

# Rhino

Integrated borehole enlargement system



[Learn more at slb.com/Rhino](https://slb.com/Rhino)

# Rhino

Integrated borehole enlargement system

\*Mark of Schlumberger  
Copyright © 2016 Schlumberger. All rights reserved. 16-BDT-131483

**Schlumberger**

**Schlumberger**



# Rhino

Integrated borehole enlargement system



The Rhino borehole enlargement system comprises a family of hydraulically actuated reamers, including

Customizable, rugged, precision-engineered Rhino system reamers improve drilling performance and deliver high-quality, concentric boreholes. They can be configured for a wide range of borehole sizes and any borehole enlargement application.

## Applications

- Deepwater wells
- Extended intervals drilled with rotary steerable systems
- Extended-reach-drilling (ERD) wells
- Loosely consolidated formations
- Highly abrasive formations

## Benefits

- Improves hole-enlargement-while-drilling (HEWD) efficiency by reducing drill-string vibration
- Enhances wellbore assurance through larger ID production strings, control of equivalent circulating density (ECD), and improved casing running

## Features

- Integrated jet nozzles and flow paths
- Tungsten carbide hard-facing and diamond-enhanced inserts
- Configurations for a wide range of borehole sizes and any HEWD application
- Optional Predator\* cutter blocks equipped with ONYX\* PDC cutters

### Rhino XS\*

Hydraulically expandable reamer for reliable single-trip borehole enlargement

### Rhino XC\*

On-demand hydraulically actuated reamer for complete control of reamer activation

### Rhino XS2\*

Full-cycle expandable reamer for full circulation at TD, pulling out of hole, and above the casing shoe.

### Rhino RHE\*

Dual-reamer rathole elimination system for elimination of dedicated rathole cleanout runs.



Reamers

Hent dollorehenis velia quae valoris con corehen iminctur? Itis magna volorro mo estius dipisquam imillor isototat Nemporibus utem faciatur re volecus.

**Rhino XS**

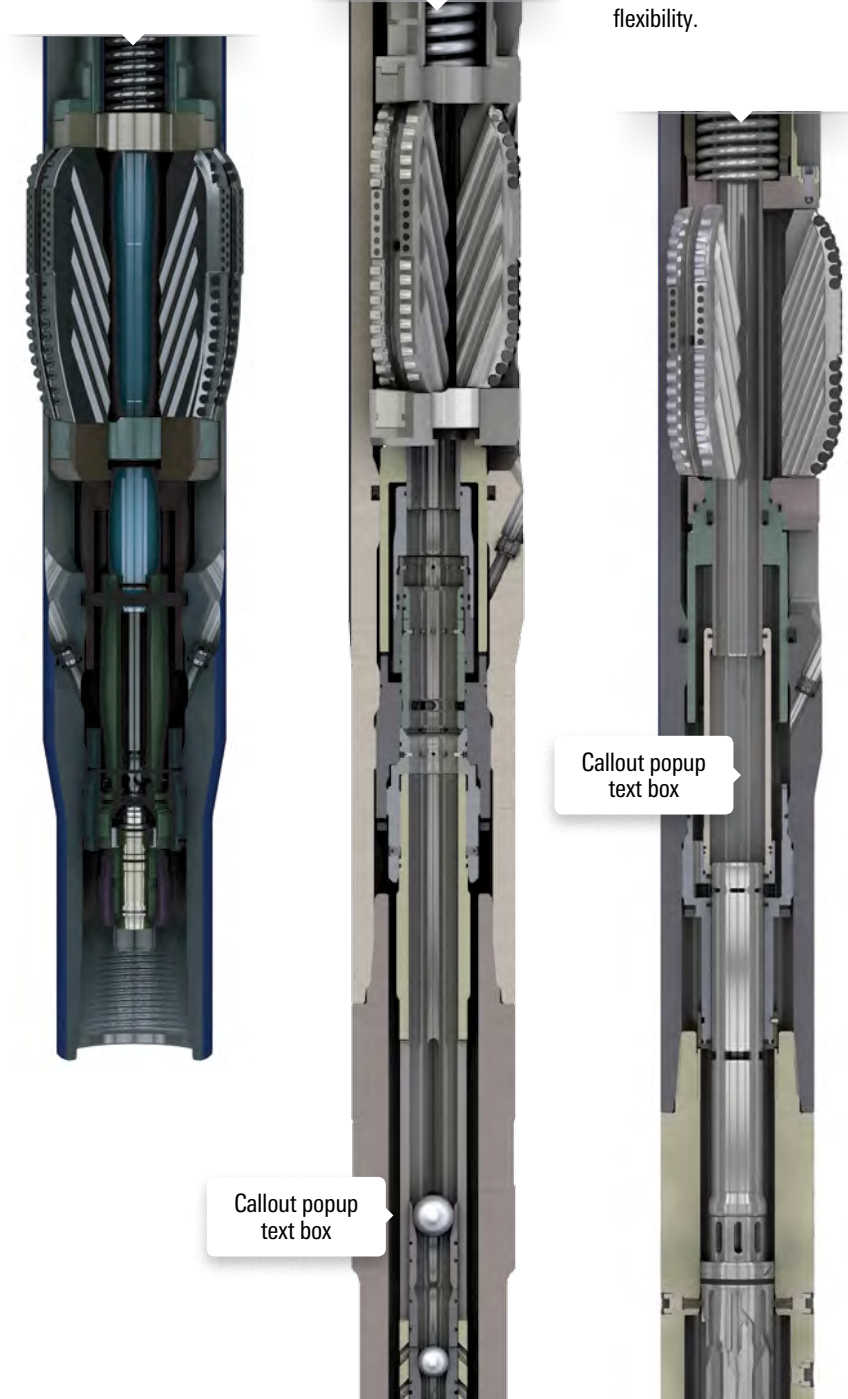
The Rhino XS hydraulically expandable reamer provides reliable hydraulic actuation for single-trip borehole enlargement with an activation ball that is dropped from surface.

**Rhino XS2**

The Rhino XS2 full-cycle expandable reamer is the latest addition to the integrated Rhino system. The tool enables effective hole cleaning at TD with full circulation rates.

**Rhino XC**

The Rhino XC on-demand reamer provides complete control of reamer activation. It eliminates time-consuming pumpdown activation devices and can be placed anywhere in the drillstring for increased operational flexibility.



Callout popup text box

Callout popup text box

Cutting Structures

Aximus, explat ex et ratem id que omnim quis exces et faccul amendebitio. Tum suntibus, id eos in con eos exerum rem hit dolores dolupta simaio beatinusda endaes molum velique excea di quis doluptae pa samet,Doles velis es et incto eosam, explis de none dolumqui offictae ped esequiant ma ne sum volo te consedi tinimus qui dolent parcime velic to quidem nem

Stabilizer


The stabilizer uses three abrasion-resistant stabilizer blocks with the Z-Drive reamer cutter block deployment system. Tungsten carbide hardfacing and diamond-enhanced inserts are available to provide additional wear resistance.

Cement cleanout blocks


Typically run in tandem with standard Rhino system reamers, cement cleanout blocks are designed for shoe-track drilling and post-shoe-track drilling in formations that require enhanced stabilization.

Predator Cutter Blocks


Predator cutter blocks stay sharp longer, resulting in more footage drilling at faster ROP and providing maximum performance in a range of applications, including highly abrasive, interbedded, and difficult-to-drill formations. ONYX PDC cutters improve thermal stability in hard, abrasive formations and increase wear resistance.



Diamond-enhanced gauge inserts



Z-Drive system tongue-and-groove actuation



ONYX PDC cutters

Combo Applications/Systems or Whatever

Os aut omnim as vernatur, nem ari audae nullibus, quo bea voluptatem. Ut audit, erchit magniminciis voleces vit et acim eum que lam a nemporia nosa culla conet molene pore perferat.

Dent harchil lecaborio con con conem valorionet aspienditiis aliscitatum re consed es volesti onserum imaiorem. Hent ma dolescitem eruntem eaque erro modisqu atature rroreium quis comniae sequatum, omnis estis et facea ditat et aces quam.

Headline

harchil lecaborio con con conem valorionet aspienditiis aliscitatum reitiiis aliscitatum re consed es volesti onserum imaiorem. Hent ma dolescitem er consed es volesti onserum imaiorem. Hent ma dolescitem erunt

Headline

harchil lecaborio con con conem valorionet aspienditiis aliitiis aliscitatum re consed es volesti onserum imaiorem. Hent ma dolescitem erscitatum re coitiis aliscitatum re consed es volesti onserum imaiorem. Hent ma dolescitem ernsed es volesti onserum imaiorem. Hent ma dolescitem erunt

Rhino XS reamer with cement cleanout blocks

Rhino XS reamer

MWD

LWD

RSS

Drill bit

Rhino RHE system upper reamer

LWD

MWD

LWD

Rhino RHE system lower reamer

RSS

Drill bit



Rhino RHE

The Rhino RHE rathole elimination system is designed to eliminate dedicated rathole cleanout runs and avoid costly trips back to surface. The integrated dual-reamer system comprises an active Rhino XS reamer, a passive Rhino XC on-demand reamer, a PowerDrive RSS, and a customized PDC drill bit from Smith Bits, a Schlumberger company. The system enlarges the borehole and reduces rathole length, all in one run, providing on-demand activation with surface confirmation.

Applications

- Casing operations to ensure the casing shoe and cement are set at TD
- Rathole enlargement at TD

Advantages

- On-demand activation of enlargement system with surface confirmation
- Elimination of dedicated rathole cleanout runs, reducing well construction time
- Assurance of a secure casing shoe and cement job
- Real-time data extenders enable reamer placement between MLWD and RSS tools