

초음파 유량계

Proline Prosonic Flow G 500

정유&가스 및 화학 산업의 가스 어플리케이션에 최적화된 최대 4 개의 입출력을 갖춘 초음파 유량계



장점:

- 어플리케이션에 따라 다양한 사양 구성이 가능한 유량계 - 까다로운 측정 과제를 수행하기 위해 사용자가 지정한 가스 혼합물에 최적화
- 신뢰할 수 있는 습식 가스 측정값 - 응축수에 민감하지 않도록 설계된 센서 디자인
- 고성능 프로세스 제어 - 실시간 압력 및 온도 보상 값
- 효율적인 솔루션 - 다변수, 압력 손실 없음
- 프로세스 및 진단 정보에 대한 완전한 액세스 - 자유롭게 결합 가능한 입출력 시스템
- 복잡성과 다양성 감소 - 자유롭게 결합 가능한 입출력 구성
- 통합된 검증 시스템 - 하트비트 기술

사양 정보

- **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) Corrected volume 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) Corrected volume 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) Sound Velocity: ± 0.2 % o.r.
- **Measuring range** Gas: 0.3 m/s to 40 m/s
- **Medium temperature range** -50 to 150 °C (-58 to +302°F) -50 to 100 °C (-58 to +212°F) with integrated pressure cell
- **Max. process pressure** 0.7 to 101 bar a (10.15 to 1464.88 psi a)

추가 정보 및 현재 가격:

www.kr.endress.com/9G5B

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

적용 분야: 광범위한 가스 어플리케이션에서 Prosonic Flow G는 습식 가스 뿐만 아니라 가스의 구성이 변화되는 환경 하에서도 안정적인 유량 측정값을 제공합니다. 콤팩트한 트랜스미터는 유량계의 작동 및 시스템 통합 측면에서 높은 유연성을 제공하는데, 한쪽에서의 액세스, 원격 디스플레이 또는 향상된 연결 옵션과 같은 기능을 사용할 수 있습니다. 뿐만 아니라, '하트비트 기술(Heartbeat Technology)'을 통해 프로세스의 안정성을 보장하고 각종 규제를 준수합니다.

특징 및 사양

Gas

측정 원리

Ultrasonic flow

Product headline

Highly robust gas specialist for fluctuating process conditions as remote version with up to 4 I/Os.

Flexible device with user-definable gas mixtures for demanding measuring tasks.

Accurate measurement of natural and process gas in the chemical as well as oil and gas industries.

Sensor features

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.

Direct measurement: flow, pressure & temperature. Wetted parts: titanium / 316L. Maximum measuring accuracy: 0.5 %.

Gas

Transmitter features

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. Remote version with up to 4 I/Os. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

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):

- $\pm 1.0\%$ o.r. for 3 to 40 m/s (9.84 to 131.23 ft/s)
- $\pm 2\%$ o.r. for 0.3 to 3 m/s (0.98 to 9.84 ft/s)

Volume flow (optional calibration):

- $\pm 0.5\%$ o.r. for 3 to 40 m/s (9.84 to 131.23 ft/s)
- $\pm 1.0\%$ o.r. for 0.3 to 3 m/s (0.98 to 9.84 ft/s)

Corrected volume flow (standard):

- $\pm 1.5\%$ o.r. for 3 to 40 m/s (9.84 to 131.23 ft/s)
- $\pm 2.5\%$ o.r. for 0.3 to 3 m/s (0.98 to 9.84 ft/s)

Corrected volume flow (optional calibration):

- $\pm 1.0\%$ o.r. for 3 to 40 m/s (9.84 to 131.23 ft/s)
- $\pm 1.5\%$ o.r. for 0.3 to 3 m/s (0.98 to 9.84 ft/s)

Sound Velocity: $\pm 0.2\%$ o.r.

Measuring range

Gas: 0.3 m/s to 40 m/s

Gas

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

Sensor remote version: IP66/67, type 4X enclosure

Transmitter remote version: IP66/67, Type 4X enclosure

Display/Operation

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

Configuration via local display and operating tools possible

Outputs

4 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

Gas

Digital communication

HART, Modbus RS485

Power supply

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

Hazardous area approvals

ATEX, IECEx, cCSAus, JPN, EAC, UK Ex

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 measurement traceability according to ISO 9001:2015 – Section 7.1.5.2 a

Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

NACE MR0175/MR0103

추가 정보 www.kr.endress.com/9G5B