

## Butterfly valve (wafer and lug)



- Manually operated / automatable
- High flow rate
- Shaft and housing: non-wetted parts
- Low torque through self-lubricating bearing bush
- Zero leakage

Type 2671 can be combined with...



**Type 2052**  
Pneumatic actuator



**Type 2051**  
Pneumatic actuator



**Type 3003**  
Electric actuator



**Type 3004**  
Electric actuator



**Type 3005**  
Electric actuator



**Type 1061**  
Position feedback

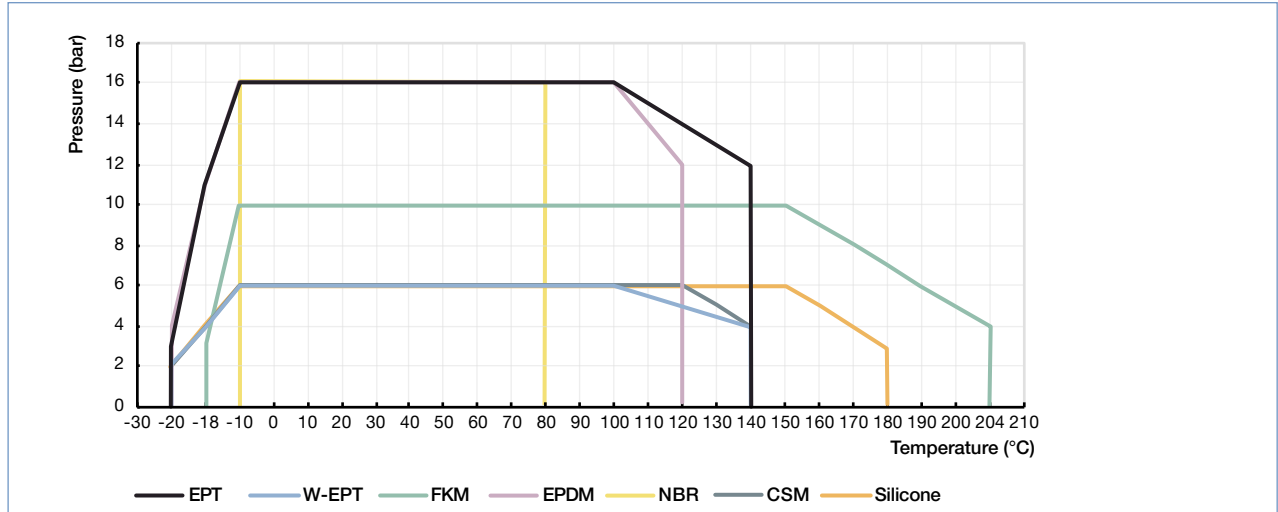
Metal butterfly valves are used for control and on/off operations. Due to the fact, that the valves are available with different body designs (wafer or lug type) and materials, they perfectly meet the requirements of diverse applications and processes. Usually they are used in application fields such as the metal industry, power generation, pulp and paper, mining, shipbuilding, environmental and mechanical engineering.

Further features und benefits are:

- Through shaft for self centering disc --> even wear and low torques
- Blow-out proof shaft seal
- Spherically shaped disc
- Sturdy notched handle in ductile iron: lockable in 10 adjustable positions

Technical data	
<b>Orifice</b>	DN40 - 300
<b>Body</b>	Wafer, lug
<b>Body material</b>	GG25 - Cast Iron, GGG50 - Ductile Iron (other materials on request)
<b>Disc material</b>	CF8M (other materials or coatings on request)
<b>Seal material</b>	EPT (W-EPT, FKM, EPDM, NBR, CSM, Silicone on request)
<b>Medium temperature</b>	-20 °C up to 140 °C (for EPT, see pressure/temperature chart p. 2) Butterfly valves with different maximum pressure ratings on request
<b>Max. medium pressure</b>	max. 16 bar for lubricating media & 10 bar for dry media (see pressure/temperature chart p. 2)
<b>Port connections</b>	EN1092-1 & EN1092-2 ASME/ANSI B16.1 Class 125 ASME/ANSI B16.5 Class 150 (details on p. 4-5)
<b>ISO top flange</b>	EN ISO 5211
<b>Considered standards</b>	ISO 5208 ASME B16.34 API 609

## Pressure/Temperature diagram



## Torque [Nm]

Size		Differential pressure (kg/cm <sup>2</sup> ) Lubricating (non corrosive)		
mm	inch	6	10	16
40	1.5	4.5	4.5	4.5
50	2	10	10	11.5
65	2.5	13	13.5	15
80	3	19.6	19.6	19.6
100	4	29.4	29.4	34.3
125	5	44.1	44.1	54
150	6	58	72	80
200	8	120	125	130
250	10	170	185	200
300	12	352	357	450

To use torque chart, note the following:

1. Seating / unseating torque values above included friction bearing torque for stated  $\Delta p$
2. For actuator dimensioning we recommend considering a safety factor of minimum 30%.
3. Test medium: water / room temperature

Flow rate  $C_v$  [m<sup>3</sup>/h]

Size		$C_v$ FLOW COEFFICIENT Opening angle								
mm	inch	10°	20°	30°	40°	50°	60°	70°	80°	90°
40	1.5	0.8	2.8	8.1	16.6	25.7	42.1	69.0	94.8	132.2
50	2	1.3	4.4	11.9	25.7	44.5	70.2	117.0	154.4	225.8
65	2.5	2.3	8.8	21.3	41.0	71.4	111.2	218.8	280.8	368.6
80	3	2.9	11.5	30.4	56.2	97.1	147.4	250.4	395.5	497.3
100	4	4.4	17.1	45.6	84.2	139.2	258.6	422.4	709.0	845.9
125	5	7.6	28.1	72.5	138.1	253.9	461.0	700.8	1214.5	1454.3
150	6	11.7	48.0	111.2	204.8	381.4	634.1	1021.4	1474.2	2175.0
200	8	22.2	74.9	193.1	358.0	670.4	1164.2	1833.4	2702.7	3655.1
250	10	32.8	118.2	286.7	527.7	978.1	1710.5	2636.0	3809.5	5565.7
300	12	39.8	150.9	365.0	719.6	1330.3	2486.3	3800.2	5839.5	8257.9

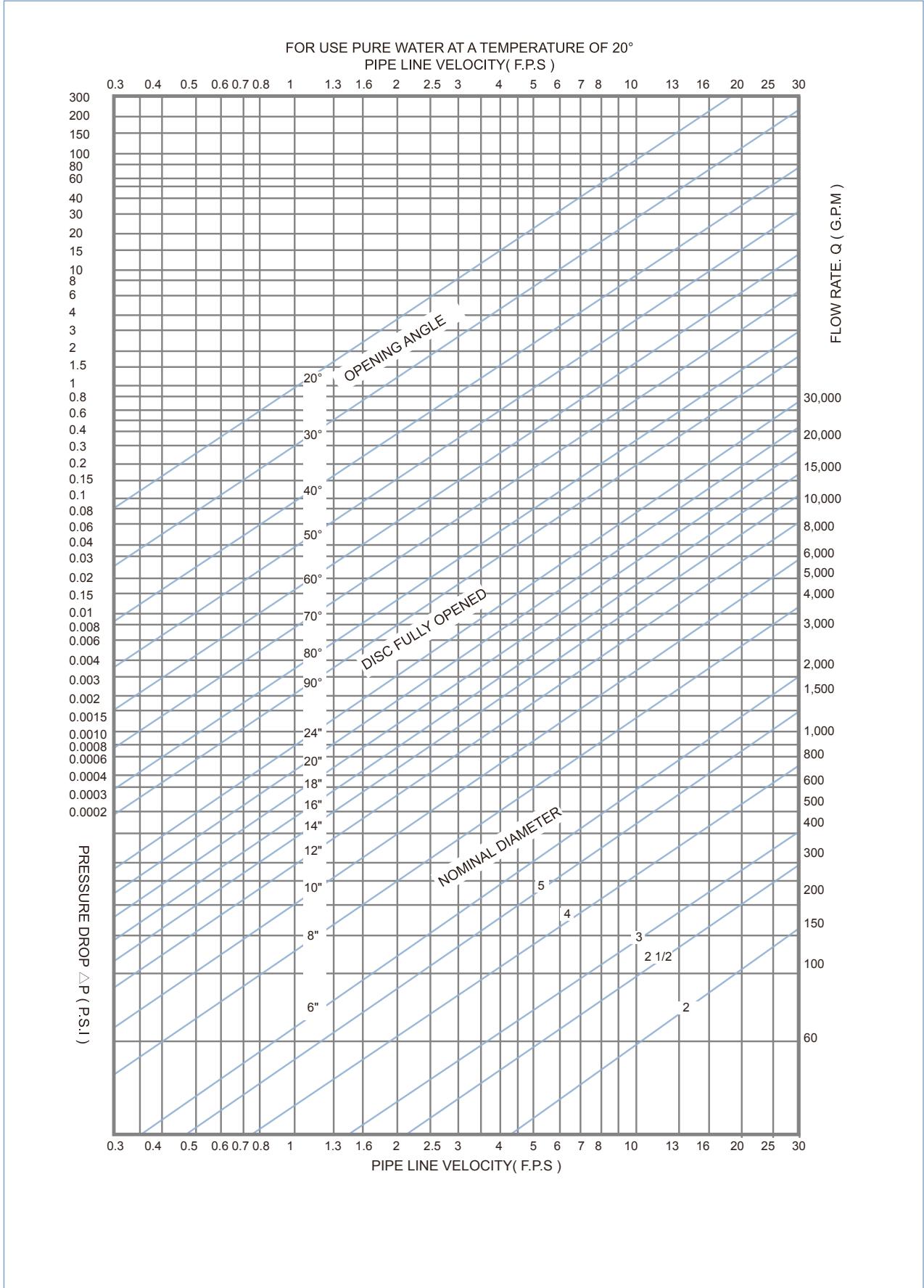
When require  $C_v = 1.17K_v$

Butterfly valves can be used as a control valve at an opening angle between 30° and 90°. A regulation to an opening angle below 30° is not recommended due to high flow rates and cavitation, which results in early damage of the valve.

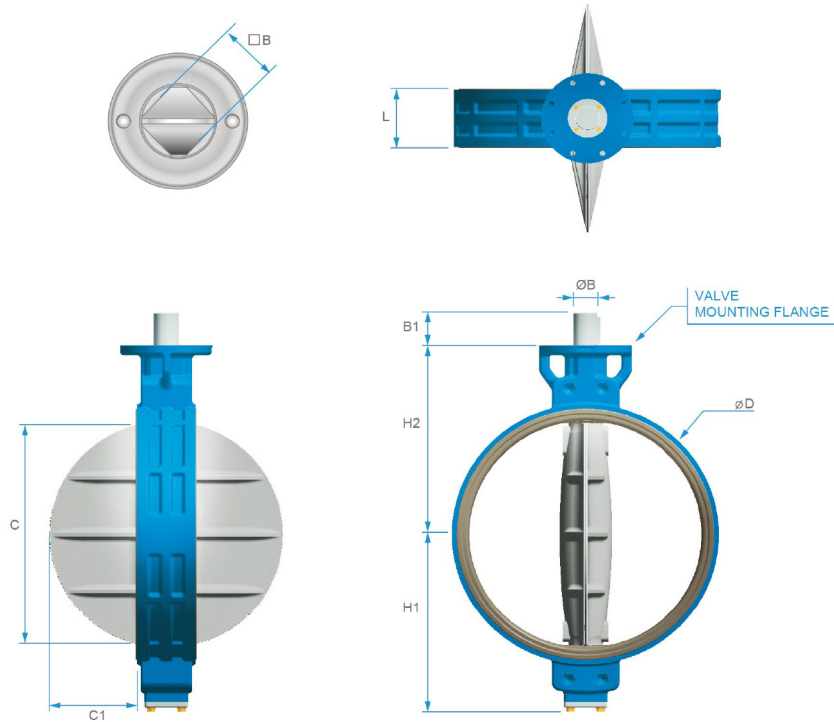
The max. flow rate of the medium through the butterfly valve must not be exceeded:

– 3 m/s for liquid media. The use between 3 and 5 m/s is possible. However, this increases the risk of cavitation, noise, vibrations and pressure surges  
– 20 m/s for gas. The use between 20 and 25 m/s is possible. However, this increases the risk of cavitation, noise, vibrations and pressure surges

Pressure drop diagram for water at 20 °C



## Dimensions [mm] - wafer type



Size		Face to Face	Dimensions					Mounting flange (ISO 5211) VALVE		Shaft end			Weight
mm	inch	L	H1	H2	$\varnothing D$	C	C1	Type	PCD	$\varnothing B$	B1	$\square B$	kg
40	1.5	33	60	120	81	34	7	F05/07	50/70	14	19	11	2.00
50	2	43	65	143	96	39	8	F05/07	50/70	14	19	11	3.00
65	2.5	46	71	155	110	55	13	F05/07	50/70	14	19	11	3.80
80	3	46	77	162	124	69	19	F05/07	50/70	14	19	11	4.00
100	4	52	107	181	148	91	27	F05/07	50/70	14	19	11	5.30
125	5	56	122	197	180	115	36	F05/07	50/70	18	19	14	7.30
150	6	56	150	210	206	140	47	F05/07	50/70	18	19	14	8.20
200	8	60	165	240	259	186	68	F10/*F12	102/125	22	24	17	13.50
250	10	68	201	286	320	239	90	F10/*F12	102/125	25	24	19	21.20
300	12	78	234	309	370	289	111	F10/*F12	102/125	28	24	22	32.50

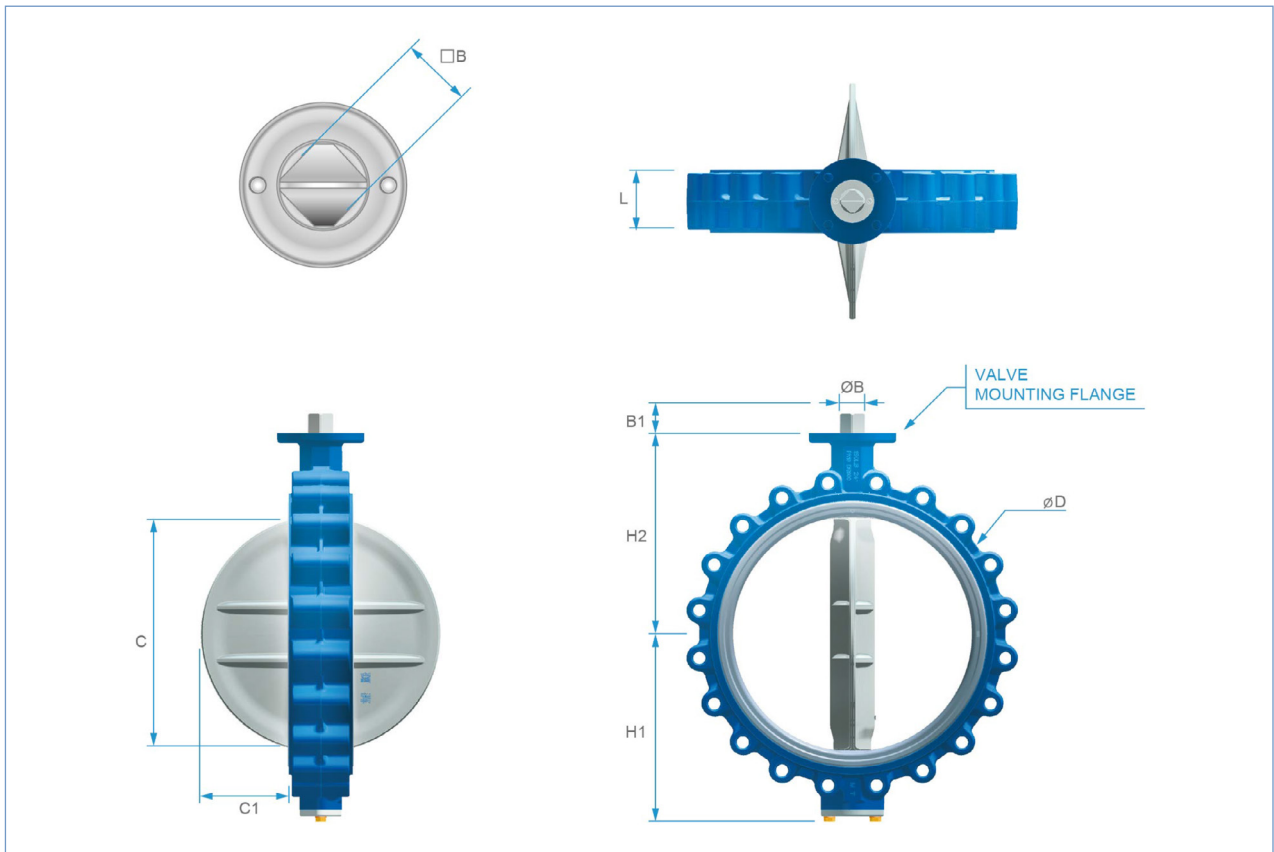
Pipe limit size > C

\*Other dimensions on request.

#### Flange Ratings

- PN10, 16 acc. to EN1092-1 & EN1092-2
- ASME / ANSI B16.1 Class 125 & Class 150
- AS Table E
- JIS 10K

## Dimensions [mm] - lug type



Size		Face to Face	Dimensions					Mounting flange (ISO 5211) VALVE		Shaft end			Weight
mm	Inch	L	H1	H2	ØD	C	C1	Type	PCD	ØB	B1	□B	kg
40	1.5	33	60	120	81	34	7	F05/07	50/70	14	19	11	2.2
50	2	43	65	143	96	39	8	F05/07	50/70	14	19	11	3.4
65	2.5	46	71	155	110	55	13	F05/07	50/70	14	19	11	4
80	3	46	77	162	124	69	19	F05/07	50/70	14	19	11	4.5
100	4	52	89	181	148	91	27	F05/07	50/70	14	19	11	7.6
125	5	56	112	197	180	115	36	F05/07	50/70	18	19	14	9.5
150	6	56	123	210	206	140	47	F05/07	50/70	18	19	14	10.4
200	8	60	150	240	259	186	68	F10/*F12	102/125	22	24	17	17.5
250	10	68	179	286	320	239	90	F10/*F12	102/125	25	24	19	26.5
300	12	78	216	309	370	289	111	F10/*F12	102/125	28	24	22	43.5

Pipe limit size > C

\*Other dimensions on request.

#### Flange Ratings

PN16 acc. to EN1092-1 & EN1092-2

Further flange ratings on request

### Ordering chart for wafer version

Orifice	Body	Body material	Disc material	Liner	Max pressure [bar]	C <sub>v</sub> [m <sup>3</sup> /h]	Weight - bare shaft [kg]	Article no. bare shaft	Article no. with hand lever
40	Wafer	GGG50	CF8M	EPT	16	132.2	2	773687	773649
50	Wafer	GG25	CF8M	EPT	16	225.8	3	773688	773650
65	Wafer	GG25	CF8M	EPT	16	368.6	4	773669	773651
80	Wafer	GG25	CF8M	EPT	16	497.3	4	773670	773652
100	Wafer	GG25	CF8M	EPT	16	845.9	6	773671	773653
125	Wafer	GG25	CF8M	EPT	16	1454.3	8	309094	773654
150	Wafer	GG25	CF8M	EPT	16	2175.0	9	773673	773655
200	Wafer	GGG50	CF8M	EPT	16	3655.1	14	773674	773656
250	Wafer	GGG50	CF8M	EPT	16	5565.7	22	773675	773657
300	Wafer	GGG50	CF8M	EPT	16	8257.9	33	773676	773658

### Ordering chart for lug version

Orifice	Body	Body material	Disc material	Liner	Max pressure [bar]	C <sub>v</sub> [m <sup>3</sup> /h]	Weight - bare shaft [kg]	Article no. bare shaft	Article no. with hand lever
40	Lug	GGG50	CF8M	EPT	16	132.2	3	773689	773686
50	Lug	GGG50	CF8M	EPT	16	225.8	4	773677	773659
65	Lug	GGG50	CF8M	EPT	16	368.6	4	773678	773660
80	Lug	GGG50	CF8M	EPT	16	497.3	5	309102	773661
100	Lug	GGG50	CF8M	EPT	16	845.9	8	773680	773662
125	Lug	GGG50	CF8M	EPT	16	1454.3	10	773681	773663
150	Lug	GGG50	CF8M	EPT	16	2175.0	11	773682	773664
200	Lug	GGG50	CF8M	EPT	16	3655.1	18	773683	773665
250	Lug	GGG50	CF8M	EPT	16	5565.7	27	773684	773666
300	Lug	GGG50	CF8M	EPT	16	8257.9	44	773685	773667

### Ordering Chart for EPT replacement liners

Orifice	Article no.
40	773949
50	773950
65	773951
80	773952
100	773953
125	773954
150	773955
200	773956
250	773957
300	773958

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In case of special application conditions,  
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