

## Promass 84F



More information and current pricing:

[www.ie.endress.com/84F](http://www.ie.endress.com/84F)

### Benefits:

- 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 – designed for custody transfer; featuring worldwide recognized metrological approvals
- Flexible data transfer options – numerous communication types
- Automatic recovery of data for servicing

### Specs at a glance

- **Max. measurement error** 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)

**Field of application:** Promass F has a long standing reputation as a highly accurate device under varying process conditions. It is suited for broadest range of applications. Combined with the Promass 84 transmitter, Promass 84F offers premium accuracy in measurement of liquids and gases. It will be the preferred solution for customers needing custody transfer measurement.

### Features and specifications

## Liquids

### Measuring principle

Coriolis

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### Product headline

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

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### 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).

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### Transmitter features

Quality – designed for custody transfer; featuring worldwide recognized metrological approvals. 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.

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### Nominal diameter range

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

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

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### 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)

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### Measured variables

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

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## Liquids

**Max. measurement error**

Mass flow (liquid):  $\pm 0.1$  % (standard), 0.05 % (option)

Volume flow (liquid):  $\pm 0.1$  %

Mass flow (gas):  $\pm 0.35$  %

Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

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**Measuring range**

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

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**Max. process pressure**

PN 100, Class 600, 63K

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**Medium temperature range**

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

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

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**Ambient temperature range**

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

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

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**Sensor housing material**

1.4301/1.4307 (304L), corrosion resistant

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**Transmitter housing material**

Powder-coated die-cast aluminium

1.4301 (304), sheet

CF3M (316L), cast

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**Degree of protection**

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

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**Display/Operation**

4-line backlit display with touch control

(operation from outside)

Configuration via local display and operating tools possible

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## Liquids

### Outputs

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

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### Inputs

1 modular input: status

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### Digital communication

HART  
Modbus RS485

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### 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)

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### Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI, EAC

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### Other approvals and certificates

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

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### Product safety

CE, C-tick, EAC marking

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### Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR  
Custody transfer approvals: MI-005 (liquid), PTB 7.251 (gas), MC, NTEP

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### Pressure approvals and certificates

PED, CRN, AD 2000

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## Liquids

### Material certificates

3.1 material

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

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### Hygienic approvals and certificates

3-A, FDA

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## Gas

### Measuring principle

Coriolis

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### 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)

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## Gas

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HART  
Modbus RS485

**Power supply**

DC 16 to 62 V  
AC 85 to 260 V (45 to 65 Hz)  
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**Hazardous area approvals**

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**Other approvals and certificates**

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**Product safety**

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**Metrological approvals and certificates**

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Custody transfer approvals: MI-005 (liquid), PTB 7.251 (gas), MC

**Pressure approvals and certificates**

PED, CRN, AD 2000

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|---------|---|
| Gas     | <b>Material certificates</b><br>3.1 material<br>NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME,NORSOK |
|         | <b>Hygienic approvals and certificates</b><br>3-A, FDA  |
| Density | <b>Measuring principle</b><br>Coriolis  |
|         | <b>Characteristic / Application</b><br>Coriolis mass flowmeter for custody transfer application.              |
|         | <b>Ambient temperature</b><br>-20...+65°C<br>(-4...+140°F)  |
|         | <b>Process temperature</b><br>-50...+200°C<br>(-58...+392°F)  |
|         | <b>Process pressure</b><br>PN 16...100<br>CI 150...600<br>JIS 10...63K  |
|         | <b>Wetted parts</b><br>904L/1.4539<br>Alloy C-22/2.4602   |
|         | <b>Output</b><br>4...20mA<br>Pulse/Frequency (10KHz, 90° phase shifted, active/<br>passive)<br>Relays/Status  |

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## Density

**Certificates / Approvals**

ATEX  
FM  
CSA  
TIIS

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## Density/Concentration

**Measuring principle**

Coriolis

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### Pressure approvals and certificates

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### Material certificates

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Density/Concentration

Hygienic approvals and certificates

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