

Flow sensor

DF140TM



Materials

The DF140 flow sensor is made of the following materials:

- Housing: brass
- Rotor: polyoxymethylene (POM)
- Rotor shaft: tungsten carbide
- Rotor bearing: sapphire
- O-ring: NBR, EPDM or FPM (Viton)

Description

The DF140TM flow transmitter measures a fixed volume in a sealed measurement chamber. The transmitter is used to measure a flow of clean or slightly chemically contaminated fluid in pipe systems measuring 3/4" or 1".

The DF140TM flow transmitter has a magnetic probing system which is based on the Hall Effect. The plastic rotor, which is located in the measurement chamber, has ceramic magnets. The Hall generator, which is located at the top of the measurement chamber and which is isolated from the medium, converts the rotor's rotational speed into pulses.

The frequency is proportional to the flow rate. The integrated signal amplifier converts these current impulses into a 4-20 mA signal which is proportional to the flow rate. Optional: 0-20 mA or 0-10 V output.

Thanks to the lack of magnetic interaction between the rotor and the magnetic field sensor, the measurable minimum measurement range is 30 l/h for a 3/4" pipe system and 50 l/h for a 1" pipe system. The maximum measurement range is 3000 l/h for a 3/4" pipe system and 5000 l/h for a 1" pipe system.

It is possible to transport the output signal approximately 1000 metres without additional amplification. Fluids that contain iron cannot be measured using the DF140. Furthermore, the measurement chamber may not contain any air, because that adversely affects the accuracy of the measurement.

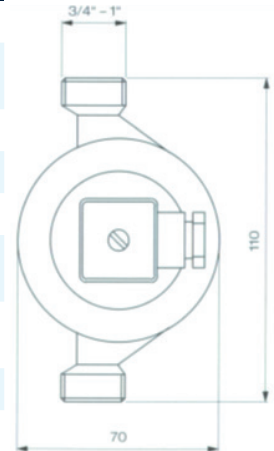
The direction of flow is marked on the flow sensor body by an arrow. The medium's viscosity must be 1-10 cSt.

The DF140TM is made of brass, which allows the sensor to be used in a temperature range of 0-90 °C and at an operational pressure of up to 12 bar.

Technical specifications

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Supply voltage:	12-24 V(DC)
Maximum current consumption:	55 mA
Electrical connection:	Device plug DIN 43650
Ingress protection:	IP65 according to IEC529 and DIN 40050
Weight:	Approx. 550 g
Measurement range:	30-3000 l/h (3/4") 50-5000 l/h (1")
No. of PPL:	Approx. 74 for 3/4" Approx. 43 for 1"
Output signal:	4-20 mA (configurable)
Load resistance:	< 330 Ω
Measurement accuracy:	+/- 1% of measurement range end value
Linearity:	+/- 1% across the entire measurement range
Reproducibility:	+/- 0.5% across the entire measurement range
Medium viscosity:	1-10 cSt.



Electrical connection:

