

Flow measurement

Electromagnetic flow sensor for conductive liquids
Volume flow measurement for demanding process applications



Type:
SITRANS
FMS300

In brief



Application

The SITRANS FMS300 is designed to meet the most common specifications within the chemical and process industries. The field-proven flow sensor with high chemical resistance is the ideal solution for tough and challenging applications [cite: 1].

- **Process & Chemical industry** [cite: 1]
- **Steel industry & Mining** [cite: 1]
- **Pulp and paper sector** [cite: 1]
- **Power generation, Distribution & Utilities** [cite: 1]
- **Oil and gas / HPI** [cite: 1]
- **Water and industrial wastewater management** [cite: 1]

Your benefits

- **Wide range of options:** Broad choice of electrode and liner materials to fit even the most extreme process media [cite: 1].
- **Excellent chemical resistance:** High resistance maintained during elevated process temperatures [cite: 1].
- **Reinforced PFA liner:** Performs extremely well under vacuum conditions and process temperatures up to **100 °C (212 °F)** [cite: 1].
- **Maintenance-free operation:** Fully welded construction with no moving parts for high durability over many years [cite: 1].
- **Hygienic design:** Smooth surface with minimal risk of build-up [cite: 1].
- **Standardized dimensions:** Sensor face-to-face length according to ISO 20456 (up to DN 400 mm) [cite: 1].
- **SENSORPROM™ Technology:** Automatic upload of startup settings and calibration data for easy commissioning [cite: 1].
- **In-situ verification:** Designed to allow easy performance checks on site [cite: 1].
- **Certified quality:** Meets EEC directive PED 2014/68/EU [cite: 1].

Description

The **SITRANS FMS300** is a magnetic flow sensor suitable for volume flow measurement of liquids (conductive) providing high flexibility in product configuration, making the meter work in almost any flow application [cite: 1].

The FMS300 is deliverable in a wide range of sizes. Grounding electrodes are included as standard, while measuring electrodes capable of withstanding the most extreme processes and various liners are also available [cite: 1]. The fully welded construction provides supreme ruggedness and durability even under the toughest operating conditions [cite: 1].

Combined with a flow meter transmitter (such as the **FMT020**), it forms a traditional externally powered electromagnetic flow meter system [cite: 1]. The entire flowmeter system—either mounted remotely or as a

compact unit—is operated under the product name **SITRANS FM320** [cite: 1].

System Configuration

Combine the **FMS300 flow sensor** with the **FMT020 transmitter** to create the complete **SITRANS FM320** system [cite: 1]. Available in both compact (integral) and remote mounting configurations [cite: 1].

Technical Data

Sensor Properties

Measuring Principle	Electromagnetic induction [cite: 1]
Nominal Sizes	DN 15 to DN 2200 (1/2" ... 88") [cite: 1]
Medium Conductivity	Conductive liquids ($\geq 5 \mu\text{S/cm}$) [cite: 1]
Measuring Accuracy	$\pm 0.4\%$ of flow rate (Optional $\pm 0.2\%$ available) [cite: 1]
Repeatability	Max. 0.1% of measured value [cite: 1]

Operating Conditions

Medium Temp.	PFA / PTFE: -20 ... +100 °C [cite: 1] Soft Rubber / EPDM: -10 ... +70 °C [cite: 1] Ebonite: 0 ... +95 °C [cite: 1]
Ambient Temp.	-40 ... +65 °C (-40 ... +149 °F) [cite: 1]
Operating Pressure	Up to 100 bar (PN100 / Class 600) [cite: 1]
Enclosure Rating	IP67 standard, IP68 continuous submersion optional [cite: 1]

Materials

Housing / Flanges	Carbon steel ASTM A 105 with C4/C5 coating, or Stainless steel AISI 304 / 316L [cite: 1]
Liners	Soft rubber (Neoprene), EPDM, PTFE, Ebonite, Linatex, PFA [cite: 1]
Electrodes	Stainless steel AISI 316Ti, Hastelloy C276/C22, Platinum, Titanium, Tantalum [cite: 1]
Flange Standards	EN 1092-1, ANSI B16.5, AWWA C-207, AS 2129, AS 4087, JIS B 2220 [cite: 1]

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