PA Ventiler AB
EN DEL AV BE/JERTECH

ISO 9001 : 2015
BUREAU VERITAS
Certification

REF. 210

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.

SIL3 Ex **Certificate 3.1** CE TÜVRheinland PED/2014/68/UE



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 mouting pad Wafer type ATEX 100% tightness
Materials :	Carbon steel ASTM A216 WCB

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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 1504, 30 µm thickness
- Ductile iron EN GJS-400-15 handle with silver painting 1504 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^{-3} 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

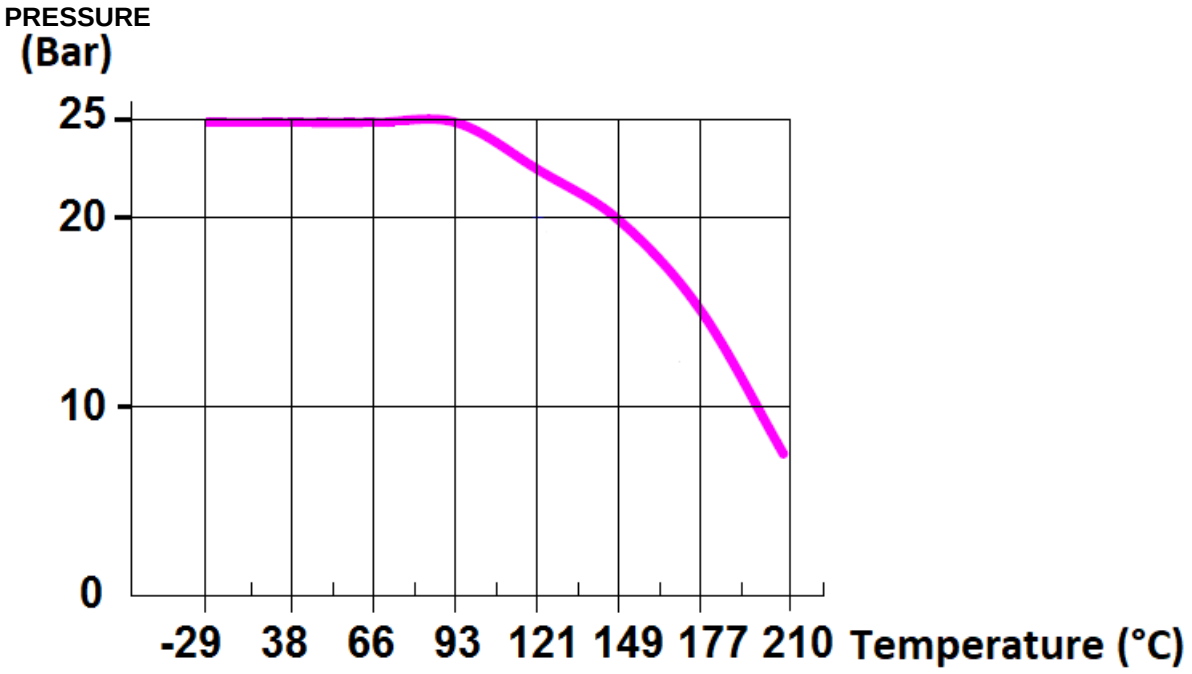
RANGE :

- 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 :



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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) :

	Percent of Rated Travel									
DN	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	0,9	1,7	4,3	8,6	12,9	19,8	30,2	45,7	55,2	56,9
65	4,3	7,8	19,0	27,6	44,0	60,3	79,3	96,6	117,2	120,7
80	7,8	13,8	35,3	50,9	79,3	110,3	146,6	182,8	220,7	224,1
100	12,1	22,4	56,0	83,6	131,0	181,0	237,9	292,2	353,4	362,1
125	21,6	38,8	97,4	139,7	218,1	301,7	408,6	501,7	600,9	620,7
150	21,6	66,4	131,0	194,8	359,5	627,6	758,6	1013,8	1155,2	1185,3
200	36,2	118,1	233,6	346,6	470,7	659,5	848,3	1123,3	1250,0	1508,6
250	107,8	262,9	424,1	502,6	795,7	1086,2	1422,4	1775,9	2103,4	2299,1
300	146,6	357,8	576,7	831,9	1120,7	1512,9	2637,1	2977,6	3318,1	3763,8

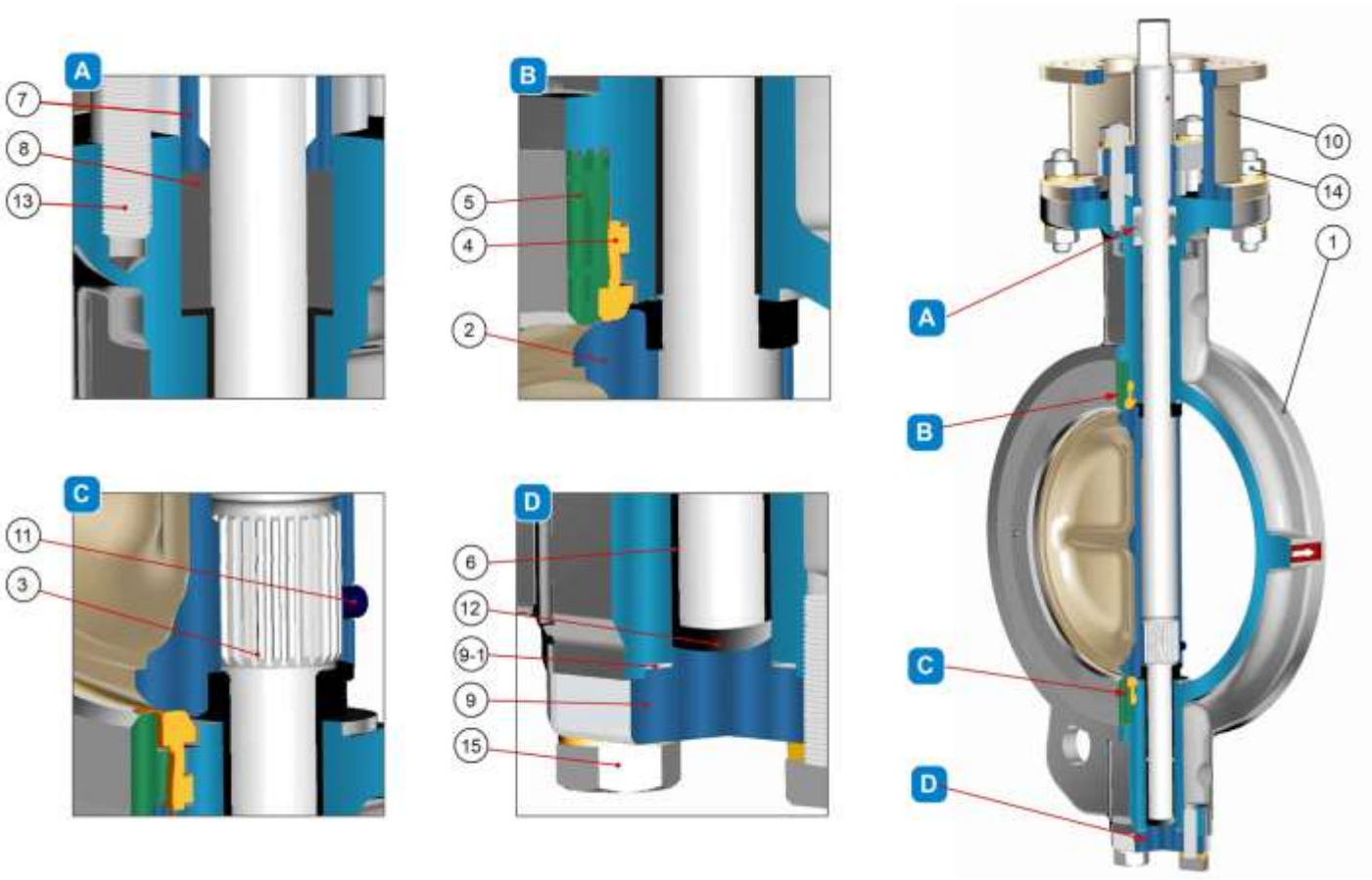
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MATERIALS VALVES :



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	RTFE + 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	Carbon steel A536 Gr 65-45-12
11*	Stop stud	ASTM A193 Gr. B8M
12*	Lock plate	RTFE + AISI 316
13	Stud	ASTM A193 Gr. B8
14	Nut	ASTM A194 Gr. 8
15	Bolt	ASTM A193 Gr. B8

(* : Included in gaskets kit)

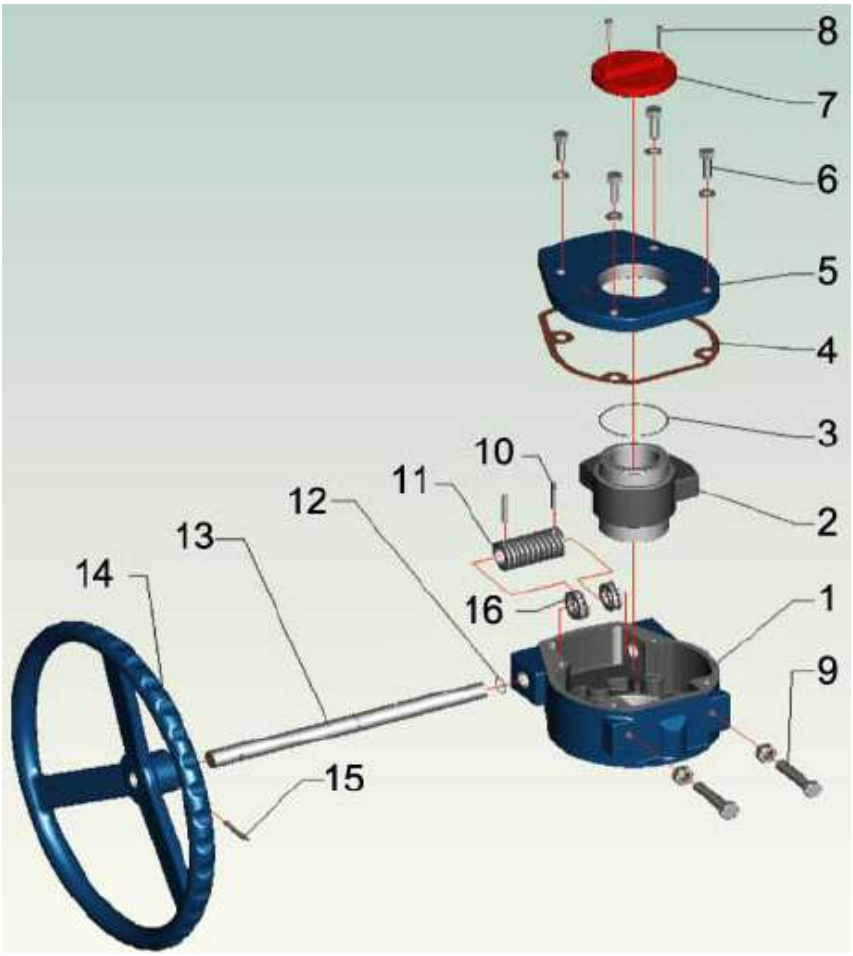
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MATERIALS GEARBOX DN50 - 300 :



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

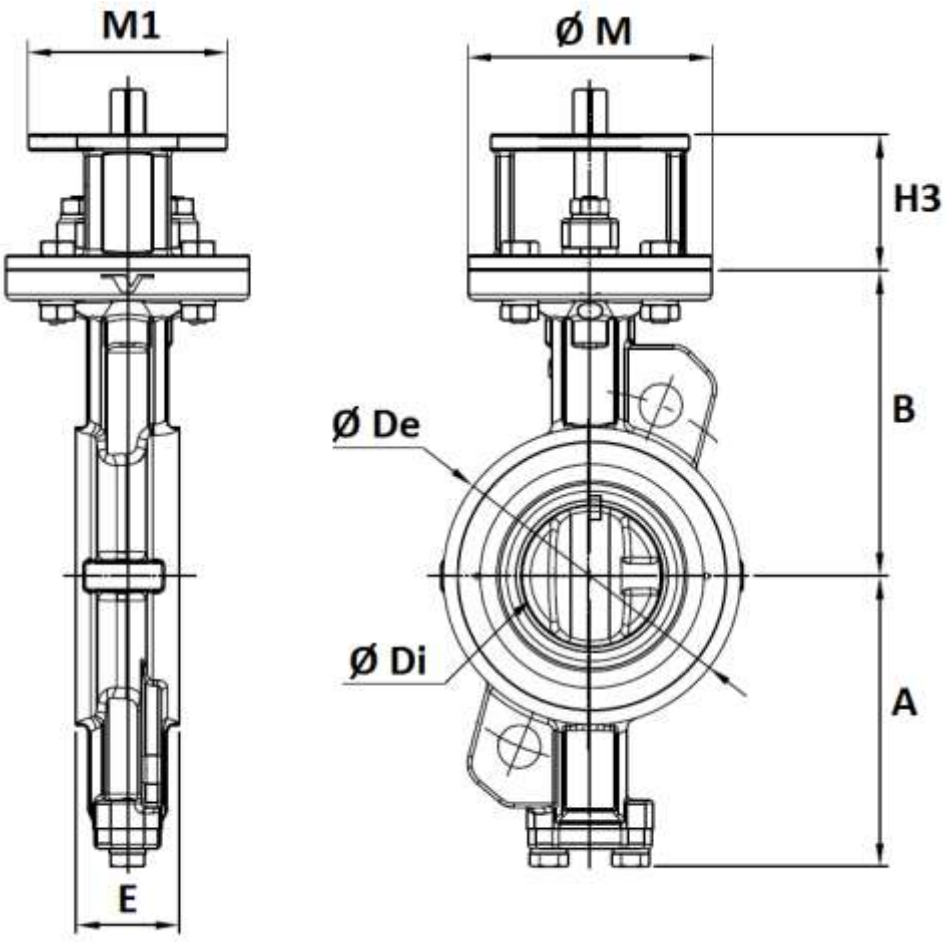
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VALVE SIZE DN50 - 150 (in mm) :

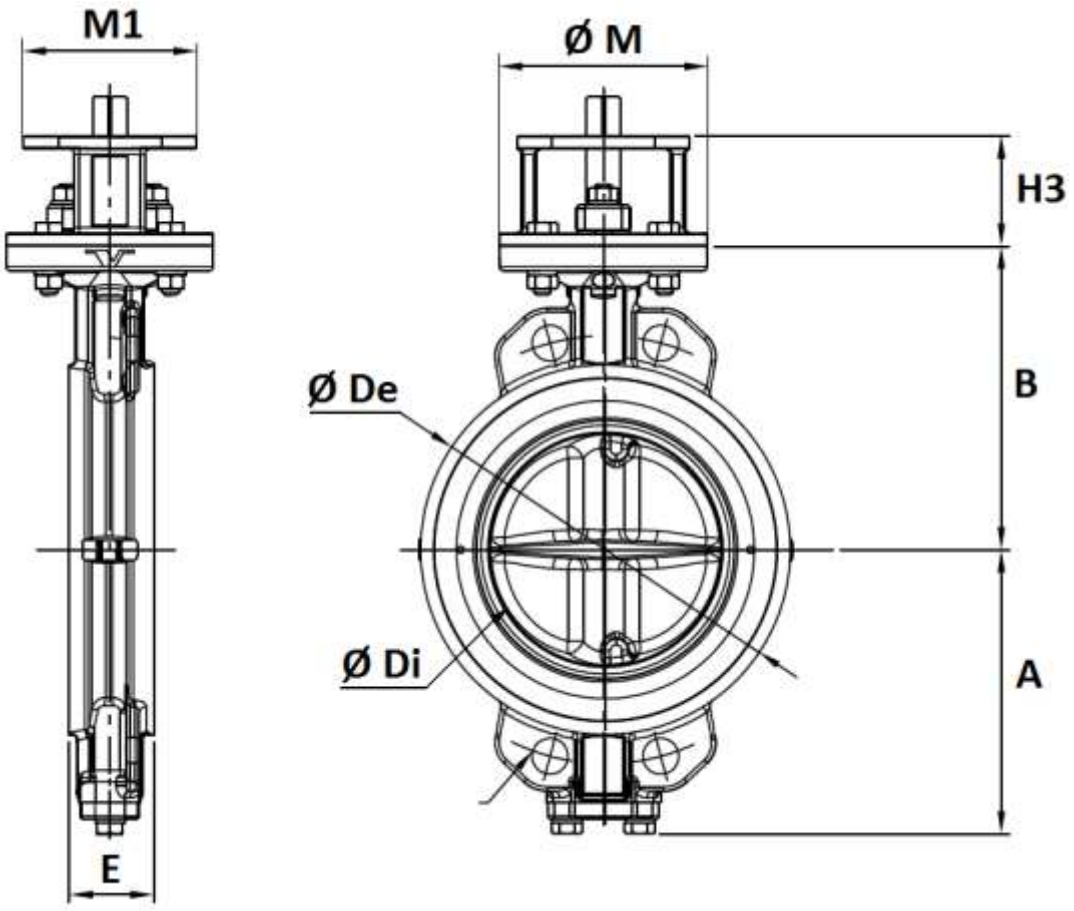


DN	50	65	80	100	125	150
E	43	46	47	53	57	56
A	99	110	128	150	163	176
B	118	125	140	157	170	185
H3	60	60	70	70	70	70
Ø M	90	90	125	125	125	125
M1	70	70	102	102	102	102
Ø De	92	108	126	153	184	212
Ø Di	38	63	78	95	118	143
Min pipe diameter	49	62	78	93	120	149
Weight (in Kg)	3.9	4.5	7	9	12	13.5
Ref.	1110050	1110065	1110080	1110100	1110125	1110150

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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**

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HANDLE SIZE :



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

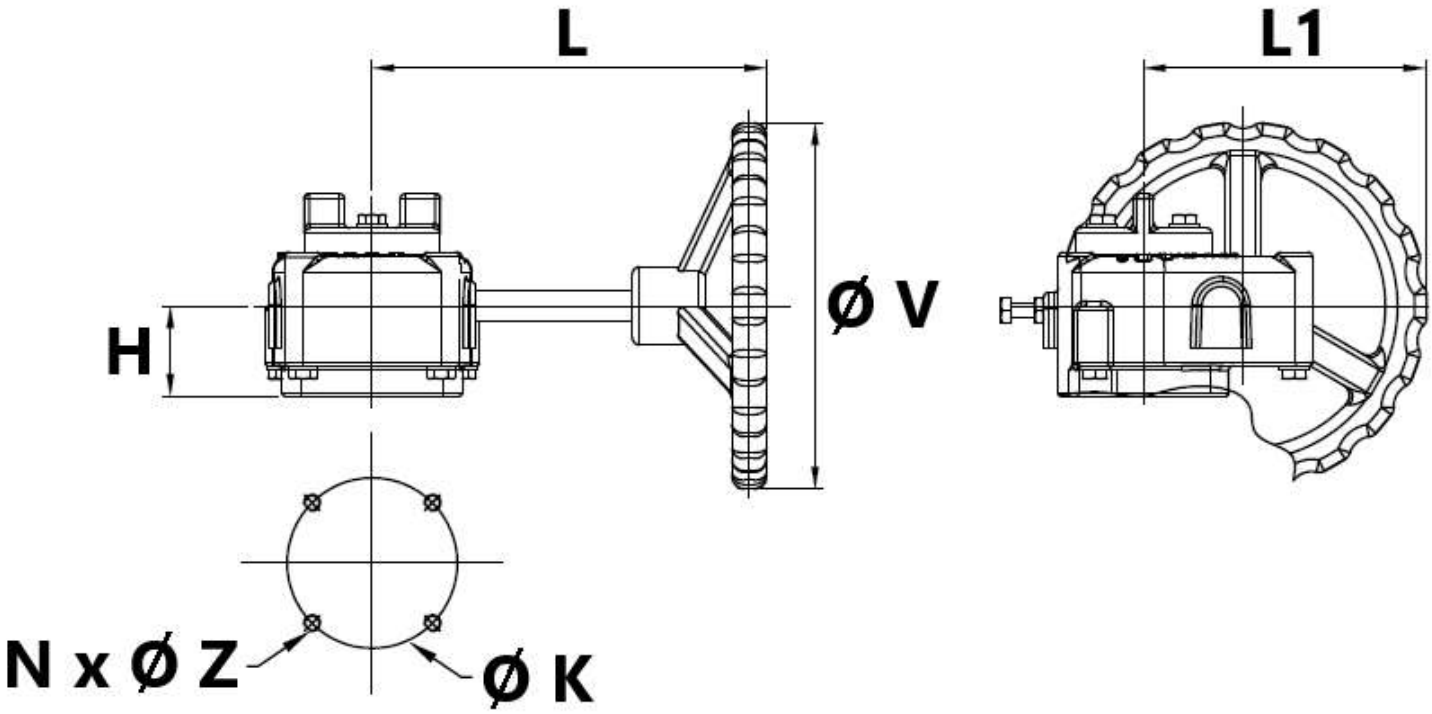
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GEARBOX SIZE DN 50-300 :

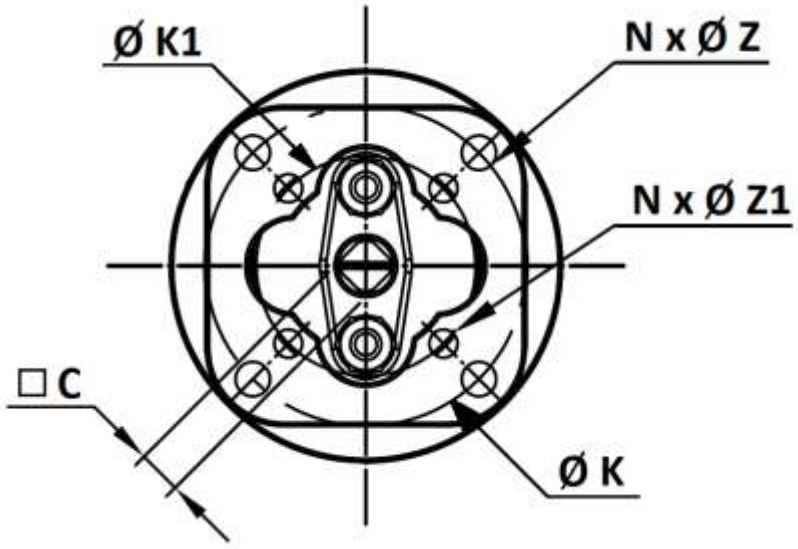


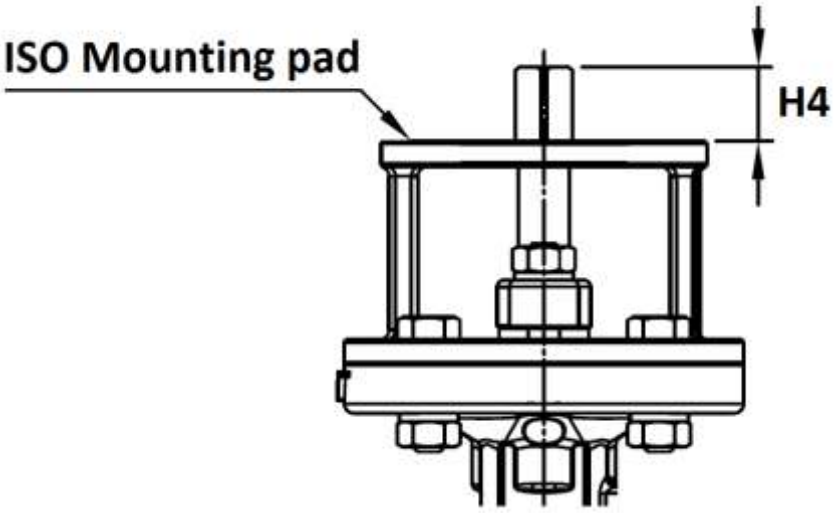
DN	50-65	80	100	125-150	200	250	300
L	162		202		265		340
L1	116		163		216		281
H	37		42		41		52
Ø V	150		200		310		400
Ø K	70		102		125		140
ISO	F07		F10		F12		F14
N x Ø Z	4 x M8		4 x M10		4 x M12		4 x M16
Weight (Kg)	3.3		7.5		9		22
Ref.	1193001	1193002	1193003	1193004	1193005	1193006	1193007

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ISO MOUNTIG PAD AND STEM SIZE (in mm) :





DN	50	65	80	100	125	150	200	250	300
C	11		14		17		19	22	27
H4	18		23				28		37
Ø K	70		102				125		140
ISO	F07		F10				F12		F14
N x ØZ	4 x 10		4 x 12				4 x 14		4 x 18
Ø K1	50		70				102		125
ISO1	F05		F07				F10		F12
NxØZ1	4 x 8		4 x 10				4 x 12		4 x 14

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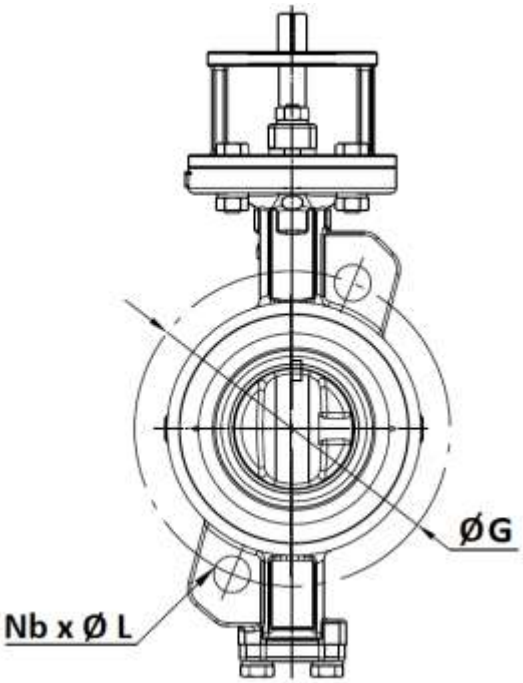
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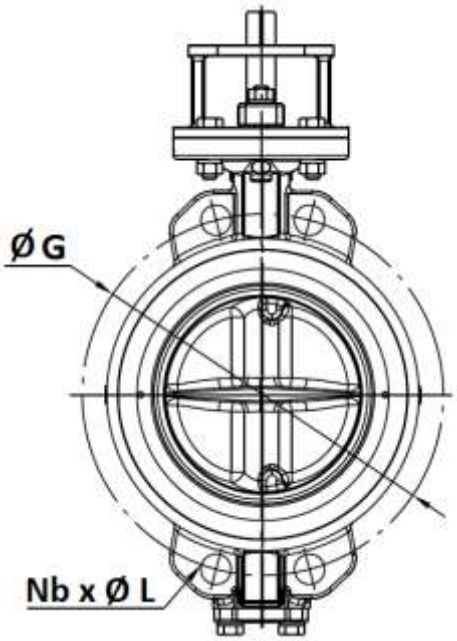
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BETWEEN FLANGES PN25 SIZE (in mm) :

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

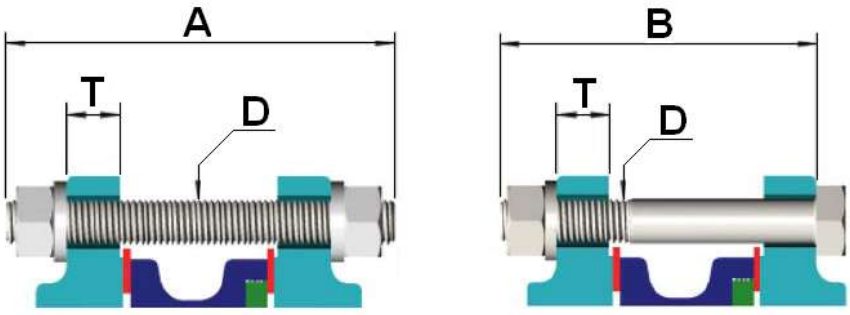
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BOLTING SIZE PN25 (in mm, not included with valves) :



BOLT SCREW+NUT

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

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STANDARDS :

- Manufacturer certified ISO 9001 : 2015
- DIRECTIVE 2014/68/EU : For liquids and gas of Group 1
  - DN50-125 : Risk Category II, CE0035 marking
  - DN150-300 : Risk Category III, CE0035 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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