

The Roxar downhole HM/HS gauge

Results

- Continuous, real-time well, temperature and pressure data from downhole in the reservoir, enabling wells to operate at peak performance.
- The transmission of accurate data from any location to local or remote control facilities, resulting in improved reservoir management and well planning.
- An unrivalled track record of longevity and robust instrumentation fully proven in the most extreme of temperatures.

Challenges

All operators need to know what is going on downhole in their reservoirs. Collecting information – particularly well, temperature and pressure information – can be vital in controlling wells and ensuring that they are operating at their full potential for sustained production.

Generating real time data continuously under various flow conditions also helps operators to reduce costs by optimising oil recovery, accelerating production and reducing the risk of unplanned shutdowns. The data also reduces safety and environmental risks associated with well interventions.

In addition, the sensors, gauges and other downhole operating equipment deployed in today's reservoirs must also be sufficiently robust to stand the test of time, providing a continuous stream of data during the lifetime of the well and often operating in inhospitable and extreme conditions.



The Solution

Emerson's Roxar Permanent Downhole Monitoring Systems (PDMS), installed worldwide since 1987, generate vital downhole information to allow every producing well to operate at maximum performance.



For more information:
www.roxar.com



The Roxar downhole HM/HS gauge, a key element of the PDMS, is one of the world's leading instruments for reliability and high temperature operations and continuously transmits accurate pressure, temperature and flow rate data from the reservoir in real time to local or remote well control facilities. The data can be used to update reservoir models and optimise production rates.

The gauges are fully proven in high temperature reservoirs and designed to handle extended periods at extreme reservoir temperatures of up to 225 degree Celsius, while continuing to maintain the very best in accuracy and resolution. They can be deployed in production, injection and observation wells, as well as in conjunction with the instrumentation of highly complex multi-zone intelligent wells.

The gauge has quartz pressure and temperature sensors and Silicon on insulator (SOI) electronics (manufactured by Honeywell) that are permanently installed in the well.

Applications & Customers

Roxar has installed more than 1,300 monitoring systems in wells worldwide. Key applications include:

- The permanent installation of downhole pressure and temperature gauges on Statoil's Gullfaks C production platform in the North Sea since 1990 – 21 years of transmitting data uninterrupted without maintenance or replacement.
- Installation of the Roxar HS gauge on BG Tunisia's Miskar field, offshore Tunisia. The gauges continuously transmit digitised pressure and temperature data to the surface, helping BG Tunisia determine the best production rates for the reservoir to ensure a sustainable gas supply. The gauges are operating in temperatures as high as 185 degree Celsius.

The Future

Roxar is continually developing its topside and subsea monitoring systems to further push the boundaries of well monitoring and control.

The next generation of systems are wireless and designed specifically to measure pressure, temperature and multiphase flow from every zone in the well. The new soon-to-be released tools will enable customers to gather even more information per well and for longer than any previous technology has been capable of.

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