

**DOUBLE ECCENTRIC BUTTERFLY VALVE**



**Size :** DN 50 to 350 mm  
**Ends :** Between flanges GN 25  
**Min Temperature :** - 20°C  
**Max Temperature :** + 210°C  
**Max Pressure :** 25 Bars  
**Specifications :** Double eccentric  
Wafer type  
Fire safe according to API 607  
Iso 5211 mounting pad

**Materials :** Carbon steel or stainless steel

## DOUBLE ECCENTRIC BUTTERFLY VALVE

### SPECIFICATIONS :

- Metal-metal tightness
- Wafer type
- Between flanges GN 25
- Double eccentric
- Bidirectional with preferential flow direction indicated by the arrow
- Fire safe according to API 607
- Iso 5211 mounting pad
- Stainless steel CF8M disc
- Full crossing stem
- 10 positions handle, with locking device up to DN150
- Gear box from DN 200 to DN300

### USE :

- For all common fluids
- Min and max Temperature Ts : - 20°C to + 210°C
- Max Pressure Ps : 25 bars ( see graph )
- When using at dead end of pipeline, reverse preferential flow direction

### RANGE :

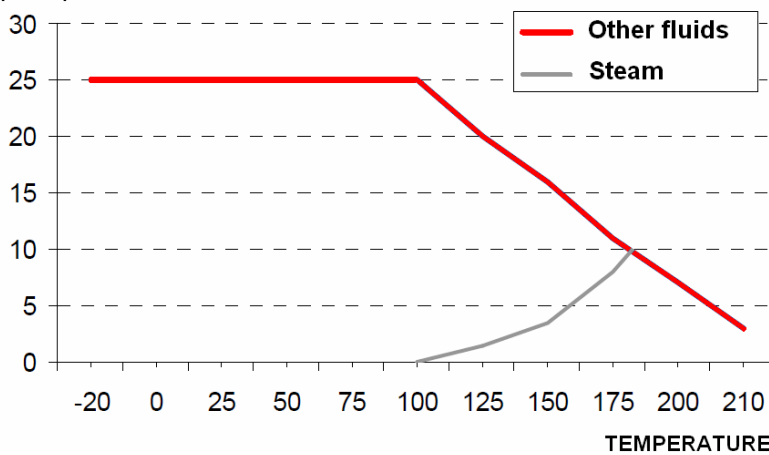
- Wafer type with carbon steel body , and handle **Ref. 1113** DN 50 to DN 150
- Wafer type with carbon steel body , and gear box **Ref. 1113** DN 200 to DN 350
- Wafer type with stainless steel body , and lever **Ref. 1114** DN 50 to DN 150
- Wafer type with stainless steel body , and gear box **Ref. 1114** DN 200 to DN 350
- Gear box **Ref. 1193** from DN 50 to DN 150

### ENDS :

- Between flanges GN 25

### PRESSURE / TEMPERATURE GRAPH :

**PRESSURE**  
( Bar )



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Date : 09/10

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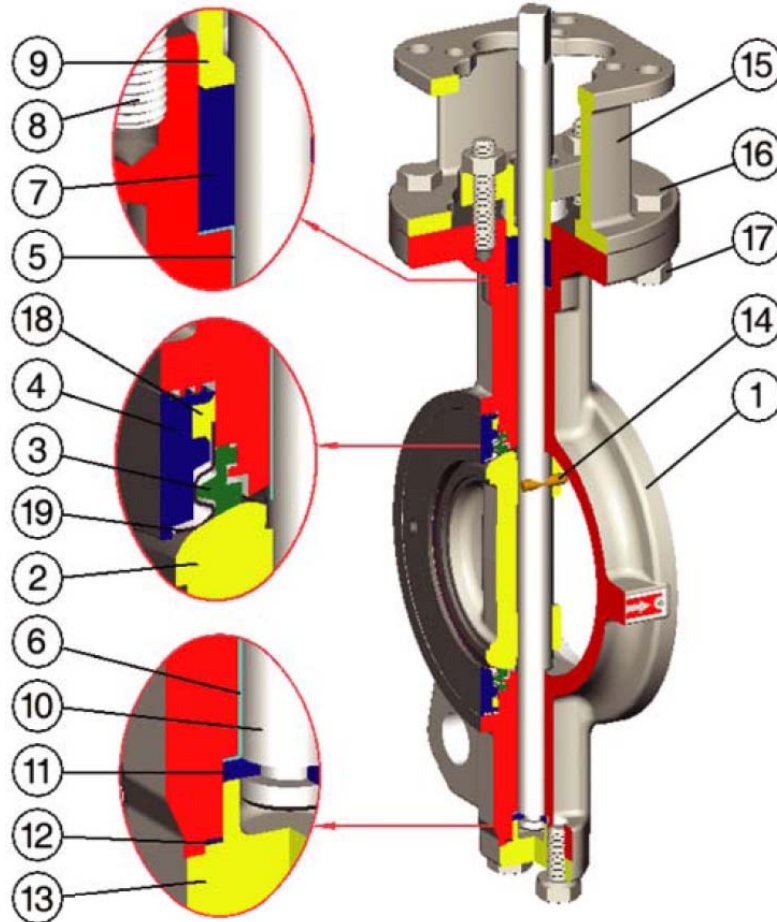
## DOUBLE ECCENTRIC BUTTERFLY VALVE

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

DN	50	65	80	100	125	150	200	250	300	350
Torque ( Nm ) at 0 Bar	30	30	40	60	120	150	180	200	280	470
Torque ( Nm ) at 5 Bar	30	40	50	70	140	200	240	280	400	740
Torque ( Nm ) at 10 Bar	40	50	70	80	160	230	300	350	560	850
Torque ( Nm ) at 15 Bar	40	70	80	10	170	270	360	420	700	1010
Torque ( Nm ) at 20 Bar	50	80	90	130	180	300	430	530	880	1220
Torque ( Nm ) at 25 Bar	50	90	100	150	200	340	490	600	1030	1450

**FLOW COEFFICIENT Kv ( m<sup>3</sup> / h ) :**

DN	50	65	80	100	125	150	200	250	300	350	
<b>Opening angle</b>	10°	0.26	0.86	1.73	3.46	6.05	9.5	17.3	25.95	34.6	55
	20°	1.73	9.5	17.3	27.7	47.6	77.8	129.7	207.5	311.3	389.2
	30°	5.18	23.35	43.2	69.2	121	198.9	337.3	518.9	795.7	977.3
	40°	10.38	34.6	63.1	103.8	173	294	484.3	752.4	1150.3	1418.4
	50°	17.3	51.9	95.1	155.7	259.5	441.1	735.1	1133	1729.8	2162.2
	60°	27.7	71.8	133.2	216.2	371.9	614	1029.2	1591	2421.7	3027
	70°	43.24	91.7	173	276.8	475.7	787	1314.6	2041	3113.6	3892
	80°	53.6	115	216.2	346	588.1	986	1643.2	2542.7	3892	4756.9
	90°	57.08	121	224.9	363.2	622.7	1037.8	1729.7	2681.1	4108.2	5059.5

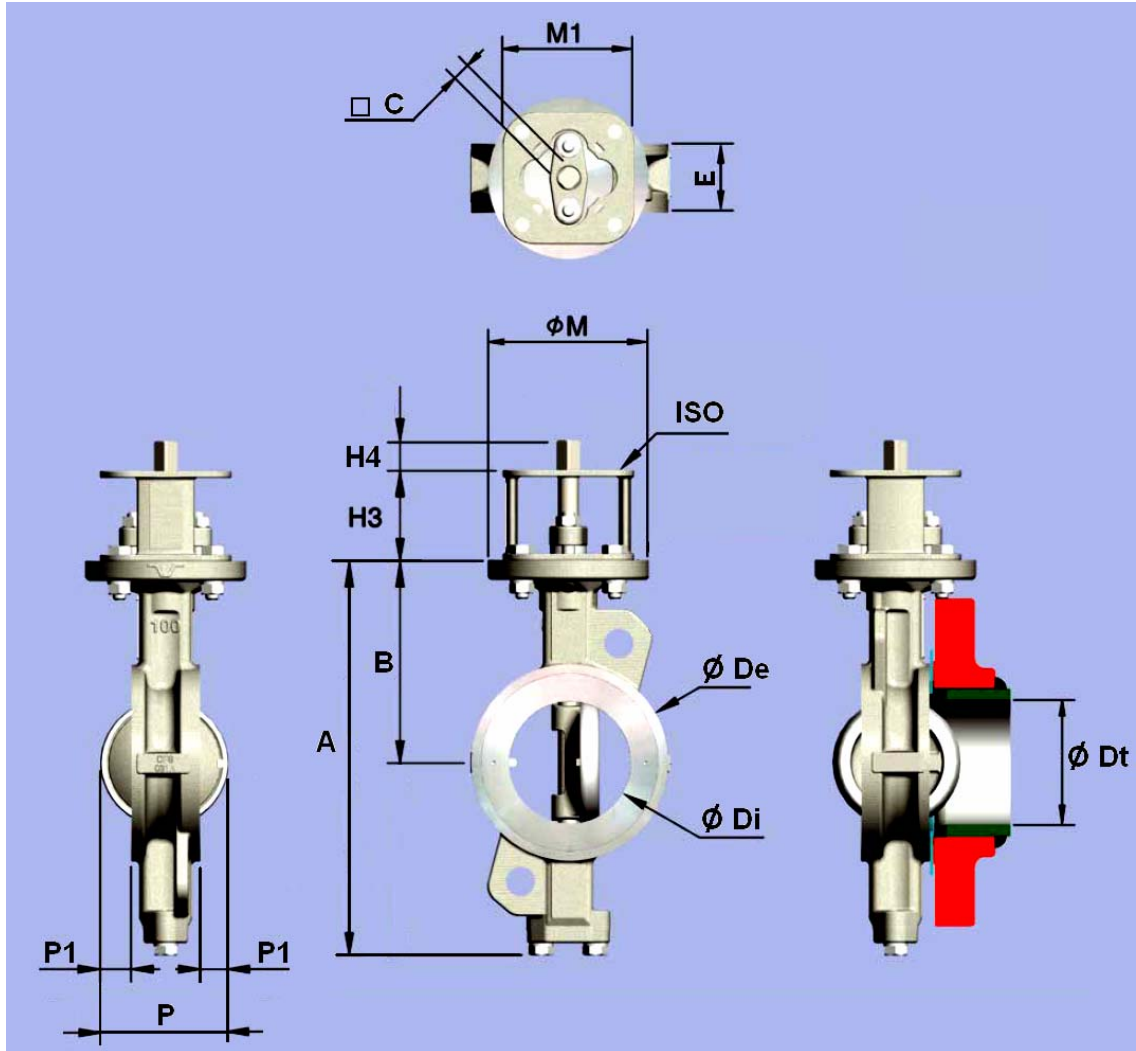
**DOUBLE ECCENTRIC BUTTERFLY VALVE**
**MATERIALS :**


Item	Designation	Materials 1113	Materials 1114
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	
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**

SIZE BARE SHAFT VALVE ( in mm ) :



	DN	50	65	80	100	125	150	200(#)	250(#)	300(#)	350(#)
Ref.  1113/1114	E	43	46	47	53	57	56	62	68	78	92
	A	217	235	268	307	333	361	426	498	559	632
	B	118	125	140	157	170	185	220	260	290	326
	C	11	11	14	14	17	17	19	22	27	27
	H3	60	60	70	70	70	70	80	80	100	100
	H4	18	18	23	23	23	23	28	28	37	37
	Ø M	90	90	125	125	125	125	150	150	175	175
	M1	70	70	102	102	102	102	125	125	160	160
	P	47	76	91	103	129	156	202	248	290	342
	P1	2	15	22	25	36	50	70	90	106	125
	Ø De	92	108	126	153	184	212	268	326	375	416
	Ø Di	37	63	78	95	118	143	188	236	282	322
	Ø Dt (*)	49	62	78	93	120	149	196	243	289	329
Weight ( Kg )	3.9	4.5	7	9	12	13.5	22	32	48	66	

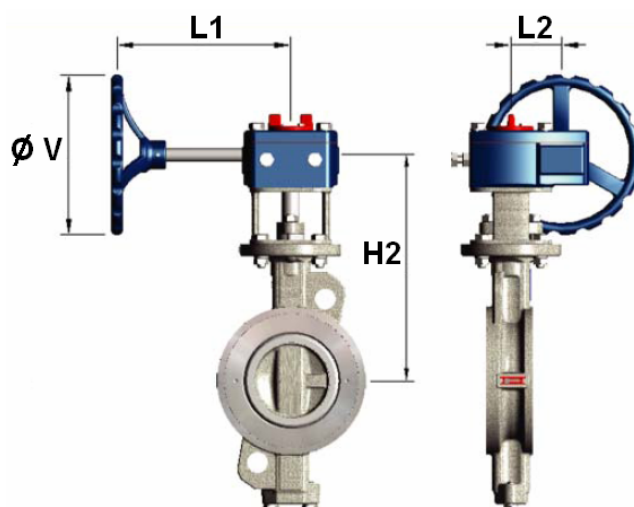
(#) : Body with 4 flange holes

(\*) : Min pipe Diameter

## DOUBLE ECCENTRIC BUTTERFLY VALVE

**HANDLE SIZE :**

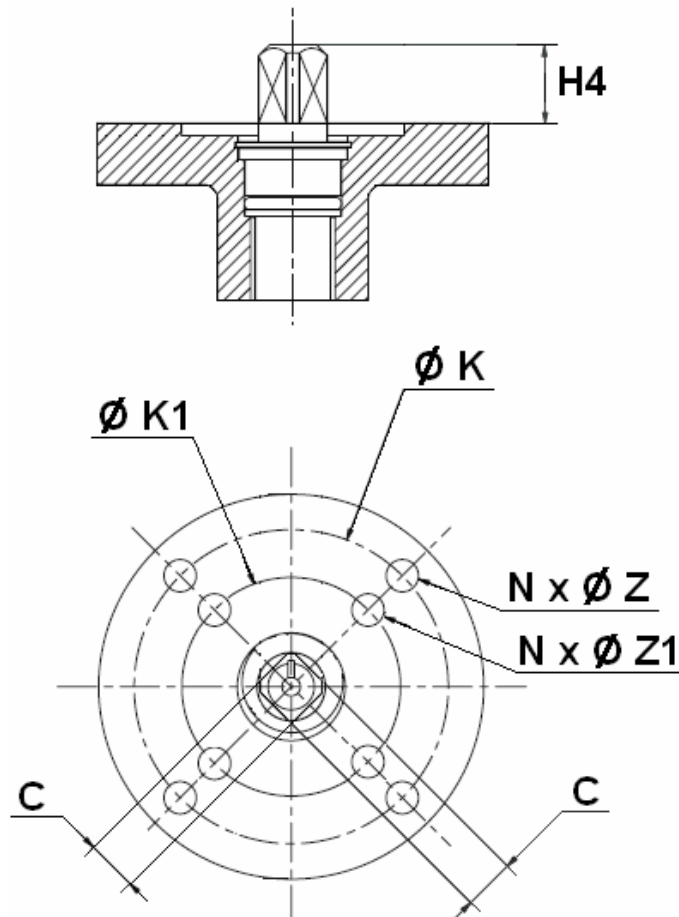

DN	50	65	80	100	125	150
L	200	200	250	250	355	355
Weight ( Kg )	0.7	0.7	0.8	0.8	1.6	1.6

**GEAR BOX SIZE :**


DN	50	65	80	100	125	150	200	250	300	350
L1	155	155	155	195	195	195	232	232	280	280
L2	41	41	41	63	63	63	61	61	81	81
H2	215	222	247	296.5	281.5	296.5	341	381	443	479
Ø V	150	150	150	200	200	200	310	310	400	400
Weight ( Kg )	3.3	3.3	3.3	7.5	7.5	7.5	9	9	22	22

## DOUBLE ECCENTRIC BUTTERFLY VALVE

ISO MOUNTING PAD AND STEM SIZE ( in mm ) :

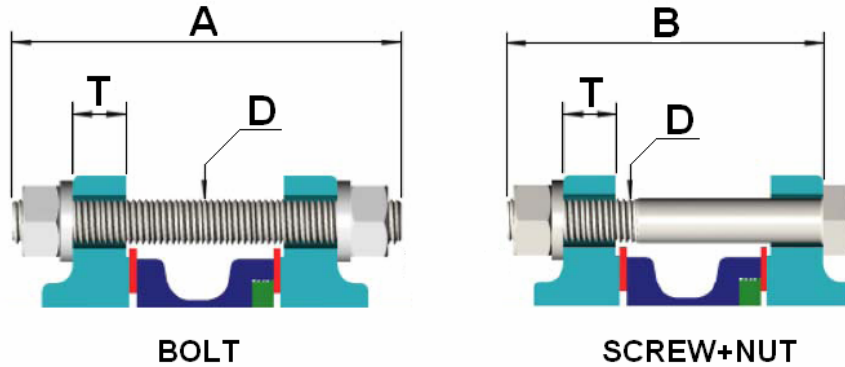


	DN	50	65	80	100	125	150	200	250	300	350
Ref. 1113 1114	C	11	11	14	14	17	17	19	22	27	27
	H4	18	18	23	23	23	23	28	28	37	37
	Ø K	70	70	102	102	102	102	125	125	140	140
	ISO	F07	F07	F10	F10	F10	F10	F12	F12	F14	F14
	N x ØZ	4 x 8	4 x 8	4 x 10	4 x 10	4 x 10	4 x 10	4 x 12	4 x 12	4 x 16	4 x 16
	Ø K1	50	50	70	70	70	70	102	102	125	125
	ISO1	F05	F05	F07	F07	F07	F07	F10	F10	F12	F12
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	



## DOUBLE ECCENTRIC BUTTERFLY VALVE

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



	DN	50	65	80	100	125	150	200	250	300	350
Ref. 1113	A	135	135	140	155	175	175	185	200	215	230
	B	125	125	130	140	155	155	165	180	195	205
1114	D	M16	M16	M16	M20	M24	M24	M24	M27	M27	M30
	T	22	22	24	24	26	28	30	32	34	38

**STANDARDS :**

- Fabrication according to ISO 9001:2000
- DIRECTIVE 97/23/CE : CE N° 0035  
Risk Category III module H
- Designing according to API 609
- Marking according to MSS SP-25
- Tests according to API 598
- Between flanges according to EN 1092-1 PN25
- Iso 5211 mounting pad
- Length according to ISO 5752 ( EN 558-1 serie 5 )
- Fire safe according to API 607
- ATEX Groupe II Category 2 G/2D Zone 1 & 21 Zone 2 & 22 ( Optional marking )

**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**

### **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 EN 12266-1.
- Then open slowly the valve.
- **Do not mount butterfly valves with stainless steel pressed collars and turning flanges.**
- **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.