RGS-DP®
Drop Gyro System

Gyrodata's battery-powered rate gyroscopic surveyor can now be dropped through the drillstring to survey on the trip out–Saving $1,000's in the process.

Innovation:
The battery powered rate gyroscopic surveyor (RGS-BT) is a major advancement in operational versatility, and it offers significant cost-savings by eliminating electric wireline.

With the introduction of RGS-BT in 1994, a rate-gyro survey for the first time could be run inside drillpipe while tripping out of the hole, just like a magnetic tool. However, due to its sensitivity to shock, the tool could not be dropped like a magnetic tool. It had to be lowered on slick line and released. This involved extra time and expense to rig and run the line, and the pipe could not be rotated with the line in the hole.

Drop Gyro System:
Now, utilizing a proprietary new run configuration to control the speed of descent and provide a low-shock landing, the drop battery system (RGS-DP) can be pumped down to bottom in drillpipe without the use of slick or braided line. The Drop system requires a fluid medium and cannot be run in air.

Considering the cost of today's operations, reducing rigtime by 5-10 or more hours and eliminating electric wireline and other associated costs can easily add up to significant savings.

RGS-DP Advantages:
- Saves rigtime by running during the trip out of the hole in drillpipe, compared to a normal gyro run on electric line in casing.
- Eliminates rig-up time, run time and crew costs for slick or braided line in drillpipe run.
- Allows pumping and rotating while being dropped to prevent stuck pipe.
- Virtually no depth limitation with up to 32 hours of run power and storage for 8,190 survey readings.
- No wait at a connection during the trip out to take survey information.
- Provides rate-gyroscopic survey accuracy in drillpipe prior to running casing, and also surveys upper casing strings during the run in drillpipe.

Operation:
The drop system is connected to the surface computer to check system functionality. The tool is then rigged up and pumped downhole during circulation prior to tripping. Although the pipe can be rotated, backreaming is not recommended.

Survey data is collected at each connection while tripping out and depth is entered versus time. Upon retrieval of the tool at surface, survey data downloads immediately to the laptop computer.

Case History:
RGS-DP: Rate-Gyroscopic Surveyor: Battery Drop System

Area: Gulf of Mexico

Well Depth: 19,142 feet

Project Scope: Drop in 3.5" OD drillpipe and pump down 1.75" OD battery survey probe to survey bottom 800 feet on trip out.

Result: Battery system surveyed the entire 19,142 feet of hole while tripping pipe.

Rigtime saved compared to run on wireline in casing: *7 hours*

Specifications

- **1.75" OD probe:** 100°C/212°F, 10K psi (Lithium, 150°C/300°F)
- **1.80" OD high pressure probe:** 15K psi
- **1.875" OD Probe:** 150°C/300°F, 22K psi
- **2.06" OD Probe:** 260°C/500°F, 20K psi
- **Accuracy:** Azimuth 0.1°, Inclination 0.05° Toolface 0.05°
- **Delay setting:** 1-255 minutes
- **Survey station interval:** 15-30 seconds
- **Battery operating time:** 8-32 hours
- **Memory storage:** Over 8,190 survey readings

Contact 281-213-6300 - www.gyrodata.com