



Butterfly Valves SBE Series

are ideally suited for Shut-off, Flow Control and Throttling of corrosive and abrasive process media in either liquid, powdery or gaseous state.

Modular Design

Butterfly Valves SBE Series are available as DIN- or ANSI-Valves, with bare shaft as per standard. Valves can be delivered as complete units, i.e. with mounted-on locking handles, manual gearboxes or with quarter turn pneumatic actuators double- or single-acting.

The sturdy design bodies are made of cast steel 1.0619 (WCB), coating RAL 5005 signal-blue or stainless steel casting 1.4408 (CF-8M), with resistant liners such as EPDM, EPDM white, FPM (Viton®), NBR, SBR or VMQ (Silicone).



Main Features

- Heavy-duty, compact construction, maintenance-free
- Bubble-tight shut-off throughout the full pressure and temperature range
- Wide selection of high-quality liner and disc materials for economical valve performance
- Standardized ISO mounting flange permits easy installation of various actuator options
- No need of additional flange gaskets due to wide and corrugated flange sealing surface
- One-piece disc/shaft for hysteresis-free flow control, with polished sealing surface leading to low torque values
- Flange drilling acc. to DIN PN10/16 resp. ANSI 150lbs for installation into existing piping systems

CE Conformity according to European Pressure Equipment Directive 97/23/EC (PED)

Options



Liners

EPDM black, EPDM white, SBR green, VMQ red (Silicone)

L.&M.
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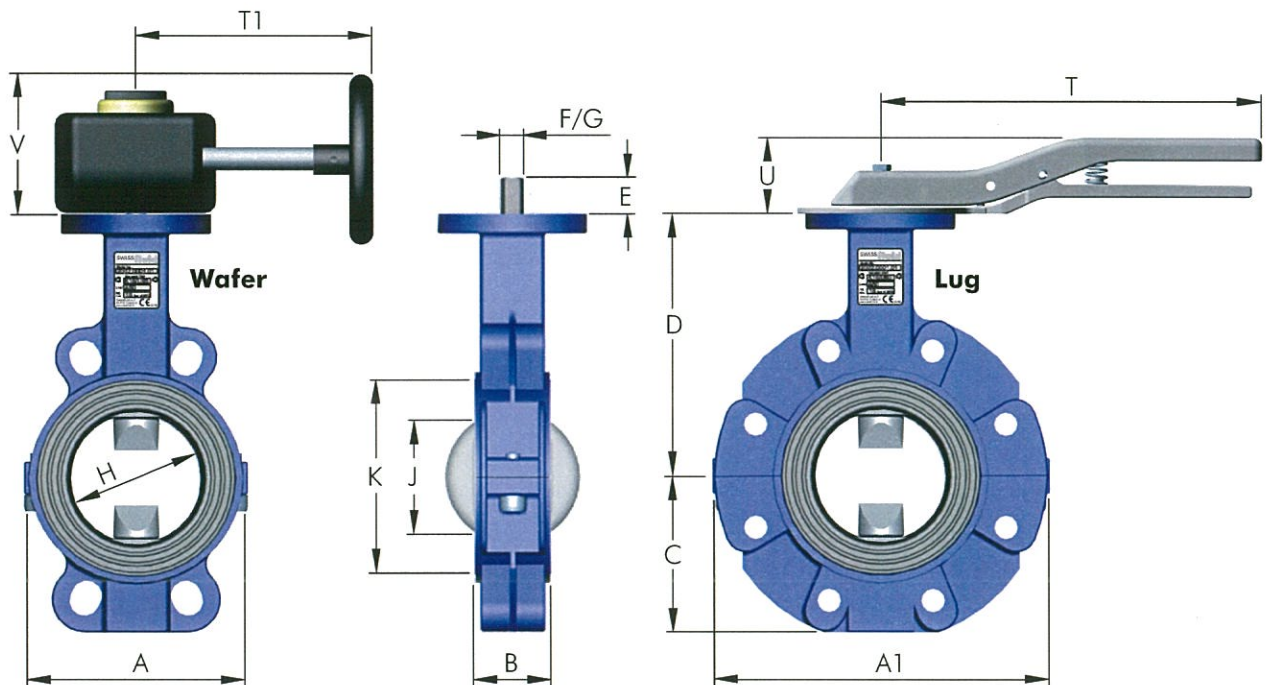
Operating Conditions

- Temperature range from -50°C up to +200°C (depending on material of liner resp. encapsulation)
- Pressure up to max. 16 bar (DN40-300) resp. 10 bar (DN350-600)

Testing / Marking

- Pressure- and tightness testing acc. to EN 12266-1, leakage rate A, and spark testing at 35 kV to assure encapsulation integrity. Marking of valves on body and name plate acc. to EN 19.
- Material- resp. test certificate acc. to EN 10204-3.1

Outline Drawing / Actuator Options



Dimensions in mm

Size DN	A	A1	B	C	D	E	F	G	H	J	K	ISO	T	T1	U	V
40	-	145	33	64	109	23	14	11	50	38	79	F07	230	120	46	83
50	118	160	43	69	124	23	14	11	60	42	99	F07	230	120	46	83
65	120	180	46	79	144	23	14	11	60	39	104	F07	230	120	46	83
80	134	202	46	93	159	23	14	11	80	66	119	F07	230	120	46	83
100	162	232	52	107	184	23	18	14	100	86	144	F07	270	120	51	83
125	185	269	56	119	199	23	18	14	125	112	169	F07	270	120	51	83
150	248	289	56	130	209	28	24	17	150	141	199	F07	325	210	56	122
200	273	349	60	158	239	28	24	17	200	191	249	F10	-	210	-	122
250	328	400	68	195	264	40	30	22	250	241	309	F10	-	240	-	188
300	378	470	78	229	264	40	30	22	300	290	359	F10	-	240	-	188

Face to face B acc. to DIN EN 558-1 range 20

SBE: Construction, Mounting Options

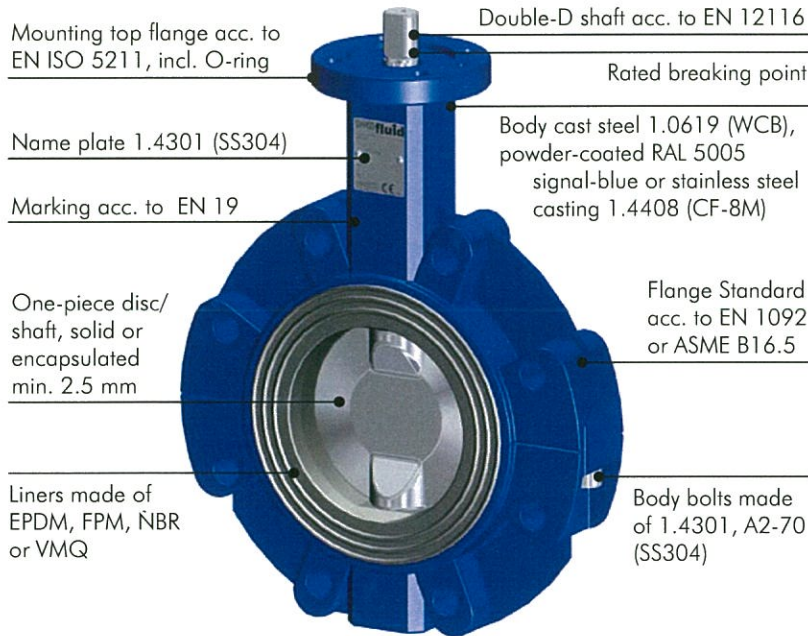
52 Butterfly Valves, elastomer-lined

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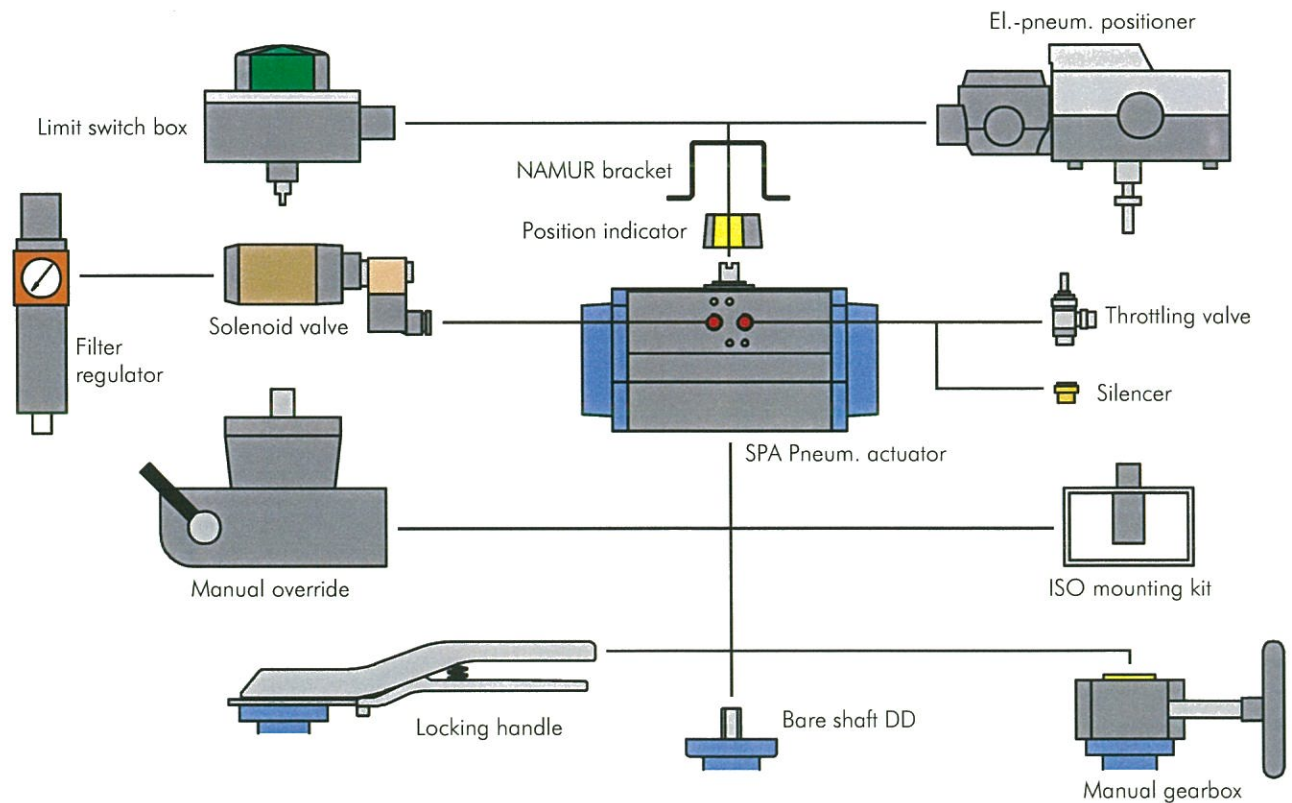
March 2006



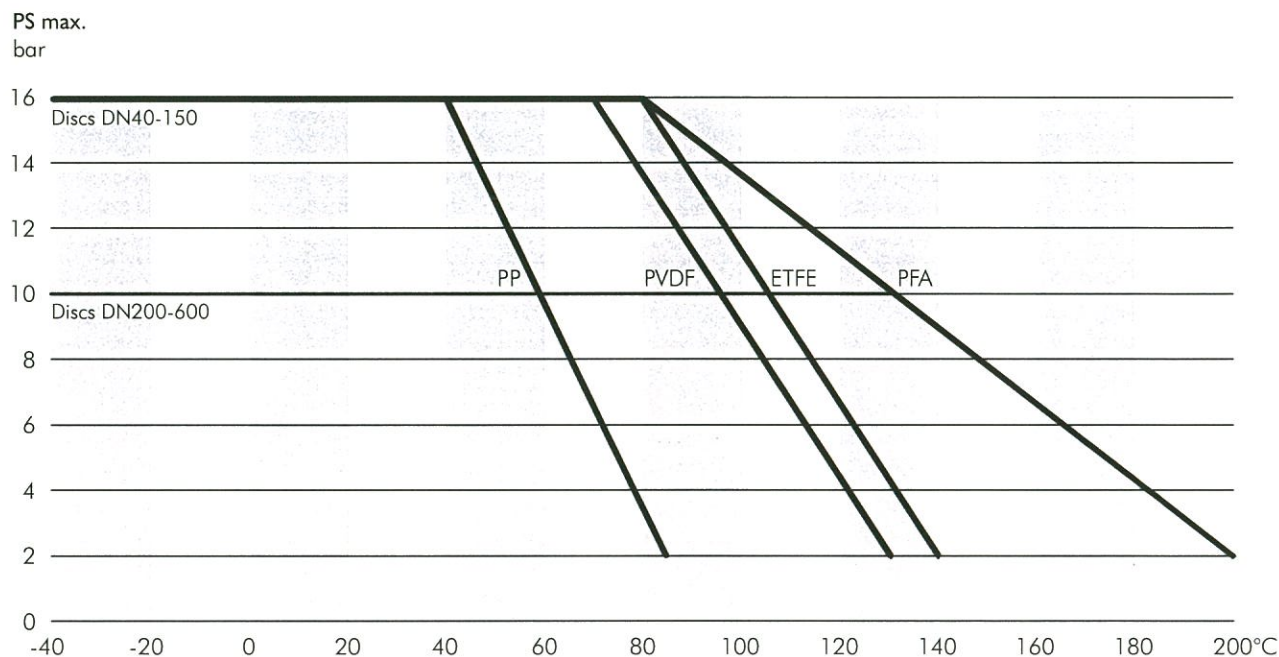
Construction of Valve



Mounting Options



Temperature Range for Liners



Torque Values in Nm (in-lbs = Nm x 8.85)

Torque values for **Liner/Disc** combination as stated in below chart

Size DN		40	50	65	80	100	125	150	200	250	300
EPDM	SS316L	15	20	20	35	45	60	100	150	250	350
NBR	SS316L	15	20	20	35	45	60	100	150	250	350
EPDM	PFA	15	20	20	35	45	60	100	150	250	350
EPDM	PP	25	30	30	45	55	80	130	200	320	450
FPM	SS316L	25	30	30	45	55	80	130	200	320	450
max. allowable		145	145	145	145	320	320	700	700	1'200	1'200

- Stated values to be break-away torques without any consideration of safety factors (min. 1.3) for pneum. actuators.

Weights in kg (lbs = kg x 2.2)

Figures stated for execution EPDM liner/stainless steel disc/bare shaft

Size DN		40	50	65	80	100	125	150	200	250	300
Lug-style body		3.2	4.7	6.0	6.5	8.5	10.6	13.9	17.9	27.2	35.9
Wafer-style body		-	-	4.2	4.3	6.3	7.6	10.9	16.2	24.1	31.2
Locking handle		0.9	0.90	0.9	0.9	1.2	1.2	1.5	-	-	-
Gearbox GG25		2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	6.8	6.8

Weights for pneumatic actuators acc. to separate data sheet



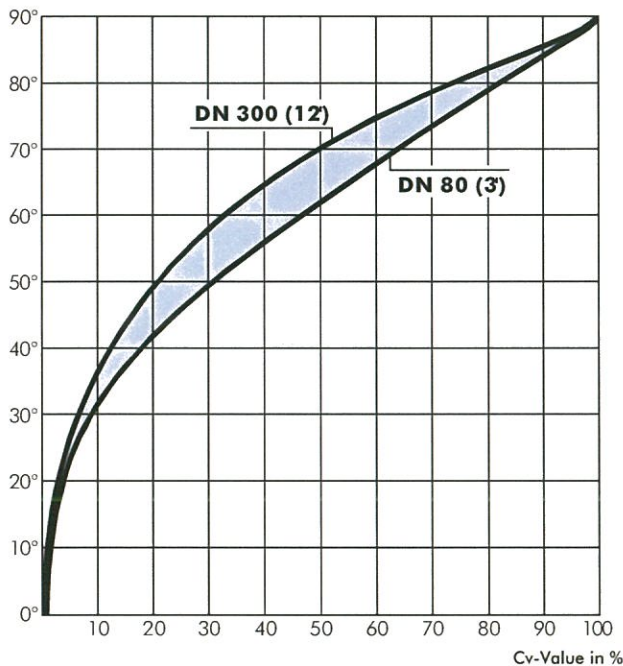
Flow Rate Values Cv usg/min.

Estimated values at corresponding opening angle of valve disc

Size DN	40	50	65	80	100	125	150	200	250	300
20°	6	8	8	17	23	44	70	110	203	307
30°	13	19	19	38	56	95	151	267	406	606
40°	28	41	41	83	110	191	273	539	824	1'154
50°	50	70	70	145	188	296	458	922	1'346	1'995
60°	74	107	107	220	296	528	748	1'369	1'868	3'091
70°	107	153	153	313	447	748	1'108	2'105	2'807	4'599
80°	139	197	197	389	563	945	1415	2796	4234	6914
90°	158	224	224	455	679	1'177	1'734	3'538	5'232	8'364

Flow Characteristic

Opening angle of valve disc

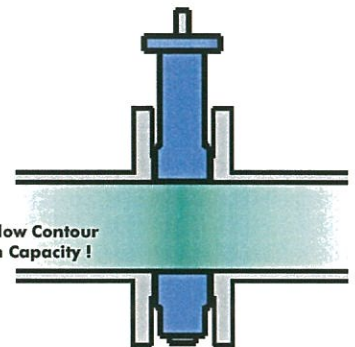


Liquids:

$$K_v = Q \sqrt{\frac{SG}{\Delta P}}$$

Gases:

$$K_v = \frac{Q_N}{514} \sqrt{\frac{SG_N \cdot T}{\Delta P \cdot P_2}}$$



$$^{\circ}K = ^{\circ}C + 273$$

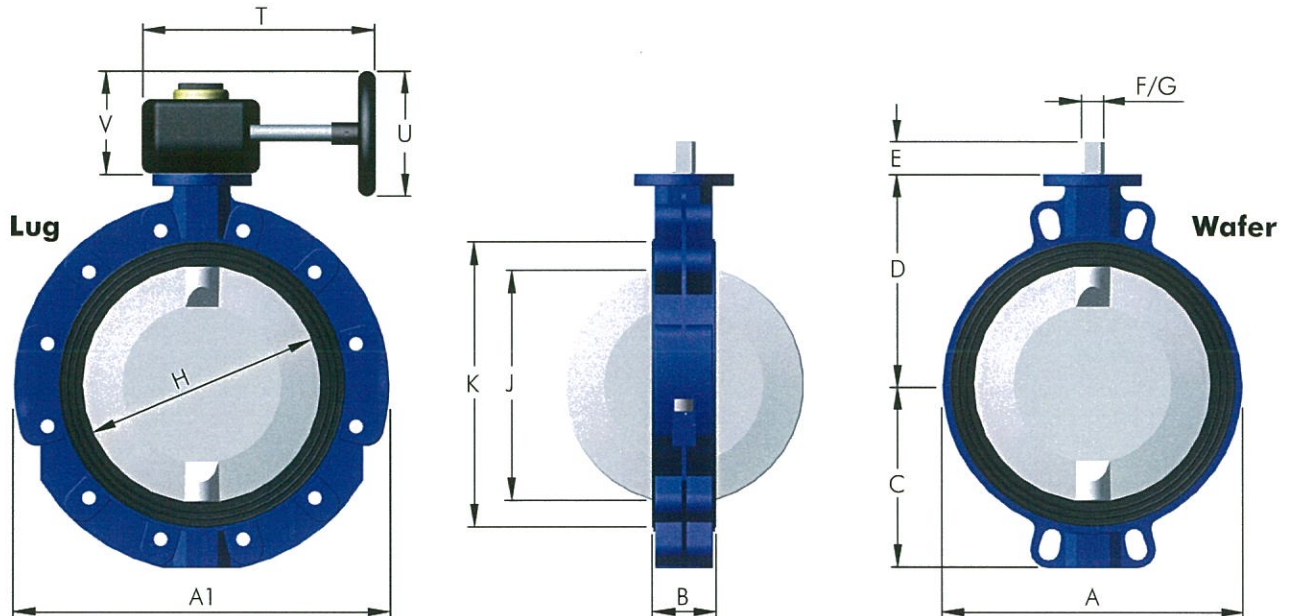
$$K_v = C_v / 1.16$$

Cv (Kv)	Valve Coefficient	usg/min (m ³ /h)
Q	Flow Rate	usg/min (m ³ /h)
Q_N	Flow Rate	usg/min (Nm ³ /h)
SG	Specific Gravity	lbs/usg (kg/dm ³)
SG_N	Specific Gravity	lbs/usg (kg/Nm ³)
P₂	Downstream Pressure	psi (bar)
ΔP	Pressure Drop	psi (bar)
T	Temperature	°K (°C)

Typical Service Applications

- Chemical CPI
- Petro-Chemical
- Food Processing
- Paint and Pigments
- Fertilizers
- Textile Industry
- Mining and Steel
- Desalination

Dimensions in mm



Size DN	A	A1	B	C	D	E	F	G	H	J	K	ISO	T	U	V
350/14"	416	530	92	254	309	40	40	27	340	328	409	F12	315	300	188
400/16"	462	596	102	289	339	40	40	27	400	387	459	F12	315	300	188
450/18"	630*	630	114	308	359	50	50	14	440	425	515	F14	400	400	238
500/20"	566	698	127	339	390	50	50	14	500	484	569	F14	400	400	238
600/24"	668	812	154	399	449	50	50	14	600	578	669	F14	400	400	238

Face to face B acc. to DIN EN 558-1 Range 20 B) optional 78 mm, Range 25, ASME B16.10 wide G) DN450-600: Keyway
 * Wafer 450/18" made of Lug bodies with drilled-through holes

Torque Values in Nm (in-lbs = Nm x 8.85)

Torque values for **Liner/Disc** combination as stated in below chart

Size DN		350	400	450	500	600
EPDM	SS316L	450	660	800	900	1'000
NBR	SS316L	450	660	800	900	1'000
EPDM	PFA	450	660	800	900	1'000
max. allowable		1'800	1'800	2'000	2'000	2'000

• Stated values to be break-away torques without any consideration of safety factors for actuators.

Weights in kg (lbs = kg x 2.2)

Figures stated for execution EPDM liner/stainless steel disc/bare shaft

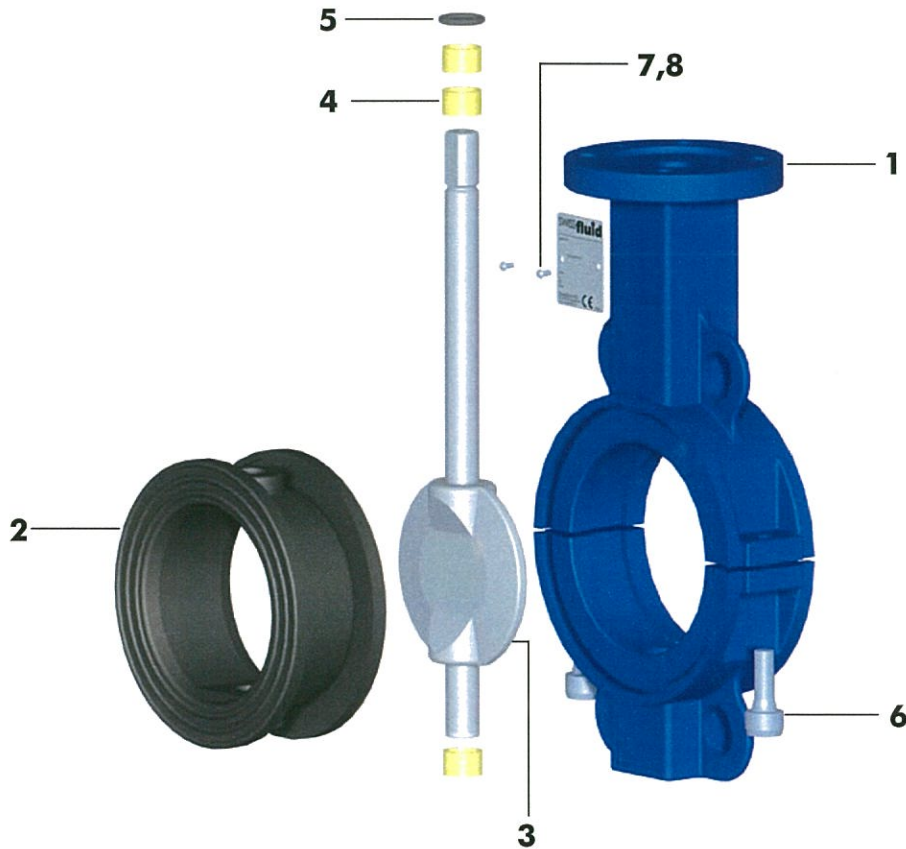
Size DN		350	400	450	500	600
Lug -style body		87.0	101.0	137.0	158.0	242.0
Wafer -style body		57.0	69.0	137.0*	96.0	141.0
Gearbox GG25		6.8	6.8	10.0	10.0	10.0

Weights for pneumatic actuators acc. to separate data sheet

* Wafer 450/18" made of Lug bodies with drilled-through holes



Standard Version (Picture showing DN 80 PN16, EPDM liner, SS disc, bare shaft)



Item	Qty.	Description	Material	No.
1	1	Body Wafer two-piece, RAL 5005	WCB	1.0619
2	1	Liner	EPDM	
3	1	Disc solid	Duplex	1.4462
4	3	Bearing DU	C.Steel/PTFE	
5	1	O-Ring top	FPM	
6	2	Socket Head Cap Screw	A2-70	1.4310
7	1	Name Plate 42 x 14 CE	A2	1.4301
8	2	Hammer Screw 2.49 x 4.76	A2	1.4310

SBE: Parts List Lug compl.

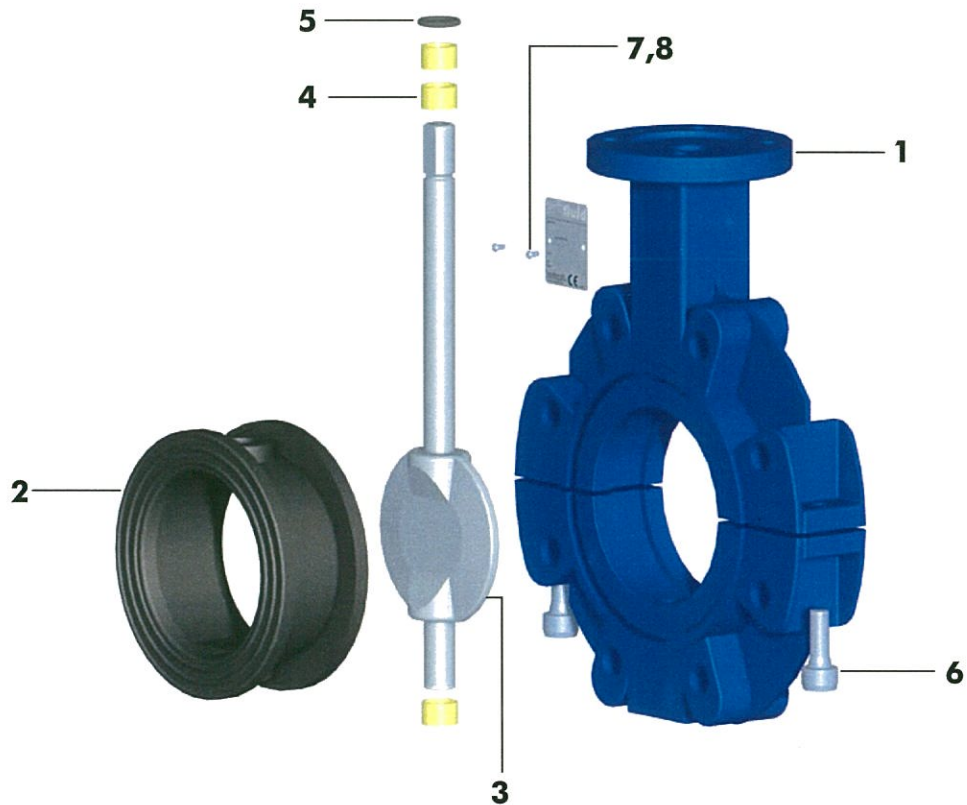
52 Butterfly Valves, elastomer-lined

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April 2003



Standard Version (Picture showing DN 80 PN16, EPDM liner, SS disc, bare shaft)



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1	1	Body Lug two-piece, RAL 5005	WCB	1.0619
2	1	Liner	EPDM	
3	1	Disc solid	Duplex	1.4462
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5	1	O-Ring top	FPM	
6	2	Socket Head Cap Screw	A2-70	1.4310
7	1	Name Plate 42 x 14 CE	A2	1.4301
8	2	Hammer Screw 2.49 x 4.76	A2	1.4310



Project-/Customer Data

Inquiry/Date: _____

Ref. Swissfluid _____

Company: _____ Contact Person: _____ Phone: _____

Address: _____ Function: _____ Fax: _____

ZIP/Place: _____ Department: _____ E-mail: _____

Project: _____ Phone direct: _____ Mobile: _____

Operating Conditions

Media / Chemical Composition:

- Liquid powdery crystallizing sticky Spez. Grav. ____
- gaseous Solids ____ % viscous Flow Velocity ____ m/s
- abrasive Paricle ____ mm Visc. ____ cp Flow Rate ____ m³/h

Pressure	Temperature	Mode	Installation / Environment
max. ____ bar	max. ____ °C	<input type="checkbox"/> On/Off	<input type="checkbox"/> horizontal <input type="checkbox"/> Room dry
min. ____ bar	min. ____ °C	<input type="checkbox"/> Flow Control ____ cycles/ ____	<input type="checkbox"/> vertical <input type="checkbox"/> Room humid
			<input type="checkbox"/> _____ <input type="checkbox"/> outdoor

Remarks: _____

Specification of a complete Butterfly Valve SBE Series

