

YOUR PARTNER FOR CUSTODY METERING SOLUTIONS IN TAS

Enhancing System Performance through Reliable & Accurate measurements



THE CRITICAL ROLE OF VOLUME ACCURACY IN TERMINAL AUTOMATION FOR REFINED FUEL LOADING

In the refined fuel industry, precision is not optional—it's essential. Terminal Automation Systems (TAS) are the digital backbone of modern fuel terminals, ensuring that every liter of product is measured, tracked, and transferred with accuracy. At the core of this process lies a critical factor: volumetric measurement.



THE TERMINAL AUTOMATION SYSTEM (TAS) MARKET: A GROWING FORCE

Over the past decade, the TAS market has seen remarkable growth. This surge is driven by the increasing need for:



**Operational
efficiency**



**Enhanced
safety**



**Regulatory
compliance**

Oil terminals are vital hubs in the energy supply chain, where refined fuels are stored and dispatched. Automation in these terminals reduces human error, streamlines operations, and ensures data integrity. As terminals become more intelligent and connected, the demand for accurate, real-time volumetric data becomes even more critical.

WHY VOLUMETRIC MEASUREMENT MATTERS IN TAS

Accurate volumetric measurement is fundamental during the loading and unloading of refined fuels. It directly impacts:

Custody transfer accuracy

Precise billing and inventory tracking ensuring every liter is accounted for in commercial transactions

Regulatory compliance

Meeting legal and metrological standards

Operational efficiency

Reducing product loss and optimizing loading cycles

Safety

Preventing overfills and ensuring safe handling of flammable products

Even minor inaccuracies can lead to significant financial and operational consequences.

WHY POSITIVE DISPLACEMENT (PD) METERS ARE THE GO-TO TECHNOLOGY FOR TAS

Positive Displacement (PD) meters are the preferred technology for volumetric measurement in gantry loading. Here's why:

Direct volume measurement

no need for
temperature or
pressure
compensation

High accuracy and repeatability

Consistent
performance
across varying
flow rates and
viscosities

Mechanical reliability

Fewer moving
parts and
robust design
for harsh
environments

Ease of calibration and maintenance

Simplified
servicing
reduces
downtime

Direct volume measurement

No need for
inferential
calculations

These features make PD meters a trusted choice for terminal operators who demand precision and reliability.

LIQUID CONTROLS A GLOBAL LEADER IN CUSTODY MEASUREMENT

For over 70 years, Liquid Controls (LC) has been a pioneer in PD metering technology. Known for its legacy of MOST SUSTAINABLE ACCURACY & LONGER SERVICE LIFE, LC meters are synonymous with:

Global certification for custody transfer

Widespread adoption in terminals, refineries, and distribution hubs

Seamless integration with TAS platforms



LC's commitment to innovation and accuracy has made it a global leader in custody measurement, setting the benchmark for volumetric accuracy in terminal automation.

PD VOLUMETRIC VS. MASS MEASUREMENT: WHY VOLUME WINS

While mass flow meters (like Coriolis meters) are effective in many applications, PD meters offer distinct advantages in terminal loading:

Feature	PD Meters	Mass Flow Meters
Direct Volume Measurement	✓	✗ (Requires conversion)
Simplicity	✓	✗ (Needs compensation for temp/pressure)
Cost-Effectiveness	✓	✗ (Higher initial costs)
Global Proven Field Performance	✓	Less compared to PD meters
Regulatory Acceptance	✓	✓

In gantry loading, where volume is the billing unit, PD meters provide unmatched accuracy and operational simplicity.

CONCLUSION: ACCURACY THAT DRIVES CONFIDENCE

In the high-stakes world of refined fuel distribution, volume accuracy is a business imperative. Terminal Automation Systems rely on precise volumetric data to ensure fair trade, compliance, and efficiency. Liquid Controls' PD meters are at the forefront of this mission—delivering trusted performance and setting the global standard for custody measurement.

As the TAS market continues to evolve, the importance of accurate volumetric measurement will only grow. And with Liquid Controls, terminal operators can be confident that every drop counts.



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