Monitor flow with ifm

Measure and control your flow loops with ifm flow sensors and meters

... Get to know us
ifm offers a variety of flow sensing products at a great price/performance value

**SI Series Switches**
One-piece flow switch replaces mechanical switches for monitoring liquids and gases.
Starting list price
$297 (USD)

**SR and SN Series Systems**
Choose from direct mount or remote mount as a reliable solution for tight spaces.
System starting list price
$575 (USD)

**SM Series Magmeters**
Stainless steel magmeter with 4-digit numeric display
Starting list price
$467 (USD)

**SU Series Meters**
Ultrasonic flow meter with integrated display and pushbutton setup.
Starting list price
$672 (USD)

**SQ Series Meters**
In-line flow meter monitors small dosing quantities in water and aqueous solutions.
Starting list price
$499 (USD)

**SD Series Meters**
In-line flow meter monitors compressed air systems and specialty gases (Ar, CO₂, N₂).
Starting list price
$691 (USD)

**SL Series Switches**
Monitors air flow in ducts and ventilation systems and detects clogged filters.
Starting list price
$165 (USD)

**ifm efector** is a leader in the development of innovative flow sensing technologies for process control applications. Choosing the right flow sensing technology will provide the best results for measuring gas and/or liquid flow.

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<th>Sensor/meter</th>
<th>Description</th>
<th>Technology</th>
<th>Output</th>
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<tr>
<td>SI Flow switch mounts directly in process</td>
<td>Flow detection of all fluids (liquids and gases)</td>
<td>Calorimetric</td>
<td>Switching</td>
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<tr>
<td>SR and SN control monitors for remote mounting</td>
<td>Flow detection of all fluids (liquids and gases)</td>
<td>Calorimetric</td>
<td>Switching</td>
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<tr>
<td>SM Magmeter monitors conductive media up to 26 gpm</td>
<td>Monitor flow rate through heat exchangers, Detect loss of cooling water in welding equipment, Protect against pump run dry conditions, Totalize flow of process water and batching applications</td>
<td>Magnetic Inductive</td>
<td>Analog, pulse and switching output</td>
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<tr>
<td>SU Ultrasonic Flow Meter monitors water, oil and glycol</td>
<td>Monitor water applications up to 50 gpm, High flow rates, Oil and glycol solutions</td>
<td>Ultrasonic</td>
<td>Analog, pulse and switching output</td>
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<tr>
<td>SQ Flow Meter measures small dosing quantities</td>
<td>Water and aqueous solutions up to 200 m³/min, Chemical processing, water treatment facilities, irrigation systems and fertigation skids</td>
<td>Calorimetric</td>
<td>Analog, pulse and switching output</td>
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<tr>
<td>SD Flow Meter monitors air and gas for leaks</td>
<td>Detects leakage areas throughout a plant, Improves energy efficiencies in a plant</td>
<td>Calorimetric</td>
<td>Analog, pulse and switching output</td>
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<tr>
<td>SL Air Flow Switch monitors ventilation systems</td>
<td>Monitor flow in air ducts, fume control cabinets and ventilation air conditioning systems, Provide early warning of clogged filters</td>
<td>Calorimetric</td>
<td>Switching</td>
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To get started, call an ifm technical specialist 800-234-7769 or visit www.ifm.com/us/flow.
**Flow Switches – Direct or Remote Mount**

**SI Series**

*ifm SI Series flow switches* are solid state alternatives to mechanical flow switches for sensing the flow rate of liquids and gases. SI Series flow switches feature:
- Pushbutton setup and highly visible LED status of flow and output conditions
- One-piece housing design and stainless steel probe
- Wide measuring range for a variety of applications
- ifm's broad selection of process connections enables quick and easy installation

**Starting at $297**

![SI flow sensors mount directly in the medium to sense the flow of liquids and gases.](image)

**Calorimetric flow sensing principle**

The operating principle of *ifm flow switches* is based on the calorimetric principle. *Ifm flow switches* use the cooling effect of a flowing fluid or gas to monitor its flow rate. The amount of thermal energy that is removed from the tip determines the local flow rate.

The calorimetric sensing principle provides a precise and fast detection of flow and no flow. This reliable sensing technology can monitor virtually any liquid or gas.

**SR/SN Series**

*ifm's SR and SN Series flow monitoring systems* are a modular solution for remote indication of fluids and gases.
- Ideal for environments with limited mounting space
- Suitable for locations that do not permit local installation of the control monitor
- Switching output with bar graph display
- AC and DC options
- Reduced inventory via modular mounting adapters

**Starting at $575**

![SI Series cabinet mounted control monitor](image)

**Calorimetric sensing results in a switch design that has no moving parts**

*ifm’s calorimetric sensing principle results in a switch design that has no moving parts that can break or stick in a line. The stainless steel, one-piece housing offers a reliable alternative to mechanical switches. With no moving parts to jam or break, ifm flow switches eliminate the maintenance headaches of mechanical flow switches.*

**Field mounted control monitor**

*ifm’s field mount control monitor connects to a probe and can be used directly at the application or remote mounted.*

**Cabinet mounted control monitor**

*The cabinet control monitor offers easy to access terminal connections and can be wired prior to installing inside the control cabinet.*

**Control cabinet**

*ifm’s control monitors connect to different probe lengths to suit various pipe diameters*
The SU Series ultrasonic flow meter can simultaneously monitor flow rate, detect fluid temperature and provide a totalizer function for a variety of flow applications. With its compact design, the ultrasonic flow meter is intended for small diameter pipes – 1” or less.

- Provides a 4-digit numeric display of the liquid’s flow rate (gal/min or l/min); total quantity accumulated (gallons or liters); medium temperature (°F or °C)
- Integrated display with simple pushbutton setup
- Provides switching output (flow rate and/or temperature), pulse output (flow volume), or analog output (flow rate or temperature)

Monitoring cooling water
Machines such as lasers or welding machines require water or glycol solutions as a cooling function. The ultrasonic flow meter monitors flow rates up to 50 gpm.

Magnetic-inductive flow metering
The SM Series Flow Meter’s principle of operation is based on Faraday’s law of electromagnetic induction. The conductive medium flowing through a pipe in a magnetic field generates a voltage that is proportional to the flow velocity or volumetric flow quantity.

\[ V = \text{flow velocity of the conductor} \]
\[ M = \text{magnetic field strength} \]
\[ E = \text{electrodes} \]

More features than current magmeters – at half the price!

Ultrasonic flow principle
Ultrasonic technology is based on the differential transit time principle. Sound pulses are alternately emitted and detected with and against the direction of flow using piezoceramic sound transducers.
Dosing and Compressed Air Meters

**SQ Series**

The **SQ Series flow meter** is designed to monitor small dosing quantities in water and aqueous solutions up to 200 ml/min. Typical applications include chemical / additive dosing found in chemical processing, water treatment facilities, irrigation systems and fertigation skids.

- 316 stainless steel wetted parts
- Protected against mechanical strain and external influences
- Simple pushbutton setup quickly establishes parameters
- Indicates flow rate, process temperature and totalizer function
- Various outputs include switching, pulse and analog

**SL Series**

**ifm’s SL Series air flow sensor** is specially designed for air flow monitoring in air ducts and provides early warnings of clogged filters.

- Compact housing style fits easily into ventilation systems
- Features an adjustable potentiometer to establish setpoint
- LED provides visual indication when flow is above or below the setpoint
- Provides early warning of clogged filters
- Relay output, DC or AC/DC
- Response time 3...60 seconds
- 2 meter PUR cable

**SD Series**

The **SD Series meter** monitors compressed air and specialty gases such as Argon (Ar), Carbon dioxide (CO₂), and Nitrogen (N₂) to detect leakage areas and improve energy efficiencies.

Compressed air and specialty gases are considered one of the most expensive sources of energy consumption in a plant. By identifying leakage areas, the SD Meter can optimize compressed air and gas usage, improve system performance, and reduce energy costs.

- 4-digit numeric pushbutton display provides air and gas consumption readings
- Three display options:
  - SCFM (standard cubic ft/min)
  - SCFH (standard cubic ft/hr)
  - SCF (standard cubic ft/total)

**Calorimetric flow principle**

The operating principle of the SQ and SD series flow meters is based on the calorimetric flow sensing principle.

The meter incorporates two ceramic sensing elements that each contain a thermistor.

As one sensor element is heated, the second element is used as a reference.

Power is then altered to the heater to ensure a constant temperature difference (CTD) between the two elements.

**Air Flow Sensors**

**STARTING AT $499**

**STARTING AT $691**

**STARTING AT $165**
ifm product lines

Inductive sensors
Cylinder sensors
Photoelectric sensors
Vision sensors
Capacitive sensors
Safety sensors
Pressure sensors
Flow sensors
Temperature sensors
Level sensors
Vibration monitoring
Valve sensors
Power supplies
AS-i bus system
Safety-at-Work
Identification products
Cable assemblies
Mobile controls

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Why select ifm for your sensors and controls needs?

ifm people. The ifm team of employees is committed to helping you succeed in your business. We directly service and work with over 24,000 customers.

ifm products. For over 40 years, ifm has developed, manufactured, and marketed sensors to industries that include assembly and robotics, automotive, material handling, packaging, metal forming, plastics, and food and beverage. We offer a complete family of position sensors, fluid sensors, diagnostic systems, networking products, and wiring solutions.

Quality. There can be no compromise in the quality and reliability of sensors that are applied in your production facility. The ifm new product development process incorporates specific testing for sensors and controls to withstand environments with shock and vibration, electrical noise and temperature fluctuations.

Investment in R&D. Developing new products that increase uptime and productivity is a core belief of our company. We apply practical innovation to simplify technology and develop products that can have a positive impact on your production process.

Application know-how. We have over 40 years of experience in working with industrial automation applications. Our knowledgeable team of technical support engineers will work with you to recommend the right solution, the first time.

ifm business philosophy. ifm provides a knowledgeable and courteous service center team to assist with order placement and technical support; offers an efficient distribution center for accurate and on-time delivery of products; publishes list prices in literature and website; and always stands behind the quality and performance of our products.

Global presence with local focus. With more than 3500 dedicated ifm employees in over 70 countries, you can count on local support all over the world.

ifm efector – close to you!