

Proline Promass U 500 Coriolis flowmeter

First single-use flowmeter for biotech applications with premium performance, cGMP compliance, and up to 4 I/Os



Benefits:

- **Best-in-class measuring accuracy** – Coriolis technology with multivariable measurement
- **Highest turndown ratio** – one sensor fits all line sizes of disposable
- **cGMP compliance** – designed according to the latest standards and guidelines, equipped with required attributes and documentation
- **Simple, fast commissioning** – one-hand mounting and automated calibration data transfer
- **Self drainability or air bubble escape** – thanks to different mounting angles
- **No field calibration needed** – automated verification with integrated Heartbeat Technology
- **Digital integration** – modern single pair Ethernet based communication protocols

Specs at a glance

- **Max. measurement error** Mass flow (liquid): $\pm 0.5\%$
- **Measuring range** 0 to 75 kg/h (0 to 165,3 lb/min)
- **Medium temperature range** 3 to 60°C (37.4 to 140°F)
- **Max. process pressure** 6 bar (87 psi)
- **Wetted materials** Measuring tubes: Stainless steel 1.4435, 316L
Hose connection nipple: Makrolon Rx 1805 polycarbonate

Field of application: Promass U 500 is the ideal single-use flowmeter for biopharmaceutical applications in the life sciences industry. It represents the response to the shift from multi-use to single-use devices and from batch to continuous manufacturing. Offering multivariable measurement, Promass U 500 provides enhanced reliability, high accuracy, and industry

compliance according to cGMP. The flowmeter is especially suited for up- and downstream applications in the monoclonal antibodies (mAb) process.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

Single-use specialist for Biotech applications, with a remote version with up to 4 I/Os.

Modern fieldbus communication protocols (2-wire).

Highest measurement performance for liquids in single-use processes for the Life Sciences Industry.

Sensor features

One sensor fits all DN – single variant with 4 disposable line sizes provides highest turndown ratio . One-hand mounting of disposable – easy

commissioning due to intuitive clamping mechanism. Mounting angle - self drainability or air bubble escape.

Disposable made of 1.4435 (316L) and polycarbonate. Fully traceable cGMP compliance. One sensor fits four line sizes: $\frac{1}{8}$ to 1".

Transmitter features

Full access to process and diagnostic information – numerous, freely combinable I/Os and Ethernet. 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

$\frac{1}{8}$ " to 1"

Liquids

Wetted materials

Measuring tubes: Stainless steel 1.4435, 316L

Hose connection nipple: Makrolon Rx 1805 polycarbonate

Measured variables

Mass, density, temperature

Max. measurement error

Mass flow (liquid): $\pm 0.5\%$

Measuring range

0 to 75 kg/h (0 to 165,3 lb/min)

Max. process pressure

6 bar (87 psi)

Medium temperature range

3 to 60°C (37.4 to 140°F)

Ambient temperature range

5 to 40°C (41 to 104°F)

Transmitter housing material

Aluminum, AlSi10Mg, coated

Degree of protection

Transmitter: IP66/67, Type 4X enclosure

Sensor: IP54

Display/Operation

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

Configuration via local display and operating tools possible

Liquids

Outputs

"4 outputs:

4-20 mA HART (active/passive)

4-20 mA WirelessHART

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

Modbus RS485, PROFINET over Ethernet-APL

Power supply

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

Product safety

CE, C-tick, EAC marking

Functional safety

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

Hygienic approvals and certificates

cGMP compliance, ASME BPE, BPOG, FDA



info@lenntech.com Tel. +31-152-610-900

www.lenntech.com Fax. +31-152-616-289