RESILIENT-SEATED BUTTERFLY VALVES

Butterfly

Wafer, lug & flanged · DN32 – DN2000

Concentric, soft-seated butterfly valves with a Rilsan® coated body and a one-piece dry shaft – the line fluid never touches the shaft or the body. 100% tight shut-off in both directions.

- 100% tight shut-off, 0% leakage
- Replaceable or vulcanised seat
- Bi-directional, self-cleaning
- Low torque, aerodynamic disc



DN32–2000	20 bar	0 %	ISO 5211
1¼" TO 80"	MAX. TO DN600	LEAKAGE · ISO 5208	TOP FLANGE

One valve. Three bodies.

WAFER · LUG · FLANGED



Dry shaft design

One-piece dry shaft: the fluid is not in contact with either the shaft or the body.

Easy to fit and maintain

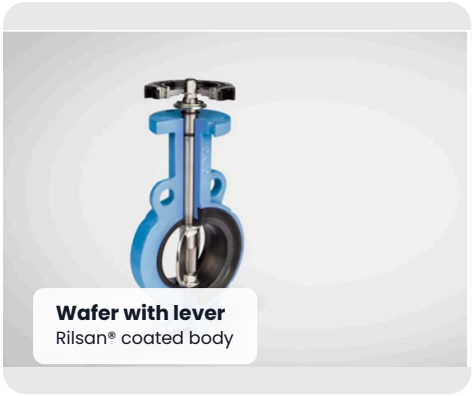
Lightweight design for easier installation and easy maintenance, with a replaceable or vulcanised seat.

Any operator

Hand lever, gearbox, or electric, pneumatic and hydraulic actuators on the ISO 5211 top flange.

APPLICATIONS

Potable water · **Fire protection** · **Water supply** · Irrigation · Sea water · Pumping stations · Industrial & waste water · Cooling towers · Food · Paper mills · Chemical & petrochemical · Sugar & cement · Steel · Power generation · Shipbuilding & offshore · Mining · HVAC · Compressed air



Wafer with lever
Rilsan® coated body

Technical details.

Manufacturing range	DN32 – DN2000
Face-to-face	EN 558 Series 20 · ISO 5752 Series 20 · API 608 Table 1 · BS 5155 Series 4
Mounting between	PN10/16 – ANSI 150 lbs
Flanges	ISO 7005 · DIN 2501 · BS 4504 · ANSI Class 150: ANSI B16.5
Top flange	ISO 5211
Tightness test	ISO 5208, zero leakage · API 598
Coating	Rilsan®
Working pressure	DN32 – DN600 max. 20 bar · >DN600 max. 16 bar

Torque & flow.

NM · KV M³/H

Size		Torque Nm			Kv
DN	in	6 bar	10 bar	16 bar	90°
32	1¼"	**3**	**6**	**9**	70
40	1½"	**3**	**6**	**9**	70
50	2"	**5**	**8**	**11**	164
65	2½"	**7**	**10**	**20**	201
80	3"	**10**	**14**	**29**	359
100	4"	**12**	**18**	**47**	627
125	5"	**18**	**31**	**82**	995
150	6"	**31**	**59**	**130**	1471
200	8"	**55**	**93**	**210**	2509
250	10"	**123**	**206**	**360**	3936
300	12"	**216**	**330**	**475**	5865
350	14"	**333**	**425**	**760**	8179
400	16"	**519**	**640**	**1300**	10660
450	18"	**735**	**1176**	**1600**	12889
500	20"	**931**	**1450**	**2340**	16023
600	24"	**1372**	**2850**	**3300**	22741
700	28"	**2254**	**4600**	**6250**	32448
750	30"	**3136**	**5800**	**7644**	35033
800	32"	**3724**	**7400**	**8938**	44850
900	36"	**4410**	**11000**	**11760**	51247
1000	40"	**6223**	**13600**	**15876**	66104
1100	44"	**9702**	**14200**	**18535**	81526
1200	48"	**12150**	**16400**	**21000**	97355
1300	52"	**–**	**17800**	**–**	119787
1400	56"	**–**	**19200**	**–**	138400
1600	64"	**–**	**29000**	**–**	166080

Wet on/off service. Dry service ×1.15; lubricating media ×0.85. Kv = m³/h of water at 1 bar drop, 20 °C. Cv = 1.16 × Kv.

Seat selection.

TEMPERATURE & RESISTANCE

Seat	Applications	Limitations	Temp.
EPDM	Water, sea water, alcohols, organic salt solutions, mineral acid solutions, mineral alkaline bases	Not recommended for organic hydrocarbons	**-20 to 110 °C**
High-temp. EPDM	Water	Not recommended for hydrocarbons	**-20 to 130 °C**
NBR	Mineral and vegetable oils, gas, non-aromatic hydrocarbons, animal and vegetable fats, air	Organic acids, some mineral acids, chlorine, alcohols, aromatic hydrocarbons	**-10 to 80 °C**
Hypalon	Mineral acid solutions, organic and inorganic acids, oxidising substances	Mineral and vegetable oils, hydrocarbons, animal and vegetable fats, ketones	**-10 to 80 °C**
FKM	Acids, fats, hydrocarbons, vegetable and mineral oils, fuels	Steam and hot water (max. 130 °C), unleaded petrol, ketones, amines, Freon 22	**-5 to 180 °C**
Silicone	Low and high temperature resistance, food grade	Hydrocarbons, acids, bases, atmospheric agents	**-10 to 160 °C**
High-temp. silicone	Superheated (water)	Hydrocarbons, strong acids and strong bases	**-50 to 160 °C**
Epichlorohydrin	Ozone resistance, hydrocarbons, aromatic oils	Steam; intermediate resistance to oils	**-25 to 145 °C**

Ordering code.

EXAMPLE: 20 W 90 40 N0

20 — BODY

10	GJL250
20	GJS500-7
40	CF-8M
50	WCB
51	LCB
60	Aluminium
80	B-148 C95500

W — SERIES · TYPE

W	Wafer
L	Lug
B	Flanged S20
3	Flanged S13
4	Flanged S14
R	Groove end
V	Vulcanised seat
P	PTFE seat (add T for PTFE-covered disc)
M	Metal/metal concentric
X	Double eccentric
C	Triple eccentric

90 — STEM

30	AISI 304
40	AISI 316
90	AISI 420
95	17-4 PH
D0	1.4462
D1	1.4517
M5	Monel K-500

40 — DISC

20	GJS500-7
40	CF-8M
50	WCB
80	B-148 C95500
91	CA-15
95	17-4 PH
D0	1.4470
D1	1.4517
H0	Hastelloy C
U0	Uranus B6
S3	1.4469
S7	CK3MCuN

N0 — SEAT

C0	Natural rubber	**NL**	Low-temp. nitrile
E0	EPDM	**S0**	Silicone (VQM)
EA	Drinking water EPDM	**SA**	Food grade silicone
ET	High-temp. EPDM	**ST**	High-temp. silicone
EN	Nordel	**V0**	FKM (Viton)
F0	PTFE	**NE**	Neoprene
H0	Hypalon	**F5**	PTFE + 25% GF
N0	Nitrile (NBR)	**4L**	CF-3M
NC	Carboxylated nitrile	**I0**	Inconel
NG	Gas nitrile	**4E**	316 + Stellite
		4G	316 + graphite

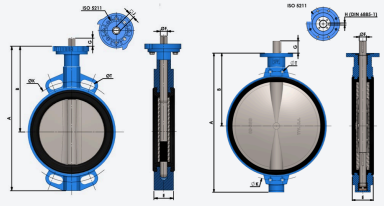
TTV's code list shows "ST" for both high-temperature silicone and epichlorohydrin (ECO) – please confirm the code with Actuation Valve & Control.

Data supplied by TTV and provided for reference only. Specifications may change without notice – please confirm details with Actuation Valve & Control before ordering.

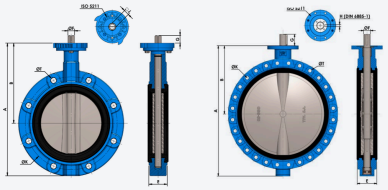
Valve dimensions.

MM · WEIGHT KG · NOMINAL ±1 MM

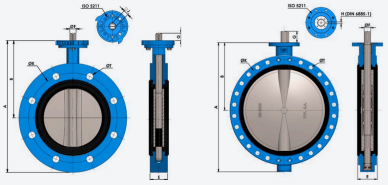
WAFER



LUG



FLANGED



Size		Shaft & top flange					Wafer			Lug			Flanged		
DN	in	F	G	J	E	ISO 5211	A	B	kg	A	B	kg	A	B	kg
32	1¼"	9.8	14	8	33	**F05/07**	206	140	2	205	140	3	–	–	–
40	1½"	9.8	14	8	33	**F05/07**	206	140	2	205	140	3	–	–	–
50	2"	9.8	14	8	43	**F05/07**	228	156	3.5	226	156	3.5	239	156	6
65	2½"	12	16	9	46	**F05/07**	248	161	4.5	246	161	4.5	254	161	7.5
80	3"	14	16	11	46	**F05/07**	265	169	5	259	169	6.5	269	169	9
100	4"	14	20	11	52	**F05/07**	298	187	6.5	295	187	8	306	187	12
125	5"	18	20	14	56	**F07**	331	206	8	325	206	11	337	207	16
150	6"	18	20	14	56	**F07**	349	215	9	352	215	12	361	215	14
200	8"	22	24	17	60	**F07**	430	255	15	422	255	18.5	435	255	22
250	10"	25	24	19	68	**F10**	461	248	21.5	460	248	28.5	458	248	34
300	12"	28	24	22	78	**F10**	524	280	30	523	280	42	521	280	48
350	14"	28	29	22	78	**F14**	570	300	39	570	300	53	565	300	58
400	16"	35	29	27	102	**F14**	644	340	52	644	340	77	645	340	81
450	18"	50	80	-	114	**F14**	736	390	87	738	390	110	736	390	118
500	20"	50	80	-	127	**F14**	825	440	117	825	440	135	825	440	144
600	24"	60	90	-	154	**F16**	965	507	177	965	507	210	965	507	220
700	28"	60	90	-	165	**F25**	1100	575	258	1100	575	290	1100	575	300
750	30"	65	110	-	190	**F25**	1150	600	296	1150	600	360	1150	600	370
800	32"	65	110	-	190	**F25**	1248	655	330	1248	655	450	1248	655	415
900	36"	80	110	-	203	**F25**	1325	685	505	1325	685	550	1325	685	565
1000	40"	80	110	-	216	**F25**	1457	754	661	1454	754	760	1457	754	775
1100	44"	80	110	-	216	**F25**	1580	815	840	1580	815	1020	1580	815	990
1200	48"	100	110	-	254	**F25**	1721	873	1020	1720	873	1460	1721	873	1350
1300	52"	120	120	-	360	**F30**	1910	1005	1650	1910	1005	2330	1910	1005	2100
1400	56"	120	130	-	360	**F30**	1990	1025	1900	1990	1025	2450	1990	1025	2450
1600	64"	150	160	-	360	**F35**	2320	1190	2350	2320	1190	2940	2320	1190	2710
1800	72"	150	170	-	360	**F35**	–	–	–	–	–	–	2525	1310	3100
2000	80"	150	170	-	360	**F35**	–	–	–	–	–	–	2680	1360	3650

Fig. 1 DN32–400 / Fig. 2 DN450 and above (no J dimension). F, G, J, E and ISO 5211 shown from the wafer table (flanged for DN1800–2000); at DN1300 the lug and flanged tables give G = 130. PN10, PN16 and ANSI 150 drilling tables for each body are in the TTV catalogue – ask Actuation Valve & Control. Lever, gearbox and actuator assembly dimensions available on request.

TTV APPROVALS & CERTIFICATIONS

AV®

Want it automated?

We supply TTV butterfly valves with levers, gearboxes or fitted actuators, ready to install.

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