

Flowmeter, Plastic Design

Construction

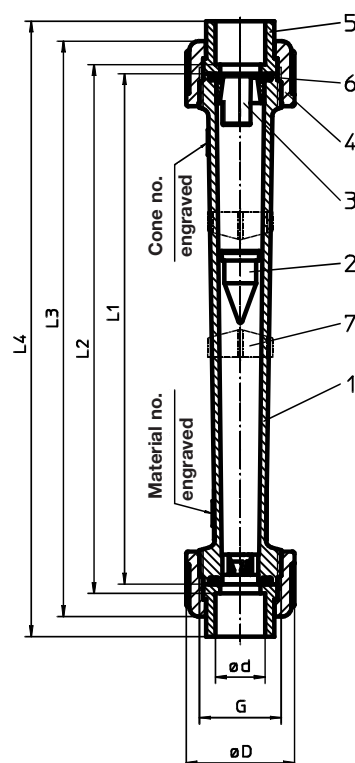
The flowmeter operates according to the variable area principle. Metering tubes are available in Trogamid-T, suitable for inert media, and Polysulphone, suitable for corrosive media. Male threads moulded onto the ends of the metering tube allow for easy mounting of unions. O-ring seals at the faces of the tube ensure reliable sealing between metering tube and union and provide stress-free sealing. The floats are available in stainless steel 1.4571, PP or PVDF (depending on flow medium and measuring range.). The scale on the metering tube can be suited to the medium and is available e.g. in l/h, m³/h or in %. Dovetail sections moulded onto the metering tube allow for easy mounting of adjustable visual flow indicators, limit switches and a continuous readout transmitter.

Advantages

- Good level of accuracy, simple operation
- Impact resistant, corrosion resistant
- Over 500 standard scales and 3000 special scales are available with further scales upon request
- Clear and large-size printed scale

Dimensions of version with PVC-U unions (mm)

DN	ød	G	øD	L1	L2	L3	L4
10	16	G 3/4	35	165	171	186	199
15	20	G 1	43	170	176	192	208
20	25	G 1 1/4	53	185	191	210	229
25	32	G 1 1/2	59	200	206	226	250



Working pressure	
Metering tubes with plastic unions	10 bar
Metering tubes with metal unions	15 bar

Material of O-rings		Ref. no.
O-Ring Viton®	FPM	4
O-Ring Ethylene-Propylene	EPDM	14

Design		
Float material	Working medium	Type
PP	Liquids + gases	855
PP with magnet	Liquids + gases	865
Stainless steel 1.4571	Liquids	857
St. steel 1.4571 with magnet	Liquids	867
PP	Gases	875

Material of unions		Ref. no.
Polyvinylchloride	PVC-U	1
Polypropylene (reinforced)	PP	5
Malleable iron	GT	6
Stainless steel 1.4571	VA	7
Polyvinylidene fluoride	PVDF	20

Nominal size (mm)	Ref. no.
DN 10	10
DN 15	15
DN 20	20
DN 25	25

Size of tube	Ref. no.
See tables on pages 4 and 5	

Body configuration	Ref. no.
Straight through	D

Connection	Ref. no.
Union ends DIN (plain or weld sockets)	7
Union ends - imperial	33
Union ends extended insert for IR butt welding	78

Tube material	Ref. no.
Trogamid-T temperature range 0- 60°C*	21
Polysulphone temperature range 0-100°C*	22

* Stated temperatures are valid for water

Note:

The scale divisions given on pages 4 and 5 correspond to the actual flows.

When ordering, the flow ranges should be stated as follows:

Liquid media: l/h
Gaseous media: Nm³/h

Required information:

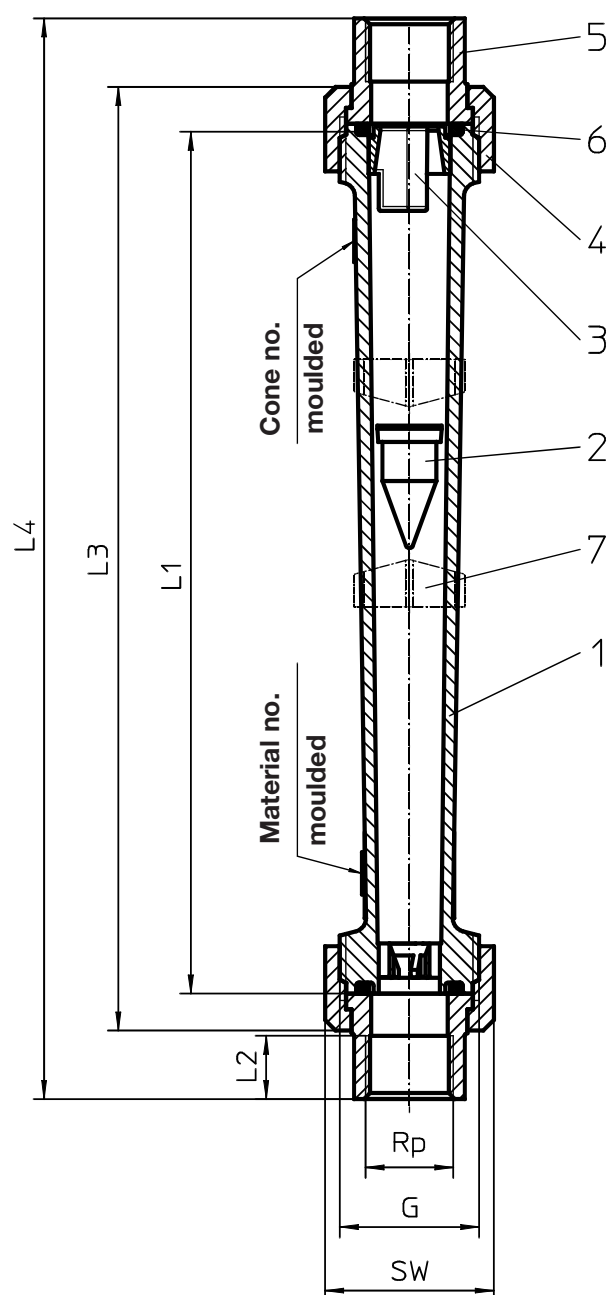
The following data are necessary:

1. Type of medium
2. Concentration of medium (%)
3. Required flow range (l/h, m³/h, kg/h)
4. Working pressure, relative or absolute (bar)
5. Temperature of medium (°C)
6. Viscosity of medium
7. Specific gravity of medium
8. Float with or without magnet

Order example	855	10	D	7	21	14	1	13	60
Type (PP float)	855								
Nominal size (mm)		10							
Body configuration (D)			D						
Connection (reference number)				7					
Material of metering tube (reference number)					21				
Material of O-ring (reference number)						14			
Material of unions (reference number)							1		
Size of tube (reference number)								13	
Flow range max. (e.g. 60 l/h H ₂ O)									60

Dimensions of version with Malleable Iron unions (DIN 2999, part 1) (mm)

DN	G	Rp	SW	L1	L2	L3	L4
10	G 3/4	Rp 3/8	32	165	12	180	207
15	G 1	Rp 1/2	41	170	13	185	215
20	G 1 1/4	Rp 3/4	50	185	16	201	230
25	G 1 1/2	Rp 1	55	200	19	219	250



Accuracy class: 4 acc. to VDE/VDI 3513, sheet 2, i.e. $\pm 1\%$ of end value and $\pm 3\%$ of measured value.

Selection of scales */** (liquids)

	Size	Water H ₂ O	Sodium NaOH 30%	Sodium NaOH 45%	Sodium NaOH 50%	Hydrochloric acid HCl 30-33%	Tube size	PVC-U unions	Malleable iron unions
	(mm)	Tube: Trogamid-T Polysulphone	Tube: Trogamid-T Polysulphone	Tube: Trogamid-T Polysulphone	Tube: Trogamid-T Polysulphone	Tube: Polysulphone Polysulphone	Ref. no.	Weight (kg)	
GEMÜ 855/865 Float material PP (GEMÜ 865 with magnet)	10	2 - 25 l/h	0.25 - 3.75 l/h	0.05 - 0.85 l/h	0.025 - 0.6 l/h	1 - 20 l/h	11	0.07	0.18
	10	2 - 40 l/h	0.5 - 8 l/h	0.1 - 2 l/h	0.05 - 1.45 l/h	2 - 32 l/h	12	0.07	0.18
	10	5 - 60 l/h	1 - 20 l/h	0.25 - 4.75 l/h	0.25 - 3.25 l/h	2 - 54 l/h	13	0.07	0.18
	10	10 - 100 l/h	2.5 - 45 l/h	0.5 - 12.5 l/h	0.5 - 9 l/h	5 - 90 l/h	14	0.07	0.18
	10	15 - 160 l/h	5 - 80 l/h	1 - 30 l/h	1 - 22 l/h	10 - 150 l/h	15	0.07	0.18
	15	5 - 60 l/h	1 - 15 l/h	0.25 - 3.25 l/h	0.1 - 2.4 l/h	2.5 - 50 l/h	21	0.12	0.30
	15	10 - 100 l/h	2 - 34 l/h	0.5 - 8 l/h	0.25 - 5.5 l/h	5 - 80 l/h	22	0.12	0.30
	15	15 - 160 l/h	5 - 65 l/h	1 - 18 l/h	0.5 - 13.5 l/h	10 - 130 l/h	23	0.12	0.30
	15	20 - 250 l/h	5 - 130 l/h	2.5 - 45 l/h	2 - 32 l/h	20 - 220 l/h	24	0.12	0.30
	15	30 - 320 l/h	10 - 170 l/h	2.5 - 65 l/h	2.5 - 47.5 l/h	20 - 260 l/h	25	0.12	0.30
	20	15 - 160 l/h	2.5 - 62.5 l/h	1 - 15 l/h	0.5 - 11 l/h	10 - 135 l/h	31	0.21	0.48
	20	20 - 250 l/h	5 - 115 l/h	2 - 32.5 l/h	1 - 24 l/h	20 - 210 l/h	32	0.21	0.48
	20	40 - 400 l/h	10 - 190 l/h	2.5 - 70 l/h	2.5 - 50 l/h	25 - 325 l/h	33	0.21	0.48
	20	60 - 640 l/h	25 - 375 l/h	10 - 180 l/h	5 - 130 l/h	50 - 550 l/h	34	0.21	0.48
	25	20 - 250 l/h	5 - 110 l/h	2 - 29 l/h	1 - 20 l/h	20 - 200 l/h	41	0.29	0.61
	25	40 - 400 l/h	10 - 200 l/h	2.5 - 70 l/h	2.5 - 50 l/h	30 - 340 l/h	42	0.29	0.61
	25	60 - 640 l/h	20 - 380 l/h	10 - 150 l/h	5 - 120 l/h	50 - 550 l/h	43	0.29	0.61
	25	100 - 1000 l/h	25 - 650 l/h	25 - 350 l/h	10 - 260 l/h	100 - 900 l/h	44	0.29	0.61
GEMÜ 857/867 Float material 1.4571 (GEMÜ 867 with magnet)	10	4 - 40 l/h	0.5 - 8.5 l/h	0.1 - 2 l/h	0.05 - 1.4 l/h	-	11	0.08	0.19
	10	5 - 60 l/h	1 - 19 l/h	0.25 - 4.5 l/h	0.25 - 3.25 l/h	-	12	0.08	0.19
	10	10 - 100 l/h	2.5 - 40 l/h	0.5 - 11 l/h	0.5 - 8 l/h	-	13	0.08	0.19
	10	15 - 160 l/h	5 - 85 l/h	1 - 28 l/h	1 - 21 l/h	-	14	0.08	0.19
	10	20 - 250 l/h	10 - 150 l/h	2.5 - 60 l/h	2.5 - 47.5 l/h	-	15	0.08	0.19
	15	10 - 100 l/h	2.5 - 37.5 l/h	0.5 - 9 l/h	0.25 - 6.5 l/h	-	21	0.13	0.31
	15	15 - 160 l/h	5 - 75 l/h	1 - 22 l/h	1 - 15 l/h	-	22	0.13	0.31
	15	20 - 250 l/h	5 - 140 l/h	2.5 - 50 l/h	2 - 36 l/h	-	23	0.13	0.31
	15	40 - 400 l/h	10 - 250 l/h	5 - 110 l/h	5 - 85 l/h	-	24	0.13	0.31
	15	50 - 500 l/h	20 - 300 l/h	10 - 160 l/h	5 - 120 l/h	-	25	0.13	0.31
	20	20 - 250 l/h	5 - 135 l/h	2.5 - 42.5 l/h	2 - 30 l/h	-	31	0.24	0.51
	20	40 - 400 l/h	10 - 230 l/h	5 - 90 l/h	2.5 - 65 l/h	-	32	0.24	0.51
	20	60 - 600 l/h	25 - 350 l/h	10 - 180 l/h	5 - 135 l/h	-	33	0.24	0.51
	20	100 - 1000 l/h	25 - 650 l/h	25 - 400 l/h	20 - 320 l/h	-	34	0.24	0.51
	25	40 - 400 l/h	10 - 220 l/h	5 - 75 l/h	2.5 - 55 l/h	-	41	0.34	0.66
	25	50 - 650 l/h	20 - 380 l/h	10 - 180 l/h	5 - 135 l/h	-	42	0.34	0.66
	25	100 - 1000 l/h	25 - 650 l/h	25 - 400 l/h	20 - 300 l/h	-	43	0.34	0.66
	25	150 - 1600 l/h	50 - 1100 l/h	50 - 750 l/h	25 - 650 l/h	-	44	0.34	0.66

* All scales in this datasheet are based on a medium temperature of 20°C.

** For smaller or larger flow ranges see page 6 and datasheets GEMÜ 800, 840.
Further ranges available on enquiry.

Selection of scales (gases)					
	Size	Medium air	Tube size	PVC-U unions	Malleable iron unions
	(mm)	At 1 bar abs. and 20°C Trogamid-T, Polysulphone	Reference number	Weight (kg)	
GEMÜ 875 Float material PP (without magnet)	10	20 - 360 N l/h	11	0.07	0.18
	10	50 - 550 N l/h	12	0.07	0.18
	10	100 - 900 N l/h	13	0.07	0.18
	10	0.15 - 1.5 Nm³/h	14	0.07	0.18
	10	0.2 - 2.4 Nm³/h	15	0.07	0.18
	15	100 - 900 N l/h	21	0.11	0.29
	15	0.15 - 1.5 Nm³/h	22	0.11	0.29
	15	0.2 - 2.4 Nm³/h	23	0.11	0.29
	15	0.4 - 3.8 Nm³/h	24	0.11	0.29
	15	0.4 - 4.8 Nm³/h	25	0.11	0.29
	20	0.2 - 2.5 Nm³/h	31	0.19	0.46
	20	0.25 - 3.75 Nm³/h	32	0.19	0.46
	20	0.5 - 5.5 Nm³/h	33	0.19	0.46
	20	1 - 10 Nm³/h	34	0.19	0.46
	25	0.4 - 4 Nm³/h	41	0.25	0.57
	25	0.5 - 6 Nm³/h	42	0.25	0.57
	25	1 - 10 Nm³/h	43	0.25	0.57
	25	1 - 16 Nm³/h	44	0.25	0.57

To types 875:

Caution! With gases the scaling alters according to working pressure. Please state when ordering.

Special scales:

For other media and operating requirements differing from those given for standard versions, special scales are available. Please note the ordering information (see page 2).

Spare parts list		
Item	Description	Qty.
1	Tube	1
2	Float	1
3	Float stop (upper)	1
4	Union nut	2
5	Union hub	2
6	O-ring (see table)	2
7	Flow indicator	2

O-ring dimensions (mm)	
DN	
10	15.5 x 2.6
15	20.2 x 3.5
20	28.0 x 3.5
25	33.0 x 3.5

Accessories for Flowmeter GEMÜ 850

To increase the versatility of the GEMÜ 850 flowmeter, numerous accessories have been developed which can be retrofitted onto the tube without modification. The float, however, must be one containing a magnet, in order for these accessories to function.



GEMÜ 1256 for DN 10, 15, 20
Limit switch (max)
(Switching duty of magnetic switch 10 VA)

GEMÜ 1257 for DN 10, 15, 20
Limit switch (min)
(Switching duty of magnetic switch 10 VA)



GEMÜ 1271 for DN 10, 15, 20
Instrument sensor for continuous flow readout (resistance 0-10 kΩ).

GEMÜ 1271 for DN 25
Instrument sensor for continuous flow readout (resistance 0-10 kΩ).

GEMÜ 1273 for DN 10, 15, 20
Instrument sensor for continuous flow readout
(Output signal 4-20 mA from an integrated 2-wire signal converter (or measuring transducer))

GEMÜ 1273 for DN 25
Instrument sensor for continuous flow readout
(Output signal 4-20 mA from an integrated 2-wire signal converter (or measuring transducer))



GEMÜ 1275
Digital display unit with or without switch points
Panel mounting acc. to DIN 43700-96x48
Note: The mounting bracket is supplied with the unit as standard.



GEMÜ 3000
Accumulated flow counter with batch controller and signal transmitter (or transducer).
Panel mounting acc. to DIN. 43700-96x96
Note: The mounting bracket is supplied with the unit as standard. (GEMÜ 3000 on the above photo is shown without mounting bracket.)

Separate data sheets are available for the above accessories upon request.

Other applicable products:

- Plastic valves, pneumatically, electrically and manually operated
- Metal valves, pneumatically, electrically and manually operated



GEMÜ® VALVES, ACTUATORS
AND CONTROL SYSTEMS