Вихревые расходомеры Prowirl O 200 / 7O2B

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Россия +7(495)268-04-70 Казахстан +7(7172)727-132 Киргизия +996(312)96-26-47

эл.почта: ehr@nt-rt.ru || сайт: https://endcounters.nt-rt.ru/

Proline Prowirl O 200 / 7O2B

Benefits:

- Integrated temperature measurement up to PN 160 (Class 600)
- Highest mechanical integrity for flow measurement – special measuring tube material
- High availability – proven robustness, resistance to vibrations, temperature shocks & water hammer
- No maintenance – lifetime calibration
- 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™

Specs at a glance

- **Max. measurement error** Volume flow (liquid): ±0.75 % Volume flow (steam, gas): ±1.00 % Mass flow (liquid): ±0.85% Mass flow (steam, gas): ±1.7 %
- **Measuring range** Liquid: 0.16 to 545 m³/h (0.09 to 321 ft³/min) depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68° F) Steam, gas: 2 to 7262 m³/h (1.18 to 4274 ft³/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)
- **Medium temperature range** PN 63 to 160, Class 600: −200 to +400 °C (−328 to +752 °F) PN 250, Class 900 to 1 500: −50 to +400 °C (−58 to +752 °F)
- **Max. process pressure** PN 250, Class 1500, 40K
- **Wetted materials** Measuring tube: 1.4408 (CF3M); 1.4571 similar to 316Ti DSC sensor: UNS N07718 similar to Alloy 718, 2.4668; Titanium grade 5 similar to 3.7165 Connection: 1.4408 (CF3M); 1.4571 similar to F316 Ti; F316/F316L similar to 1.4404

Field of application: The Prowirl O measuring tube is an all-cast design. It is especially designed for pressure ranges >40 bar and up to 250 bar. The proven and patented capacitive DSC sensor ensures high precision

measured values even under the toughest process conditions. Prowirl O 200 offers industry-compliant two-wire technology for seamless integration into existing infrastructures and control systems.

Features and specifications

Liquids

Measuring principle

Product headline

std_productprofile_product_usp_8134.
std_productprofile_product_usp2_8137_1504606316.
std_productprofile_product_field_of_application_8135.

Sensor features

std_productprofile_product_benefits_8136. High availability – proven ro
resistance to vibrations, temperature shocks & water hammer.
std_productprofile_product_benefits_8115.
std_successorproducts_product_differentiating_tech_features_6586_15
std_successorproducts_product_differentiating_tech_features_6587_15
std_successorproducts_product_differentiating_tech_features_6588_15

Transmitter features

Convenient device wiring – separate connection compartment. Safe opera
need to open the device due to display with touch control, background ligl
Integrated verification – Heartbeat Technology.
Display module with data transfer function. Robust dual-compartment ho
safety: worldwide approvals (SIL, Haz. area).

Nominal diameter range

DN 15 to 150 (½ to 6")

Wetted materials

Measuring tube: 1.4408 (CF3M); 1.4571 similar to 316Ti DSC sensor: UN
similar to Alloy 718, 2.4668; Titanium grade 5 similar to 3.7165
Connection: 1.4408 (CF3M); 1.4571 similar to F316 Ti; F316/F316L sim
1.4404

Liquids

Measured variables

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

Max. measurement error

Volume flow (liquid): ±0.75 %
Volume flow (steam, gas): ±1.00 %
Mass flow (liquid): ±0.85%
Mass flow (steam, gas): ±1.7 %

Measuring range

Liquid: 0.16 to 545 m^3/h (0.09 to 321 ft^3/min)
depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68° F)
Steam, gas: 2 to 7262 m^3/h (1.18 to 4274 ft^3/min)
depending on medium: steam with 180 °C, 10 bar a (356 °F, 145 psi a); a with 25 °C, 4.4 bar a (77 °F, 63.8 psi a)

Max. process pressure

PN 250, Class 1500, 40K

Medium temperature range

PN 63 to 160, Class 600: −200 to +400 °C (−328 to +752 °F)
PN 250, Class 900 to 1 500: −50 to +400 °C (−58 to +752 °F)

Ambient temperature range

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)

Sensor housing material

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

Transmitter housing material

AlSi10Mg, coated; 1.4404 (316L)

Liquids

Degree of protection

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

Display/Operation

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

Outputs

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

Inputs

4-20 mA (passive)

Digital communication

HART, PROFIBUS PA, FOUNDATION Fieldbus

Power supply

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

Hazardous area approvals

ATEX, IECEx, cCSAus, EAC

Other approvals and certificates

Functional safety

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

Liquids

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 1
Heartbeat Technology complies with the requirements for measurement t
according to ISO 9001:2015 – Section 7.1.5.2 a (TÜV SÜD attestation)

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material
NACE MR0175/MR0103, PMI (on request); only Class 900/1500: weldir
to ISO 15614-1, similar to ASME IX (on request)

Gas

Measuring principle

Product headline

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std_productprofile_product_usp2_8137_1504606316.
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Sensor features

std_productprofile_product_benefits_8136. High availability – proven ro
resistance to vibrations, temperature shocks & water hammer.
std_productprofile_product_benefits_8115.
std_successorproducts_product_differentiating_tech_features_6586_15
std_successorproducts_product_differentiating_tech_features_6587_15
std_successorproducts_product_differentiating_tech_features_6588_15

Transmitter features

Convenient device wiring – separate connection compartment. Safe opera
need to open the device due to display with touch control, background ligl
Integrated verification – Heartbeat Technology.
Display module with data transfer function. Robust dual-compartment ho
safety: worldwide approvals (SIL, Haz. area).

Nominal diameter range

DN 15 to 150 (½ to 6")

Gas

Wetted materials

Measuring tube: 1.4408 (CF3M); 1.4571 similar to 316Ti DSC sensor: UN similar to Alloy 718, 2.4668; Titanium grade 5 similar to 3.7165
Connection: 1.4408 (CF3M); 1.4571 similar to F316 Ti; F316/F316L sim 1.4404

Measured variables

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

Max. measurement error

Volume flow (liquid): ±0.75 %
Volume flow (steam, gas): ±1.00 %
Mass flow (liquid): ±0.85%
Mass flow (steam, gas): ±1.7 %

Measuring range

Liquid: 0.16 to 545 m^3/h (0.09 to 321 ft^3/min)
depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68° F)
Steam, gas: 2 to 7262 m^3/h (1.18 to 4274 ft^3/min)
depending on medium: steam with 180 °C, 10 bar a (356 °F, 145 psi a); a with 25 °C, 4.4 bar a (77 °F, 63.8 psi a)

Max. process pressure

PN 250, Class 1500, 40K

Medium temperature range

PN 63 to 160, Class 600: −200 to +400 °C (−328 to +752 °F)
PN 250, Class 900 to 1 500: −50 to +400 °C (−58 to +752 °F)

Ambient temperature range

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)

Sensor housing material

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

Gas

Transmitter housing material
AlSi10Mg, coated; 1.4404 (316L)

Degree of protection
Compact version: IP66/67, type 4X enclosure
Sensor remote version: IP66/67, type 4X enclosure
Transmitter remote version: IP66/67, type 4X enclosure

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

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

Inputs
4-20 mA (passive)

Digital communication
HART, PROFIBUS PA, FOUNDATION Fieldbus

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

Hazardous area approvals
ATEX, IECEx, cCSAus, EAC

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

Gas

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 1
NAMUR,
Heartbeat Technology complies with the requirements for measurement t
according to ISO 9001:2015 – Section 7.1.5.2 a (TÜV SÜD attestation)

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material
NACE MR0175/MR0103, PMI (on request); only Class 900/1500: weldir
to ISO 15614-1, similar to ASME IX (on request)

Steam

Measuring principle

Product headline

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Integrated verification – Heartbeat Technology.
Display module with data transfer function. Robust dual-compartment ho
safety: worldwide approvals (SIL, Haz. area).

Steam

Nominal diameter range
DN 15 to 150 (½ to 6")

Wetted materials
Measuring tube: 1.4408 (CF3M); 1.4571 similar to 316Ti DSC sensor: UN
similar to Alloy 718, 2.4668; Titanium grade 5 similar to 3.7165
Connection: 1.4408 (CF3M); 1.4571 similar to F316 Ti; F316/F316L sim
1.4404

Measured variables
Volume flow, mass flow, corrected volume flow, energy flow, heat flow dif
temperature

Max. measurement error
Volume flow (liquid): ±0.75 %
Volume flow (steam, gas): ±1.00 %
Mass flow (liquid): ±0.85%
Mass flow (steam, gas): ±1.7 %

Measuring range
Liquid: 0.16 to 545 m^3/h (0.09 to 321 ft^3/min)
depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68° F)
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depending on medium: steam with 180 °C, 10 bar a (356 °F, 145 psi a); a
with 25 °C, 4.4 bar a (77 °F, 63.8 psi a)

Max. process pressure
PN 250, Class 1500, 40K

Medium temperature range
PN 63 to 160, Class 600: −200 to +400 °C (−328 to +752 °F)
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Ambient temperature range
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)

Steam

Sensor housing material

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

Transmitter housing material

AlSi10Mg, coated; 1.4404 (316L)

Degree of protection

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

Display/Operation

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

Outputs

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

Inputs

4-20 mA (passive)

Digital communication

HART, PROFIBUS PA, FOUNDATION Fieldbus

Power supply

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

Hazardous area approvals

ATEX, IECEx, cCSAus, EAC

Other approvals and certificates

Steam

Functional safety

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

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 1
Heartbeat Technology complies with the requirements for measurement t
according to ISO 9001:2015 – Section 7.1.5.2 a (TÜV SÜD attestation)

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material
NACE MR0175/MR0103, PMI (on request); only Class 900/1500: weldir
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