

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 (All instruments offered will be sized based on flow/process calculations)	Examples (1 bar pressure drop): <table border="1"> <thead> <tr> <th></th> <th>HFO (380 cSt)</th> <th>MGO (9 cSt)</th> </tr> </thead> <tbody> <tr> <td>S100</td> <td>100 t/hr</td> <td>180 t/hr</td> </tr> <tr> <td>S150</td> <td>270 t/hr</td> <td>400 t/hr</td> </tr> <tr> <td>S250</td> <td>700 t/hr</td> <td>1100 t/hr</td> </tr> </tbody> </table>		HFO (380 cSt)	MGO (9 cSt)	S100	100 t/hr	180 t/hr	S150	270 t/hr	400 t/hr	S250	700 t/hr	1100 t/hr																																
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Other dimensions on request																																													

System / converter combinations

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

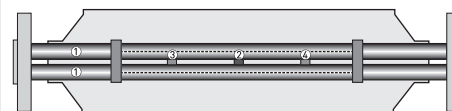


Remote converter with display for indication of flow data and counter:



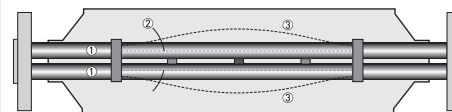
Coriolis measuring principle

Static meter not energised and with no flow



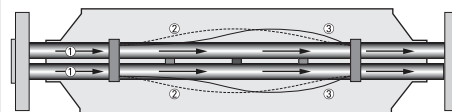
A Coriolis twin tube mass flowmeter consists of two measuring tubes ① a drive coil ② and two sensors ③ and ④ that are positioned either side of the drive coil.

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.