



MPD | ACTIVE PRESSURE MANAGEMENT

MPD technology built on experience, designed for the future

MPD CAPABILITIES

AFGlobal: Much more than a manufacturer

AFGlobal MPD technology puts the power of Active Pressure Management in your hands every day.

As the industry's use of MPD has grown, so has our expertise. We listened and learned from the drilling contractors, operators and MPD service providers we work with every day. Along the way, we have built a portfolio of capabilities—now addressing the larger active pressure management requirements—to answer their challenges. In addition to manufacturing a full complement of innovative, proven equipment, we provide:

ENGINEERING | FEED STUDIES | FLOW MODELING | RIG SURVEYS | INTEGRATED CONTROL SOFTWARE | LIFECYCLE SERVICES | AFTER-SALES SUPPORT | TRAINING





Delivering Expertise

Our experienced service people have supported operators for more than a decade. Our comprehensive understanding of MPD equipment and application expertise positions AFGlobal as the preferred source for MPD service, equipment and engineering.

The result is end-to-end continuity for implementing MPD on your rig or your well. AFGlobal puts all the parts together, so that whatever the objectives, we can optimize the solution.

Decades of manufacturing experience combined with our deep understanding of pressure management drilling technology has positioned AFGlobal at the center of the MPD evolution. Working closely with all the stakeholders, we have designed, built, and installed the industry-leading equipment that is enabling a global fleet of MPD-ready rigs. But safe, efficient MPD is much more than innovative iron.

MANAGED PRESSURE DRILLING SYSTEMS

AFGlobal provides operators, drilling contractors and service companies with a full scope of next-generation MPD technology that seamlessly integrates with rig and service company systems on deepwater vessels, jackups and land rigs.

Our broad customer base and manufacturing expertise leverages MPD insights from every perspective for practical, innovative solutions to every application.

The result is an integrated suite of advanced MPD equipment and controls for implementing a broad scope of solutions, from closed loop methods to purpose-built riser gas handling and full MPD programs executed by the rig crew or service company.

Industry-leading AFGlobal MPD technology ensures every well and rig can easily and economically benefit from the safety and operational advantages of MPD methodologies.





Integrated with the drilling riser, the ACD seals the wellbore using a special co-molded polymer/polyurethane element to seal and provide wear resistance during drill string rotation.

Active control of the seal's closing force compensates for wear to ensure the wellbore seal. Changes in pressure provide wear data that informs maintenance scheduling for greater rig efficiency.

ACTIVE CONTROL

We revolutionized deepwater MPD with our multi award-winning Active Control Device (ACD). The non-rotating wellbore seal eliminates the cost and risk of passive rotating control devices and introduces major advantages with condition-based monitoring and maintenance.

The ACD's ability to actively monitor the seal condition and compensate for wear provides deepwater rigs with a unique opportunity to improve rig economics, operations, and safety.

The ACD design is a fundamental rethinking of critical MPD wellbore sealing technology based on a hydraulically controlled, non-rotating sealing element. Its hydraulic design enables active compensation for proactive wear and condition-based seal monitoring.



**Seal sleeves run
and install in less
than 30 minutes**



**BEYOND
API 16RCD Pressure
rating to 1,500 psi**

PERFORMANCE DRILLING

Our Performance Drilling suite of products puts the advantages of closed-loop circulating systems in the hands of the crews who use it every day. We make closed-loop operations a practical reality for drillers, delivering the benefits of active pressure management while maximizing efficiency and reducing complexity.

% **80% MPD**
functionality with
20% of footprint*

From the seal element geometry to the housing material selection, all components of our L-Series and J-Series RCDs ensure the safety of the rig crew by creating a leak-free seal between the annulus and the drill pipe. We build and test our ACD and RCD to API 16 A and 16 RCD standards. And our advanced bearing design and internal dynamic seals extend the life of the bearing, resulting in fewer bearing assembly change outs.

Performance Drilling Manifold

Our performance drilling manifold enables operators to achieve more than 80 percent of typical MPD functionality using less than 20 percent of the typical footprint. This manifold allows the driller to gain efficiency in their operations by giving them more control—with increased space savings and reduced OPEX.

**80 percent where optimization and efficiency is the target, and a well does not require full MPD.*

Applied surface back pressure (ASBP) on connections, automated ramp schedules, and early kick detection allow the driller to increase productivity while also increasing the level of safety of the well and more importantly, the drilling crew.





L-Series RCD

Our land RCD is designed specifically for the efficiency and performance required in land rig operations. This innovative RCD and bearing design provides the driller with a high performance, compact solution—delivering lower OPEX over the life of the tool. **height of only 36-3/4" or pressure rating of 5,000 PSI**

J-Series RCD

Our J-Series RCD is designed to help operators and drilling contractors overcome the challenges of drilling in extreme environments where 18-3/4-in. surface BOP stacks are employed. This seal enables the operator to safely divert fluid returns during MPD or other drilling applications. **height of only 54-1/2" or pressure rating of 5,000 PSI**

CONTROL SYSTEMS

Precise, responsive control of all MPD operations is achieved with AFGlobal's industry-leading NControl™ MPD platform and specialized manifold systems. The integrated technology—including advanced hydraulic modeling and choke control—enhances and simplifies even the most complex MPD operations.

The NControl platform is a plug-and-play open architecture system that seamlessly connects all the participants. This system fully integrates monitoring, data collection, control, analysis and automation. Multiple algorithms provide a fast, accurate response to pressure variations across all situations. MPD settings are coordinated with the rig system to further ensure accuracy and reliability.

To take advantage of NControl's precision and speed, our MPD manifold features the industry's most advanced choke controllers. Highly responsive and easily tuned online, the choke controllers ensure execution of control system commands to minimize operator intervention.

Our unique ability to perform condition-based monitoring of choke wear ensures performance confidence and informs efficient maintenance scheduling.



ELASTOMERS

Built to extend performance, our unique elastomer technology provides a fundamental advance over legacy MPD elements. Key to the design is our expertise in elastomer manufacturing. Our innovative co-molded element led to an active pressure sealing system that eliminates the maintenance-intensive rotating components of conventional RCD designs.

Our proprietary designs include a broad range of elastomers for most popular RCDs, all of which are tested in accordance with API and ASTM specifications.

AFGlobal 

945 Bunker Hill, Suite 500 | Houston, Texas 77024 USA | 713-393-4200

afglobalcorp.com/drilling