

# LNGmass Coriolis flow measurement

The specialist for  
liquefied natural gas in  
refueling applications

## Robust and reliable at extreme subzero temperatures

- Proven Coriolis measuring technology: convincing alternative to traditional volumetric measurement methods
- Direct mass measurement: including conversions to other units of measure
- Space-saving compact design:
  - Smallest flowmeter for LNG dispensers worldwide
  - No inlet and outlet runs required
- Cost-effective operation: maintenance-free, no moving parts
- Robust: precise measurement even at temperatures as low as  $-196\text{ °C}$  ( $-321\text{ °F}$ )
- Optimal refueling control: simultaneous measurement of mass flow and temperature
- Traceable measurement results: ensured by our own accredited calibration facilities according to ISO/IEC 17025







## LNGmass

### For precise quantity metering in dispensers

Liquefied natural gas (LNG) with its high energy density is being used as fuel more frequently than ever world-wide – e.g. for commercial vehicles, buses, ships and even airplanes. The highest measuring accuracy is required for fueling in any situation, in order to bill the quantity in the tank correctly and reliably.

The LNGmass is a Coriolis flowmeter specifically developed for dispensers, guaranteeing highest accuracy and robustness at extreme subzero temperatures down to  $-196\text{ °C}$  ( $-321\text{ °F}$ ). The LNGmass can be installed anywhere, even in the narrowest space conditions without any problem. This is ensured by its compact design and the fact that no inlet or outlet runs are needed.

A multivariable measurement makes it possible to detect the mass flow and temperature simultaneously. This data can be transmitted easily to the dispenser controller via the integrated Modbus RS485 interface.

And last, but not least, highly skilled technicians and service engineers from our worldwide service and sales organizations are there to support you in any emergency. One more reason to trust Endress+Hauser as your partner.



#### The complete solution from one supplier

As a single-source supplier, Endress+Hauser ensures that you get everything you need from one hand:

- Flowmeters
- Pressure measuring devices
- Temperature measuring devices
- Level measuring devices
- Recorders

# Technical data

## Transmitter

Operation	Via operating tool, e.g. "FieldCare" from Endress+Hauser
Power supply	DC 20 to 30 V
Ambient temperature	-40 to +60 °C (-40 to +140 °F)
Degree of protection	IP66 and IP67 (Type 4X enclosure)
Dimensions (L × W × H)	DN 8 (3/8"): 232 (9.1) × 136 (5.35) × 350 (13.8) mm (in) DN 15 (1/2"): 279 (11.0) × 136 (5.35) × 360 (14.2) mm (in) DN 25 (1"): 329 (13.0) × 136 (5.35) × 370 (14.6) mm (in)
Galvanic Isolation	All circuits for outputs and power supply are galvanically isolated from each other
Outputs / Communication	Modbus RS485
Ex approvals	ATEX, IECEx, INMETRO, NEPSI, cCSAus
Ignition protection type	Intrinsically safe (Ex ia); with Safety Barrier for Ex zones

## Sensor

Nominal diameters	DN 8 (3/8"), DN 15 (1/2"), DN 25 (1")
Max. measured error	±0.15% o.r. under reference conditions (for mass and volume flow)
Measuring range	0 to 18000 kg/h (0 to 660 lb/min)
Process connections	Flanges: EN (DIN), ASME
Process pressure	Max. 40 bar (580 psi), Class 300
Process temperature	-196 to +125 °C (-321 to 257 °F)
Materials	Stainless steel (transmitter housing, measuring tubes and flanges)

Subject to modification

The LNGmass 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 **UL** mark.

[www.adresses.endress.com](http://www.adresses.endress.com)

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