



## **MPD | ACTIVE PRESSURE MANAGEMENT**

Next-generation MPD technology, built by manufacturing specialists



Our experienced service personnel have supported operators with more than 80+ wells drilled to date. 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.

# The next generation of MPD puts all the pieces together. *And it's already here.*

AFGlobal integrates the MPD puzzle with a full scope of expertise and technology that supports:

- Engineering and design
- Manufacturing
- Service
- Training

Decades of manufacturing experience combined with our deep understanding of pressure management drilling technology has positioned us 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.

## AFGlobal: Much more than a manufacturer

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, field-proven equipment, we provide:

- Engineering
- FEED studies—from concept to development
- Hydraulic flow modeling
- Rig surveys
- Integrated control software
- Lifecycle services
- After-sales support
- Training





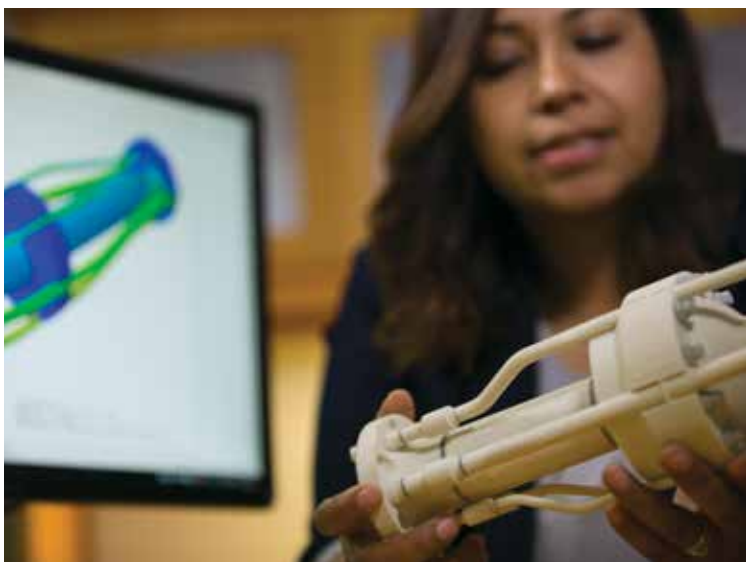
## Riser Gas Management

Reduce the risk of riser gas immediately with installation of our industry-standard, purpose-built **Riser Gas Handling (RGH) system**. Integral to the marine riser, the component-based RGH enables seamless integration with rig systems and third-party equipment. With the RGH installed, safety is improved and the rig is **MPD ready**. Reliability is enhanced with proprietary annular sealing elements designed for:

- Multiple quick close cycles
- Complete seal-off
- Improved performance







## ACD and RCD

Improve the safety and performance of deepwater MPD by replacing conventional RCDs. Our deepwater **Active Control Device (ACD)** goes to the heart of the challenge with a non-rotating annular diverter. Its unique active pressure sealing system provides wellbore sealing without bearings or rotating components to maintain.

Our **L-Series RCD** provides land rigs and jackups with a safe, effective means of implementing many advanced applications including MPD, underbalanced drilling, and enhanced kick detection.

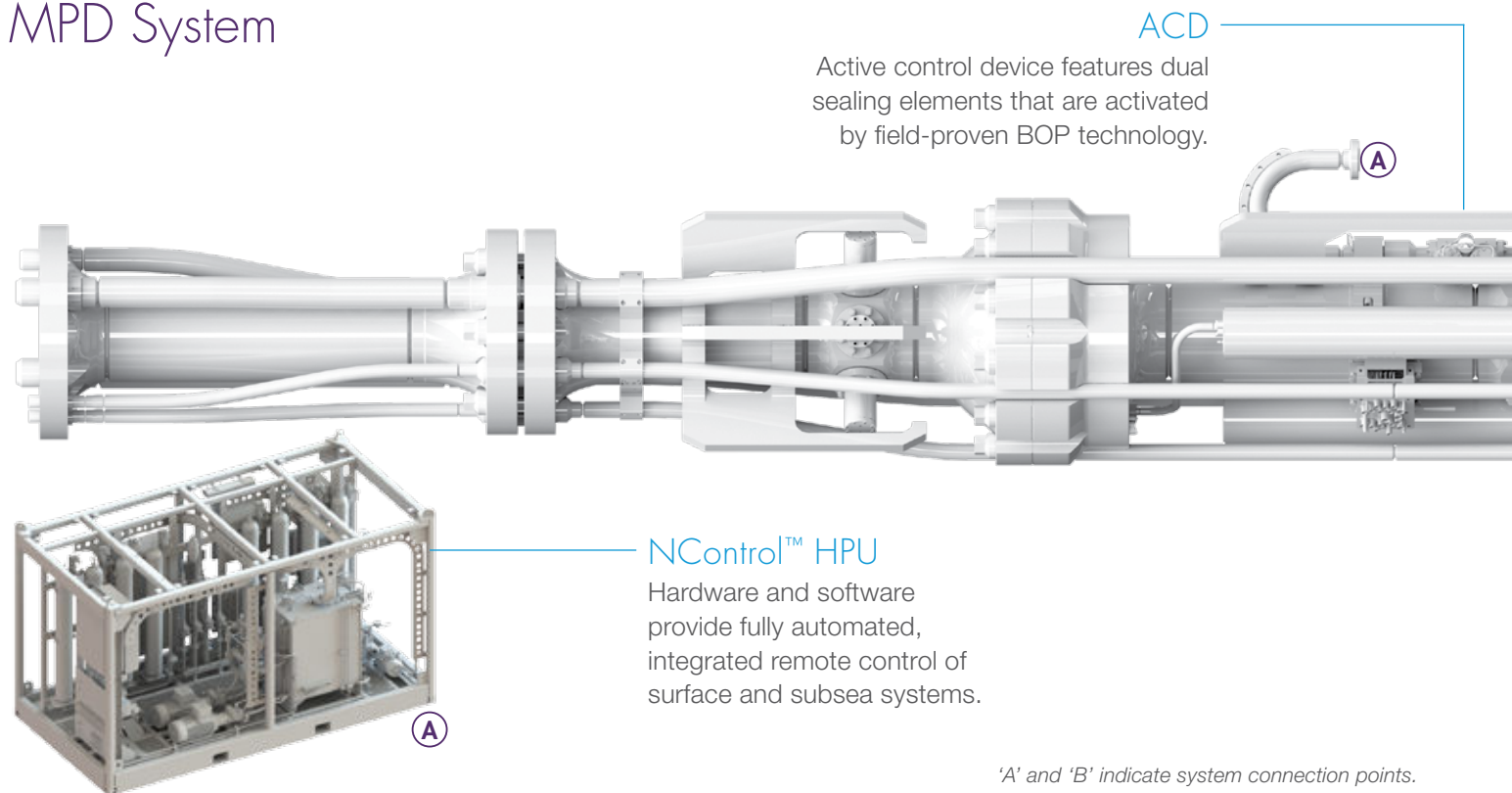
We build and test our ACD and RCD to API 16 A, API 16 RCD and NACE standards.

## Elastomers

When conventional rotating RCD elements became an impediment to performance, we developed a unique elastomer technology and a fundamental advancement to 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.

## MPD System





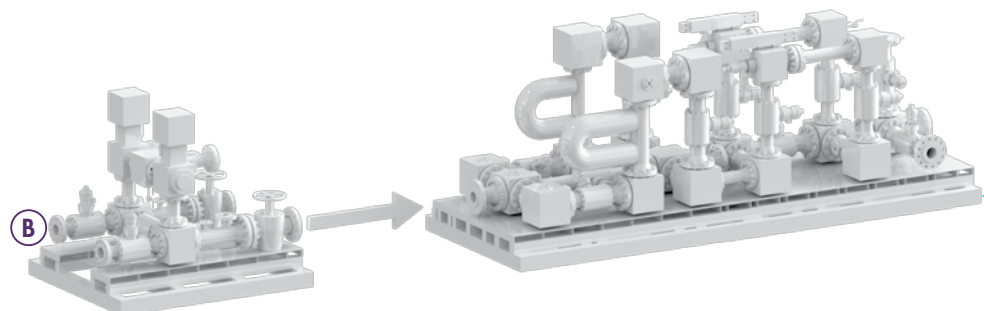
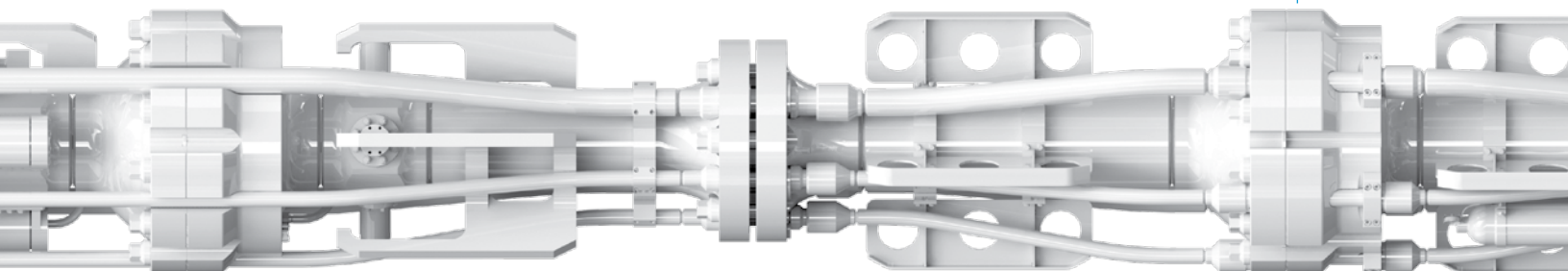
## Engineering

AFGlobal provides complete front end engineering and design (FEED). Our multidisciplinary expertise includes:

- Project management
- MPD and underbalanced drilling well engineering
- Subsea and surface equipment design engineering
- Equipment systems manufacturing including commissioning and testing

### DSIT Gen II

Rig serviceable drill string isolation tool reduces flat time associated with element change-outs.



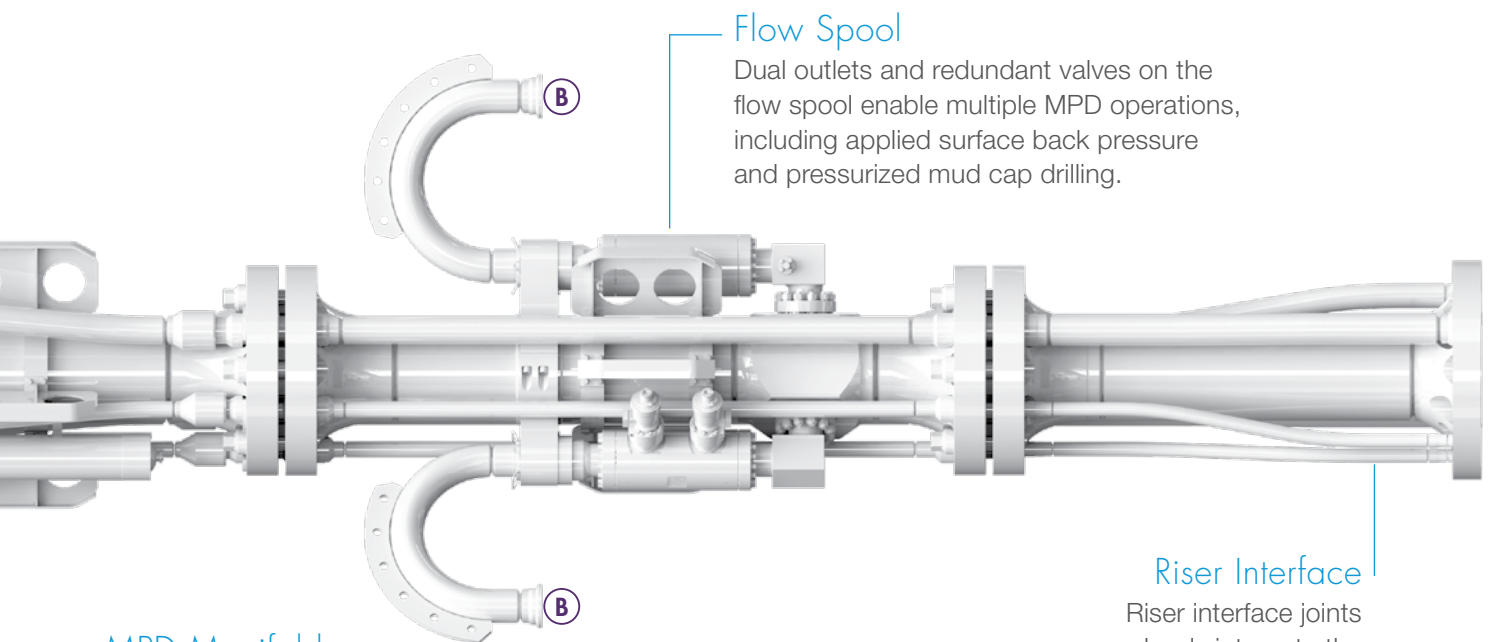


## Control Systems

Our **NControl™** MPD platform fully integrates monitoring, data, control, analysis, and automation. Rig floor workstations provide an expert interface with surface and subsurface drilling system components including flow meters, transmitters, sensors, and valves.

Our specialized **manifold systems** include:

- Our **distribution manifold** integrates mud returns with the rig systems, including trip tanks and standpipe, while providing overpressure protection for the formation, casing, riser and other circulating system components.
- Accurate bottomhole pressure control is achieved with MPD drilling chokes in our **MPD manifold**. Downstream of the distribution manifold, the MPD manifold enables precise downhole pressure management using applied surface backpressure.



## Flow Spool

Dual outlets and redundant valves on the flow spool enable multiple MPD operations, including applied surface back pressure and pressurized mud cap drilling.

## MPD Manifold

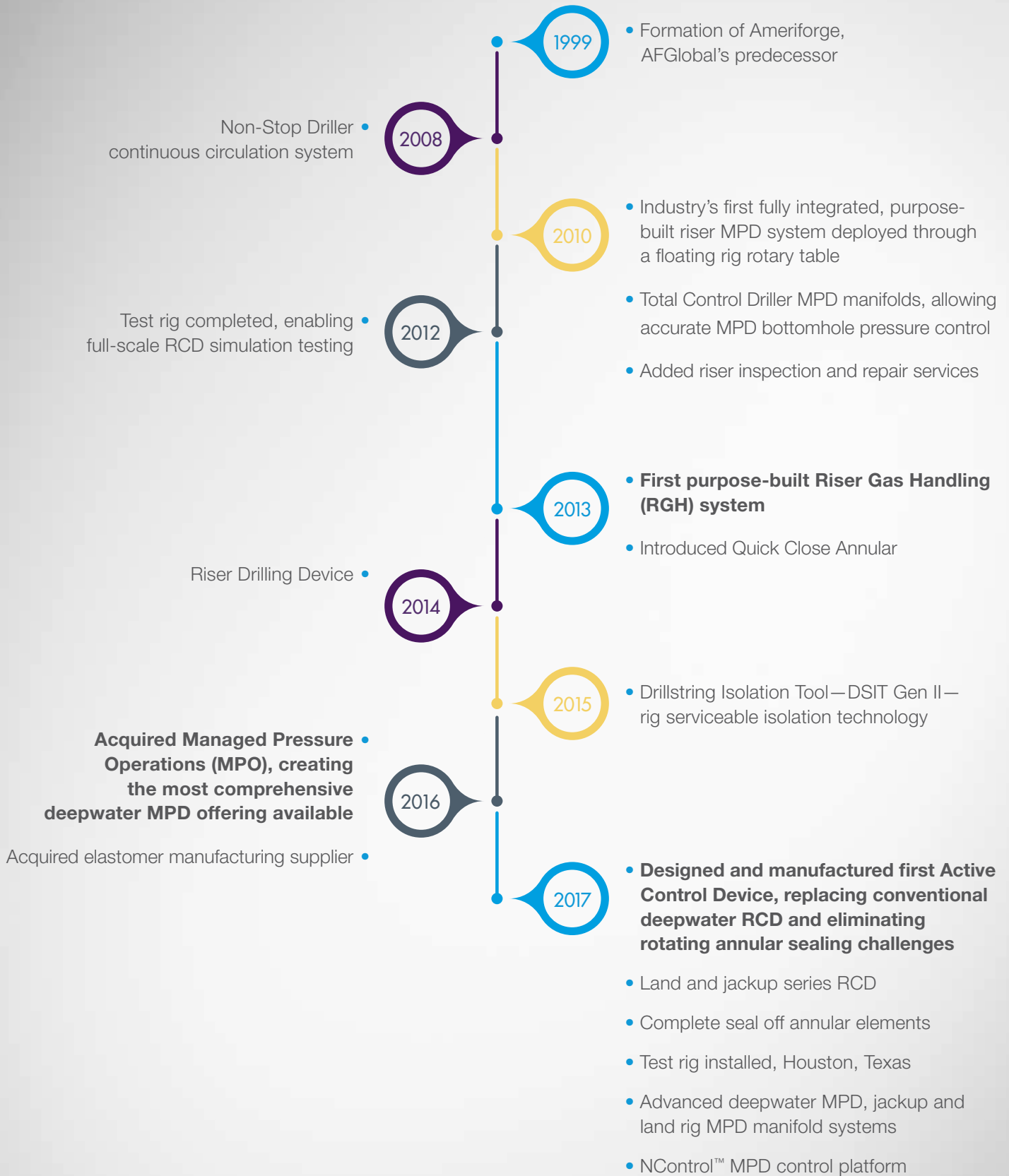
Fully integrated MPD manifold with multiple flow paths provides accurate measurement and pressure control in all drilling situations (high or low flow).

## Riser Interface

Riser interface joints seamlessly integrate the MPD joint with the riser system.



# AFGlobal: Pathway to MPD Technology Leadership



Contact our MPD experts to start your transition to a safer, more efficient—and more competitive—rig. Our experienced people and premium technology stand ready to meet the needs of your specific rig and objectives.



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