

Bunkering Procedure (non-MID)

Vessels with Micro Motion® Certified Marine Bunker Measurement Solution



All standard setup and safety procedures must be followed at all times.

This procedure is designed for use with the detailed operational procedure in the *Marine Bunker Transfer Package Application Manual*. Refer to the detailed operational procedure as required.

IMPORTANT! Failure to follow these procedures may result in increased measurement uncertainty.

Before Bunkering

1. Obtain all relevant documents (procedures, fuel specifications, and estimated quantity) from the supplier/barge.
2. Do not sign the Bunker Delivery Note (BDN) or any volume-specific document before the bunker transfer.
3. Ensure that the upstream manifold pressure gauge on the bunker line is indicating atmospheric pressure. If not, check the vacuum breaker system (if applicable) and take action to ensure atmospheric pressure.
4. Supplier/barge captain and vessel chief engineer must verify that the current value of the mass totalizer is the site-specific zero (may deviate from actual zero, as per the Systemic Holdup calculation and other site-specific factors). If it is not, print a bunker ticket to reset the mass totalizer to zero.
5. Immediately before the bunker transfer begins, open the main bunker manifold valve. Do not open it early. The flowmeter will begin bunker totalizing as soon as the main supply line is opened.

During Bunkering

1. Take all possible measures to reduce/eliminate air entrainment throughout bunkering process.
2. Monitor the Aeration Limit diagnostic throughout bunkering. Fuel aeration causes the value of Aeration Limit to increase. If the value of Aeration Limit is 100% or greater at the end of the bunker transfer, measurement uncertainty is increased. Depending on system installation, audible/visible alarms may be triggered at predefined threshold values of Aeration Limit.
IMPORTANT! If the value of Aeration Limit is greater than 100% and is not decreasing, contact the barge immediately to eliminate the aeration source.
Best practice: Manage the bunker transfer so that Aeration Limit is 25% or less at the end of the transfer.
3. **IMPORTANT!** Close the main bunker manifold valve as soon as the barge stops pumping. The valve can be opened briefly for blowdown (only if required).
4. Upon completion of bunker delivery, supplier/barge captain and vessel chief engineer must press the Print button and witness the printing of the bunker ticket from the Marine Bunker Transfer Package. The printed ticket includes the mass of the bunker and a Pass/Fail statement that represents measurement uncertainty. *Pass* indicates that measurement uncertainty is within standard industry practice. *Fail* indicates that measurement uncertainty is outside standard industry practice.

After Bunkering

1. Supplier/barge captain must provide the Bunker Delivery Note (BDN) to the vessel chief engineer. The vessel chief engineer must compare the BDN with the ticket.

P/N MMI-20020783 Rev AA © 2011 Micro Motion, Inc. All rights reserved.

The Micro Motion and Emerson logos are trademarks and service marks of Emerson Electric Co. Micro Motion, ELITE, MVD, ProLink, MVD Direct Connect, and PlantWeb are marks of one of the Emerson Process Management family of companies. All other trademarks are property of their respective owners.

