Monitoring

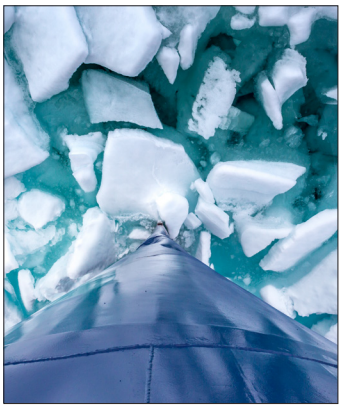
Mass Flow Meter

PROLINE PROMASS E 100

Proline Promass E 100 from Endress + Hauser is mass flow meter optimized for measurement of fuel consumption onboard ships, and prepared for a perfect connection to Chris-Marine® Trust-Ocean.









Key benefits

- Cost-effective – multipurpose device; an alternative to conventional volumetric flowmeters.
- Fewer process measuring points – multivariable measurement (flow, density, temperature).
- Space-saving installation – no in-/outlet run needs
- Full access to process and diagnostic information – numerous, freely combinable I/O and Ethernet.
- Reduced complexity and variety – freely configurable I/O functionality.
- Robust, ultra-compact transmitter housing.

PROLINE PROMASS E 100



Application

- Prepared for a perfect connection to Trust-Ocean.
- Measuring principle operates independently of physical fluid properties such as viscosity or density.
- Optimized for measurement of fuel consumption on ships.
- Accurate measurement of liquids and gases for a wide range of standard applications.
- Heartbeat Technology enables measurement reliability and compliant verification

Technical data	
• Measuring principle	Coriolis with Compact dual-tube sensor
• Max. measurement error	Mass flow (liquid): ±0.15 % (standard), ±0.10 % option) Volume flow (liquid): ±0.15 % Mass flow (gas): ±0.50 % Density (liquid): ±0.0005 g/cm³ (option)
• Measuring range	0 to 180 000 kg/h (0 to 6615 lb/min)
• Medium temperature range	−40 to +150 °C (−40 to +302 °F)
• Wetted materials Measuring tube	1.4539 (904L) Connection: 1.4404 (316/316L)
• Nominal diameter range:	DN 8 to 80 (3/8 to 3")
• Digital communication	Modbus RS485
• Marine approvals	LR approval, DNV approval, ABS approval, BV approval
• Integrated verification	Heartbeat Technology (option)

Heartbeat Technology (Option)

Benefits

- **Increased measuring reliability and safety**
  Highest confidence in device performance under various operating conditions due to outstanding diagnostic coverage and developmental compliance with international standards (Heartbeat Diagnostics).
- **Higher efficiency**
  Efficient operations through timely, clear and standardized diagnostic messages according to NAMUR NE 107, providing easy-to-follow recommendations for remedial actions (Heartbeat Diagnostics).
- **Certified verification of measuring instruments**
  Guided procedure for in-situ and traceable
- **Enhanced productivity while ensuring compliance**
  Third-party attested verification concept and automatically generated verification reports enable optimization of calibration and proof test cycles in a compliant manner (Heartbeat Verification).
- **Predictive, intelligent and timely measures**
  Condition monitoring capability for process optimization and timely prediction of maintenance needs (Heartbeat Monitoring).

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