

**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**

Carbon steel double offset butterfly valve wafer PN25 for steam, heating, geothermics, industrial cold, shipbuilding and petrochemical.

PTFE filled with 15% graphite packing and seat for a temperature up to +210°C.

Compatible with explosive atmosphere, ATEX Zone 1&21 and Zone 2&22.

Handle up to DN150, gearbox over.

Thanks to the ISO 5211 plate, an actuator can be installed directly on the valve.



**Certificate**  
**3.1**



**Size :** DN50 to DN300

**Connection :** Between flanges PN25

**Min Temperature :** -29°C

**Max Temperature :** +210°C

**Max Pressure :** 25 Bars

**Specifications :** Full crossing stem

ISO 5211 mounting pad

Wafer type

ATEX

100% tightness

**Materials :** Carbon steel ASTM A216 WCB

**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**

**SPECIFICATIONS :**

- 100% tightness
- Wafer type
- Between PN25 flanges
- Double offset
- Bidirectional with preferential flow direction indicated by the arrow
- ISO 5211 mounting pad
- Stainless steel CF8M disc
- Full crossing stem
- 10 positions ductile iron handle, with locking device up to DN150
- Gear box from DN 200 to DN300
- Inorganic zinc rich primer, gray color, 10 µm thickness
- Finish painting heat resisting aluminum Silver color RAL 1504, 30 µm thickness
- Ductile iron EN GJS-400-15 handle with silver painting RAL 9006 color

**USE :**

- Heating, geothermics, industrial cold, shipbuilding, petrochemical
- Steam : 10 bars maximum
- Min and max Temperature Ts : - 29°C to + 210°C
- Max Pressure Ps : 25 bars ( see graph )
- Vacuum 10<sup>-3</sup> torr but need to disassemble the packing and returning the Chevron V rings (face to the bottom)
- When using at dead end of pipeline, reverse preferential flow direction

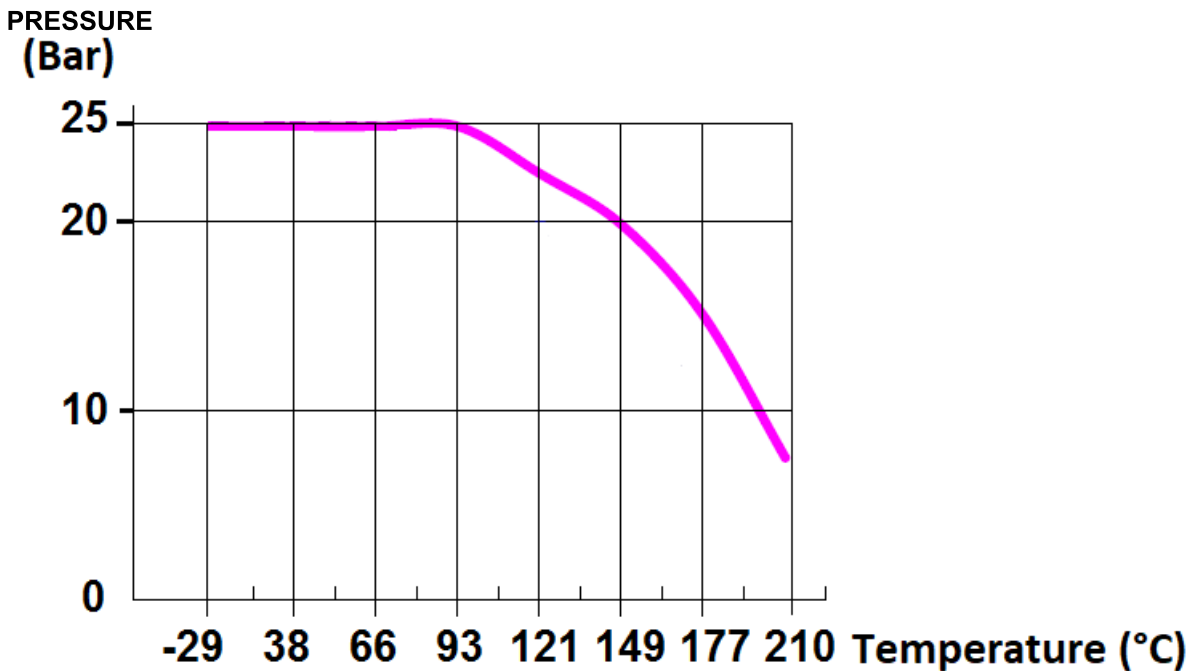
**RANGE :**

- Wafer type with carbon steel body, and handle **Ref. 1110** DN 50 to DN 150
- Wafer type with carbon steel body, and gear box **Ref. 1110** DN 200 to DN 300
- Gear box **Ref. 1193** from DN 50 to DN 300

**CONNECTION :**

- Between PN25

**PRESSURE / TEMPERATURE GRAPH :**



CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25

**TORQUE VALUE ( in Nm with safety coefficient of 30 % included ) :**

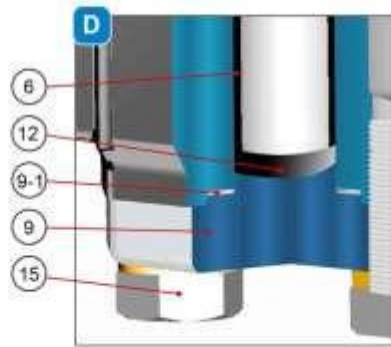
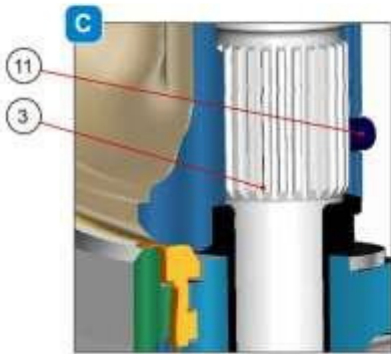
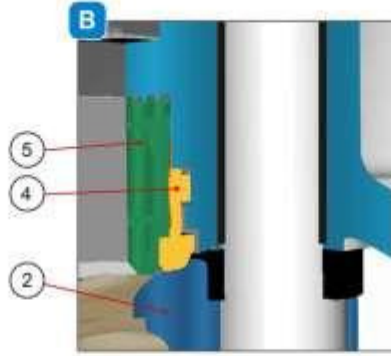
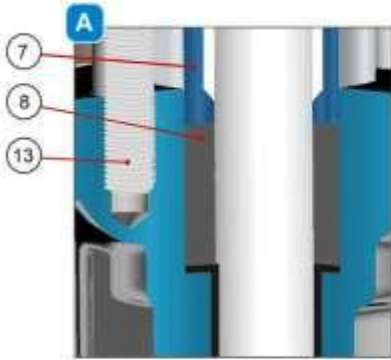
DN	50	65	80	100	125	150	200	250	300
Torque ( Nm ) at 0 Bar	13	19	26	35	51	62	89	150	196
Torque ( Nm ) at 5 Bar	15	22	29	41	64	83	114	211	294
Torque ( Nm ) at 10 Bar	17	29	37	51	76	103	147	261	374
Torque ( Nm ) at 15 Bar	20	35	44	61	89	118	166	309	539
Torque ( Nm ) at 20 Bar	22	41	51	77	105	147	204	394	625
Torque ( Nm ) at 25 Bar	25	51	59	85	127	176	242	489	828

**MAX TORQUE MAST ( in Nm ) :**

DN	50	65	80	100	125	150	200	250	300
MAST	163		324		647		906	1295	2589

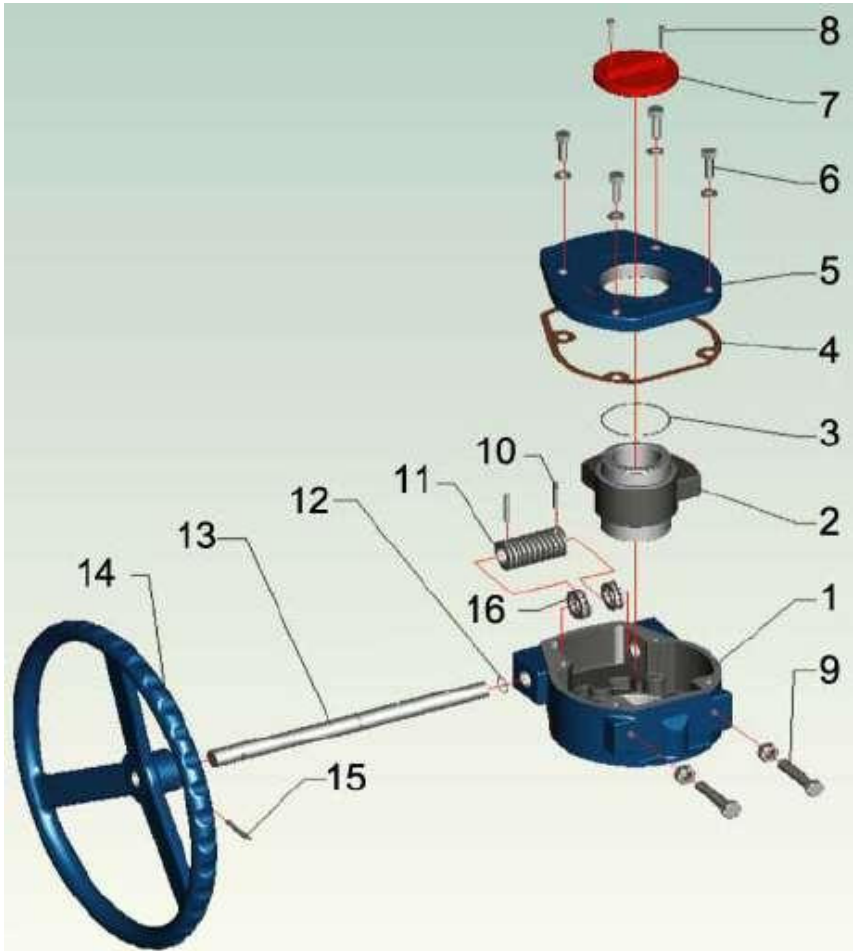
**FLOW COEFFICIENT Kv ( m3 / h ) :**

DN	Percent of Rated Travel									
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	3,5	11,2	22,5	33,7	62,3	109,0	132,3	176,4	201,5	138,4
65	6,1	19,9	38,9	57,1	105,5	185,1	223,1	298,4	339,9	224,0
80	8,6	29,4	58,8	87,4	160,0	280,2	338,2	452,3	515,5	344,2
100	9,5	35,5	62,3	95,1	185,1	324,3	359,8	467,9	497,3	530,2
125	14,7	45,8	91,7	135,8	250,8	437,6	528,4	705,7	805,2	847,6
150	20,8	66,6	131,5	195,5	360,7	629,6	761,1	1017,1	1158,9	1189,2
200	36,3	118,5	234,4	347,7	472,2	661,6	851,0	1126,9	1254,1	1513,5
250	108,1	263,8	425,5	504,2	798,3	1089,7	1427,1	1781,7	2110,3	2306,6
300	147,0	358,9	578,6	834,6	1124,3	1517,9	2645,7	2987,3	3328,9	3776,1

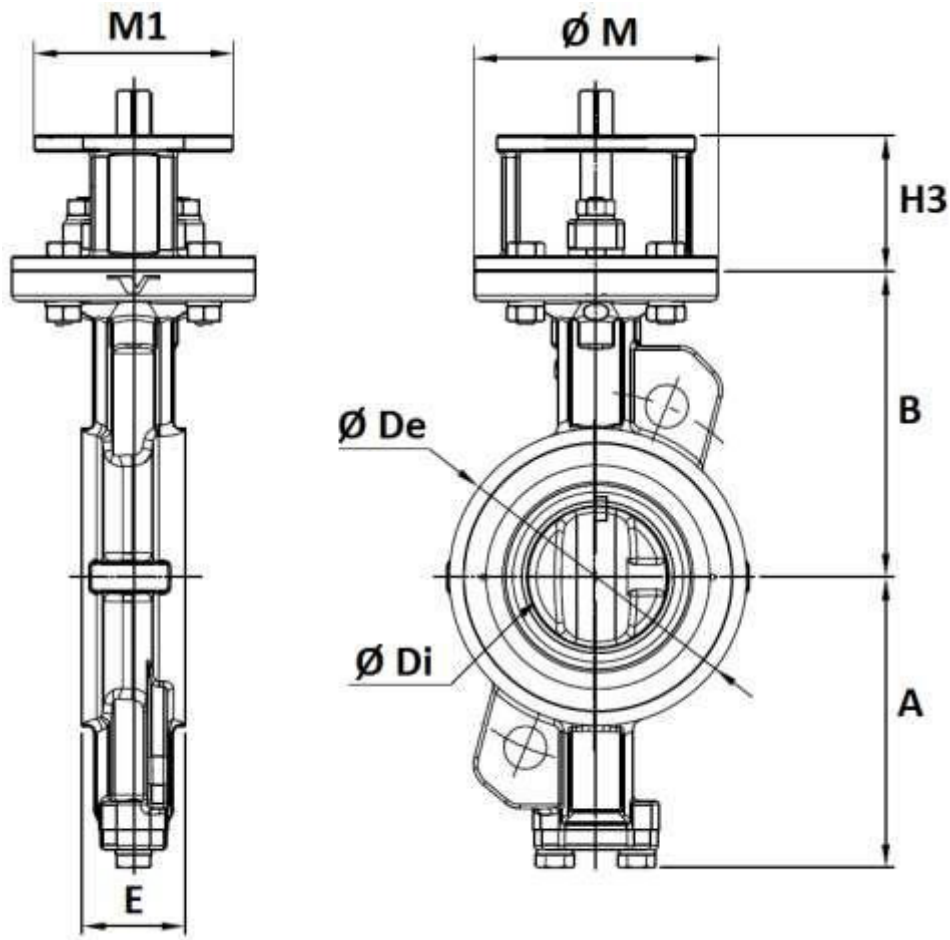
**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**
**MATERIALS VALVES :**


Item	Designation	Materials
1	Body	ASTM A216 WCB
2	Disc	ASTM A351 CF8M
3	Shaft	ASTM A564 630
4*	Seat	PTFE filled with 15% graphite
5	Retainer	ASTM A351 CF8
6*	Bushing	PTFE + AISI 316
7	Gland	ASTM A351 CF8
8*	Gland packing	PTFE filled with 15% graphite
9	Bottom cover	ASTM A216 WCB
9-1*	Bottom cover gasket	PTFE filled with 15% graphite
10	Yoke	ASTM A216 WCB
11*	Stop stud	ASTM A193 Gr. B8M
12*	Lock plate	PTFE filled with 15% graphite + AISI 316
13	Stud	ASTM A193 Gr. B8
14	Nut	ASTM A194 Gr. 8
15	Bolt	ASTM A193 Gr. B8

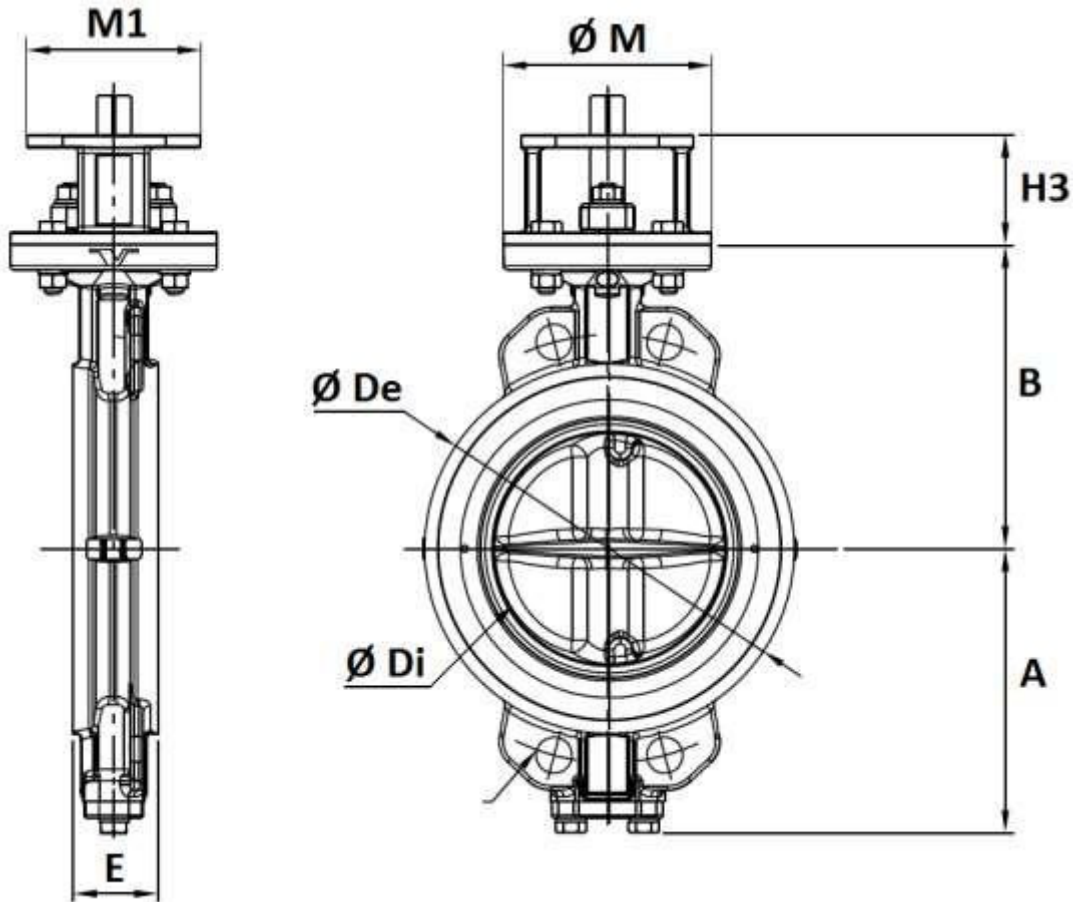
(\* : Included in gaskets kit )

**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**
**MATERIALS GEARBOX DN50 - 300 :**


Item	Designation	Materials
1	Body	Cast iron
2	Worm gear	Ductile iron
3	O ring	NBR
4	Gasket	Paper
5	Cover	Cast iron
6	Screw	Steel
7	Indicator	Cast iron
8	Screw	Steel
9	Stop bolt	Steel
10	Pin	Steel
11	Worm	Steel
12	O ring	NBR
13	Worm shaft	Steel
14	Handwheel	Cast iron
15	Pin	Steel
16	Bearing	Steel

**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**
**VALVE SIZE DN50 - 150 ( in mm ) :**


DN	50	65	80	100	125	150
E	43	46	47	53	57	56
A	99	110	128	150	163	176
B	118	125	140	157	170	185
H3	60	60	70	70	70	70
Ø M	90	90	125	125	125	125
M1	70	70	102	102	102	102
Ø De	92	108	126	153	184	212
Ø Di	37	63	78	95	118	143
Min pipe diameter	49	62	78	93	120	149
Weight (in Kg)	3.9	4.5	7	9	12	13.5
Ref.	1110050	1110065	1110080	1110100	1110125	1110150

**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**
VALVE SIZE DN200 - 300 ( in mm ) :


DN	200	250	300
E	62	68	78
A	206	238	269
B	220	260	290
H3	80	80	100
Ø M	150	150	175
M1	125	125	160
Ø De	268	326	375
Ø Di	187.6	235.5	282
Min pipe diameter	196	243	289
Weight (in Kg)	22	32	48
Ref.	1110200*	1110250*	1110300*

\*Ref with gearbox

**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**

HANDLE SIZE (in ductile iron EN GJS-400-15 with silver painting RAL 9006 color) :

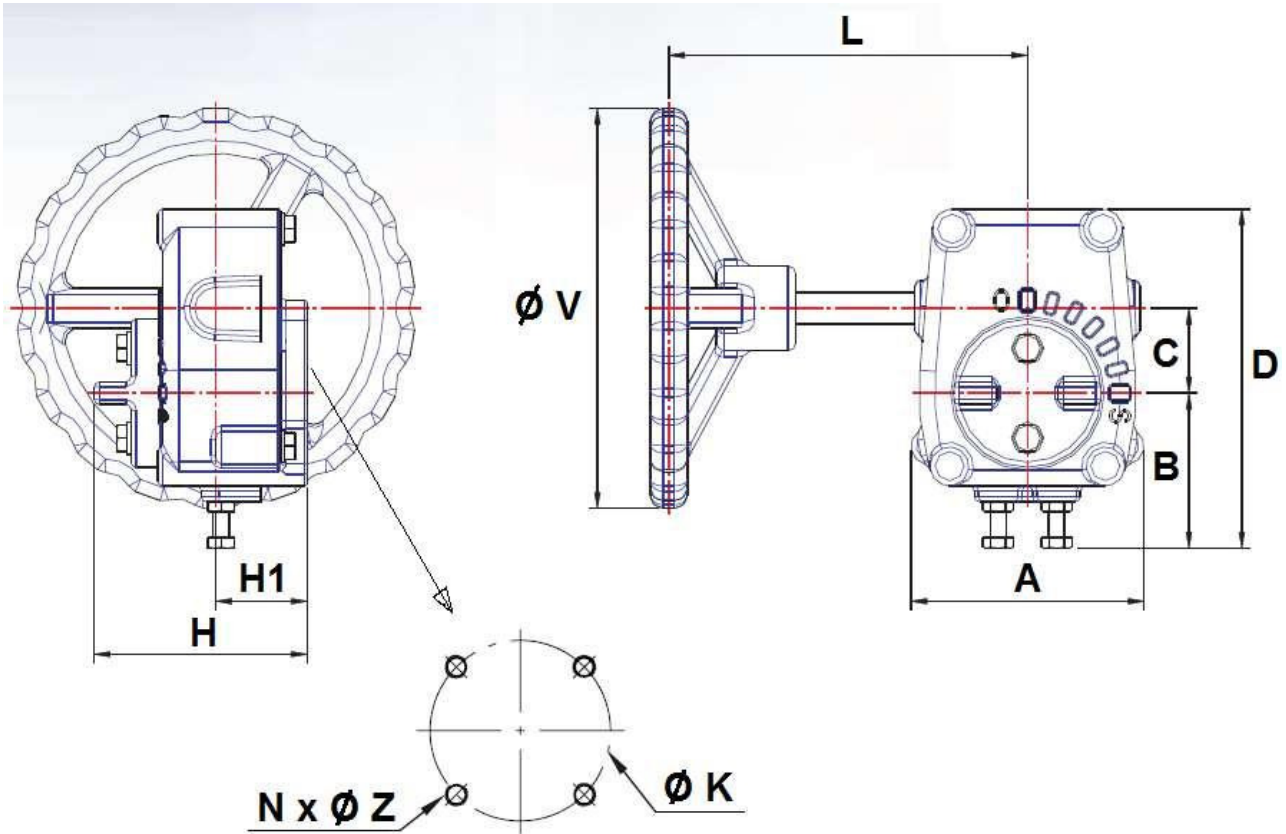


DN	50	65	80	100	125	150
L	200	200	250	250	355	355
Weight (Kg)	0.7	0.7	0.8	0.8	1.6	1.6



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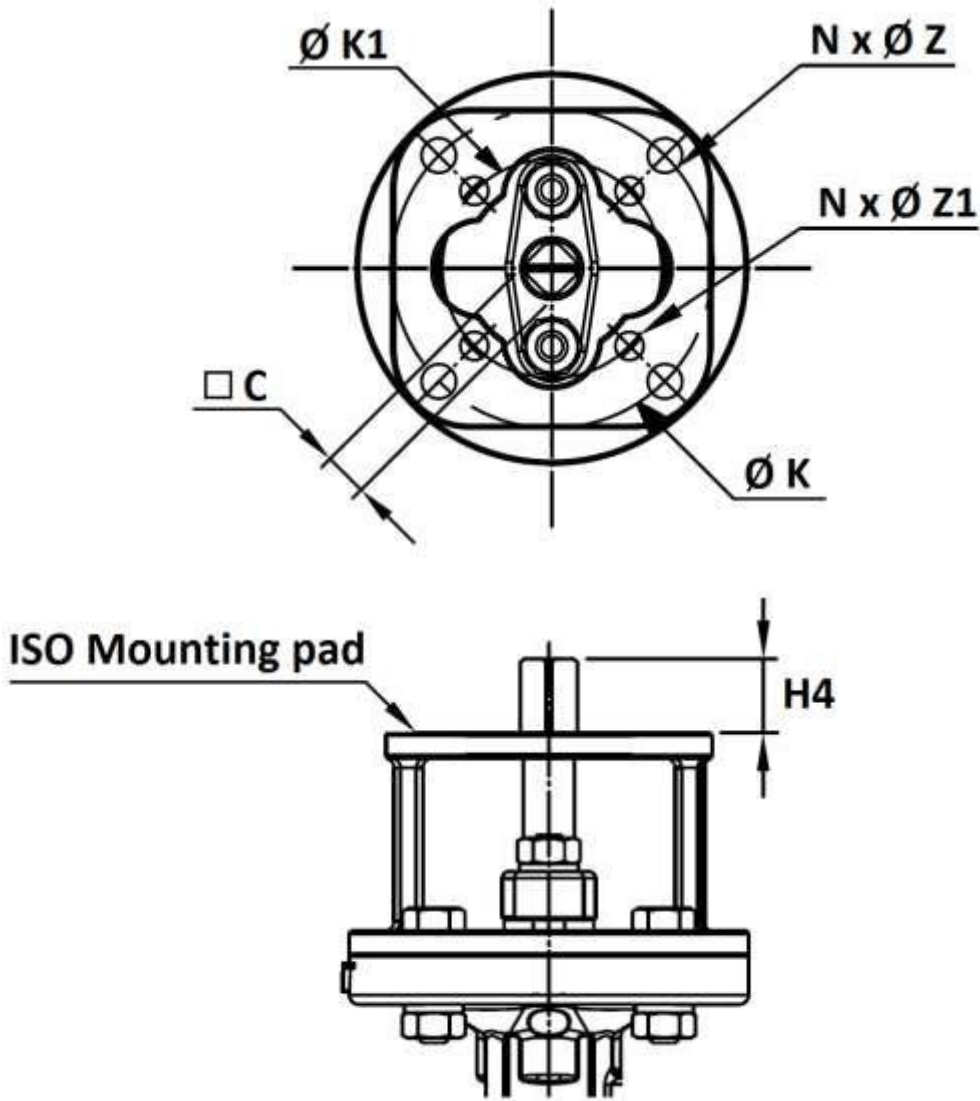
GEARBOX SIZE DN 50-300 :



DN	50-65	80	100	125-150	200	250	300
L	155	155	195	195	258	258	346
A	87	87	117	117	153	153	181
B	49	49	81	81	97	97	102
C	41	41	63	63	61	61	81
D	130	130	176	176	186	186	223
H	81	81	91	91	88	88	117
H1	37	37	41.5	41.5	41	41	52
Ø V	150	150	200	200	310	310	400
Ø K	70	70	102	102	125	125	140
ISO	F07	F07	F10	F10	F12	F12	F14
N x Ø Z	4 x M8	4 x M8	4 x M10	4 x M10	4 x M12	4 x M12	4 x M16
Weight (Kg)	3.3	3.3	7.5	7.5	9	9	22
Ref.	1193001	1193002	1193003	1193004	1193005	1193006	1193007

**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**

ISO MOUNTING PAD AND STEM SIZE ( in mm ) :

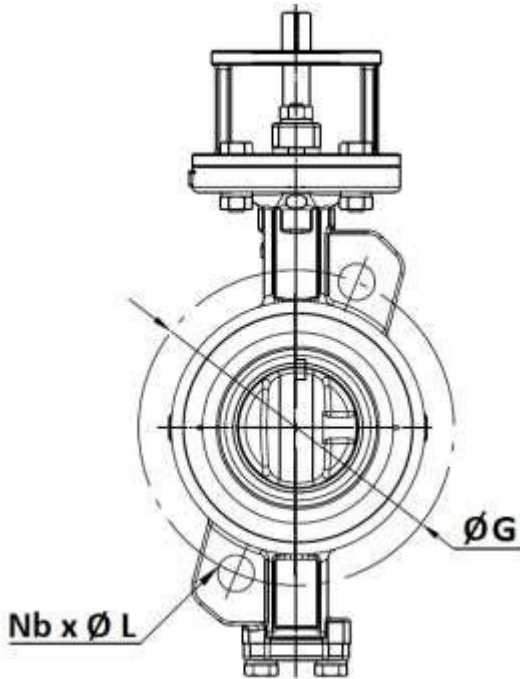


DN	50	65	80	100	125	150	200	250	300
C	11	11	14	14	17	17	19	22	27
H4	18	18	23	23	23	23	28	28	37
$\varnothing K$	70	70	102	102	102	102	125	125	140
ISO	F07	F07	F10	F10	F10	F10	F12	F12	F14
$N \times \varnothing Z$	4 x 8	4 x 8	4 x 10	4 x 10	4 x 10	4 x 10	4 x 12	4 x 12	4 x 16
$\varnothing K1$	50	50	70	70	70	70	102	102	125
ISO1	F05	F05	F07	F07	F07	F07	F10	F10	F12
$N \times \varnothing Z1$	4 x 6	4 x 6	4 x 8	4 x 8	4 x 8	4 x 8	4 x 10	4 x 10	4 x 12

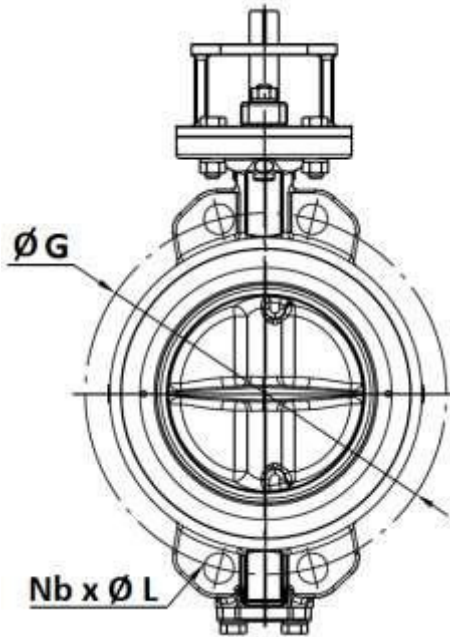
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BETWEEN FLANGES PN25 SIZE ( in mm ) :

**DN 50 – 150**



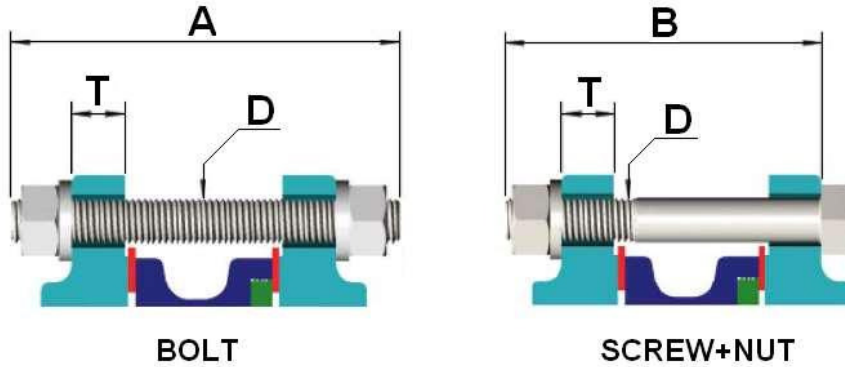
**DN 200 - 300**



DN	50	65	80	100	125	150	200	250	300
Ø G	125	145	160	190	220	250	310	370	430
Nb x ØL	2 x 18	2 x 18	2 x 18	2 x 22	2 x 26	2 x 26	4 x 26	4 x 30	4 x 30
Ref.	1110050	1110065	1110080	1110100	1110125	1110150	1110200	1110250	1110300

CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25

**BOLTING SIZE PN25 ( in mm, not included with valves ) :**



DN	50	65	80	100	125	150	200	250	300
A	130	140	145	160	180	180	190	210	220
B	125	125	130	140	155	155	165	180	195
D	M16	M16	M16	M20	M24	M24	M24	M27	M27
T	22	22	24	24	26	28	30	32	34

**BOLTENING TORQUES :**

Bolting size	Max torque (Nm)
M16	150
M20	270
M22	434
M24	450
M26	650
M27	700

**GEARBOX SPECIFICATIONS :**

DN	50-65	80	100	125-150	200-250	300
Ref.	1193001	1193002	1193003	1193004	-	-
Ratio factor	40 :1	40 :1	36 :1	36 :1	36 :1	52 :1
Number of cycles for opening or closing	10	10	9	9	9	13
Input torque ( Nm )	24.5	24.5	54	54	109	150
Output torque ( Nm )	245	245	490	490	980	1960

**CARBON STEEL DOUBLE OFFSET WAFER BUTTERFLY VALVE PN25**

**STANDARDS :**

- Manufacturer certified ISO 9001:2015
  
- DIRECTIVE 2014/68/EU : For liquids and gas of Group 1
  - DN50-125 : Risk Category II, CE 0035 marking
  - DN150-300 : Risk Category III, CE 0035 marking
  
- Certificate 3.1 on request
  
- Designing according to API 609
  
- Marking according to MSS SP-25
  
- Tightness tests according to ISO 5208, Rate A
  
- Between flanges according to EN 1092-1 PN25
  
- ISO 5211 mounting pad
  
- Length according to EN 558 series 20 ( ISO 5752 series 20 )
  
- ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 &22 according to directive 2014/34/EU (Optional marking)
  
- SIL2 according to IEC/EN 61508, SIL 3 possible according to installation

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