



ODS METERING SYSTEMS

Your partner in Custody Transfer
Measurement

ODS Metering Systems

klöckner & co



WE ARE ODS METERING SYSTEMS

Welcome at ODS Metering Systems!

As an independent EPC Contractor for custody transfer flow measurement solutions, ODS Metering Systems offers you a unique combination of expertise in mechanical engineering, instrumentation, electrical engineering, software and process automation. Together with our experienced staff, application knowledge, lab & field calibration facilities and worldwide service capabilities, we strive to be your selected partner for all your metering challenges.

With our independent project approach towards technologies and manufacturers we are able to make the best choices for your project based on the regulatory framework, performance requirements, commercial conditions and client preferences.

We are organized and dedicated to support you all the way from conceptual design to delivery including operational support and maintenance of your systems, if required. ODS Metering Systems is your long term partner to maintain a traceable low uncertainty at minimum operational expenses during the lifetime of your systems.

You can count on our team to be available, responsive and ready to support you!

Erwin Hogendoorn
CEO



WHAT SETS US APART



Focused on custody transfer measurement



Independent system design



Global presence



Since **1950**



Local fabrication & support



Approved by all major oil & gas companies

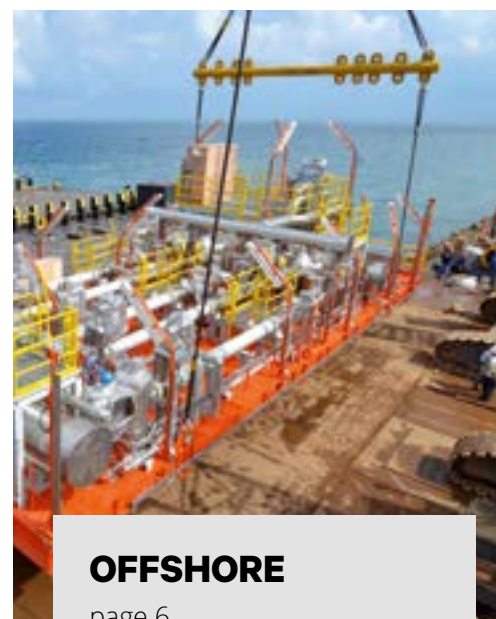


24/7 maintenance support



On-site and lab **calibration** services

OUR MAIN ACTIVITIES



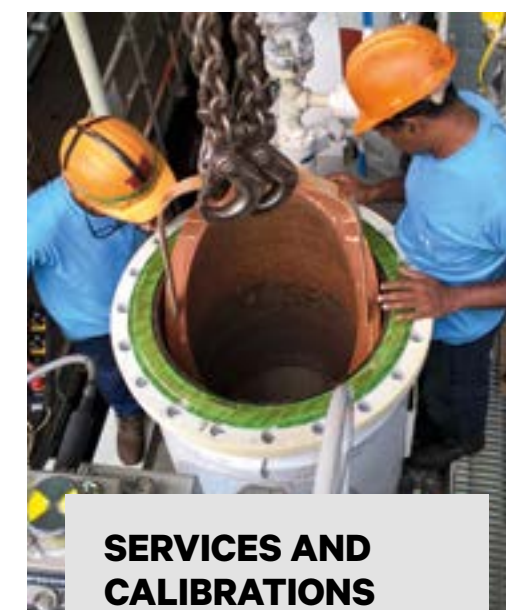
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Loadout of a custody transfer offloading metering system, destined for a FPSO in West-Africa. The system has five parallel 12" helical turbine metering streams equipped with strainers, pressure and temperature measurement, flow control valves, on-off valves and a small volume compact prover. A combined fast-loop and mixing sampling system with inline densitometers and water-cut analyzers is integrated in the system to verify the quality of the oil. The metering control system exists of stream flow computers, PLCs and redundant HMI supervisory computers.

Did you know?

1/3 of all FPSOs are equipped with our metering systems



OFFSHORE

ODS is market leader in offshore custody transfer oil and gas metering packages.

Offshore oil and gas metering systems can be characterized as the most challenging metering applications due to very demanding requirements caused by a harsh corrosive environment, remote support situation, space constraints, weight restrictions and fast track execution. A custody transfer metering system that is installed offshore often has integrated facilities for in-situ flow meter calibration, automatic sampling and fluid analysis.

Typically an offshore metering package contains numerous measuring points and metering systems for oil and gas measurement like oil to tanker offloading, export/import gas, process to cargo, separators, flare gas, injection, produced/disposed water, lines, fuel gas consumers, etc.

ODS supplies offshore metering packages for the following applications:

- ➔ Floating Production Storage and Offloading unit (FPSO)
- ➔ Floating Storage and Offloading unit (FSO)
- ➔ Production platforms
- ➔ Mobile Offshore Production unit (MOPU)
- ➔ Tension-leg Platform (TLP)
- ➔ Floating Liquefied Natural Gas (FLNG)
- ➔ Floating Storage Regasification Units (FSRU)

Did you know?

More than 1/3 of all produced oil in Brazil is measured by our systems



ONSHORE

Onshore custody transfer metering packages vary in many ways and the system configuration depends on your application and project specific needs.

ODS Metering Systems offers all kinds of custody transfer metering systems based on measuring principles like turbine meters, positive displacement (PD) meters, orifice meters, Coriolis meters, ultrasonic meters, etc. To obtain the lowest overall measurement uncertainty, onshore flow metering systems are often supplied with a prover or master meter. Whether it is for crude oil, refined products, gas or even water, ODS is expert in projects containing a single metering system or combined metering packages.

Our decades of expertise and track record in both oil and gas metering packages complete with our own design meter prover skids, sampling systems, analyzer systems and metering control systems make ODS Metering Systems your ideal partner.

ODS supplies onshore metering packages for the following applications:

- ➔ Oil production plant
- ➔ Oil refinery
- ➔ Gas processing plant
- ➔ Petrochemical plant
- ➔ Terminal
- ➔ Tank farm
- ➔ Pipeline

Did you know?

Our systems are installed in 60 different countries worldwide

Final testing of a fiscal crude oil metering system at the fabrication yard in the Middle East. Maximum flow capacity of the system is 33.000 bbl/h, measured by four meter streams. A bi-directional sphere prover loop is part of the system to periodically recalibrate each flow meter during operation. Density is continuously measured with the fast loop density measurement system that is connected to the skid. The metering package is controlled by a fully redundant metering control system which houses flow computers for fiscal calculations, PLCs and a supervisory system acting as HMI for the operators.



UPGRADES & REFURBISHMENT

ODS offers refurbishment and upgrade services for your existing metering system. Refurbishing your existing system could provide great cost and delivery benefits as opposed to investing in a completely new system.

Refurbishment projects normally start with a site inspection and feasibility study to lay out the possibilities and advantages of a potential refurbishment project. ODS conducts the required studies, develops an execution plan and takes full responsibility for the performance, reliability and availability of your refurbished system similar to a newly built system.

Our upgrades and refurbishments services are typically divided in the following categories:

Metering skid overhaul

Mechanical parts in a metering system are affected by wear and tear. Various skid components such as turbine meters, Positive Displacement meters, on-off valves, flow control valves and provers can be dismantled, cleaned, repaired, tested, calibrated and coated or replaced. After overhauling the individual parts, the system will be reassembled and recertified in accordance with the applicable regulations.

Metering Control System upgrades

The primary objective for upgrading your metering control systems is to extend its lifetime, enhance its reliability, its availability, its efficiency and the safety environment of your metering system to the latest standards. ODS offers replacement of obsolete flow computers, supervisory servers and upgrade of HMI software to the latest industrial standards.

FPSO & FSO's refurbishments

When a FPSO or FSO is reassigned to a new production field the onboard metering system needs to be modified to uphold to new local regulations, process parameters and ambient conditions. ODS has great experience with relocation projects and can support you with upgrading and recertifying your metering package in the most efficient manner.

Fiscal Laws and regulation compliance modifications

ODS performs metering system upgrades to comply with the latest laws and regulations that effect the design and operation of your metering system. Typical upgrades include replacement of obsolete equipment, recalibration of instruments and recertification of the overall metering system.

Did you know?

Our latest metering control software can be installed on virtual servers

ODS supervises the reassembly of a complete refurbished fiscal gas metering skid on a FPSO. From time to time FPSOs are relocated to another oil field. For this purpose, ODS assists clients with feasibility studies and field inspections to verify whether the measurement systems can be transformed for operation in its new process conditions and installation environment. If necessary, the complete metering system can be overhauled and upgraded, including dismantling, cleaning, component repairing, coating, recalibrations, re-assembly, testing and recertification. Often, the metering control system is upgraded to the latest software and hardware standards.



SERVICES & CALIBRATIONS

At ODS we believe that our responsibility does not end at delivery of our systems. A full team of specialists is available for you to install, operate and maintain your metering system. Our highly experienced and factory-trained technical support and service engineers are available for you across the globe.

To facilitate your needs, we offer the following services:

Commissioning

Working collaboratively with your project manager and engineers, our technicians have the experience to support you during installation, testing, start-up and maintenance. If required, ODS technicians are available 24/7 to support you during the complete lifetime of your metering system.

Remote diagnostics and troubleshooting

In addition to field services, ODS Metering Systems also extends on-line remote technical support or diagnostics capabilities. We offer customized software to check and operate your system from a remote location.

Training

ODS provides detailed training courses that are tailored to your specific needs. Our in-house or site trainings are custom made and provide in-depth information and guidance to assist your operators, maintenance engineers and technicians.

Metering consultancy

ODS has its own division for consultancy in oil and gas related projects and third-party inspections. We can provide assistance in writing specifications and equipment selection, design review, system evaluation, field inspection, verification and calibration witness services. Our independency on the market makes us your ideal partner in custody transfer measurement.

Flow meter repair

Since 1950 ODS Metering Systems provides flow meter repair services. Due to our extensive and hands-on experience, we are capable of repairing a wide range of flow meter types, such as positive displacement (PD) meters, ultrasonic meters, turbine meters, Coriolis meters, vortex meters, etc.

Calibrations

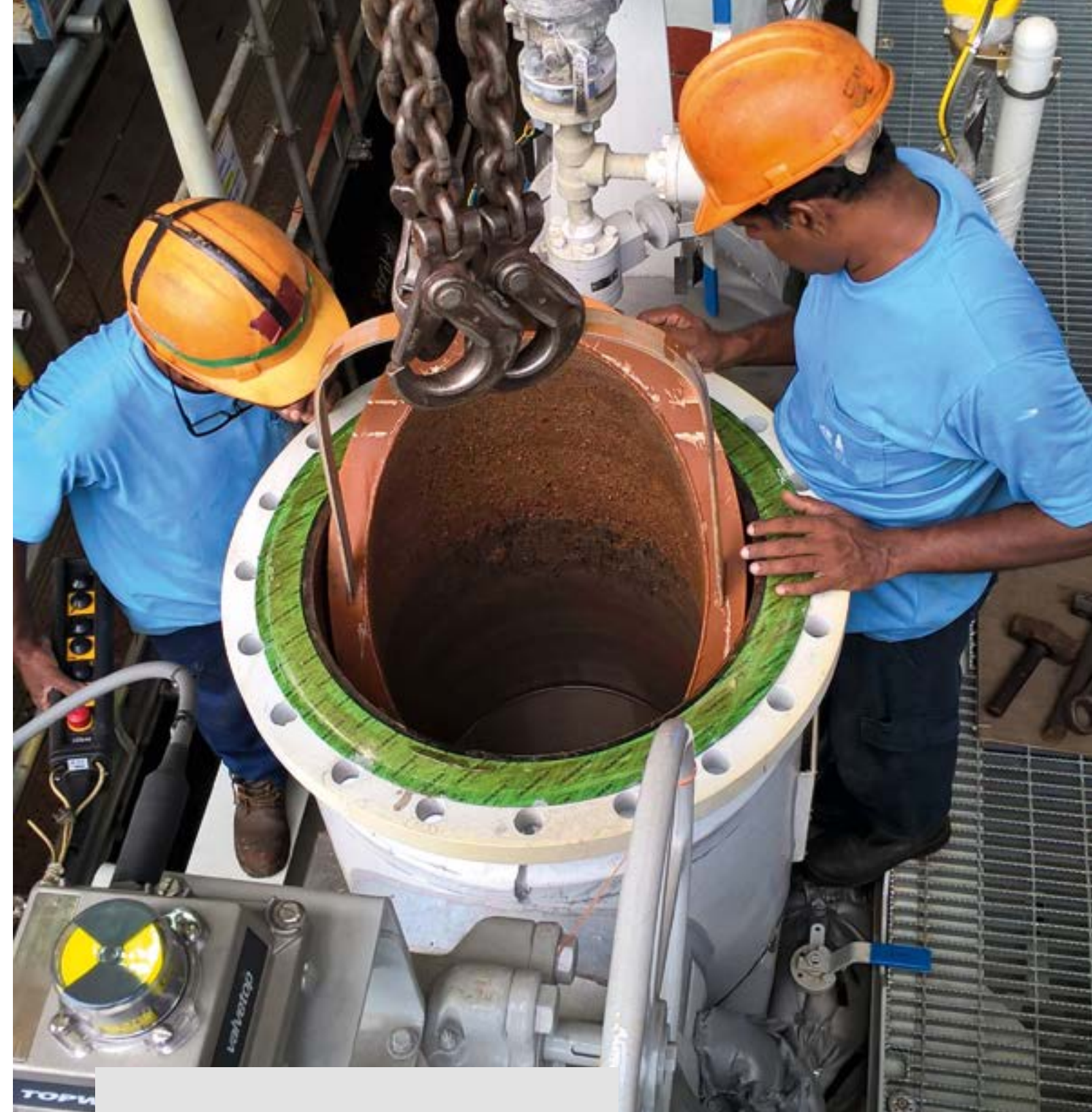
ODS Metering Systems owns and operates both stationary and mobile calibration facilities certified by NMi (Dutch Institute for Measurement and Weights). Calibrations of provers are done with our own waterdraw apparatus, master meter and/or gravimetric calibration equipment.

Typical services

Periodical health checks are recommended to verify whether your metering system operates in optimum shape to guarantee the overall system accuracy and availability over its complete life cycle. Beside the call-off services, we consult in maintenance plans, spare parts management and calibration procedures. Additionally, we assist in full control and digitalization of your measurement systems by installing our Metering Operation & Management System, MOMS®.

Did you know?

We also keep a stock of spare parts for obsolete flow meters, just in case



LET'S TALK!

Contact your local office now



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