

OUR NEXT-GENERATION PRESSURE MANAGEMENT TECHNOLOGY IS HERE.

THE SAFESHIELD® 5M RCD ENHANCES CLOSED-LOOP DRILLING IN ANY ONSHORE ENVIRONMENT.

The rotating control device (RCD) is a critical component of any closed-loop drilling (CLD) system and the first line of defense for your wellbore. As the global leader for RCD technology since 1968, Weatherford continues to make advancements above and beyond the industry's latest safety and operational CLD requirements.

Our next-generation SafeShield 5M RCD creates a closed and pressured drilling system that meets any operational need. The RCD bears the API 16RCD monogram and is available as a capital sale or conventional operator rental.

Remote latching system

All four SafeShield RCD models—including the medium-pressure and high-pressure variants—have a state-of-the-art remote latching system. The system enables installing and removing the bearing assembly without manual handling, which enhances safety.

Self-lubricating bearing assembly

The SafeShield medium-pressure RCD model includes a self-lubricating bearing assembly with single or dual elements. Self lubrication eliminates the need to use an external hydraulic lubrication unit or to connect lubrication lines.

Enhanced specifications

The 5M RCD provides a shorter stack height, a larger through-bore of 8-1/4 in. (210 mm), and higher pressures ratings up to 5,000 psi (34.5 MPa) and 2,500 psi (17.2) for static and dynamic conditions, respectively.

Single-platform device

Our enhanced RCD can be used in multiple applications and pressure ranges for safe fluid containment and diversion. As a result, you can streamline asset management by using a single platform instead of different bowls and bearing assemblies.

Rotating, interchangeable bottom flange

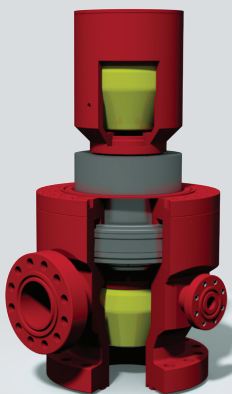
The flange is rotatable, which eases configuration on the rig and reduces the overall time for installation. It is also interchangeable, which enables you to use one universal bowl and adapt to a range of bottom flange configurations.

Gas-tight, long-lasting seal

Our SafeShield RCDs offer the longest-lasting seal life in the industry. As of 2016, our 5M RCD is nitrogen tested to API 16RCD criteria to validate its use in a pure gas environment.

Bundled offering for onshore operations

The SafeShield 5M RCD combines with our set-point choke to create our PressurePro® control system—an offering that enables safe and effective managed pressure drilling on land. The system provides automatic choke adjustments to proactively manage wellbore pressures and automatic backpressure control to efficiently mitigate drilling hazards.



- Managed pressure drilling
 - Returns flow control (RFC)
 - Pressurized mud cap drilling (PMCD)
 - Constant bottomhole pressure (CBHP)
- Air drilling
- Underbalanced drilling
- Extended-reach horizontal wells and vertical wells
- Drilling in formations with abnormally pressured aquifers
- Drilling in shallow-gas formations
- Drilling operations that require preventing background gas from flashing to the atmosphere on the rig floor

APPLICATIONS

FREQUENTLY ASKED QUESTIONS

The Next-Generation SafeShield® 5M RCD

How many models does this offering include?

Four. Our SafeShield 5M RCD series includes a medium-pressure and a high-pressure model, both of which offer the choice of either a single or dual sealing element.

What are the RCD pressure ratings?

Our medium-pressure RCD is rated for static pressures up to 3,000 psi (20.7 MPa) and rotating and stripping pressures up to 1,500 psi (10.3 MPa). Our high-pressure RCD is rated for static pressures up to 5,000 psi (34.5 MPa) and rotating and stripping pressures up to 2,500 psi (17.2 MPa).

Are the bearing assemblies and bowls interchangeable between models, or do I need to rig up a different body for new applications?

Yes, they are interchangeable. All of our next-generation SafeShield RCDs use the same latching profile, but the pressure ratings depend on the whether the bearing assembly is manually lubricated or self lubricated.

Can I obtain real-time data and monitor with the RCD?

Yes. The RCD integrates with our OneSync® software interface, which enables you to remotely access and view the wellbore pressure, the latch and clamp position, the bearing oil level (viewable when the bearing assembly is changed out), and the pressure between sealing elements.

Does the RCD require Weatherford personnel on location?

No. For medium-pressure applications, the rig crew can rig up and operate the RCD. For high-pressure applications, a Weatherford field service technician can be dispatched to rig up only—or to rig up and operate the RCD, if required. Typically, the rig crew will operate the RCD, including installing, removing, and changing elements.

Do we have to rig down the RCD bowl to log the well or to perform other conventional drilling and completion operations?

No. You can use a Weatherford-provided adapter with the bowl nipped onto the blowout preventer to conduct all conventional operations.

How long does it take to change the bearing assembly and sealing elements on location?

It takes approximately 30 to 45 minutes to change out the bearing assembly. We recommend that you have two bearing assemblies on location, which enables you to change sealing elements offline during the drilling operation. Offline sealing-element replacement can take 10 to 15 minutes, 20 to 30 minutes, or 30 to 45 minutes, depending on the model.

Can we run casing either with an element or without an element?

Yes. With or without an element, you can use a bearing assembly with smaller casing sizes (5 in. or less) and a nonrotating casing stripper assembly to safely strip in the casing with larger casing sizes. You can also run casing without an element through the RCD body.

How long does the RCD sealing element last?

The sealing element lasts approximately 8 days on average. However, the duration can vary widely, depending on various drilling factors and the pipe condition.

How is training provided with RCD purchases?

We provide thorough technical training. Before you begin your project, our qualified technicians train your rig crew at a designated offsite or onsite location. Pre-job training provides the knowledge your crew needs for smooth deployment and competent operation. After the training, you may continue to contact us for timely technical assistance.

Are repair and maintenance services available in extremely remote areas?

Yes. Whether you rent or purchase an RCD, support is always nearby. Our extensive RCD distribution network has convenient worldwide locations at which we can perform repair and maintenance services at any time during the life of the equipment.

Do I need an air or orbit valve?

If you expect a kick and are not rigged up with a choke off of the RCD outlet, an air valve can give you the extra time needed to add back-pressure, suppress the kick, and get the well under control. We also offer a bundled package including PressurePro and the 5M RCD for flow drilling applications. Contact your local Weatherford sales representative for more details.

When will the SafeShield 5M RCD be available?

The RCD will be available mid-year in 2017 for purchase or rental. Please contact your authorized Weatherford representative or email us at RCDsupport@weatherford.com for more information.



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