

**Certificate of Conformity****ISO21562:2020/9/**

Statement no.: 10591297-02

**Mass Flow Meter with Bunkering Software - OPTIMASS 2400 F/-6400 F with EcoMATE™ software****Bunker fuel Mass Flow Meters and Bunkering Software on receiving vessel**

This is to certify that the KROHNE Coriolis Mass Flow Meter (MFM) OPTIMASS 2400 F/-6400 F and EcoMATE™ have been verified, by appropriate methods, to comply with the requirements of ISO 21562:2020 /9/, for the main operational limits stated in this certificate. These requirements have been met to meet the 0,5 % expanded measurement uncertainty for bunker fuel application.

**Main operational limitations for MFM:**

	OPTIMASS 2400 F	OPTIMASS 6400 F
Process Mass Flow Rate:	Mass flow meter diameter dependent	Mass flow meter diameter dependent
Process Flow Density: 400 to 3000 kg/m <sup>3</sup>	400 to 3000 kg/m <sup>3</sup>	400 to 3000 kg/m <sup>3</sup>
Process Flow Temperature:	-45°C to +130°C	-70°C to +230°C (Cryogenic Version: -206°C to +40°C)
Ambient Temperature:	-40°C to +65°C	-40°C to +65°C
Primary Tube Pressure:	-1 bar to 150 bar (Tested to x1.5 max pressure)	-1 bar to 100 bar (Tested to x1.5 max pressure)
Absolute Measurement Error:	Standard Calibration: ±0.1%, Optional Calibration ±0.05%	Standard Calibration: ±0.1%, Optional Calibration ±0.05%

For a system including the MFM and EcoMATE™ to conform to ISO 21562:2020, the following conditions should be met:

- That the MFM is fitted with gaskets suitable to the process fluid.
- That the system pipework does not permit bypass of the MFM.
- That the MFM installation be verified against the manufacturer's installation instructions/guidance/checklist.
- That the EcoMATE software is installed and used in accordance with the manufacturer's instructions/guidance.
- MFM shall be calibrated with direct traceability to an SI unit of mass by a laboratory meeting the requirements of ISO/IEC 17025

**Bunkering according to ISO21562:**

For the MFM system all preparation according to ISO21562 is to be met before starting the bunkering.  
Special attention according to point 10.2.2 Start of Bunkering.

**Validity**

This certificate is valid on the date of issue and is applicable to the following product versions:

- OPTIMASS 2400 ER 2.1
- OPTIMASS 6400 ER. 2.1
- EcoMATE ER 2.1

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