

ACD ACTIVE CONTROL DEVICE

for Deepwater and Offshore Surface Applications

PROVIDING ACTIVE CONTROL

Managed Pressure Drilling (MPD) operations require a device to seal the annulus between the drill string and subsea drilling riser.

AFGlobal's Active Control Device (ACD) provides the prerequisite seal and diversion of annular wellbore returns using a novel, non-rotating device enabled by an actively pressurized, co-molded element. This purpose-built device eliminates the bearings and rotating components that are a regular source of maintenance and failure in standard RCDs. Instead, its active pressure sealing system hydraulically applies closing pressure to maintain consistent wellbore sealing integrity over time as the sealing sleeve is worn.

RELIABILITY, BUILT IN

The unique sleeve is a co-molded element comprised of an enhanced urethane matrix reinforced with a durable polytetrafluoroethylene (PTFE) inner shell. As the sealing sleeve wears, pressure is actively applied to force the element against the drill pipe to maintain consistent seal performance. The device varies hydraulic pressure on the seal to compensate for wear and accommodate passage of wear-inducing tool joints. RCDs do not have the ability to be adjusted in-situ to prolong seal integrity. Service life and performance of the ACD is further enhanced by the greater durability of the co-molded element and lubrication of the seal with clean drilling mud.

Active pressure sealing is a significant advance over MPD operations that degrade the performance of passive RCD elastomer seals. The device varies hydraulic pressure on the seal to compensate for wear and accommodate passage of wear inducing tool joints. The active seal results in a stripping capacity that exceeds conventional RCD sealing elements.



SYSTEM FEATURES

- Adjustable active pressure system using field-proven BOP technology—no bearing or wear sleeve required; bearingless sealing device offers repeatable performance
- Active control with real-time performance monitoring
- Purpose-built system for installation into a deepwater drilling system
- Redundant safety device for when seals are not installed
- Ultra-high quality elastomer seals manufactured in-house for maximum reliability

AFGlobal provides a full scope of MPD equipment and multidisciplinary FEED and well engineering. A leading technology innovator, its NControl™ MPD platform integrates monitoring, data, control, analysis, and automation, and specialized manifolds enable downhole pressure management and rig integration.