

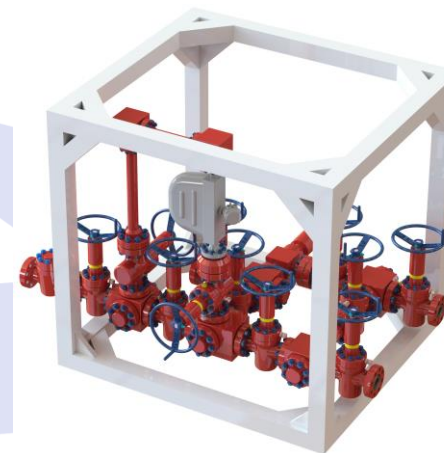


Technical Services – Managed Pressure Drilling (MPD)

MPD Equipment—Auto-Choke Manifold



MPD Equipment—Rig Pump Diverter



Precedent's MPD oilfield service equipment has been designed with modularization and miniaturization, making it suitable for both offshore rigs and onshore drilling operations. Its core components—the choke manifold, electronic control system, and software control system—are benchmarked against world-class brands such as Halliburton and Weatherford. Major components are sourced from American brands. Notably, the high-precision mass flow meter integrated within the choke skid remains fully operational under extreme conditions with gas content up to 30% in the fluid, representing the most advanced configuration among comparable imported products. The MPD electronic control system employs a dual-redundant DCS architecture, featuring redundant control networks, controllers, and power supply modules. In the event of a fault, it enables bumpless automatic switchover, ensuring continuous and stable system operation.



Precedent Energy (Guanghan) Services Ltd.

No.20, South First Section, Yangzhou Road, Guanghan City,

Sichuan Province, 618300, P.R.China

Tel: (86 838) 519 5635 / 519 5936

Email:sales@us-precedent.com

Web:www.us-precedent.com

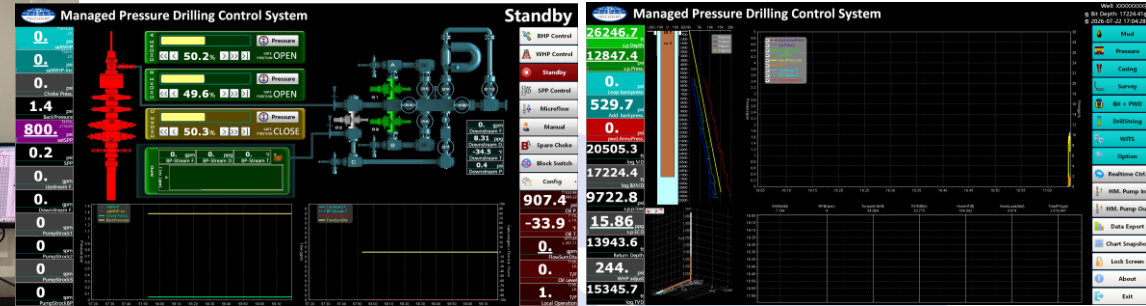


Technical Services – Managed Pressure Drilling (MPD)

MPD Equipment —Central control



MPD Control System Software



The Precedent MPD control system software, developed jointly by Chinese and American experts, features two control modes: Constant Bottomhole Pressure (CBHP) and Micro-Flow Control (MFC). The software integrates surface pressure control, a real-time hydraulic parameter modeling system (with a calculation error within 29psi), monitoring, and automatic control functions, fully achieving intelligent control across the entire process. This system enables MPD throughout all drilling operations, including drilling, making connections, tripping in/out, and replacing packing elements. The MPD software control system automatically adjusts the choke valve at millisecond-level speeds to increase or decrease wellhead pressure, maintaining it within the preset range and ensuring stable bottomhole pressure.

The MPD software system offers multiple control modes, including bottomhole pressure control, wellhead pressure control, standpipe pressure control, micro-flow control, weighted mud displacement, automatic pressure tracking, predictive modeling, emergency response measures, and manual/auto integrated operation. The system supports data input from mud logging and PWD (Pressure While Drilling) systems, enabling real-time acquisition of downhole parameters for dynamic correction of the hydraulic model. This effectively enhances the accuracy of hydraulic model calculations and provides reliable data for MPD decision-making. Additionally, the software can display in real time the wellbore structure and corresponding pressure distribution, and features a three-pressure profile visualization function, assisting engineers in gaining a comprehensive understanding of downhole conditions.

Precedent Energy has aligned its management philosophy with the advanced practices of leading international oilfield service companies. Our service and operations team is staffed with both domestic and international experts with extensive global experience, and has cultivated a dedicated team of MPD technical service professionals with rich field expertise. Leveraging state-of-the-art equipment and a highly skilled workforce, we have been delivering efficient and reliable professional services to our clients since 2021, earning wide recognition and consistent high praise.

Precedent Energy is fully equipped to provide comprehensive MPD technical services for onshore, offshore, domestic, and international oil and gas exploration and development projects, offering clients professional, customized solutions.



Precedent Energy (Guanghan) Services Ltd.

No.20, South First Section, Yangzhou Road, Guanghan City,

Sichuan Province, 618300, P.R.China

Tel: (86 838) 519 5635 / 519 5936

Email:sales@us-precedent.com

Web:www.us-precedent.com