Proline
Promass 100 / Promag 100
The flow specialists in a compact design

Flow

Full functionality in a small package

- Ideally suited for modular skid-mounted process facilities
- Space-saving, multivariable measuring technology in a compact or ultra-compact design
- Highest degree of protection (IP69K) for absolute imperme-ability against water – even during intensive cleaning processes
- User-friendly commissioning in the field – state-of-the-art web server technology for reduced set-up time
- Seamless integration into process control and asset management systems via HART, PROFIBUS DP or Modbus RS485
- Fulfils all relevant requirments of the life sciences and food industry

Endress+Hauser

People for Process Automation

Proline
simply clever

Process monitoring is becoming more demanding and the need for maximum product quality is steadily increasing. This is why Endress+Hauser continues to provide industry-specific flow measurement solutions optimized for future technology requirements.

The new generation of our Proline flowmeters is based on a uniform device concept. This means time and cost savings, as well as maximum safety over the entire plant life cycle.

Perfect integration Proline can be integrated seamlessly into your plant asset management, providing reliable information for optimizing production and business processes.

Innovative and proven in use Proline is based on a versatile, continually updated technology concept, guaranteeing that you are always implementing state-of-the-art technology.

Ingeniously simple Proline is user-friendly through and through, ensuring that your process can be securely controlled with confidence.

Added value in every respect

HistoROM
- No loss of data – automatic data storage
- Quick restoration of device data in case of service
- High plant availability and process reliability

Heartbeat Technology™
- Maximum process reliability due to continuous self-diagnosis
- Clear diagnostic messages with instructions for action
- Verification "at one's fingertips" without process interruption

Seamless system integration
- High flexibility due to wide variety of fieldbus technologies
- Highest quality of available components (drivers, operating tools)
- Efficient process control with simultaneous transmission of multiple process variables

W@M
- Open information system that brings together products and services from Endress+Hauser
- Worldwide availability of device and plant data
- For everyday work – in operation, for maintenance and repair

Web server
- Time-saving local operation without additional software
- Comprehensive access to device, diagnostics and process information
- Fast upload/download of data in case of service

Promass 100 / Promag 100

Perfection in a compact design

Whether in the life sciences or in biotechnology, whether in the food or chemical industries – the global competition is steadily rising. As a result, ever more companies are implementing their process facilities in a very short time by following a "modular principle". The production units and skids required for this include a wide variety of measurement and control technology devices in a minimum of space.

Endress+Hauser's newly developed Promass 100 and Promag 100 flow measuring lines are the perfect solution for such applications:

- Compact design without limitation of functionality
- Seamless integration into process control and asset management systems via HART, PROFIBUS DP, Modbus RS485 or EtherNet/IP
- Integrated web server for time-saving local operation without additional hardware or software
- Proven in real-world applications and with outstanding long-term stability:
  – Coriolis: over 500 000 installations since 1986
  – Electromagnetic: over 1.5 million installations since 1977

Promass
Coriolis flow meaurement

As a multivariable flowmeter, the Promass 100 opens entirely new perspectives for controlling and monitoring individual process units for heating, cooling, distillation, fermentation (bioreactors), product filtration, phase separation, inline cleaning as well as filling and dosing:

- Fewer measuring points – one single device for simultaneous measurement of mass flow, volume flow, density, concentration, temperature and viscosity
- Highest measuring performance

Promag
Electromagnetic flow measurement

This measurement method has enjoyed a high level of acceptance for decades in almost all industries. It can be used to measure electrically conductive liquids with a minimum conductivity of 5 µS/cm or higher. The combination of a robust compact design and tried-and-tested measurement technology guarantees a high degree of operational safety around the clock:

- Sensors proven in real-world applications, with outstanding long-term stability
- For large pipes up to DN 600
- With integrated conductivity measurement
- With integrated temperature sensor (Promag H)

1 Promass P 100   **2** Promag H 100

Promass 100 / Promag 100
Advantages at a glance

Industry-optimized compact design

- Robust transmitter housing in hygienic stainless steel or aluminum design
- Ultracompact housing variant with plug connector (M12×1) for versatile and time-saving installation
- Highest degree of protection (IP69K) for absolute impermeability against water – even during intensive high-pressure or steam jet cleaning

Maximum operational safety

- HistoROM: High plant availability due to automatic data storage
- Clear and unambiguous categorization of errors enables targeted reaction to device and process errors
- Heartbeat Technology
  - Continuous self-diagnosis
  - Device verification "at one's fingertips".
    No dismantling or interrupting the process required
- Outstanding EMC immunity

Seamless system integration

- Flexible operation via web server or communication interfaces (HART, PROFIBUS DP, Modbus RS485, EtherNet/IP)
- Firmware and device drivers are available during the entire life cycle to ensure complete compatibility between the field device and process control system at all times

Sensors proven in real-world applications

- Promass – 500 000 installations over 25 years
- Promag – 1.5 million installations over 35 years
- High measuring accuracy even in long-term operation
- Traceable measurement results, since every device is certified on accredited and traceable calibration rigs (ISO/IEC 17025)

Your benefits throughout the life cycle

- Accurate metering or dosing of liquids
- Assured compliance with guidelines and regulations
- Reduced operating costs due to tried-and-tested, innovative and maintenance-free measuring technology

Tailor-made flowmeters for your application

Promass P 100
Life sciences industry

- Electro-polished sensors for sterile processes
- Completely drainable, easy-to-clean single-tube system
- Complies with ASME BPE, ISPE, FDA and 3-A
- Immediate availability after SIP/CIP cleaning
- Wetted parts made of 1.4435/316L (delta ferrite content <1%)
- DN 8 to 50

Promass S 100
Food industry

- Completely drainable single-tube system of stainless steel: easy to clean, hygienic, piggable and corrosion-resistant
- Non-invasive measurement without shear forces
- Immediate availability after SIP/CIP cleaning
- Complies with 3-A, EHEDG and FDA
- DN 8 to 50

Promass I 100
Straight single-tube system

- Non-invasive measurement without shear forces
- Low pressure loss
- Complies with 3-A, piggable
- Unique worldwide – with in-line viscosity measurement for efficient process monitoring
- Chemicals, food, life sciences, oil/gas
- DN 8 to 80

Promass E 100
Basic applications

- Cost-effective, robust sensor
- Complies with 3-A
- Chemicals, food, life sciences, oil/gas
- DN 8 to 80

Coriolis

Endress+Hauser has a wide range of other sensors that are also available in the new compact design.

Promass F 100
For universal use

- Maximum measuring performance with PremiumCal calibration (±0.05%)
- Secondary containment for pressure up to 40 bar
- Insensitive to fluctuating process conditions (temperature, pressure, etc.)
- Complies with 3-A and EHEDG
- Chemicals, food, life sciences, oil/gas
- DN 8 to 250

Promag H 100
Food industry

- With integrated temperature and conductivity measurement
- Robust stainless steel housing
- Complies with 3-A and EHEDG
- SIP and CIP cleanable
- PFA lining (−20 to +150 °C)
- Flexible connection concept with wide variety of process connections
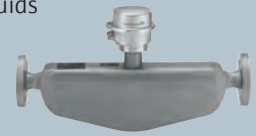- PN 40
- DN 2 to 150

Promag P 100
For universal use

- With drinking water approvals: ACS, NSF
- PTFE lining (−40 to +130 °C)
- PFA lining (−20 to +180 °C)
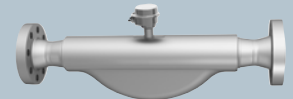- DN 15 to 600

Promass H 100
For chemically aggressive fluids

Promass A 100
For lowest flow rates

Promass O 100
For the highest pressures in the oil and gas industry

Promass X 100
For maximum flow rates in the oil and gas industry

Cubemass 100
For lowest flow rates (ultra-compact sensor)

Electromagnetic

Coriolis

Technical data

Transmitter Promass 100 / Promag 100

Operation	• Via web browser (Internet Explorer, Firefox, etc.) • Via configuration tools, e.g. "FieldCare" from Endress+Hauser • Via a HART handheld
Power supply	DC 24 V
Ambient temperature	−40 to +60 °C
Degree of protection	• IP66 and IP67 (Type 4X enclosure) • IP69K optionally for stainless steel housing
Design Housing material	• Compact version (aluminum, stainless steel) • Ultra-compact version (stainless steel) with pre-configured plug connectors
Galvanic isolation	All circuits for outputs and power supply are galvanically isolated from each other
Communication Outputs	HART, PROFIBUS DP, Modbus RS485 and EtherNet/IP; 4–20 mA HART current output, pulse/frequency/switch output
Ex approvals	ATEX, IECEx, cCSAus; NEPSI and TIIS (Promass only) Zone 2, Cl. I Div. 2 Zone 1, Cl. I Div. 1 (only for Promass with Modbus RS485)

Subject to modification

1 Ultra-compact housing made of stainless steel (hygienic) with plug connectors

2 Compact housing made of stainless steel (hygienic)

3 Compact housing made of aluminum

The Promass 100 / Promag 100 measuring systems fulfill the EMC requirements according to IEC/EN 61326 and NAMUR NE21. It also conforms to the requirements of the EU and ACMA directives and thus carries the C€ and the ✔ mark.

Endress+Hauser [EH]

People for Process Automation