

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25



Size : DN 50 to 600 mm
Ends : Between PN25 flanges
Min Temperature : - 29°C
Max Temperature : + 210°C
Max Pressure : 25 Bars
Specifications : Double eccentric
Wafer type
Fire safe according to ISO 10497 : 2010
ISO 5211 mounting pad
Materials : Carbon steel or stainless steel

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

SPECIFICATIONS :

- 100% tightness
- Wafer type
- Between PN25 flanges
- Double eccentric
- Bidirectional with preferential flow direction indicated by the arrow
- Fire safe according to ISO 10497 : 2010
- 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 DN600
- Primer painting EP-02 epoxy red oxide primer RAL2012, 10 µm thickness for carbon steel type
- Finish painting EP-04 epoxy finish enamel grey RAL 7045, 30 µm thickness for carbon steel type
- 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)
- When using at dead end of pipeline, reverse preferential flow direction

RANGE :

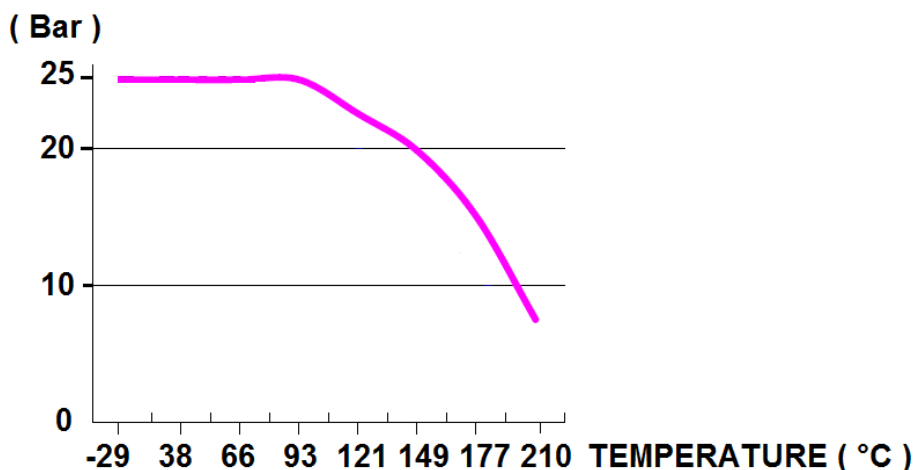
- Wafer type with carbon steel body , and handle **Ref. AKZSGE4E-25 DN 50 to DN 150**
- Wafer type with carbon steel body , and gear box **Ref. AKZSGE4E-25 DN 200 to DN 600**
- Wafer type with stainless steel body , and lever **Ref. AKZE4E4E-25 DN 50 to DN 150**
- Wafer type with stainless steel body , and gear box **Ref. AKZE4E4E-25 DN 200 to DN 600**
- Gear box **Ref. 1193** from DN 50 to DN 150

ENDS :

- Between PN25 flanges

PRESSURE / TEMPERATURE GRAPH :

PRESSURE



DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

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

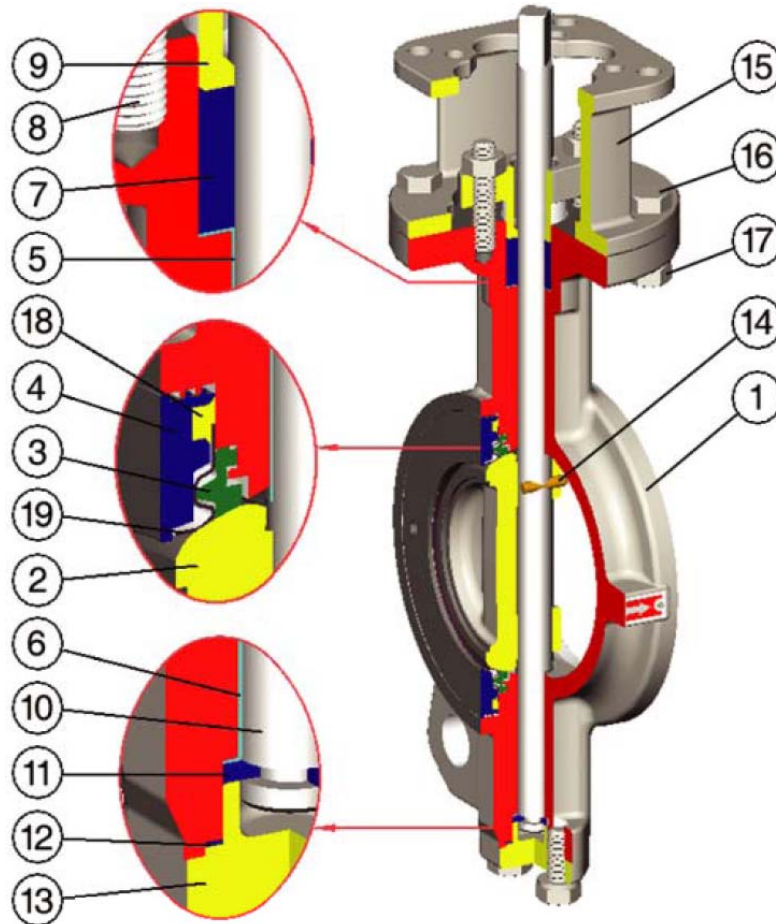
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Torque (Nm) at 0 Bar	30	30	40	60	120	150	180	200	280	470	670	860	1100	1300
Torque (Nm) at 5 Bar	30	40	50	70	140	200	240	280	400	740	980	1080	1410	1650
Torque (Nm) at 10 Bar	40	50	70	80	160	230	300	350	560	850	1290	1390	1840	2270
Torque (Nm) at 15 Bar	40	70	80	100	170	270	360	420	700	1010	1540	1740	2210	2840
Torque (Nm) at 20 Bar	50	80	90	130	180	300	430	530	880	1220	1720	2130	2980	3860
Torque (Nm) at 25 Bar	50	90	100	150	200	340	490	600	1030	1450	1920	2700	3480	4800

FLOW COEFFICIENT Kv (m3 / h) :

DN		50	65	80	100	125	150	200	250	300	350	400	450	500	600
Opening angle	10°	0.26	0.86	1.73	3.46	6.05	9.5	17.3	25.95	34.6	47.6	64.9	82.2	108.1	173
	20°	1.73	9.5	17.3	27.7	47.6	77.8	129.7	207.5	311.3	389.2	562.2	691.9	864.9	1470
	30°	5.18	23.35	43.2	69.2	121	198.9	337.3	518.9	795.7	977.3	1383.8	1729.8	2335.2	3805
	40°	10.38	34.6	63.1	103.8	173	294	484.3	752.4	1150.3	1418.4	1989.2	2508.1	3373	5448
	50°	17.3	51.9	95.1	155.7	259.5	441.1	735.1	1133	1729.8	2162.2	3027.1	3805.5	5102.8	8216
	60°	27.7	71.8	133.2	216.2	371.9	614	1029.2	1591	2421.7	3027	4237.9	5275.8	7092	11502
	70°	43.24	91.7	173	276.8	475.7	787	1314.6	2041	3113.6	3892	5448.8	6832.6	9081.3	14703
	80°	53.6	115	216.2	346	588.1	986	1643.2	2542.7	3892	4756.9	6789.3	8562.3	11243	18422
	90°	57.08	121	224.9	363.2	622.7	1037.8	1729.7	2681.1	4108.2	5059.5	7178.5	8994.8	11935	19459

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

MATERIALS VALVES :

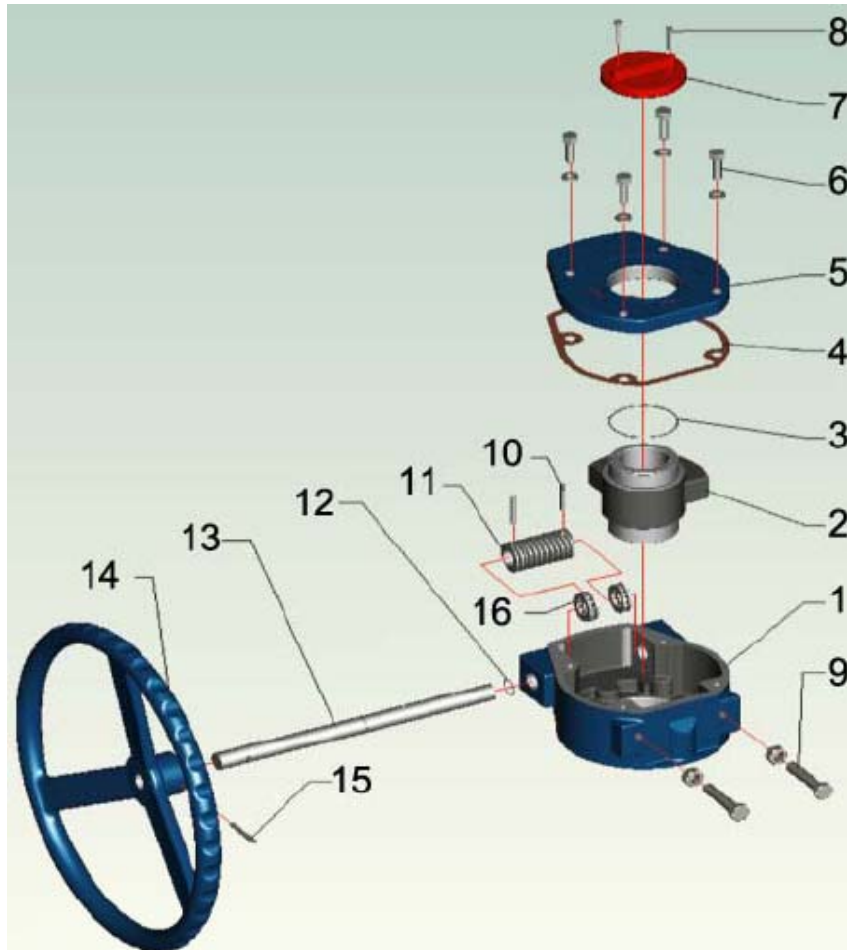


Item	Designation	Materials AKZSGE4P	Materials AKZE4E4P
1	Body	ASTM A216 WCB	ASTM A351 CF8M
2	Disc	ASTM A351 CF8M	
3*	Seat	PTFE with 15% graphite	
4	Retainer	ASTM A351 CF8	
5	Bushing	PTFE + SS 316	
6	Bushing	PTFE + SS 316	
7*	Gland packing	Graphite	
8	Stud	ASTM A193 B8	
9	Gland	ASTM A351 CF8	
10	Stem	ASTM A564 630	
11	Thrust ring	ASTM A240 Gr. 316	
12*	Seal	Graphite	
13	Bottom cover	ASTM A216 WCB	ASTM A351 CF8M
14	Pin	ASTM A182 F316	
15	Yoke	ASTM A216 WCB	ASTM A351 CF8
16	Bolt	ASTM A193 B8	
17	Nut	ASTM A194 Gr. 8	
18*	Gasket	Graphite	
19	Metal seat	ASTM A240 Gr. 316	

(* : included in gaskets kit)

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

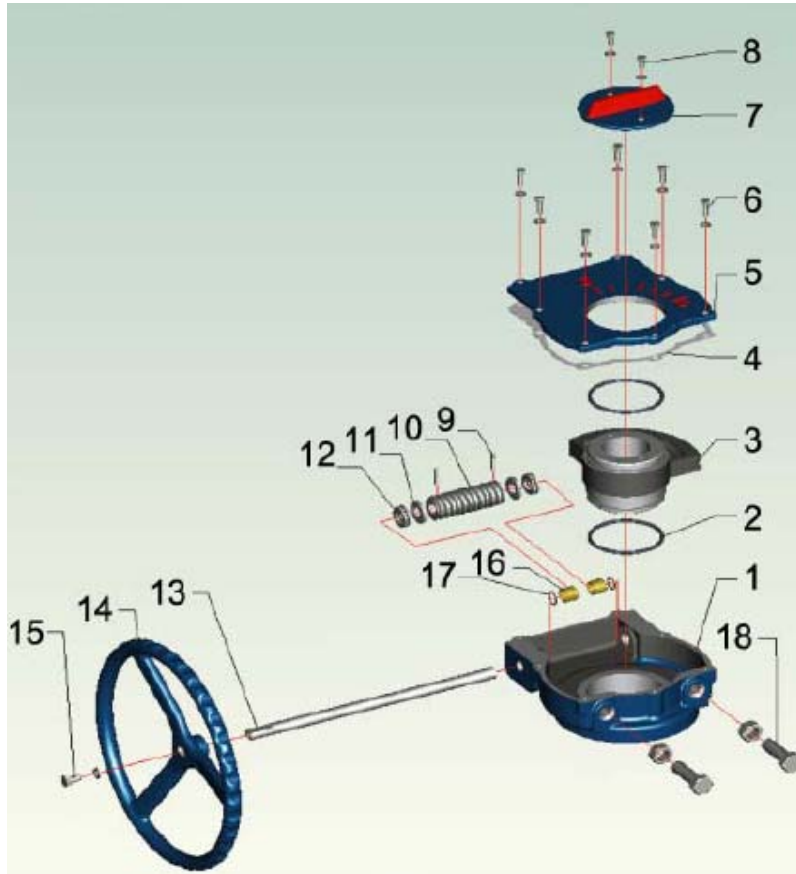
MATERIALS GEARBOX DN50 - 350 :



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

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

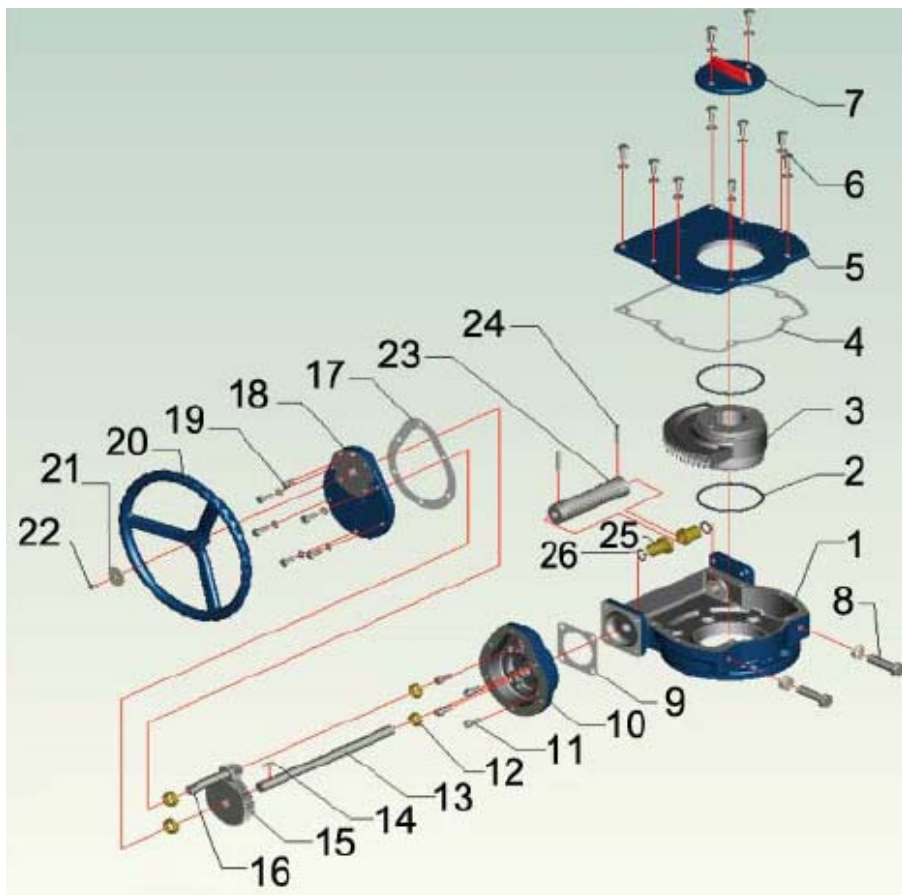
MATERIALS GEARBOX DN400 - 500 :



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

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

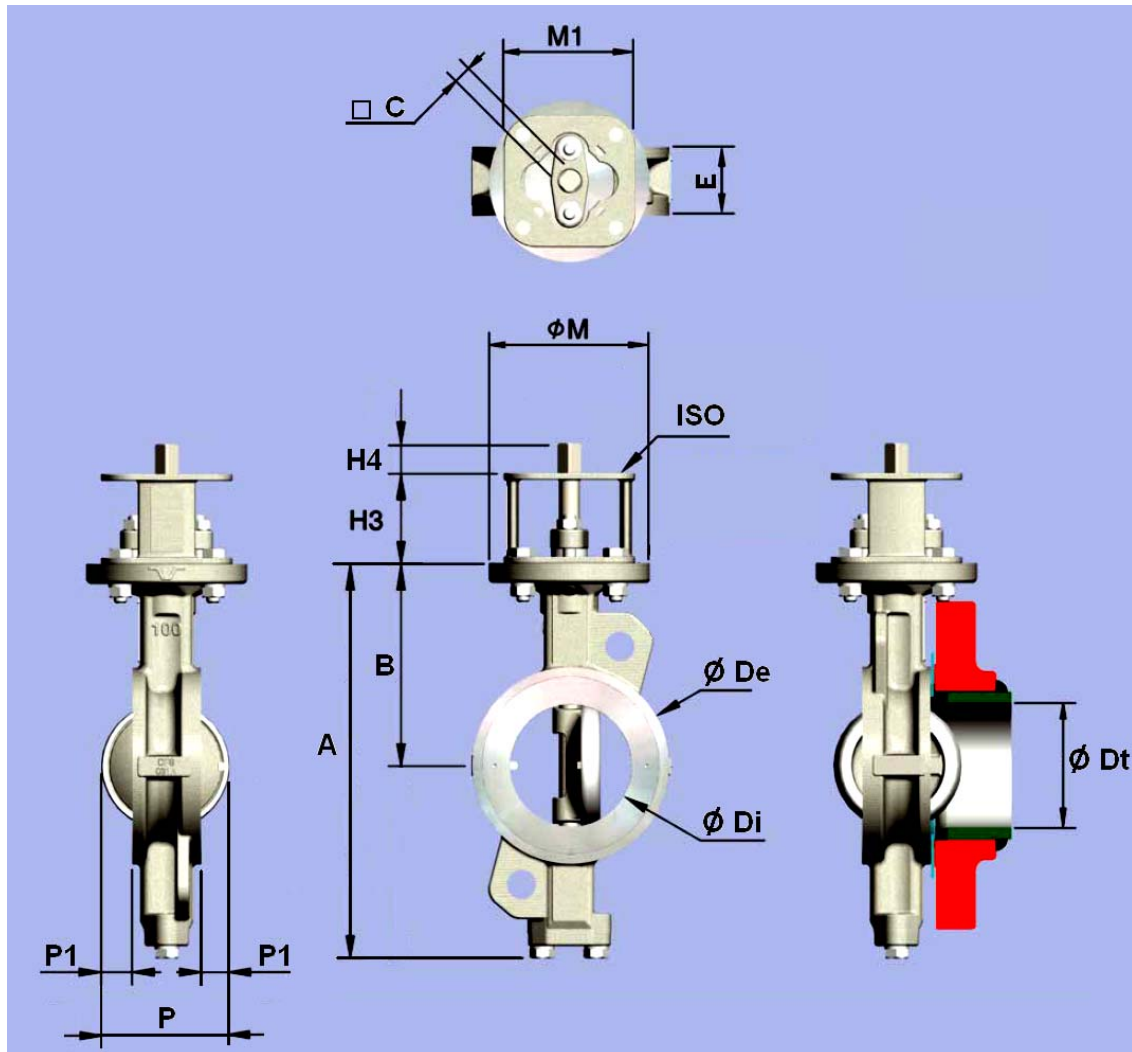
MATERIALS GEARBOX DN600 :



Item	Designation	Materials
1	Body	Cast iron
2	O ring	NBR
3	Worm gear	Ductile iron
4	Gasket	Paper
5	Cover	Cast iron
6	Screw	Steel
7	Indicator	Cast iron
8	Stop bolt	Steel
9	Gasket	Paper
10	Spur gear body	Cast iron
11	Screw	Steel
12	Bearing	Steel
13	Worm shaft	Steel
14	Key	Steel
15	Spur gear	Steel
16	Spur gear shaft	Steel
17	Gasket	Paper
18	Cover	Cast iron
19	Screw	Steel
20	Handwheem	Cast iron
21	Washer	Steel
22	Screw	Steel
23	Worm	Steel
24	Pin	Steel
25	Bushing	Copper
26	O ring	NBR

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

SIZE BARE SHAFT VALVE (in mm) :



DN	50	65	80	100	125	150	200(#)	250(#)	300(#)	350(#)	400(#)	450(#)	500(#)	600(#)
E	43	46	47	53	57	56	62	68	78	78	102	114	127	154
A	217	235	268	307	333	361	426	498	559	632	712	765	829	945
B	118	125	140	157	170	185	220	260	290	326	370	395	430	490
C	11	11	14	14	17	17	19	22	27	27	36	36	46	46
H3	60	60	70	70	70	70	80	80	100	100	120	120	120	150
H4	18	18	23	23	23	23	28	28	37	37	47	47	56	56
Ø M	90	90	125	125	125	125	150	150	175	175	210	210	210	300
M1	70	70	102	102	102	102	125	125	160	160	195	195	195	300
P	47	76	91	103	129	156	202	248	290	342	382	428	481	574
P1	2	15	22	25	36	50	70	90	106	125	140	157	177	210
Ø De	92	108	126	153	184	212	268	326	375	416	476	534	588	692
Ø Di	37	63	78	95	118	143	188	236	282	322	371	418	466	570
Ø Dt (*)	49	62	78	93	120	149	196	243	289	329	377	423	471	572
Weig.(Kg)	3.9	4.5	7	9	12	13.5	22	32	48	66	107	130	163	278

(#) : Body with 4 flanges holes

(*) : Minimum pipe Diameter

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

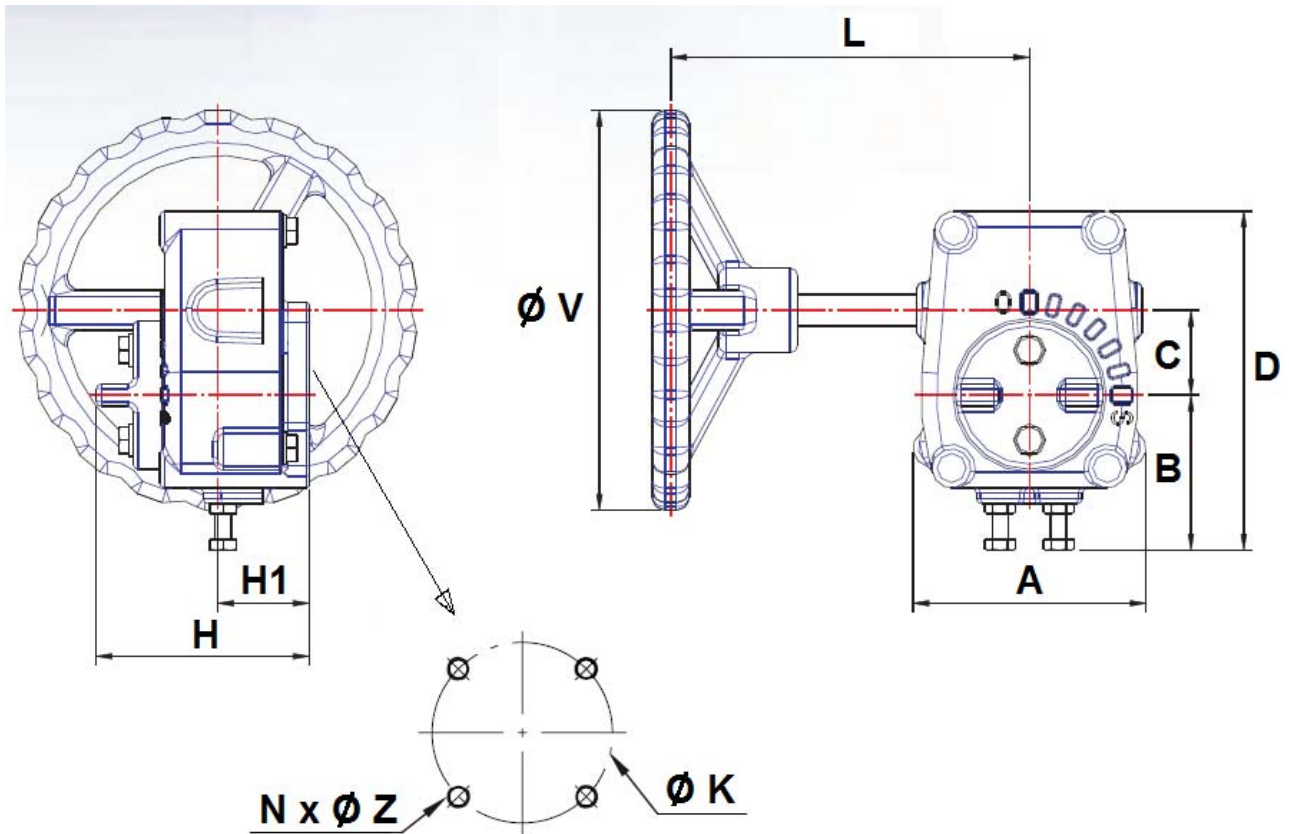
HANDLE SIZE :



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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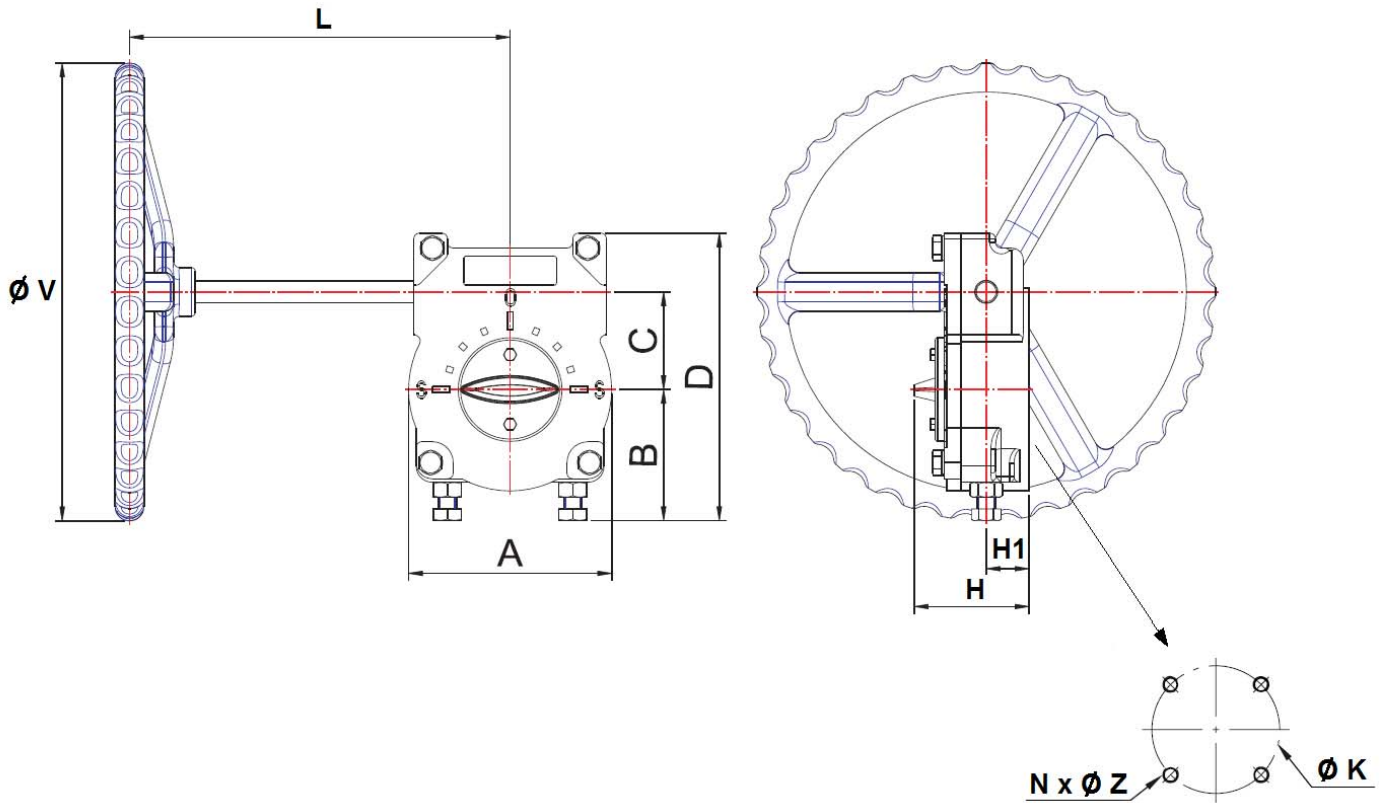
GEARBOX SIZE DN 50-350 :



DN	50-80	100-150	200-250	300-350
L	155	195	258	346
A	87	117	153	181
B	49	81	97	102
C	41	63	61	81
D	130	176	186	223
H	81	91	88	117
H1	37	41.5	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

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

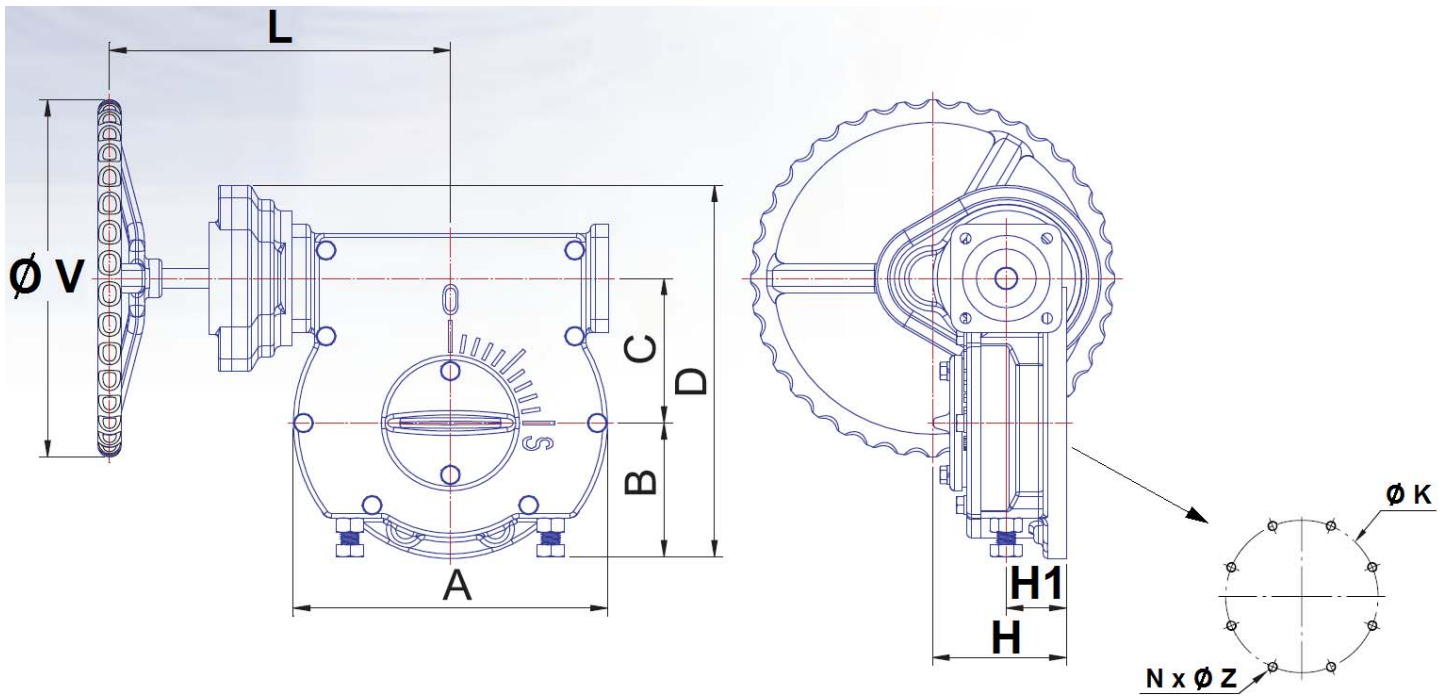
GEARBOX SIZE DN 400-500 :



DN	400-500
L	307
A	251
B	113
C	123
D	293
H	127
H1	56
Ø V	400
Ø K	165
ISO	F16
N x Ø Z	4 x M20
Weight (Kg)	35

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

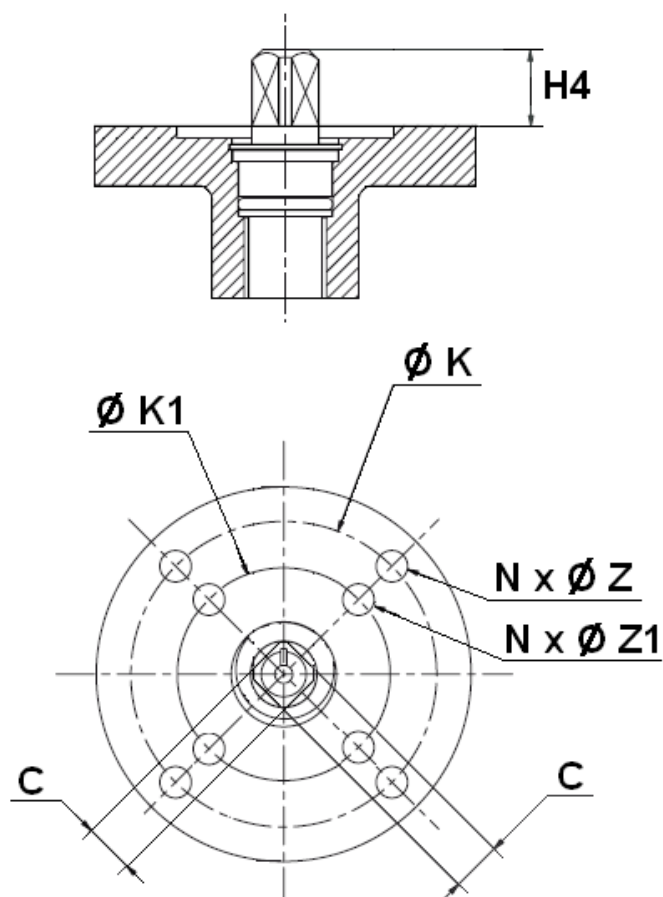
GEARBOX SIZE DN 600 :



DN	600
L	370
A	341
B	148
C	160
D	411
H	145
H1	65
Ø V	400
Ø K	254
ISO	F25
N x Ø Z	8 x M16
Weight (Kg)	109

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

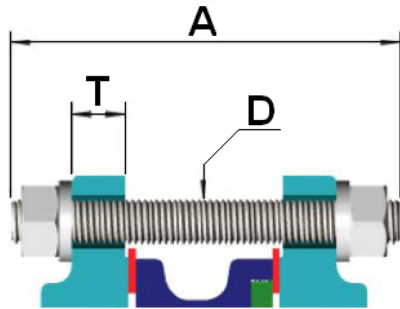
ISO MOUNTIG PAD AND STEM SIZE (in mm) :



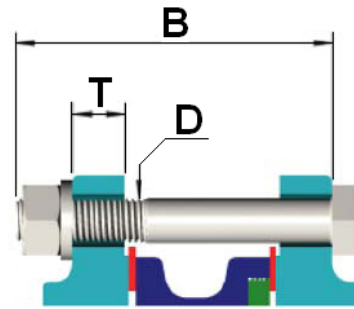
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
C	11	11	14	14	17	17	19	22	27	27	36	36	46	46
H4	18	18	23	23	23	23	28	28	37	37	47	47	56	56
Ø K	70	70	102	102	102	102	125	125	140	140	165	165	165	254
ISO	F07	F07	F10	F10	F10	F10	F12	F12	F14	F14	F16	F16	F16	F25
N x ØZ	4 x 8	4 x 8	4 x 10	4 x 10	4 x 10	4 x 10	4 x 12	4 x 12	4 x 16	4 x 16	4 x 22	4 x 22	4 x 22	8 x 17
Ø K1	50	50	70	70	70	70	102	102	125	125	140	140	140	-
ISO1	F05	F05	F07	F07	F07	F07	F10	F10	F12	F12	F14	F14	F14	-
NxØZ1	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	4 x 12	4 x 16	4 x 16	4 x 16	-

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

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



BOLT



SCREW+NUT

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	135	135	140	155	175	175	185	200	215	230	265	290	305	360
B	125	125	130	140	155	155	165	180	195	205	240	265	280	330
D	M16	M16	M16	M20	M24	M24	M24	M27	M27	M30	M33	M33	M33	M36
T	22	22	24	24	26	28	30	32	34	38	40	48	48	58

GEARBOX SPECIFICATIONS :

DN	50-65	80	100	125-150	200-250	300-350	400-500	600
Ref.	1193001	1193002	1193003	1193004	-	-	-	-
Ratio factor	40 :1	40 :1	36 :1	36 :1	36 :1	52 :1	70 :1	207 :1
Number of cycles for opening or closing	10	10	9	9	9	13	17.5	52
Input torque (Nm)	24.5	24.5	54	54	109	150	225	451
Output torque (Nm)	245	245	490	490	980	1960	3922	7845

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

STANDARDS :

- Fabrication according to ISO 9001:2008
- DIRECTIVE 97/23/CE : CE N° 0035
Risk Category III module H
- Designing according to API 609
- Marking according to MSS SP-25
- Tightness tests according to ISO 5208, range A
- Between flanges according to EN 1092-1 PN25
- ISO 5211 mounting pad
- Length according to EN 558 series 20 (ISO 5752 series 20)
- Fire safe according to ISO 10497 : 2010
- ATEX Groupe II Category 2 G/2D Zone 1 & 21 Zone 2 & 22 (Optional marking)
- Approval certificate Russian Federation **GOST-R**

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.

DOUBLE ECCENTRIC BUTTERFLY VALVE PN25

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.**
- 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.