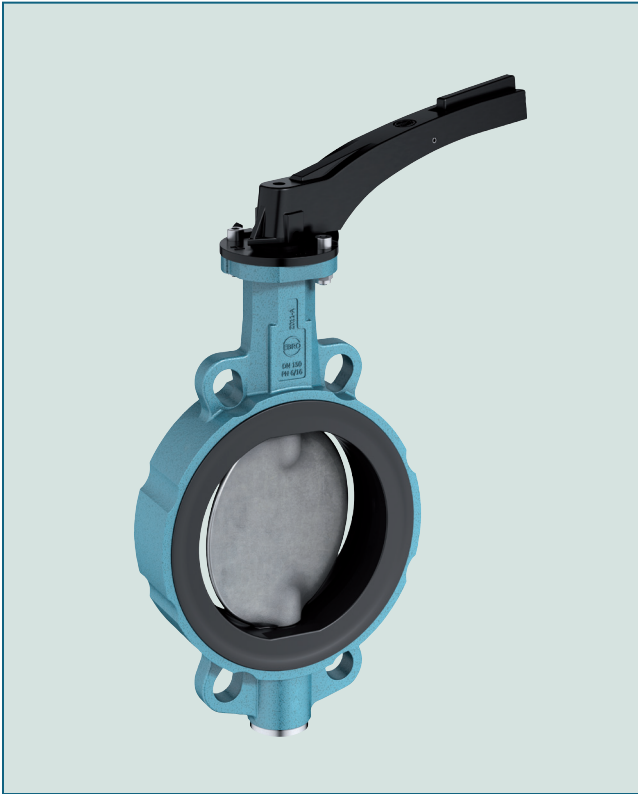


# WAFER PATTERN BUTTERFLY VALVE TYPE Z 011-A



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:	¾ in - 48 in (¾ in only PN 10/16)
Face-to-face:	EN 558 Series 20 ISO 5752 Series 20 API 609 Table 1
Flange accommodation:	EN 1092 PN 6/10/16 ASME Class 150 AS 4087 PN 16
Flange Surface Design:	EN 1092 Form A/B ASME RF, FF
Top flange:	EN ISO 5211
Marking:	EN 19
Tightness check:	EN 12266 (Leakage rate A) ISO 5208, Category 3
Temperature range:	-40°F to +392°F (depending on pressure, medium and material)
Operating pressure:	max. 200 psi

## FEATURES

- Absolutely tight sealing with flow in either direction
- The valve body and disc are accurately machined which results in low operating torque and 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 when installing
- Single flange mounting is possible (please request details from our Technical Department)
- Can be installed in any desired position
- Maintenance-free
- Can be disassemble, material-specific recycling possible

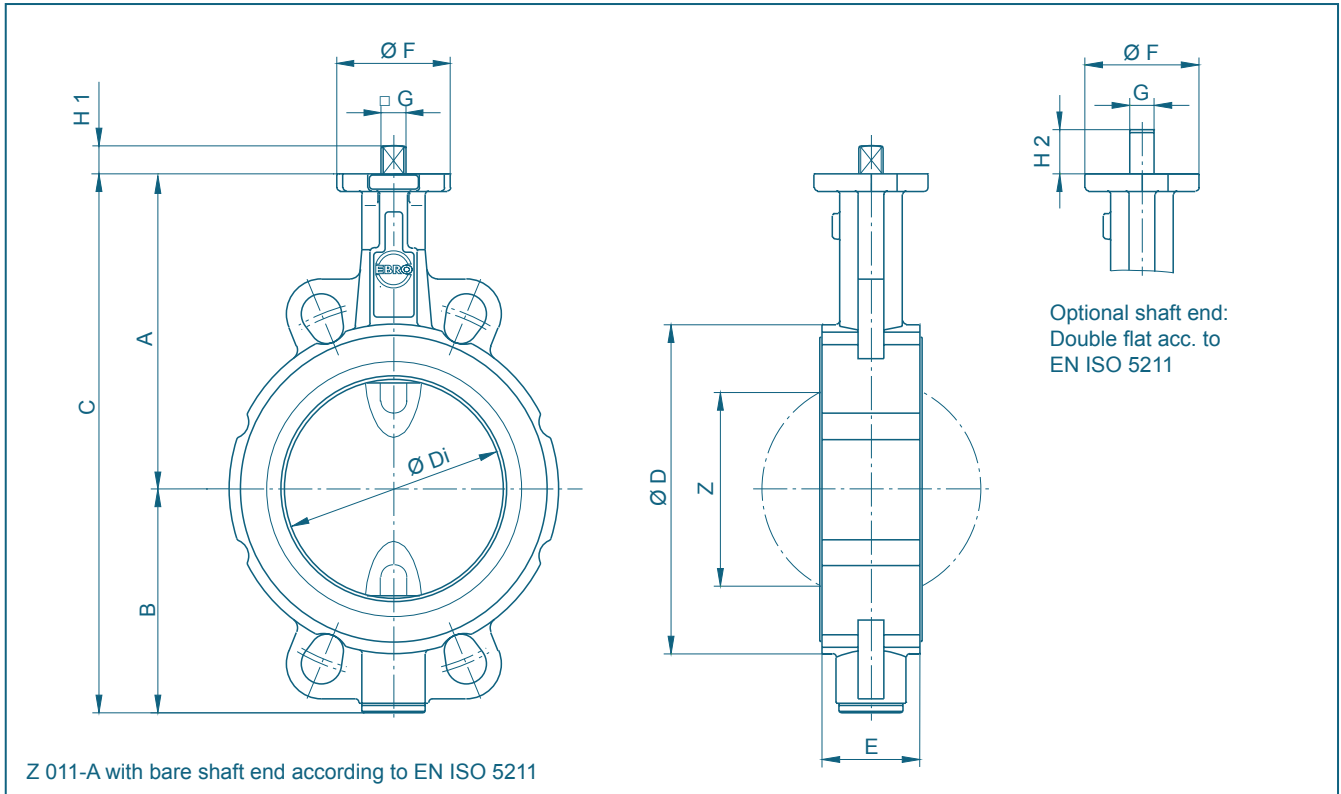
## GENERAL APPLICATIONS:

- Chemical and petrochemical industries
- Water and waste water technology
- Pneumatic materials handling technology
- Shipbuilding
- Power generation industry
- Food industry
- For paint and lacquers, a silicon-free version is available
- Transport of hazardous materials (EN 14432)



Aluminium version. Available Sizes: 2 in - 16 in

# WAFER PATTERN BUTTERFLY VALVE TYPE Z 011-A



DN [mm]	Size [in]	Dimensions [inch]												Weight [lbs] (GG-25)	
		A	B	C	D	Di	E	F	Flange	G	H1	H2	Z	2 Piece shaft	TS- shaft
20	¾	4.09	1.77	5.87	2.32	1.24	1.30	2.13	F04	0.43	0.47	0.75	-	2.90	-
25	1	4.09	1.77	5.87	2.48	1.24	1.30	2.13	F04	0.43	0.47	0.75	-	2.90	-
32	1¼	4.09	1.97	6.06	2.68	1.24	1.30	2.13	F04	0.43	0.47	0.75	-	3.10	-
40	1½	4.45	2.60	7.05	3.15	1.50	1.30	2.13	F04	0.43	0.47	0.75	0.87	4.00	-
50	2	4.96	3.31	8.27	3.74	1.91	1.69	2.13	F04	0.43	0.47	0.75	0.98	4.90	-
65	2½	5.28	3.66	8.94	4.53	2.50	1.81	2.13	F04	0.43	0.47	0.75	1.77	6.40	-
80	3	6.18	4.09	10.28	5.43	3.09	1.81	2.56	F05	0.55	0.63	0.98	2.56	8.80	9.90
100	4	6.57	4.53	11.10	6.22	3.88	2.05	2.56	F05	0.55	0.63	0.98	3.35	11.50	12.80
125	5	7.09	5.00	12.09	7.40	4.86	2.20	2.56	F05	0.55	0.63	0.98	4.37	15.20	16.50
150	6	7.99	5.91	13.90	8.35	5.83	2.20	3.54	F07	0.67	0.75	1.18	5.47	20.90	24.30
200	8	8.98	6.93	15.91	10.55	7.83	2.36	3.54	F07	0.67	0.75	1.18	7.48	29.10	33.10
250	10	10.47	8.35	18.82	12.60	9.76	2.68	4.92	F10	0.87	0.94	1.54	9.45	49.60	56.20
300	12	11.46	9.33	20.79	14.57	11.65	3.07	4.92	F10	0.87	0.94	1.54	11.30	69.40	77.20
350	14	13.07	10.59	23.66	16.06	13.31	3.07(3.62)**	5.91	F12	*	*	-	12.99	86.90	99.20
400	16	14.29	12.36	26.65	18.50	15.28	4.02	5.91	F12	*	*	-	14.88	129.40	142.20
450	18	15.63	13.19	28.82	20.87	16.95	4.49	8.27	F16	*	*	-	16.42	200.60	210.50
500	20	17.20	15.94	33.15	22.60	19.47	5.00	8.27	F14/F16	*	*	-	18.66	235.90	250.20
600	24	19.61	18.46	38.07	26.57	23.23	6.06	11.81	F16/F25	*	*	-	22.17	377.00	436.50
700	28	22.87	19.96	42.83	30.39	26.77	6.50	11.81	F16/F25	*	*	-	25.98	553.40	670.20
800	32	24.80	21.89	46.69	34.41	30.71	7.48	11.81	F25	*	*	-	29.80	782.60	826.70
900	36	27.40	24.29	51.69	38.31	34.65	7.99	11.81	F25	*	*	-	33.86	1005.30	1097.90
1000	40	30.35	26.57	56.93	42.13	38.58	8.50	13.78	F30	*	*	-	37.64	1256.60	1582.90
1200	48	34.65	31.89	66.54	59.45	46.06	10.00	13.78	F30	*	*	-	45.43	-	2548.50

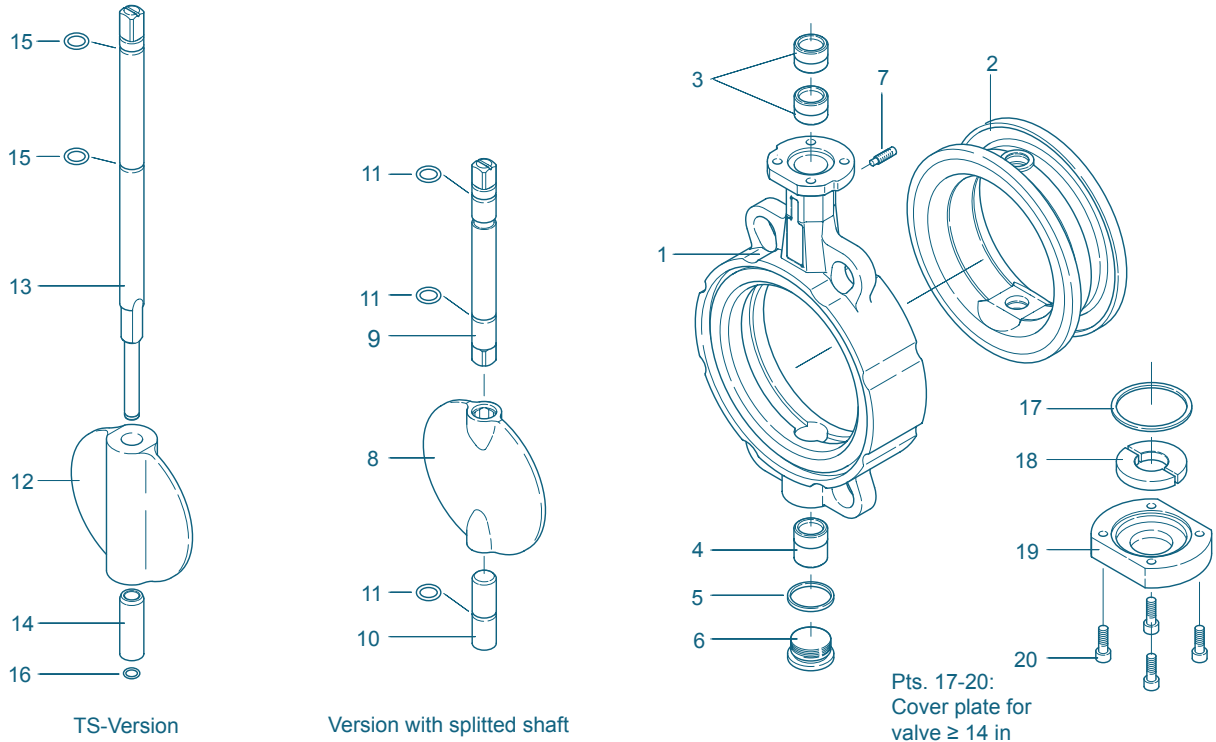
\* according to mounted actuator

\*\* face to face dim. acc. to EN 558 Tab. 20 (3.62 inch)

Subject to change without notice

# WAFER PATTERN BUTTERFLY VALVE TYPE Z 011-A

## MATERIAL SPEZIFICATION AND PARTS LIST



Pt.	Description	Material	Material-No.	ASTM	Pt.	Description	Material	Material-No.	ASTM						
<b>1</b>	<b>Body</b>	Aluminiumalloy	G-AISI9Cu3	3.2163	B 380.1	<b>9/10</b>	<b>Shafts</b>	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				X5CrNiMo 17-12-2	1.4401	316				
		Nodular Cast Iron	GGG-40	0.7040	60-40-18				Hastelloy	2.4883	Hastelloy				
			GGG-40.3	0.7043					CuAl10Ni	2.0975					
		Carbon Steel	GS-C25	1.0619	WCB			<b>11</b>	<b>O-ring</b>	NBR	Acrylonitrile butadiene rubber				
		Stainless Steel	G-X5CrNiMo19-11-2	1.4408	CF8M					FPM	Fluorocarbon caoutchouc				
	Aluminium Bronze	G-CuAl10Ni	2.0975	C 95800	<b>12</b>	<b>TS-disc</b>	Nodular Cast Iron	GGG-40	0.7040	60-40-18					
<b>2</b>	<b>Seat</b>	NBR	Acrylonitrile butadiene rubber					Stainless Steel	G-X5CrNiMo19-11-2	1.4408	CF8M				
		EPDM	Ethylene propylene caoutchouc						Aluminium Bronze	G-CuAl10Ni	2.0975	C 95800			
		CSM	Chlorsulphonated polyethylene						Coating	Halar,Rilsan					
		FPM	Fluorocarbon caoutchouc						Surface quality	electropolished, mirror finished					
		VSI	Silicon rubber					<b>13</b>	<b>TS-shaft</b>	Stainless Steel	X14CrMoS17	1.4104	430 F		
		AU	Polyurethane elastomer								X39CrMo17-1	1.4122			
<b>3/4</b>	<b>Bearing bush</b>	Brass	MS 58	2.0401	B 45		X5CrNiMo17-12-2	1.4401	316						
		Polyamide	PA 66				Aluminium Bronze	CuAl10Ni	2.0975						
		PTFE	Polytetrafluorethylene			<b>14</b>	<b>Sleeve</b>	Stainless Steel	X5CrNi18-10	1.4301	304				
<b>5</b>	<b>Seal DIN 7603</b>	Copper	Cu	Copper	<b>15</b>			<b>O-ring</b>	NBR	Acrylonitrile butadiene rubber					
		Stainless Steel	G-X5CrNiMo19-11-2	1.4408		CF8M	FPM		Fluorocarbon caoutchouc						
<b>6</b>	<b>Plug screw DIN 908</b>	Steel	45 H galvanized			<b>16</b>	<b>Retaining ring</b>	Stainless Steel	X39CrMo17-1	1.4122					
		Stainless Steel	A4-70		B8M			<b>17</b>	<b>O-ring</b>	NBR	Acrylonitrile butadiene caoutchouc				
<b>7</b>	<b>Set screw DIN 915</b>	Steel	45 H galvanized			<b>18</b>	<b>Shaft retainer</b>			Brass	MS 58	2.0401	B 45		
		Stainless Steel	A4-70		B8M			<b>19</b>	<b>Cover plate</b>	Grey Cast Iron	GG-25	0.6025	40 B		
										<b>20</b>	<b>Screw</b>	Steel	45 H galvanized		
													Stainless Steel	A2-70	B 8
														A4-70	B8M
<b>8</b>	<b>Disc</b>	Steel	St 52.3	1.0570	572-50		Other materials upon request								
		Stainless Steel	G-X5CrNiMo19-11-2	1.4301	304										
			G-X6CrNiMo18-10	1.4408	CF8M										
		X2CrNiMo17-12-2	1.4404	316 L											
		X6CrNiMoTi17-12-2	1.4571	316 Ti											
		G-X2CrNiMoN26-7-4	1.4469	F 51											
		Hastelloy	2.4883	Hastelloy											
	Aluminium Bronze	G-CuAl10Ni	2.0975	C 95800											
	Coating	Halar, Rilsan													
	Surface quality	electropolished, mirror finished													

Subject to change without notice

# WAFER PATTERN BUTTERFLY VALVE TYPE Z 011-A

## 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]	Operating pressure			
		50 [psi]	100 [psi]	150 [psi]	200 [psi]
20	¾	51	51	46	-
25	1	51	51	46	-
32	1¼	51	51	46	-
40	1½	81	81	73	61
50	2	92	92	82	69
65	2½	183	183	165	137
80	3	81	102	165	183
100	4	92	183	256	282
125	5	153	224	412	450
150	6	366	458	714	954
200	8	600	773	1282	1526
250	10	1526	1831	1831	1831
300	12	2034	2441	2563	2746
350	14	3560	5492	5584	5340
400	16	4272	6306	6865	6484
450	18	7323	7587	7872	11442
500	20	9154	11188	20642	28148
600	24	10679	21359	27461	44472
700	28	15866	22783	31580	61788
800	32	21054	38649	60414	85435
900	36	27461	49837	64991	110607
1000	40	46786	68958	105268	186125
1200	48	79332	122049	192228	335636

All values in inch lbs

## C<sub>v</sub> VALUES

- The C<sub>v</sub> Value [US Gallon per minute] is the flow of water at a temperature of 41°F to 86°F with a pressure drop of 1 psi.

- 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	¾	-	3	5	8	10,3	13	16	19
25	1	-	3	6	10	16	22	30	40
32	1¼	1	3	8	15	25	36	49	62
40	1½	1	2	6	13	22	34	48	65
50	2	1	7	15	27	41	56	73	89
65	2½	3	7	24	50	85	126	173	223
80	3	8	23	58	110	175	250	331	416
100	4	15	29	71	141	241	371	534	729
125	5	43	76	142	251	411	632	922	1292
150	6	58	109	199	352	592	942	1426	2067
200	8	74	177	371	682	1137	1762	2581	3622
250	10	205	338	653	1187	1975	3053	4456	6218
300	12	239	475	972	1771	2915	4446	6403	8831
350	14	371	687	1303	2323	3845	5972	8805	12445
400	16	536	1005	2007	3624	5937	9026	12974	17860
450	18	664	1245	2488	4491	7357	11186	16078	22134
500	20	827	1551	3097	5592	9160	13927	20018	27558
600	24	880	1650	3295	5949	9745	14817	21297	29319
700	28	932	1523	4448	8787	14393	21883	31454	43302
800	32	1209	1975	5074	11019	19519	30521	43971	59815
900	36	1355	2214	6466	14044	24878	48419	69755	94890
1000	40	1686	2756	8049	17480	30965	53606	77228	105056
1200	48	2465	4035	11779	25581	45337	70872	102110	138907

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