

Flow sensor

DF170



Materials

The DF170 is made of the following materials:

- Flow sensor body: PVC
- Rotor: E-CTFE (HALAR) as standard
- Rotor shaft and bearings: ceramic (AL2O3)
- Seal (O-ring): NBR, EPDM or FPM (Viton)

The DF170 flow sensor is suitable for use in combination with a tapping saddle and with pipes with an internal diameter of between d50 and d315.

Description

The DF170 flow sensor is used to measure fluid flows in pipe systems. It works based on the rotor principle. The rotor consists of five blades in which magnetic plates have been cast.

The flowing fluid causes the rotor to move, which generates current impulses in the magnetic field sensor, which is fitted in the flow sensor's body. The integrated signal amplifier converts these current impulses into a square wave signal that has an output frequency which is proportional to the flow rate.

Partly due to the lack of magnetic interaction between the rotor and the magnetic field sensor, the flow sensor's minimum flow rate is 0.15 m/s.

The maximum flow rate is 10 m/s. Depending on the design, the output frequency is approximately 45 Hz at 1 m/s. The output signal's amplitude is equal to the supply voltage and can bridge a distance of 100 metres without additional amplification.

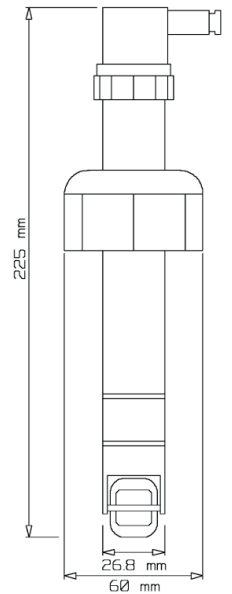
Thanks to the open rotor construction, the blades have almost no effect on the fluid's flow pattern and the pressure loss is kept to a minimum.

The DF170 flow sensor can measure the flow in any direction. The concentration of solid particles in the fluid must not exceed 2-5% of the volume. The fluid's viscosity must be 0.5-20 cSt. The DF170 can be used in temperatures up to 60 °C and at a pressure of up to 10 bar.

Technical specifications

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Supply voltage:	5-24 V(DC)
Maximum current consumption:	35 mA
Electrical connection:	Plug according to DIN 43650
Ingress protection:	IP65 according to IEC529 and DIN 40050
Weight:	Approx. 210 g
Maximum cable length:	100m
Measurement range:	0.15-10 m/s
Output frequency:	Approx. 45 Hz/m/s
Output signal:	5-24 V square wave NPN (pull down, open collector)
Measurement accuracy:	+/- 1% of the measurement range end value
Linearity:	+/- 1% across the entire measurement range
Reproducibility:	+/- 0.5% across the entire measurement range
Medium viscosity:	0.5-20 cSt.



Electrical connection:

