



Valve Data Sheet



Doc: BFLY-E-W/2

Nov 2007

WAFER TYPE BUTTERFLY VALVE



A universally applicable wafer type valve acc. to EN 593. The large variety of basic materials allows applications in different industries.

TECHNICAL DATA

Nominal diameter: DN 20 – DN 1200 (DN 20 only PN10/16)

Face-to-face: EN 558 Series 20 (DIN 3202 T3 K1)
ISO 5752 Series 20
API 609 Table 1
BS 5155 Series 4

Flange accommodation: DIN 2501 PN 6/10/16
ANSI B 16.5, Class 150
MSS SP44 Class 150
AWWA C 207
AS 2129 Table D and E
BS 10 Table D and E
JIS B 2211-5 K
JIS B 2212-10 K

Lap-joint flange: DIN 2641 and DIN 2642

Weld-on flange: DIN 2576

Flange Surface Design: DIN 2526, Form A-E, ANSI RF

Top flange: EN ISO 5211
NF E 29-402

Marking: DIN EN 19

Tightness check: DIN 3230 T3 BC, BN (Leakage Rate 1)
ISO 5208, Category 3
API 598 Table 5
ANSI B 16-104, Class VI

Temperature range: -20 °C to + 160 °C (depending on pressure, medium and material)

Operating pressure: max. 16 bar

Differential pressure: max. Δp 16 bar

Vacuum: 0,2 bar absolute (depending on medium and temperature)

FEATURES

- Absolutely tight sealing with flow in either direction
- The valve body and disc are accurately machined which results in low operating torque, long service life and reliability.
- Triple shaft bearings prevent shaft deflection and guarantee optimum guidance even after many years of operational service.
- Four flange mounting holes ensure correct valve location.
- Single flange mounting is possible (please request details from our Technical Department).
- Can be installed in any desired position.
- Maintenance-free
- Can be disassembled, material-specific recycling possible

GENERAL APPLICATIONS

- Chemical and petrochemical industries
- Water and wastewater technology
- Pneumatic materials handling technology
- Shipbuilding
- Power generation industry
- Food industry
- Civil engineering
- For paint and laquers, a silicon-free Version is available.



Aluminium version. Available Sizes: DN 50 - DN 400



Valve Data Sheet

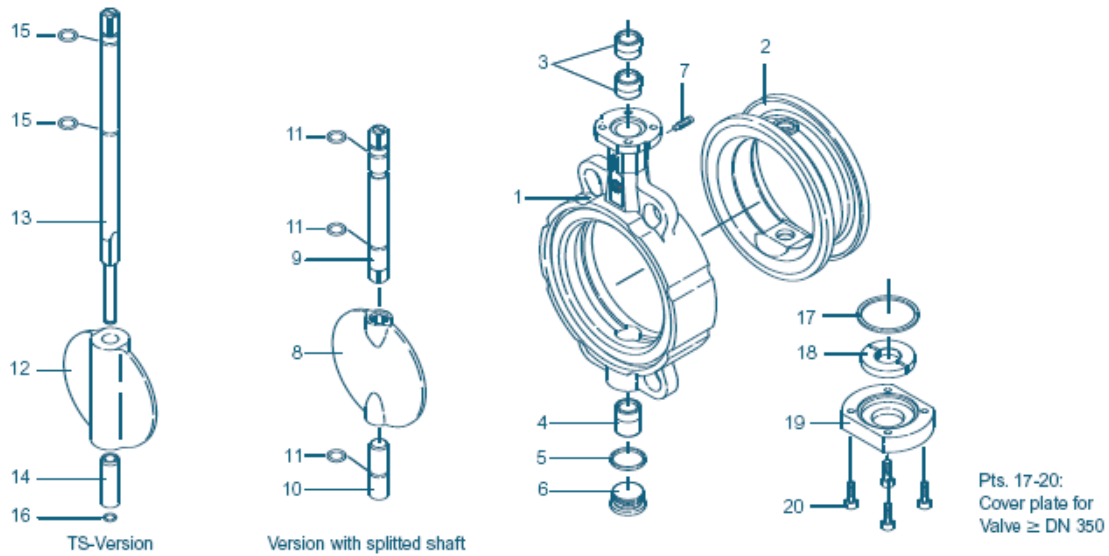


Doc: BFLY-E-W/2

Nov 2007

WAFER TYPE BUTTERFLY VALVE

MATERIAL SPECIFICATION AND PARTS LIST



Pt.	Description	Material	Material-No.	ASTM	Pt.	Description	Material	Material-No.	ASTM		
1	Body	Aluminiumalloy	G-AISI9Cu3	3.2163	B 380.1	9/10	Shafts	Stainless Steel	X39CrMo17-1	1.4122	
			G-AISI10Mg	3.2381	361.1				X14CrMoS17	1.4104	430 F
		Grey Cast Iron	GG-25	0.6025	40 B				X5CrNiMo17-12-2	1.4401	316
		Nodular Cast Iron	GGG-40	0.7040	60-40-18				Hastelloy	2.4883	Hastelloy
			GGG-40.3	0.7043			Aluminium Bronze	CuAl10Ni	2.0975		
		Carbon Steel	GS-C25	1.0619	WCB	11	O-ring				
		Stainless Steel	G-X5CrNiMo19-11-2	1.4408	CF8M		NBR	Acrylonitrile butadiene rubber			
		Aluminium Bronze	G-CuAl10Ni	2.0975	C 95800		FPM	Fluorocarbon caoutchouc			
2	Seat					12	TS-disc				
		NBR	Acrylonitrile butadiene rubber				Nodular Cast Iron	GGG-40	0.7040	60-40-18	
		EPDM	Ethylene propylene caoutchouc				Stainless Steel	G-X5CrNiMo19-11-2	1.4408	CF8M	
		CSM	Chlorsulphonated polyethylene				Aluminium Bronze	G-CuAl10Ni	2.0975	C 95800	
		FPM	Fluorocarbon caoutchouc				Coating	Halar, Rilsan			
		VSI	Silicon rubber				Surface Quality	electropolished, mirror finished			
		AU	Polyurethane elastomer								
3/4	Bearing bush					13	TS-shaft				
		Brass	MS 58	2.0401	B45		Stainless Steel	X14CrMoS17	1.4104	430F	
		Polyamide	PA 66					X39CrMo17-1	1.4122		
		PTFE	Polytetrafluorethylen					X5CrNiMo17-12-2	1.4401	316	
5	Seal DIN 7603						Aluminium Bronze	CuAl10Ni	2.0975		
		Copper	Cu		Copper	14	Sleeve				
							Stainless Steel	X5CrNi18-10	1.4301	304	
6	Plug screw DIN 908					15	O-ring				
		Stainless Steel	G-X5CrNiMo19-11-2	1.4408	CF8M		NBR	Acrylonitrile butadiene rubber			
7	Set screw DIN 915						FPM	Fluorocarbon caoutchouc			
		Steel	45 H galvanized								
		Stainless Steel	A4-70		B8M	16	Retainin ring				
8	Disc						Stainless Steel	X39CrMo17-1	1.4122		
		Steel	St.52.3	1.0570	572-50	17	O-ring				
		Stainless Steel	G-X5CrNiMo19-11-2	1.4301	304		NBR	Acrylonitrile butadiene rubber			
			G-X6CrNiMo18-10	1.4408	CF8M	18	Shaft retainer				
			X2CrNiMo17-12-2	1.4404	316 L		Brass	MS 58	2.0401	B45	
			X6CrNiMoTi17-12-2	1.4571	316 Ti	19	Cover plate				
			G-X2CrNiMoN26-7-4	1.4469	F 51		Grey Cast Iron	GG-25	0.6025	40 B	
			Hastelloy	2.4883	Hastelloy	20	Screw				
		Aluminium Bronze	G-CuAl10Ni	2.0975	C 95800		Steel	45 H galvanized			
		Coating	Halar, Rilsan				Stainless Steel	A2-70		B8	
		Surface						A4-70		B8M	
		Quality	electropolished, mirror finished								
										Other materials upon request.	

Subject to change without notice.



Valve Data Sheet



Doc: BFLY-E-W/2

Nov 2007

WAFER TYPE BUTTERFLY VALVE

TORQUE

- The torque values specified (MD) are based on liquid and lubricant media.
 - Powdery (non-lubricant) media
Md x 1,3
 - Dry gases/high viscous media
Md x 1,2
 - The values specified are based on the initial breakaway torque.
 - Dynamic torque specification available upon request.
- Regarding the dimensioning of actuators, please contact our engineers.

DN [mm]	Size [in]	← Values for valves with undercut discs →			Max torque Nm	
		3 [bar]	6 [bar]	10 [bar]	16 [bar]	
20	3/4	–	–	5	–	
25	1	–	–	5	–	
32	1 1/4	–	–	5	–	
40	1 1/2	–	–	6	8	
50	2	5	7	7	9	
65	2 1/2	7	9	15	18	
80	3	8	10	18	24	
100	4	9	18	28	37	
125	5	15	22	45	59	
150	6	36	45	110	125	
200	8	59	76	140	200	
250	10	150	180	200	240	
300	12	200	240	280	360	
350	14	350	540	610	700	
400	16	420	620	750	850	
450	18	720	746	860	1500	
500	20	900	1100	2255	3690	
600	24	1050	2100	3000	5830	
700	28	1560	2240	3450	8100	
800	32	2070	3800	6600	11 200	
900	36	2700	4900	7100	14 500	
1000	40	4600	6780	11 500	24 400	
1200	48	7800	12 000	21 000	44 000	

All Values in Nm

K_v-VALUES

- The K_v-value (m³ per hour) is the flow of water at a temperature of 5 °C to 30 °C (41 °F to 86 °F) at Δp of 1 bar.
 - The K_v-values specified are based on tests carried out by the Delfter Hydraulics Laboratories, the Netherlands.
 - Permissible velocity of flow
V_{max} 4,5 m/s for liquids and
V_{max} 70 m/s for gases.
 - The throttle function is linear at an angle 30° to 70°.
 - Avoid cavitation!
- For further values, please contact our engineers.

DN [mm]	Size [in]	Opening angle α°							
		20°	30°	40°	50°	60°	70°	80°	90°
20	3/4	–	1	4	8	11	19	27	32
25	1	–	1,5	5	10	15	24	32	36
32	1 1/4	–	1,5	5	11	16	27	35	40
40	1 1/2	–	2,2	8	15	21	33	43	50
50	2	1,2	8	13	22	38	50	65	85
65	2 1/2	2	9	22	42	77	115	170	215
80	3	8	24	50	95	150	240	330	420
100	4	13	28	65	130	180	340	550	800
125	5	26	65	130	230	350	530	870	1010
150	6	35	90	200	360	640	900	1350	2100
200	8	43	180	350	580	1000	1600	3000	4000
250	10	125	360	660	1100	1800	3100	5300	6400
300	12	200	550	1000	1600	2600	5000	7500	8500
350	14	350	780	1400	2400	4000	8000	10 800	11 500
400	16	490	1050	1800	3100	5500	11 000	12 000	14 500
450	18	510	1080	2040	3350	6100	11 500	14 600	20 500
500	20	520	1100	2200	3500	6200	12 000	15 100	21 000
600	24	750	1400	2800	5100	8800	14 000	22 000	29 300
700	28	770	1755	3260	5980	10 600	17 100	25 300	36 000
800	32	1200	2260	4550	8230	12 900	20 300	29 300	44 600
900	36	1540	2280	6030	10 500	17 600	29 200	42 150	59 000
1000	40	2200	3970	8300	14 480	24 000	37 100	60 300	81 500
1200	48	5050	7900	13 800	19 700	33 500	53 300	73 050	102 650



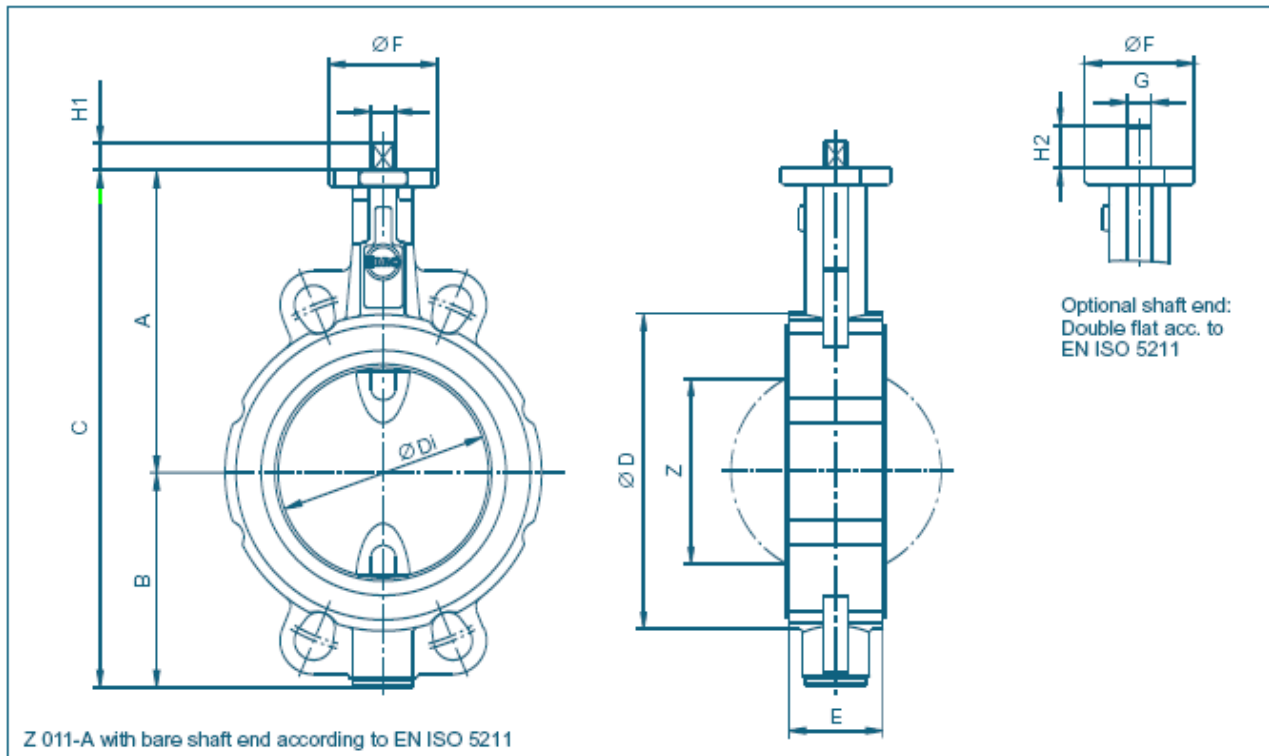
Valve Data Sheet



Doc: BFLY-E-W/2

Nov 2007

WAFER TYPE BUTTERFLY VALVE



Optional shaft end:
Double flat acc. to
EN ISO 5211

DN [mm]	Size [in]	Dimensions [mm]												Weight [kg] (GG-25)	
		A	B	C	D	Di	E	F	Flange	G	H1	H2	Z	2 Piece Shaft	TS- Shaft
20	3/4	104	45	149	59	31,5	33	54	F04	11	12	19	-	1,3	-
25	1	104	45	149	63	31,5	33	54	F04	11	12	19	-	1,3	-
32	1 1/4	104	50	154	68	31,5	33	54	F04	11	12	19	-	1,4	-
40	1 1/2	113	66	179	80	38	33	54	F04	11	12	19	22	1,8	-
50	2	126	84	210	95	48,5	43	54	F04	11	12	19	25	2,2	-
65	2 1/2	134	93	227	115	63,5	46	54	F04	11	12	19	45	2,9	-
80	3	157	104	261	138	78,5	46	65	F05	14	16	25	65	4,0	4,5
100	4	167	115	282	158	98,5	52	65	F05	14	16	25	85	5,2	5,8
125	5	180	127	307	188	123,5	56	65	F05	14	16	25	111	6,9	7,5
150	6	203	150	353	212	148	56	90	F07	17	19	30	139	9,5	11,0
200	8	228	176	404	268	199	60	90	F07	17	19	30	190	13,2	15,0
250	10	266	212	478	320	248	68	125	F10	22	24	39	240	22,5	25,5
300	12	291	237	528	370	296	78	125	F10	22	24	39	287	31,5	35,0
350	14	332	269	601	408	338	78(92)**	150	F12	*	*	-	330	39,4	45,0
400	16	363	314	677	470	388	102	150	F12	*	*	-	378	58,7	64,5
450	18	397	335	732	530	430,5	114	210	F16	*	*	-	417	91,0	95,5
500	20	437	405	842	574	494,5	127	210	F14/F16	*	*	-	474	107,0	113,5
600	24	498	469	967	675	590	154	300	F16/F25	*	*	-	563	171,0	198,0
700	28	581	507	1088	772	680	165	300	F16/F25	*	*	-	660	251,0	304,0
800	32	630	556	1186	874	780	190	300	F25	*	*	-	757	355,0	375,0
900	36	696	617	1313	973	880	203	300	F25	*	*	-	860	456,0	498,0
1000	40	771	675	1446	1070	980	216	350	F30	*	*	-	956	570,0	718,0
1200	48	880	810	1690	1510	1170	254	350	F30	*	*	-	1154	-	1156,0

* according to the mounted actuator
** face to face dim. acc. to EN 558 Tab. 20 (92 mm)

Subject to change without notice.