Flow transmitter

DF100TM

Description

The DF100TM flow transmitter 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 transmitter's body.

The integrated signal amplifier converts these current impulses into an analogue 4-20 mA (standard) signal 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 transmitter's minimum flow rate is 0.15 m/s. The maximum flow rate is 10 m/s. The output signal 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 DF100TM 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 flow transmitters can be made of various materials, depending on the pressure, temperature and composition of the medium to be measured.

If the correct materials are selected, the DF100TM can be used in temperatures up to 80 °C and a pressure of up to 10 bar.

Materials

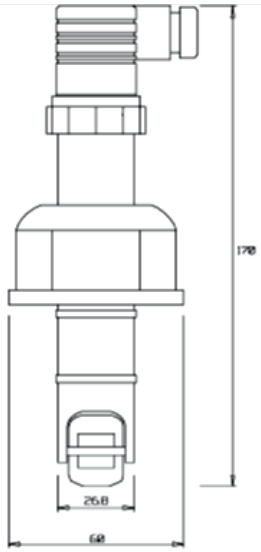
The following materials are available:

- Flow sensor body: PVC, PP, PVDF, ECTFE and stainless steel 316
- Rotor: E-CTFE (HALAR) as standard
- Rotor shaft and bearings: ceramic (AL2O3)
- Seal (O-ring): NBR, EPDM, FPM (Viton) or Kalrez

Fittings are available in PVC, PP, PVDF, ECTFE, steel and stainless steel with and internal pipe diameter between DN15 (1/2") and DN300 (12").

Technical specifications

Technical specifications DF100TM	
Supply voltage:	12-24 V(DC)
Maximum current consumption:	45 mA
Electrical connection:	Plug according to DIN 43650
Ingress protection:	IP65 according to IEC529 and DIN 40050
Weight:	Approx. 195 g
Maximum cable length:	100 m
Measurement range:	0.15-10 m/s
Output signal:	(0)4 - 20 mA (configurable) 0-(5)10 V (configurable)
Terminator:	< 330 Ω
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: