

## Proline Prowirl D 200涡街流量计

高性价比的夹持式流量计，提供一体式或分体式仪表。



### 优势:

- 进行饱和蒸汽的质量流量/能量流测量时内置温度测量功能
- 安装简单：传感器自带对中环
- 高稳定性：实践证明仪表坚固耐用、不受振动、温度冲击和水锤的影响
- 高长期稳定性：电容式传感器无漂移，坚固耐用
- 接线方便：仪表配备独立接线腔
- 操作安全：配备带触摸键操作的背光显示屏，操作时无需打开仪表
- 带自校验功能：采用Heartbeat Technology（心跳技术）

### 产品规格参数

- **最大测量误差** Volume flow (liquid):  $\pm 0.75\%$  Volume flow (steam, gas):  $\pm 1.00\%$  Mass flow (liquid):  $\pm 0.85\%$  Mass flow (steam, gas):  $\pm 1.7\%$
- **测量范围** Liquid: 0.16 to 625 m<sup>3</sup>/h (0.09 to 368 ft<sup>3</sup>/min) depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68° F) Steam, gas: 2 to 8342 m<sup>3</sup>/h (1.18 to 4910 ft<sup>3</sup>/min) depending on medium: steam with 180 °C, 10 bar a (356 °F, 145 psi a); air with 25 °C, 4.4 bar a (77 °F, 63.8 psi a)
- **介质温度范围** Standard: -40 to +260 °C (-40 to +500 °F) High/low temperature (option): -200 to +400 °C (-328 to +752 °F) High/low temperature (on request): -200 to +450 °C (-328 to +842 °F)
- **最大过程压力** PN 40, Class 300, 20K
- **接液部件材质** Measuring tube: 1.4408 (C3FM) DSC sensor: 1.4435 (316/316L)

详细信息和最新价格参见:

[www.endress.com.cn/7D2C](http://www.endress.com.cn/7D2C)

**应用领域:** Prowirl D传感器直接安装在两个法兰之间；因此，在辅助工艺段中传感器被用作附属功能设备，使用成本十分低廉。Prowirl D 200是真正的两线制回路供电流量计，使用经济，且能够无缝集成至

现有系统中。在危险区中具有最高操作安全性。Heartbeat Technology（心跳技术）始终确保过程安全。

## 特征和规格

### 蒸汽

#### 测量原理

涡街

#### 产品标题

Cost-effective wafer flowmeter, available as compact or remote version. Integrated temperature measurement for mass/energy flow of saturated steam.

For all basic applications and for 1-to-1 replacement of orifice plates.

#### 传感器特点

Easy alignment of the sensor – included centering rings. High availability – proven robustness, resistance to vibrations, temperature shocks & water hammer. Long-term stability – robust drift-free capacitive sensor. Face-to-face length of 65 mm (2.56 in). No flanges. Low weight.

#### 变送器特点

Convenient device wiring – separate connection compartment. Safe operation – no need to open the device due to display with touch control, background lighting. Integrated verification – Heartbeat Technology. Display module with data transfer function. Robust dual-compartment housing. Plant safety: worldwide approvals (SIL, Haz. area).

#### 公称口径范围

DN 15 to 150 (½ to 6")

#### 接液部件材质

Measuring tube: 1.4408 (C3FM)

DSC sensor: 1.4435 (316/316L)

#### 测量变量

Volume flow, mass flow, corrected volume flow, energy flow, heat flow difference, temperature

## 蒸汽

**最大测量误差**Volume flow (liquid):  $\pm 0.75\%$ Volume flow (steam, gas):  $\pm 1.00\%$ Mass flow (liquid):  $\pm 0.85\%$ Mass flow (steam, gas):  $\pm 1.7\%$ **测量范围**Liquid: 0.16 to 625 m<sup>3</sup>/h (0.09 to 368 ft<sup>3</sup>/min)

depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68 °F)

Steam, gas: 2 to 8342 m<sup>3</sup>/h (1.18 to 4910 ft<sup>3</sup>/min)

depending on medium: steam with 180 °C, 10 bar a (356 °F, 145 psi a);

air with 25 °C, 4.4 bar a (77 °F, 63.8 psi a)

**最大过程压力**

PN 40, Class 300, 20K

**介质温度范围**

Standard: -40 to +260 °C (-40 to +500 °F)

High/low temperature (option): -200 to +400 °C (-328 to +752 °F)

High/low temperature (on request): -200 to +450 °C (-328 to +842 °F)

**环境温度范围**

Compact version (standard): -40 to +80 °C (-40 to +176 °F)

Compact version (option): -50 to +80 °C (-58 to +176 °F)

Remote version (standard): -40 to +85 °C (-40 to +185 °F)

Remote version (option): -50 to +85 °C (-58 to +185 °F)

**传感器外壳材质**

Sensor connection housing: AlSi10Mg, coated; 1.4408 (CF3M)

**变送器外壳材质**

AlSi10Mg, coated; 1.4404 (316L)

**防护等级**

Compact version: IP66/67, type 4X enclosure

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

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

**蒸汽****显示/操作**

4 - line backlit display with touch control (operation from outside)  
Configuration via local display and operating tools possible  
Remote display available

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**输出**

4 - 20 mA HART (passive)  
4 - 20 mA (passive)  
Pulse/frequency/switch output (passive)

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**输入**

Current input 4 - 20 mA (passive)

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**数字通信**

HART, PROFIBUS PA, FOUNDATION Fieldbus

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**电源**

DC 12 to 35 V (4 - 20 mA HART with/without pulse/frequency/switch output)  
DC 12 to 30 V (4 - 20 mA HART, 4 - 20 mA)  
DC 12 to 35 V (4 - 20 mA HART, pulse/frequency/switch output, 4 - 20 mA input)  
DC 9 to 32 V (PROFIBUS PA, pulse/frequency/switch output)

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**防爆认证**

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

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**产品安全性**

CE, C-TICK, EAC

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**功能安全性**

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

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**蒸汽****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)

**船级认证和证书**

ABS, LR, BV, DNV GL

**压力认证和证书**

PED, CRN

**材料证书**

3.1 material

NACE MR0175/MR0103, PMI (on request)

**气体****测量原理**

涡街

**产品标题**

Cost-effective wafer flowmeter, available as compact or remote version. Integrated temperature measurement for mass/energy flow of saturated steam.

For all basic applications and for 1-to-1 replacement of orifice plates.

**传感器特点**

Easy alignment of the sensor – included centering rings. High availability – proven robustness, resistance to vibrations, temperature shocks & water hammer. Long-term stability – robust drift-free capacitive sensor. Face-to-face length of 65 mm (2.56 in). No flanges. Low weight.

## 气体

**变送器特点**

Convenient device wiring – separate connection compartment. Safe operation – no need to open the device due to display with touch control, background lighting. Integrated verification – Heartbeat Technology. Display module with data transfer function. Robust dual-compartment housing. Plant safety: worldwide approvals (SIL, Haz. area).

**公称口径范围**

DN 15 to 150 (½ to 6")

**接液部件材质**

Measuring tube: 1.4408 (C3FM)

DSC sensor: 1.4435 (316/316L)

**测量变量**

Volume flow, mass flow, corrected volume flow, energy flow, heat flow difference, temperature

**最大测量误差**

Volume flow (liquid):  $\pm 0.75$  %

Volume flow (steam, gas):  $\pm 1.00$  %

Mass flow (liquid):  $\pm 0.85$  %

Mass flow (steam, gas):  $\pm 1.7$  %

**测量范围**

Liquid: 0.16 to 625 m<sup>3</sup>/h (0.09 to 368 ft<sup>3</sup>/min)

depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68 °F)

Steam, gas: 2 to 8342 m<sup>3</sup>/h (1.18 to 4910 ft<sup>3</sup>/min)

depending on medium: steam with 180 °C, 10 bar a (356 °F, 145 psi a);

air with 25 °C, 4.4 bar a (77 °F, 63.8 psi a)

**最大过程压力**

PN 40, Class 300, 20K

**介质温度范围**

Standard: -40 to +260 °C (-40 to +500 °F)

High/low temperature (option): -200 to +400 °C (-328 to +752 °F)

High/low temperature (on request): -200 to +450 °C (-328 to +842 °F)

## 气体

**环境温度范围**

Compact version (standard): -40 to +80 °C (-40 to +176 °F)

Compact version (option): -50 to +80 °C (-58 to +176 °F)

Remote version (standard): -40 to +85 °C (-40 to +185 °F)

Remote version (option): -50 to +85 °C (-58 to +185 °F)

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**传感器外壳材质**

Sensor connection housing: AlSi10Mg, coated; 1.4408 (CF3M)

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**变送器外壳材质**

AlSi10Mg, coated; 1.4404 (316L)

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**防护等级**

Compact version: IP66/67, type 4X enclosure

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

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

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**显示/操作**

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

Configuration via local display and operating tools possible

Remote display available

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**输出**

4 - 20 mA HART (passive)

4 - 20 mA (passive)

Pulse/frequency/switch output (passive)

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**输入**

Current input 4 - 20 mA (passive)

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**数字通信**

HART, PROFIBUS PA, FOUNDATION Fieldbus

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气体	<b>电源</b>
	DC 12 to 35 V (4 - 20 mA HART with/without pulse/frequency/switch output)
	DC 12 to 30 V (4 - 20 mA HART, 4 - 20 mA)
	DC 12 to 35 V (4 - 20 mA HART, pulse/frequency/switch output, 4 - 20 mA input)
	DC 9 to 32 V (PROFIBUS PA, pulse/frequency/switch output)
	<b>防爆认证</b>
	ATEX, IECEx, cCSAus, JPN, EAC, UK Ex
	<b>产品安全性</b>
	CE, C-TICK, EAC
	<b>功能安全性</b>
Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511	
<b>计量认证和证书</b>	
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)	
<b>船级认证和证书</b>	
ABS, LR, BV, DNV GL	
<b>压力认证和证书</b>	
PED, CRN	
<b>材料证书</b>	
3.1 material	
NACE MR0175/MR0103, PMI (on request)	
液体	<b>测量原理</b>
	涡街



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## 液体

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### 产品标题

Cost-effective wafer flowmeter, available as compact or remote version. Integrated temperature measurement for mass/energy flow of saturated steam.

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### 传感器特点

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### 变送器特点

Convenient device wiring – separate connection compartment. Safe operation – no need to open the device due to display with touch control, background lighting. Integrated verification – Heartbeat Technology. Display module with data transfer function. Robust dual-compartment housing. Plant safety: worldwide approvals (SIL, Haz. area).

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### 公称口径范围

DN 15...150 (½...6")

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### 接液部件材质

测量管：1.4408 (C3FM)

DSC传感器：1.4435 (316/316L)

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### 测量变量

体积流量、质量流量、校正体积流量、能量流、热流量差值、温度

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### 最大测量误差

体积流量（液体）：±0.75 %

体积流量（蒸汽、气体）：±1.00 %

质量流量（液体）：±0.85%

质量流量（蒸汽、气体）：±1.7 %

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## 液体

**测量范围**

液体：0.16...625 m<sup>3</sup>/h (0.09...368 ft<sup>3</sup>/min)

取决于介质：水，1 bar (14.5 psi)绝压，20 °C (68 °F)

蒸汽、气体：2...8342 m<sup>3</sup>/h (1.18...4910 ft<sup>3</sup>/min)

取决于介质：蒸汽，180 °C (356 °F)，10 bar (145 psi)绝压；空气，25 °C (77 °F)，4.4 bar (63.8 psi)绝压

**最大过程压力**

PN 40、Cl. 300、20K

**介质温度范围**

标准型：-40...+260 °C (-40...+500 °F)

高温/低温型（可选）：-200...+400 °C (-328...+752 °F)

高温/低温型（特殊选型）：-200...+450 °C (-328...+842 °F)

**环境温度范围**

一体式（标准）：-40...+80 °C (-40...+176 °F)

一体式（可选）：-50...+80 °C (-58...+176 °F)

分体式（标准）：-40...+85 °C (-40...+185 °F)

分体式（可选）：-50...+85 °C (-58...+185 °F)

**传感器外壳材质**

传感器接线盒：铝合金AlSi10Mg涂层；1.4408 (CF3M)

**变送器外壳材质**

铝合金AlSi10Mg涂层：1.4404 (316L)

**防护等级**

一体式仪表：IP66/67, type 4X

分体式传感器：IP66/67, type 4X

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）

通过现场显示屏和调试软件设置

提供分离型显示单元

液体	<b>输出</b> 4...20 mA HART (无源) 4...20 mA (无源) 脉冲/频率/开关量输出 (无源)
	<b>输入</b> 4...20 mA 电流输入 (无源)
	<b>数字通信</b> HART、PROFIBUS PA、FOUNDATION Fieldbus
	<b>电源</b> 12...35 VDC (4...20 mA HART, 带/不带脉冲/频率/开关量输出) 12...30 VDC (4...20 mA HART, 4...20 mA) 12...35 VDC (4...20 mA HART, 脉冲/频率/开关量输出, 4...20 mA 输入) 9...32 VDC (PROFIBUS PA, 脉冲/频率/开关量输出)
	<b>防爆认证</b> ATEX、IECEX、cCSAus、TIIS
	<b>产品安全性</b> CE认证、C-Tick认证
	<b>功能安全性</b> 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 使用
	<b>计量认证和证书</b> 在认证标定装置上执行标定 (符合ISO/IEC 17025标准) Heartbeat Technology (心跳技术) 符合ISO 9001:2008标准章节7.6 a 的溯源校验要求 (TÜV认证)
	<b>船级认证和证书</b> ABS、LR、BV
	<b>压力认证和证书</b> PED、CRN

液体

材料证书

3.1材质

NACE MR0175/MR0103、PMI (特殊选型)

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更多信息 [www.endress.com.cn/7D2C](http://www.endress.com.cn/7D2C)