

# DOUBLE FLANGED BUTTERFLY VALVE F012-A



The double flanged design is suitable for high pressure loading and is excellently suited for use in heavy industry, shipbuilding and waterworks.

## TECHNICAL DATA

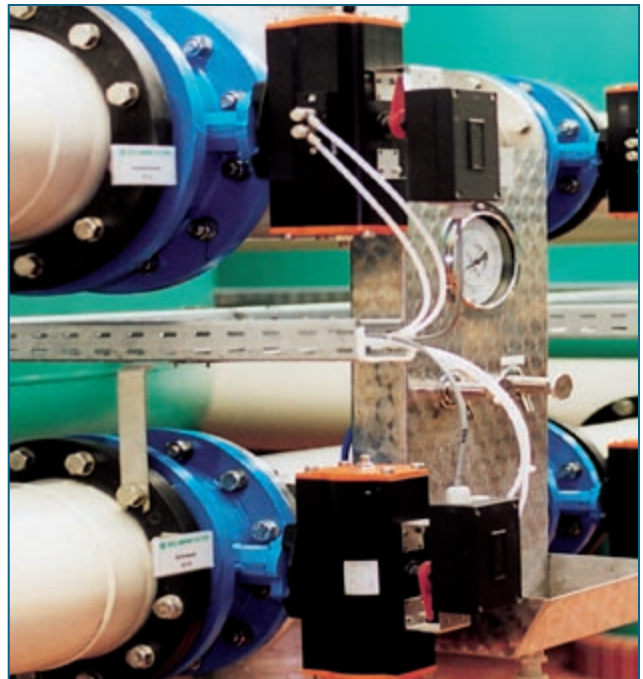
Nominal diameter:	DN 50 - DN 1200
Face-to-face:	EN 558 Series 13 ISO 5752 Series 13 API 609 Table 2C BS 5155 short NF E 29-305.1
Flange accommodation:	DIN 2501 PN 6/10/16 ANSI B 16.5, Class 150 MSS SP44 Class 150 AWWA C 207 AS 2129 Table D and E BS 10 Table D and E JIS B 2211-5 K JIS B 2212-10 K
Flange Surface Design:	DIN 2526, Form A-E, ANSI RF
Top flange:	EN ISO 5211 NF E 29-402
Marking:	DIN EN 19
Tightness check:	EN 12266 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. $\Delta p$ 16 bar
Vacuum:	0,2 bar absolute (depending on medium and temperature)

## FEATURES

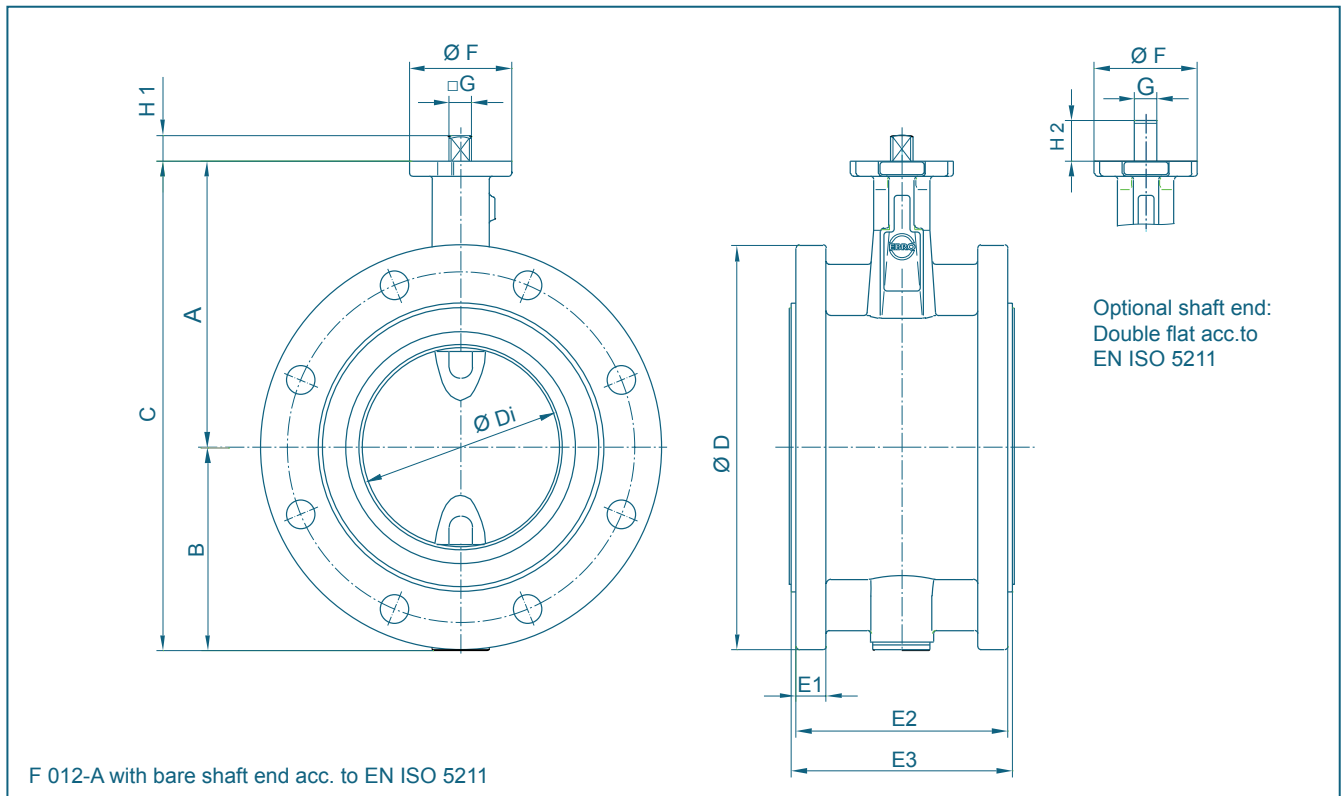
- Absolutely tight sealing with flow in either direction
- The valve body and disc are accurately machined which results in low operating torque and long service life and reliability
- Triple shaft bearings prevents shaft deflection and guarantees optimum guidance even after many years of operating service
- Can be disassembled, material-specific recycling possible
- Single flange mounting possible
- Can be installed in any desired position
- Maintenance-free
- Fully repairable valve

## GENERAL APPLICATIONS

- Offshore
- Water and waste water technology
- Shipbuilding



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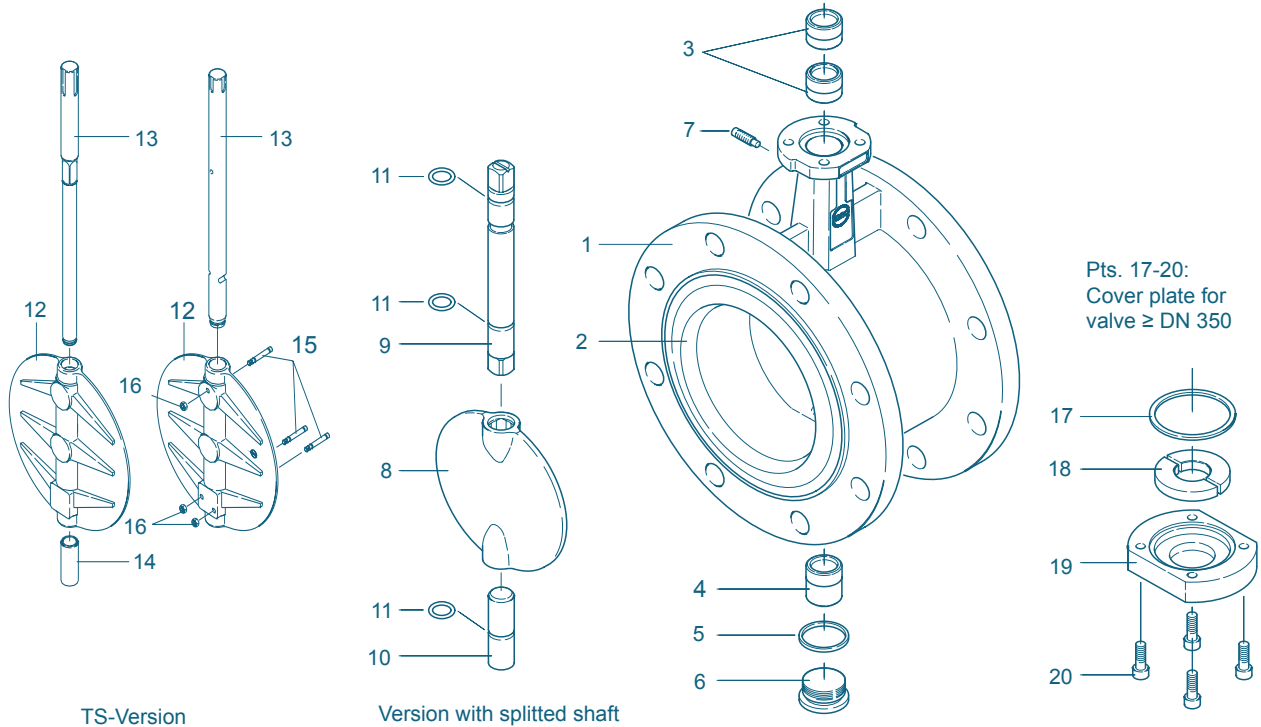
DN [mm]	Size [in]	Dimensions [mm]													Weight [kg] (GGG-40)	
		A	B	C	Di	D	E1	E2	E3	F	Flange	G	H1	H2	Splitted shaft	TS- shaft
50	2	126	84	210	48,5	165	15	102	108	54	F04	11	12	19	9,3	-
65	2½	134	93	227	63,5	185	15	106	112	54	F04	11	12	19	10,1	-
80	3	157	104	261	78,5	200	17	108	114	65	F05	14	16	25	12,2	12,7
100	4	167	115	282	98,5	229	17	121	127	65	F05	14	16	25	16,1	16,7
125	5	180	127	307	123,5	254	19	134	140	65	F05	14	16	25	24,0	24,6
150	6	203	150	353	148	285	19	134	140	90	F07	17	19	30	29,0	30,5
200	8	228	176	404	199	343	21	146	152	90	F07	17	19	30	39,1	40,9
250	10	266	212	478	248	406	23	159	165	125	F10	22	24	39	61,2	64,2
300	12	291	237	528	296	483	24	170	178	125	F10	22	24	39	81,4	84,2
350	14	332	269	601	338	533	24	182	190	150	F12	*	*	-	107,0	112,6
400	16	363	314	677	388	597	28	208	216	150	F12	*	*	-	142,0	147,8
450	18	397	335	732	430,5	640	33	214	222	175	F14	*	*	-	183,0	188,0
500	20	437	405	842	494,5	710	40	223	229	210	F14/16	*	*	-	233,0	240,0
550	22	456	435	891	540	750	40	219	229	210	F16	*	*	-	268,0	285,0
600	24	502	465	967	590	840	40	257	267	300	F16/25	*	*	-	303,0	330,0
700	28	581	507	1088	680	920	41	286	292	300	F16/25	*	*	-	407,0	460,0
800	32	630	556	1186	780	1050	47	312	318	300	F25	*	*	-	604,0	624,0
900	36	696	617	1313	880	1178	47	320	330	300	F25	*	*	-	745,0	787,0
1000	40	771	675	1446	980	1280	47	404	410	350	F30	*	*	-	942,0	1090,0
1200	48	905	810	1715	1170	1510	55	460	470	350	F30	*	*	-	--	1400,0

\* according to the mounted actuator

Subject to change without notice

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## MATERIAL SPECIFICATION AND PARTS LIST



Pt.	Description	Material	Material-No.	ASTM	Pt.	Description	Material	Material-No.	ASTM
<b>1</b>	<b>Body</b>				<b>9/10</b>	<b>Shafts</b>			
	Nodular Cast Iron	GGG-40	0.7040	60-40-18		Stainless Steel	X14CrMoS17	1.4104	430 F
	Carbon Steel	GS-C25	1.0619	WCB			X5CrNiMo17-12-2	1.4401	316
<b>2</b>	<b>Seat</b>						Hastelloy	2.4883	Hastelloy
	NBR	Acrylonitrile butadiene rubber				Bronze	CuAlNiBZ	2.0975	
	EPDM	Ethylene propylene caoutchouc			<b>11</b>	<b>O-ring</b>			
	CSM	Chlorsulphonated polyethylene				NBR	Acrylonitrile butadiene rubber		
	FPM	Fluorocarbon caoutchouc				FPM	Fluorocarbon caoutchouc		
	VSI	Silicon rubber			<b>12</b>	<b>TS-disc</b>			
<b>3/4</b>	<b>Bearing bush</b>					Nodular Cast Iron	GGG-40	0.7040	60-40-18
	Bronze	RG 5				Stainless Steel	G-X6CrNiMo10-20	1.4408	CF8M
	Polyamide					Aluminium Bronze	CuAl10Ni	2.0975	C 95800
	PTFE					Coating	Halar, Rilsan		
<b>5</b>	<b>Seal DIN 7603</b>					Surface quality	electropolished, mirror finished		
	Copper	Cu		Copper	<b>13</b>	<b>TS-shaft</b>			
<b>6</b>	<b>Plug screw DIN 908</b>					Stainless Steel	X14CrMoS17	1.4104	430 F
	Stainless Steel	11SMnPb30	1.0718 galv.	SAE12L14			X39CrMo17-1	1.4122	
	Stainless Steel	G-X5CrNiMo19-11-2	1.4408	CF8M			X5CrNiMo17-12-2	1.4401	316
<b>7</b>	<b>Threaded pin DIN 915</b>					Bronze	CuAlNiBZ	2.0975	
	Steel	45 H galvanized			<b>14</b>	<b>Sleeve</b>			
	Stainless Steel	X5CrNiMo17-12-2	1.4401	B8M		Stainless Steel	X5CrNi18-10	1.4301	304
<b>8</b>	<b>Disc</b>				<b>15</b>	<b>Taper pin</b>			
	Steel	St52.3	1.0570	572-50		Stainless Steel	X6CrNiMoTi17-12-2	1.4571	
	Stainless Steel	X5CrNi18-10	1.4301	304	<b>16</b>	<b>Hex. nut</b>			
		G-X5CrNiMo19-11-2	1.4408	CF8M		Stainless Steel	A2		
		X2CrNiMo17-12-2	1.4404	316 L	<b>17</b>	<b>O-ring</b>			
		X6CrNiMoTi17-12-2	1.4571	316 Ti		NBR	Acrylonitrile butadiene rubber		
		X2CrNiMo22-5-3	1.4462	F 51	<b>18</b>	<b>Shaft retention</b>			
		Hastelloy	2.4883	Hastelloy		Bronze	RG 5		
	Aluminium Bronze	CuAl10Ni	2.0975	C 95800	<b>19</b>	<b>Cover plate</b>			
	Coating	Halar, Rilsan				Grey Cast Iron	GG-25	0.6025	40 B
	Surface quality	electropolished, mirror finished			<b>20</b>	<b>Screw</b>			
						Steel	45 H galvanized		
						Stainless Steel	X5CrNiMo17-12-2		B8M
	Other materials upon request								

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## 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			
		3 [bar]	6 [bar]	10 [bar]	16 [bar]
20	¾	-	-	5	-
25	1	-	-	5	-
32	1¼	-	-	5	-
40	1½	-	-	6	8
50	2	5	7	7	9
65	2½	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	1200	3000	5830
700	28	1560	2240	3450	8100
800	32	2070	3800	6600	11200
900	36	2700	4900	7100	14500
1000	40	4600	6780	11500	24400
1200	48	7800	12000	21000	44000

All values in Nm

## K<sub>V</sub>-VALUES

- The K<sub>V</sub>-value [m<sup>3</sup> 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<sub>V</sub>-values specified are based on tests carried out by the Delfter Hydraulics Laboratories, the Netherlands

- Permissible velocity of flow  
V<sub>max</sub> 4,5 m/s for liquids,  
V<sub>max</sub> 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	¾	-	1	4	8	11	19	27	32
25	1	-	1,5	5	10	15	24	32	36
32	1¼	-	1,5	5	11	16	27	35	40
40	1½	-	2,2	8	15	21	33	43	50
50	2	1,2	8	13	22	38	50	65	85
65	2½	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	10800	11500
400	16	490	1050	1800	3100	5500	11000	12000	14500
450	18	510	1080	2040	3350	6100	11500	14600	20500
500	20	520	1100	2200	3500	6200	12000	15100	21000
600	24	750	1400	2800	5100	8800	14000	22000	29300
700	28	770	1755	3260	5980	10600	17100	25300	36000
800	32	1200	2260	4550	8230	12900	20300	29300	44600
900	36	1540	2280	6030	10500	17600	29200	42150	59000
1000	40	2200	3970	8300	14480	24000	37100	60300	81500
1200	48	5050	7900	13800	19700	33500	53300	73050	102650

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