

Promass 83F



Meer informatie en actuele prijzen:

www.be.endress.com/83F

Voordelen:

- Highest process safety – immune to fluctuating and harsh environments
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- Quality – software for filling & dosing, density & concentration, advanced diagnostics
- Flexible data transfer options – numerous communication types
- Automatic recovery of data for servicing

Overzicht specificaties

- **Max. meetfout** Mass flow (liquid): $\pm 0.1\%$ (standard), 0.05% (option) Volume flow (liquid): $\pm 0.1\%$ Mass flow (gas): $\pm 0.35\%$ Density (liquid): $\pm 0.0005\text{ g/cm}^3$
- **Measuring range** 0 to 2 200 000 kg/h (0 to 80 840 lb/min)
- **Medium temperature range** Standard: -50 to $+200\text{ }^\circ\text{C}$ (-58 to $+392\text{ }^\circ\text{F}$) High temperature: -50 to $+350\text{ }^\circ\text{C}$ (-58 to $+662\text{ }^\circ\text{F}$)
- **Max. process pressure** PN 100, Class 600, 63K
- **Wetted materials** Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022) Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Toepassingsgebied: Promass F has a long standing reputation as a highly accurate device under varying process conditions. It is suited for a broadest range of applications. Combined with the Promass 83 transmitter with touch control, four line display and extended functionality like software options for filling and dosing, concentration measurement or advanced diagnostics, Promass 83F offers premium accuracy in measurement of liquids and gases.

Kenmerken en specificaties

Density**Meetprincipe**Coriolis

Characteristic / Application

The universal and multivariable flowmeter for liquids and gases

Ambient temperature

-20...65°C
(-4...+140°F)

Process temperature

-50...+350°C
(-58...+662°F)

Process pressure absolute

PN 16...100
CI 150...600
JIS 10...63K

Wetted parts

904L/1.4539
Alloy C-22/2.4602

Output

4...20mA
Pulse/Frequency (10KHz, active/passive)
Relays/Status

Certificates / Approvals

ATEX
FM
CSA
TIIS

Liquids**Meetprincipe**

Coriolis

Liquids

Product headline

The flowmeter with premium accuracy, robustness and extended transmitter functionality. Highest measurement performance for liquids and gases under varying, demanding process conditions.

Sensor features

Highest process safety – immune to fluctuating and harsh environments. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in/outlet run needs. Mass flow: measurement error $\pm 0,05$ % (PremiumCal). pressure-rated sensor housing up to 40 bar (580 psi).

Transmitter features

Quality – software for filling & dosing, density & concentration, advanced diagnostics. Flexible data transfer options – numerous communication types. Automatic recovery of data for servicing. 4 - line backlit display with touch control. Device in compact or remote version.

Nominal diameter range

DN 8 to 250 ($\frac{3}{8}$ to 10")

High temperature: DN 25 (1"), DN 50 (2"), DN 80 (3")

Wetted materials

Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration

Max. meetfout

Mass flow (liquid): ± 0.1 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Liquids

Measuring range

0 to 2 200 000 kg/h (0 to 80 840 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

Standard: -50 to +200 °C (-58 to +392 °F)

High temperature: -50 to +350 °C (-58 to +662 °F)

Ambient temperature range

Standard: -20 to +60 °C (-4 to +140 °F)

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

Sensor housing material

1.4301/1.4307 (304L), corrosion resistant

Transmitter housing material

Powder - coated die - cast aluminium

1.4301 (304), sheet

CF3M (316L), cast

Degree of protection

IP67, type 4X enclosure. Remote transmitter: IP67, type 4X enclosure

Display/Operation

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

Configuration via local display and operating tools possible

Outputs

4 modular outputs:

0 - 20 mA (active)/4 - 20 mA (active/passive)

Pulse/frequency/switch output (passive)

Relay

Inputs

2 modular inputs:

Status

0 - 20 mA (active)/4 - 20 mA (active/passive)

Liquids

Digital communication

HART, PROFIBUS PA/DP, FOUNDATION Fieldbus, Modbus RS485, EtherNet/IP

Power supply

DC 16 to 62 V

AC 85 to 260 V (45 to 65 Hz)

AC 20 to 55 V (45 to 65 Hz)

Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI

Other approvals and certificates

3.1 material, calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR, SIL, marine

PED, CRN, AD 2000

3-A, FDA

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

Product safety

CE, C-tick, EAC marking

Functional safety

CE, C-tick

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR

Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material

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

Liquids**Hygienic approvals and certificates**3-A, FDA

Gas**Meetprincipe**Coriolis

Product headline

The flowmeter with premium accuracy, robustness and extended transmitter functionality. Highest measurement performance for liquids and gases under varying, demanding process conditions.

Sensor features

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Transmitter features

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Nominal diameter rangeDN 8 to 250 ($\frac{3}{8}$ to 10")High temperature: DN 25 (1"), DN 50 (2"), DN 80 (3")

Wetted materials

Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration

Gas

Max. meetfout

Mass flow (liquid): ± 0.1 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 2 200 000 kg/h (0 to 80 840 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

Standard: -50 to $+200$ °C (-58 to $+392$ °F)

High temperature: -50 to $+350$ °C (-58 to $+662$ °F)

Ambient temperature range

Standard: -20 to $+60$ °C (-4 to $+140$ °F)

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

Sensor housing material

1.4301/1.4307 (304L), corrosion resistant

Transmitter housing material

Powder - coated die - cast aluminium

1.4301 (304), sheet

CF3M (316L), cast

Degree of protection

IP67, type 4X enclosure. Remote transmitter: IP67, type 4X enclosure

Display/Operation

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

Configuration via local display and operating tools possible

Gas

Outputs

4 modular outputs:
0 - 20 mA (active)/4 - 20 mA (active/passive)
Pulse/frequency/switch output (passive)
Relay

Inputs

2 modular inputs:
Status
0 - 20 mA (active)/4 - 20 mA (active/passive)

Digital communication

HART, PROFIBUS PA/DP, FOUNDATION Fieldbus, Modbus RS485,
EtherNet/IP

Power supply

DC 16 to 62 V
AC 85 to 260 V (45 to 65 Hz)
AC 20 to 55 V (45 to 65 Hz)

Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI

Other approvals and certificates

3.1 material, calibration performed on accredited calibration facilities
(acc. to ISO/IEC 17025), NAMUR, SIL, marine
PED, CRN, AD 2000
3-A, FDA
NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

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

Gas

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR

Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material

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

Hygienic approvals and certificates

3-A, FDA

Steam

Meetprincipe

Coriolis

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Steam

Nominal diameter rangeDN 8 to 250 ($\frac{3}{8}$ to 10")

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Wetted materials

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Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration

Max. meetfoutMass flow (liquid): ± 0.1 % (standard), 0.05 % (option)Volume flow (liquid): ± 0.1 %Mass flow (gas): ± 0.35 %Density (liquid): ± 0.0005 g/cm³**Measuring range**

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Steam**Transmitter housing material**

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4 modular outputs:
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Power supply

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Hazardous area approvals

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Steam
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3-A, FDA
NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

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

Metrological approvals and certificates

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Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

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

Hygienic approvals and certificates

3-A, FDA

Density/Concentration**Meetprincipe**

Coriolis

Density/Concentration

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Density/Concentration

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Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI

Product safety

CE, C-tick, EAC marking

Functional safety

CE, C-tick

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR

Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

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

Hygienic approvals and certificates

3-A, FDA

Meer informatie www.be.endress.com/83F