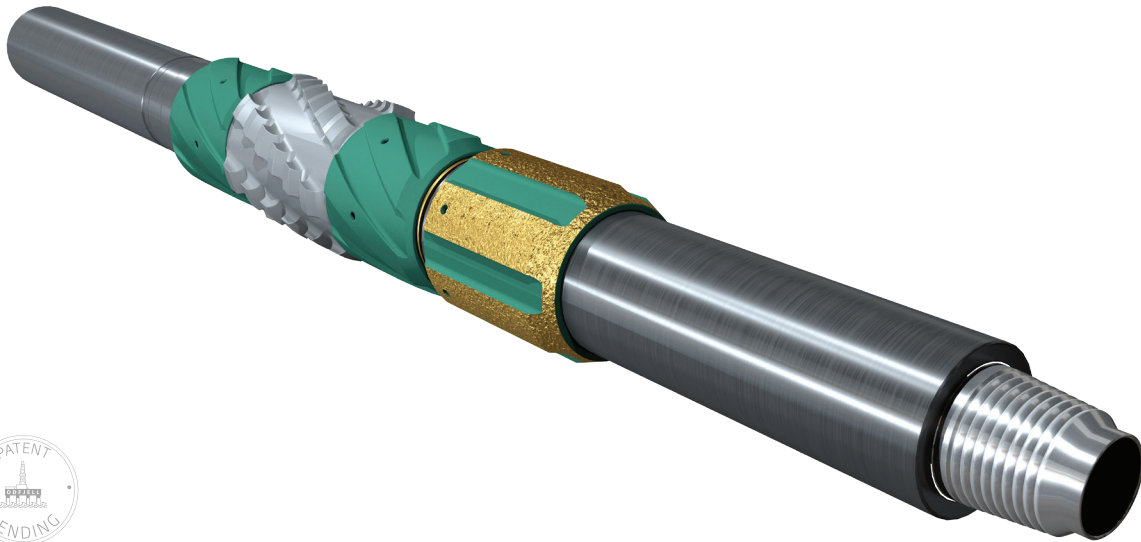


# MunchRdillo™ Scraper Milling



## MunchRdillo™ Scraper Milling

**Tool** is a robust, 360° contact, free-rotating wellbore clean-up tool which incorporates an Heavy Duty Cement Mill securely attached to an Integral Tool Mandrel and can be run individually or modularly as part of the ArmRdillo™ Wellbore Clean-Up System.

The MunchRdillo™ can be adapted to suit any casing size and drill pipe combination.

## FEATURES

- Strong, self-sprung, single piece Scraper Broach machined from a single billet of steel with multiple rows of overlapping teeth
- Scraper Broach flexes to fit the casing ID, while being stiff enough to provide strong scraping force which ensures true 360° coverage where sprung pad scrapers cannot
- Tungsten carbide cement mill is attached to the tool mandrel to mill cement and other debris
- Two fluted Centralizer Rings provide centralization and protects the Scraper Broach
- Free rotating tool design with Internal Bearing Rings to prevent mandrel, tool or casing wear
- Can be quickly assembled redressed on location or support base with simple hand tools
- No external bolts, clamps or fasteners that can come loose down hole
- Robust assembly method with multiple back-ups

## BENEFITS

### Cost savings

- Combines the functionality of the RazRdillo™ Casing Scraper with the ruggedness of an aggressive fixed blade string mill
- Milling of cement and scraping can be performed in a single trip saving rig time

### Integrity

- The ArmRdillo™ Wellbore Clean-Up System can be provided with any type of rig end connections including premium and high torque connections reducing the need for reduced strength crossovers
- Single piece mandrel with no internal connections for increased strength

## APPLICATIONS

- Drilling hardened cement, and other accessories inside the wellbore in a single trip
- Pre-completion wellbore clean-up operations to remove hardened cement sheath, scale, mud solids, cuttings and other detritus from the casing wall
- Extended reach wells where high strength drill pipe connections are required
- Remote locations where logistics are constrained and tool maintenance can be performed at the rig site
- Short tripping where multiple tools need to be run on the same string

## OPERATIONAL

- While running in hole, the teeth of the MunchRdillo™ Scraper Broach scrapes the casing wall removing cement sheath and other debris
- Cement plugs and accessories can be drilled inside the casing as required following standard cement drilling practices and parameters
- The MunchRdillo™ mill breaks up any large cement pieces or debris that is carried past the tool into smaller more manageable pieces
- The MunchRdillo™ is reamed across the drilled out cement depths to remove any residual cement sheath in a single trip saving valuable rig time

The **MunchRdillo™** is not currently available for rental and operation in all countries. Please contact Odfjell Well Services to enquire about rental and operation of this tool in a specific country to ensure that your request can be accommodated.