

# Proline Promass X 500

## 科里奥利质量流量计

最大流通能力的四根测量管流量计，搭配最多带4路输入/输出的分体式变送器



### 优势:

- 更换简便：单一安装点即可进行premium测量精度的大流量测量
- 较少过程测量点：多参数测量(流量、密度、温度)
- 节省安装空间：无前/后直管段长度要求
- 完整查看过程信息和诊断信息：提供多种用户自定义输入/输出组合方式和现场总线
- 降低复杂性和多样性：用户自定义输入/输出功能
- 自带验证功能：内置Heartbeat Technology (心跳技术)

### 产品规格参数

- **最大测量误差** 质量流量（液体）：±0.10 %（标准）、0.05 %（可选） 体积流量（液体）：±0.10 % 质量流量（气体）：±0.35 % 密度（液体）：±0.0005 g/cm<sup>3</sup>
- **测量范围** 0...4100 t/h (0...4520 tn. sh./h)
- **介质温度范围** -50...+180 °C (-58...+356 °F)
- **最大过程压力** PN 100, Cl. 600
- **接液部件材质** 测量管：1.4404 (316/316L) 连接部件：1.4404 (316/316L)

详细信息和最新价格参见:

[www.endress.com.cn/8X5B](http://www.endress.com.cn/8X5B)

**应用领域:** Promass X采用专利的四根测量管，具有Premium测量精度(0.05%)和最大流通能力，在油气行业中的沿海/海上平台应用中性能优越。与创新的分体式变送器配套使用，在苛刻工况条件下Promass X 500仍具有最大安装灵活性和最高操作安全性。内置Heartbeat Technology (心跳技术)，确保过程始终安全。

### 特征和规格

## 气体

**测量原理**

科里奥利质量流量

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**产品标题**

Highest capacity four-tube flowmeter, as remote version with up to 4 I/Os.

For highest flow rates and outstanding performance in on/offshore oil and gas applications.

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**传感器特点**

Increased profit – single installation point providing premium accuracy for large quantities. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Nominal diameter: DN 300 to 400 (12 to 16"). Four-tube system with low pressure drop. Complete exterior design made of 1.4435 (316L).

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**变送器特点**

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

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**公称口径范围**

DN 300...400 (12...16")

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**接液部件材质**

测量管：1.4404 (316/316L)

连接部件：1.4404 (316/316L)

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**测量变量**

质量流量、密度、温度、体积流量、校正体积流量 (API表)、参考密度、浓度

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## 气体

**最大测量误差**

质量流量（液体）：±0.10 %（标准）、0.05 %（可选）

体积流量（液体）：±0.10 %

质量流量（气体）：±0.35 %

密度（液体）：±0.0005 g/cm<sup>3</sup>

**测量范围**

0...4100 t/h (0...4520 tn. sh./h)

**最大过程压力**

PN 100, Cl. 600

**介质温度范围**

-50...+180 °C (-58...+356 °F)

**环境温度范围**

标准：-40...+60 °C (-40...+140 °F)

可选：-60...+60 °C (-76...+140 °F)

**传感器外壳材质**

1.4404 (316L), 强耐腐蚀

传感器接线盒（标准）：1.4409 (CF3M), 类似316L

**变送器外壳材质**

铝合金AlSi10Mg涂层；1.4409 (CF3M), 类同于316L；聚碳酸酯

**防护等级**

分体式传感器（标准）：IP66/67, Type 4X

分体式传感器（可选）：IP69。分体式变送器：IP66/67, Type 4X

**显示/操作**

四行背光显示，触摸键操作（外部操作）

通过现场显示单元和调试软件设置

## 气体

**输出**

4路输出：

4...20 mA HART (有源/无源)

4...20 mA WirelessHART

4...20 mA (有源/无源)

脉冲/频率/开关量输出 (有源/无源)

双脉冲输出 (有源/无源)

继电器输出

**输入**

状态输入

4...20 mA输入

**数字通信**

HART、PROFIBUS PA、FOUNDATION Fieldbus、Modbus RS485、Profinet、Ethernet/IP、OPC-UA

**电源**

24 VDC

100...230 VAC

100...230 VAC / 24 VDC (非危险区)

**防爆认证**

ATEX、IECEX、cCSAus、NEPSI、INMETRO、EAC

**产品安全性**

CE认证、C-tick认证、EAC认证

**功能安全性**功能安全遵循IEC 61508标准，允许在IEC 61511标准规定的安全应用中  
中使用**计量认证和证书**

在认证标定装置上标定 (符合ISO/IEC 17025标准)

Heartbeat Technology (心跳技术) 符合溯源校验要求，符合ISO  
9001:2008标准章节7.6a (TÜV认证)

MI-005非水液体 (碳氢化合物)

气体	<p><b>船级认证和证书</b> LR approval, DNV GL approval, ABS approval, BV approval, CCS approval</p> <hr/> <p><b>压力认证和证书</b> PED、CRN</p> <hr/> <p><b>材料证书</b> 3.1材料证书 NACE MR0175/MR0103, PMI, 焊接测试遵循EN ISO、ASME、NORSOK标准</p>
Density/Concentration	<p><b>测量原理</b> 科里奥利质量流量</p> <hr/> <p><b>产品标题</b> Highest capacity four-tube flowmeter, as remote version with up to 4 I/Os. For highest flow rates and outstanding performance in on/offshore oil and gas applications.</p> <hr/> <p><b>传感器特点</b> Increased profit – single installation point providing premium accuracy for large quantities. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs. Nominal diameter: DN 300 to 400 (12 to 16"). Four-tube system with low pressure drop. Complete exterior design made of 1.4435 (316L).</p> <hr/> <p><b>变送器特点</b> Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. 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.</p>

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**Density/Concentration****公称口径范围**DN 300 to 400 (12 to 16")

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**接液部件材质**

Measuring tube: 1.4404 (316/316L)

Connection: 1.4404 (316/316L)

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**测量变量**Mass flow, density, temperature, volume flow, corrected volume flow (API tables), reference density, concentration

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**最大测量误差**Mass flow (liquid):  $\pm 0.10$  % (standard), 0.05 % (option)Volume flow (liquid):  $\pm 0.10$  %Mass flow (gas):  $\pm 0.35$  %Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

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**测量范围**0 to 4100 t/h (0 to 4520 tn. sh./h)

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**最大过程压力**PN 100, Class 600

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**介质温度范围**-50 to +180 °C (-58 to +356 °F)

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**环境温度范围**

Standard: -40 to +60 °C (-40 to +140 °F)

Option: -60 to +60 °C (-76 to +140 °F)

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**传感器外壳材质**

1.4404 (316L), highest corrosion resistance

Sensor connection housing (standard): 1.4409 (CF3M), similar to 316L

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**变送器外壳材质**AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; Polycarbonat

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**Density/Concentration****防护等级**

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

Sensor remote version (option): IP69. Transmitter remote version:  
IP66/67, Type 4X enclosure

**显示/操作**

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

Configuration via local display and operating tools possible

**输出**

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

**输入**

Status input

4-20 mA input

**数字通信**

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus  
RS485, Profinet, Ethernet/IP, OPC-UA

**电源**

DC 24 V

AC 100 to 230 V

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

**防爆认证**

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

**产品安全性**

CE, C-tick, EAC marking

**Density/Concentration****功能安全性**

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

**计量认证和证书**

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 (TÜV SÜD attestation)

MI-005 Liquids other than water (Hydrocarbons), LPG, cryogenic  
MI-002, PTB

**船级认证和证书**

LR approval, DNV GL approval, ABS approval, BV approval, CCS approval

**压力认证和证书**

PED, CRN

**材料证书**

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

**液体****测量原理**

科里奥利质量流量

**产品标题**

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## 液体

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质量流量 (液体) :  $\pm 0.10\%$  (标准)、 $0.05\%$  (可选)

体积流量 (液体) :  $\pm 0.10\%$

质量流量 (气体) :  $\pm 0.35\%$

密度 (液体) :  $\pm 0.0005 \text{ g/cm}^3$

### 测量范围

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**船级认证和证书**

LR approval, DNV GL approval, ABS approval, BV approval, CCS approval

**压力认证和证书**

PED、CRN

**材料证书**

3.1材料证书

NACE MR0175/MR0103, PMI, 焊接测试遵循EN ISO、ASME、  
NORSOK标准更多信息 [www.endress.com.cn/8X5B](http://www.endress.com.cn/8X5B)