

# Proline Prowirl D 200

## Vortex flowmeter

Cost-effective wafer flowmeter, available as compact or remote version



### 优势:

- Integrated temperature measurement for mass/energy flow of saturated steam
- 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
- 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

### 产品规格参数

- **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 %
- **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
- **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)
- **最大过程压力** PN 40、Cl. 300、20K
- **接液部件材质** 测量管：1.4408 (C3FM) DSC传感器：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:** The Prowirl D sensor can be installed directly between flanges and thus serves as the functional device for applications in ancillary processes at little installation cost. With genuine loop-powered technology, Prowirl D 200 enables cost-effective and seamless integration into existing infrastructures. It offers highest operational safety in hazardous areas. Heartbeat Technology ensures process safety at all times.

## 特征和规格

### 液体

#### 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.

#### 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...150 (½...6")

## 液体

**接液部件材质**

测量管：1.4408 (C3FM)

DSC传感器：1.4435 (316/316L)

**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

**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 %

**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)

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## 液体

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### 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

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### 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

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### 输出

4...20 mA HART（无源）  
4...20 mA（无源）  
脉冲/频率/开关量输出（无源）

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### 输入

4...20 mA 电流输入（无源）

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### 数字通信

HART、PROFIBUS PA、FOUNDATION Fieldbus

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### 电源

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）

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### 防爆认证

ATEX、IECEX、cCSAus、TIIS

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### 产品安全性

CE认证、C-Tick认证

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### 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使用

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**液体****计量认证和证书**

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）

**船级认证和证书**

ABS、LR、BV

**压力认证和证书**

PED、CRN

**材料证书**

3.1材质

NACE MR0175/MR0103、PMI（特殊选型）

**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).

## 蒸汽

**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): ±0.75 %

Volume flow (steam, gas): ±1.00 %

Mass flow (liquid): ±0.85%

Mass flow (steam, gas): ±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)

## 蒸汽

**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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**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

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蒸汽	<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)	
气体	<b>测量原理</b>
	涡街
<b>产品标题</b>	
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.	



## 气体

**传感器特点**

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**最大测量误差**

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**测量范围**

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## 气体

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**传感器外壳材质**

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**变送器外壳材质**

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**防护等级**

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**显示/操作**

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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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## 气体

**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

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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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**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)

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**船级认证和证书**

ABS, LR, BV, DNV GL

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**压力认证和证书**

PED, CRN

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**材料证书**

3.1 material

NACE MR0175/MR0103, PMI (on request)

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