

GEMÜ 3040

Ultrasonic flowmeter



Features

- High accuracy and level of reproducibility
- Fast detection of measured values
- Short inlet/outlet distances
- Very low pressure loss
- No moving parts in the medium
- Minimal deadleg

Description

The GEMÜ 3040 is an ultrasonic flowmeter which determines the volumetric flow of conductive and non-conductive liquids in a contact-free manner. The flowmeter is suitable for alkaline, toxic and corrosive media and can also be used for DI water. The backlit display enables the device to be programmed on-site. Empty pipe monitoring and a quantity measuring device are integrated as standard.

Technical specifications

- **Measuring range - Liquids:** 0,3 to 900 l/min
- **Error of measurement:** $\pm 2\%$ of the measured value (± 3 mm/s)
- **Media temperature:** -10 to 80 °C
- **Operating pressure :** 0 to 16 bar
- **Nominal sizes:** DN 10 to 50
- **Connection types:** Threaded connection
- **Metering tube materials:** PE-HD I PSU
- **Electrical connection types:** M12 plug
- **Supply voltages:** 24 V DC

Technical data depends on the respective configuration



Product description



Item	Name	Materials
1	Housing bolt	
2	Display	
3	Electrical connection	
4	Electronic system housing	DN 10–25: PSU DN 32–50: PE-HD
5	Body (threaded spigot)	DN 10–25: PSU DN 32–50: PE-HD
6	Seals	EPDM

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Ultrasonic flowmeter	3040

2 DN	Code
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50

3 Body configuration	Code
2/2-way body	D

4 Connection type	Code
Threaded spigot	9

5 Metering tube material	Code
PSU	22
PE-HD	B3

6 Seal material	Code
EPDM	14

7 Electrical connection	Code
M12 x 1 plug, 5-pin	M

8 Voltage/frequency	Code
24 V DC	C1

9 Display	Code
With display	D

10 Output	Code
5-pin plug with 1-wire communication	51D

Order example

Order option	Code	Description
1 Type	3040	Ultrasonic flowmeter
2 DN	10	DN 10
3 Body configuration	D	2/2-way body
4 Connection type	9	Threaded spigot
5 Metering tube material	22	PSU
6 Seal material	14	EPDM
7 Electrical connection	M	M12 x 1 plug, 5-pin
8 Voltage/frequency	C1	24 V DC
9 Display	D	With display
10 Output	51D	5-pin plug with 1-wire communication

Technical data

Medium

Working medium: Corrosive, alkaline, toxic, inert and liquid media, including DI water, which have no negative impact on the physical and chemical properties of the respective valve body and seal material.

Temperature

Media temperature: DN 10–25: -10 – +80 °C
DN 32–50: 0 – +50 °C

Ambient temperature: DN 10–25: 0 – +60 °C
DN 32–50: -15 – +50 °C

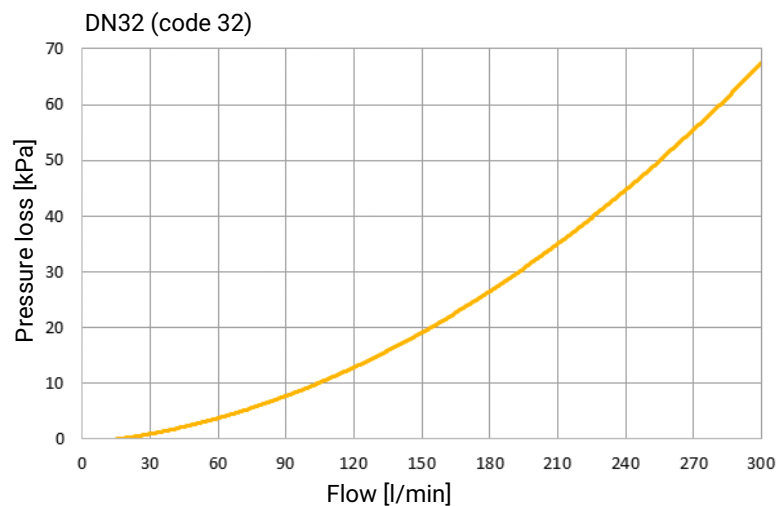
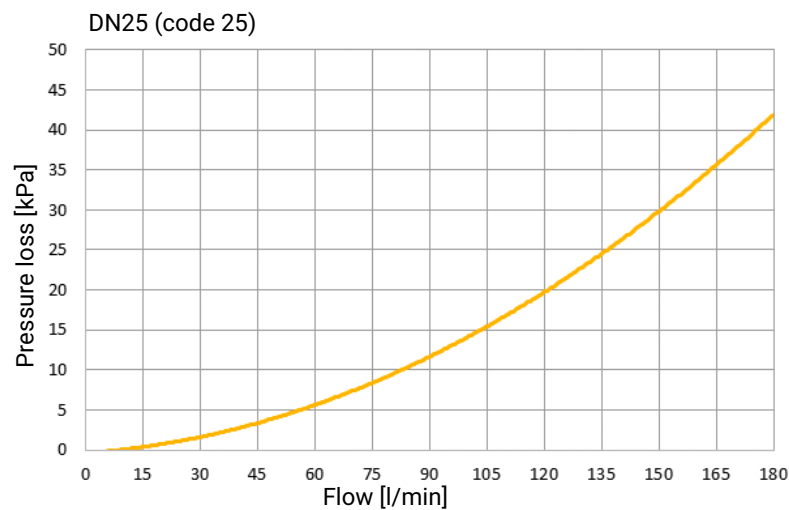
Storage temperature: 0 to 40 °C

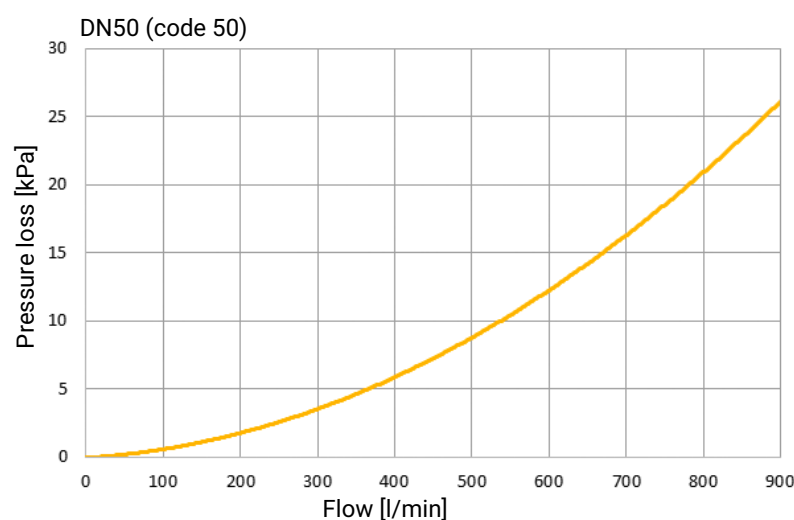
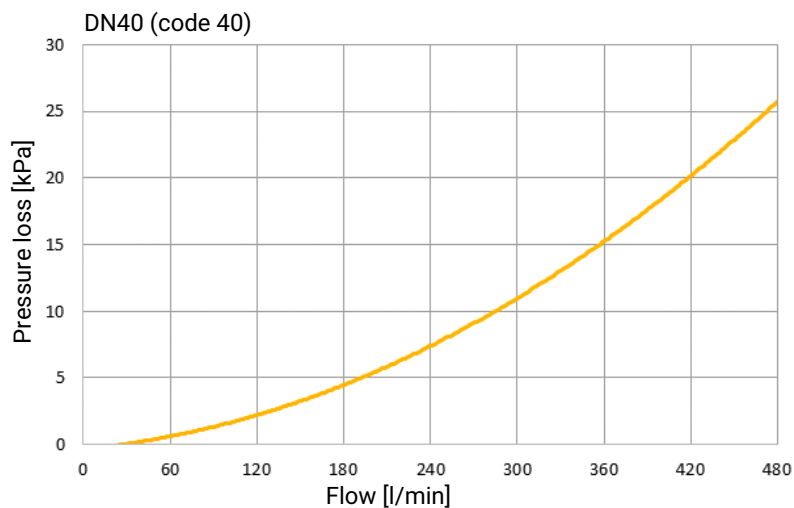
Pressure

Operating pressure: 0 to 16 bar

Pressure rating: DN 10–15: PN16
DN 20–50: PN10

Pressure loss: Pressure loss with water at 22 °C, 100 kPa = 1 bar



Pressure loss:

Product conformities

EMC Directive: 2014/30/EU

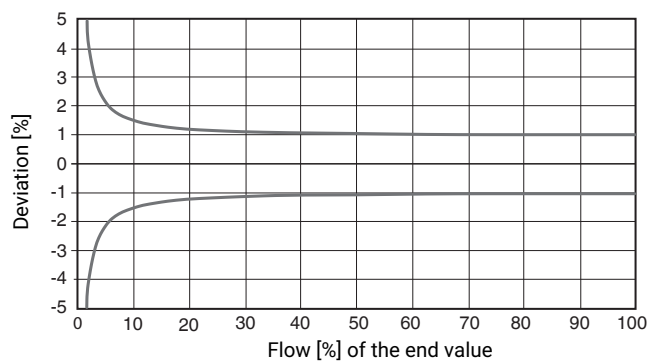
Mechanical data

Protection class: DN 10–25: IP 67
DN 32–50: IP 65

Weight: DN 10–15: 350 g
DN 20–25: 450 g
DN 32–40: 1100 g
DN 50: 1300 g

Measuring range: DN 10: 0.3–21.0 l/min
DN 15: 0.9–36.0 l/min
DN 20: 3.5–60.0 l/min
DN 25: 5.0–240.0 l/min
DN 32: 9.0–300.0 l/min
DN 40: 18.0–480.0 l/min
DN 50: 36.0–900.0 l/min

Error of measurement: DN 10: $\pm 2\%$, of the measured value, $\pm 6 \text{ mm/s}$
 DN 15–25: $\pm 2\%$ of the measured value, $\pm 3 \text{ mm/s}$
 DN 32–50: $\pm 2\%$ of the measured value, $\pm 0.3\%$ of the end value
 Reference conditions (VDI/VDE 2642)
 The error of measurement can be reduced to 1% of the measured value on request.
 Example: Permissible range of deviation of a calibrated flowmeter in accordance with the definition



Reproducibility: $\leq \pm 0.5\%$

Electrical data

Duty cycle: Continuous duty

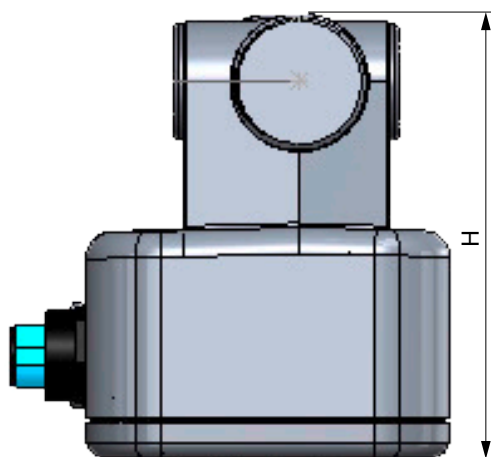
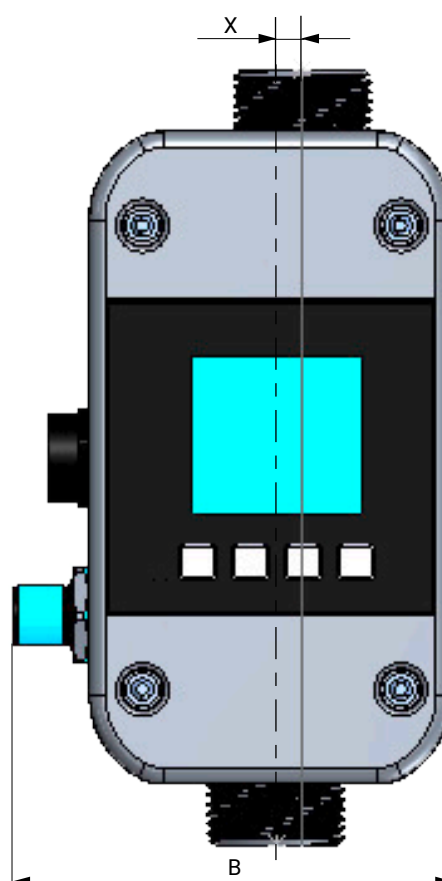
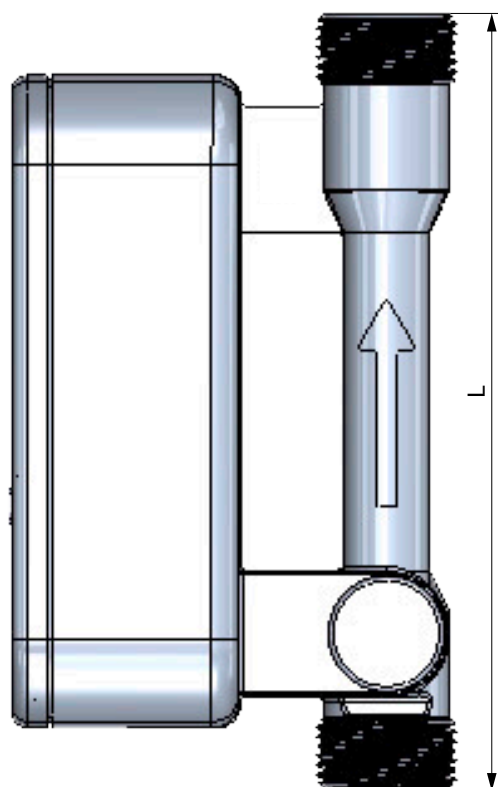
Supply voltage: 24 V DC ($-5/+10\%$)

Electrical connection type: 1 x 5-pin M12 connector

Reverse battery protection: Yes

Outputs: One digital output (optionally adjustable as pulse or alarm)
 One analogue output (current output 0/4–20 mA)

Dimensions

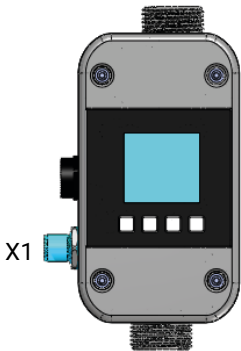


DN	Connection	L	W	H	X Channel offset
10	G1/2	147	84	83	5
15	G3/4	147	84	84.5	5
20	G1	160	84	94.2	5
25	G1¼	168	84	98.5	5
32	G2	220	80	120	-
40	G2¼	220	84	122	-
50	G2¾	220	95	131	-

Dimensions in mm

Electrical connection

Position of the connectors



5-pin plug with 1-wire communication

Pin assignment: Plug/coupling for 5-pin



Plug assignment, 5-pin, with output assignment at the factory

The inputs and outputs can be reprogrammed specific to application.

Pin	Signal name
1	Uv, 24 V DC supply voltage
2	Pulse output
3	Uv, GND supply voltage
4	Communication
5	Analogue output

Accessories

GEMÜ 3040SVK

Union end

GEMÜ 3040SVK is a set, comprised of two union ends, DIN inserts (socket) and EPDM O-rings. With this set the GEMÜ 3040 ultrasonic flowmeter can be installed in piping with union ends. The set is available in the following materials: PP, PVDF and PVC-U.

Ordering information

Pipe connection	Measurement device	Material Union end with insert		
DN		PP	PVDF	PVC-U
-	10	-	-	-
10	15	88705772	88705773	88705771
15	20	88705775	88705776	88705774
20	25	88705778	88705779	88705777
25	25	88705781	88705782	88705780
32	32	88705784	88705785	88705783
40	40	88705787	88705788	88705786
50	50	88705790	88705791	88705789

Other configurations available on request.



GEMÜ 1219

Cable socket / cable plug M12

The GEMÜ 1219 is a connector (cable socket / cable plug) M12, 5-pin. Straight and/or 90° angled plug type. Defined cable length or with threaded connection without cable. Various materials available for the fixing nut.

Ordering information

Suitable for electrical connection of the connector X1

Description	Length	Order number
5-pin, angle	without cable	88205545
	2 m cable	88205534
	5 m cable	88205540
	10 m cable	88210911
	15 m cable	88244667
5-pin, straight	without cable	88205544
	2 m cable	88205542
	5 m cable	88205543
	10 m cable	88270972
	15 m cable	88346791



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