AVI-MAG™

Full Pipe Electromagnetic Averaging Insertion Flow Meter

The AVI-MAG™ is a hot tap full profile electromagnetic averaging insertion flow meter. Multiple electrodes placed across the entire sensor body at **equal area**, measure and report the average flow rate over the full diameter of pipe. The specific design of the multi-electrode sensor compensates for variable flow profiles, including swirl and turbulent condition.

The AVI-MAG™ can be installed without shutting down, emptying or cutting the pipe (hot tap installation). It does not require welding flanges and installation can be done in pressurized pipelines up to 16 bar.

Cost of installation is largely reduced by eliminating the need for heavy equipment (cranes, etc.) or extensive manpower. The AVI-MAG™ is the most economical flow metering solution for medium and large pipe sensor sizes, reducing drastically installation costs.

The AVI-MAG™ fits in confined spaces, can be submerged and offers complete accessibility. It can be removed in pipes under pressure for easy inspection, cleaning, calibrating or verification. It is particularly cost-effective for retrofit application.

The AVI-MAG™ comes in 2 different sizes in order to be used with 1,5" or 2" ball valves. The 1,5" AVI-MAG™ is available for pipe sizes ranging from DN100 up to DN1500. The 2" AVI-MAG™ is available for pipe sizes ranging from DN500 up to DN2500.
For larger pipe sizes, please contact FLOW-TRONIC.

Technical Specifications

Velocity Measurement

Method	Electromagnetic
Range	0 to +6 m/s (max. velocity possible depending from pipe Ø and sensor type)
Accuracy	±0,5% of reading ± zero stability
Zero Stability	±1 mm/s
Linearity	0,3% of range
Repeatability	0,2% of range

Application

AVI-MAG™ 1,5"	From DN100 to DN1525 (inner Ø)
AVI-MAG™ 2"	From DN500 to DN2500 (inner Ø)

Power supply

AC	90 to 265 VAC at 45-66 Hz (20W/25VA) or
DC	10 to 35 VDC

AC or DC must be specified at time ordering.

Materials

Sensor body	316 stainless steel, fiberglass derivate, carbon
Insertion hardware	316 stainless steel
Compression seal	Silicone rubber (EPDM)
Sensor electrodes	Graphite

Outputs

Analog	Galvanically isolated and fully programmable for zero and full scale (4-20 mA) Protected transistor switch capable of sinking < 250 mA at < 35 V
Output capability	≤ 20V (1000 ohm, 4-20 mA)
Display	White on blue backlit LCD 128x64 pixels 2 programmable displays Real-time display: indicates flow & velocity Totalizer display: user selectable units
Pulse/Frequency	2 programmable functions (pulses/alarms) One frequency/pulse output for flow rate or for external totalizer Alarm output for forward or backward flow detection, min./max. flow

Communication

Modbus protocol over RS485 interface (optional)

FLOW-TRONIC nv

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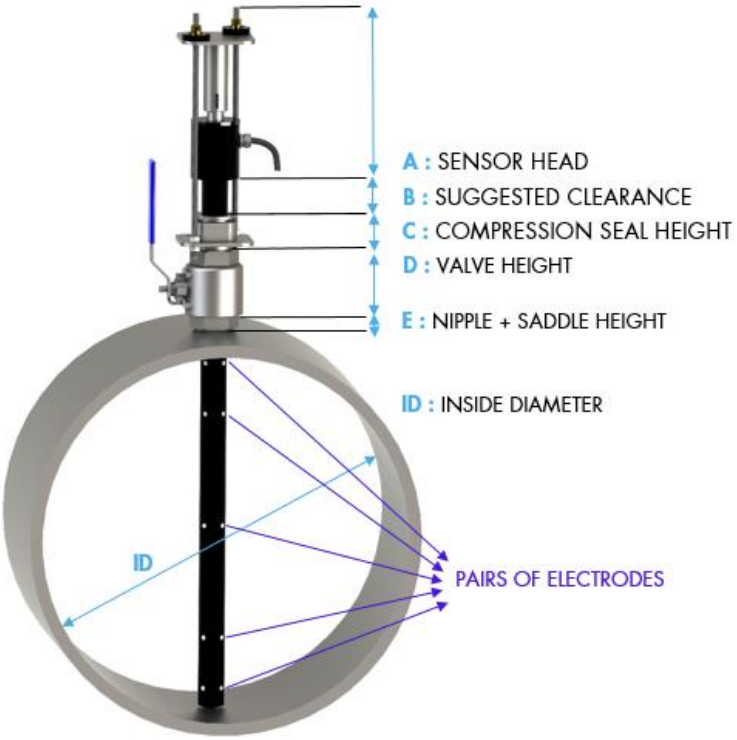
Technical Specifications



Operating conditions

Fluid	Drinking water or raw water
Min. conductivity	5 µmho/cm
Flow direction	Forward flow (backward flow detection possible)
Operating pressure	Max. 16 bar
Operating temp.	-20°C to +60°C
Fluid temp. limits	-10°C (not freezing) to +60°C at 16 bar
Protection rate	IP68 (sensor is submersible)

Certifications

CE, WRAS (pending)

Specifications are subject to change without notice
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