



OPTIMASS 1000 Technical Datasheet

Mass flowmeter for ships fuel applications

- Best price-performance ratio
- High accuracy: 0.2% of actual flow
- Measured values: massflow, density, temperature
- Twin straight measuring tubes with optimised flow divider for minimum pressure loss
- Fully welded maintenance free measuring tubes in stainless steel
- No requirement for straight inlet/outlet sections



Technical data

Measuring system

Measuring principle	Coriolis mass flow
Application range	Mass flow and density measurement of liquid
Measured values	Mass, density, temperature

Measuring accuracy

Measuring accuracy	± 0.2% of actual measured flow rate
Repeatability	Better than 0.05%
Accuracy of density	Typical 0.2%
Accuracy of temp.	± 1°C

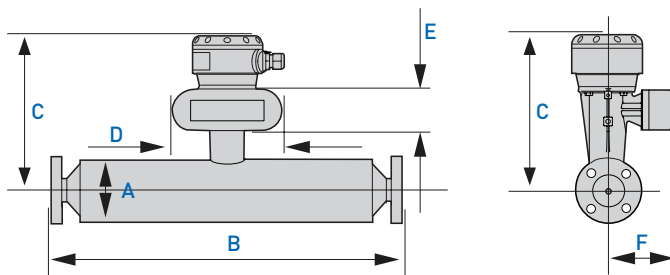
Design / construction

Features	Fully welded maintenance free sensor in stainless steel with twin straight measuring tubes
Options	Available as modbus version or remote version

Operating conditions

Ambient temp.	-40...+65°C
Max. medium temp.	130°C (@ 10 bar)
Maximum flow rates (All instruments offered will be sized based on flow/ process calculations)	Max. flow calculation examples (Viscosity 15 cSt) S15: 3 200 kg/h (1 bar pressure drop) S25: 14 000 kg/h (1 bar pressure drop) S40: 45 000 kg/h (1 bar pressure drop) S50: 110 000 kg/h (1 bar pressure drop)

Dimensions and weight



	Dimensions (mm)								Weight
	A	B (DN25)	B (DN40)	B (DN50)	C	D	E	F	
S15	101.6	503	513	-	231	160	60	98.5	12.4 kg
S25	114.3	531	541	547	237	160	60	98.5	15.4 kg
S40	168.3	-	706	712	264	160	60	98.5	26.4 kg
S50	219.1	-	-	862	290	160	60	98.5	52.4 kg

System options

The EcoMATE™ software takes care of data acquisition, logging, calculations, monitoring and reporting.



Choose between one of these converters

Converter with modbus output signal:



MFC 010 C

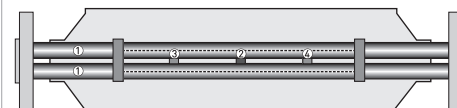
Converter with display for indication of flow data and counter:



MFC 400 F
Field mounted

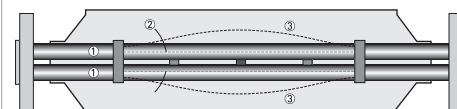
Coriolis measuring principle

Static meter not energised and with no flow



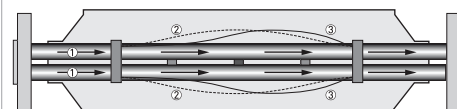
A Coriolis twin tube mass flowmeter consists of two measuring tubes ① a drive coil ② and two sensors (③ and ④) that are positioned either side of the drive coil.

Energised meter



When the meter is energised, the drive coil vibrates the measuring tubes ① causing them to oscillate ② and produce a sine wave ③. The sine wave is monitored by the two sensors.

Energised meter with process flow



When a fluid or gas passes through the tubes ①, the Coriolis effect causes a phase shift ③ in the sine wave ② that is detected by the two sensors.

This phase shift is directly proportional to the mass flow. Density measurement is made by evaluation of the frequency of vibration and temperature measurement is made using a Pt500 sensor.