

## DR08

### Miniature Turbine Flow Meter For Low Viscous Liquids

- high accuracy and resolution
- very low deviation between identical units
- plastic, brass and stainless steel versions available
- maximum pressure up to 300 bar
- for temperatures up to 150 °C
- small mounting dimensions
- low-cost version available



#### Description

The flow meters DR08 work according to the turbine principle.

The liquid flows into the turbine body and is being diverted by 90° through guiding blades. The now tangential flow causes flow proportional rotation of the turbine.

This rotation is picked up by either an inductive or a Hall sensor and converted into an output frequency

One of the main features of the DR08 turbine flow meter is the very small variation between identical turbines. This eliminates the need to individually calibrate the unit to the respective electronic evaluations system connected. This makes the DR08 the ideal choice for OEM applications

#### Application

Through their small size, the high turndown ratio and the very good accuracy the DR08 turbine flow meters are suitable for the following applications:

- monitoring of cooling water applications
  - medical industry
  - plastic industry
  - solar panel manufacturing
  - machine tools
  - photographic laboratories
  - dosing and batching systems
  - cooling and heating applications
- and many others more.

## Versions

Model	Sensor	Max. Press. (bar)	Max. Temp. (°C)	K-Factor (pulses/l)	Accuracy (in % of measured value)
DR08.1.1	Hall, NPN	10	85	855	1
DR08.1.2/3	Hall, NPN	10	90	67	1.5
DR08.2.1	Hall, NPN	300	150	855	1
DR08.3.1	inductiv, NPN (PNP optional)	10	85	1,795	0.5

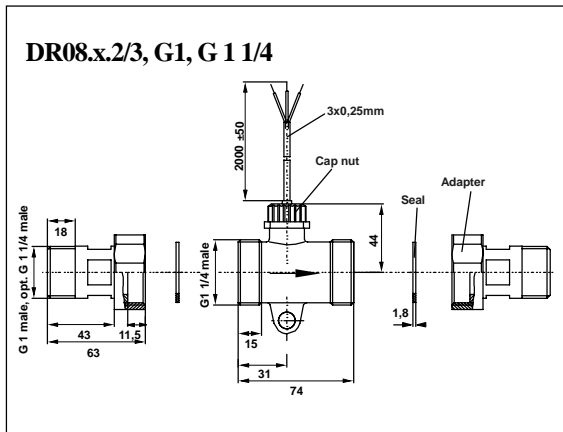
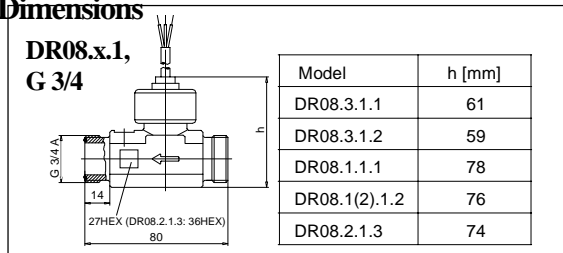
## Measuring ranges and process connection

**DR08.x.1:** G 3/4 2-40 l/min  
**DR08.x.2/3:** G 1, G 1 1/4 4-180 l/min

## Materials

	Plastic version	Brass version	Stainless steel version
<b>Turbine body</b>	PPO Noryl GFN3(DR08.1.2/3: PP)	brass	st. steel 1.4571
<b>Cap nut</b>	PA	PA DR08.2: brass	without
<b>Turbine insert</b>	Ultem PEI (DR08.1.2/3: PPO Noryl GFN3)		
<b>O-rings</b>	NBR	NBR DR08.2: Viton	Viton
<b>Bearing</b>	axle hard metal, bearing sapphire		
<b>Rotor inserts</b>	magnets hard ferrite DR08.3: st. steel pins		
<b>Temperature sensor (Option)</b>	brass or st. steel		

## Dimensions



## Ordering code

**Order number** DR08. 1 1 2 0 0

**Miniature turbine flow meter**

**Version:**

- 1 = Hall sensor, standard
- 2 = Hall sensor, high pressure / high temperature version
- 3 = inductive sensor

**Measuring range and process connection:**

- 1 = 2-40 l/min, G 3/4 male
- 2 = 4-180 l/min, G 1 male, incl. adapter (DR08.1 only)
- 3 = 4-180 l/min, G 1 1/4 male, incl. adapter (DR08.1 only)

**Material version:**

- 1 = plastic (DR08.1 and DR08.3 only)
- 2 = brass
- 3 = st. steel (DR08.2 only)

**Options:**

- 0 = without
- 1 = integrated temperature sensor (Pt-100, 3-wire), brass
- 2 = integrated temperature sensor (Pt-100, 3-wire), st. steel

**Special versions:**

- 0 = without
- 1 = please indicate separately

## Electrical connection

1,5 m PVC cable, 3 wire  
 (DR08.1.2/3 and DR08.3: 2 m)

white: +U  
 green: signal  
 brown: gmd.

## Technical Data

**Medium:** low viscous liquids up to 5 cSt  
 (higher viscosities on request)

**Max. particle size:** 0.5 mm

**Supply voltage:**  
 DR08.1, DR08.2: 4.5...24 VDC  
 DR08.3: 12...24 VDC

**Output signal:** square wave signal,  
 NPN open collector  
 (DR08.3: optionally PNP)

**Electrical protection:** IP 65