Proline Prosonic Flow
G 300 Ultrasonic flowmeter

Highly robust gas specialist for fluctuating conditions with compact, easily accessible transmitter

For a wide range of gas applications Prosonic Flow G provides reliable flow measurement, even with wet gas and changing gas properties and compositions. A pressure-rated sensor housing with rupture disc limits safety risks. The compact transmitter offers high flexibility in terms of operation and system integration: access from one side, remote display and improved connectivity options. Heartbeat Technology ensures compliance and process safety at all times.

- # Benefits
  - Flexible device with user-definable gas mixtures for demanding measuring tasks
  - Maximum reliability even with humid or wet gas – sensor design insensitive to condensate
  - High-performance process control – real-time pressure- and temperature-compensated values
  - Efficient solution – multivariable, no pressure loss
  - Full access to process and diagnostic information – numerous, freely combinable I/Os
  - Reduced complexity and variety – freely configurable I/O functionality
  - Integrated verification – Heartbeat Technology

- # Field of application
  - The measuring principle is unaffected by gas composition
  - Accurate measurement of natural and process gas in the chemical as well as oil and gas industries.

  Device properties:

  - Direct measurement: flow, pressure & temperature
  - Wetted parts: titanium / 316L
  - Maximum measuring accuracy: 0.5 %
  - Compact dual-compartment housing with up to 3 I/Os
  - Backlit display with touch control and WLAN access
  - Remote display available

  Read the technical article in PCNE (Processing & Control News Europe)

Features and specifications

- Gas

- Measuring principle

  Ultrasonic flow

- Product headline

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- Sensor features

Maximum reliability even with humid or wet gas – sensor design insensitive to condensate. Highperformance process control – real-time pressure- and temperature-compensated values. Efficient solution – multivariable, no pressure loss. Direct measurement: flow, pressure & temperature. Wetted parts: titanium / 316L.

- Transmitter features

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- Nominal diameter range

DN 25 to 300 (1 to 12")

- Wetted materials

Measuring tube: 1.4408/1.4409 (CF3M)
Transducer: 1.4404 (316, 316L), Titan Grade 2

- Measured variables

Volume flow, corrected volume flow, mass flow, flow velocity, speed of sound, pressure, temperature, density, dynamic viscosity, energy flow, Wobbe index, methane fraction, calorific value, molar mass

- Max. measurement error

"Volume flow (standard):
- ±1.0 % o.r. for 3 to 40 m/s (9.84 to 131.23 ft/s)
- ±2 % o.r. for 0.3 to 3 m/s (0.98 to 9.84 ft/s)
Volume flow (optional calibration):
- ±0.5 % o.r. for 3 to 40 m/s (9.84 to 131.23 ft/s)
- ±1.0 % o.r. for 0.3 to 3 m/s (0.98 to 9.84 ft/s)
Mass flow (standard):
- ±1.5 % o.r. for 3 to 40 m/s (9.84 to 131.23 ft/s)
- ±2.5 % o.r. for 0.3 to 3 m/s (0.98 to 9.84 ft/s)
Mass flow (optional calibration):
- ±1.0 % o.r. for 3 to 40 m/s (9.84 to 131.23 ft/s)
- ±1.5 % o.r. for 0.3 to 3 m/s (0.98 to 9.84 ft/s)

Methane content: ±1.00 %
Molar mass: ±1.50 %
Density: ±1.50 %

Dynamic viscosity: ±3.00 %
Heating value: ±1.00 %
Wobbeindex: ±1.00 %"

- Measuring range

  Gas: 0.3 m/s to 40 m/s

- Max. process pressure

  0.7 to 101 bar a (10.15 to 1464.88 psi a)

- Medium temperature range

  -50 to 150 °C (-58 to +302°F)
  -50 to 100 °C (-58 to +212°F) with integrated pressure cell

- Ambient temperature range

  -40 to 60 °C(-40 to +140 °F)
  Optional: -50 to 60 °C(-58 to +140 °F)

- Sensor housing material

  Stainless Steel, 1.4404(316/316L), 1.4408/1.4409 (CF3M)

- Transmitter housing material

  AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L
  Polycarbonate

- Degree of protection

  Compact version: IP66/67, type 4X enclosure.
  Optional: External WLAN antenna: IP67

- Display/Operation

  4-line backlit display with Touch Control (operation from outside)

  Configuration via local display and operating tools possible

  Remote display available

- Outputs

3 outputs:
4-20 mA HART (active/passive)
4-20 mA (active/passive)
Pulse/frequency/switch output (active/passive)
Double pulse output (active/passive)
Relay output

- Inputs

  Status input

  4-20 mA input

- Digital communication

  HART, Modbus RS485

- Power supply

  24V DC
  100 to 230 V AC
  AC 100 to 230 V / DC 24 V (non harzardous area)

- Hazardous area approvals

  ATEX, IECEx, cCSAus, JPN

- Product safety

  CE, C-tick

- Functional safety

  Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

- Metrological approvals and certificates

  Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025)

  Heartbeat Technology complies with the requirements for traceable verification according to ISO 9001:2008 – Section 7.6 a (TÜV attestation)

- Pressure approvals and certificates

  PED, CRN

- Material certificates

  3.1 material

  NACE MR0175/MR0103