

Rhino XS2 13000 Series

Full-cycle expandable reamer

APPLICATIONS

- Underreaming while drilling
 - Tight holes
 - Swelling or abrasive formations
 - Wells with equivalent circulating density (ECD) or casing cleaning issues

ADVANTAGES

- Cleans hole effectively at TD
- Prevents cuttings generation when pulling out of hole
- Reduces risk of failure with parts placed farther from critical flow ports
- Enables custom borehole enlargement solutions, including
 - Enlarging a portion of the wellbore
 - Cleaning out cement
 - Using as an expandable stabilizer
 - Serving as a rathole enlargement system (similar to the Rhino RHE* dual-reamer rathole elimination system)

The Rhino XS2* 13000 series full-cycle expandable reamer delivers high-quality, concentric boreholes and features the ability to turn off while drilling fluid is circulating. This capability enables hole cleaning and eliminates the generation of cuttings when pulling out of hole or when performing other borehole enlargement operations.

The reamer is ideal for use with rotary steerable systems and is particularly well suited for challenging applications, including extended-reach drilling, operations in highly abrasive formations, and backreaming in loosely consolidated formations.

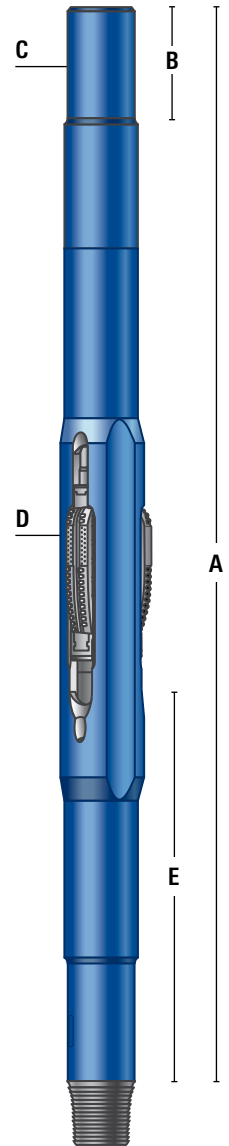
Superior wellbore quality coupled with a proven history of performance makes the Rhino XS2 reamer the preferred choice for underreaming operations.

Specifications

| | |
|--|-------------|
| Overall length (A), ft [m] | 14.5 [4.42] |
| Min. neck length (B), ft [m] | 2 [0.61] |
| Fishing neck OD (C), in | 8¼ or 9½ |
| Body diameter (D), in | 13 |
| Length from block to end of tool (E), ft [m] | 5.58 [1.7] |

Operating Parameters

| | | |
|---|-------------------------------|------------------------|
| Hole opening size, in | 14½–16½ | |
| Min. pilot hole size, in | 13½ | |
| Min. collapsed diameter, in | 13 | |
| Internal bore diameter, in | 3 | |
| Activation ball diameter, in | 2 | |
| Deactivation ball diameter, in | 2¼ | |
| Max. flow rate, galUS/min [m³/min] | 1,700 [6.44] | |
| Min. operating pressure, psi [MPa] | 800 [5.5] | |
| Max. operating pressure, psi [MPa] | 3,000 [20.7] | |
| PDC cutter size, mm | 13, 16, or 19 | |
| Max. operating temperature, degF [degC] | 419 [215] | |
| Assembled tool weight, lbm [kg] | 3,512 [1,593] | |
| Makeup torque, ft.lbf [N.m] | 107,600 [145,886] | |
| Connections | Top | 6½ Reg box; 7½ Reg box |
| | Bottom | 6½ Reg pin; 7½ Reg pin |
| Max. lost circulation material, lbm/bbl [kg/m³] | 50 [142.65] (medium nut plug) | |



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