

Magnetic-Inductive Flow Meter FMQ

Application/Specified usage

- Magnetic-inductive flowmeter for the measurement of flow rate and volume in food and pharmaceutical applications
- Suitable for liquids, mash and pastes with a minimum conductivity of 5 $\mu\text{S}/\text{cm}$
- Precise measurement of media containing solids (< 5 % solid particle content)
- Measurement range from 30 l/h to 640 000 l/h
- Suitable for dosing and filling applications

Hygienic design/Process connection

- Sensor made entirely of stainless steel
- Hygienic design
- All parts in contact with the product are FDA-compliant
- Transmitter made of PFA; vacuum-tight and piggable
- Process connection optional available; material 1.4404 or 1.4435 with 3.1 certificate
- Process connection optionally with $R_3 \leq 0.4 \mu\text{m}$, electropolished
- Electrodes made of stainless steel 1.4404
- CIP-/SIP-cleaning up to max. 130 °C (max. 30 minutes)

Special features/Advantages

- High measurement accuracy even at low flow rates
- Simple and user-friendly parameterization
- Switch input for resetting the quantity-/volume counter (option)
- Automatic empty pipe detection avoids undefined readings for empty pipes
- PFA lining for maximum resistance to aggressive substances such as acids and bases
- Vacuum-tight, rigid meter tube lining, even at high temperatures
- Swiveling housing head with illuminated graphic display
- Operation of device via optical keys without opening the housing
- Minimal maintenance and care requirements
- Pharmaceutical version available with all necessary certificates

Functional principle

The principle behind this measurement method is Faraday's law of induction. This law states that a voltage is induced in a conductor that moves in a magnetic field. In the magnetic-inductive measurement method, the flowing, conductive medium acts as the conductor. Two vertically positioned field coils generate a constant magnetic field. The voltage induced in the flowing medium is measured by two stainless steel electrodes that are arranged horizontally. The voltage is directly proportional to the flow rate and can be expressed as the flow volume using the nominal tube width. The determined measurement values are made available as a counting pulse and 4...20 mA standard signal.

Certification



FMQ flowmeter



Magnetic-inductive measurement

