

BUTTERFLY VALVES · PHENOLIC HARD BACK CARTRIDGE SEAT

BVW Wafer Butterfly Valve

16 bar rated wafer-pattern ductile iron butterfly valve with a replaceable NBR cartridge seat on a phenolic hard back, for high-repetition and actuated service. DN50–DN600.

- API 609
- API 598
- AS 2129
- ISO 5211



FEATURES

- 16 bar pressure rated
- Ductile iron body with fusion bonded epoxy coating
- 316 stainless steel disc
- NBR resilient cartridge seat with phenolic hard back
- Replaceable seat
- Compatible with PN16 / Table D, Table E and ANSI 150 flanges
- Bi-directional with bubble tight sealing
- Blow-out proof stem
- Suitable for high repetition and actuated applications
- Flange seal design eliminating the need for flange gaskets
- ISO top mounting flange for ease of actuation
- Gearbox fitted as standard on all sizes 350 mm and above
- Design and manufacture according to API 609
- Inspection and test according to API 598
- Fasteners: 316 stainless steel

Not suitable for end of line use unless fitted with a flange on the open side — required to support the cartridge seat.

TECHNICAL SPECIFICATION

Construction	Wafer concentric seal on body butterfly valve
Size	50 mm – 600 mm
Pressure rating	PN16 (16 bar)
Face to face	According to API 609
Flange drilling	AS 4087 PN16 (Table D) AS 2129 Table E ANSI B16.5 #150
Coatings	Fusion bonded epoxy
Mounting pad	ISO 5211
Temperature range	–10 °C to 90 °C (nitrile)
Suitable media	W.O.G. and similar

PRESSURE TESTING

BODY / SHELL	SEAT
2.4 MPa	1.76 MPa

Inspection and test according to API 598.

CONTROLS & OPTIONS

Lever operation	300 mm and below
Gear operation	50 mm – 600 mm
Electric actuators	12 V, 24 V, 240 V, 415 V
Pneumatic actuators	Single and double acting
Valve extensions	0.5 m to 2 m lengths

MODEL CODES & OPERATING DATA

Model	DN (mm)	Pressure range	Temperature range	ISO 5211 top flange	Square H×H	Round Øc	Torque (Nm)
BVWN*050	50	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F05	9 × 9	—	11.7
BVWN*065	65	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F05	9 × 9	—	18.2
BVWN*080	80	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F05	9 × 9	—	28.6
BVWN*100	100	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F07	11 × 11	—	44.2
BVWN*125	125	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F07	14 × 14	—	66.3
BVWN*150	150	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F07	14 × 14	—	101.4
BVWN*200	200	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F10	17 × 17	—	149.5
BVWN*250	250	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F10	22 × 22	—	227.5
BVWN*300	300	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F10	22 × 22	—	377
BVWNG350	350	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F10	—	31.6	859.3
BVWNG400	400	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F14	—	33.15	1458.6
BVWNG450	450	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F14	—	38	1721.2
BVWNG500	500	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F14	—	41.15	2745.6
BVWNG600	600	Vacuum to 16 bar	-29 °C to 90 °C (NBR)	F16	—	50.65	3088.8

* refers to operation type L (lever operated) or G (gear operated).

COMPONENTS

No.	Item	Material
1	Body	Ductile iron
2	Disc	SS 316
3	Stem	SS 420
4	Stem bushing	PTFE
5	Seat	NBR
6	O-ring	NBR
7	Pin	SS 316

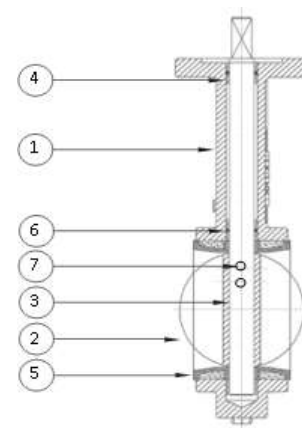


Fig. 1 — Component identification, numbered per table.

ISO 5211 TOP FLANGE

Flange	ØN (mm)	ØC1 (mm)	n1-Ød1
F05	65	50	4 - Ø8
F07	90	70	4 - Ø10
F10	125	102	4 - Ø12
F14	175	140	4 - Ø18
F16	210	165	4 - Ø22
F25	300	254	8 - Ø18
F30	350	298	8 - Ø22

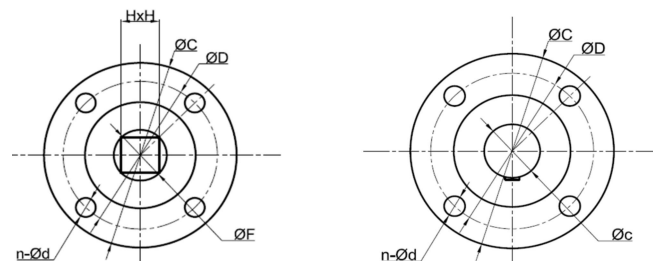


Fig. 2 — Top flange interface: square drive (left) and round drive (right).

DIMENSIONAL SPECIFICATIONS

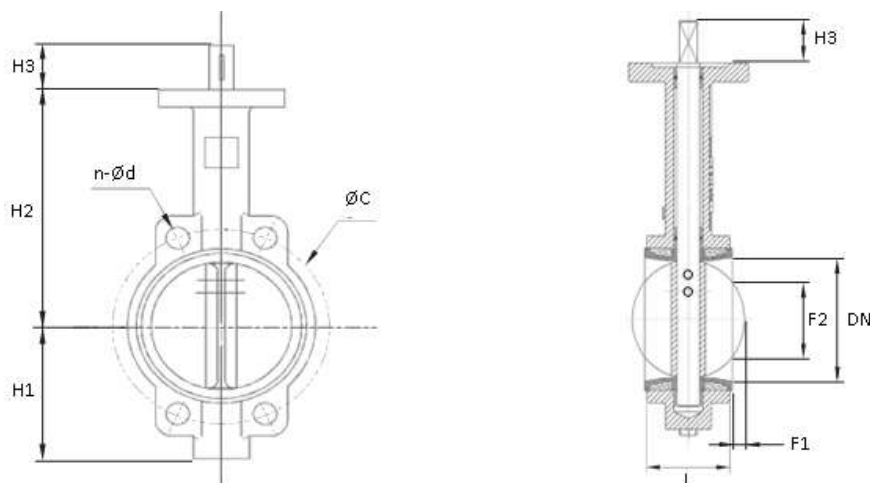


Fig. 3 — Front view (ØC, n-Ød) and sectional side view (L, F1, F2, H1-H3, DN).

BUTTERFLY VALVE — WAFER, LEVER OPERATED

Code	DN	L	H1	H2	H3	F1	F2	Table D		Table E		ANSI 150	
								ØC	n-Ød	ØC	n-Ød	ØC	n-Ød
BVWNL050	50	43	57	143	29	3.2	25.1	114	4 - Ø18	114	4 - Ø18	120.6	4 - Ø19
BVWNL065	65	46	68	155	29	7.6	41.4	127	4 - Ø18	127	4 - Ø18	139.7	4 - Ø19
BVWNL080	80	46	82	160	29	14.9	61.8	146	4 - Ø18	146	4 - Ø18	152.4	4 - Ø19
BVWNL100	100	52	100	181	29	25.1	89.1	178	8 - Ø18	178	8 - Ø18	190.5	8 - Ø19
BVWNL125	125	56	112	194	29	32.6	108.7	210	8 - Ø18	210	8 - Ø18	215.9	8 - Ø22.4
BVWNL150	150	56	126	202	29	48.9	144.6	235	8 - Ø18	235	8 - Ø22	241.3	8 - Ø22.4
BVWNL200	200	60	162	240	35	70	192.5	292	8 - Ø18	292	8 - Ø22	298.4	8 - Ø22.4
BVWNL250	250	68	193	272	35	90.3	240.5	356	8 - Ø22	356	12 - Ø22	361.9	12 - Ø25.4
BVWNL300	300	78	236.5	318	35	111	290.8	404	12 - Ø22	406	12 - Ø26	431.8	12 - Ø25.4

BUTTERFLY VALVE — WAFER, GEAR OPERATED

Code	DN	L	H1	H2	H3	F1	F2	Table D		Table E		ANSI 150	
								ØC	n-Ød	ØC	n-Ød	ØC	n-Ød
BVWNG050	50	43	57	143	29	3.2	25.1	114	4 - Ø18	114	4 - Ø18	120.6	4 - Ø19
BVWNG065	65	46	68	145	29	7.6	41.4	127	4 - Ø18	127	4 - Ø18	139.7	4 - Ø19
BVWNG080	80	46	82	160	29	14.9	61.8	146	4 - Ø18	146	4 - Ø18	152.4	4 - Ø19
BVWNG100	100	52	100	181	29	25.1	89.1	178	8 - Ø18	178	8 - Ø18	190.5	8 - Ø19
BVWNG125	125	56	112	194	29	32.6	108.7	210	8 - Ø18	210	8 - Ø18	215.9	8 - Ø22.4
BVWNG150	150	56	126	202	29	48.9	144.6	235	8 - Ø18	235	8 - Ø22	241.3	8 - Ø22.4
BVWNG200	200	60	162	240	35	70	192.5	292	8 - Ø18	292	8 - Ø22	298.4	8 - Ø22.4
BVWNG250	250	68	193	272	35	90.3	240.5	356	8 - Ø22	356	12 - Ø22	361.9	12 - Ø25.4
BVWNG300	300	78	236.5	318	35	111	290.8	406	12 - Ø22	406	12 - Ø26	431.8	12 - Ø25.4
BVWNG350	350	78	368	267	45	126.9	323.7	470	12 - Ø26	470	12 - Ø26	476.2	12 - Ø28.4
BVWNG400	400	102	400	298.6	51.2	149.7	378.8	521	12 - Ø26	521	12 - Ø26	539.7	16 - Ø28.4
BVWNG450	450	114	422	318	51.2	166	427.3	584	12 - Ø26	584	16 - Ø26	577.8	16 - Ø31.8
BVWNG500	500	127	480	355	64.2	178.4	472.8	641	16 - Ø26	641	16 - Ø26	635	20 - Ø31.8
BVWNG600	600	154	562	444	70.2	218.4	571.9	756	16 - Ø30	756	16 - Ø33	749.3	20 - Ø35.1

All dimensions in millimetres unless stated. Flange patterns: Table D, Table E and ANSI 150.

GEARBOX SPECIFICATIONS

Fig. 4 — Gear operator, 50–450 mm.

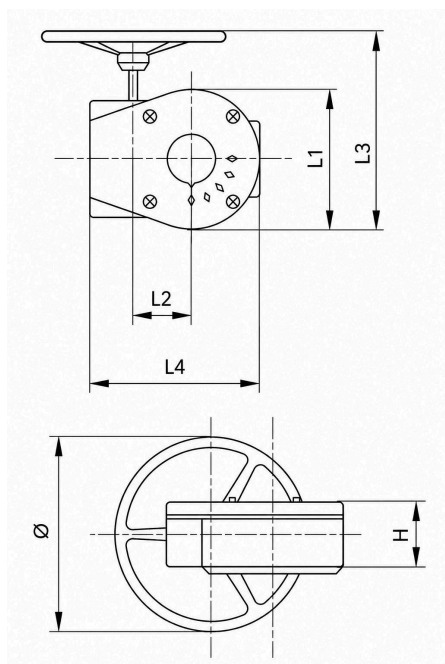
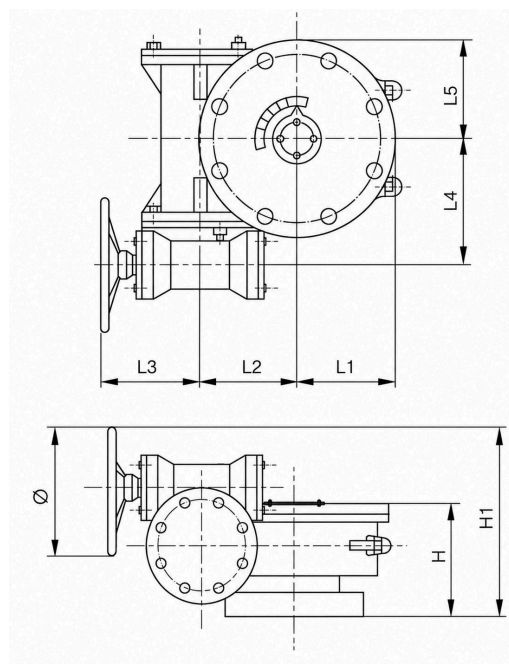


Fig. 5 — Gear operator, 500–1200 mm.



50 – 450 MM BUTTERFLY VALVE

Code	DN	L1	L2	L3	L4	L5	Ø	ISO 5211 Top Flange	Mounting Bolts	Output Torque (Nm)	Drive Ratio	Turns
BVGS50/65/80	50	105	45	215	127	70	150	F05	4 – M6	150	24:1	6
BVGS50/65/80	65	105	45	215	127	70	150	F05	4 – M6	150	24:1	6
BVGS50/65/80	80	105	45	215	127	70	150	F05	4 – M6	150	24:1	6
BVGS100	100	105	45	215	127	70	150	F07	4 – M8	150	24:1	6
BVGS125/150	125	105	45	215	127	70	150	F07	4 – M8	150	24:1	6
BVGS125/150	150	105	45	215	127	70	150	F07	4 – M8	150	24:1	6
BVGS200	200	145	63	303	170	76	300	F10	4 – M10	500	30:1	7.5
BVGS250	250	145	63	303	170	76	300	F10	4 – M10	500	30:1	7.5
BVGS300	300	156	80	300	190	79	300	F10	4 – M10	1200	50:1	12.5
BVGR350	350	156	80	300	190	79	300	F10	4 – M10	1200	50:1	12.5
BVGR400	400	247	118	336	279	109	385	F14	4 – M16	1800	80:1	20
BVGR450	450	247	118	336	279	109	385	F14	4 – M16	1800	80:1	20

500 – 1200 MM BUTTERFLY VALVE

Code	DN	L1	L2	L3	L4	L5	H	H1	Ø	ISO 5211 Top Flange	Mounting Bolts	Output Torque (Nm)	Drive Ratio	Turns
BVGR500	500	107	100	160	168	107	125	271	285	F14	4 – M16	2500	640:1	160
BVGR600	600	131	125	160	193	131	136	330	385	F16	4 – M20	4000	640:1	160
BVGR700/750/800	700	146	140	197	230	146	149	378	425	F25	8 – M16	8000	704:1	176
BVGR700/750/800	750	146	140	197	230	146	149	378	425	F25	8 – M16	8000	704:1	176
BVGR700/750/800	800	146	140	197	230	146	149	378	425	F25	8 – M16	8000	704:1	176
BVGR900/1000	900	173	162	197	246	173	155	377	425	F25	8 – M16	15000	748:1	187
BVGR900/1000	1000	173	162	197	246	173	155	377	425	F25	8 – M16	15000	748:1	187
BVGR1200	1200	185	240	203	303	251	194	399	425	F30	8 – M20	25000	850:1	212.5

All dimensions in millimetres. Gearboxes 350 mm and above are fitted as standard.

ACCESSORIES — BVES BUTTERFLY VALVE EXTENSIONS

Construction	Ductile iron body
Suits valves	50 mm – 600 mm
Coatings	Fusion bonded epoxy
Mounting pad	ISO 5211
Lengths	0.5 m to 2 m

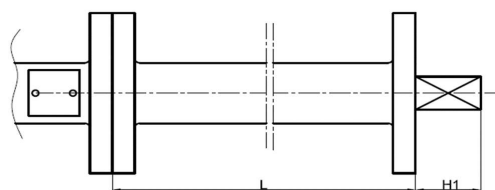


Fig. 6 — BVES extension spindle (L, H1).

Model	Valve DN (mm)	L (m)	H3	ISO 5211 top flange	Shaft size (H×H or Øc)
BVES050-*M	50	1 / 1.5 / 2	29	F05	9
BVES065-*M	65	1 / 1.5 / 2	29	F05	9
BVES080-*M	80	1 / 1.5 / 2	29	F05	9
BVES100-*M	100	1 / 1.5 / 2	29	F07	11
BVES125-*M	125	1 / 1.5 / 2	29	F07	14
BVES150-*M	150	1 / 1.5 / 2	29	F07	14
BVES200-*M	200	1 / 1.5 / 2	35	F10	17
BVES250-*M	250	1 / 1.5 / 2	35	F10	22
BVES300-*M	300	1 / 1.5 / 2	35	F10	22
BVES350-*M	350	1 / 1.5 / 2	45	F10	31.6
BVES400-*M	400	1 / 1.5 / 2	51.2	F14	33.15
BVES450-*M	450	1 / 1.5 / 2	51.2	F14	38
BVES500-*M	500	1 / 1.5 / 2	64.2	F14	41.15
BVES600-*M	600	1 / 1.5 / 2	70.2	F16	50.65

* substitute the required length in the model code — e.g. BVES150-1M, BVES150-1.5M or BVES150-2M.

STANDARDS & APPROVALS

- Design and manufacture according to API 609
- Inspection and testing according to API 598
- Flange drilling according to AS 2129 / AS 4087 and ANSI B16.5
- Actuator mounting according to ISO 5211

Designs, materials and specifications shown are subject to change without notice due to our continuing program of product development. Confirm critical dimensions with Global Water Group prior to fabrication.