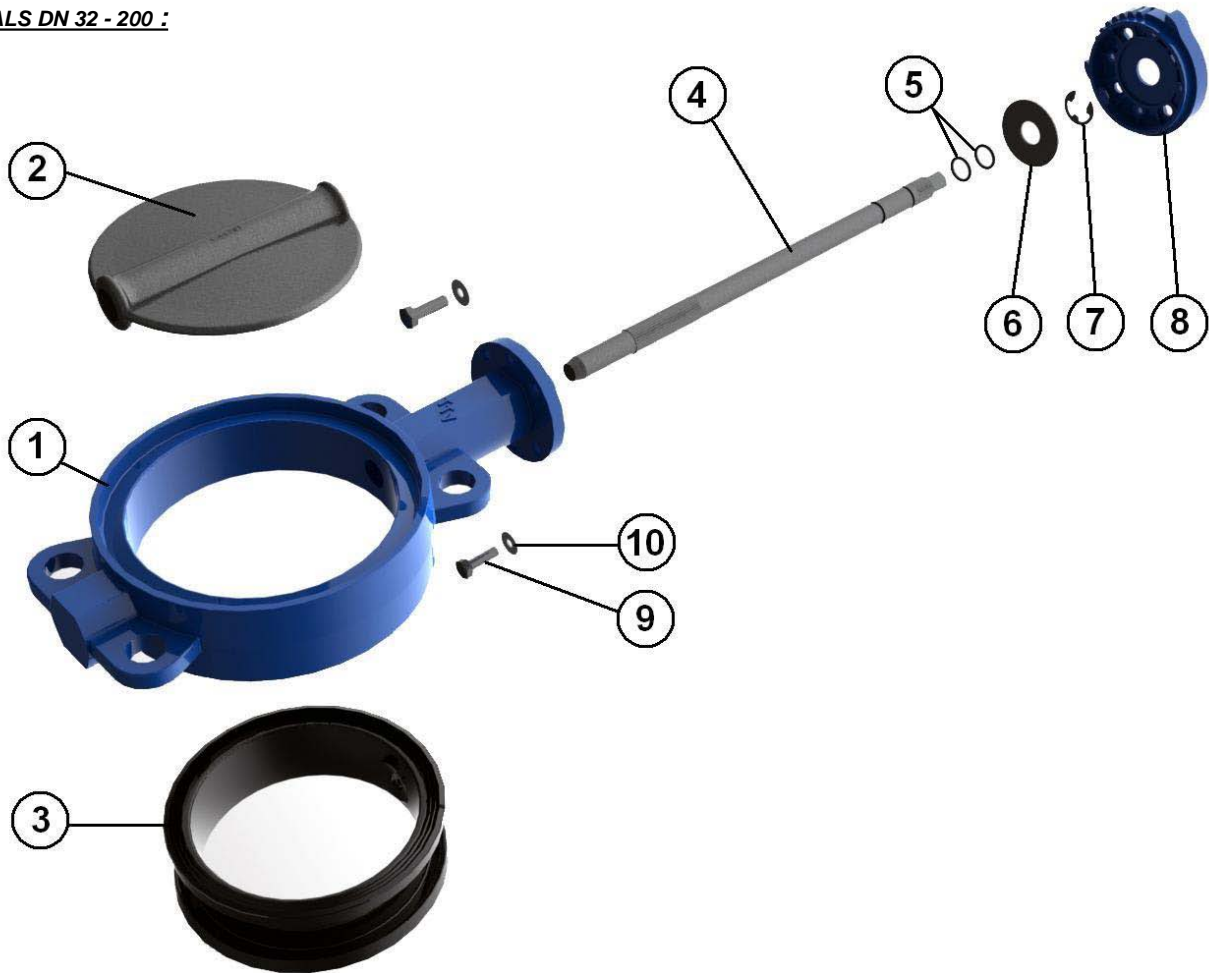
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PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED):



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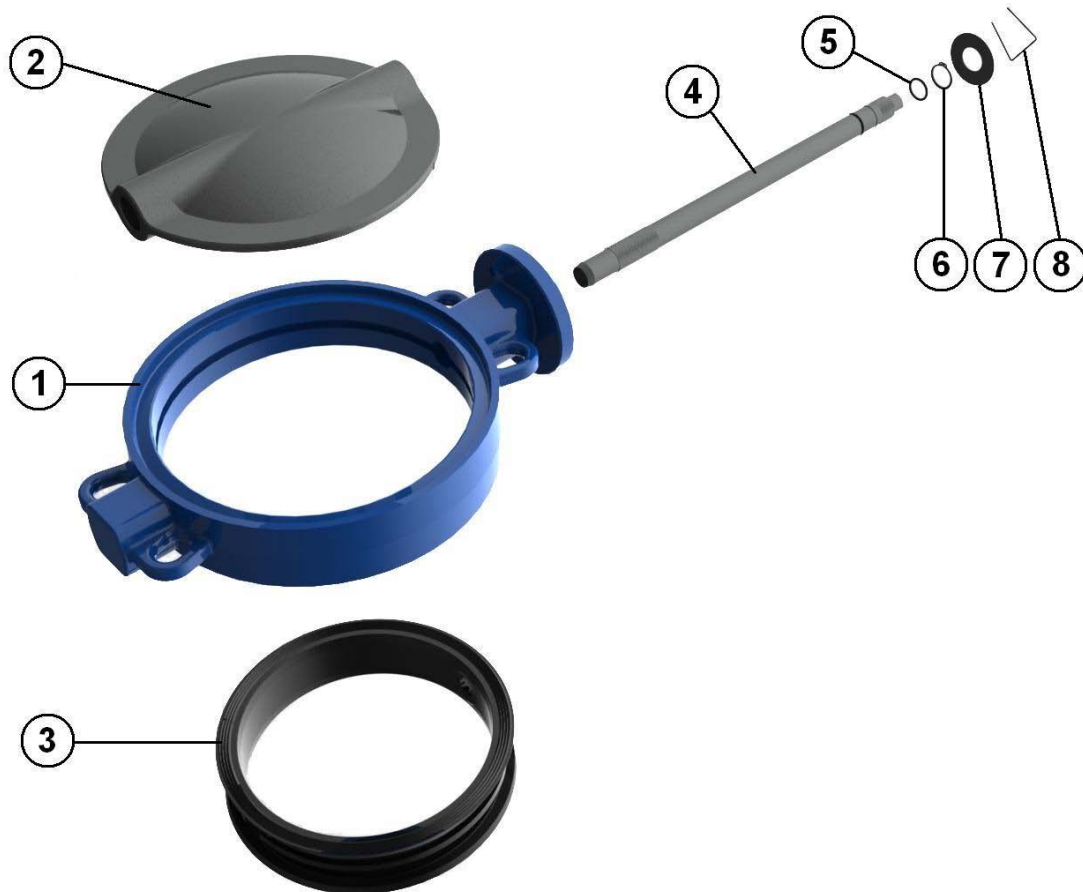
MATERIALS DN 32 - 200 :



Item	Designation	Materials
1	Body	Ductile iron EN GJS-500-7
2	Disc DN32-100	ASTM A351 CF8M
2	Disc DN125-200	Ductile iron EN GJS-500-7
3	Seat	Nitrile Carboxyle
4	Stem	SS 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

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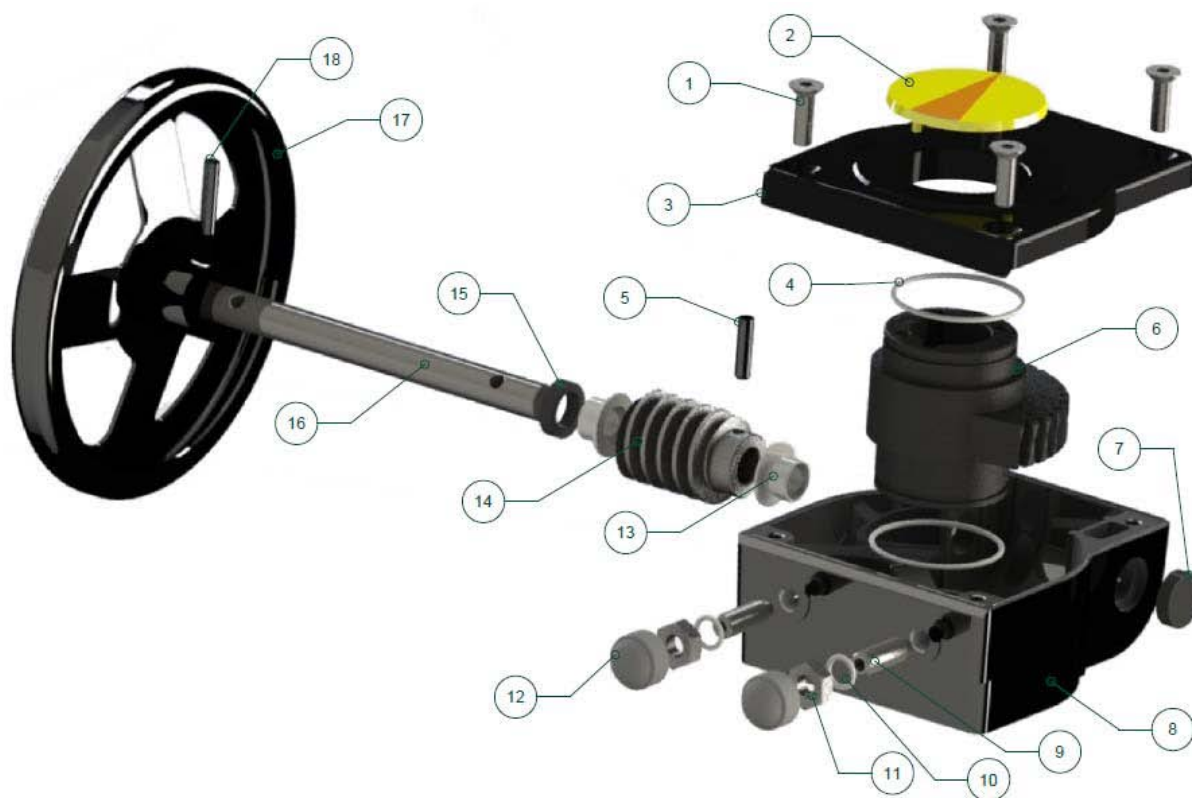
MATERIALS DN 250 - 300 :



Item	Designation	Materials
1	Body	Ductile iron EN GJS-500-7
2	Disc	Ductile iron EN GJS-500-7
3	Seat	Nitrile Carboxyle
4	Stem	SS 420
5	O ring	NBR
6	Circlips	Steel
7	Ring	Steel
8	Spring	Steel
Lever		Ductile iron EN GJS-500-7 with epoxy painting 50μ thickness

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GEARBOX MATERIALS REF. 1197 :

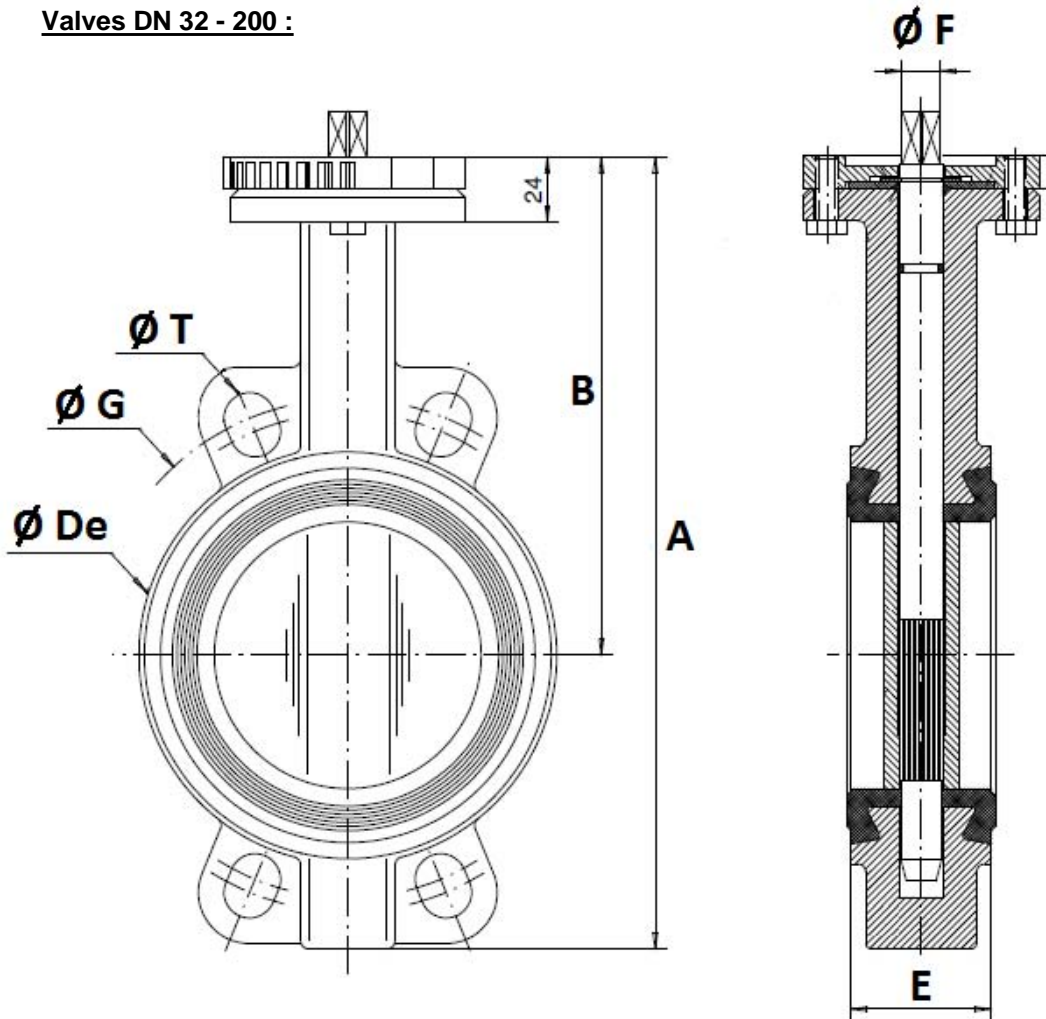


Item	Designation	Materials Ref. 1197
1	Screw	SS 304
2	Indicator	Polypropylene
3	Cover	Aluminium
4	O ring	NBR
5	Pin	Carbon steel
6	Quadrant	Ductile iron EN GJS-400-15
7	Gasket	NBR
8	Body	Aluminium
9	Adjusting bolt	Carbon steel
10	Washer	Galvanized steel
11	Nut	Galvanized steel
12	Cap	NBR 70
13	Bushing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

**WAFER BUTTERFLY VALVE WITH NITRILE CARBOXYLE SEAT  
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SIZE PN10 ( in mm ) :

Valves DN 32 - 200 :



DN	32/40	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
$\varnothing De$	82	102	119	135	155	185	208	270
E	33	43	46	46	52	56	56	60
$\varnothing F$	9.5	9.5	12	14	14	17	17	21
$\varnothing G$	110	125	145	160	180	210	240	295
$\varnothing T$	18	18	18	18	18	18	23	23
Weight (Kg)	2.46	3.66	4.4	4.6	6	7.6	9.2	14.7

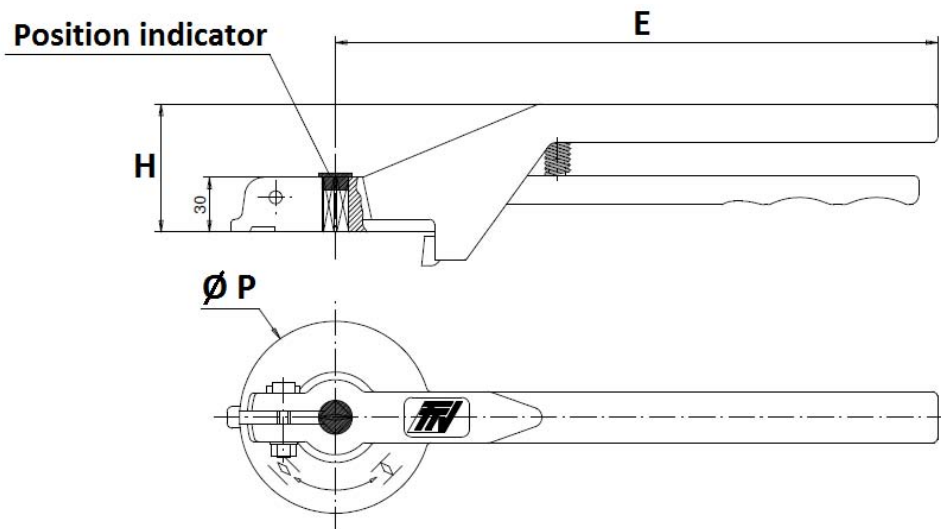




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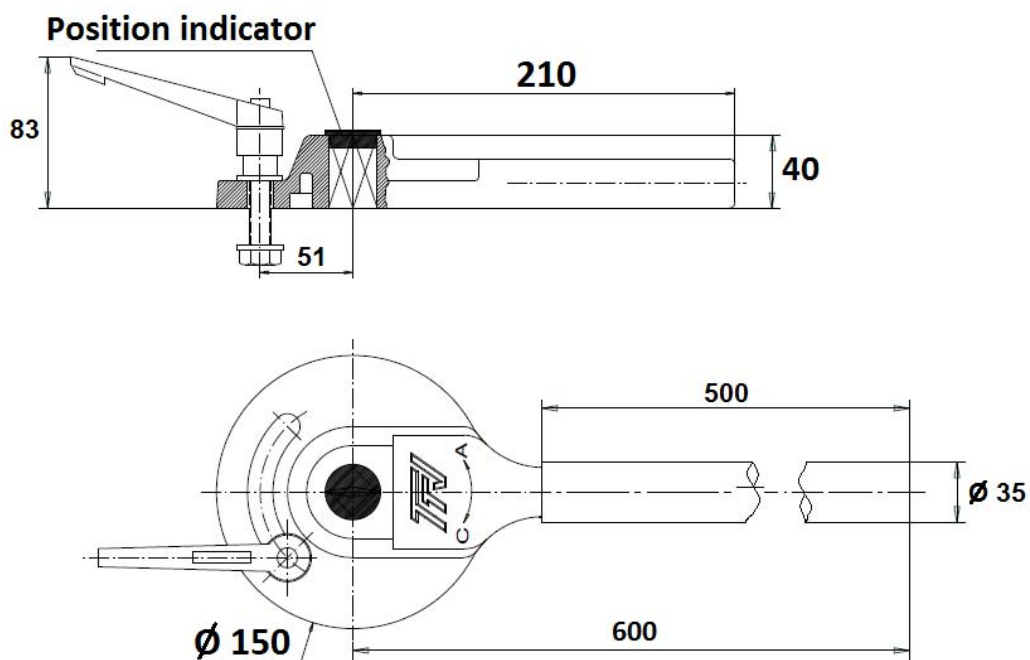
STANDARD LEVERS SIZE ( in mm ) :

**DN 32 – 200 :**



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

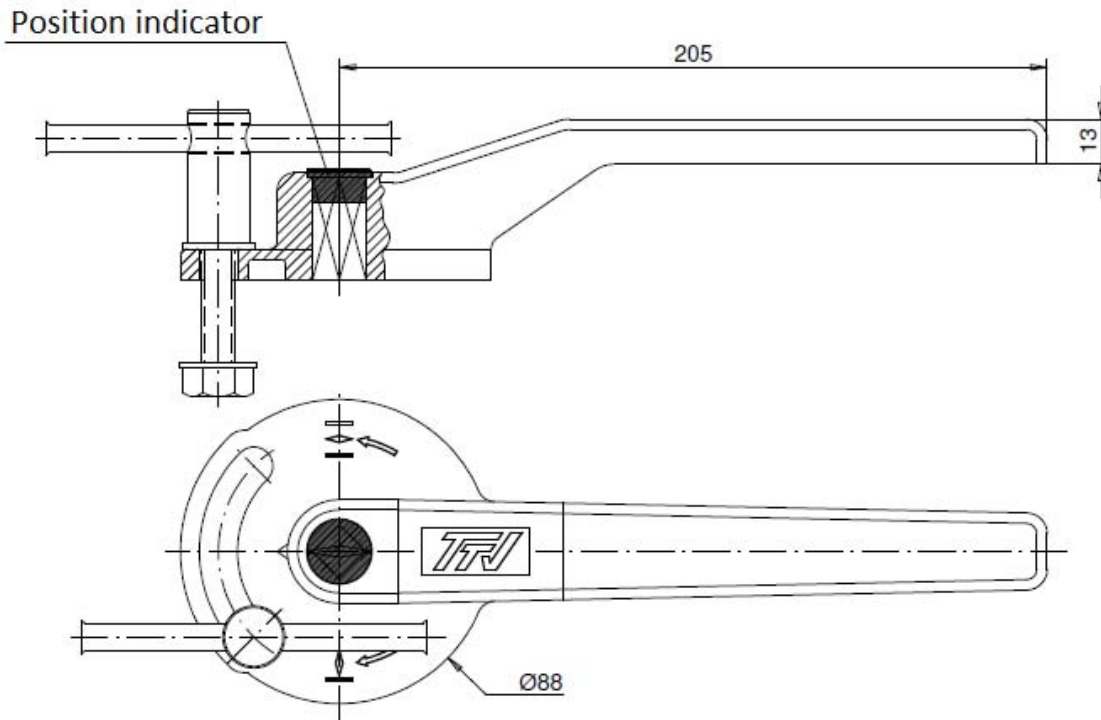
**DN 250 – 300 :**



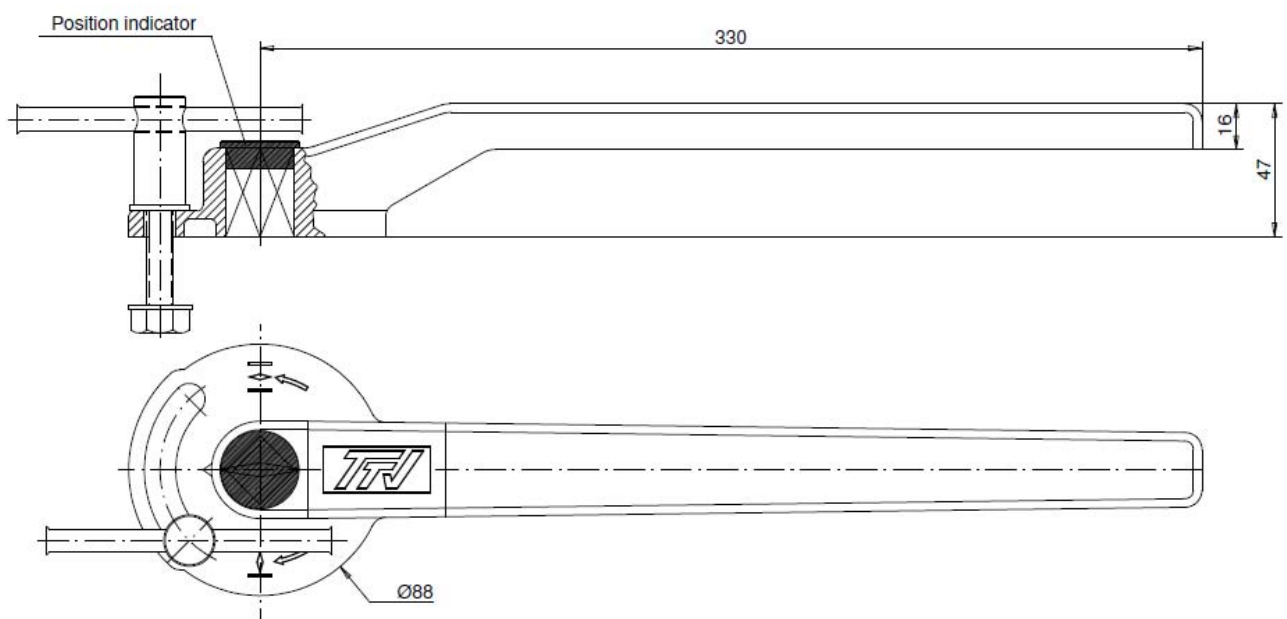
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ASTM A351 CF8M STAINLESS STEEL LEVERS SIZE ( in mm ) ( ON REQUEST ) :

**DN 40 - 100**



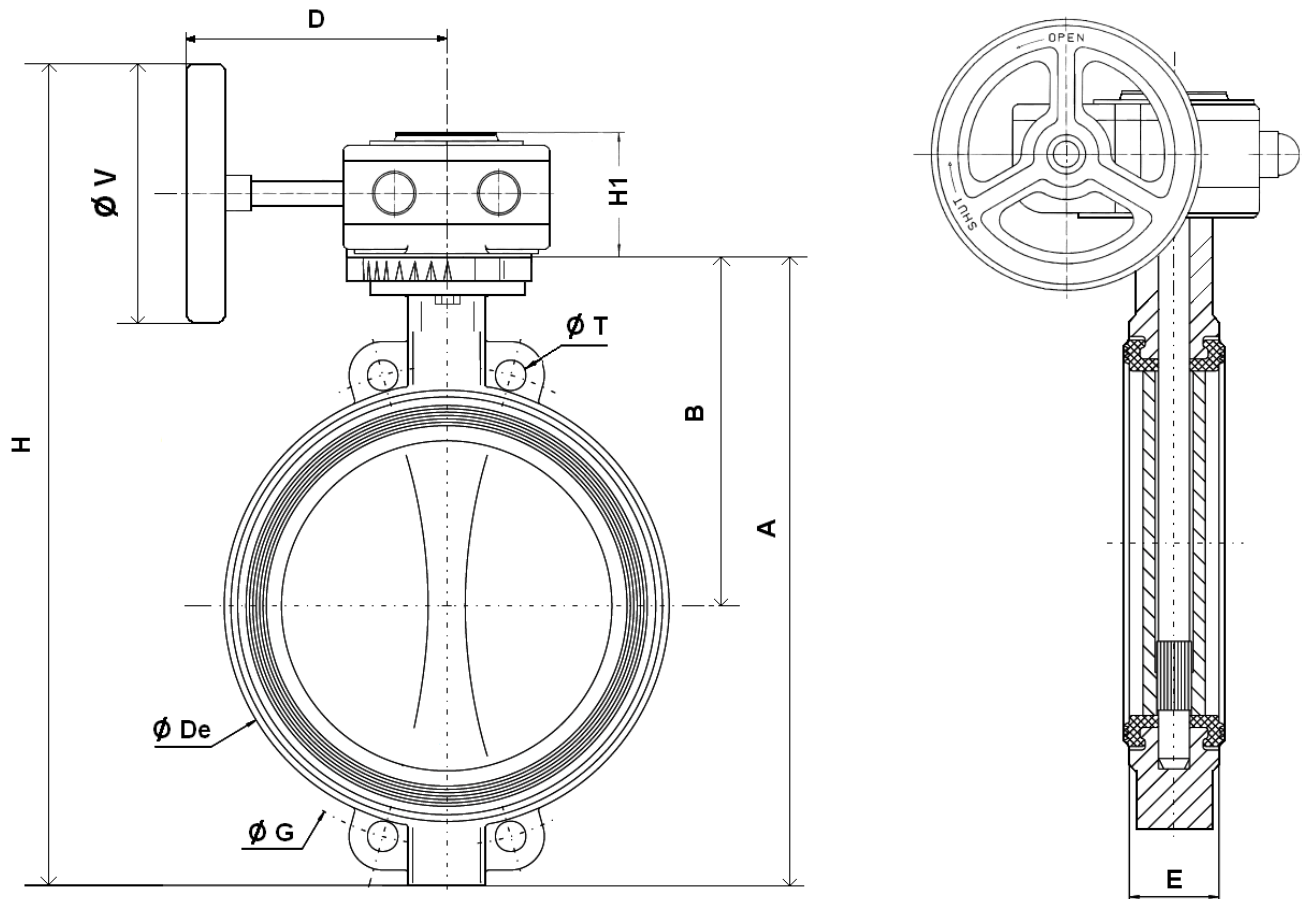
**DN 125 - 200**



**WAFER BUTTERFLY VALVE WITH NITRILE CARBOXYLE SEAT  
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**SIZE PN10 ( in mm ) :**

? **Valves with gearbox :**

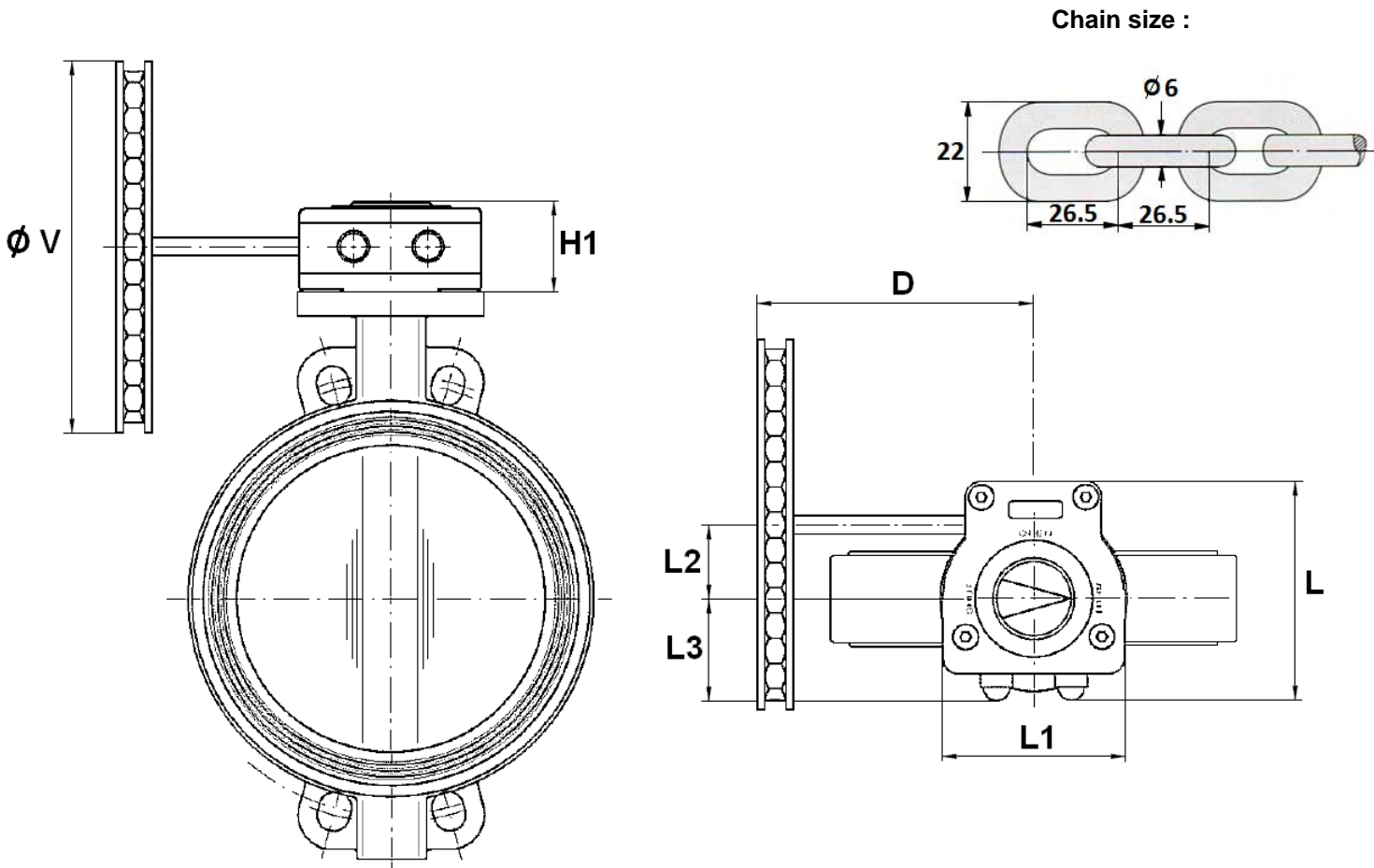


DN	32/40	50	65	80	100	125	150	200	250	300
A	206	228	248	265	298	331	349	430	461	524
B	140	156	161	169	187	206	215	255	248	280
Ø De	82	102	119	135	155	185	208	270	328	381
D	120	120	120	120	120	136	136	136	223	223
E	33	43	46	46	52	56	56	60	68	78
H	304	326	341	364	392	452	477	566	647	709
H1	58	58	58	58	58	58	58	58	74	74
Ø G	110	125	145	160	180	210	240	295	350	400
Ø T	18	18	18	18	18	18	23	23	23	23
Ø V	140	140	140	140	140	200	200	200	300	300
Weight ( Kg )	3.81	5.01	5.75	5.95	7.35	9.35	10.95	16.45	28.7	37

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SIZE PN10 ( in mm ) :

Valves with chain gearbox :



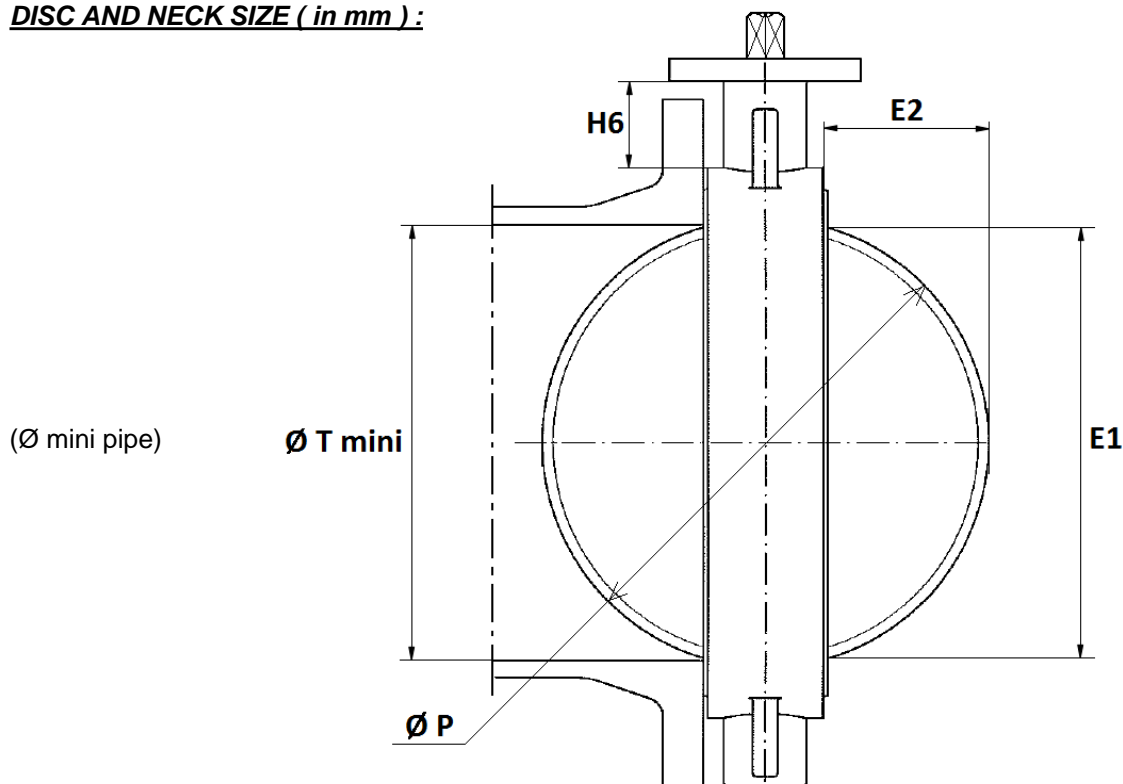
DN	32/40	50	65	80	100	125	150	200	250	300
D	120	120	120	120	120	126	126	126	214	214
H1	58	58	58	58	58	58	58	58	74	74
L	128	128	128	128	128	128	128	128	175	175
L1	100	100	100	100	100	100	100	100	142	142
L2	50	50	50	50	50	50	50	50	61	61
L3	56	56	56	56	56	56	56	56	80	80
Ø V	160	160	160	160	160	210	210	210	300	300
Weight ( Kg )	4.81	6.01	6.75	6.95	8.35	10.35	11.95	17.45	31.5	39.8

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GEARBOX SPECIFICATIONS :

DN	32/50	65	80/100	125/150	200	250	300
Ref.	1197050	1197065	1197100	1197150	1197200	1197250	1197300
Ratio factor	37 : 1	37 : 1	37 : 1	37 : 1	37 : 1	36 : 1	36 : 1
Number of cycles for opening or closing	9.25	9.25	9.25	9.25	9.25	9	9
Input torque ( Nm )	12.5	12.5	12.5	12.5	12.5	23	23
Output torque ( Nm )	300	300	300	300	300	675	675

DISC AND NECK SIZE ( in mm ) :

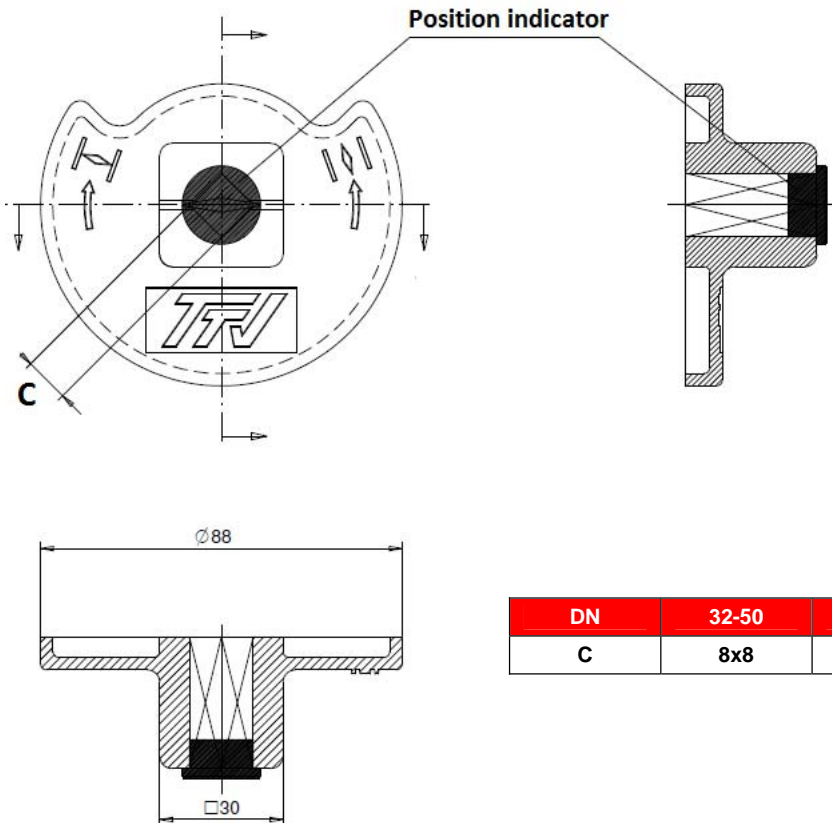


DN	32/40	50	65	80	100	125	150	200	250	300
E1	23	24.5	46	65	85	109	136	188	238	289
E2	3.5	3.5	9.5	17	24	33.5	45.5	69	90	110.5
H6	76	82	80	80	88	93	89	99	71	76
Ø T mini	26	27.5	49	68	88	112	139	191	241	292
Ø P	40	50	65	80	100	123	147	198	248	299

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SIZE ( in mm ) :

? Square lever for special key ( 30x30 mm ) :



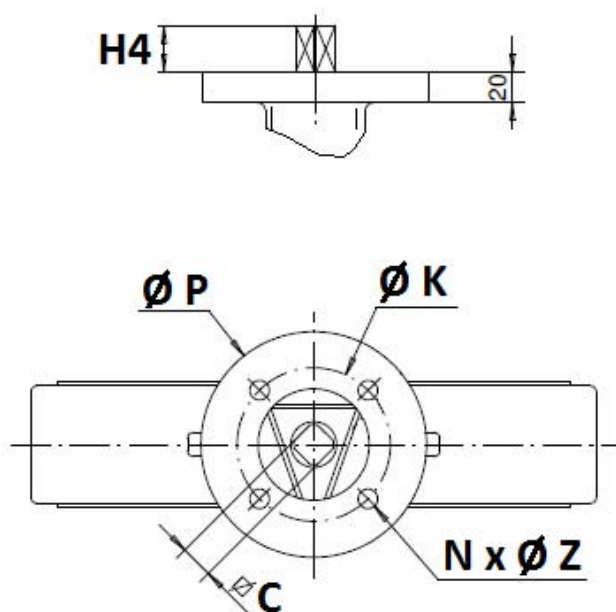
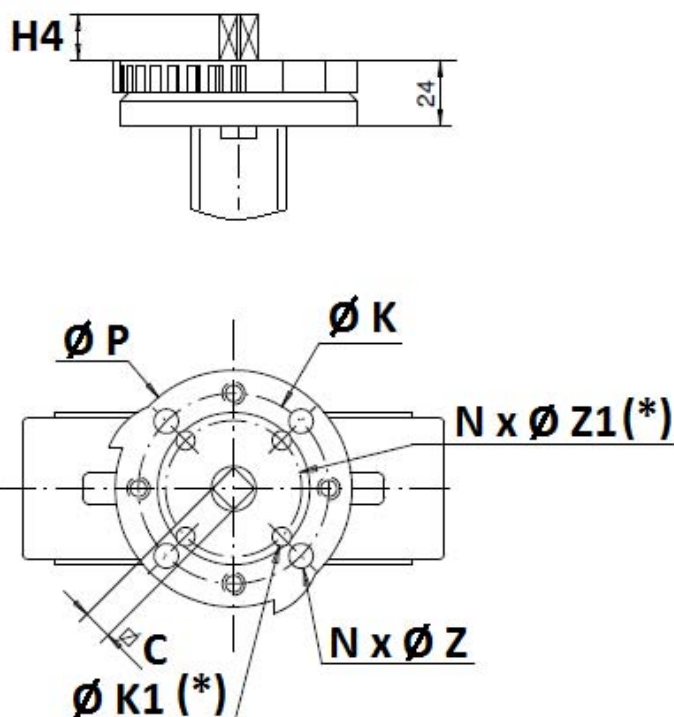
DN	32-50	65	80-100	125-150	200
C	8x8	9x9	11x11	14x14	17x17

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ISO 5211 MOUNTING PAD AND STEM SIZE ( in mm ) :

**DN 32 – 200**

**DN250 - 300**



(\*) : Only from DN32 to DN100

DN	32/40	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	-	-	-	-	-



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**STANDARDS :**

Fabrication according to ISO 9001:2008

Designing according to ISO 10631

DIRECTIVE 97/23/CE : CE N° 0038  
Risk Category III module H

Tests according to ISO 5208, A class

Between flanges according to EN 1092-1 PN10

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/B0 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 strength 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).**

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**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.

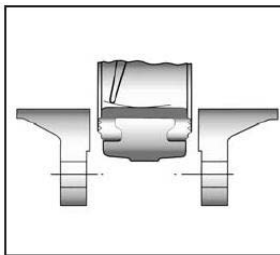
**Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned** (if they're not, the valves may not work correctly).

**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 tightness 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.**

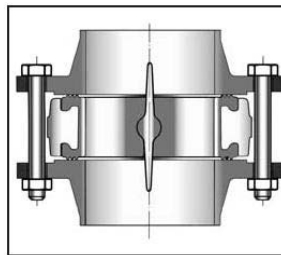
**If sections of piping do not have their final support in place, they should be temporarily fixed. This is to avoid unnecessary strain on the valve.**

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.

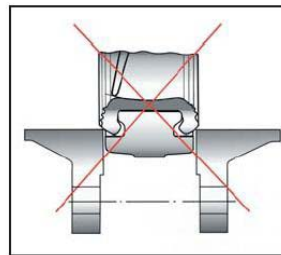
**See graph under.**



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.