

REALology Intelligent Drilling Fluids Monitoring System

Vertechs REALology Intelligent Drilling Fluids Monitoring System (REALology DR) is an API-compliant, intelligent monitoring system that provides real-time insight into drilling fluid properties. This compact, automated platform delivers continuous data on density, rheology, pH, chlorides, and temperature. With 20,000+ hours of proven performance across 130+ wells, it meets the reliability standards demanded by modern drilling teams for safer, more efficient operations.

The second-generation system delivers enhanced measurement precision and reliability, and introduces an integrated data analysis and control suite. This empowers drilling teams with:

- **Drilling Efficiency Optimization:** real-time parameter monitoring with fluid adjustment recommendations
- **Downhole Condition Modelling:** intelligent simulation of complex downhole environments with actionable response strategies
- **Well Control Risk Mitigation:** operational support and proactive alerts from influx detection through intelligent well control simulation



FEATURES

- **Fluid Compatibility:** supports both water-based (WBM) and oil-based (OBM) drilling fluids
- **Modular Design:** maximum module dimensions: 0.6 × 0.6 × 0.8m, enables flexible configuration and cost-effective deployment, ideal for confined offshore platforms
- **Automated Operation:** 24/7 unmanned monitoring and control, ensuring consistent measurement reliability
- **Standardized Accuracy:** compliant with API standards, with measurement accuracy certified by CNAS (China National Accreditation Service for Conformity Assessment)
- **Smart Connectivity:** 5G and IoT-enabled for real-time remote data transmission and control
- **Risk Warning:** analytic engine provides real-time operational risk detection and decision support for optimized well control



Fig1. REALology DR modules (from left to right: Rheology Module, Density Module, pH/chloride Module, Control Module)

VERSION COMPARISON

Version	Fluids	Measured Parameters	Features
REALology DR Lite	WBM+OBM	Density, Temperature, AV, PV, YP, n, K, 3-600rpm, Gels	Cost-effective solution for monitoring essential drilling fluid parameters
REALology DR Pro	WBM+OBM	Density, Temperature, AV, PV, YP, n, K, 3-600rpm, Gels, Chlorides, pH	Comprehensive measurement of key drilling fluid parameters, suitable for all fluid types
REALology DR Pro Max	WBM+OBM	Density, Temperature, AV, PV, YP, n, K, 3-600rpm, Gels, Chlorides, pH, Constant-Temperature Heating, Funnel Viscosity, Emulsion Breaking Voltage, Resistivity	Complete drilling fluid performance measurement with integrated data analysis software

Contact Us

engineering@vertechs.com

Chengdu | Dammam | Houston | Calgary | Hong Kong

Disclaimer :

This document and any files transmitted with it are for use between Vertechs Group and external partners related to the Group's business. Unauthorized use is prohibited, and the dissemination, copying, or distribution of this document and its contents is strictly forbidden until the information becomes public or loses its commercial value. Violators will be held legally responsible.