



Flow MD Provides In Situ Solutions for Accurately Proving LNG Flow Meters

Why is the Flow MD Prover ideal for LNG Applications?

FMD provides Cryogenic and Cold Temperature Prover Options designed specifically for LNG applications. Using a FMD Meter prover provides a significant decrease in uncertainty and the potential for significant cost savings. FMD has over 15 years experience and an installed proven base of cold temp and cryo provers.

LNG Measurement Methods Comparison



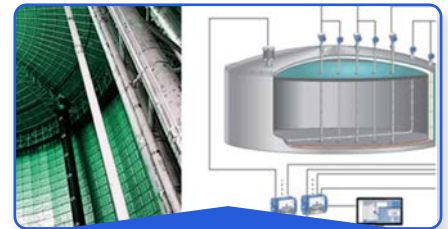
Dynamic Proving

Uncertainty: 0.01% to 0.02%



LNG Metering

Uncertainty: 0.05% to 0.1%



Tank Gauging

Uncertainty: 0.2% to 0.55%

Financial Benefits of Using a FMD Prover in a LNG Application

Single Ship	Proving (0.02%)	\$5,833	<i>\$0.55M Savings Annually</i>	
	Tank Gauging (0.55%)		\$160,406	
Single Ship Yearly	Proving (0.02%)	\$54,770	<i>\$1.45M Savings Annually</i>	
	Tank Gauging (0.55%)		\$1,506,163	
Terminal Yearly	Proving (0.02%)	\$72,912	<i>\$1.93M Savings Annually</i>	FMD Prover and system cost approx. \$1.5M, with an annual savings of \$1.93M, payback is < 1 year.
	Tank Gauging (0.55%)		\$2,005,080	
Global Yearly Trade	Proving (0.02%)	\$34,997,760	<i>\$927M Savings Annually</i>	
	Tank Gauging (0.55%)		\$962,438,400	

Data Points: Global yearly Trade Volume(m³) (781,200,000), LNG Deliveries/Year 6,000, Average Single Ship Volume(m³) 130,200, Global LNG Ship Fleet 639, Global LNG Terminals 480, US Export Price of LNG (\$/MCF) \$8.0 - Sources: GIGNAL, Montel, Globe Newswire, FIA

Contact us today to discuss your LNG proving application.

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FMD provers provide features needed specifically for cold temp or cryogenic LNG proving applications. The provers are engineered and designed to address the specific issues faced when proving extremely low temperature fluids.

FMD Prover Features for LNG Applications

- Nitrogen Purge Insulation Prevents Ice Build Up** (Callout to nitrogen purge control housing)
- Large Size Provers for High Flow Rates (FMD-200)** (Callout to large prover unit)
- Redundant Temperature, Pressure, & Density Solutions** (Callout to sensor array)
- Insulated nitrogen purge control housing**
- Remote mounted pressure sensors for thermal isolation**
- Redundant process RTD for thermal isolation**
- Purge back pressure & vent valve**
- Flow tube 316 SS**
- Fully insulated flow tube & shaft cover**
- Optional purge interlock system**
- Windows on drive end enclosure allows for visibility without opening panels**
- Air tight drive end purged with dry nitrogen ensures no ice formation on critical moving parts**

Available FMD Prover Sizes for LNG Applications

FMD Model Number		FMD-007	FMD-015	FMD-025	FMD-035	FMD-045	FMD-060	FMD-090	FMD-130	FMD-200	FMD-200-EV50
*Max Flow Rate	GPM	700	1,500	2,500	3,500	4,500	6,000	9,000	13,000	20,000	20,000
	BPH	1,000	2,100	3,570	5,000	6,400	8,500	12,850	18,500	28,500	28,500
	M ³ /HR	150	330	560	790	1,022	1,350	2,000	2,900	4,500	4,500

**FMD Provers are compatible with most meter types, including Coriolis, Turbine, Helical Turbine, Positive Displacement, and Ultrasonic. Meter type, operating conditions, and fluid characteristics will affect prover sizing. Please reach out to us to discuss your specific application and the optimal FMD Prover for your application.*

Field Installations

