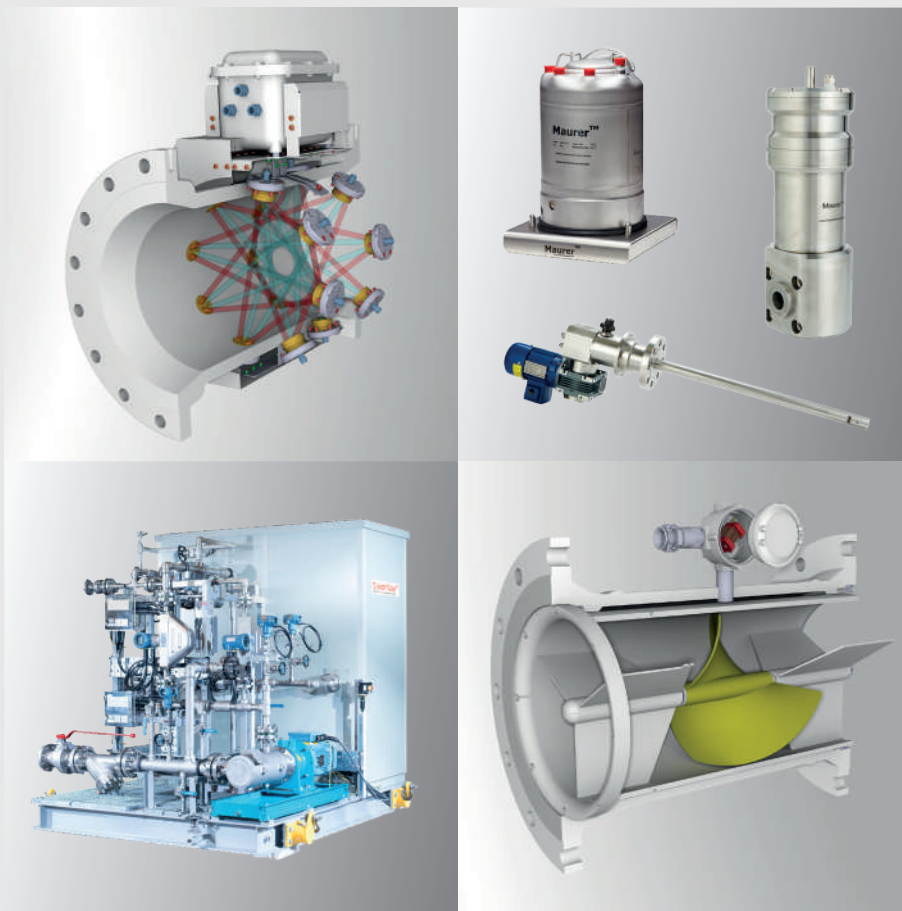


Company Profile



Oil & Gas Measurement Limited

Oil & Gas Measurement Limited (OGM) designs and manufactures high quality metrology products for the oil, gas and petro-chemical industries. We have a range of helical blade turbine flow meters and multi-beam ultrasonic flow meters (USM) both for liquid metering. We provide complete sampling systems for liquid applications and have our own range of sampling products (samplers, sample receivers, weigh scales and accessories).



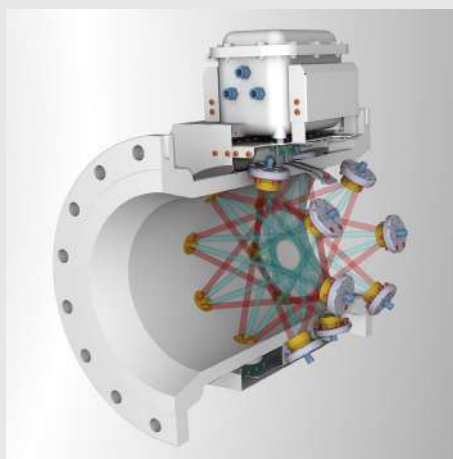
OGM's Quality Management System is accredited to ISO 9001:2015. The scope of registration covers design including research and development and the manufacture, assembly, servicing, repair and test of flow meters, sampling and analysis products.

Ultrasonic Flow & Helical Turbine Meters

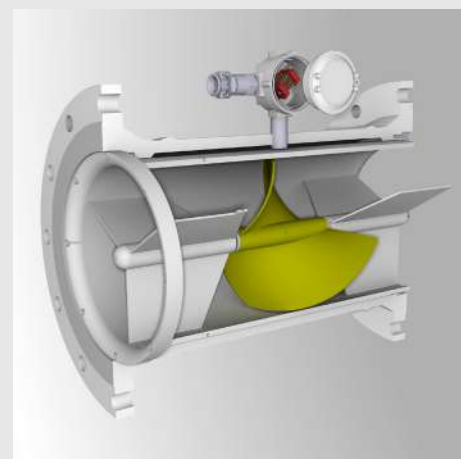
M&T's range of flow meters are designed for high accuracy volume measurement of crude oils and other liquid hydrocarbons.



M&T 32 beam ultrasonic flow meter



Cross section of M&T 32 beam meter



Cross section of M&T helical turbine meter

OGM manufactures, assembles and tests the M&T range of fiscal and custody transfer liquid flow meters at our UK facilities in Ely, Cambridge.

The 32 beam ultrasonic flow meter (shown above) provides unrivalled spatial coverage and is provable with compact or ball provers. A 15 beam option is available for low viscosity fluids.

OGM also designs and manufactures helical blade turbine meters, flow conditioners and complete meter runs for new or 'end of field life' applications.

M&T helical turbine meters are preferred for their high robustness and performance on liquid hydrocarbons for applications such as export loading terminals, FPSOs, pipelines and separators.



Sampling Equipment

OGM's UK facilities also manufacture our Maurer® Instruments range of liquid sampling equipment. Using designs originally developed with BP Exploration in the 1980s, the range became an industry standard.



Maurer® products have enjoyed an enviable worldwide reputation for engineering excellence and long term reliability. The Maurer® product range includes cell samplers, insertion samplers, sample receivers and weigh scales.



Electric Insertion Sampler & Interface Box



Sample Receiver & Weigh Scales

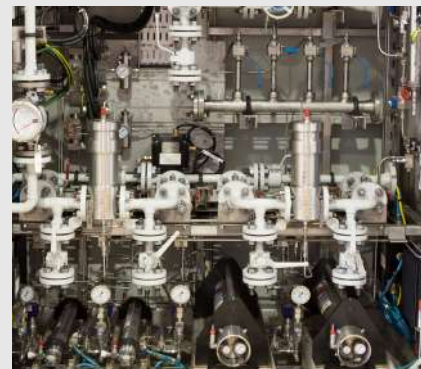


Pneumatic Cell Sampler

Sampling Systems

A crucial factor in petroleum measurement is quality analysis. For this reason liquid metering systems usually have an associated sampling system. There are generally two types of sampling - either in-line sampling or bypass sampling. OGM has the expertise and experience to provide such systems to cover all operators requirements.

Generally for newer installations, the equipment proposed is based on the understanding that no additional process mixing is required in the sampling systems and that the process lines are already well mixed to acceptable C1/C2 ratios. This however, has not been verified by OGM so it may be necessary to undertake further calculations to determine if static mixing or the use of a jet mix system would be required to ensure true representative sampling for each of the product/fluid lines.



Sampling System

We provide manual, fast loop or isokinetic homogeneous mixing systems to ensure compliance with ISO 3171 using either clients nominated suppliers or our own range of Maurer® samplers and accessories as appropriate.

Smart RMSV Revolver™ with LeakSen™ Leak Detection System

Smart RMSV Revolver™ is a rotary multiport selector valve complete with LeakSen™ leak detection system, making it an ideal valve for use within intelligent group metering systems (I-GMS) for flow rate monitoring using multiphase meters in oil and gas fields. Our Smart RMSV Revolver™ is the first RMSV with remote leak detection system designed for connection with zero leakage.

SmartMix[®] - A New Concept in Jet Mixing Systems

OGM's R&D department has recently developed a revolutionary mixing system. Current designs comply with the ISO 3171 standard and provide mixing to approximately 90% (a C1/C2 ratio of 0.9). OGM has developed a system that provides a C1/C2 ratio of 97%.

The key benefits of the SmartMix[®] jet mixing system are:

- Greater than 97% mixing efficiency, saving millions of dollars in lost revenue.
- Efficient horizontal mixing even at very low velocities – without resorting to vertical installations hence avoiding significant pressure drop due to bends while also eliminating significant cost of pipeline rework.
- Efficient mixing even at the worst flow conditions (low velocities, low densities and/or low viscosities).
- Up to 80% shorter nozzle-scoop distance (compared to current systems in the market), allowing very compact design where space is at a premium, particularly offshore.
- No pressure drop in the pipeline due to the presence of the nozzle and scoop assemblies.
- No emulsification of product due to efficient control of droplet size distribution.
- Significantly (up to 50%) lower pump power requirement compared to other system suppliers.



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