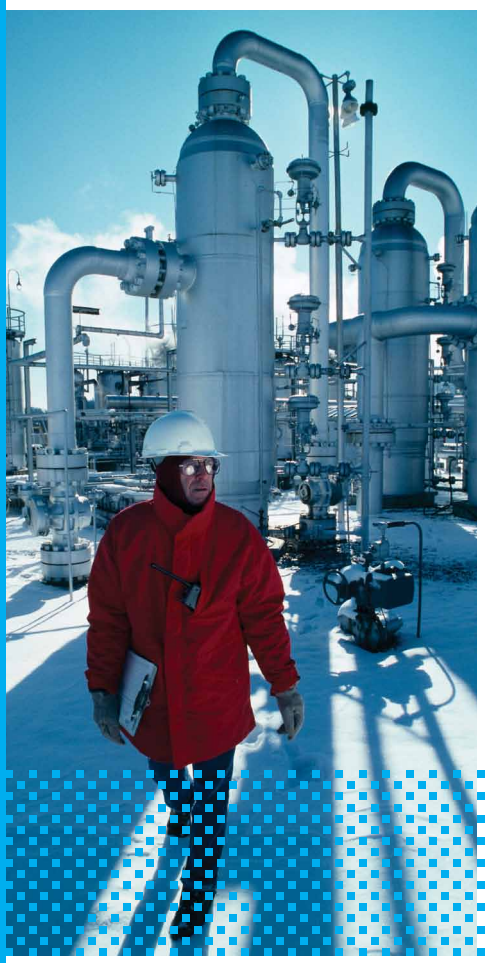
Level | Pressure | Flow | Temperature | Liquid Analysis | Registration | Systems Components | Services | Solutions

Proline Promass 83O/84O
The Coriolis flowmeter for the highest pressures in offshore applications



The market leader – corrosion-resistant, robust and precise

- Safe measurement – industry-optimized Coriolis flowmeter for high pressures up to 258 bar (3742 psi)
- Highest resistance to stress corrosion cracking – fluid-wetted parts are made from super duplex (25Cr duplex), materials in accordance with NORSOK M-630 and NACE MR175/MR103
- Ideal for demanding offshore and onshore environmental conditions – housing made entirely of stainless steel (316L/1.4404)
- Exact billing due to excellent traceable accuracy that is the highest in the world (±0.05% o.r. with PremiumCal)
- Fully balanced device – immune to pipe vibrations and external process influences
- Robust, maintenance-free device without moving parts in the measuring system
- Worldwide sales and service network (engineering, commissioning)

Endress+Hauser

People for Process Automation

Promass O for demanding measuring tasks

Whether on drilling platforms, in crude oil production systems, on FPSOs or in refineries – the prevailing process conditions put high requirements on measuring systems. Vibrations, heat and salty seawater are the norm. In addition, off and onshore exploration advances ever farther to more unfavorable and deeper environments as easily accessible oil and natural gas reserves are slowly depleted. Normally, such hydrocarbon holdings, pumped under high pressure, contain poisonous and chemically corrosive substances such as hydrogen sulfide (H_2S), carbon dioxide (CO_2) or chloride.

As a worldwide first, the Promass O Coriolis flowmeter now combines pressure and corrosion-resistance without ifs or buts. The measuring system made of super duplex steel now offers maximum protection from the dreaded stress corrosion cracking. Together with the unbeatable advantages of all Endress+Hauser's Proline flowmeters, you benefit in many respects:

- Lower downtime and therefore more plant availability thanks to maximum stress corrosion cracking resistance
- Minimal maintenance effort compared to mechanical meters:
  – No moving parts
  – No stoppage or blockage
  – No costly or maintenance-intensive filters
  – Self-draining measuring tubes
- Easy installation due to robust design:
  – No additional supports required
  – Safe dissipation of external pipeline forces
- Optimal safety during operation:
  – Diagnostic function for predictive maintenance
  – Clear and unambiguous classification of process errors that occur
  – Continuous self-monitoring
- High resistance against salty air and sea spray thanks to a stainless steel housing (316L/1.4404)

Anywhere it is installed – Promass O is your trump card for accurate and dependable flow measurement even under the most difficult environmental conditions.

Global calibration concept

For over 35 years, we have developed and built high-tech calibration rigs to document the accuracy of our flowmeters in a reliable and traceable manner. All of our calibration rigs are accredited by national authorities in accordance with ISO/IEC 17025. This is one-of-a-kind and confirms the high confidence national authorities place in Endress+Hauser's measurement technology. Our global calibration concept offers the following advantages:

- Worldwide accreditation of all flow calibration rigs
- Periodic inspection by national standard authorities
- Complete traceability back to national standards (e.g. METAS, PTB, NPL, LNE, NIST, CN), as laid down in ISO/IEC 17025
- High-tech calibration rigs based on a common design platform
- Calibration service in more than 40 countries

100% traceability

At Endress+Hauser, each flowmeter is subjected to rigorous testing on accredited and fully traceable calibration facilities. Verification comparisons between device under test, calibration rig, test equipment and a country's hierarchically highest "national standard" are the only way of conclusively establishing the end-to-end traceability of values measured – and consequently of the measuring uncertainty stated by the device manufacturer.

With "PremiumCal" – the world's best production calibration facility – we can specify Promass O to a maximum measured error of ±0.05%. An international best!


Prototype Kilogram


National standard


Gravimetric scales (E+H)


Calibration rig (E+H)


Flowmeter

Technical data

Promass 83/84 (transmitter)

Promass 83: Standard transmitter with extended functionality
Promass 84: In addition with custody transfer approvals

■ Outputs	HART (4–20 mA), PROFIBUS DP/PA, FOUNDATION Fieldbus, MODBUS, Ethernet

Promass O (sensor)

■ Nominal diameter	DN 80 (3"), DN 100 (4"), DN 150 (6")
■ Materials	Measuring tube: 1.4410/UNS S32750 (25Cr duplex) Flange connections: 1.4410/F53 (25Cr duplex) Housing: 316L/1.4404 (stainless steel)
■ Process connections	Flanges: EN (DIN), ASME
■ Process temperature	–40 to +200 °C (–40 to +392 °F)
■ Ambient temperature	Standard: –20 to +60 °C (–4 to +140 °F) Optional: –40 to +60 °C (–40 to +140 °F)
■ Process pressure	PN 160, PN 250 Cl 900, Cl 1500
■ Degree of protection	IP 67 (NEMA 4X)

■ Measured error	
– Mass/volume flow (liquids)	Standard: ±0.1% o.r. Optional: ±0.05% o.r. (PremiumCal)
– Gas flow	±0.35% o.r.
– Density	Standard calibration: ±0.01 g/cm³ Special calibration: ±0.001 g/cm³ Reference/field calibration: ±0.0005 g/cm³
– Temperature	±0.5 °C ± (0.005 × fluid temperature)
■ Repeatability (mass flow)	Standard: ±0.05% Optional: ±0.025% (PremiumCal)
■ Approvals	Functional safety: SIL 2 acc. to IEC 61508/IEC 61511-1 (FDIS) Pressure: PED Cat. III, CRN, AD2000 Materials: acc. to NORSOK M-630 and NACE MR175/MR103 Custody transfer: MID (OIML R117)
■ Ex approvals	ATEX, FM, CSA, TIIS, IECEx, NEPSI

Subject to modification

The Promass 83O/84O measuring system fulfills the EMC requirements according to IEC/EN 61326 and NAMUR NE21. It also conforms to the requirements of the EU and ACMA directives and thus carries the CE and ✓ mark.

Instruments International

Endress+Hauser
Instruments International AG
Kaegenstrasse 2
4153 Reinach
Switzerland
Tel. +41 61 715 81 00
Fax +41 61 715 25 00
http://www.endress.com
info@ii.endress.com

IN00027D/06/EN/01.12
71156111
INDD CS5

Endress+Hauser

People for Process Automation