

# CHT Reduces Calibration Time and Costs for Vessels with Rosemount 8700 Series Magnetic Flow Meters

## Results

- High accuracy results in use of magnetic flow meter as reference meter
- Reduced vessel calibration time by 50% with Smart Meter Verification
- Calibration time reduced by additional 30% using wireless communications
- Reduced skid cost of ownership by 25%



## Application

Reference metering with magnetic flow meters on storage vessel verification skids.

## Customer

Instruments CHT is a Romanian company located in Ploiesti, specializing in supply of industrial process instrumentation and design of control applications. As a local business partner of Emerson, Instruments CHT delivers quality consultancy to customers looking for reliable and accurate solutions of flow measurement using Coriolis, Vortex and Electromagnetic principles.

## Challenge

Since CHT is recognized in Romania as an expert company in flow meter consultancy, several customers have requested calibration equipment and stands for calibration of tanks, including tanks used in custody transfers.

For the water calibration of tanks and storage vessels, CHT was looking for a reliable solution with excellent accuracy and very high turndown. The calibration / verification stand had to operate under different conditions, including in plants with limited or no pumping devices, so no pressure drop was a true must for this application.

The flow meter also had to be robust, reliable and easy to use, a smart device with diagnostic capabilities able to detect any deviation leading to measurement errors.

***“The Rosemount 8700M magnetic flow meter is the heart of our storage vessel verification skids. The 8700M flow meter provides the high accuracy and reliability demanded in such applications, and it provides communication and verification options that make the skid operator’s job much easier.”***

**Aurelian Nichita**  
Technical Director



Emerson's Rosemount™ 8732E Magnetic Flow Meter Transmitter and Rosemount 8705 Flanged Magnetic Flow Meter Sensor

### Solution

CHT satisfied all these requirements with Emerson's Rosemount magnetic flow meter technology.

The 0.15% accuracy of the Rosemount magnetic flow meter and the excellent repeatability allowed CHT to build a calibration stand using magnetic flow meter technology, with considerable advantages compared to alternate technologies.

Rosemount magnetic flow meters have no pressure loss, so they can be used even where limited or no additional pressure is available, allowing customers to easily calibrate tanks. Further, the use of Smart Meter Verification confirms the meter performance and allows for it to be checked at any time the stand is used, giving confidence to the end users.

During the skid certification by the Romanian Institute of Metrology, the difference between the totalized volume measured by the magnetic flow meter and the fiscal testing volume was less than 0.08%. This proves the the right utilization of technology and confirms the high accuracy of Emerson's magnetic flow meters.

Some advantages include the use of ProLink and Smart Meter Verification to prove that the meter works efficiently and effectively, and doubling the usability factor of the skid, reducing the calibration time by 50%.

The *WirelessHART*<sup>®</sup> connection allows the operator to move the skid with no need for complex cabling, reducing the time required to calibrate a single tank by an additional 30%.

With the use of wireless communication, the total cost of ownership of each skid is reduced by 25%, thus resulting in advantages for the end users.

### Resources

Emerson Automation Solutions Industries

[Emerson.com/OilandGas](https://www.emerson.com/OilandGas)

Rosemount Magnetic Flow Meters

[Emerson.com/RosemountMagneticFlow](https://www.emerson.com/RosemountMagneticFlow)

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***“The high accuracy and repeatability of the Rosemount 8700M allows us to build high performance, accurate and compact vessel verification skids, including for vessels used in custody transfer. The skids are easy to transport, easy to operate, and thanks to the wireless communication, very user friendly.”***

**Aurelian Nichita**  
Technical Director

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