

# BUTTERFLY VALVE

## AL 44-590

### Double offset

### Description

AL 44-590 is a double offset valve for mounting between flanges according to EN 1092-1, 2, DIN 2631-35 and A B16.5. The valve has a splitted shaft, a replacable liner and a mounting flange for actuators according to EN ISO 5211. Suitable as a shut off valve or control valve. The valve is suitable for liquids, gases, abrasive and aggressive media in the forest industry, process industry, chemical industry, energy production, petrochemical industry, offshore, oil storage and refineries, snow production, etc

- Blow out stem
- Leakage class according to EN 12266-1 Rate A, ISO 5208. Rate A, API 598, TAB.5
- Mounting flange according to EN ISO 5211
- Max working pressure DN 50-100 - 50 bar, DN 125-100 - 40 bar, DN 250-600 - 25 bar
- Min/max temperature -60°C - +320°C (metal seat tightness class C) depending on material.
- Long neck of the body, to be isolated.
- CE/PED 2014/68/EU

### Optional

Lever, gear, pneumatic actuator type AL 79 and several other options.

### Installation / Maintenance

The valve can be mounted in horizontal and vertical lines. The valve is normally maintenance-free but should be operated at regular intervals depending on the installation. When installing a pneumatic actuator, it is a requirement that the actuator has the possibility of adjustment in both open and closed positions. We recommend AL 79. See separate manual for detailed instructions.

### Kv value

DN	Kv
50	87
65	148
80	312
100	456
125	750
150	1125
200	1950
250	3100
300	4510
350	6120
400	8605
450	9419
500	11674
600	16914

### Torque at maximum working pressure - Nm

#### Seat RTFE

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
16 bar	19	35	50	77	110	145	278	567	650	1378	2248	2569	3090	4300
25 bar	22	45	58	79	120	185	366	732	900	1900	3483	3925	5340	6250
40 bar	32	53	62	90	150	242	485	-	-	-	-	-	-	-
50 bar	35	60	65	105	-	-	-	-	-	-	-	-	-	-

Torque values above without safety factor.

#### Seat Metal/Metal and Fire Safe

DN	50	65	80	100	125
16 bar	50	70	100	150	220
25 bar	50	70	100	150	220

Torque values above without safety factor.



### Pressure class

Pressure class	Standard	Optional
PN 6	DN 80	DN 50-600
PN 10	DN 50-600	-
PN 16	DN 50-600	-
PN 25	DN 50-600	-
PN 40	DN 50-450	-

For lug connection, please specify at order.

### Ordering key

Ordering example: AL 44-590 - 5 - 5 - 9 - 0 - B - DN 100

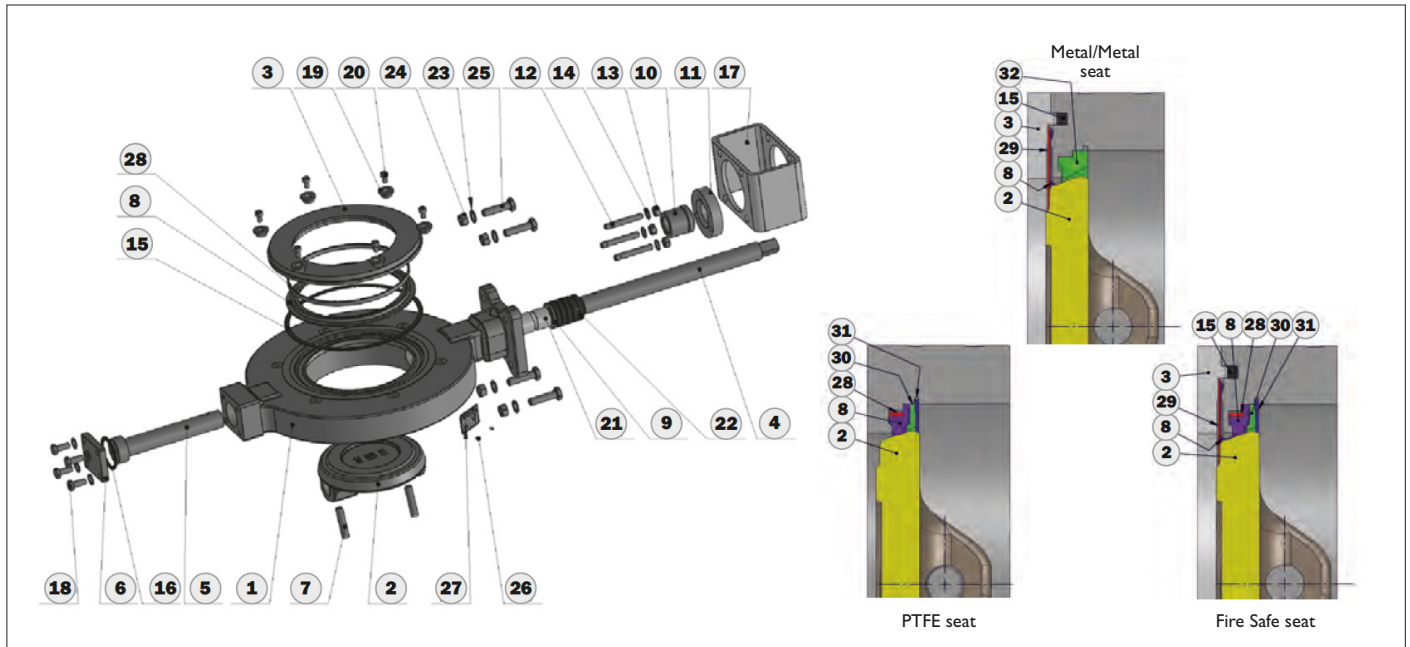
Type	Model	Body material	Seat material	Disc material	Connection
AL 44-590	5 = 2E	6 - Low carbon steel I.1156 (A352 LCC) 5 - Carbon steel I.0625 (A216 WCB) 4 - Stainless steel I.4408 (A351 CF8M)	9 - R-PTFE (PTFE + 25% glass fibre) 8 - FIRE SAFE (R-PTFE + INCONEL) 7 - INCONEL 718 (2.4668)	0 - Stainless steel I.4408 (CF8M) - Stainless steel I.4409 (ASTM A351 CF3M) * - Stainless steel I.4027 (ASTM CA-40) *  * Stated in clear text	B = Wafer T = Lug

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### Part-/Material specification



No	Part	Material
1	Body	Low carbon steel I.1156 (A352 LCC) Carbon steel I.0625 (A216 WCB) Stainless steel I.4408 (A351 CF8M)
2	Disc	DN50-125: Stainless steel I.4409 (ASTM A351 CF3M) DN150-600: 55xx: Stainless steel I.4027 (ASTM CA-40) 54xx, 56xx: Stainless steel I.4408 (ASTM A351 CF8M)
3	Ring flange	Carbon steel I.0425 Stainless steel I.4404 (AISI 316L)
4	Shaft	54XX, 56XX: Stainless steel I.4462 55XX: Stainless steel I.4021 (AISI 420)
5	Pivot	DN50-125: Stainless steel I.4404 (AISI 316L) DN150-600: Stainless steel I.4021 (AISI 420)/I.4462
6	Cover	DN50-125: - DN150-600: Carbon steel I.4025 / Stainless steel I.4401 (AISI 316)
7	Pin	DN50-125: - 54XX, 56XX DN150-600: Stainless steel I.4462 55XX DN150-600: Stainless steel I.4021 (AISI 420)
8	Seat	XX70 DN50-125: INCONEL 718 2.4668 XX80: FIRE SAFE (R-PTFE + INCONEL) XX90: R-PTFE (PTFE reinforced by 25 % glass fibre)
9	Washer	Stainless steel I.4404 (AISI 316L)
10	Packing gland	DN50-125: Stainless steel I.4401 (AISI 316) 54XX, 55XX DN150-600: Stainless steel I.4401 (AISI 316) 56XX DN150-300: Stainless steel I.4401 (AISI 316) 56XX DN350-600: Stainless steel I.4404 (AISI 316L)
11	Gland flange	54XX, 55XX, 56XX DN50-125: Stainless steel I.4308 (CF8) 54XX, 55XX, 56XX DN150-600: Stainless steel I.4301 (AISI 304)
12	Bolt	Stainless steel A4

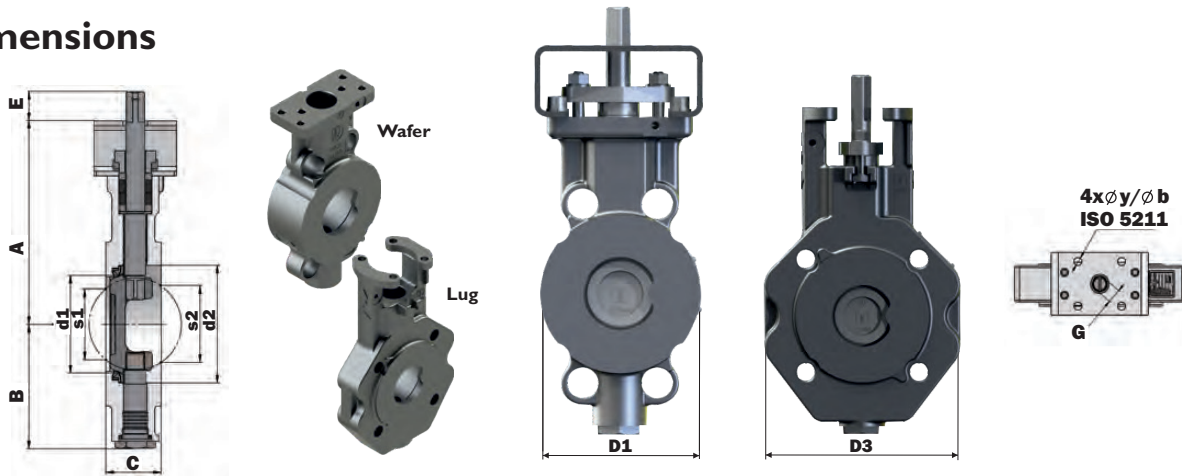
No	Part	Material
13	Nut	Stainless steel A4
14	Washer	Stainless steel A4
15	Flange sealing	Graphite min. 98%
16	Seal	Graphite
17	Bracket	DN50-125, 500, 600: Carbon steel I.0553 DN150-400: Carbon steel I.0576
18	Bolt	Stainless steel A4
19	Retaining sleeve	Stainless steel I.4404 (AISI 316L)
20	Bolt	Stainless steel A4
21	Bushing	Xx70, Xx80: Stainless steel I.4404 (AISI 316L) + nickel plated XX90: TP IGUS
22	Packing	Graphite min. 98%
23	Washer	Stainless steel A4
24	Nut	Stainless steel A4
25	Bolt	Stainless steel A4
26	Rivet	Stainless steel A4
27	Label	Stainless steel
28	Seat O-ring	Stainless steel I.4404 (AISI 316L) - only for "RTFE" and "FIRE SAFE" version
29	Seal	INCONEL - only for "METAL-METAL" and "FIRE SAFE" version
30	Support ring	Stainless steel I.4404 (AISI 316L)
31	Retaining ring	Stainless steel I.4401
32	Support ring	Stainless steel I.4404 (AISI 316L)

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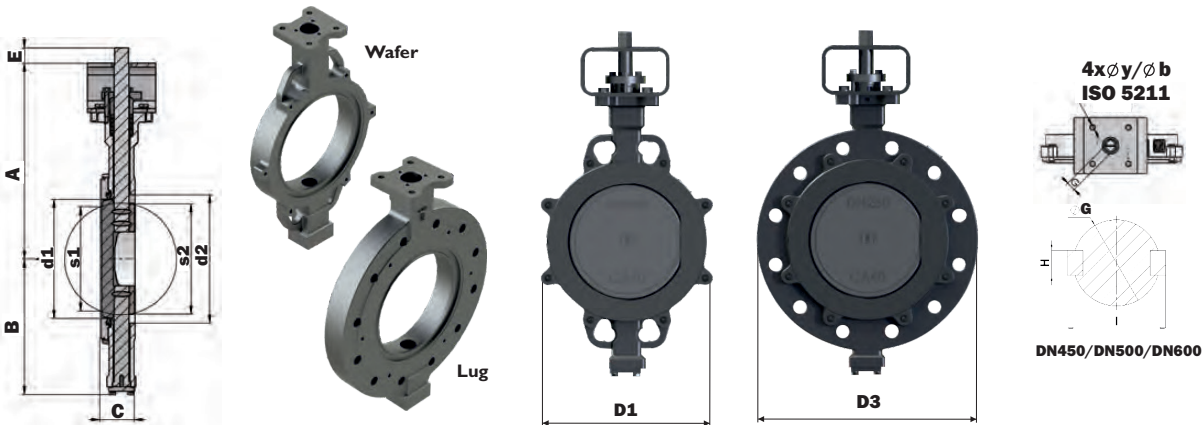
## AL 44-590

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### Dimensions



DN	d1	d2	A	B	C	D1	D3	s1	s2	E	G	ISO	y	b	Weight kg	
															Wafer	Lug
50	49	68	163	93	44	103	154	12	37	25	14	F07	9	70	5,1	7,3
65	65	82	170	100	47	123	178	39	55	25	14	F07	9	70	5,8	9,0
80	81	100	174	106	47	140	196	65	72	25	14	F07	9	70	6,8	10,1
100	100	123	206	123	53	163	225	85	91	25	14	F07	9	70	8,5	12,2
125	123	146	215	137	57	193	260	113	110	25	14	F07	9	70	11,8	16,5

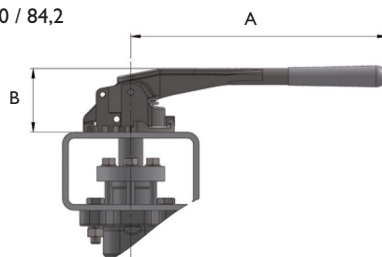


DN	d1	d2	A	B	C	D1	D3	s1	s2	E	G/H/I	ISO	y	b	n	Weight kg	
																Wafer	Lug
150	146	155	307	214	57	252	318	136	143	25	17	F10	11	102	4	21	28
200	194	204	339	246	61	307	381	185	193	25	17	F10	11	102	4	29	41
250	240	259	395	275	69	349	450	224	236	31	22	F12	13	125	4	46	70
300	287	309	460	313	79	393	521	270	284	31	27	F14	17	140	4	67	105
350	313	342	508	355	92	448	577	300	308	45	27	F16	22	165	4	91	140
400	364	405	556	402	103	542	657	342	360	58	36	F16	22	165	4	132	211
450	420	450	567	395	114	565	-	400,5	419	80	1)	F16	22	165	4	165	-
500	452	500	625	431	127	593	707	434	454	100	2)	F25	17,5	254	8	241	282
600	547	600	698	491	154	695	830	524	546	110	3)	F25	17,5	254	8	367	478

1) Ø55 / 16 / 62,6 2) Ø64 / 18 / 72,4 3) Ø75 / 20 / 84,2

### Lever (optional)

DN	A	B	Weight
50-100	270	75	1,3
125	270	80	1,3
150 *	362	90	1,4



\* Only PN 16