

# Graf Group optimizes LNG filling process with Emerson's Micro Motion Coriolis Flow Meters

## RESULTS

- Easy installation and small footprint
- MID solution for gas and liquid phases
- LNG transfer accuracy improved by 0.2%
- Cryogenic design for improved accuracy and stability
- Patented technology for temperature correction



## APPLICATION

Liquefied Natural Gas (LNG) filling stations for truck loading

## CUSTOMER

Graf Group, an Italian OEM located in Nonantola (Modena), started in 1992, are experts in automation of various applications, with a specific focus on the natural gas market.

## CHALLENGE

With 20 years of experience in Compressed Natural Gas (CNG) filling stations, and great success with Emerson's Micro Motion CNG050 meter, the Graf Group is now expanding its solutions into the LNG market.

Nowadays, LNG is considered the "transition fuel" that will help humanity bridge into a cleaner world, but most of the technology to transfer LNG to applications is still under development.

Graf was looking for an efficient solution to implement custody transfer flow measurements in LNG filling stations for automotive applications. The meter had to be easy to use and capable of measuring two streams (liquid on filling side and gas phase on boiloff gases). Further, the meter had to be compliant with the European MID certification.

## SOLUTION

The strategy of the Graf Group is one of high efficiency and high-quality products and solutions, which is realized with the help of valuable partners.

*"A reliable meter that truly works with cryogenic fluids. The right solution for our LNG dispensers."*

**Gianni Baroni**  
Commercial Director, Graf Group



Emerson's Motion LNG meter inside a Graf DLNG dispenser

**MICRO MOTION™**

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Utilizing Emerson's Micro Motion LNG meter, Graf found the following advantages:

- Management of liquid and gas phase with a single MID certified transmitter. Both phases fall under the same metrological certification, for a more accurate evaluation that helps to correctly quantify the custody transfer values, where boiloff gases can account for up to 0.2% of the total transfer.
- Specific design for cryogenic dispensers, and not a meter that has been adapted to the use.
- High accuracy and high stability, thanks to a verification process under cryogenic conditions.
- Compact and small design that optimizes the size and shape of the dispenser.
- Use of Avio connectors, a technology that simplifies installations and reduces time to build filling machines.
- A patented technology for automatic temperature compensation that reduces the need for further tuning of the measurement.

The solution includes a liquification process, storage under cryogenic conditions and a Graf DLNG dispenser equipped with Emerson's Micro Motion LNG solution, which is extremely reliable as well as easy to use and maintain.

Further, the meter allows for easy installation with MID certification on both sensors, which are clear advantages for the end-use purchaser.

By utilizing Emerson's Micro Motion flow meters, Graf Group has the ability to be the LNG leader in filling stations.



*The complete solution from Graf includes liquification, storage and dispenser*

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