



ABO valve

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PTFE LINED BUTTERFLY VALVES

Body design

WAFFER type with through holes

LUG type with threaded holes

Nominal size

DN50 - DN400

Working pressure

6/10 bar

Flange connection

PN6/PN10/PN16/Class 150

Working temperature

-40°C / +80°C (UHMWPE)/
+200°C (PTFE)

Tightness

Class A



SERIES S500

chemical line

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Description

The Series 500 PTFE-lined butterfly valves are precision-engineered for isolation and control duties in chemically aggressive, toxic, and hygienic process environments. Featuring a concentric design with a compact PTFE "TRIM," they ensure bidirectional bubble-tight sealing and long-term resistance to corrosive media. The robust split-body construction, duplex stainless steel disc with PTFE coating, and PTFE-impregnated bearings provide durability, low operating torque, and reliable stem sealing. Fully compliant with international standards and ATEX-certified (conductive PTFE), the Series 500 supports direct integration with manual, pneumatic, and electric actuators for versatile industrial applications.

Working medium

Chemicals
Industrial cleaners
Toxic media
Caustic media
Paper mill stock
Drugs and pharmaceuticals chlorine
Alkalines
Acids
Dyes
Potable/purified/potable industrial water
Beverages
Food

Standards

Design standard	EN 593 / ASME B16.34
Leak test	Bi-directional tightness EN 12266-1, Class A ISO 5208, Class A
Face-to-face dimension	Wafer „B“ / Lug „T“ EN 558-2, series 20 ISO 5752, series 20
ATEX performance	As option
Top flange	EN ISO 5211
Flange connection	EN 1092-1 / EN 1092-2 ASME B16.5
Marking	EN 19 EN 593 PED 2014/68/EU ASME B16.34

Type designation

5 9 9 B V 100 03**Control**

- 0 - bare shaft
- 3 - manual gearbox with handwheel
- 4 - pneuactuator
- 5 - electroactuator

Nominal size (DN)**Option**

- Silicone (Energizer, Sealing ring, O-ring made of Silicone material)
- V - Viton option (Energizer, Sealing ring, O-ring made of Viton material)
- S - CF8M body option (body made of CF8M material)
- W - WCB body option (body made of WCB material)

Design of the body

- B - Wafer body type
- T - Lug body type

Seat material

- 6 - UHMWPE
- 8 - conductive PTFE
- 9 - PTFE

Disc material

- 6 - duplex stainless steel 1.4469 UHMWPE coated
- 7 - duplex stainless steel 1.4469
- 8 - duplex stainless steel 1.4469 conductive PTFE coated
- 9 - duplex stainless steel 1.4469 PTFE coated

Series designation

Series 500

Body material

- G - GGG40.3
- W - WCB
- S - CF8M



SERIES 500 BUTTERFLY VALVES DESIGN MODELS B / T

Type B (Wafer)

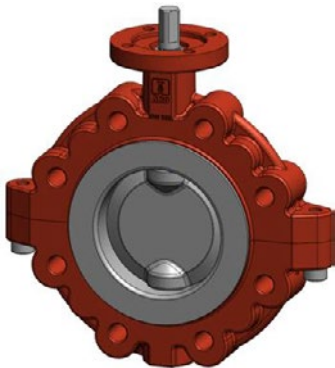


Design of ductile iron bodies



Design of steel bodies

Type T (Lug)



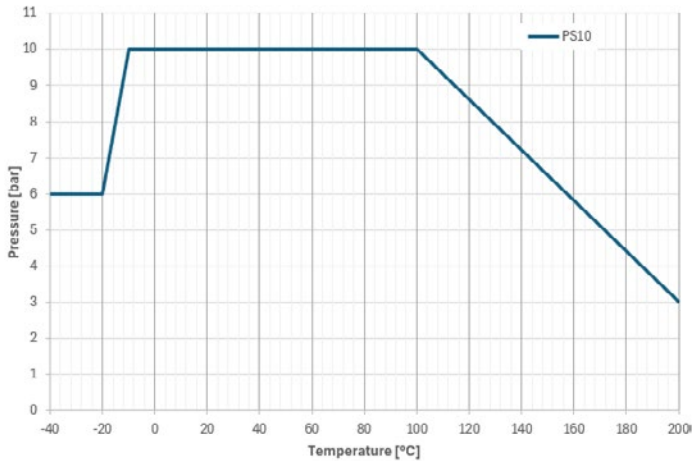
Design of ductile iron bodies DN50-300



Design of steel bodies DN350-400

Pressure-temperature diagram

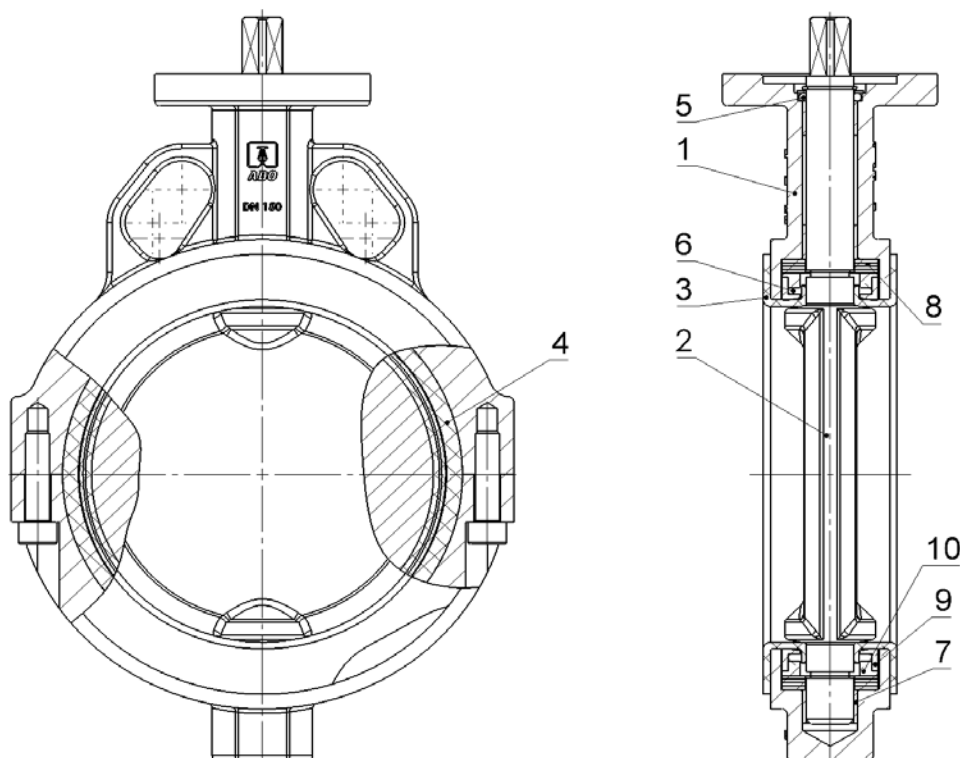
Pressure-temperature parameters		
Maximum working pressure		Temperature range
DN50-DN400	10 bar	-40 °C to +200 °C*
DN50-DN400	10 bar	-10 °C to +200 °C* (for Viton option)
Pressure-temperature diagram		
Body: ductile iron GGG40.3 / PTFE		



* Maximum temperature +80 °C for UHMWPE



MATERIAL CONFIGURATION



For standard option with cast body. Valid for B / T / DF types

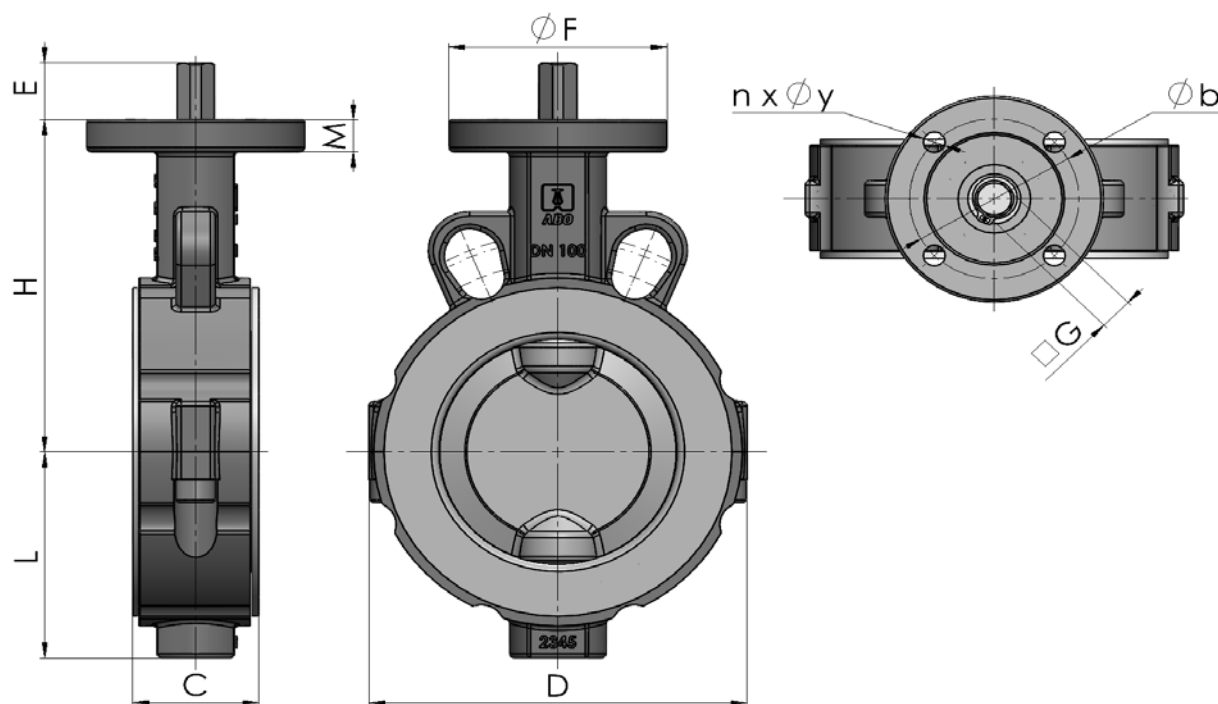
Part NO	Item	599	579	588	578	566	576
1	Body	GGG40.3					
		WCB					
		CF8M					
2	Disc	1.4469+PTFE	1.4469	1.4469+cond. PTFE	1.4469	1.4469 +UHMWPE	1.4469
	Shaft	1.4469					
	Pivot						
3	Seat	PTFE		Cond. PTFE		UHMWPE	
4	Energizer	Silicone / Viton option					
5	O-ring						
6	Sealing ring						
7	Sleeve bearing	Steel-CuSn10-PTFE					
8*	Disc spring	1.4310 / 1.8159					
9	Thrust collar	1.4021					
10	Thrust washer	1.4021					

Fastener material is A4 and A2 for all material configuration.

Other material performance upon request.

*Disc spring material 1.8159 (position 8) is only for DN250-400

DIMENSIONS



For standard option with cast body:

DN	H	L		C	F	D			M		E	G	ISO 5211 FLANGE	N X ØY	øb	DESIGN B [kg]		DESIGN T [kg]
		„B“	„T“			„B*“	„B“	„T“	STEEL	GGG40.3						Steel	GGG40.3	
50	120,5	61	76	43	70	106	104	164	10	14	25	□11	F05	4x7	50	2,1	2,3	3,7
65	128	74	85	46	70	125	118	204	10	14	25	□11	F05	4x7	50	2,6	3	5,8
80	135,5	78	95	46	90	152	134	230	10	14	25	□14	F07	4x9	70	3,4	3,6	7,1
100	145	90	107	52	90	165	156	260	12	14	25	□14	F07	4x9	70	4,5	5	9,4
125	164	106	127	56	90	191	184	295	12	14	25	□14	F07	4x9	70	6	7,1	12,9
150	176,5	126	138	56	90	216	210	331	12	14	25	□14	F07	4x9	70	7,8	9	14,6
200	234	152	172	60	90	273	264	396	12	14	25	□17	F07	4x9	70	12,9	14,4	25,4
250	274	186	197	70	125	338	328	390	17	18	31	□22	F10	4x12	102	21,2	24,2	34,4
300	299	214	229	76	125	390	376	458	17	20	31	□22	F10	4x12	102	27,6	30,7	43,4
350	331	245	255	78	155	-	430	514	21	21	42	□27	F12	4x14	125	-	41,1	66,4
400	361	280	294	102	155	-	484	587	21	21	42	□27	F12	4x14	125	-	58,6	93

*Bodies made of steel.

The weights are approximate, depending on material configuration and connection

Others option FTF dimensions upon request

TORQUES

OPENING TORQUES [Nm]											
DN	50	65	80	100	125	150	200	250	300	350	400
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
599	35	40	60	95	140	190	250	435	660	850	1050
579											
578											
588											

Torques are given without safety factor. For opening torques, a safety factor of 1,2 must be included.

KV VALUES

Size	Valve open angle with Kv - s.500 with coated								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
DN50	1	3	8	16	31	52	76	93	99
DN65	2	6	15	32	61	100	157	200	212
DN80	3	9	23	53	97	160	251	333	352
DN100	6	17	60	135	241	390	587	701	737
DN125	7	19	73	161	274	439	662	885	950
DN150	10	31	120	244	404	629	955	1 318	1 448
DN200	22	76	269	501	800	1 217	1 803	2 361	2 558
DN250	42	136	434	790	1 267	1 920	2 858	3 777	4 205
DN300	80	241	640	1 120	1 786	2 750	4 190	5 760	6 489
DN350	60	180	522	1 047	1 848	3 143	5 162	7 889	9 651
DN400	100	264	697	1 370	2 416	4 053	6 800	10 690	13 058

K_v = Water flow in m³/h, passing through the valve at a pressure drop of 1 bar

C_v = Water flow in US gal/min passing through the valve at a pressure drop of 1 psi

$$K_v = 0,875 \times C_v$$

Size	Valve open angle with Kv - s.500 with stainless steel disc								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
DN50	1	3	6	16	30	51	83	115	121
DN65	2	5	12	29	55	93	149	226	249
DN80	3	9	19	46	85	142	228	353	408
DN100	4	13	50	118	214	350	555	827	953
DN125	5	15	60	136	241	388	617	944	1 115
DN150	6	20	89	190	330	531	850	1 319	1 640
DN200	15	45	204	397	657	1 035	1 602	2 411	2 907
DN250	29	88	339	637	1 040	1 629	2 513	3 739	4 467
DN300	60	176	512	921	1 504	2 362	3 676	5 534	6 751

FLANGE CONNECTION

B type (wafer) ductile iron bodies

DN	50	65	80	100	125	150	200	250	300	350	400
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
PN6											
PN10											
PN16											
ANSI150											
JIS 10K											
JIS 16K											

	for cast bodies, all connections are possible at the same time
	additional machining required
	not available

T type (Lug type) ductile iron bodies

DN	50	65	80	100	125	150	200	250	300	350	400
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
PN6											
PN10											
PN16											
ANSI150											
JIS 10K											
JIS 16K											

	connection available, should be specified in an order
	not available

B type (wafer) steel bodies

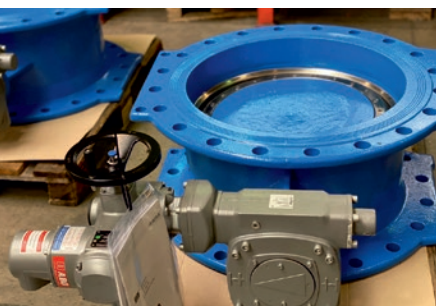
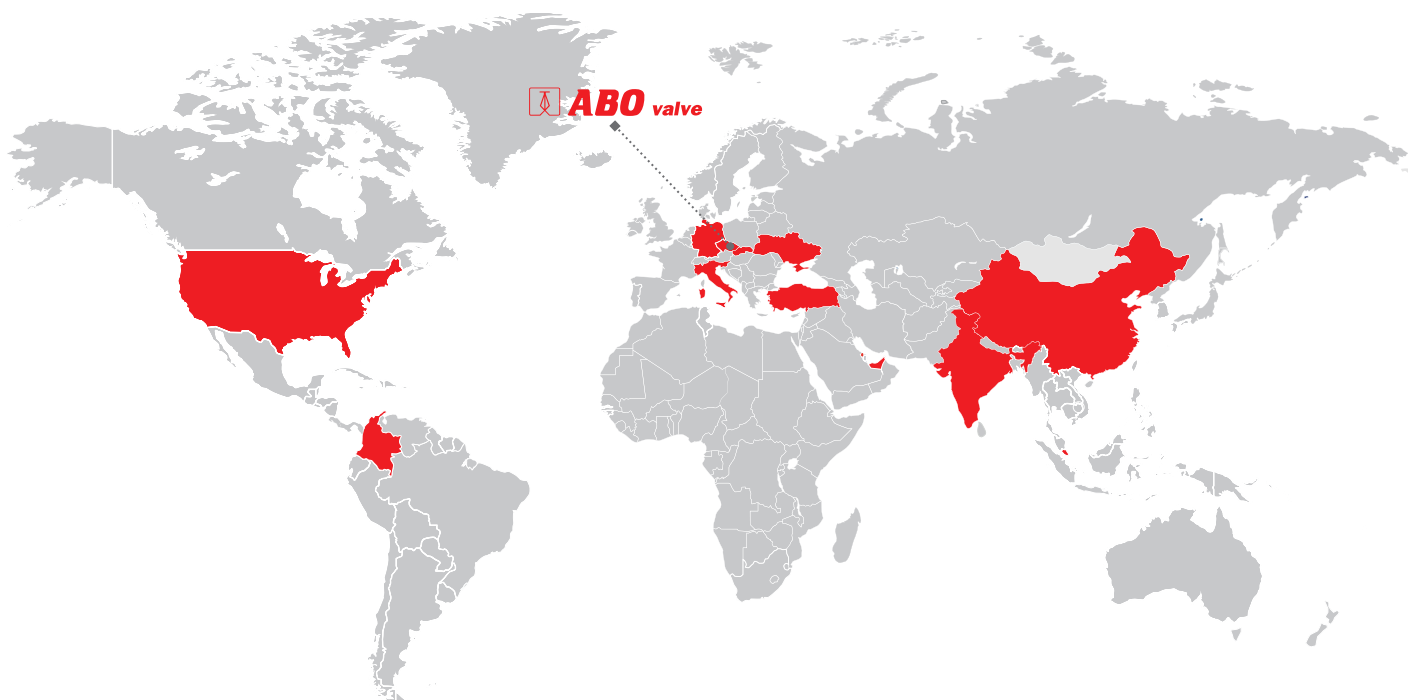
DN	50	65	80	100	125	150	200	250	300
NPS	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
PN6									
PN10									
PN16									
ANSI150									
JIS10K									
JIS16K									

	for cast bodies, all connections are possible at the same time
	not available



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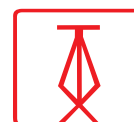
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Valid since: 09/2025