

По вопросам продаж и поддержки обращайтесь:
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Краснодар(861)203-40-90, Красноярск(391)204-63-61, Москва(495)268-04-70, Нижний Новгород(831)429-08-12,
Новосибирск(383)227-86-73, Ростов-на-Дону(863)308-18-15, Самара(846)206-03-16,
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SWISSfluid

SBE Butterfly Valves elastomer-lined

SBE Butterfly Valves 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

Valves are available as wafer- or lug-style versions, 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 connections acc. to ANSI 150lbs (DIN optional) 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)

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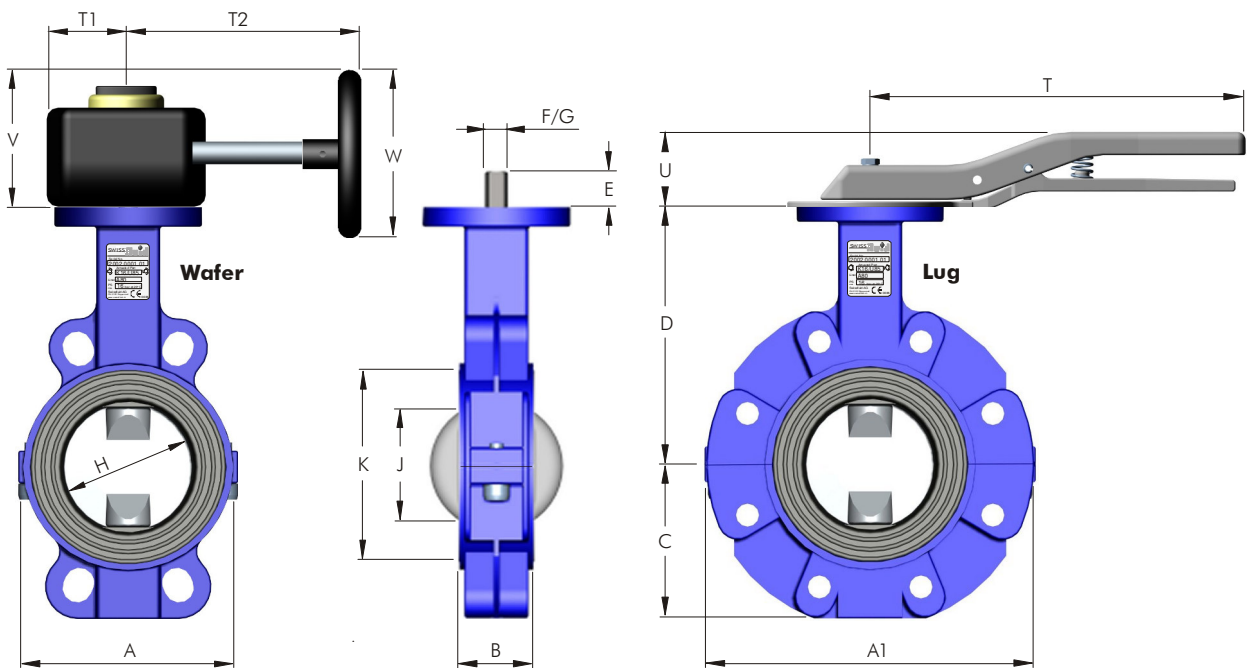
Operating Conditions

- Temperature range from -40°F up to +400°F, depending on lining material
- Pressure range up to 232 psi, depending on size/pressure/temperature

Testing / Marking

- Pressure- and tightness testing acc. to EN 12266-1, leakage rate A, resp. API 598.
- Marking of valves on body and name plate acc. to EN 19.
- Material- resp. test certificates acc. to EN 10204-3.1/2.2/2.1

Outline Drawing / Actuator Options



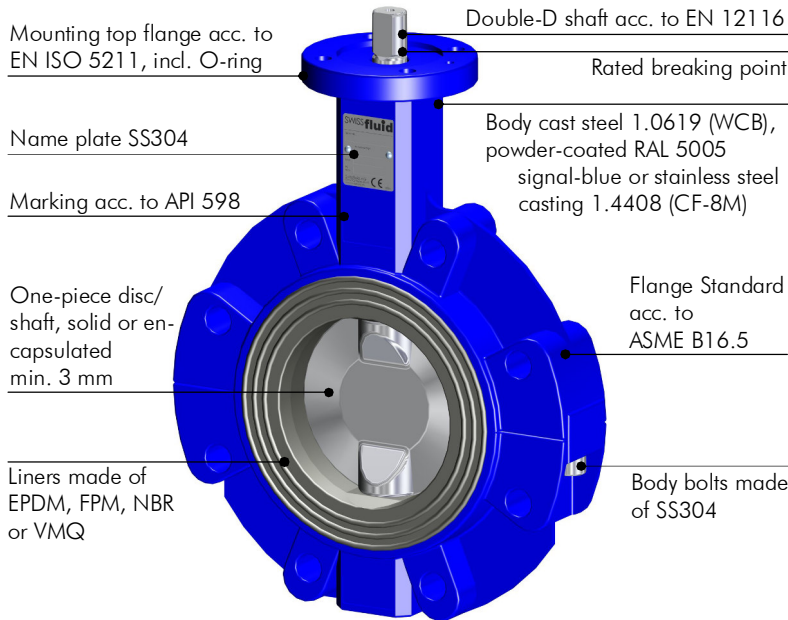
Dimensions inch

Size nom.	A	A1	B	C	D	E	F	G	H	J	K	ISO Top	T	T1	T2	U	V	W
1½"	-	5.71	1.30	2.52	4.29	0.91	0.55	0.43	1.97	1.50	3.11	F07	9.06	2.28	4.33	1.81	3.54	4.92
2"	4.65	6.30	1.69	2.72	4.88	0.91	0.55	0.43	2.36	1.65	3.90	F07	9.06	2.28	4.33	1.81	3.54	4.92
2½"	4.72	7.09	1.81	3.11	5.67	0.91	0.55	0.43	2.36	1.54	4.09	F07	9.06	2.28	4.33	1.81	3.54	4.92
3"	5.28	7.95	1.81	3.66	6.26	0.91	0.55	0.43	3.15	2.60	4.69	F07	9.06	2.28	4.33	1.81	3.54	4.92
4"	6.38	9.13	2.06	4.21	7.24	0.91	0.71	0.55	3.94	3.39	5.67	F07	10.63	2.28	4.33	2.01	3.54	4.92
5"	7.28	10.59	2.20	4.69	7.83	0.91	0.71	0.55	4.92	4.41	6.65	F07	10.63	2.28	4.33	2.01	3.54	4.92
6"	9.76	11.38	2.20	5.12	8.23	1.10	0.94	0.67	5.91	5.55	7.83	F07	12.80	2.28	7.87	2.20	5.00	7.87
8"	10.75	13.74	2.37	6.22	9.41	1.10	0.94	0.67	7.87	7.52	9.80	F10	-	2.28	7.87	-	5.00	7.87
10"	12.91	15.75	2.68	7.80	10.39	1.57	1.18	0.87	9.84	9.49	12.17	F10	-	2.87	11.02	-	7.48	11.81
12"	14.88	18.50	3.09	9.02	10.39	1.57	1.18	0.87	11.81	11.42	14.13	F10	-	2.87	11.02	-	7.48	11.81

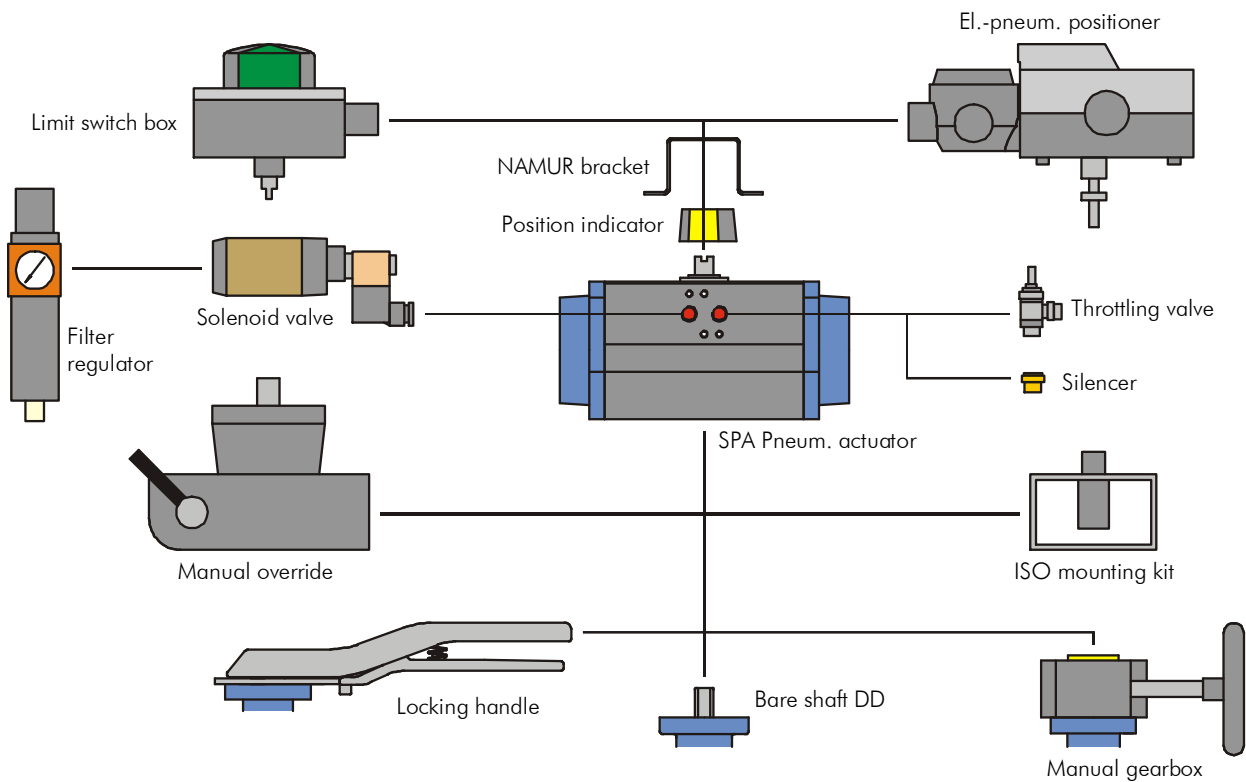
Face to face B acc. to ASME B16.10

SBE Butterfly Valves elastomer-lined

Construction of Valve



Mounting Options

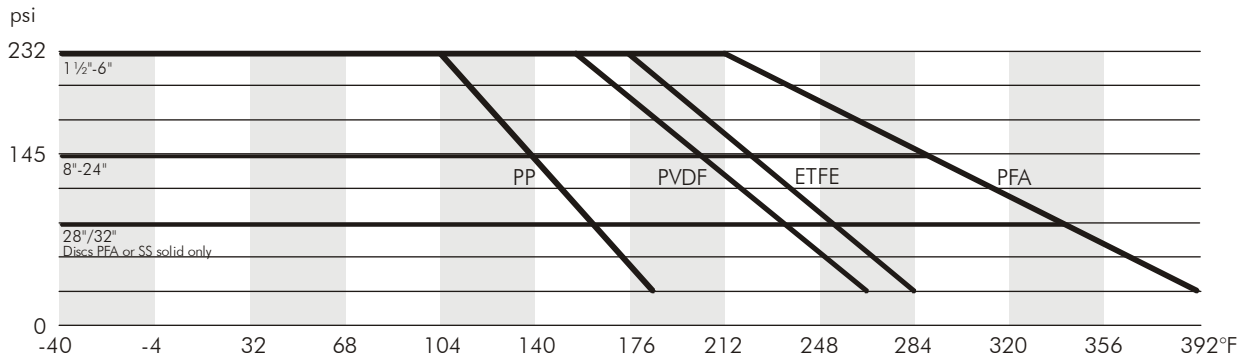


SBE Butterfly Valves elastomer-lined

Temperature Range for Liners



PS max.



Torque Values in-lbs

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

Size nom.	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
EPDM SS316L	133	177	177	310	398	531	885	1,328	2,213	3,098
NBR SS316L	133	177	177	310	398	531	885	1,328	2,213	3,098
EPDM PFA	133	177	177	310	398	531	885	1,328	2,213	3,098
EPDM PP	221	266	266	398	487	708	1,151	1,770	2,832	3,983
FPM SS316L	221	266	266	398	487	708	1,151	1,770	2,832	3,983
max. allowable	1,283	1,283	1,283	1,283	2,832	2,832	6,195	6,195	10,620	10,620

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

Weights lbs

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

DN Size	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
Lug-style body	7.04	10.34	13.20	14.30	18.70	23.32	30.58	39.38	59.84	78.98
Wafer-style body	-	7.26	9.24	9.46	13.86	16.72	23.98	35.64	53.02	68.64
Locking handle	1.98	1.98	1.98	1.98	2.64	2.64	3.30	-	-	-
Gearbox GG25	5.06	5.06	5.06	5.06	5.06	5.06	7.70	7.70	14.96	14.96

Weights for pneumatic actuators acc. to separate data sheet

SBE Butterfly Valves elastomer-lined

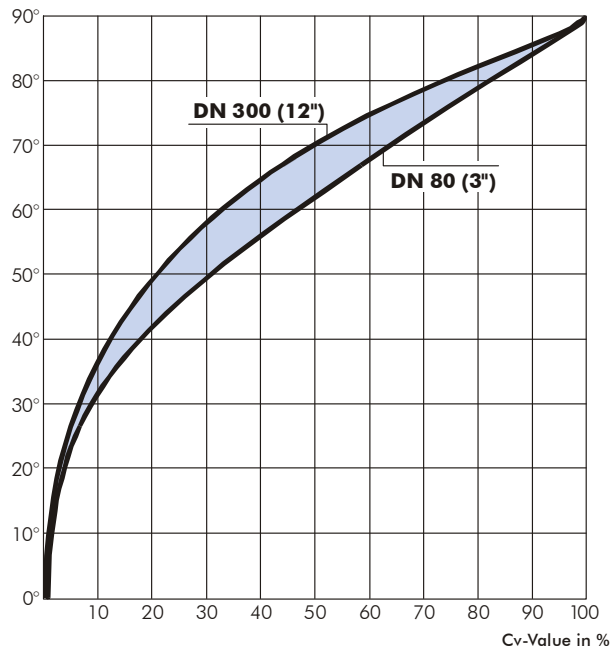
Flow Rate Values C_v usg/min

Estimated values at corresponding opening angle of valve disc

Size Nom.	1½"	2"	2½"	3"	4"	5"	6"	8"	10"	12"
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	1,415	2,796	4,234	6,914
90°	158	224	224	455	679	1,177	1,734	3,538	5,232	8,364

Flow Characteristic

Opening angle of valve disc



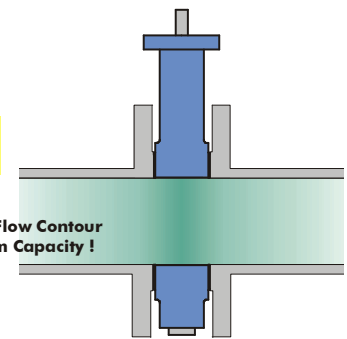
Liquids:

$$C_v = Q \sqrt{\frac{SG}{\Delta p}}$$

Gases:

$$C_v = \frac{Q_N}{514} \sqrt{\frac{SG_N \cdot T}{\Delta p \cdot P_2}}$$

Streamline Flow Contour for Maximum Capacity !



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

$$K_v = C_v / 1.16$$

C_v	Valve Coefficient	usg/min
Q	Flow Rate	usg/min
Q_N	Flow Rate	usg/min
SG	Specific Gravity	lbs/usg
SG_N	Specific Gravity	lbs/usg
P_2	Downstream Pressure	psi
ΔP	Pressure Drop	psi
T	Temperature	$^{\circ}\text{K}$

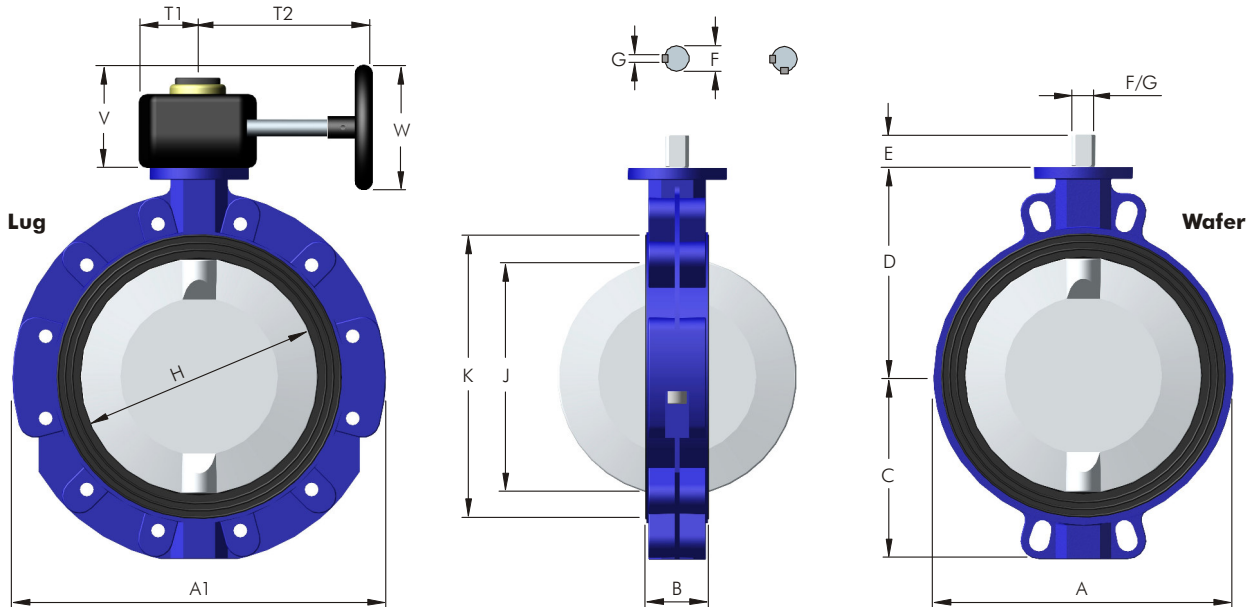
Typical Service Applications

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

SBE Butterfly Valves elastomer-lined

14" – 32"

Dimensions inch



Size nom.	A	A1	B	C	D	E	F	G ²⁾	H	J	K	ISO Top	T1	T2	V	W
14"	16.38	20.87	3.62	10.00	12.17	1.57	1.57	1.06	13.39	12.91	16.10	F12	2.87	12.99	7.48	11.81
16"	18.19	23.46	4.00	11.38	13.35	1.57	1.57	1.06	15.75	15.24	18.07	F12	3.54	13.78	9.65	15.75
18" ¹⁾	24.80	24.80	4.50	12.13	14.13	1.97	1.97	0.55	17.32	16.73	20.28	F14	3.54	15.75	9.65	15.75
20"	22.28	27.48	5.00	13.35	15.35	1.97	1.97	0.55	19.69	19.06	22.40	F14	3.54	15.75	9.65	15.75
24"	26.30	31.97	6.06	15.71	17.68	1.97	1.97	0.55	23.62	22.76	26.34	F14	3.54	15.75	9.65	15.75
28"	31.69	40.16	6.50	18.74	21.97	3.54	2.36	0.71	26.77	25.98	30.55	F16	5.63	17.72	12.87	19.69
32" ²⁾	43.70	43.70	6.50	21.26	23.94	3.54	2.76	0.79	30.71	29.96	35.28	F16	5.63	17.72	12.87	19.69

Face to face B acc. to ASME B16.10 B) 14" optional 3.07 inch, wide

¹⁾ Wafer-style bodies 18" and 32" made of Lug bodies with drilled-through holes

²⁾ G: 14"/16" with DD drive, 18" up to 24" with 1x keyway, 28"/32" with 2x keyway 90° offset

Torque Values in-lbs

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

Size nom.		14"	16"	18"	20"	24"	28"	32"
EPDM	SS316L	3,983	5,841	7,080	7,965	8,850	22,125	29,205
FPM	SS316L	3,983	5,841	7,080	7,965	8,850	28,320	37,170
max. allowable		15,930	15,930	17,700	17,700	17,700	35,400	44,250

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

Weights lbs

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

Size nom.	14"	16"	18"	20"	24"	28"	32"
Lug -style body	191.40	222.20	301.40	347.60	532.40	902.00	1320.00
Wafer -style body	125.40	151.80	301.40	211.20	310.20	660.00	1320.00
Gearbox GG25	14.96	14.96	22.00	22.00	22.00	165.00	165.00

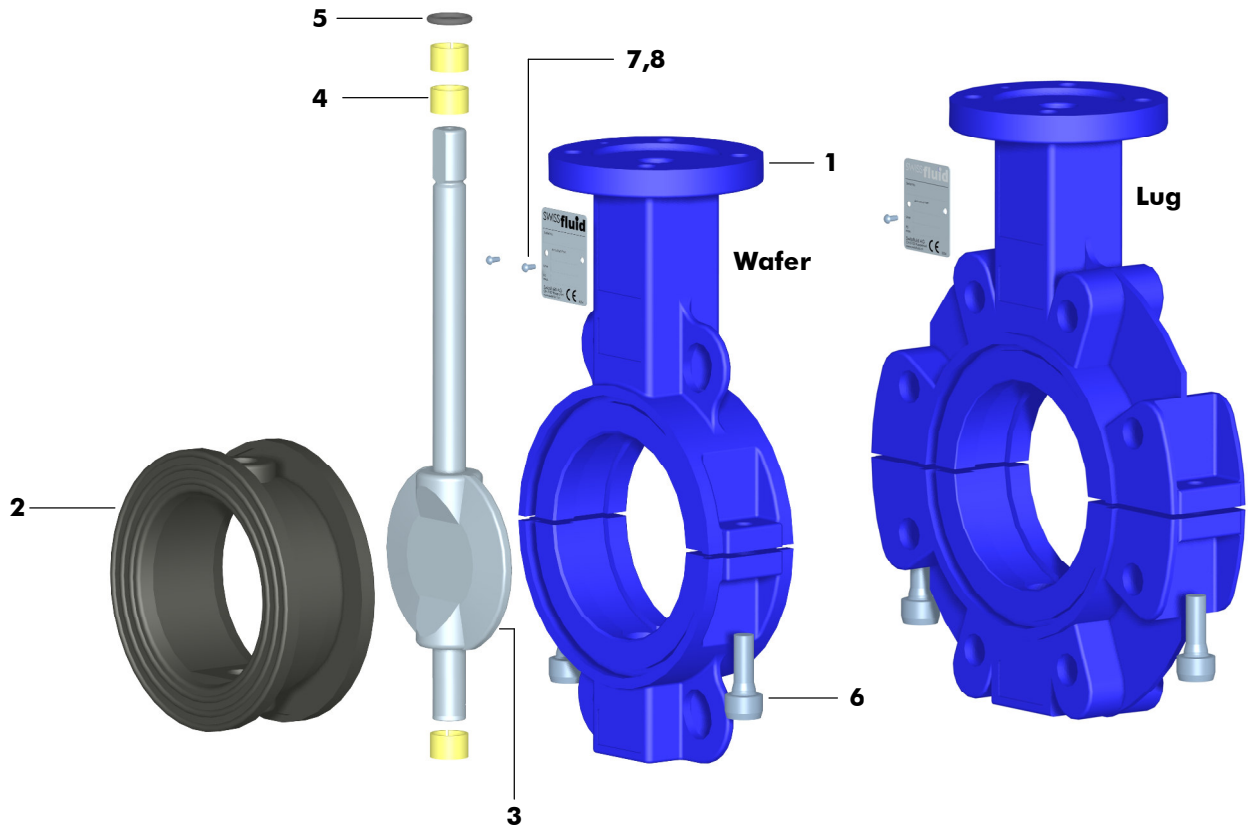
Weights for pneumatic actuators acc. to separate data sheet

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Parts List

Valve compl.

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 Butterfly Valves elastomer-lined

Specification

Project-/Customer Data

Inquiry/Date: _____

Ref. SF _____

Company:	Contact Person:	Phone:
Address:	Function:	Fax:
ZIP/Place:	Department:	E-mail:
Project:	Phone direct:	Cell:

Operating Conditions

Media / Chemical Composition:

<input type="checkbox"/> liquid	<input type="checkbox"/> powdery	<input type="checkbox"/> crystallizing	<input type="checkbox"/> sticky	<input type="checkbox"/> Spec. Grav. _____
<input type="checkbox"/> gaseous	<input type="checkbox"/> Solids ____ %	<input type="checkbox"/> viscous	<input type="checkbox"/> Flow Velocity _____ ft/sec	
<input type="checkbox"/> abrasive	<input type="checkbox"/> Particle ____ mm	<input type="checkbox"/> Visc. _____ cp	<input type="checkbox"/> Flow Rate _____ usg/min	

Pressure

max. ____ bar

min. ____ bar

Temperature

max. _____ °C

min. _____ °C

Mode

 On/Off

 Flow Control

____ cycles/ ____

Installation / Environment

 horizontal

 vertical

 Room dry

 Room humid

 outdoor

Remarks: _____

SBE Product Code

Specification of a complete Butterfly Valve SBE Series

Product code	Nom. size	Flange conn.	Body	Liner	Disc encaps./solid	Shaft end	Options
SBEW	4"	150#	G10	A60	U85	DD	
SBEW Wafer*	1" - 42"	ANSI150#	G10 WCB	A60 EPDM	U85 PFA	DD DD drive	Po polished disc
SBEL Lug	DN25 - 1000	ANSI300#	G15 CF-8M	A61 EPDM-W	U86 PFA-AS	SP SQ parallel	TA TA-Luft
*Rem.:		PN16	G34 SS316L	A64 NBR	U88 PVDF	SR SQ 45° rot.	Th thru holes
Wafer bodies		PN10		A67 FPM	U89 PP		B7 B7 bolts
combined for		JIS 10K		A68 VMQ	U91 ETFE		Ti Ti bolts
DIN/ANSI				A69 SBR	S16 SS Duplex		RAL... special paint
					S32 SS316L		
					S40 Tit. Gr.2		
					S41 Tit. Gr.7		
					S43 Hast. C		

Note: Actuator options and accessories to be specified on orders separately.

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