

DOUBLE FLANGED BUTTERFLY VALVE F012-K1 / WN



Double flanged butterfly valve with short construction length to be used in heavy duty applications.

TECHNICAL DATA

Nominal diameter:	DN 150 - DN 2000 (bigger sizes upon request)
Face-to-face:	EN 558 Series 20 ISO 5752 Series 20 API 609 Table 1 Works standard
Flange accommodation:	EN 1092 PN 6/10/16 ASME Class 150 AS/NZS 4087 PN 16 Flange accommodation for works standard on request
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, Kategorie 3
Temperature range:	-40°C bis +200°C (depending on pressure, medium and material)
Operating pressure:	16 bar (others on request)

FEATURES

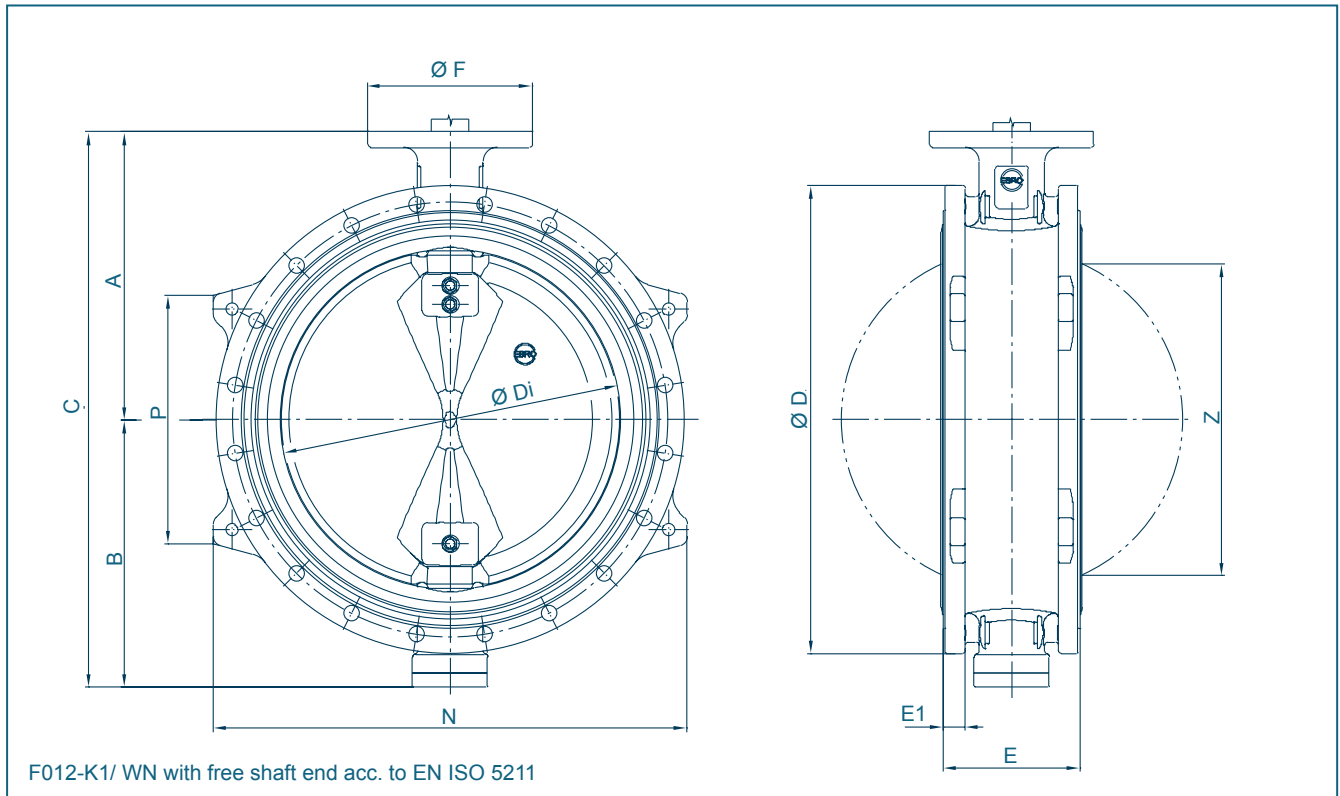
- Absolutely tight sealing with flow in either direction
- The valve body and disc are accurately machined which results in low operating torque and long service life and reliability
- Triple shaft bearings prevent shaft deflection and guarantee optimum guidance even after many years of operating service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

GENERAL APPLICATIONS

- Offshore
- Water and waste water technology
- Shipbuilding
- Power plants



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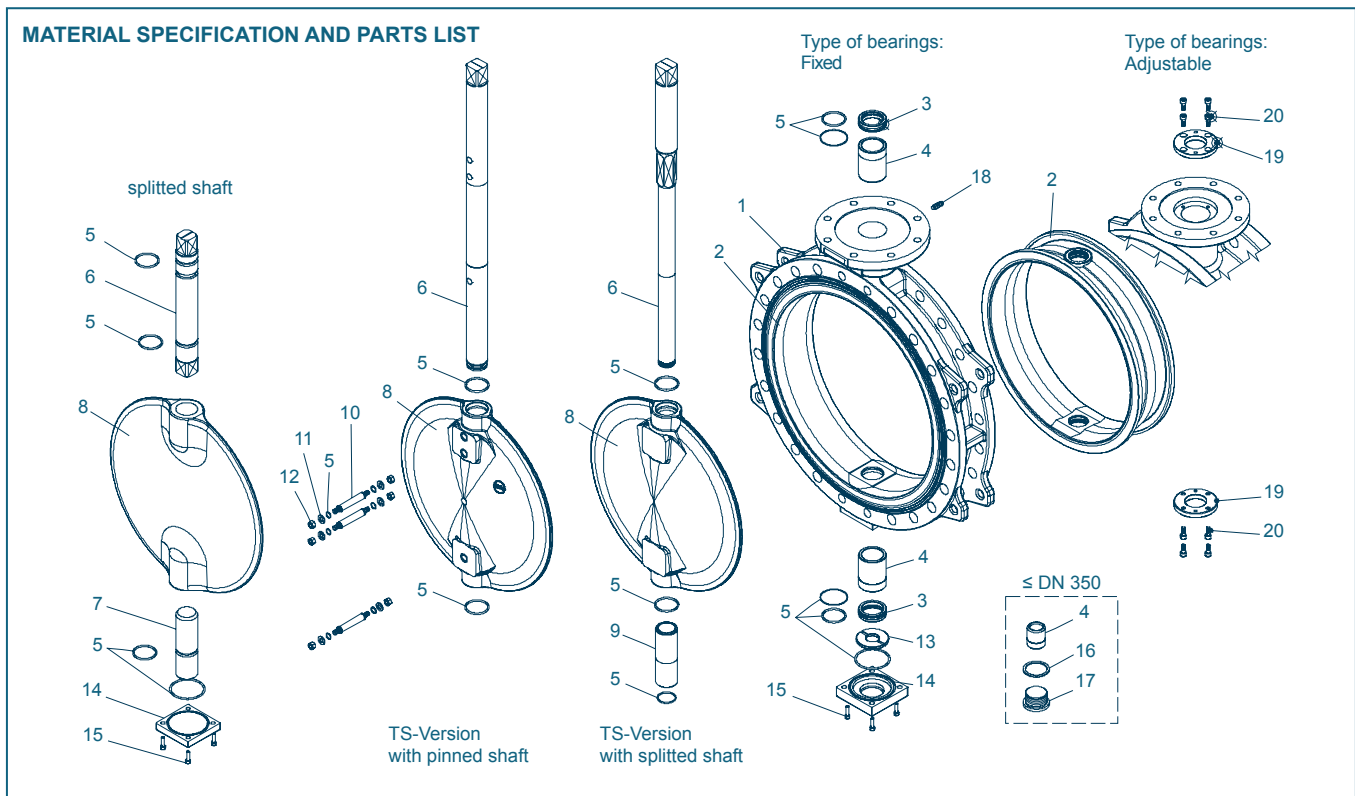
F012-K1/ WN with free shaft end acc. to EN ISO 5211

DN [mm]	Size [inch]	Dimensions [mm]											Bearings fixed adjustable	Weight [kg] (EN-JS-1030)		
		A	B	C	Ø Di	Ø D	E1	E	Ø F	Flange	N	P			Z	
150	6	203	150	353	148	305	15	56	90	F07	-	-	140	x	-	26
200	8	228	176	404	198	350	17	60	90	F07	-	-	192	x	-	34
250	10	266	212	478	248	430	19	68	125	F10	-	-	241	x	-	50
300	12	291	237	528	296	480	24	78	125	F10	-	-	288	x	-	72
350*	14	332	269	601	338	540	26	92	150	F12	-	-	331	x	-	86
400	16	363	314	677	390	605	28	102	150	F12	-	-	379	x	-	128
450	18	397	335	732	426	675	30	114	175	F14	-	-	414	x	-	150
450	18	465	385	850	426	770	27	114	210	F16	-	-	414	x	-	163
500	20	437	405	842	489	710	30	127	210	F16	-	-	475	x	-	170
600	24	498	445	943	582	780	33	154	300	F25	-	-	564	x	-	260
600	24	498	445	943	582	830	33	154	300	F25	860	400	564	x	-	296
700	28	581	507	1088	674	905	33	165	300	F25	-	-	658	x	-	345
700	28	581	507	1088	674	927	48	165	300	F25	-	-	658	x	x	374
700	28	581	507	1088	674	910	38	165	350	F25/F30	920	510	658	-	x	345
750*	30	590	550	1140	725	1000	50	190	300	F25	-	-	703	x	-	442
750*	30	670	589	1259	725	1092	50	292	350	F25/F30	1120	520	668	-	x	735
750*	30	590	550	1140	725	1015	46	292	350	F25/F30	1037	450	668	-	x	537
750*	30	615	570	1185	725	997	47	292	350	F25/F30	1010	530	668	x	-	573
800	32	630	556	1186	780	1020	35	190	300	F25	-	-	761	x	-	428
800	32	630	556	1186	780	1025	42	190	350	F25/F30	1060	500	761	-	x	454
800	32	660	595	1255	780	1085	54	190	415	F25/F30/F35	-	-	761	-	x	573
800	32	630	556	1186	780	1060	52	190	300	F25	-	-	761	x	-	492
900	36	696	617	1313	880	1120	37	203	300	F25	-	-	861	x	-	610
900	36	696	617	1313	880	1168	52	203	350	F25/F30	-	-	861	x	x	621
900	36	740	635	1375	880	1175	52	203	350	F25/F30	1190	600	861	x	x	672
1000	40	771	675	1446	980	1230	37	216	350	F35/F30	-	-	960	x	-	651
1000	40	771	675	1446	980	1250	37	216	350	F25/F30	-	-	960	-	x	673
1000	40	771	675	1446	980	1255	41	216	416	F30/F35	1280	500	960	-	x	811
1000	40	771	675	1446	980	1288	52	216	350	F25/F30	-	-	960	x	-	725
1050*	42	817	725	1542	1030	1346	60	254	475	F30/F35/F40	1406	660	847	x	-	1020
1100*	44	840	760	1600	1077	1405	43	216	350	F30	1470	660	1073	x	-	1068
1100*	44	840	760	1600	1070	1404	43	254	415	F35	1470	660	1064	x	-	1087
1200	48	905	810	1715	1176	1480	41	254	350	F30	-	-	1152	x	-	980
1200	48	935	810	1745	1176	1511	60	254	475	F30/F35/F40	1560	760	1152	-	x	1426
1300*	52	970	910	1880	1272	1630	65	280	415	F35	1700	800	1256	x	-	1607
1350*	54	1000	905	1905	1338	1685	65	280	475	F35/F40	1760	700	1327	x	-	1809
1400*	56	1025	970	1995	1372	1685	65	280	475	F35/F40	1760	700	1348	-	x	1820
1400*	56	1025	970	1995	1372	1745	66	280	475	F35/F40	1780	940	1348	-	x	1924
1500*	60	1115	1060	2175	1469	1855	65	280	560	F40/F48	1930	700	1446	-	x	2210
1600*	64	1115	1100	2215	1566	1930	65	280	475	F40	2000	800	1544	x	-	2440
1600*	64	1115	1100	2215	1566	1930	65	440	415	F35	2000	800	1506	x	-	2678
1800*	72	1320	1175	2495	1778	2130	65	280	475	F35/F40	2160	900	1759	x	-	3140
1800*	72	1320	1195	2515	1778	2197	65	280	560	F35/F40/F48	2230	1000	1759	x	-	2985
2000*	78	1400	1280	2680	1958	2265	75	525	560	F48	2350	1000	1890	x	-	4126
2000*	78	1400	1290	2690	1958	2365	75	525	560	F48	2400	1000	1890	x	-	4275

* Face-to-face: Works standard

Subject to change without notice

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Pos.	Description	Material	Material-No.	Pos.	Description	Material	Material-No.				
1	Body	Nodular Cast Iron	EN-GJS-400-15	10	Taper pin	Stainless Steel	X5CrNi18-10				
		Carbon Steel	GP240GH			1.0619	Stainless Steel	G-X5CrNiMo19-11-2	1.4301		
2	Seat/vulcanization	NBR	Nitrile butadiene rubber	11	Washer	Stainless Steel	A4				
		EPDM	Ethylene propylene diene monomer rubber			12	Hex nut	Stainless Steel	A4		
3/4	Bearing bush	Brass	CuZn39Pb3	13	Shaft retention	Brass	CuZn39Pb3				
			CW614N			Stainless Steel	16MnCr5	CW614N			
5	O-Ring	NBR	Nitrile butadiene rubber	14	Cover plate	Sectional steel	S235JR				
		EPDM	Ethylene propylene diene monomer rubber			Nodular Cast Iron	EN-GJS-400-15	EN-JS1030			
6/7	Shaft	X14CrMoS17	1.4104	15	Screw	Steel	45 H galvanized				
		X2CrNiMo17-12-2	1.4122			Stainless Steel	A4-70				
		X5CrNiMo17-12-2	1.4401			16	Seal DIN 915	Cooper	Cu		
		X2CrNiMo17-12-2	1.4404					17	Plug screw DIN 908	Machining steel	11SMnPb30
		G-X5CrNiMo19-11-2	1.4408							Stainless Steel	G-X5CrNiMo19-11-2
		G-X2CrNiMoN26-7-4	1.4462					18	Threaded pin DIN 915	Steel	45 H galvanized
CuAl10Fe5Ni5-C	1.4469	Stainless Steel	X5CrNiMo17-12-2								
8	Disc	Nodular Cast Iron	EN-GJS-400-15	19	Clamping ring	Sectional steel	S235JR				
		Stainless Steel	G-X5CrNiMo19-11-2			1.4408	20	Cylinder screw	Stainless Steel	A4	
		Aluminium Bronze	CuAl10Fe5Ni5-C			CC333G					
		Coating	Halar, Rilsan, Nonstick								
	Surface quality	electropolished, mirror finished									
9	Sleeve	Stainless Steel	X5CrNi18-10								

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TORQUE

- The values listed in the table are initial breakaway torques, taken with liquids and lubricant media.

- Please regard these as approximate values, as the objective value depends on different factors like pressure, medium, rubber, quality, temperature ... etc.

- Our engineers look forward to help you with exact values for your application.

- Powdery (non-lubricant) media
Md x 1,3

- Dry gases/high viscous media
Md x 1,2

DN [mm]	Size [in]	Operating pressure			
		3 [bar]	6 [bar]	10 [bar]	16 [bar]
150	6	36	45	78	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	1800	3000	5830
700	28	1600	2240	3450	8100
800	32	2200	3900	6600	11200
900	36	2800	4900	7100	14500
1000	40	4800	6760	11500	24400
1200	48	7800	12000	21000	44000
1400	48	-	-	-	-

Bigger sizes upon request

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,
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°
150	6	50	95	170	305	510	810	1230	1780
200	8	65	150	320	590	980	1515	2220	3115
250	10	175	290	560	1020	1700	2630	3830	5350
300	12	205	410	835	1520	2510	3820	5510	7590
350	14	320	590	1120	2000	3310	5140	7570	10700
400	16	460	865	1730	3120	5110	7760	11160	15360
450	18	570	1070	2140	3860	6330	9620	13830	19035
500	20	710	1335	2600	4810	7880	11980	17215	23700
600	24	760	1420	2900	5120	8380	12740	18315	25215
700	28	770	1430	4000	7560	12380	18820	27050	37240
800	32	915	1800	4360	9480	16790	26250	37815	51440
900	36	1160	2100	5560	12080	21400	33450	48200	65560
1000	40	1450	2370	6920	15030	26630	41640	59900	81605
1200	48	2120	3470	10130	22000	38990	60950	87815	119460
1400	66	2930	4790	14000	30400	53840	84190	121290	165000

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