

# Proline Prosonic Flow P 500 ultrasonic flowmeter

Clamp-on flowmeter for limited spaces in process industries with up to 3 I/Os



## Benefits:

- Constant accuracy even when mounted with short inlet run thanks to FlowDC
- High safety standards – SIL by design, international hazardous area approvals
- Long-term stable signal – maintenance-free permanent mounting from outside with coupling pads
- Reliable measurement on various pipe materials – sensor for GRP and plastic pipes available
- 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

More information and current pricing:

[www.casc.endress.com/9P5B](http://www.casc.endress.com/9P5B)

## Specs at a glance

- **Max. measurement error** Volume flow:  $\pm 3\%$  o.r. for DN 15  $\pm 2\%$  o.r. for DN 25 to DN 200  $\pm 2\%$  o.r. above DN 200
- **Measuring range** 0 to 15 m/s (0 to 50 ft/s)
- **Medium temperature range** DN 15 to 65 ( $\frac{1}{2}$  to  $2\frac{1}{2}$ " ):  $-40$  to  $+150^{\circ}\text{C}$  ( $-40$  to  $+302^{\circ}\text{F}$ ) DN 50 to 4000 (2 to 160" ):  $-40$  to  $+170^{\circ}\text{C}$  ( $-40$  to  $+338^{\circ}\text{F}$ )
- **Max. process pressure** N/A

**Field of application:** The proven sensor Prosonic Flow P can be installed close to elbows, expansions or constrictions in the pipe and still maintain the same measurement accuracy. Even measurement of abrasive, corrosive or toxic fluids is no problem for the non-invasive clamp-on device. Prosonic Flow P 500 is mounted without process interruption or opening the pipe. Heartbeat Technology not only ensures measurement

reliability and compliant verification but also helps to find the optimal mounting position.

## Features and specifications

### Liquids

#### Measuring principle

Ultrasonic flow

#### Product headline

Flowmeter for hazardous area installations with a wide range of analog and digital outputs.

Automatic frequency scan for maximum measuring performance.

Ideal clamp-on device for applications with chemicals, solvents, liquid hydrocarbons, acids, alkalis.

#### Sensor features

Increased safety for chemical and petrochemical industry – international hazardous area approvals. Long-term stable signal – maintenance-free permanent mounting from outside with coupling pads. Process transparency – diagnostic capability.

Medium temperature:  $-40$  to  $170$  °C ( $-40$  to  $338$  °F). Wide nominal diameter range: DN 15 to 4000 ( $\frac{1}{2}$  to 160"). Process piping unaffected by meter installation.

#### Transmitter features

Highest performance – extended functionality and diagnostics. Flexible data transfer options – numerous communication types. Automatic recovery of data for servicing.

Aluminium transmitter housing. 4 - line backlit display with touch control. HART, PROFIBUS PA/DP, FOUNDATION Fieldbus.

#### Nominal diameter range

Dual channel, 1 or 2 paths : DN 15 to 4000 ( $\frac{1}{2}$  to 160")

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## Liquids

### Sensor materials

Clamp on system:

Sensor holder 1.4301/304, 1.4404/316L

Sensor housing 1.4301/304, 1.4404/316L

Strapping bands 1.4301/304, 1.4404/316L

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### Measured variables

Volume flow, sound velocity, flow velocity, totalizer

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### Max. measurement error

Volume flow:

±3% o.r. for DN 15

±2% o.r. for DN 25 to DN 200

±2% o.r. above DN 200

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### Measuring range

0 to 15 m/s (0 to 50 ft/s)

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### Max. process pressure

N/A

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### Medium temperature range

DN 15 to 65 (½ to 2½"): -40 to +150°C (-40 to +302 °F)

DN 50 to 4000 (2 to 160"): -40 to +170°C (-40 to +338 °F)

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### Ambient temperature range

-40 to +60 °C (-40 to +140 °F)

-50 to +60 °C (-58 to +140 °F) optional

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### Sensor housing material

N/A

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### Transmitter housing material

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

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### Degree of protection

Sensor remote version: IP68 type 6P

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

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## Liquids

### **Display/Operation**

4-line backlit display with touch control(operation from outside)

Optional: WLAN

Configuration via local display and operating tools possible

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### **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

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### **Inputs**

Status input

4-20 mA input

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### **Digital communication**

HART, Modbus RS485

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### **Power supply**

DC 24 V

AC 100 to 230 V

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

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### **Hazardous area approvals**

ATEX, FM/CSA, UK Ex

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### **Other approvals and certificates**

Other approvals and certificates

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### **Product safety**

CE, C-tick

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### **Functional safety**

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

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## Liquids

### **Metrological approvals and certificates**

Flowmeter verification for DN 15, 25, 40, 50 & 100

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

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### **Marine approvals and certificates**

Marine certificate

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