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New Zealand

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Norway

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South Africa

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*14 euro cents/minute from German
landlines, max. 42 euro cents/minute
from mobile phone service

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ABB MEASUREMENT & ANALYTICS

CoriolisMaster | Marine

For fuel consumption and energy management



LL/CORIOIIS_MARINE-EN REV.B 10.2017

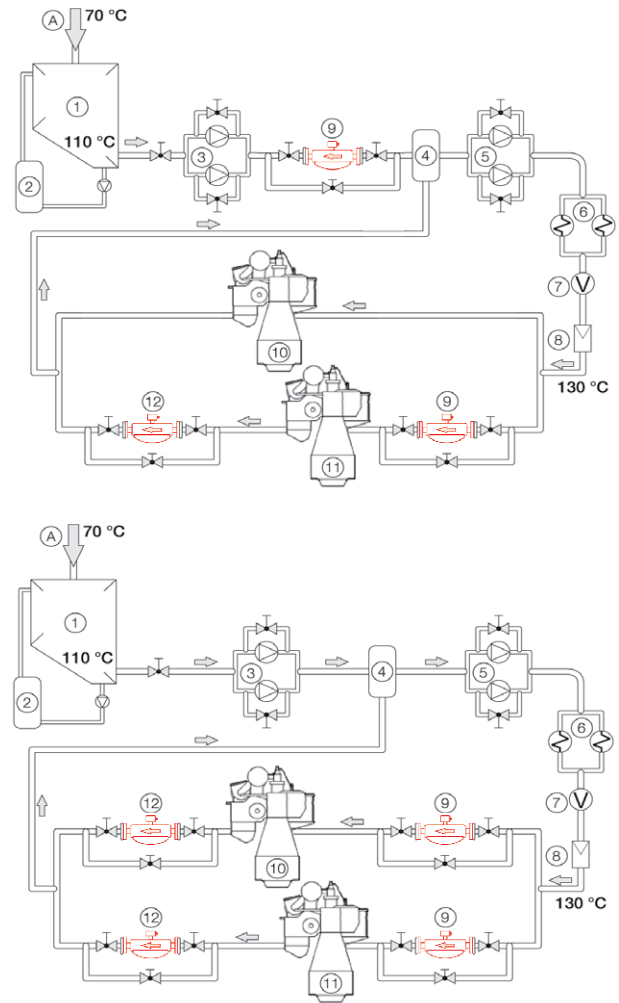
Looking for new ways to save costs by increasing fuel efficiency?

With soaring fuel prices and tight regulations on greenhouse gas emissions, fuel efficiency has become a major concern for the transportation industry and especially for the marine business. Approximately 50% of all operational costs of ships are fuel costs.

In order to manage fuel consumption responsibly, considering ecologic, economic and legal reasons, it takes an innovative fuel management system based on reliable, highly accurate and durable flow sensors.



Location of Coriolis mass flowmeter preferred installations



A From setting tank | 1 Service tank | 2 Boiler | Supply pumps | 4 Mixer
5 Booster pumps | 6 Heater | 7 Viscorator | 8 Filter | 9 Flowmeter in supply line
10 Main engine | 11 Auxiliary Engine | 12 Flowmeter in return line

Marine fuel consumption measurement

In accordance to SEEMP* guidelines with CoriolisMaster mass flow measurement.



Fuel consumption is energy consumption – energy is directly related to the mass of the fuel – therefore direct mass flow measurement is key to highly accurate energy management.
CoriolisMaster – modern fuel consumption measurement

Application benefits of Coriolis mass flowmeter

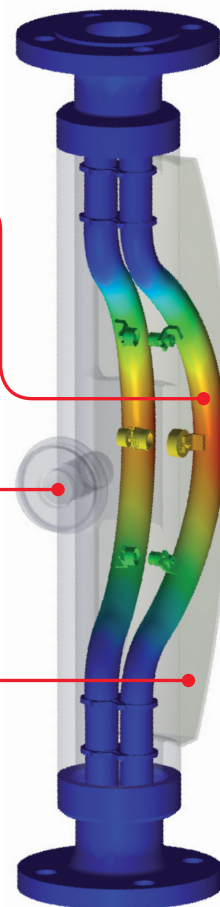
Easy retrofit even in tight spaces due to small compact flange to flange dimensions

Coriolis flowmeter accuracy remains because its stiff outer casing is designed to decouple outer installation forces of up to 40 tons

CoriolisMaster mass flowmeters are in compliance with marine class standards: by operating at high frequencies far away from noise frequencies on board they are free of disturbances

Easiest meter integration: Enabled by various output options like Modbus, Profibus, pulses or classic current outputs

• High vibration
• No vibration



* Ship Energy Efficiency Management Plan (SEEMP) was introduced in 2013 in order to reduce global carbon emissions. Ship owners are responsible to monitor ship and fleet efficiency performance over time to comply with the new regulations.

Seamless integration with marine systems

- Communication Interfaces: HART and MODBUS
- Torductor 500 shaft torque meter
- Cylmate: 2-stroke engine performance monitoring system
- ABB's Advisory Systems: Providing a complete product portfolio for performance management in marine applications. It includes a wide range of products for reducing energy consumption, increasing the availability of the vessels, and improving the safety of the whole fleet of vessels. A complete energy, (SEEMP compliant) fuel and process monitoring and benchmarking tool. By using ABB's online reporting tool, fuel consumption trends of the whole fleet can be viewed at and analyzed by the onshore operations department.

ABB flowmeter solutions for Marine

Measurement made easy!

- Bunkering flow meters with large diameters with CoriolisMaster
- Lubrication oil measurements with CoriolisMaster
- Ballast water flow measurement with ProcessMaster
- Energy measurement of steam on board with SwirlMaster

For more information see data sheet



Flowmeter family with integral mount design



Flowmeter with remote mount design

CoriolisMaster Simply fits your purpose



	Series FCx100	Series FCx400
LCD indicator	no	yes, illuminated
Outputs	Modbus 2 digital outputs (impulse, frequency contact output)	Up to 5 modular inputs/outputs freely selectable and adjustable*, HART, Modbus, PROFIBUS DP
DNVGL certified	yes	yes
SmartSensor Concept	yes	yes
Ambient temperature	-40 to 70 °C	-40 to 70 °C
Custody transfer	yes, in accordance with MID/OIML R175	yes, in accordance with MID/OIML R117
SIL2	no	yes
Power supply	11 to 30 VDC	11 to 30 VDC 110/230 VAC
Max. power consumption	5 W (normal: 2 to 3 W)	20 W (normal: 4 to 5 W)
DensiMass concentration	yes (Version FCx150)	yes (Version FCx450)
FillMass filling software	yes (Version FCx150)	yes (Version FCx450)
VeriMass verification	yes	yes

*Details available in the data sheet

