

## Butterfly valve, Plastic

### Construction

GEMÜ 410, 417 and 423 are centric butterfly valves in nominal sizes DN 15 - 100. The valve body is made of PVC-U, the butterfly disc is made of PVDF or PP. The available seal materials are EPDM and FPM.

**GEMÜ 410** has a low-maintenance corrosion-resistant plastic piston actuator. Normally Closed, Normally Open and Double Acting control functions are available.

**GEMÜ 417** has an ergonomically designed handwheel with integrated locking device which prevents accidental operation.

**GEMÜ 423** has a low maintenance electrical actuator with a powerful reversible DC motor with an optical position indicator and a manual override. The secondary gear in the motor, consisting of a threaded spindle with swivel lever, provides the rotation through 90°.

### Features

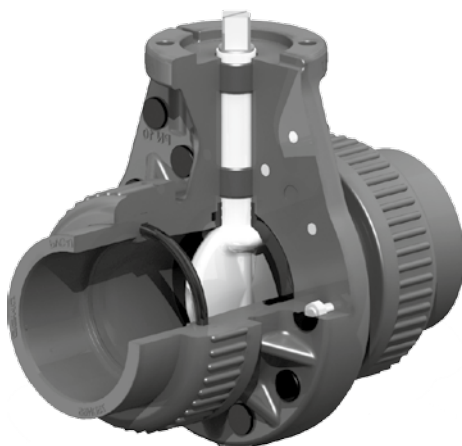
- Suitable for inert and corrosive\* liquid and gaseous media
- All medium wetted parts of the butterfly valve are made of plastic.
- The body design with male threads enables installation into pipelines without the need for additional unions
- Insensitive to high viscosity media
- Body with integrated mounting facility (to DN 50)

### Advantages

- Low weight
- Optional accessories (GEMÜ 410)
  - Stroke limiter
  - GEMÜ 1225 electrical position indicator with 2 potential-free adjustable limit switches (additional module, can be retrofitted)
- Adjustable end positions by means of microswitches (GEMÜ 423)

\* see information on working medium on page 2

### Drawing - Butterfly valve body



GEMÜ 410



GEMÜ 417



GEMÜ 423

## General technical data

Working medium		Kv value		Weight [g]		
Inert, corrosive gaseous and liquid media which have no negative impact on the physical and chemical properties of the body, disc and seal materials		DN	[m <sup>3</sup> /h]	GEMÜ 410	GEMÜ 417	GEMÜ 423
Max. perm. pressure of working medium	6 bar	15	7	600	360	1100
Max. perm. temperature of working medium	60 °C	20	13	600	360	1100
See data sheet "Technical Information on Plastic Body Materials"		25	17	600	360	1100
		32	33	1500	480	1400
		40	53	1650	630	1400
		50	74	1850	830	1700
		65	124	4574	3290	4974
		80	208	7503	3833	7703
		100	370	8525	4195	8725

Pressure / temperature correlation								
Temperature in °C (body)		10	20	25	30	40	50	60
Valve body material		Permissible operating pressure in bar						
PVC-U	Code 1	6.0	6.0	6.0	6.0	6.0	3.5	1.5

## Order data GEMÜ 417- manually operated

Body configuration	Code	Seal material	Code
Straight through	D	FPM	4
		EPDM	14
Connection	Code	Control function	Code
Union ends with DIN solvent cement sockets	7	Manually operated (GEMÜ 417)	0
Union ends with inch solvent cement sockets	33		
Valve body material	Code		
PVC-U, grey (DN 15- 50 - butterfly disc PVDF) (DN 65-100 - butterfly disc PP)	1		

Order example	417	25	D	7	1	14	0
Type	417						
Nominal size		25					
Body configuration (Code)			D				
Connection (Code)				7			
Valve body material (Code)					1		
Seal material (Code)						14	
Control function (Code)							0

## Technical data GEMÜ 410 - pneumatically operated

Control pressure [bar]						
DN	Control function 1			Control function 3		
	Actuator			Actuator		
	0	1	3	0	1	2
15	5.5 - 6.0	-	-	3.0 - 6.0	-	-
20	5.5 - 6.0	-	-	3.0 - 6.0	-	-
25	5.5 - 6.0	-	-	3.0 - 6.0	-	-
32	-	5.5 - 6.0	-	-	2.0 - 6.0	-
40	-	5.5 - 6.0	-	-	2.0 - 6.0	-
50	-	5.5 - 6.0	-	-	2.0 - 6.0	-
65	-	5.5 - 6.0	-	-	5.5 - 6.0	-
80	-	-	4.8 - 5.0	-	-	4.0 - 6.0
100	-	-	5.0	-	-	3.0 - 4.0

All pressures are given as gauge pressures.

### Control medium

Inert gases

Max. control pressure	6 bar
Max. perm. temperature of control medium	60 °C
Filling volume actuator 0	0.05 dm <sup>3</sup>
Filling volume actuator 1	0.20 dm <sup>3</sup>
Filling volume actuator 2	0.50 dm <sup>3</sup>
Filling volume actuator 3	1.50 dm <sup>3</sup>

Other control media upon request

## Order data GEMÜ 410 - pneumatically operated

Body configuration	Code
Straight through	D

Connection	Code
Union ends with DIN solvent cement sockets	7
Union ends with inch solvent cement sockets	33

Valve body material	Code
PVC-U, grey (DN 15- 50 - butterfly disc PVDF) (DN 65-100 - butterfly disc PP)	1

Seal material	Code
FPM	
EPDM	14

Control function	Code
Normally closed (NC)	1
Normally open (NO) (by rotating the actuator 90° during assembly)	2
Double acting (DA)	3

Actuator size (see table below)	Code
Actuator ø 50 mm	0
Actuator ø 70 mm	1
Actuator ø 100 mm	2
Actuator ø 140 mm	3

Order example	410	25	D	7	1	14	1	0
Type	410							
Nominal size		25						
Body configuration (code)			D					
Connection (code)				7				
Valve body material (code)					1			
Seal material (code)						14		
Control function (code)							1	
Actuator size (code)								0

## Technical data GEMÜ 423 - motorized actuator

### Protection class to EN 60529

IP 65

### Manual override

With Allen key SW3  
for actuator version 1006, 1015, 2006, 2015, 3035  
With hand crank for actuator version 2070

### Turn range

Nominal turn range	90°
Max. turn range	93°
Setting range limit switch Min.	-2 ... 12°
Setting range limit switch Max.	76 ... 91°

### Weight

Supply voltages 12 V / 24 V	970 g
Supply voltages 100-250 V	1200 g
Supply voltages 24 V/100-250 V Actuator version 3035	2400 g

### Actuator materials

Actuator version	1006, 1015	2006, 2015, 3035	2070
Housing base	PP (30 % GF)	PP (30 % GF)	ABS
Housing cover	PPO (10 % GF)	PP (30 % GF)	ABS
Indicator	PP-R natur	PP-R natur	PP-R natur

### Electrical connection

Supply voltages	12 V / 24 V	100-250 V AC
Mains frequency	DC or 50/60 Hz	50/60 Hz
Power consumption	approx.. 24 W	approx. 30 W
Control input voltage	motor voltage	20-250 V AC/DC
Control input current	-	typ. 1 mA
Rating	continuously rated	rated 40 % ED
Type of connection	cable gland PG 13.5	Hirschmann plug type N6RFFS11 (PG 11)
Diameter of cable	7.5 ... 12.5 mm	7 ... 9 mm
Max. cross section of wire	1.5 mm <sup>2</sup>	1,5 mm <sup>2</sup>
Recomm. connection cable	5x1 mm <sup>2</sup> Ölflex®	1 connector (standard): 7x1 mm <sup>2</sup> Ölflex®
Electrical protection	Motor protective system by customer	integrated stall and overload protection in addition excess current release T 1A 5x20 mm

### Power consumption [W]

Voltage/ frequency	B1 12 V DC		C1 24 V DC		B4 12 V AC		C4 24 V AC		G4 120 V AC		L4 230 V AC		O4 100-250 V AC	
	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P
Actuator version	1006	24	-	24	-	24	-	24	-	-	-	-	-	-
	1015	24	-	24	-	-	-	-	-	-	-	-	-	-
	2006	-	-	-	-	-	-	-	-	-	-	-	-	30
	2015	-	-	-	-	24	-	24	-	-	-	-	-	30
	3035	-	-	24	-	-	-	-	-	-	-	-	-	-
	2070	-	-	96	63	-	-	-	63	160	90	161	-	-

### Coordination Actuator version / Voltage-frequency

Voltage/frequency	B1 12 V DC	C1 24 V DC	B4 12 V AC	C4 24 V AC	G4 120 V AC	L4 230 V AC	O4 100-250 V AC
	Actuator version						
1006 ( 6 Nm)	X	X	X	X	-	-	-
2006 ( 6 Nm)	-	-	-	-	-	-	X
1015 (15 Nm)	X	X	-	-	-	-	-
2015 (15 Nm)	-	-	X	X	-	-	X
3035 (35 Nm)	-	X	-	-	-	-	-
2070 (70 Nm)	-	X	-	X	X	X	-

## Technical data GEMÜ 423 - motorized actuator

### Correlation Actuator version (torque) / Functional module

Actuator version-torque / Functional module									Actuator version-torque / Nominal size								
Actuator version	Functional module								DN								
	A0	AE	AP	E2	E1	00	0E	0P	15	20	25	32	40	50	65	80	100
1006 (6 Nm)	X	X	-	-	-	-	-	-	X	X	X	-	-	-	-	-	-
2006 (6 Nm)	X	X	-	-	-	-	-	-	X	X	X	-	-	-	-	-	-
1015 (15 Nm)	X	X	-	-	-	-	-	-	X	X	X	X	X	-	-	-	-
2015 (15 Nm)	X	X	-	-	-	-	-	-	X	X	X	X	X	-	-	-	-
3035 (35 Nm)	X	X	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-
2070 (70 Nm)	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	X	X

### Order data 423 - motorized actuator

Body configuration	Code
Straight through	D

Connection	Code
Union ends with DIN solvent cement sockets	7
Union ends with inch solvent cement sockets	33

Valve body material	Code
PVC-U, grey (butterfly disc PVDF)	1

Seal material	Code
FPM	4
EPDM	14

Voltage/frequency	Code
12 V DC	B1
12 V AC 50/60 Hz	B4
24 V DC	C1
24 V AC 50/60 Hz	C4
100 - 250 V AC 50/60 Hz	O4
230 V AC 50/60 Hz	L4

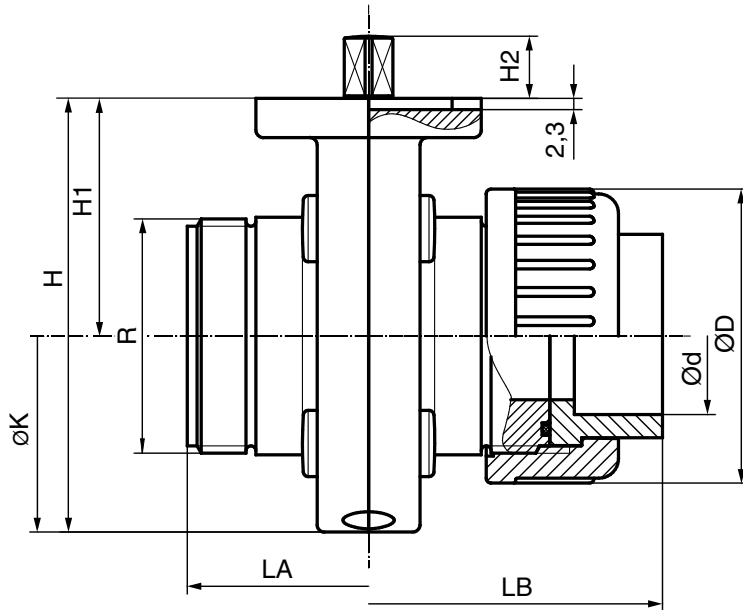
Functional module	Code
OPEN/CLOSE control standard	A0
OPEN/CLOSE control with 2 additional potential-free limit switches	AE*
* Overall height	

Actuator version	Code
Torque 6 Nm, operating time 4 sec; supply voltage B1,C1,B4,C4	1006
Torque 15 Nm, operating time 11 sec; supply voltage B1,C1	1015
Torque 6 Nm, operating time 4 sec; supply voltage O4	2006
Torque 15 Nm, operating time 11 sec; supply voltage B4,C4,O4	2015
Torque 70 Nm, operating time 15 sec; supply voltage C1,C4,G4,L4	2070
Torque 35 Nm, operating time 15 sec; supply voltage C1,C4,O4	3035

Special design	K-No.
Connection with 1 Hirschmann socket DIN 43651 Type N6RFFS11 (Cable diameter 7...9 mm; wire cross section up to 1.5 mm <sup>2</sup> ; PG11)*	6598
Parallel operation*	6410
* Not possible for supply voltage code O4	

Order example	423	25	D	7	1	14	C1	A0	1006	-
Type	423									
Nominal size		25								
Body configuration (code)			D							
Connection (code)				7						
Valve body material (code)					1					
Seal material (code)						14				
Supply voltages/frequency (code)							C1			
Functional module (code)								A0		
Actuator version (code)									1006	
Special design (K-No.)										-

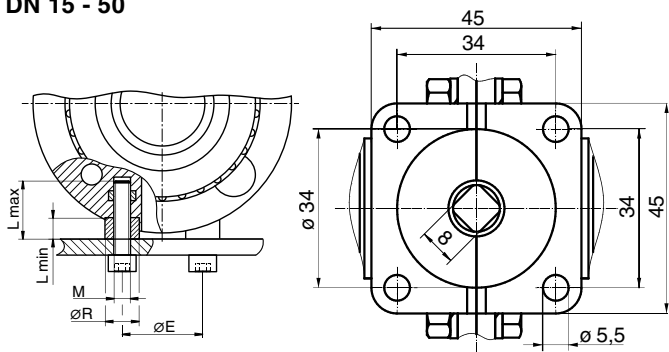
## Body dimensions [mm]



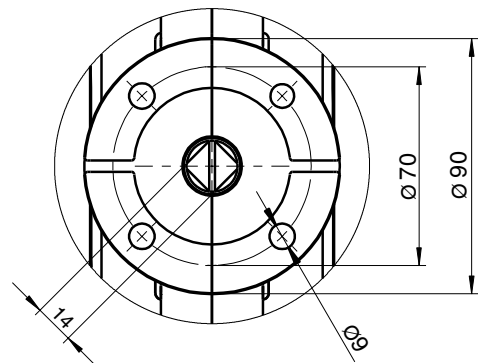
DN	LA	LB	H	H1	H2	ØD	Ød	R	ØK
15	74.0	112.0	89	48.5	13.0	60	20	1 1/2	80
20	74.0	118.0	89	48.5	13.0	60	25	1 1/2	80
25	74.0	124.0	89	48.5	13.0	60	32	1 1/2	80
32	80.0	138.0	106	57.5	13.0	74	40	2	96
40	94.0	162.0	112	58.0	13.0	83	50	2 1/4	108
50	106.0	188.0	137	74.0	13.0	103	63	2 3/4	126
65	66.0	113.5	211	123.5	13.7	122	75	3 1/2	175
80	67.5	123.5	229	134.0	12.8	139	90	4	190
100	70.0	133.0	250	140.0	13.7	164	115	5	220

## Actuator mounting dimensions [mm]

DN 15 - 50

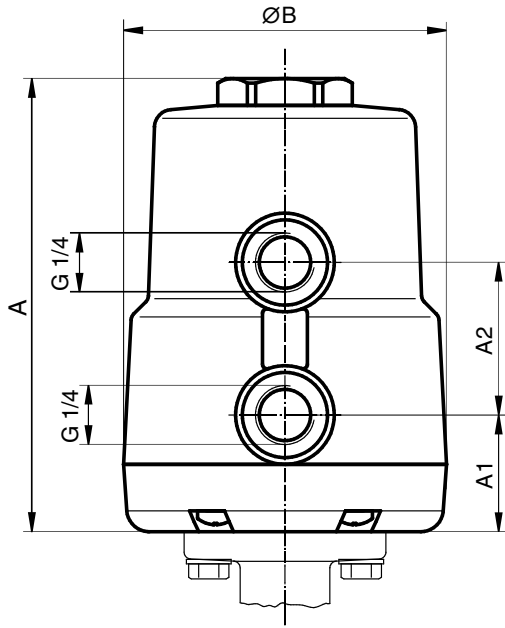


DN 65 - 100



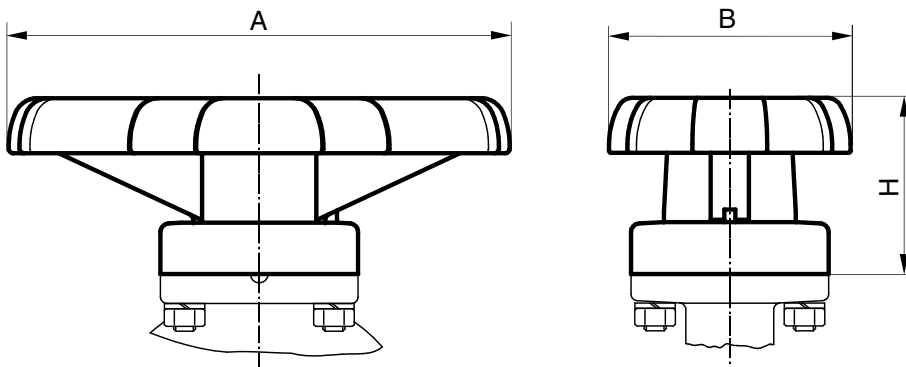
DN	M	E	ØR	L max	L min
15	M 5	25	10	18	7
20	M 5	25	10	18	7
25	M 5	25	10	18	7
32	M 6	65	33	33	22
40	M 6	80	41	41	30
50	M 6	80	41	41	30

## Actuator dimensions GEMÜ 410 [mm]

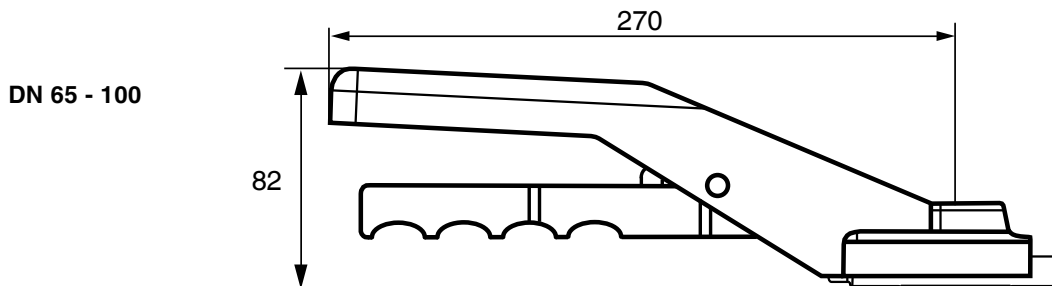


Actuator size	Ø B	A	A1	A2
Actuator 0	72	112	37	34
Actuator 1	97	177	41	65
Actuator 2	127	180	42	69
Actuator 3	182	229	28	96

## Operator dimensions GEMÜ 417 [mm]

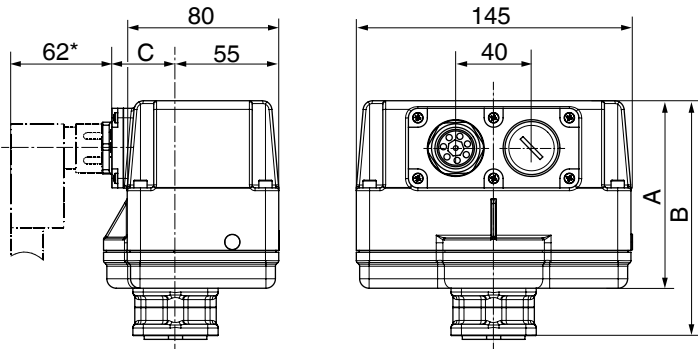


DN	A	B	H
15 - 25	118	55	42
32 - 50	160	71	63



## Actuator dimensions GEMÜ 423 [mm]

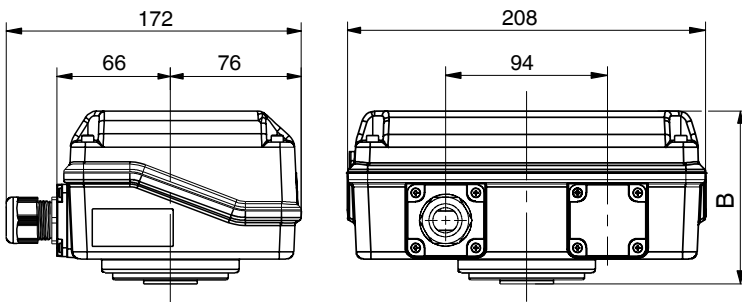
### Actuator version 1006, 1015, 2006, 2015



Voltages	A	B	C
24 V	68	95	49
100 - 250 V	99	124	53

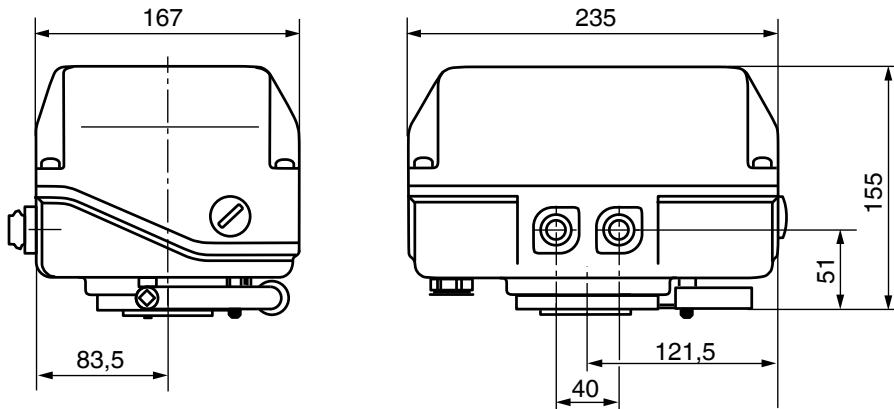
\* Standard with supply voltage code O4\*

### Actuator version 3035



Voltages	B
24 V	100.5
100 - 250 V	124.5

### Actuator version 2070



**Note: For connection and wiring diagrams for motorized GEMÜ actuators see data sheet**

Actuator version code 1006, 1015, 2006, 2015, 3035 - Data sheet GEMÜ 9428

Actuator version code 2070, 4100, 4200, 6400 - Data sheet GEMÜ 9468

For further butterfly valves, accessories and other products, please see our Product Range catalogue and Price List.  
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AND CONTROL SYSTEMS

