

# Butterfly Valve Type 038/039



**Type 038**  
With hand lever  
Wafer or lug style valve

**Type 038**  
Manual reduction gear  
Wafer or lug style valve

**Type 039**  
With hand lever  
Wafer style valve

**Type 039**  
Manual reduction gear  
Wafer style valve

## Product description

Metal butterfly valves are ideal for shutting off and controlling the flow of liquid media in pipelines. They offer high temperature and pressure resistance as well as outstanding resistance to corrosion.

### Function

Metal butterfly and control Valve Types 038 and 039 can be universally used and are intended exclusively for shutting off, conveying and dosing media in the allowable pressure and temperature range or for controlling flow in piping systems into which they have been installed. The easy installation of the valves between pipe flanges guarantees reliable operation and sealing.

The Rilsan-coating of the valve body and the ductile iron valve disk provide a high resistance against corrosion. The butterfly valves are also available in a standard version with a stainless steel valve disk.

### Applications

- Water treatment
- Chemical process industry
- Cooling water facilities
- Power plant
- Shipbuilding

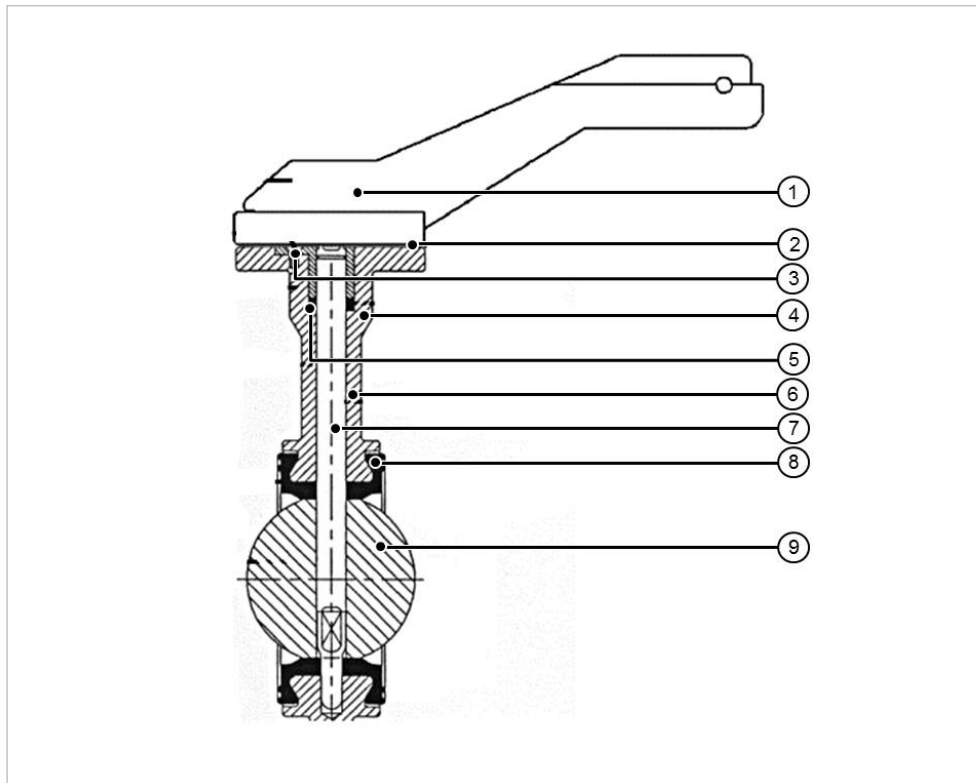
### Benefits/features

- Good flow characteristics
- Rilsan/epoxy-coating: good chemical resistance
- Easy installation
- Space-saving installation
- Large dimensions to DN1200
- Compact design
- Varied applications
- Low maintenance and high cost efficiency
- KTW / DVGW / WRAS certification

### Flow media

Not recommended for media containing solids.

## Technical data



- ① Hand lever
- ② Ten-position plate
- ③ Screw for bushing
- ④ Bushing
- ⑤ Shaft sealing
- ⑥ Valve housing
- ⑦ Shaft
- ⑧ Collar
- ⑨ Valve disc

Specification			
<b>Dimensions</b>	Type 038 wafer or lug style	DN50 – DN600, 2" – 24"	
	Type 039 wafer style	DN50 – DN1200, 2" – 48"	
<b>Materials</b>	Disc	Ductile cast iron Rilsan/epoxy-coated	
		Stainless steel	
		Aluminum bronze	
	Outside housing	Ductile cast iron	
<b>Gasket materials</b>	EPDM, FKM, others upon request		
<b>Pressure ratings</b>	Type 038, 039	PN10/16	
<b>Actuation variants</b>	Manually operated		
	Pneumatically actuated FC, FO, DA		
	Electrically actuated AC: 100 – 230 V, AC/DC: 24 V		
<b>Connections</b>	Flange connections	EN1092-1	PN10/PN16
		DIN2501	PN10/PN16
		ANSI B16.5	Class 150
	Valve flange	ISO/DIN, BS, ASTM	
<b>Standards</b>	Type 038	ISO/DIN, ASTM	
	Type 039	All standards	
<b>Approvals</b>	KTW, DVGW, ACS, WRAS		

**Kv 100 values**

Nominal diameter DN		Opening angle (m <sup>3</sup> /h)							
(mm)	(inch)	20°	30°	40°	50°	60°	70°	80°	90°
50	2"	7	16	26	43	69	110	170	190
65	2 ½"	9	22	38	60	95	155	250	280
80	3"	14	33	57	95	150	240	370	430
100	4"	24	54	95	155	240	400	620	710
125	5"	38	86	155	240	390	640	950	1100
150	6"	52	120	220	345	550	950	1400	1600
200	8"	95	220	345	600	950	1600	2400	2800
250	10"	155	345	610	950	1600	2600	4000	4700
300	12"	220	510	860	1500	2300	3800	5900	6900
350	14"	290	660	1200	1900	2900	4800	7800	8600
400	16"	380	860	1600	2400	3900	6400	9500	11 200
450	18"	490	1100	2000	3100	5000	8300	12 900	15 500
500	20"	610	1400	2500	4000	6200	10 300	15 500	19 000
600	24"	860	2000	3400	5500	8600	14 700	22 400	25 900
650	26"	980	2300	4000	6100	10 400	16 650	25 850	31 500
700	28"	1100	2600	4600	6700	12 200	18 600	29 300	37 100
750	30"	1300	3100	5200	8500	13 800	22 400	34 500	40 500
800	32"	1800	3600	6600	9700	16 600	28 300	43 200	52 300
900	36"	2200	4500	7800	12 900	19 800	32 800	51 700	60 300
1000	40"	3100	5300	8700	16 000	24 100	42 200	62 100	78 400
1050	42"	3400	5900	9600	17 700	26 600	46 600	68 400	86 200
1100	44"	3800	6500	10 600	19 500	29 300	51 300	75 100	95 100
1200	48"	4500	7800	12 700	23 300	35 200	61 500	90 700	114 400

**Operating torque**

Nominal diameter DN (mm)	Inch (inch)	Operating pressure 10 bar (Nm)	Operating pressure 16 bar (Nm)
50	2"	15	15
65	2 ½"	20	20
80	3"	25	25
100	4"	40	40
125	5"	50	50
150	6"	60	60
200	8"	160	160
250	10"	250	250
300	12"	300	300
350	14"	900	
400	16"	1200	
450	18"	1650	
500	20"	2300	
600	24"	4100	

Reference values for tightening torque of screws

Use of PVC-U flange adapters

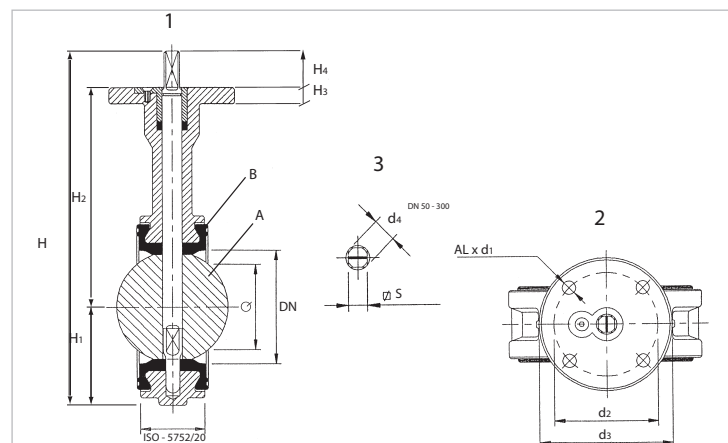
DIN PN16 / PN10 Standard									Required screws for Type 039 wafer butterfly valve With PVC-U flange adapters					Required screws for Type 038 lug style butterfly valve With PVC-U flange adapters		
Butterfly valve		Flange (DIN-2632)							Studs		Nuts			Screws		
PN (bar)	DN (mm)	inch (inch)	Housing width A	Flange thickness B	Hole distance øC	Number of holes N°	Outer ø ØD	Length L	Thread M	Number N°	Thread M	Number N°	Length L	Thread M	Number N°	
16	50	2"	43	18	125	4	165	150	M16	4	M16	8	50	M16		
16	65	2 ½"	46	18	145	4	185	155	M16	4	M16	8	55	M16	4	
16	80	3"	46	20	160	8	200	155	M16	8	M16	16	55	M16	8	
16	100	4"	52	20	180	8	220	165	M16	8	M16	16	60	M16	8	
16	125	5"	56	22	210	8	250	180	M16	8	M16	16	65	M16	8	
16	150	6"	56	22	240	8	285	190	M20	8	M20	16	70	M20	8	
16	200	8"	60	24	295	12	340	220	M20	8	M20	16	80	M20	8	
16	250	10"	68	26	355	12	405	230	M20	8	M20	16	90	M20	8	
16	300	12"	78	28	410	12	460	255	M20	12	M20	16	100	M20	12	
10	350	14"	78	30	470	16	520	275	M20	16	M20	32				
10	400	16"	102	32	525	16	580	310	M24	16	M24	32				

Use flange adapter PP and PE100

DIN PN16 / PN10 Standard									Required screws for Type 039 Wafer butterfly flange With flange adapter PP- and PE100					Required screws Type 038 with flange adapter PP and PE 100		
Butterfly valve		Flange (DIN-2632)							Studs		Nuts			Screws		
PN (bar)	DN (mm)	inch (inch)	Housing width A	Flange thickness B	Hole distance øC	Number of holes N°	Outer ø ØD	Length L	Thread M	Number N°	Thread M	Number N°	Length L	Thread M	Number N°	
16	50	2"	43	18	125	4	165	160	M16	4	M16	8	55	M16	4	
16	65	2 ½"	46	18	145	4	185	165	M16	4	M16	8	60	M16	4	
16	80	3"	46	20	160	8	200	170	M16	8	M16	16	60	M16	8	
16	100	4"	52	20	180	8	220	175	M16	8	M16	16	65	M16	8	
16	125	5"	56	22	210	8	250	200	M16	8	M16	16	80	M16	8	
16	150	6"	56	22	240	8	285	210	M20	8	M20	16	80	M20	8	
16	200	8"	60	24	295	12	340	230	M20	8	M20	16	90	M20	8	
16	250	10"	68	26	355	12	405	250	M20	8	M20	16	100	M20	8	
16	300	12"	78	28	410	12	460	270	M20	12	M20	16	110	M20	12	
10	350	14"	78	30	470	16	520	340	M20	16	M20	32				
10	400	16"	102	32	525	16	580	380	M24	16	M24	32				
10	500	20"	126	34	650	20	715	470	M24	20	M24	40				
10	600	24"	146	36	770	20	840	420	M27	20	M27	40				

## Dimensions

### Butterfly Valve Types 038 and 039 with open shaft end DN50 – DN1200



Type 038		Butterfly valve <sup>1)</sup>								Actuation flange <sup>2)</sup>				Shaft end <sup>3)</sup>			
d	DN	inch	(kg)	Q	L	H	H1	H2	Type	d1	d2	d3	H3	H4	d4	ΦS	
(mm)	(mm)	(inch)		(Nm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
63	50	2"	3.2	24	32	43	215	63	140	F-07	9	70	90	12	26	14	11
75	65	2 ½"	4.3	30	51	46	241	73	152	F-07	9	70	90	12	26	14	11
90	80	3"	6.0	39	69	46	256	81	159	F-07	9	70	90	12	26	14	11
110	100	4"	8.0	59	89	52	295	97	178	F-07	9	70	90	14	30	18	14
140	125	5"	9.8	78	115	56	323	112	191	F-07	9	70	90	14	30	18	14
160	150	6"	12.0	98	143	56	358	122	203	F-07	9	70	90	15	33	22	17
225	200	8"	18.0	157	194	60	423	149	245	F-07	9	70	90	15	33	22	17
280	250	10"	32.0	209	243	68	521	203	275	F-10	12	102	125	17	47	28	22
315	300	12"	48.0	301	293	78	559	241	315	F-10	12	102	125	17	47	28	22

Type 039		Butterfly valve <sup>1)</sup>								Actuation flange <sup>2)</sup>				Shaft end <sup>3)</sup>			
d	DN	inch	(kg)	Q	L	H	H1	H2	Type	d1	d2	d3	H3	H4	d4	ΦS	
(mm)	(mm)	(inch)		(Nm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
63	50	2"	3.3	24	32	43	219	53	140	F-07	9	70	90	13	26	14	11
75	65	2 ½"	4.0	30	51	46	241	63	152	F-07	9	70	90	13	26	14	11
90	80	3"	4.3	39	69	46	256	71	159	F-07	9	70	90	13	26	14	11
110	100	4"	5.7	59	89	52	295	87	178	F-07	9	70	90	16	30	18	14
140	125	5"	7.4	78	115	56	323	102	191	F-07	9	70	90	16	30	18	14
160	150	6"	8.9	98	143	56	358	122	203	F-07	9	70	90	17	33	22	17
225	200	8"	13.5	157	194	60	423	149	241	F-07	9	70	90	17	33	22	17
280	250	10"	22.8	209	243	68	521	201	273	F-10	12	102	125	17	47	28	22
315	300	12"	31.7	301	293	78	559	231	311	F-10	12	102	125	17	47	28	22
355	350	14"	43.2	900	332	78	653	291	307	F-12	13	125	150	22	55	36	
400	400	16"	65.2	1200	382	102	732	325	342	F-14	17	140	175	24	65	42	
450	450	18"	84.5	1650	432	113	809	357	387	F-14	17	140	175	27	65	48	
500	500	20"	119.0	2300	478	126	871	381	425	F-14	17	140	175	27	65	48	
630	600	24"	281.0	4100	585	146	1130	488	532	F-25	18	254	300	40	110	72	
700	700	28"	414.0	5500	683	175	1189	506	573	F-25	18	254	300	40	110	72	
800	800	32"	572.0	8100	755	215	1338	578	650	F-25	18	254	300	40	110	72	
900	900	36"	639.0	10000	852	246	1460	643	707	F-25	18	254	300	40	110	98	
1000	1000	40"	918.0	13500	958	280	1594	729	755	F-25	18	254	300	40	110	98	
1200	1200	48"	1760.0	16500	1098	360	1885	855	900	F-30	22	298	350	50	130	120	

- 1) Butterfly valve: kg = net weight  
 Nm = closing torque  
 Q = disc outlet diameter  
 L = mounting length
- 2) Actuation flange:  
 AL = number of holes (4)
- 3) Shaft end: DN50 – DN300: square end  
 DN350 – DN1200: key way  
 Butterfly Valve Type 039  
 with manual override

### Tightening torque for installing the butterfly valve

DN (mm)	Inch (inch)	Max. closing torque	
		(Nm)	(lb-ft)
50	2"	30	22
65	2 ½"	35	26
80	3"	40	30
100	4"	45	33
125	5"	50	37
150	6"	60	44
200	8"	75	55
250	10"	75	55
300	12"	80	59

## Accessories

- Lever with fine adjustment
- Mechanical limit switch box

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 Tel. +41 52 631 11 11 • www.gfps.com • E-Mail: info.ps@georgfischer.com