



## OPTIMASS 6000 Technical Datasheet

Mass flowmeter for high performance ships fuel applications

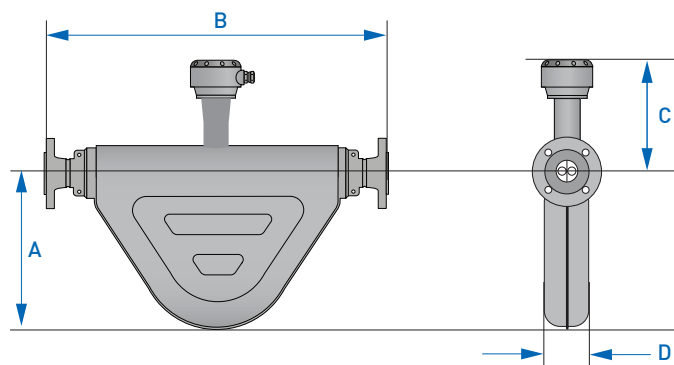
- Temperature range -200°C to +400°C
- High accuracy: 0.1% of actual flow
- Measured values: massflow, density, temperature
- Twin V-tube design with optimised flow divider for minimum pressure loss
- Fully welded maintenance free measuring tubes in stainless steel
- No requirement for straight inlet/outlet 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% plus zero stability
Accuracy of density	±1 kg/m <sup>3</sup>
Accuracy of temp.	±0.5°C
Design / construction	
Features	Fully welded maintenance free sensor in stainless steel with twin V-shaped measuring tubes
Options	Available as remote version with optional I/O
Operating conditions	
Ambient temp.	Standard temperature range: -40...+65°C
Max. medium temp.	400°C
Nominal flow rates (1 barg) (Assumes operating density 1000 kg/m <sup>3</sup> )	S8: 600 kg/h S15: 3800 kg/h S25: 19000 kg/h
Maximum flow rates	150% of nominal flow rate

## Dimensions and weight



	Dimensions (mm)					Weight	
	A (±3)	B (DN15)	B (DN25)	B (DN40)	C		D
S8	156	341	-	-	123.5	137	6.5 kg
S15	186	510	514	-	123.5	137	10.1 kg
S25	282	-	600	610	123.5	137	20.65 kg

Other dimensions on request

## System / converter combinations

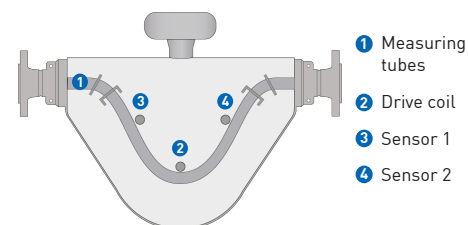
The EcoMATE® software takes care of data acquisition, logging, calculations, monitoring and reporting.



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

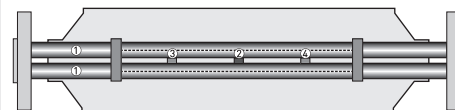


Flowmeter from the side, showing tube layout:



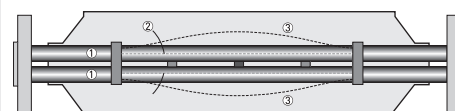
## Coriolis measuring principle

### Static meter not energised and with no flow



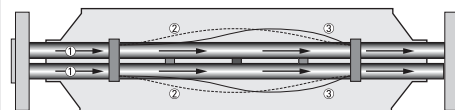
A Coriolis twin tube mass flowmeter consists of two measuring tubes ① a drive coil ② and two sensors ③ and ④ that are positioned either side of the drive coil.

### 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.

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