Promass 80F

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
- Cost-effective – dedicated design for standard applications
- Safe operation – display provides easy readable process information
- Fully industry compliant – IEC/EN/NAMUR

Specs at a glance

- **Max. measurement error** Mass flow (liquid): ±0.15 % (standard), 0.1 % (option) Volume flow (liquid): ±0.15 % 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)
- **Medium temperature range** Standard: –50 to +200 °C (–58 to +392 °F) High temperature: –50 to +350 °C (–58 to +662 °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 and robust device. It is suited for a broadest range of applications. Combined with the proven Promass 80 transmitter with push buttons, Promass 80F offers highest measurement performance for liquids and gases under varying, demanding process conditions.

Features and specifications

**Liquids**

**Measuring principle**

Coriolis
Product headline
The robust flowmeter for demanding applications with a compact or remote transmitter. 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 ±0.05 % (PremiumCal). pressure-rated sensor housing up to 40 bar (580 psi).

Transmitter features

Nominal diameter range
DN 8 to 250 (⅜ 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

Max. measurement error
Mass flow (liquid): ±0.15 % (standard), 0.1 % (option)
Volume flow (liquid): ±0.15 %
Mass flow (gas): ±0.35 %
Density (liquid): ±0.0005 g/cm³
Liquids

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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**
2-line backlit display with push buttons
Configuration via local display and operating tools possible

**Outputs**
3 outputs:
0-20 mA (active)/4-20 mA (active/passive)
Pulse/frequency/switch output (passive)

**Inputs**
Status input
## Liquids

<table>
<thead>
<tr>
<th>Digital communication</th>
<th>HART</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PROFIBUS PA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power supply</th>
</tr>
</thead>
<tbody>
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<tbody>
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Liquids

Hygienic approvals and certificates
3-A, EHEDG, FDA

Gas

Measuring principle
Coriolis

Product headline
The robust flowmeter for demanding applications with a compact or remote transmitter. 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 ±0.05 % (PremiumCal). pressure-rated sensor housing up to 40 bar (580 psi).

Transmitter features

Nominal diameter range
DN 8 to 250 (⅜ 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
Gas

**Max. measurement error**
- Mass flow (liquid): ±0.15 % (standard), 0.1 % (option)
- Volume flow (liquid): ±0.15 %
- 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)
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**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**
- 2-line backlit display with push buttons
- Configuration via local display and operating tools possible

**Outputs**
- 3 outputs:
  - 0-20 mA (active)/4-20 mA (active/passive)
  - Pulse/frequency/switch output (passive)
**Gas**

### Inputs
- Status input

### Digital communication
- HART
- PROFIBUS PA

### 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

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### 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, EHEDG, FDA

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### Gas

**Measuring principle**
Coriolis

**Product headline**
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**Sensor features**

**Transmitter features**

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

**Measured variables**
Mass flow, density, temperature, volume flow, corrected volume flow, reference density

**Max. measurement error**
Mass flow (liquid): ±0.15 % (standard), 0.1 % (option)
Volume flow (liquid): ±0.15 %
Mass flow (gas): ±0.35 %
Density (liquid): ±0.0005 g/cm³

**Measuring range**
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Steam

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HART
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Product safety
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Hygienic approvals and certificates
3-A, EHEDG, FDA

Density

Measuring principle
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
PN 16...100
Cl 150...600
JIS 10...63K

Wetted parts
904L/1.4539
Alloy C-22
Density

**Output**
4...20mA
Pulse/Frequency
Status

**Certificates / Approvals**
ATEX
FM
CSA
TIIS

Density/Concentration

**Measuring principle**
Coriolis

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### Density/Concentration

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