

OPTIMASS 2000 Technical Datasheet

Mass flowmeter for ships fuel applications

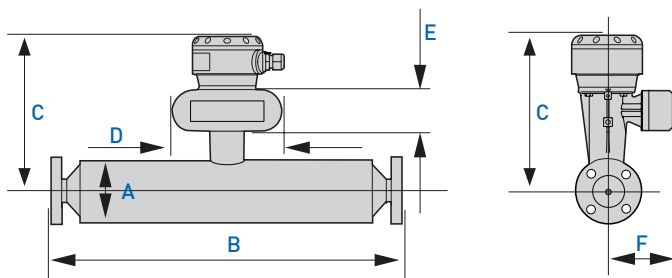
- Flowmeter for bunkering applications
- High accuracy: 0.1% of actual flow
- Measured values: massflow, density, temperature
- Twin straight measuring tubes with optimised flow divider for minimum pressure loss
- Fully welded maintenance free measuring tubes in stainless steel
- No requirement for straight 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	± 0.1% 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 tube
Options	Available as remote version with optional I/O
Operating conditions	
Ambient temp.	-40...+65°C
Max. medium temp.	130°C
Maximum flow rates (for water)	S100: 420 000 kg/h S150: 900 000 kg/h S250: 2 300 000 kg/h

Dimensions and weight



	Dimensions (mm)							Weight
	A	B (DN200)	B (DN250)	C	D	E	F	
S100	219 ±5			293 ±5	160	60	98.5	81.7 kg
S150	323 ±5	1647	-	345 ±5	160	60	98.5	208.4 kg
S250	406 ±5	-	2050	386 ±5	160	60	98.5	441.4 kg

Other dimensions on request

System / converter combinations

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

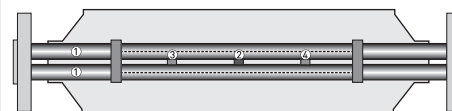


Remote converter with display for indication of flow data and counter:



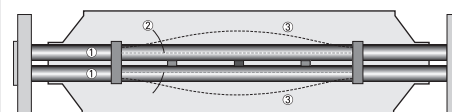
Coriolis measuring principle

Static meter not energised and with no flow



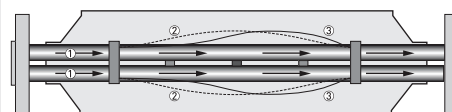
A Coriolis twin tube mass flowmeter consists of two measuring tubes ① a drive coil ② and two sensors (③ and ④) that are positioned either side of the drive coil.

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.