

Flowmeter, Plastic

Construction

The flowmeter operates according to the variable area principle. Metering tubes are available in Trogamid-T, suitable for inert media, and Polysulfone, suitable for corrosive* media (PVC and PVDF tubes on request). 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.

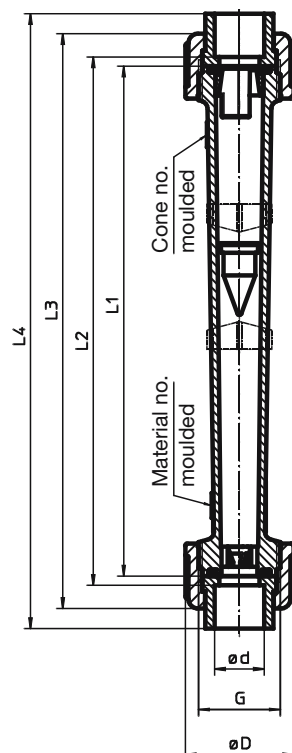
Advantages

- 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

* see information on working medium on page 2

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 |



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 |



Technical data

Working medium

Inert and corrosive liquid and gaseous media which have no negative impact on the physical and chemical properties of the tube, float, seal and union materials.

Working pressure*

| | |
|---------------------------|-------------|
| Tubes with plastic unions | max. 10 bar |
| Tubes with metal unions | max. 15 bar |

*Working pressure dependent on tube material and working temperature

Order data

Versions

| Float material | Working medium | Type |
|------------------------------|-------------------|------|
| PP | Liquids and gases | 855 |
| PP with magnet | Liquids and gases | 865 |
| St. steel 1.4571 | Liquids | 857 |
| St. steel 1.4571 with magnet | Liquids | 867 |
| PP | Gases | 875 |
| PP with magnet | Gases | 885 |
| PVDF | Liquids and gases | 870 |
| PVDF with magnet | Liquids and gases | 880 |

Nominal size (mm)

Code

| | |
|-------|----|
| DN 10 | 10 |
| DN 15 | 15 |
| DN 20 | 20 |
| DN 25 | 25 |

Body configuration

Code

| | |
|------------------|---|
| Straight through | D |
|------------------|---|

Connection

Code

| | |
|---|----|
| Union ends DIN (plain or weld sockets) | 7 |
| Union ends - imperial | 33 |
| Union ends extended insert for IR butt welding | 78 |

Tube material

Code

| | | |
|-------------|----------------------------|----|
| Trogamid-T | temperature range 0- 60°C* | 21 |
| Polysulfone | temperature range 0-100°C* | 22 |
| PVC | on request | |
| PVDF | on request | |

* Stated temperatures are valid for water

Material of O-rings

Code

| | | |
|--------|------|----|
| O-ring | FPM | 4 |
| O-ring | EPDM | 14 |

Material of unions

Code

| | | |
|-------|------------------------|----|
| PVC-U | | 1 |
| PP | | 5 |
| GT | Malleable iron | 6 |
| VA | Stainless steel 1.4571 | 7 |
| PVDF | | 20 |

Size of tube

Code

see tables on pages 4 and 5

Measuring range

Code

see tables on pages 4 and 5

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:

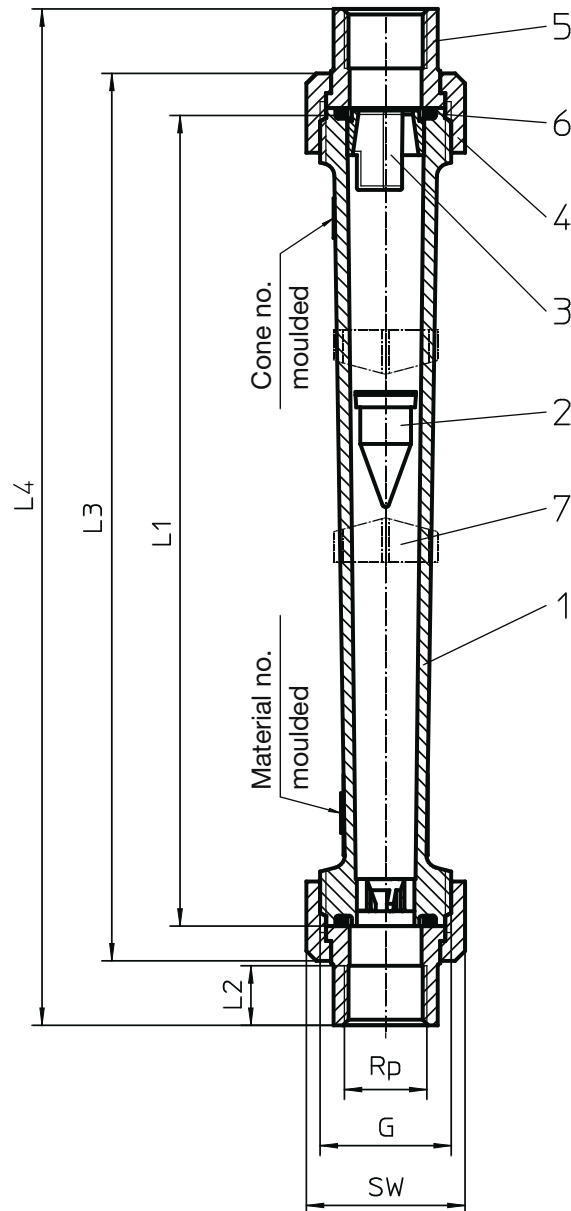
1. Type of medium
2. Concentration of medium (%)
3. Required flow range (l/h, m³/h, kg/h)
4. Working pressure, relative or absolute (bar)
5. Temperature of medium (°C)
6. Viscosity of medium
7. Specific gravity of medium
8. Float with or without magnet

Order example

| | 855 | 10 | D | 7 | 21 | 14 | 1 | 13 | 60 |
|--|-----|----|---|---|----|----|---|----|----|
| Type (PP float) | 855 | | | | | | | | |
| Nominal size (mm) | | 10 | | | | | | | |
| Body configuration (D) | | | D | | | | | | |
| Connection (code) | | | | 7 | | | | | |
| Material of metering tube (code) | | | | | 21 | | | | |
| Material of O-rings (code) | | | | | | 14 | | | |
| Material of unions (code) | | | | | | | 1 | | |
| Size of tube (code) | | | | | | | | 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 |



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 |

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 Polysulfone | Tube: Trogamid-T Polysulfone | Tube: Trogamid-T Polysulfone | Tube: Trogamid-T Polysulfone | Tube: Polysulfone Polysulfone | Code | 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 5 and datasheets GEMÜ 800, 840.
Further ranges available on request.

PVC and PVDF tubes on request

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, Polysulfone | Code | 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 |
| GEMÜ 885 Float material PP (with magnet) | 20 | 0.75 - 6.5 Nm³/h | 31 | 0.19 | 0.46 |
| | 20 | 1 - 10 Nm³/h | 32 | 0.19 | 0.46 |
| | 20 | 1 - 14.5 Nm³/h | 33 | 0.19 | 0.46 |
| | 20 | 1 - 24 Nm³/h | 34 | 0.19 | 0.46 |
| | 25 | 1 - 10 Nm³/h | 41 | 0.25 | 0.57 |
| | 25 | 2 - 16 Nm³/h | 42 | 0.25 | 0.57 |
| | 25 | 3 - 24 Nm³/h | 43 | 0.25 | 0.57 |
| | 25 | 5 - 37.5 Nm³/h | 44 | 0.25 | 0.57 |

To types 875 and 885:

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).

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 1250 for DN 25
Changeover contact
(Switching duty of magnetic switch 10 VA)

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

GEMÜ 1251 for DN 25
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 1252 for DN 25
Limit switch (min)
(Switching duty of magnetic switch 10 VA)



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

GEMÜ 1273
Instrument sensor for continuous flow readout
(Output signal 4-20 mA from an integrated 2-wire 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.

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

For further flowmeters, accessories and other products
please see our Product Range catalogue and Price List.
Contact GEMÜ.



GEMÜ® VALVES, MEASUREMENT
AND CONTROL SYSTEMS