

# Certified Marine Bunker Measurement Solution

Traceable, transparent, mass-based measurement



# Best-in-Class Measurement for the Marine Industry only from Micro Motion®



Emerson delivers the only traceable, transparent, mass-based measurement solution with MPA certification and OIML/MID approval.

Custody transfer measurement of all kinds of fuel (HFO, IFO, MDO, MGO) can save hundreds of thousands in operating expense and ensure accurate billing. Emerson's Certified Marine Bunker Measurement Solution delivers the world's best measurement for supreme accuracy, reliability and consistency both on land and sea.

## Increase Profitability

- Highest accuracy, traceable and transparent mass-based measurement ensures billing for actual mass of fuel delivered/received
- Meet market requirements and eliminate operating losses that may occur from using traditional, inferential, measurement methods
- Reduce bunker time and increasing operating efficiencies for barges

## Improve Operations

- Eliminate billing discrepancies with custody transfer-approved fuel delivery ticket indicating the exact amount of fuel delivered
- Direct mass measurement saves significant time during bunker delivery and improves overall operational efficiencies by eliminating the need to perform cumbersome volume-to-mass data conversions

## Reduce Cost

- Handle difficult entrained gas and two-phase flow conditions with a single device, saving you maintenance time and money
- No internal moving parts and robust meter measurement performance eliminate the need for on-the-ship repair or maintenance
- Multivariable measurement (mass, density, temperature, volume) from a single device minimizes required instrumentation cost and maintenance, and maximizes profitability

## Inherent Advantages of Micro Motion Coriolis

- Direct mass flow measurement of all fluids, slurries and gases with one instrument
- No moving parts result in no maintenance or repair
- Install anywhere with no flow conditioning or straight pipe run required
- Simple and fast installation and commissioning at start-up
- Smart Meter Verification eliminates the need for periodic and disruptive calibration checks



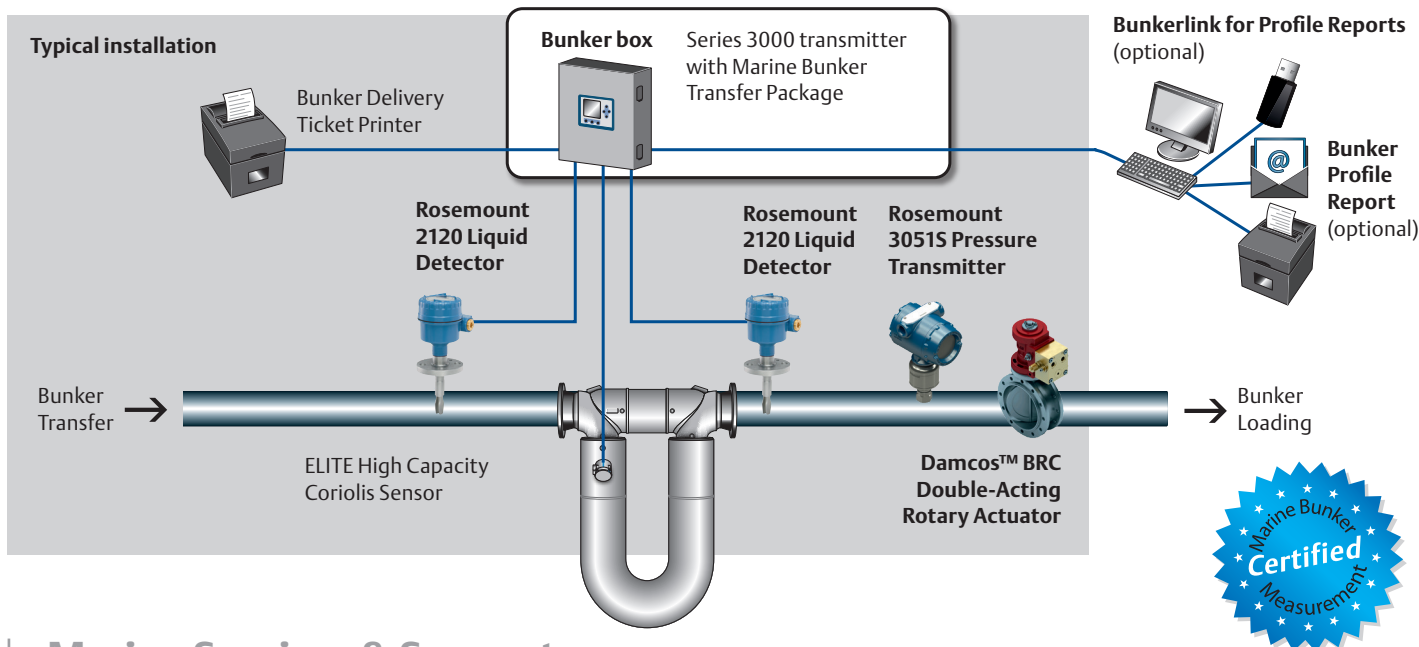
Traditional bunkering measurement practices can contribute to potential error, including level measurement, table accuracy, tank straps, and volume-to-mass data conversions.

A proven, robust measurement solution for bunkering, Micro Motion Coriolis is unique in being able to tolerate portions of air in liquid and still deliver certified measurement performance. Air within the liquid occurs in tank stripping, for example, where air can be entrained during bunker delivery. With built-in aeration limits, the Micro Motion Series 3000 Transmitter with Marine Bunker Transfer Package (part of the Certified Marine Bunker Measurement Solution) also shows when excess air is too high to produce accurate results.

Micro Motion meters also feature Smart Meter Verification that measures the actual, mechanical characteristics to track meter performance – in line and without removing the meter for inspection. This technology can reduce the need to remove the meter for calibration.



## Micro Motion Certified Marine Bunker Measurement Solution



### Marine Services & Support for Bunkering Applications

Emerson offers a complete solution to ensure the success of your fuel measurement requirements in the Marine industry. Emerson-trained and certified technicians provide technical assistance,

vessel surveys, commissioning, custody transfer P&ID review, and complete final installation review for startup of the Certified Marine Bunker Measurement Solution.

# Complete Expertise within Marine

Emerson's marine solutions are developed for harsh sea environment to ensure reliable, efficient and safe operation on board any type of ship and offshore unit.

- Integrated control and monitoring
- Cargo monitoring and tank gauging
- Valve remote control
- Fuel management

What really sets us apart is our dedication to the marine sector and engineering excellence. This is reflected in all aspects of our organization, from design and production to application know-how and global service network.

What really drives us is to provide innovative solutions for our customers to operate safely, efficiently and with peace of mind.

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[www.emerson.com/marine](http://www.emerson.com/marine)



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