Proline
Prosonic Flow E 100

The economical ultrasonic flowmeter with integrated temperature measurement

For water in utility applications

- Reliable measurement and monitoring of fresh water, feed water and condensate up to +150 °C (+302 °F)
- Measurement independent of pressure, density, temperature and electrical conductivity
- Robust sensor made of stainless steel for long-term operation
- Reliable flow metering thanks to high measurement accuracy (±0.5%) and high operable flow range (>200:1)
- With optional display for quick reading of measured values on-site
- Integrated web server for time-saving on-site operation without additional hardware or software
- Extended calibration intervals: integrated device verification thanks to Heartbeat Technology
- Maintenance-free – no moving parts

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.

Web server
Time-saving local operation without additional software

Heartbeat Technology
For permanent self-monitoring, diagnostic and device verification

Simple operation (HMI)
Time-saving Endress+Hauser operating concept

HistoROM
Automatic data storage and data restoration

W@M Life Cycle Management
Open information system for device documentation and management

Prosonic Flow E 100
Robust, economical, flexible and secure

Prosonic Flow E 100, an ultrasonic flowmeter in a high-quality industrial design, allows you to measure and monitor process water reliably – regardless of conductivity, cold or hot up to 150 °C (302 °F) or with magnetite often found in closed hot water systems:

- Industrial water
- Cooling water
- Condensate (demineralized water)

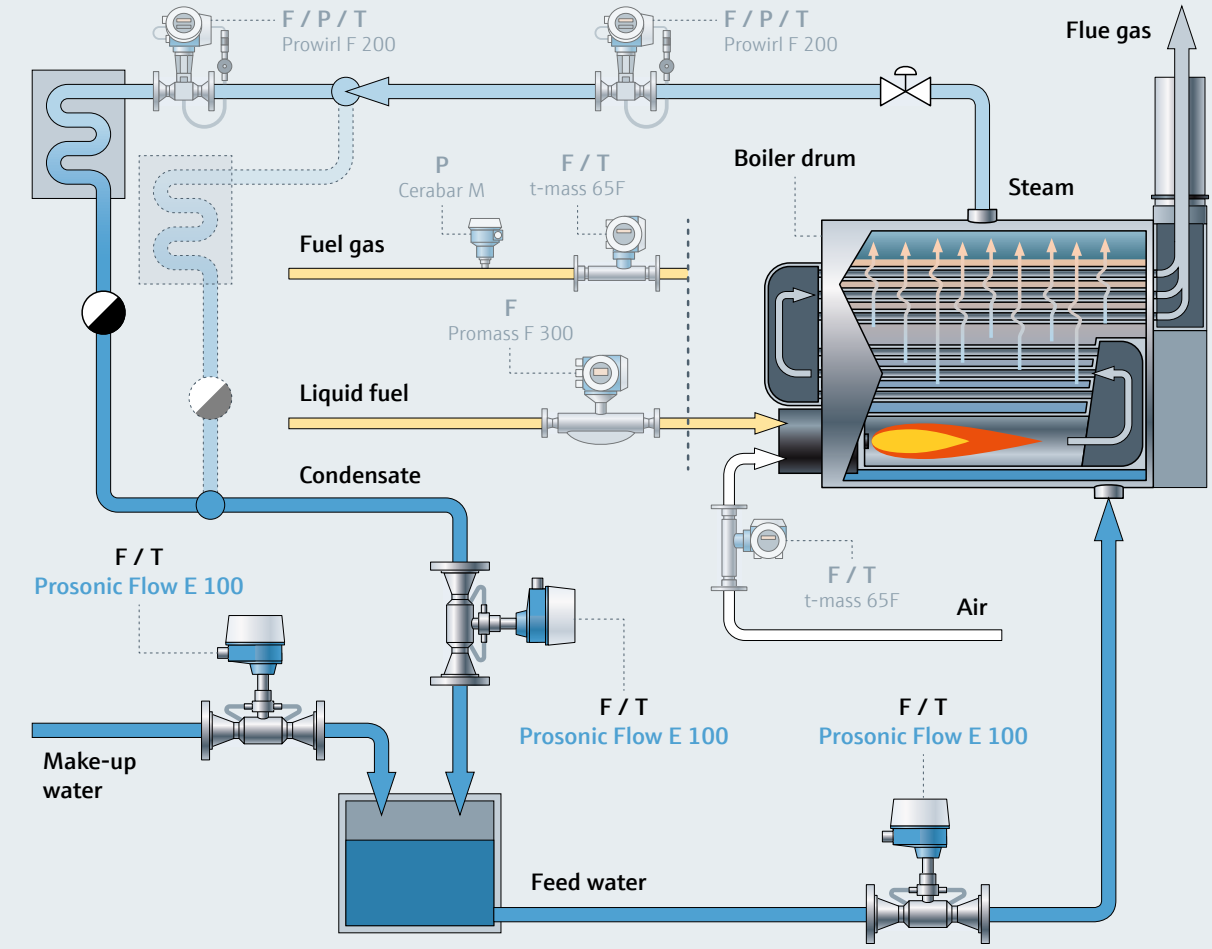
The robust Prosonic Flow E 100 is made entirely of stainless steel and is perfectly suited for long-term operation in rough conditions. Its range of operation generally allows for process pressures up to 25 bar (363 psi) as well as process temperatures up to 150 °C (302 °F). The bottom line: For the flow measurement of water in steam circuits, Prosonic Flow E 100 is the ideal flowmeter.

With integrated temperature measurement

In steam circuits, plant operators place a great deal of value on achieving optimal energy and cost efficiency. As a multivariable flowmeter, Prosonic Flow E 100 does not just detect flow. It also detects, for example, the temperature of water in the condensate return to the boiler (see fig.):

- Cost-efficient solution thanks to fewer measuring points
- Improved process efficiency in the boiler thanks to constant monitoring and regulation of the feed water temperature

Prosonic Flow E 100 application areas (Example: steam circuit)



As a full-range supplier Endress+Hauser is your single source for: flow measurement (F), pressure measurement (P), temperature measurement (T) as well as everything for heating boiler equipment, such as level, analysis (e.g. pH, conductivity) and recording technology.

Technical data

Proline 100 (Transmitter)

Display (optional)	4-line backlit display, configurable
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 (−40 to +140 °F)
Degree of protection	IP66/67 (Type 4X enclosure)
Material (housing)	Aluminum
Galvanic isolation	All circuits for outputs and power supply are galvanically isolated from each other
Outputs/Inputs	Current output (4–20 mA HART), puls/frequency/switch output
Communication	HART

Subject to modification

Prosonic Flow E (Sensor)

Nominal diameter	▪ Single-path version: DN 50 to 80 (2 to 3") ▪ Two-path version: DN 100 to 150 (4 to 6")
Process connections	Flanges (EN, ASME)
Min./max. flow rate	0 to 5 m/s (0 to 16.4 ft/s) with specified measuring accuracy
Process pressure	DN 50: PN 40 (Class 150) DN 80 to 150: PN 25 (Class 150)
Process temperature	0 to 150 °C (32 to 302 °F)
Degree of protection	IP66/67 (Type 4X enclosure)
Max. measured error	Volume flow: ▪ v > 0.5 m/s (>1.64 ft/s): ±0.5% o.r. ± 0.02% o.f.s. ▪ v ≤ 0.5 m/s (≤1.64 ft/s): ±0.07% o.f.s. Temperature: ±2 °C (±3.8 °F)
Turndown	> 200:1
Materials	▪ Transmitter housing: aluminum coated ▪ Process connections: stainless steel, steel S235JR (1.0038), carbon steel A105
Pressure loss	Based on a flow velocity of 5 m/s: DN 80 (3"): <410 mbar (<5.9 psi) DN 150 (6"): <130 mbar (<1.9 psi)

The Prosonic Flow E 100 measuring system fulfills 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 CE and the mark.

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