



Waterworks

B3 & B13 SERIES

RESILIENT SEATED BUTTERFLY VALVE

with wide face to face

Waterworks Product Catalog

RAPHAEL VALVES INDUSTRIES

B3 & B13

RESILIENT SEATED BUTTERFLY VALVES

B3 & B13 Butterfly valves are compact in design, light in weight and easy to install in the line.

Optimum use of new materials and applications of modern manufacturing techniques has resulted in this range of simple and reliable valves.

The B3 & B13 valves are leak-tight, resilient seated for a wafer type butterfly valve designed to fit without gaskets for a wide variety of mating flanges.

They are suitable for flow in either direction, seal in both directions, and can be used for on-off or regulating purposes.



TECHNICAL DATA

Sizes: DN80 – DN900

MAWP: DN80 – DN400
PN16 / PN25

Working Temperature:
-29°C – 110°C

Flange Accomodation: DIN/
BS/ANSI

FEATURES

- Exceptional sealing performance, ensuring a bubble-tight shutoff from full vacuum to the maximum rated working pressure.
- Wide Face to Face dimensions facilitate easy installation in both thick-walled and plastic pipes.
- Actuator mounting flange designed according to ISO 5211 standards. Elastomer rubber seating with a profiled design, fully isolating the valve body from the media, featuring molded-in O-Rings for flange sealing, eliminating the need for additional gaskets.
- Dry shaft design enhances overall efficiency.
- Body locating holes for easy installation between flanges.
- Available with a choice of anticorrosive coatings, including Epoxy, Rilsan, and Enamel.
- Can be supplied with manual, pneumatic, electric, or hydraulic actuation options

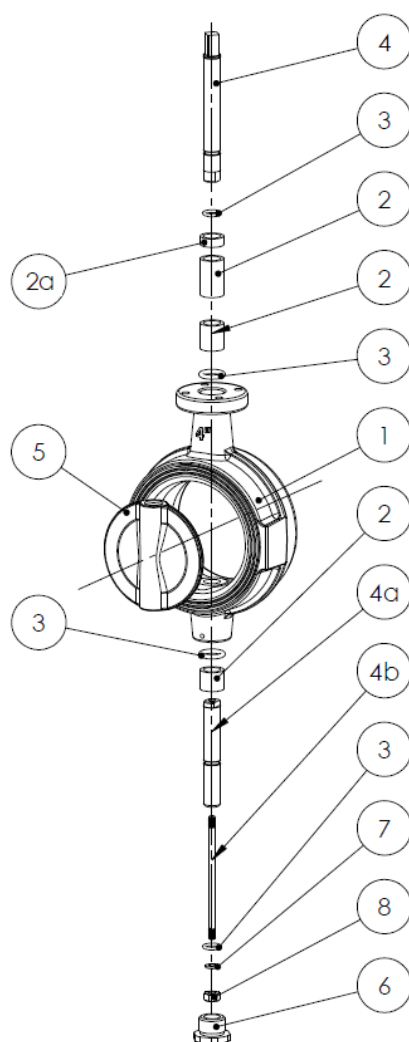
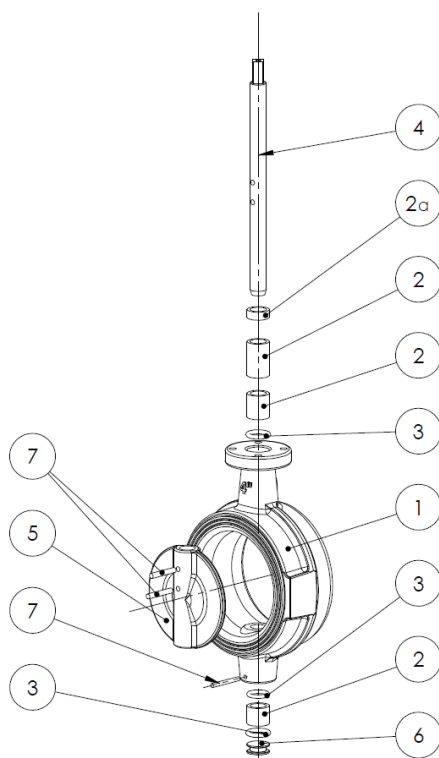
The valve is designed for heavy duty industrial applications, for shutoff and modulating service.

ACTUATOR TYPES

- Manual Lever up to DN150
- Manual Gear Operator
- Pneumatic Actuator
- Hydraulic Actuator
- Electric Actuator

PARTS LIST

No.	Description
1	Body
2a	Spacer
2	Bearings
3	O-Ring
4, 4a, 4b	Shafts
5	Disc
6	Plugs
7, 8	Washer, Nut



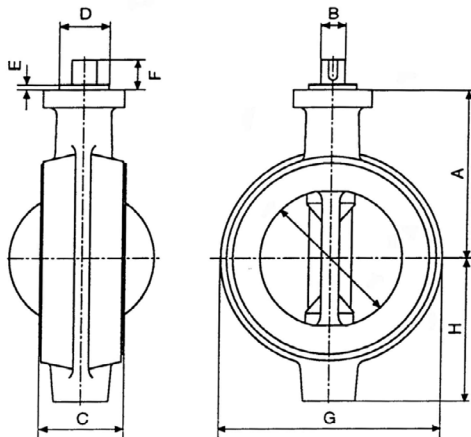
CONSTRUCTION MATERIALS

Body Cast Iron GG25 or Ductile Iron GGG40

Disc: Ductile Iron GGG40/ Rilsan or Enamel coated; Stainless Steel; Worthite

Seat: EPDM

GENERAL DIMENSIONS & WEIGHT



Size		A*	B	C		G	H	Weight (kg)
(mm)	(in)			B3	B13			
50	2	102	12	46	46	105	65	2.4
80	3	122	16	64	59	140	100	4.4
100	4	132	16	64	61	160	108	5
150	6	168	25	76	95	215	142	11
200	8	213	28	89	95	272	179	21
250	10	250	35	114	98	317	218	34
300	12	300	35	114	120	377	251	46
350	14	321	45	112	112	425	306	70
400	16	361	50	128	128	485	346	103
450	18	391	63	140	140	537	360	117
500	20	417	63	140	140	607	385	140
600	24	605	75	166	166	695	483	168

TECHNICAL SPECIFICATIONS

Size		Angle								
(mm)	(in)	10°	20°	30°	40°	50°	60°	70°	80°	90°
80	3	2.9	16.0	21.6	67.5	101	119	186	161	285
100	4	4.8	28.5	36.3	121	182	203	316	273	484
125	5	8.7	57.1	64.9	242	363	363	562	486	865
150	6	17.3	95.2	130	400	599	727	1125	973	1730
200	8	30.3	151	216	642	963	3794	1856	1605	2855
250	10	47.6	221	346	933	1399	1926	2980	2578	4585
300	12	69.2	299	502	1272	1907	2798	4330	3745	6661
350	14	95.2	400	683	1696	2543	3815	5904	5107	9083
400	16	121	462	908	1960	2940	5087	7872	6810	13668
450	18	196	500	1055	1900	3200	5150	6545	14825	17200
500	20	242	620	1300	2350	3900	6350	8288	18300	21239
600	24	349	900	1880	3350	5700	9140	10225	26360	30590

$$Q = Kw\Delta P/RD$$

$$\Delta P = (P_{in} - P_{out}) \text{ in bar}$$

Q - Flow in m³/h

Kv - Flow coefficient m³/h

Indicated for valves PN10/16

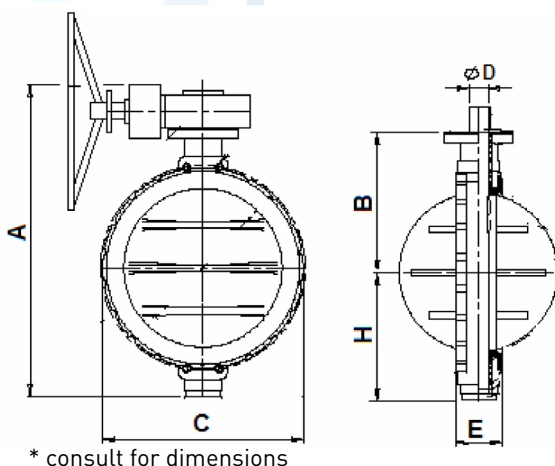
RD Specific gravity

For water = 1

Kv values at various angles

Kv - flow coefficient m³/h

OTHER OPERATIONS

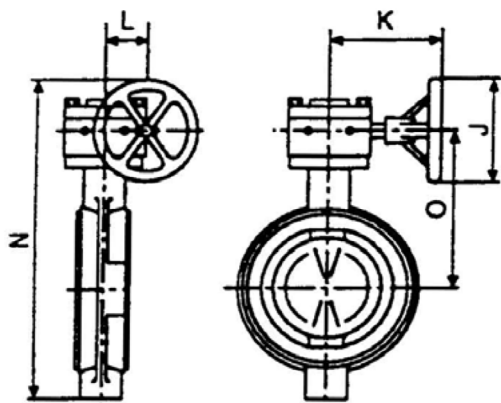


* consult for dimensions

Size		A*	B	C	D	E	H	Weight (kg)
(mm)	(in)							
80	3	290	122	140	16	64	100	5
100	4	330	132	160	16	64	108	5.5
150	6	410	168	215	25	76	142	10.5
200	8	490	213	272	28	89	179	16
250	10	570	250	317	28	114	218	25
300	12	700	300	377	35	114	251	40
350	14	780	321	425	35	112	306	49
400	16	860	361	485	45	128	346	68
450	18	900	391	537	50	140	360	98
500	20	950	417	607	63	140	385	135
600	24	1240	605	695	63	166	483	195

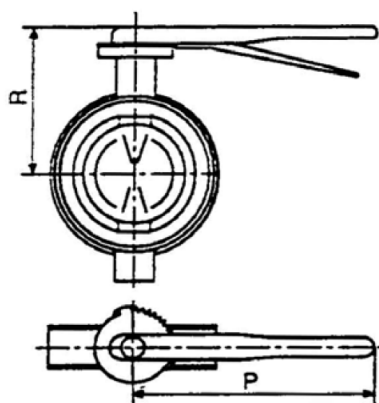
OTHER OPERATIONS

Worm Gear Operated Type B3AM/ B13AM



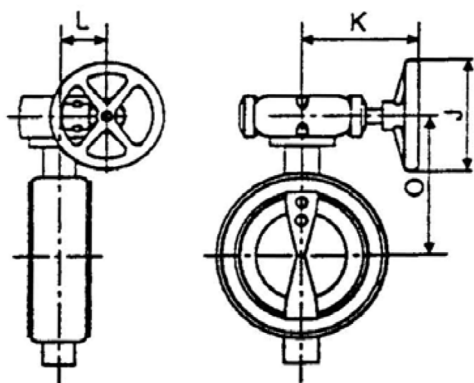
Size		A*	B	C	E	H	Weight (kg)
(mm)	(in)						
50	2	150	146	50.5	272	132	5
80	3	150	146	50.5	320	152	7
100	4	15	146	50.5	341	162	7.5
150	6	215	190	75	431	205	14
200	8	215	190	75	515	250	26
250	10	215	190	75	604	287	39
300	12	215	190	75	687	337	51
350	14	360	260	86	720	384	95
400	16	460	260	86	909	427	128
450	18	460	335	138	1046	455	174
500	20	460	335	138	1106	491	197

Lever Operated Type B3M/ B13M



Size		P	R	Weight (kg)
(mm)	(in)			
50	2	260	135	3
80	3	260	155	5
100	4	260	165	5.5
150	6	360	201	12
200	8	450	271	22
250	10	450	308	40
300	12	450	358	52

Toggle Gear Operated Type B3AV / B13AV



Size		A*	B	C	E	Weight (kg)
(mm)	(in)					
150	6	215	215	90	208	23.5
200	8	215	215	90	253	33.5
250	10	215	215	90	290	47.5
300	12	215	215	90	340	60
350	14	360	350	95	420	99
400	16	360	350	95	455	132
450	18	465	447	120	495	166
500	20	465	447	120	545	189

RAPHAEL, founded in 1949, is the first Israeli manufacturer of water control valves. RAPHAEL's research department constantly strives to introduce new and innovative products and solutions for water control systems including water works, fire-protection and irrigation systems.



Waterworks



Fire Protection



Irrigation



Smart Solutions



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