

Near-bit MWD System

■ Introduction

Near-bit MWD System XZ-NBMS was jointly developed by CNPC Xibu Drilling Engineering Company Limited and Beijing Liuhe Greatness Technology Co., Ltd, including survey sub and receiver. The survey sub is located between the screw stem and the drill bit with real-time dynamic azimuth gamma and inclination data measurement at the bit, which is electromagnetically transmitted to the receiver connected to the top of the screw stem, and then to the surface via MWD system.

■ Features

- Near-bit measurement
- Near-bit module inclination and dynamic azimuth gamma imaging measurement
- Wireless communication with data transmitted real-time across screw stem, compatible with all mud types

■ Application

- Horizontal, ERD, and directional drilling
- Steering within formations with dipping beds

■ Parameters

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|--|---|
| • Outer diameter | Φ172mm / Φ133.4mm / Φ105mm (6.75" / 4.75" / 3.75") |
| • Rotation rate | 30 to 450rpm |
| • Inclination measurement range and accuracy | 0 to 180° ±0.3°(static) ±0.5°(dynamic) |
| • GR measurement range | 0 to 512API |
| • Sensitivity | 2.0CPS / API |
| • Sampling time | Selectable 16 to 100s |
| • Memory capacity | 64Mbit |

■ Environmental Parameters

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|-------------------------|---------------------|
| • Operating temperature | Up to 175°C / 347°F |
| • Max. pressure | 120MPa / 17400psi |

