

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE



Lloyd's Register
ISO 9001 : 2015



Lloyd's Register
PED/2014/68/EU



Certificate 3.1

Size : DN 40 to 400 mm
Ends : Between flanges PN10/16
Min Temperature : - 25°C
Max Temperature : + 200°C
Max Pressure : 16 Bars up to DN150
Specifications : Long neck for isolation
Lug type
2 parts body
ISO 5211 mounting pad

Materials : Ductile iron EN GJS 500-7, PTFE seat

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

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SPECIFICATIONS :

- Long neck for isolation
- ISO 5211 mounting pad
- Lug type
- Between flanges PN10/16 up to DN150, PN10 over
- 2 parts body
- 2 parts stem
- PTFE seat 3 mm thickness with silicone elastic gasket 6 mm thickness
- Stainless steel PTFE coated disc
- 9 positions lever with locking device up to DN200
- Rilsan coated body color RAL 5024 , 250-300 microns thickness
- Stem extension 75 mm length (option)
- Square lever 30x30 mm for special key (option)

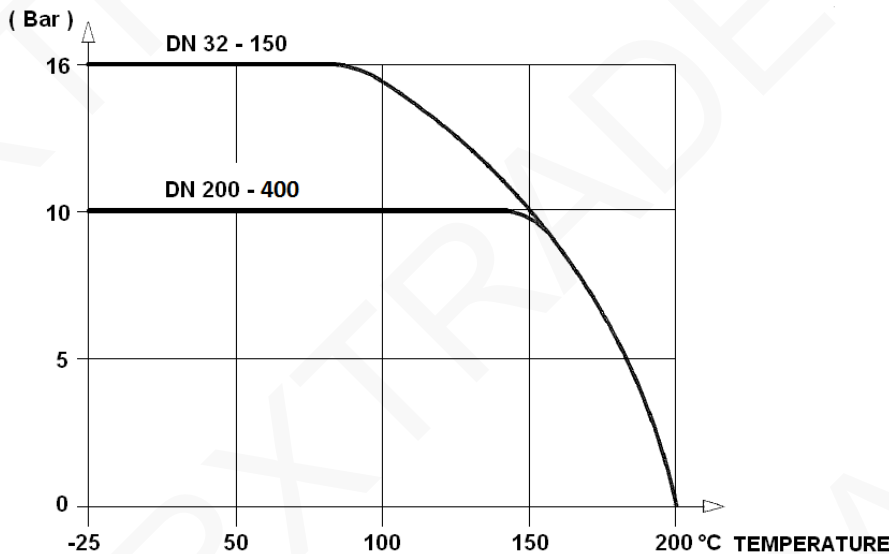
USE :

- For corrosives fluids (acids ...)
- Min and max Temperature Ts : - 25°C to + 200°C
- Max Pressure Ps : 16 bars up to DN150, 10 bars over (see graph under)

RANGE :

- With lever from DN 32/40 to DN 200
- With IP65 gear box from DN 250 to DN 400 (possible from DN 32/40 to DN200 : **Ref. 1197**)
- IP65 chain gear box possible (**Ref. 1194**) from DN 32/40 to DN 400
- On request , stem extension with special length (**Ref. 98665**)
- On request, stainless steel lever and bolting (**Ref. 9831250-9831264**)

PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :



ENDS :

- Between flanges PN10/16 up to DN150, PN10 over

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

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

DN	32/40	50	65	80	100	125	150	200	250	300	350	400
Torque (Nm)	25	40	45	75	90	160	180	230	475	680	2400	2535

FLOW COEFFICIENT Kv (m3 / 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
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
250	64	246	442	710	1056	1522	2128	3096	3096
300	100	275	472	953	1450	2093	2972	4193	4480
350	152	341	766	881	1773	2788	3978	6251	6260
400	182	542	1060	1764	2666	3836	5470	8403	8839

HEAD LOSS CALCULATIONS :

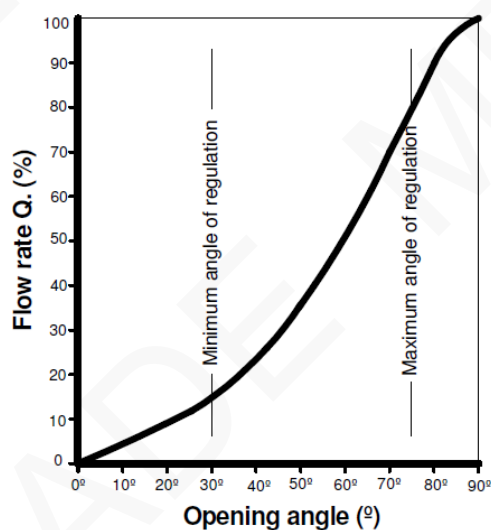
$$\Delta p = (Q / Kv)^2 \times SG$$

Q : flow in m³/h

Δp : Head loss in bar

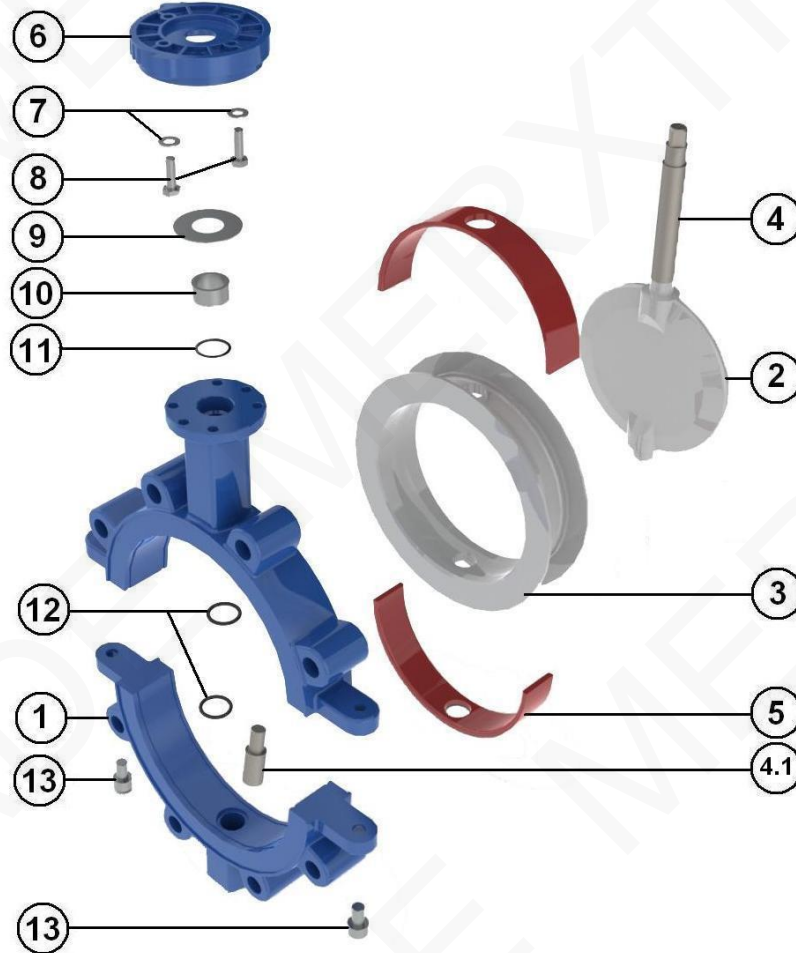
SG : Specific gravity (= 1 for water)

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)



PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

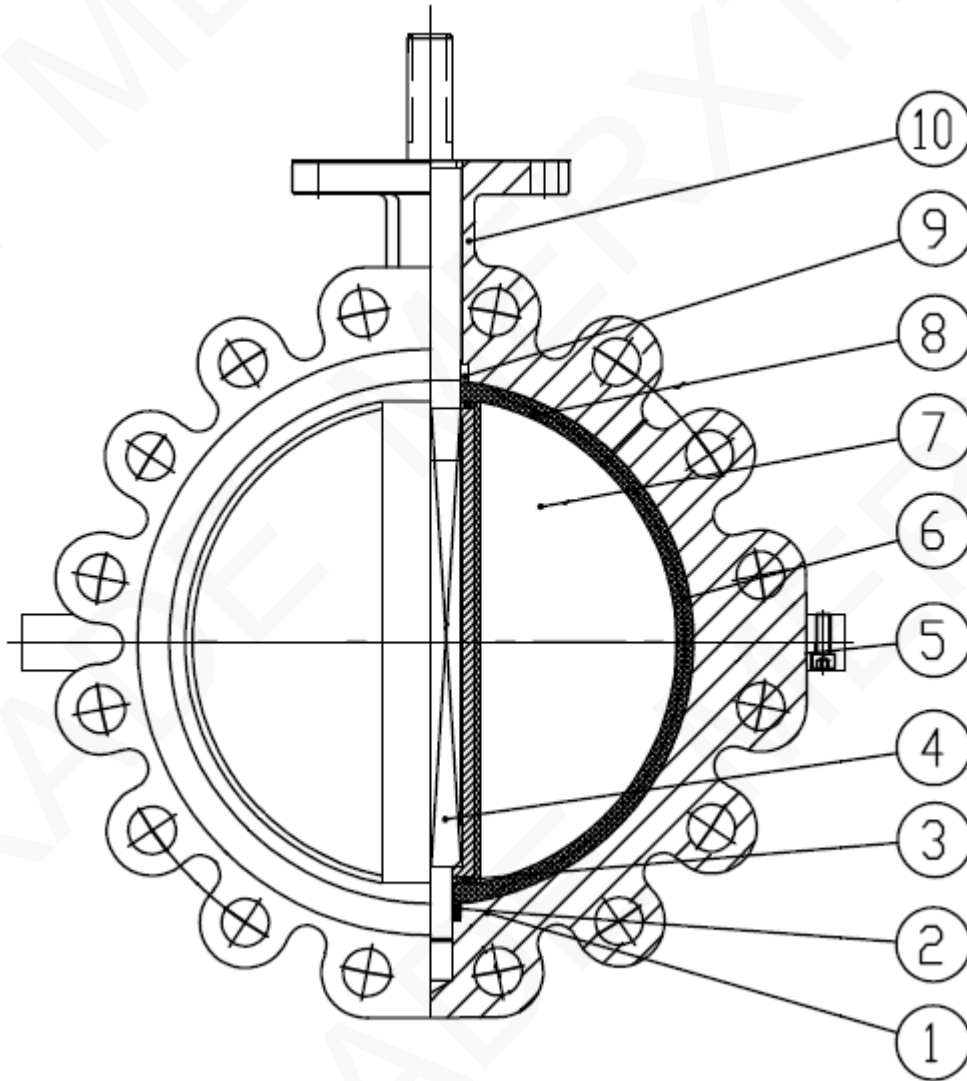
MATERIALS DN40-300 :



Item	Designation	Materials DN40-300
1	Body	Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 μ thickness
2	Disc	ASTM A351 CF8M PTFE coated
3	Seat	PTFE
4-4.1	Uper and lower stem DN40-50	SS 17 4-PH (630)
4-4.1	Uper and lower stem DN65-200	AISI 316
4-4.1	Uper and lower stem DN250-300	Duplex CD4 Mcu N
5	Insert	Silicone
6	Plate	Aluminium
7	Washer	A4
8	Plate screw	A4
9	Ring	AISI 316
10	Socket	AISI 316
11	O ring	FKM
12	O ring	FKM
13	Screw	A4
	Handle	Aluminium ADC10 with epoxy painting 50μ thickness

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

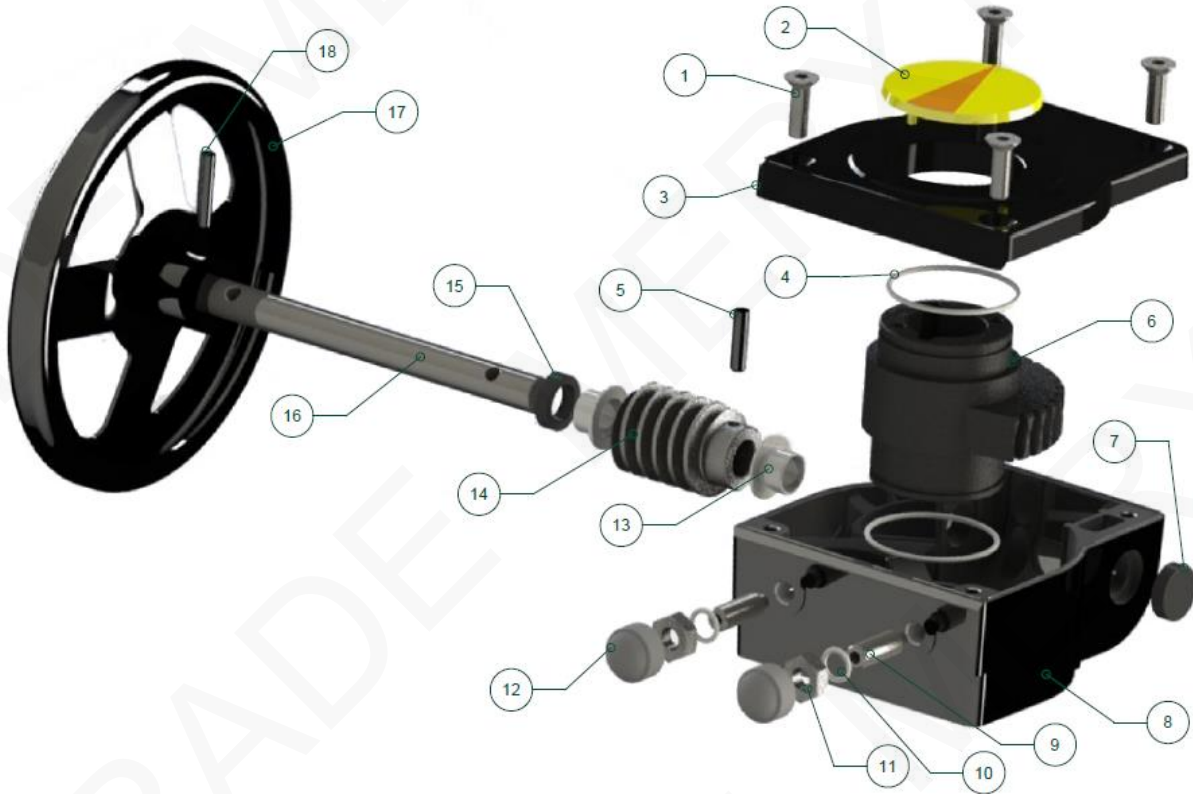
MATERIALS DN350-400 :



Item	Designation	Materials DN350-400
1	Lower body	A216 WCB rilsan coated color RAL 5024 250-300 μ thickness
2	Gasket	PTFE
3	O ring	Viton®
4	Stem	AISI 316
5	Screw	AISI 316
6	Insert	Silicone
7	Disc	ASTM A351 CF8M PTFE coated
8	Seat	PTFE
9	Gasket	Silicone
10	Upper body	A216 WCB rilsan coated color RAL 5024 250-300 μ thickness

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

GEARBOX MATERIALS REF. 1197 :

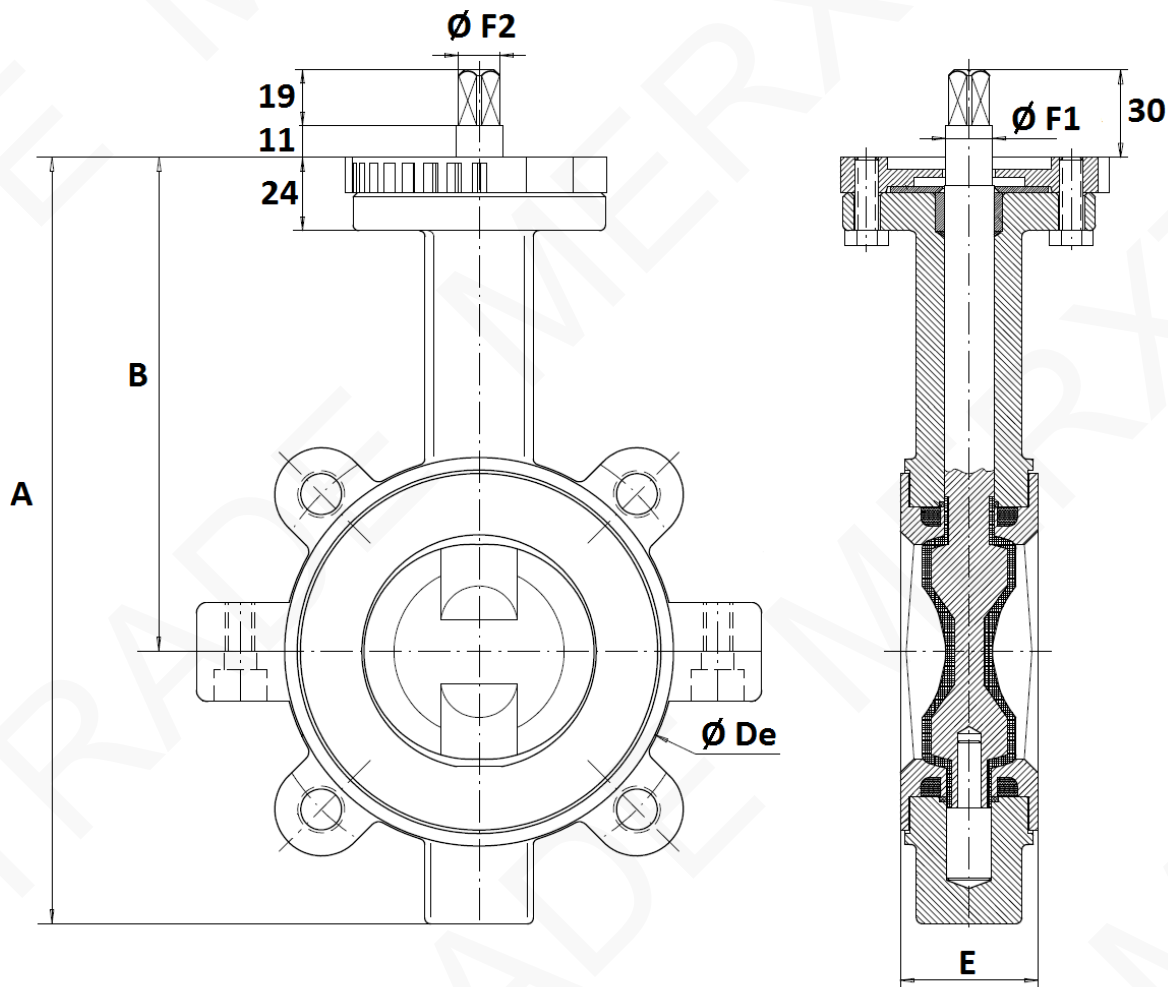


Item	Designation	Materials Ref. 1197
1	Screw	AISI 304
2	Indicator	Polypropylene
3	Cover	Aluminium
4	O ring	NBR
5	Pin	Carbon steel
6	Quadrant	Ductile iron EN GJS-400-15
7	Gasket	NBR
8	Body	Aluminium
9	Adjusting bolt	Carbon steel
10	Washer	Galvanized steel
11	Nut	Galvanized steel
12	Cap	NBR 70
13	Bushing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

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves DN 40 – 65 :

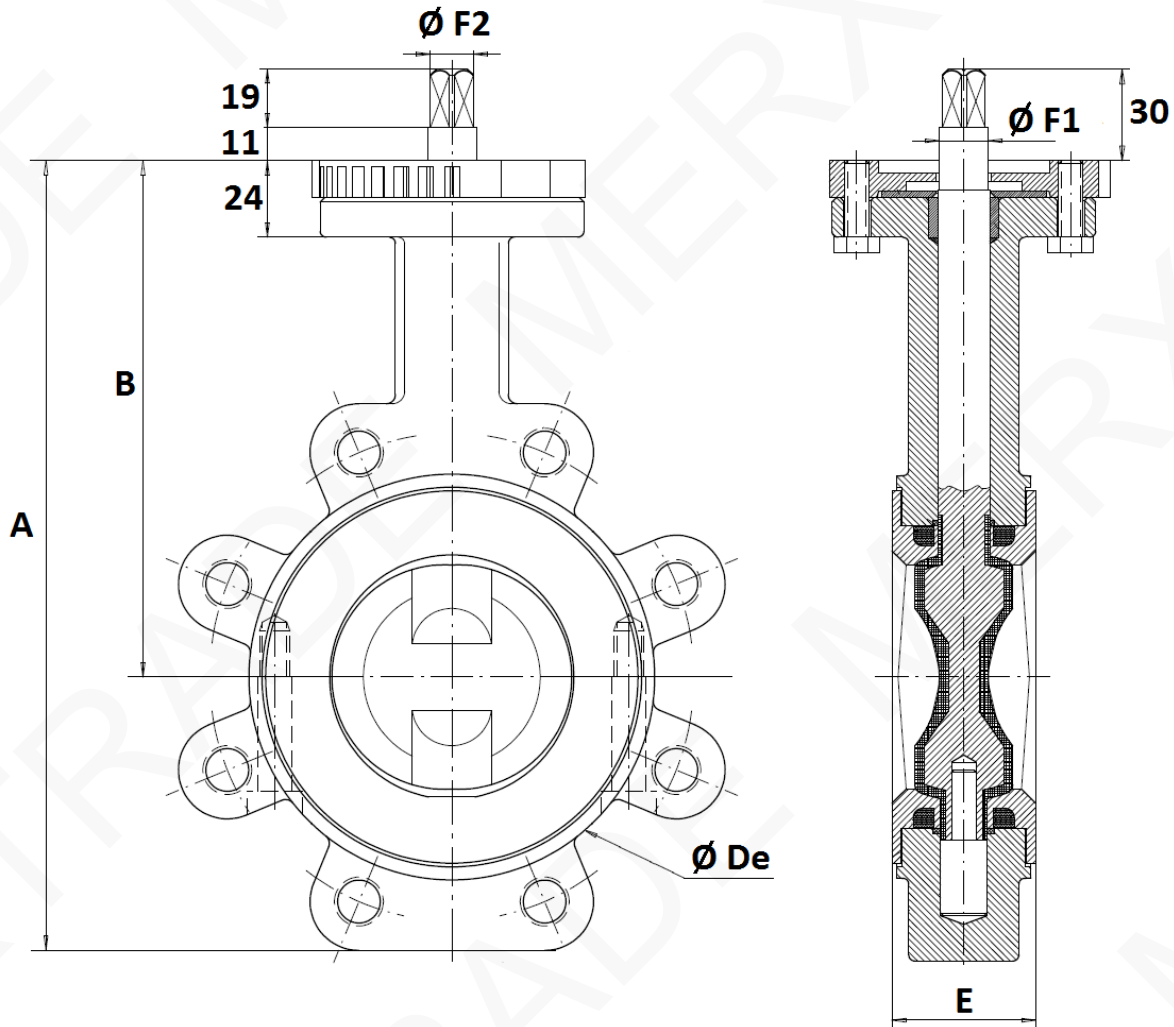


DN	40	50	65
A	205	226	242
B	140	156	161
$\varnothing De$	82	103	116
E	33	43	46
$\varnothing F1$	10	10	14
$\varnothing F2$	9.5	9.5	12
Weight (Kg)	3	4	5

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves DN 80 – 200 :

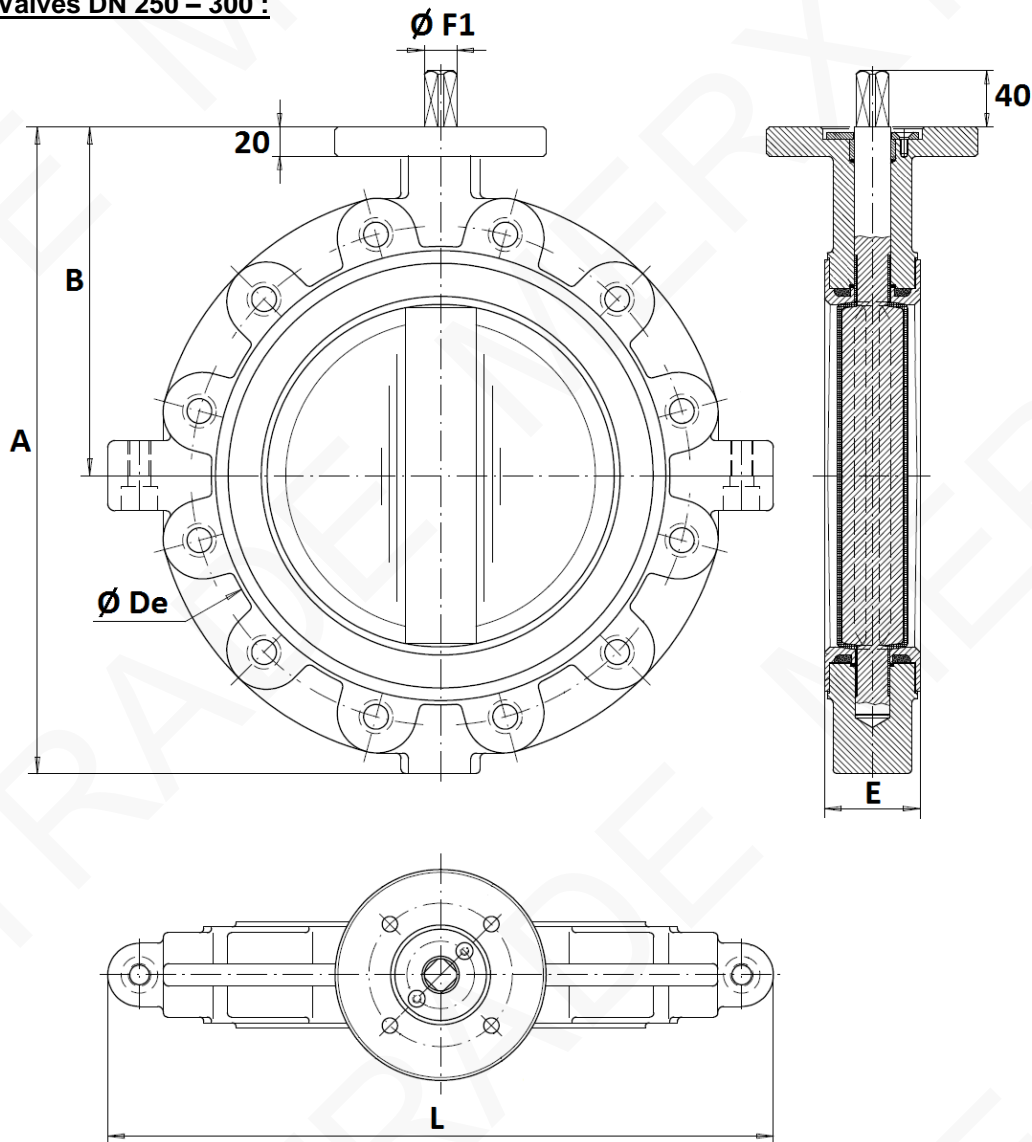


DN	80	100	125	150	200
A	257	288	325	346	437
B	167	184	207	215	257
Ø De	134	153	185	208	270
E	47	52	56	56	60
Ø F1	16	16	18	18	22
Ø F2	14	14	17	17	21
Weight (Kg)	6.5	8	11	13	22

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves DN 250 – 300 :

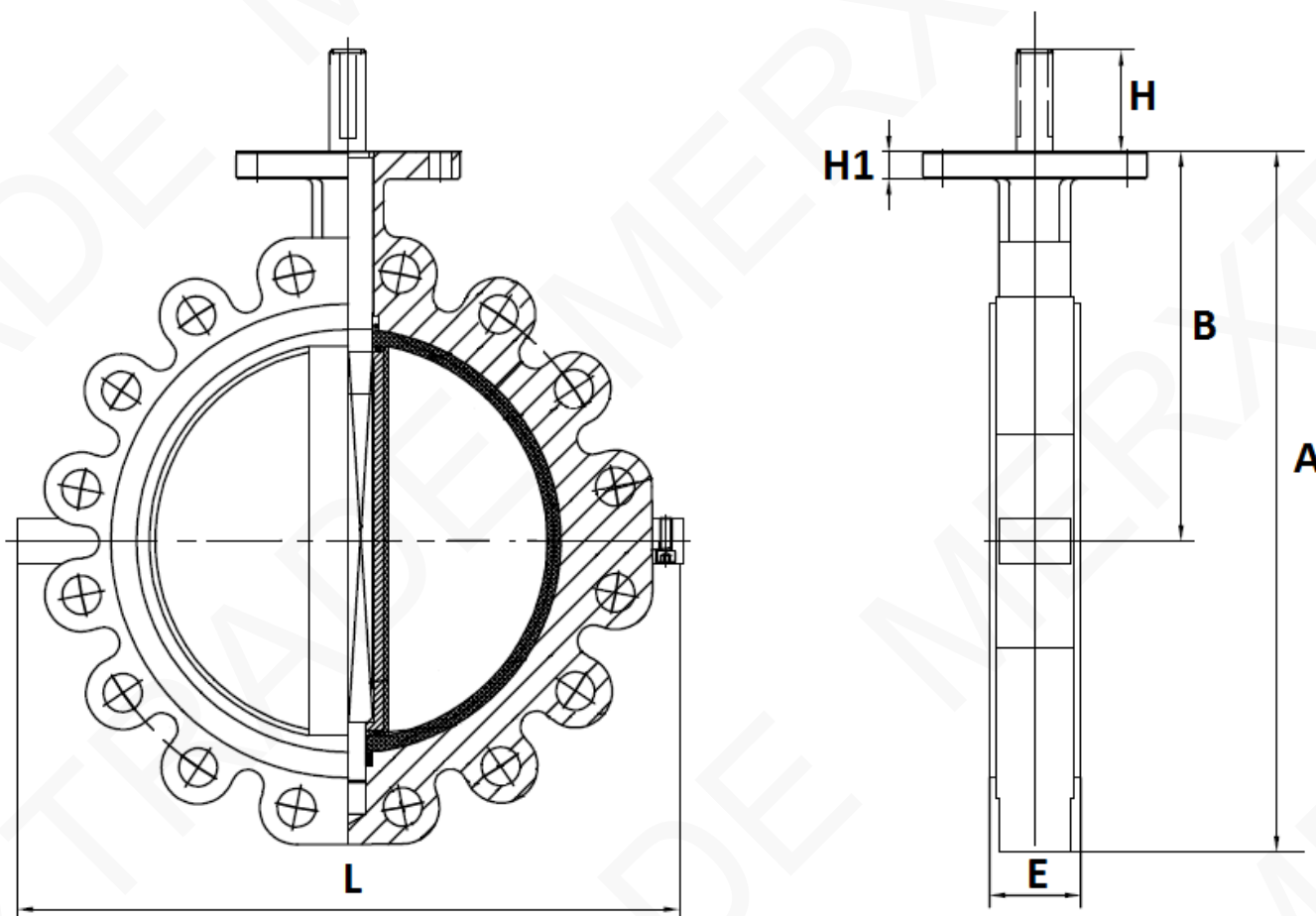


DN	250	300
A	448	514
B	248	280
Ø De	320	373
E	68	78
Ø F1	23	26.5
L	474	548
Weight (Kg)	37	58

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

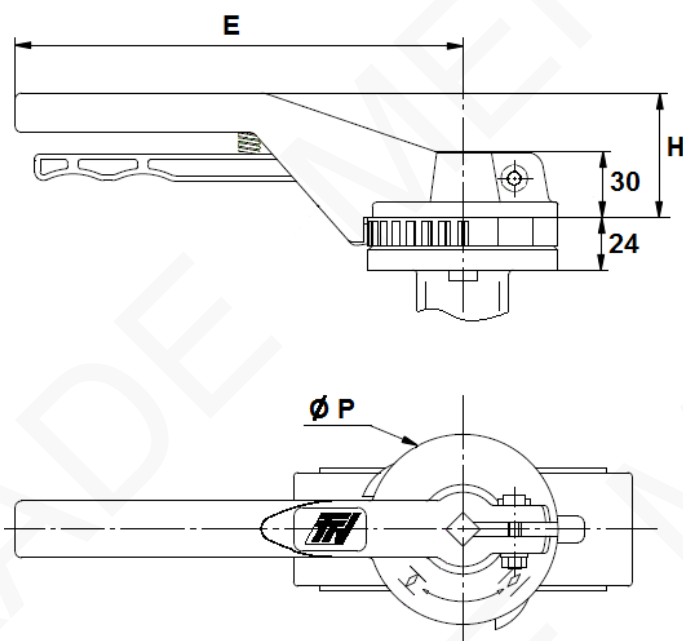
- Valves DN 350 – 400 :



DN	350	400
A	601	689
B	341	390
E	78	102
H	80	80
H1	24	26
L	466	494
Weight (Kg)	82.5	125.5

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

LEVERS SIZE DN 32 - 200 (in mm) :

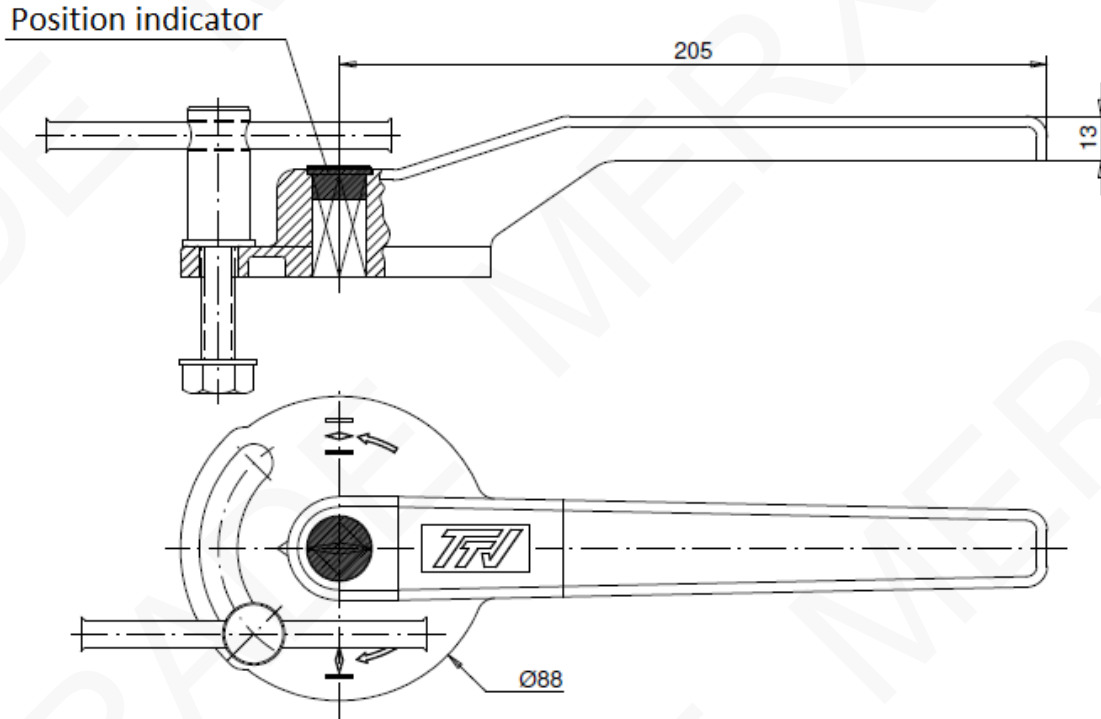


DN	32-100	125-200
E	205	330
H	57	70
Ø P	88	105

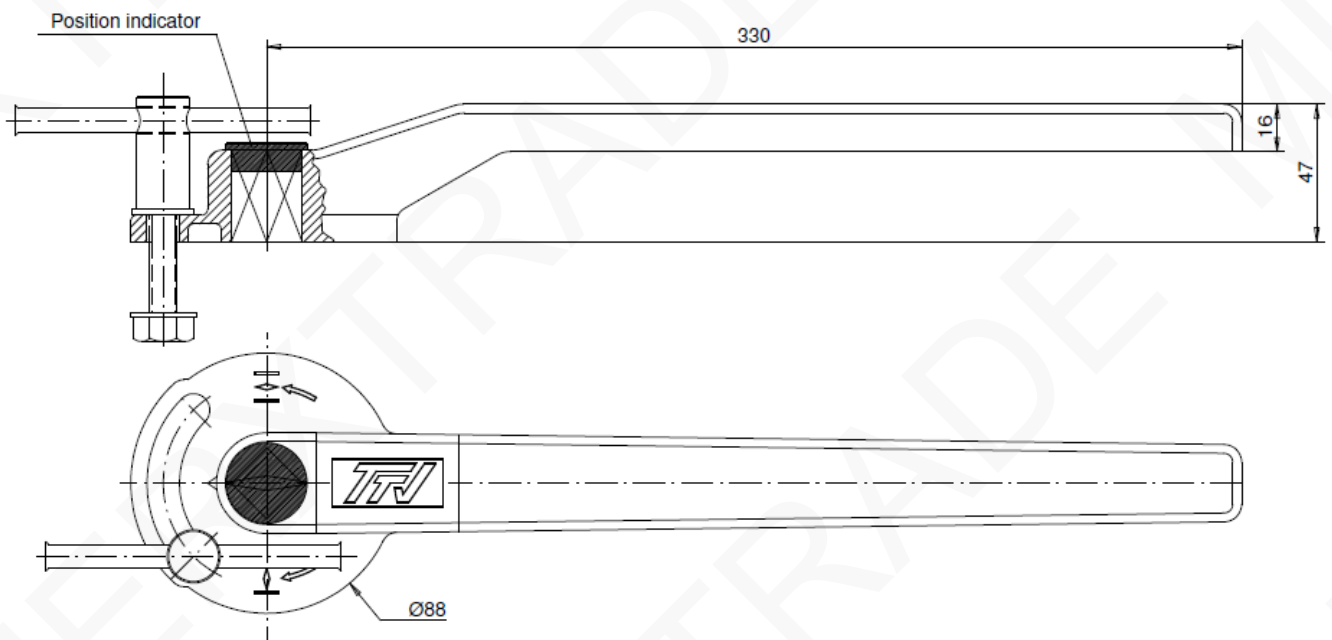
PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

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

DN 40 - 100



DN 125 - 200

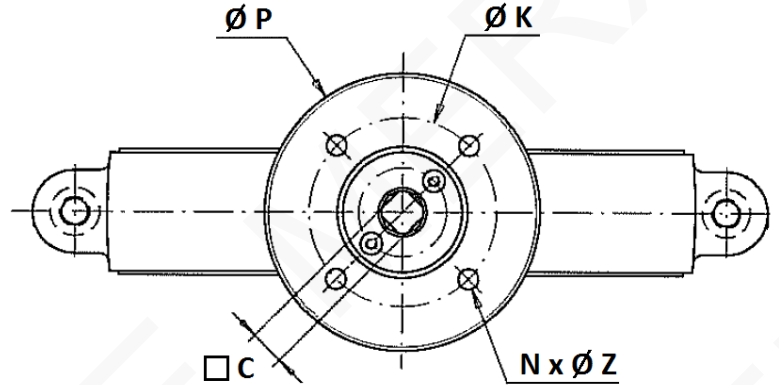
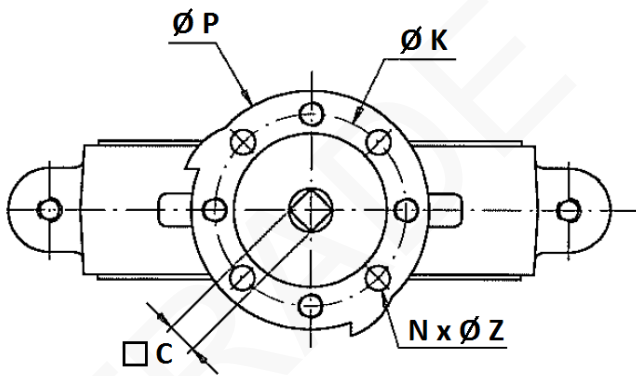
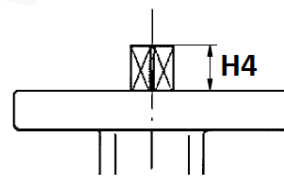
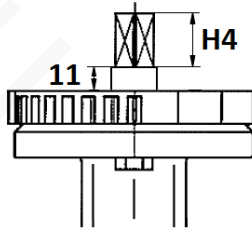


PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

ISO PLATE AND STEM SIZE (in mm):

DN 40 - 200

DN 250 – 300

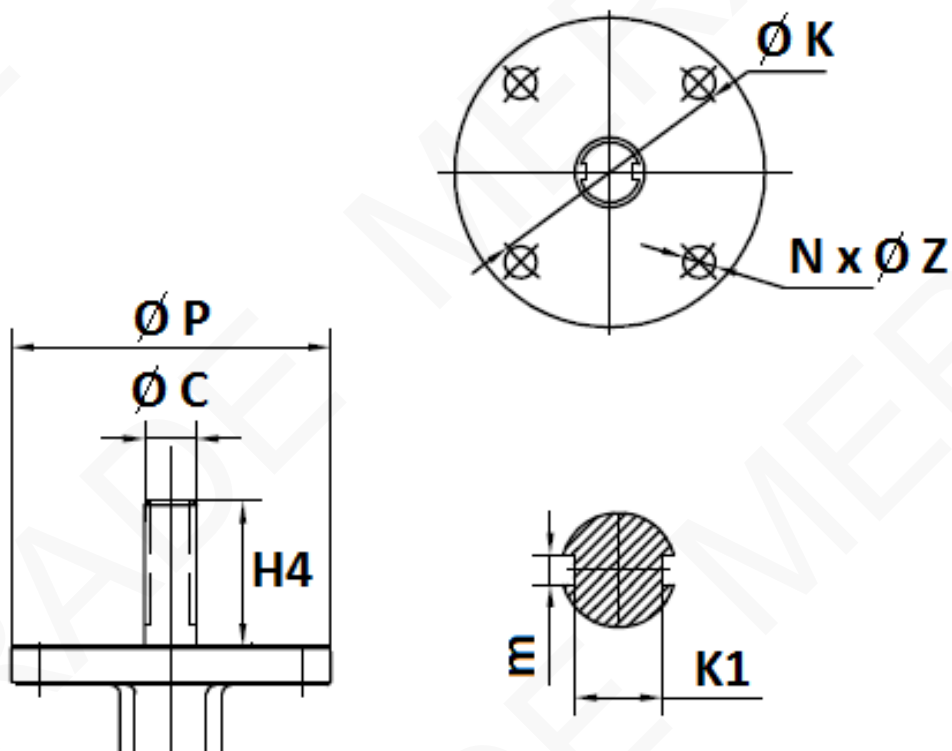


DN	32/40	50	65	80	100	125	150	200	250	300
H4	19	19	19	19	19	19	19	19	40	40
C	8	8	9	11	11	14	14	17	19	22
Ø K	70	70	70	70	70	70	70	70	102	102
ISO	F07	F07	F07	F07	F07	F07	F07	F07	F10	F10
N x Ø Z	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 11	4 x 11
Ø P	88	88	88	88	88	105	105	105	150	150

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

ISO PLATE AND STEM SIZE (in mm):

DN 350 – 400

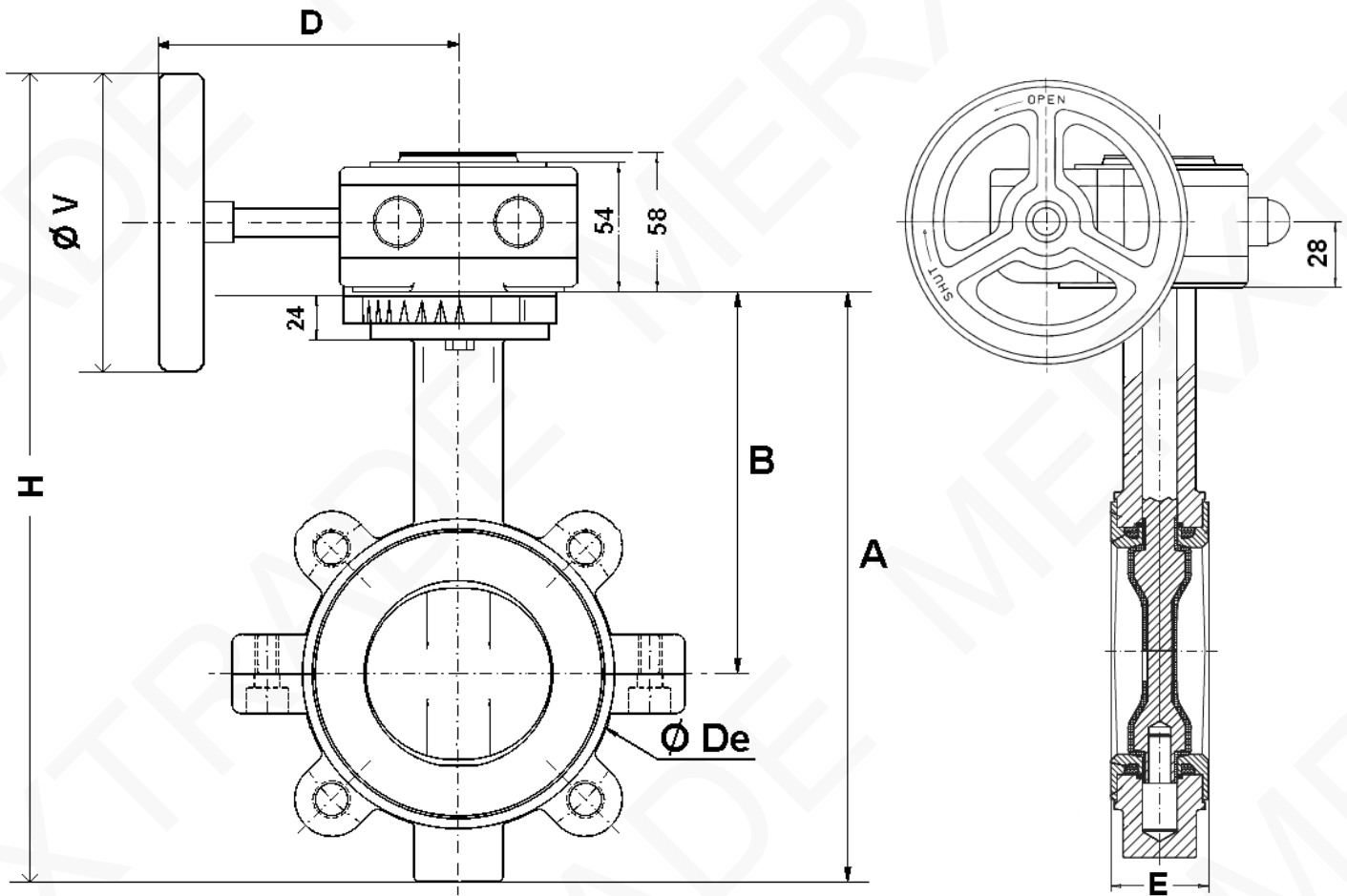


DN	350	400
H4	80	80
Ø C	37.9	37.9
Ø K	140	140
ISO	F14	F14
N x Ø Z	4 x 18	4 x 18
Ø P	210	175
m	10	10
K1	28.1	28.1

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves with gear box DN 40 - 65 :

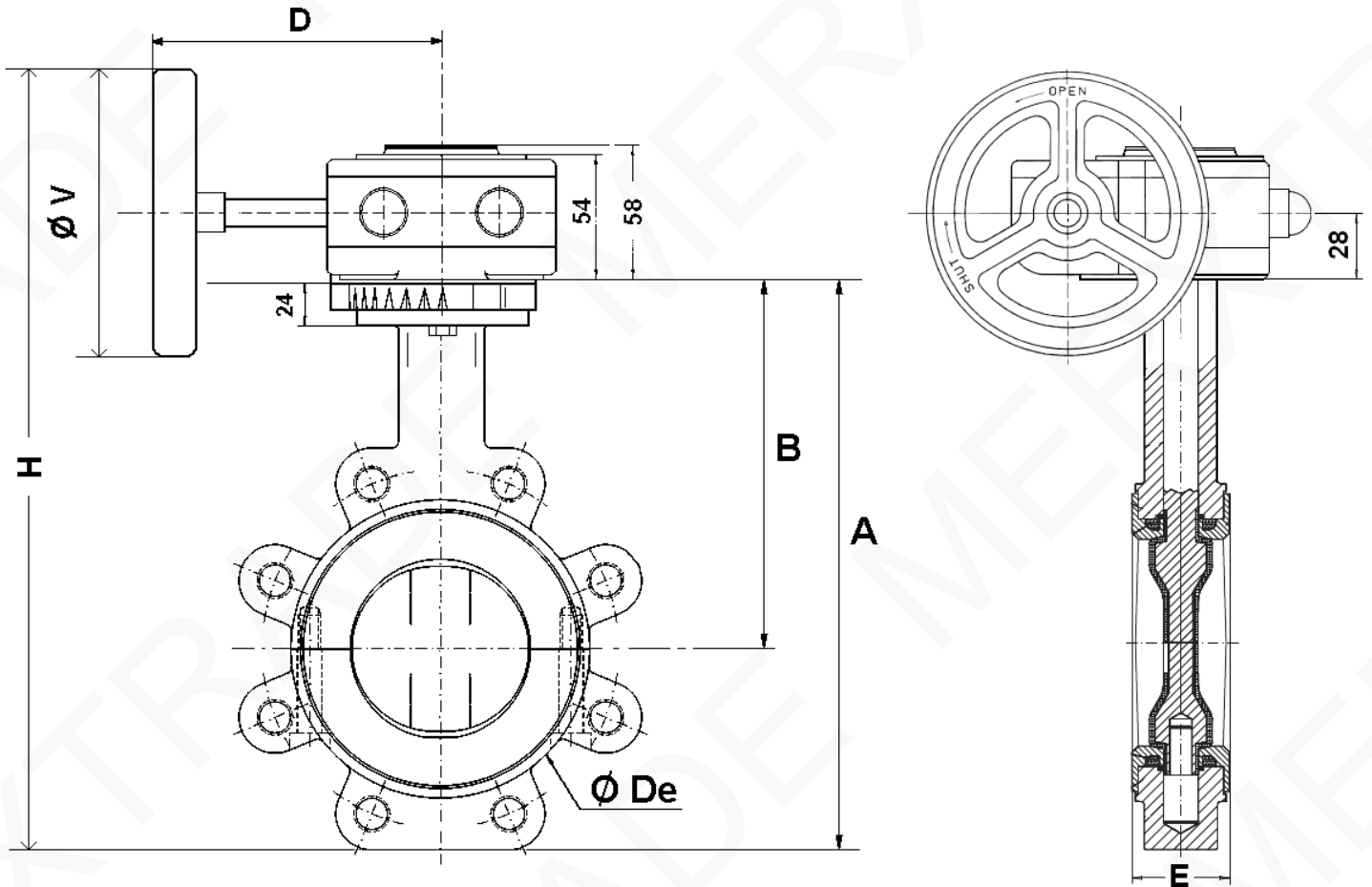


DN	40	50	65
A	205	226	242
B	140	156	161
Ø De	82	103	116
D	120	120	120
E	33	43	46
H	304	326	341
Ø V	140	140	140
Weight (Kg)	4.35	5.35	6.35

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves with gear box DN 80 - 200 :

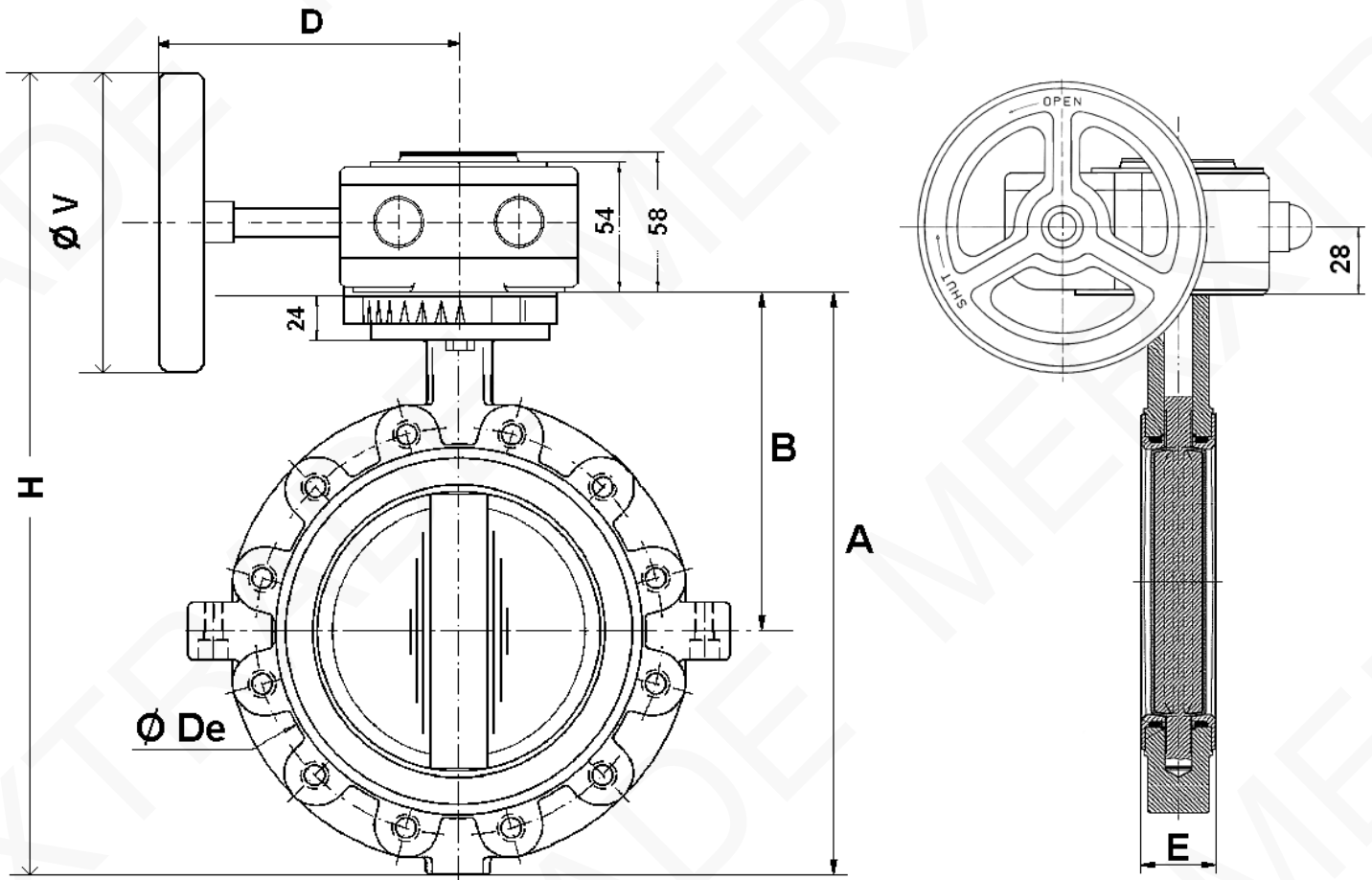


DN	80	100	125	150	200
A	257	288	325	346	437
B	167	184	207	215	257
Ø De	134	153	185	208	270
D	120	120	136	136	136
E	47	52	56	56	60
H	364	392	452	477	566
Ø V	140	140	200	200	200
Weight (Kg)	7.85	9.35	12.75	14.75	23.75

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves with gear box DN 250 - 300 :

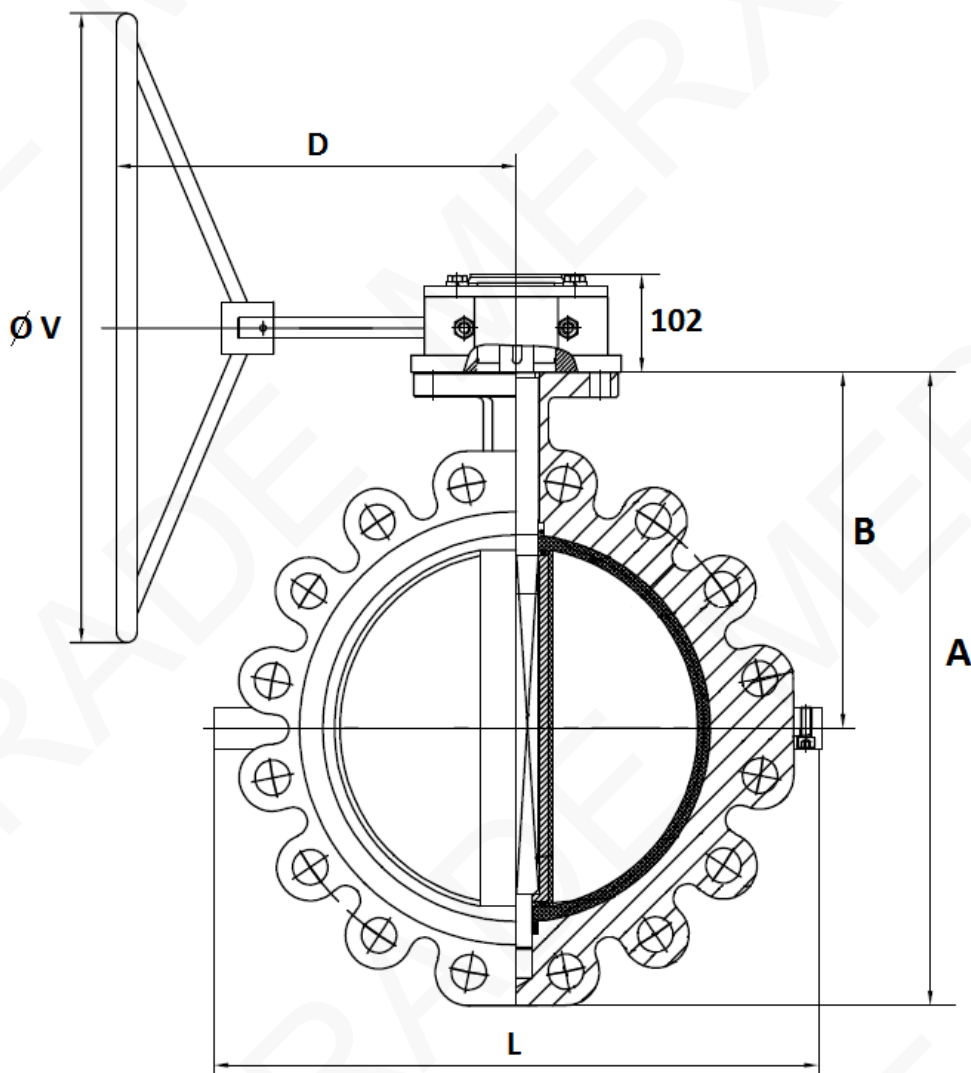


DN	250	300
A	448	514
B	248	280
Ø De	320	373
D	223	223
E	68	78
H	634	701
Ø V	300	300
Weight (Kg)	41	62

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves with gear box DN 350 - 400 :

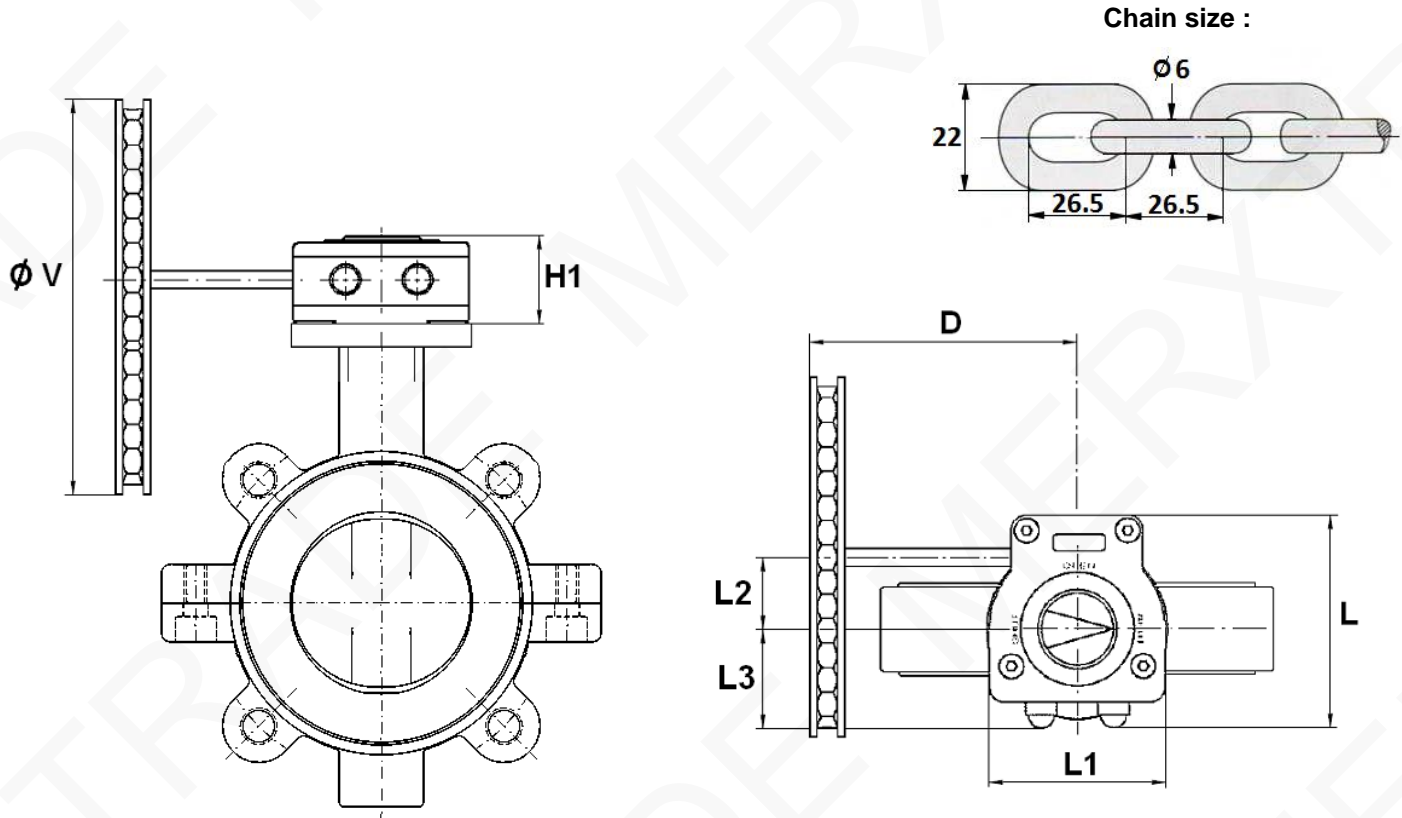


DN	350	400
A	601	689
B	341	390
D	402	402
L	466	494
Ø V	600	600
Weight (Kg)	92	135

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves with chain gear box DN 40 – 65 :

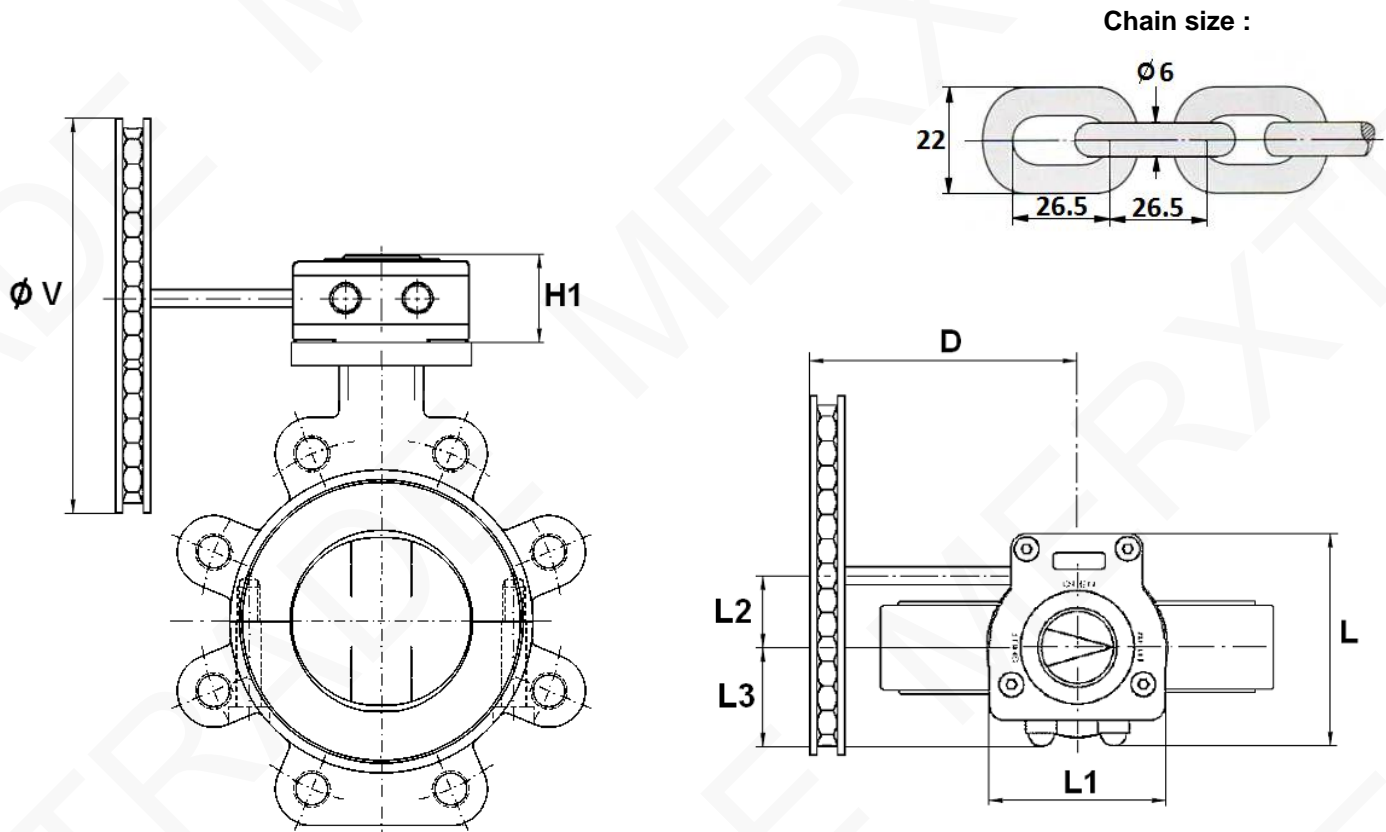


DN	40	50	65
D	120	120	120
H1	58	58	58
L	128	128	128
L1	100	100	100
L2	50	50	50
L3	56	56	56
ϕV	160	160	160
Weight (Kg)	5.35	6.35	7.35

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- **Valves with chain gear box DN 80 – 200 :**

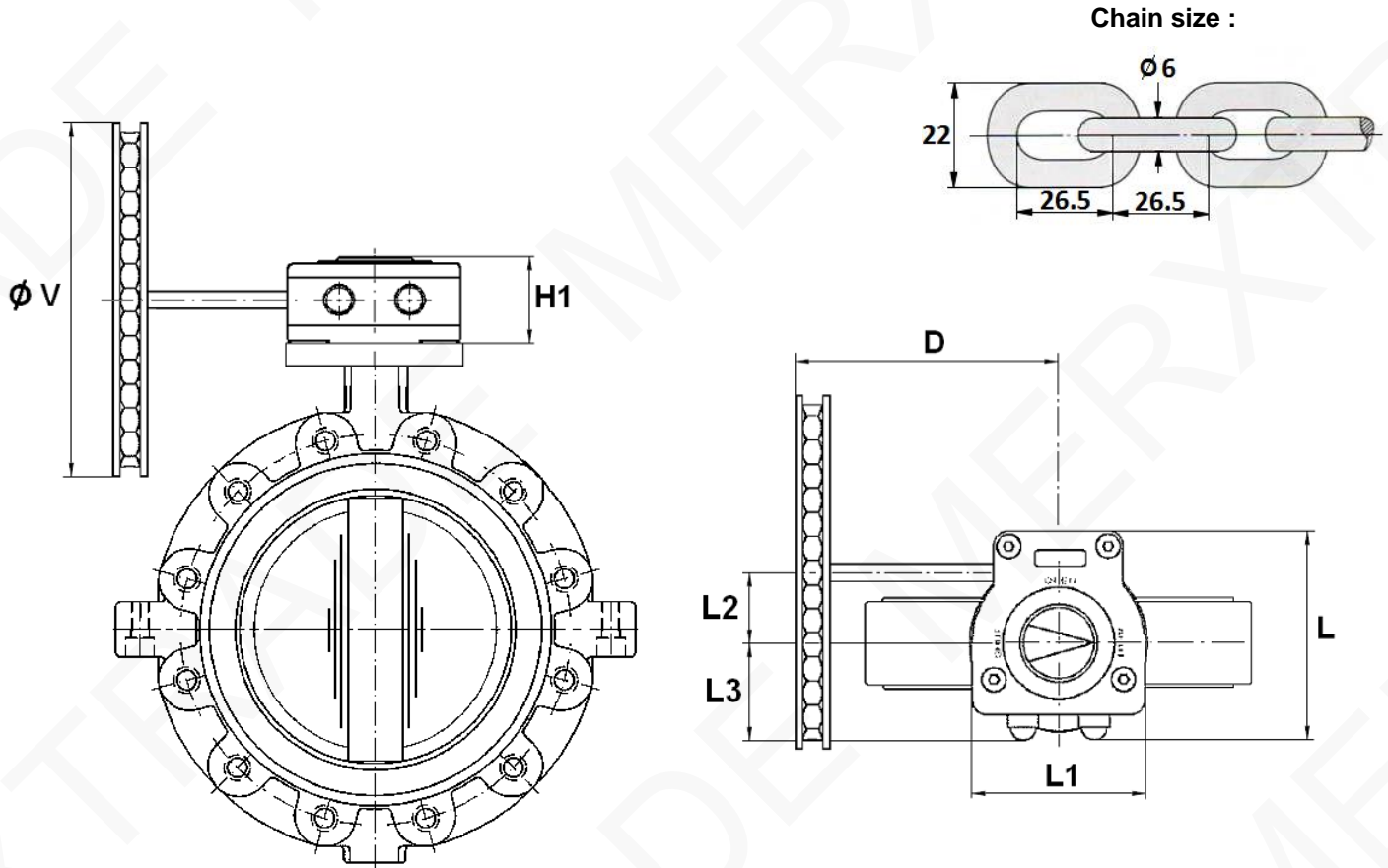


DN	80	100	125	150	200
D	120	120	126	126	126
H1	58	58	58	58	58
L	128	128	128	128	128
L1	100	100	100	100	100
L2	50	50	50	50	50
L3	56	56	56	56	56
Ø V	160	160	210	210	210
Weight (Kg)	8.85	10.35	13.75	15.75	24.75

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

- Valves with chain gear box DN 250 – 300 :



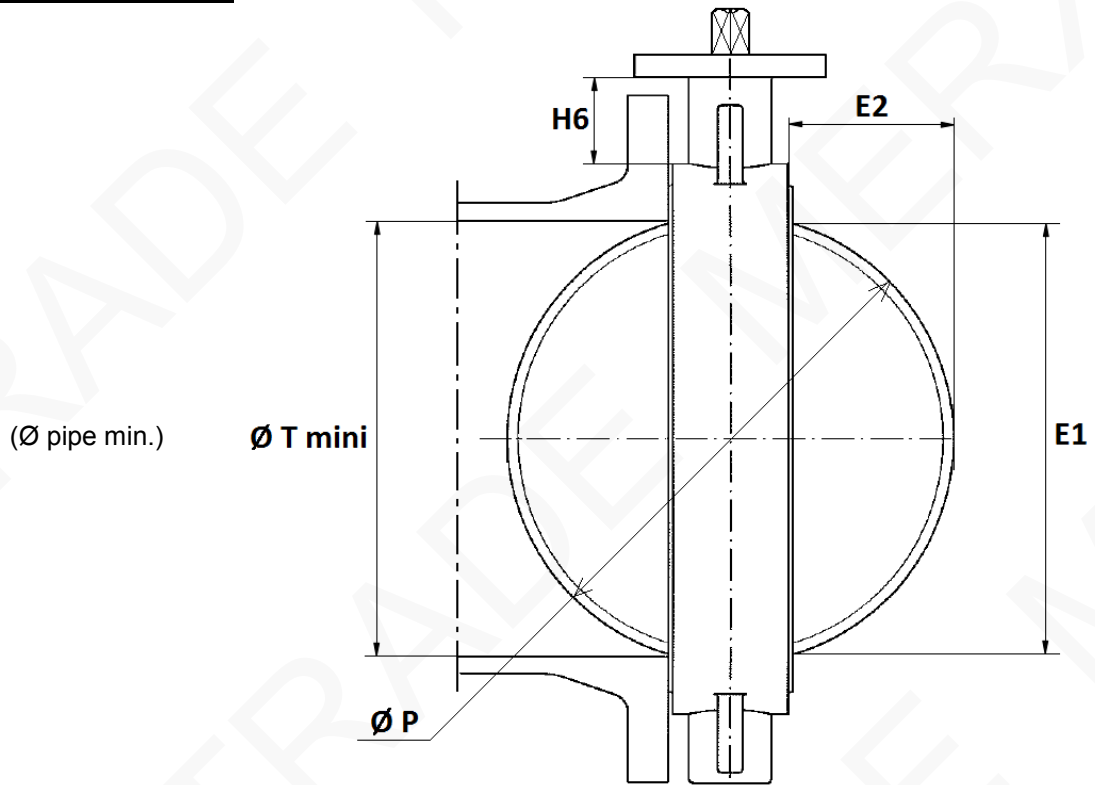
DN	250	300
D	214	214
H1	74	74
L	175	175
L1	142	142
L2	61	61
L3	80	80
Ø V	300	300
Weight (Kg)	43.8	64.8

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

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) :

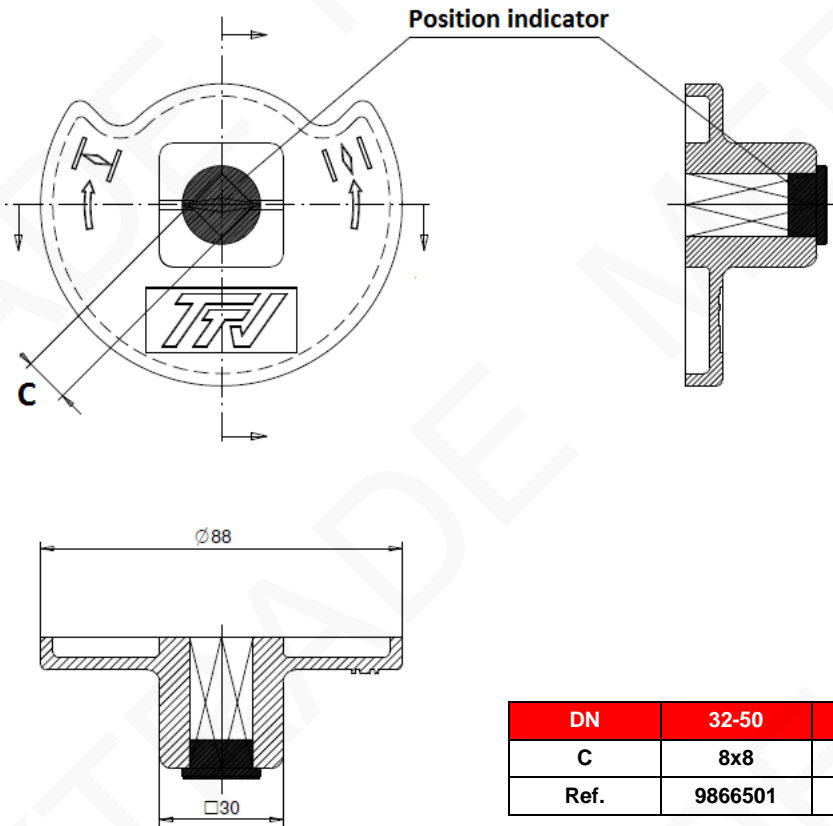


DN	32/40	50	65	80	100	125	150	200	250	300	350	400
E1	23	24.5	46	65	85	109	136	188	238	289	331	385
E2	3.5	3.5	9.5	17	24	33.5	45.5	69	90	110.5	131	148
H6	76	82	80	80	88	93	89	99	71	76	69	80
Ø T mini	26	27.5	49	68	88	112	139	191	241	292	334	388
Ø P	40	50	65	80	100	123	147	198	248	299	340	398

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

SIZE (in mm) :

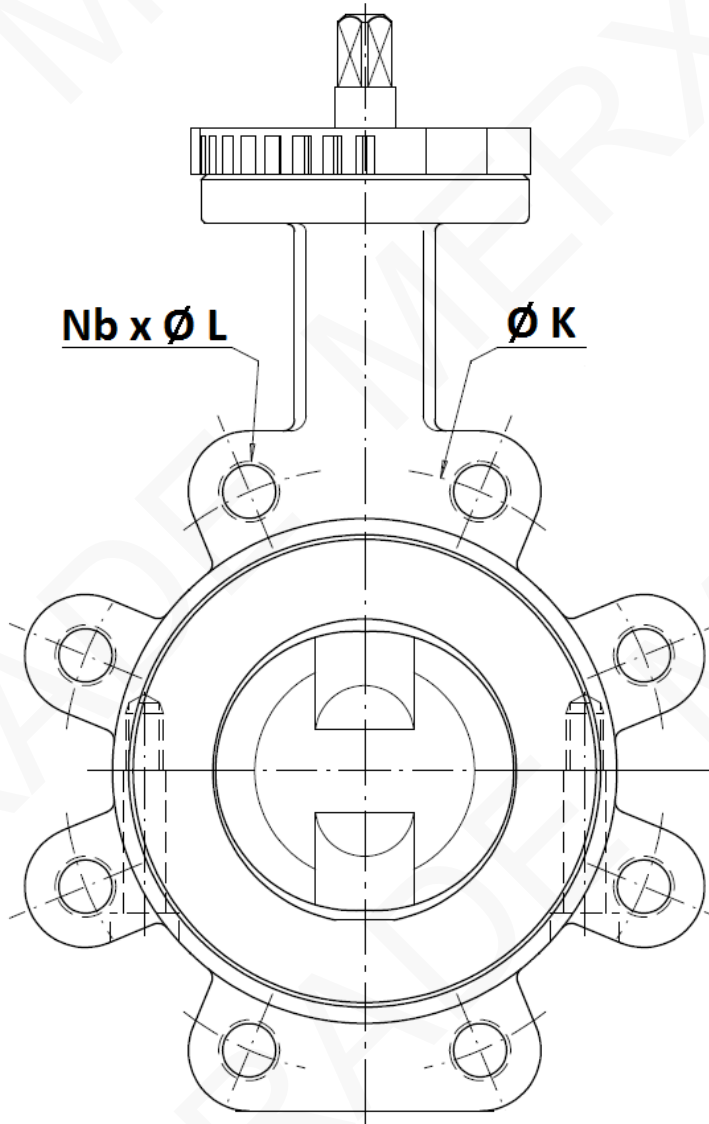
- Square lever for special key (30x30 mm) :



DN	32-50	65	80-100	125-150	200
C	8x8	9x9	11x11	14x14	17x17
Ref.	9866501	9866502	9866503	9866504	9866505

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

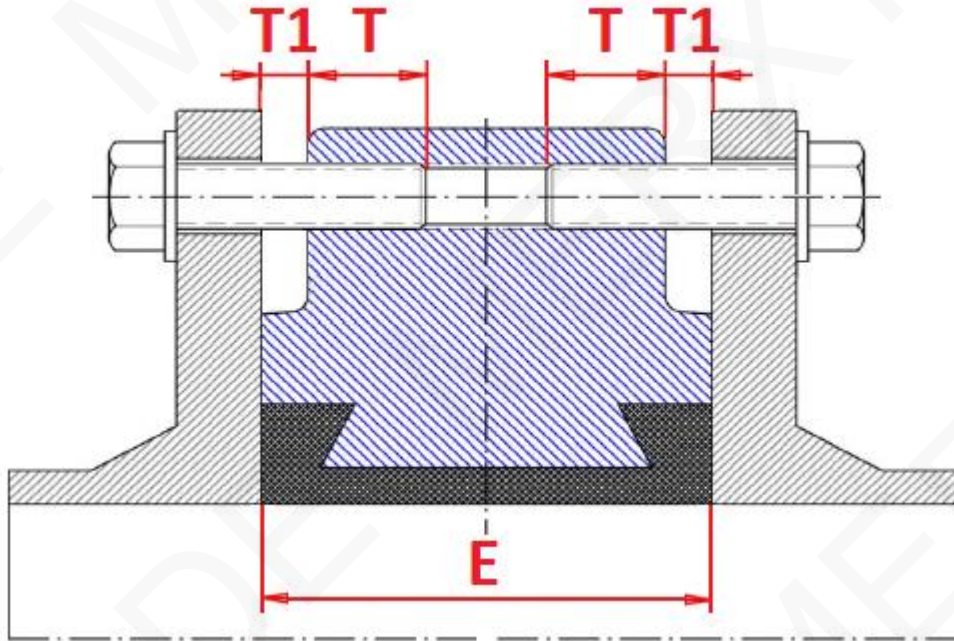
BETWEEN FLANGES SIZE (in mm):



	DN (mm)	32	40	50	65	80	100	125	150	200	250	300	350	400
	NPS (")	1"1/4	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"	10"	12"	14"	16"
PN10	Ø K	100	110	125	145	160	180	210	240	295	350	400	460	515
	Nb x Ø L	4 x M16				8 x M16			8 x M20		12 x M20		16x M20	16x M24
PN16	Ø K	100	110	125	145	160	180	210	240	295	355	410	470	525
	Nb x Ø L	4 x M16				8 x M16			8xM20	12xM20	12 x M24		16x M24	16x M27
Class 150	Ø K	88.9	98.5	120.6	139.7	152.4	190.5	215.9	241.3	298.5	362	431.8	476.3	539.8
	Nb x Ø L	4 x 1/2"		4 x 5/8"			8x5/8"	8 x 3/4"			12 x 7/8"		12 x 1"	16 x 1"

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

DEPTH THREADED HOLES (in mm) :



DN	PN10	PN16	Class 150 (PN20)	PN10, PN16 and CLASS 150	
	T	T	T	T1	E
32	13.5	13.5	13.6	2.5	33
40	13.5	13.5	12	2.5	33
50	14.5	14.5	13.5	2.5	43
65	13.5	13.5	14.3	3.5	46
80	16	16	17.2	4	46
100	17.5	17.5	18.7	2.5	52
125	20	20	23.2	3	56
150	20	20	21.6	3	56
200	23	23	23.4	3	60
250	26.5	26.5	27.3	2.5	68
300	31	29	30.3	3	78
350	37	33	33.1	2	78
400	41.5	35.5	41	2.5	102
450	37.5	41.5	45.8	4.5	114
500	38.5	47.5	43.6	3.5	127
600	38	50	38.4	4	154

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

STANDARDS :

- Fabrication according to ISO 9001:2015
- 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
- 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 Wafer short/medium, DIN 3202 part 3, series K1
- ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 & 22 (optional marking)
- **FDA PTFE seat**
- PTFE seat compatible with foodstuffs according to the rule **CE 1935/2004 (article 3)**

ADVICE : Our opinion and our advice are not guaranteed and MXT shall not be liable for the consequences of damages. The customer must check the right choice of the products with the real service conditions.

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

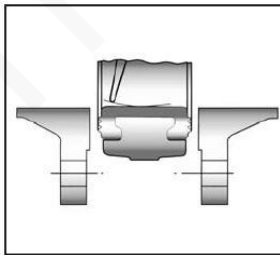
INSTALLATION INSTRUCTIONS

GENERAL GUIDELINES :

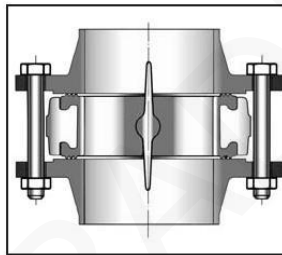
- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid, pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves 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).**

INSTALLATION INSTRUCTIONS :

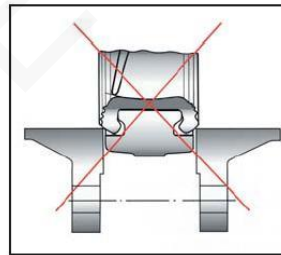
- **Before installing the valves, clean and remove any objects from the pipes** (in particular bits of sealing and metal) which could obstruct and block the valves.
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned (if they're not, the valves may not 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



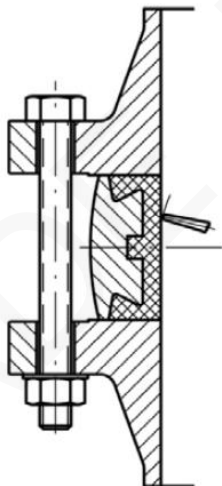
Complete opened disc valves when screw tightening



- 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 EN 12266-1.
- 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)**

PTFE LUG BUTTERFLY VALVE EXCELLENCE RANGE

MAXIMUM TIGHTENING TORQUES FOR BOLTING FLANGES :



		Maximum torques (Nm)			
		Bolting types	5,6 / A307 Gr.B	8,8 / A193 B7	10,9
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

BEST POSITION INSTALLATION :

For wastewater, fluids with solid particles or cold network (air conditioning for example), the best position is the horizontal one :



- For an installation in ATEX area, check the conductivity between the valve, the upstream pipe and the downstream pipe and make sure the pipe is connected to the earth.

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.