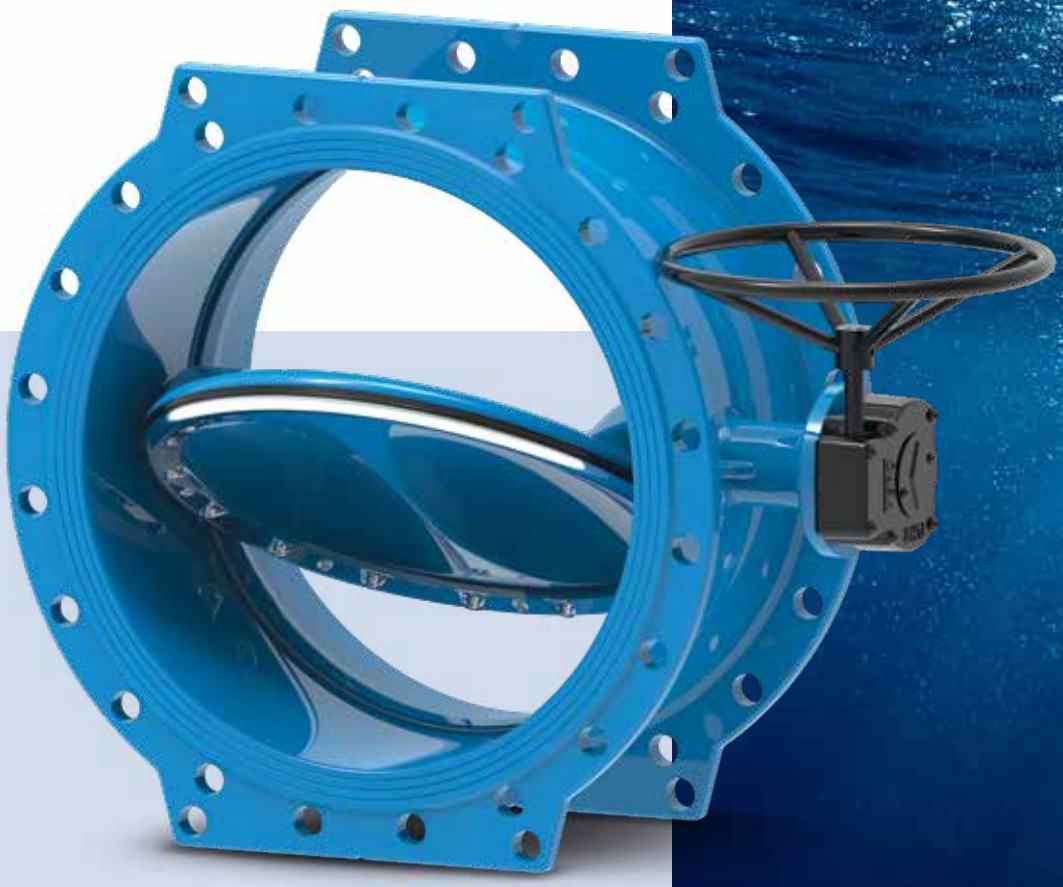
BELGICAST
WATER IS LIFE

EVOLUTION Double eccentric butterfly valve



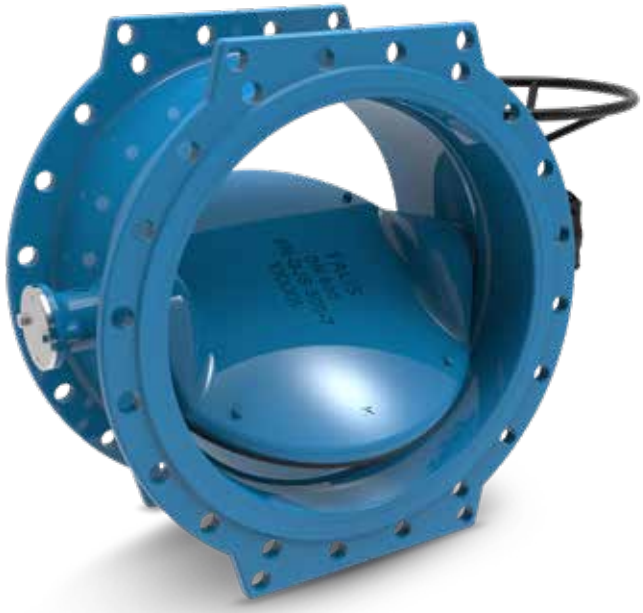


DOUBLE ECCENTRIC BUTTERFLY VALVE

EVOLUTION

BELGICAST double eccentric butterfly valve represents the essence of an efficient butterfly valve designed for when economy is a high priority.

EVOLUTION is functional and reliable, providing reduced complexity. It covers the needs in standard applications for drinking water in terms of design, materials and standards.



ADVANTAGES

- **Essential:** Design and material selection are optimized for use in low and medium pressure drinking water applications.
- **Durable:** Uninterrupted corrosion protection with pin-less connection and closed disc eyes ensure long service life and clean water.
- **Efficient:** Flow-efficient design for minimized head loss and low energy consumption significantly reduces the cost of ownership.

CHARACTERISTICS

- **Economic solution** providing all required features for standard drinking water applications.
- **Long service life** due to uninterrupted corrosion protection and high quality components.
- **Clean drinking water** by using certified high quality components.
- **100% tested** according to EN 12266-1

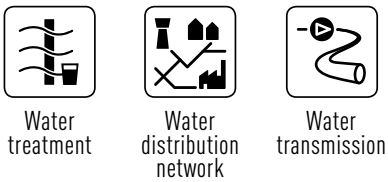
APPROVALS

- WRAS, ACS, CNAS

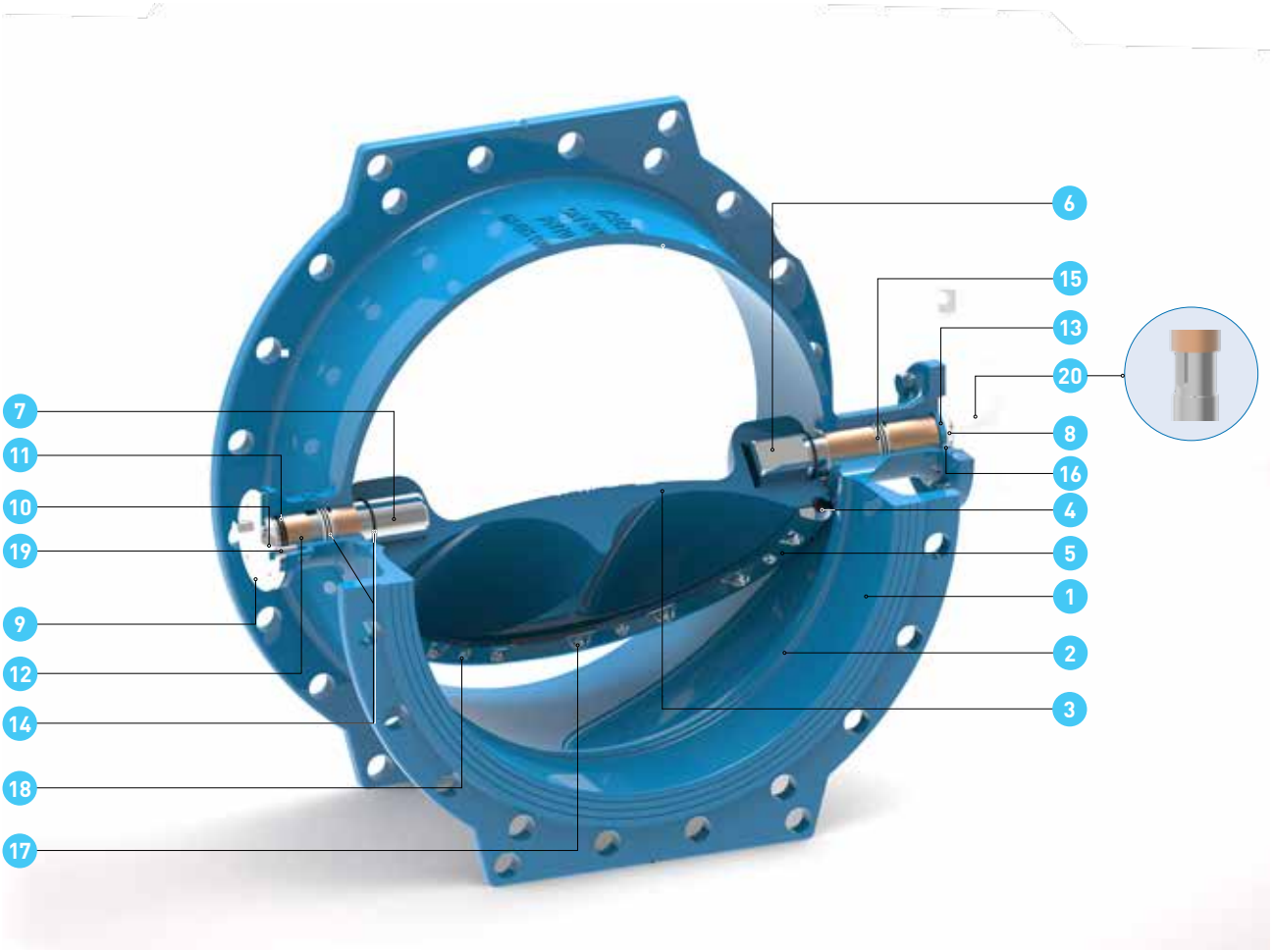
TECHNICAL DATA

- **Nominal diameter (DN)**
  DN 150 - DN 1800
- **Nominal pressure (PN)**
  PN 10 and PN 16
- **Double eccentric butterfly valve** acc. to design standards EN 593 and EN1074-1/2
- **Face-to-face dimension** acc. to EN558 series 13 and series 14
- **Flange Drilling** acc. to EN 1092-2
- **Medium** Drinking water
- **Temperature** min. -10°C, max. +50°C
- **Coating** Epoxy min. 250 µm
- **Actuation types**
  · Standard gearbox with handwheel
  · Gearbox with handwheel prepared for electric actuator
- **Gearbox enclosure** IP68

APPLICATIONS

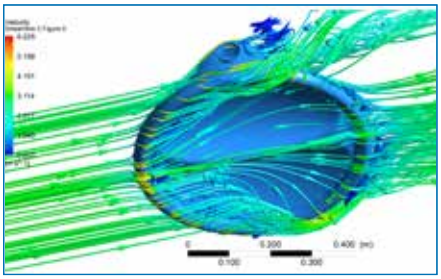


MAIN COMPONENTS



POS.	DESCRIPTION	MATERIAL - STANDARD	OPTIONAL	SPARE PART	WATER CONTACT
1	Body	EN-GJS-500-7, epoxy coated 250µm	300µm		x
2	Seat area	Integral, epoxy coated	Welded stainless steel AISI 309L		x
3	Disc	EN-GJS-500-7, epoxy coated 250µm	300µm		x
4	Sealing ring	EPDM	NBR	x	x
5	Retaining ring	CF8	CF8M, AISI 316Ti		x
6	Drive shaft	AISI 420	AISI 431, Duplex		x
7	Shaft	AISI 420	AISI 431, Duplex		x
8	Drive side cover	AISI 304			
9	End cover	AISI 304			
10	Spacer	AISI 304			
11	Washer	POM			
12	Bush	Self-lubricating steel + PTFE coated	Bronze + PTFE coated		x
13	U-ring	NBR		x	
14	O-ring	EPDM	NBR	x	x
15	Washer	PTFE		x	
16	Screws	A2			
17	Screws	A2	A4		x
18	Set screws	A2	A4		x
19	Screws	A2			
20	Key	C45			

BENEFITS AND FEATURES



FLOW-EFFICIENT DESIGN

- Disc design and inner body diameter are designed for maximum flow.
- Low energy consumption due to minimized head loss.
- **Reduced total cost of ownership**.

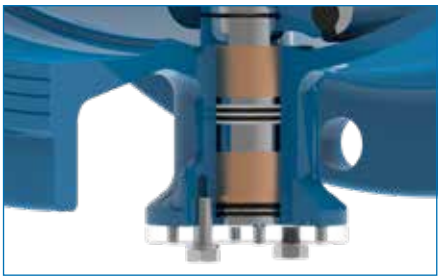
OPTIMIZED FOR DRINKING WATER

- Materials in contact with water are **certified high quality**.
- **WRAS and ACS approval** on components and full product.
- Corrosion protection and stainless steel components ensure **clean water**.



UNINTERRUPTED CORROSION PROTECTION

- Shaft-disc connection by means of a square shaft **without pins**.
- Closed disc eyes.
- 250 µm epoxy coating.
- **Clean water** and **high durability**.



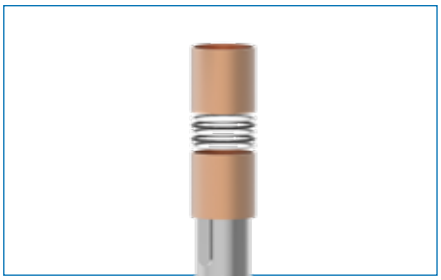
ADJUSTABLE DISC POSITION

- Lower cover design allows axial adjusting of disc position over time **for vertical installations**.
- **Easy maintenance** without disassembling the valve.



LOW-WEAR SEALING RING

- Saw-tooth profile for **self-sealing** effect and low friction.
- Wearing is compensated by compressing the sealing ring over time.
- **High durability**.



SELF-LUBRICATING BUSHES

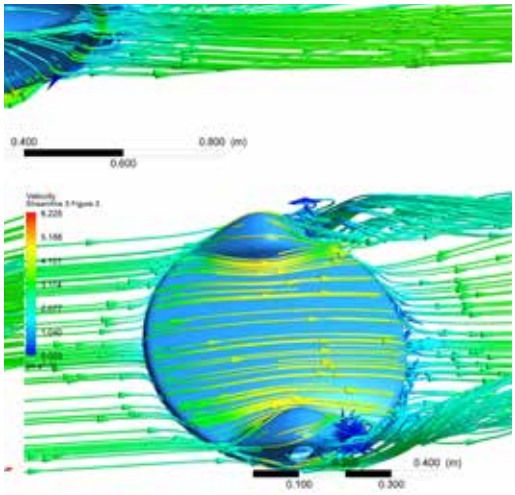
- **Self-lubricating** bushes of steel + bronze.
- PTFE coated.
- Without lead.
- **Maintenance-free**.

ENERGY EFFICIENCY

EVOLUTION double eccentric butterfly valve contributes to an overall optimized hydraulic system for a low consumption of energy.

Key figures are Kv and ζ (zeta) values:

- The Kv-factor of a valve indicates the water flow in m^3/h at a pressure drop across the valve of 1 kg/cm^2 at 5-30°C when the valve is 100% open.
- The head loss coefficient ζ (zeta) or resistance coefficient is a dimensionless measure in fluid mechanics reflecting the resistance in a certain hydraulic element.
- High Kv factors and low zeta values mean reduced pressure losses and smaller pump capacities.



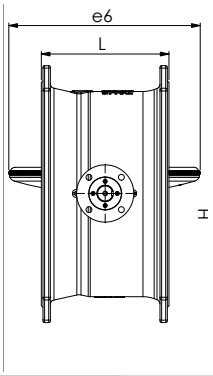
	PN10		PN16	
DN	Kv m^3/h	ζ (zeta)	Kv m^3/h	ζ (zeta)
150	-	-	975	0.85
200	1,517	0.90	1,412	0.85
250	2,472	0.83	2,108	0.82
300	5.291	0,46	5.138	0,49
350	7.941	0,38	7.465	0,43
400	10.371	0,38	10.238	0,39
450	13.302	0,37	13.302	0,37
500	16.649	0,36	15.639	0,37
600	27.684	0,27	25.509	0,32
700	40.826	0,23	33.778	0,34
800	55.806	0,21	44.118	0,34
900	60.260	0,23	58.068	0,25
1000	74.395	0,23	69.258	0,27
1200	111.503	0,22	105.928	0,24
1400	175.246	0,16	145.814	0,23
1600	217.147	0,18	207.041	0,20
1800	241.039	0,23	232.271	0,25

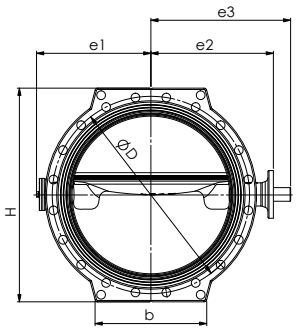
EVOLUTION valves minimize total cost of ownership

DIMENSIONS AND WEIGHTS

DOUBLE ECCENTRIC BUTTERFLY VALVE - EVOLUTION

BARE SHAFT







DN	PN	Weight	D	e1	e2	e3	L	e6	H	b	For gearbox / electric actuator	
		kg	mm	mm	mm	mm	mm	mm	mm	mm	Round shaft Ø mm	Key
Face-to-face dimension acc. to EN558 series 13												
300	10/16	57	400/410	243	288	339	178	280	460	176	28	A8x45
350	10/16	76	460/470	272	315	366	190	330	520	200	36	A10x45
400	10/16	98	515/525	307	359	410	216	375	580	215	42	A12x56
450	10/16	130	565/585	347	385	447	222	430	640	255	42	A12x56
500	10/16	146	620/650	373	410	472	229	480	730	368	50	A14x56
600	10/16	224	725/770	428	504	582	267	580	860	430	60	A18x70
700	10/16	320	840/840	497	555	632	292	675	925	445	72	A20x70
800	10/16	459	950/950	555	600	708	318	780	1030	515	80	A22x100
DN 900-1800 still in progress												
Face-to-face dimension acc. to EN558 series 14												
150	16	25	240	160	160	195	210	145	285	140	22	A6x28
200	10	38	295	180	190	225	230	195	340	145	22	A6x28
	16	39	295	180	190	225	230	195	340	145	22	A6x28
250	10	52	350	210	234	270	250	235	400	145	22	A6x28
	16	53	355	210	234	270	250	235	400	145	22	A6x28
300	10	57	400	235	270	307.5	270	280	445	150	28	A8x32
	16	62	410	243	288	339	270	280	460	176	28	A8x45
350	10	75	460	265	310	361	290	330	505	180	28	A8x45
	16	83	470	272	315	366	290	330	520	200	36	A10x45
400	10	97	515	295	340	391	310	375	565	200	36	A10x45
	16	112	525	307	359	410	310	375	580	215	42	A12x56
450	10	142	565	325	385	447	330	430	640	255	42	A12x56
	16	142	585	325	385	447	330	430	640	255	42	A12x56
500	10	154	620	350	410	471	350	480	670	368	42	A12x56
	16	188	650	373	410	472	350	480	730	368	50	A14x56
600	10	226	725	420	455	517	390	580	780	410	50	A14x56
	16	292	770	428	504	582	390	580	860	430	60	A18x70
700	10	329	840	480	550	627	430	675	895	420	60	A18x70
	16	380	840	497	555	632	430	675	925	446	72	A20x70
800	10	466	950	540	600	677	470	780	1022	460	72	A20x70
	16	560	950	555	600	708	470	780	1030	516	80	A22x100
900	10	628	1050	592	647	756	510	880	1115	510	80	A22x100
	16	721	1050	626	665	772	510	880	1125	536	80	A22x100
1000	10	861	1160	678	717	827	550	982	1230	560	80	A22x100
	16	1109	1170	701	772	895	550	982	1255	560	100	A28x100
1200	10	1519	1380	799	865	988	630	1171	1455	655	100	A28x100
	16	1708	1390	822	930	1051	630	1171	1485	655	100	A28x110
1400	10	1945	1590	920	1025	1145	710	1375	1675	755	100	A28x110
	16	2202	1590	973	1055	1215	710	1375	1685	755	157	A40x140
1600	10	2990	1820	1061	1145	1340	790	1569	1915	915	157	A40x140
	16	3482	1820	1104	1190	1382	790	1569	1930	915	157	A40x140
1800	10	4397	2020	1195	1300	1453	870	1776	2115	1013	157	A40x140
	16	4987	2020	1198	1335	1495	870	1776	2130	1013	157	A40x140

ACTUATION METHODS

EVOLUTION double eccentric butterfly valveis supplied free shaft or qith manuagearbox EG model as standard.

As an option, EVOLUTIOn can be supplied qith AUMA GS gearbox prepared for actuator.

Models selection available aupon request.



STANDARD GEARBOX - HANDWHEEL OPERATED

EG MODEL

- With cast iron handwheel
- Stainless steel input shaft
- Clockwise closing
- IP68 protection
- Visual position indicator



OPTIONAL GEARBOX - GEARBOX PREPARED FOR ACTUATOR WITH HANDWHEEL

AUMA GS MODEL:

- With stainless steel handwheel
- Stainless steel input shaft
- Clockwise closing
- IP68 protection
- Sealed visual position indicator





BELGICAST is the undisputed Number One for water transport and water flow control. BELGICAST has the best solutions available in the fields of water and energy management as well as for industrial and communal applications. We have numerous products for comprehensive solutions for the whole water cycle – from hydrants, butterfly valves and knife gate valves through to needle valves. Our experience, innovative technology, global expertise and individual consultation processes form the basis for developing long-term solutions for the efficient treatment of the vitally important resource "water".

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