

Well Intervention
Powered Mechanical Services

ClearMill™ miller service

A solution to address stuck ball valves that cannot be mechanically shifted

FEATURES

- Precise weight-on-bit (WOB) using high-force actuator
- 2.25-in. RIH OD to pass the 2.515-in. ID in the 7-in. FS2
- Various bits to match chemical composition of metal being milled
- 3D surface readout interactive display
- Sensor sub offers additional downhole parameters
- Hepta, mono, or mono-coated cable deployable and tractor compatible

BENEFITS

- Electro-mechanical design optimizes WOB
- High-force actuator with electric feedthrough connectivity
- Three large anchor pads to minimize pipe impression and eliminate slip under load
- Two anchor sizes for pipe up to 7 in.
- High-torque rotary sub can mill 718 Inconel
- 350°F (177°C) and 20,000* psi (138 MPa)

Overview

The ClearMill™ miller service is a high-performance e-line tool engineered for complex downhole interventions. It precisely mills stuck ball valves, safety valves, flapper valves, plugs, locks, nipple profiles, and ball seats—even in challenging materials and complex well environments.

The system integrates three core modules—the anchor, actuator, and high-torque rotary unit—which support four specialized mill-bit designs tailored to diverse applications. With a compact 2.25-in. run-in-hole (RIH) outer diameter, the tool navigates through all barrier isolation valves.

The anchor module provides robust stabilization during high-torque interventions. Configurable for two RIH profiles, it features three 3 × 1-in. pads to accommodate a wide range of tubing sizes.

The actuator module delivers controlled force for precision milling of failed completion devices, including stuck ball valves, plugs, and locks.

The rotary module is engineered for efficiency and versatility. It supports multiple bit designs and enables precise material removal in complex environments, including 718 Inconel ball valves.

The ClearMill miller is part of Halliburton's electro-mechanical portfolio, which includes:

- ClearTrac™ e-line tractors
- ClearCut™ cutters (single blade, rotary blade, and slim 1 11/16-in.)
- ClearBail™ suction bailers
- ClearShift™ high-expansion shifters



ClearMill™ miller service specifications

Tool outside diameter	2.25 in. (57.2 mm)
Maximum temperature	350°F (177°C)
Maximum pressure*	20,000 psi (138 MPa)
2.25-in. anchor range	2.4 to 5.2 in. (60 to 132 mm)
3.3-in. anchor range	4.8 to 6.5 in.
Minimum ID restriction	2.3 in. (58.4 mm)
Actuator stroke length	12.2 in. (309.9 mm)
Maximum rotary	400 rev/min
Maximum rotary torque	150 lb-ft (203.4 N m)
Tension	30,000 lb-ft (133,447 N)
Compression	30,000 lb-ft (133,447 N)
Tool weight	250 lb (113.4 kg)
Sensor sub	Pressure, temperature, downhole tension inclination axial, and radial vibration
Power and wireline	DC, hepta, mono, coated-mono, and tractor

*A 30,000-psi option is available on request.



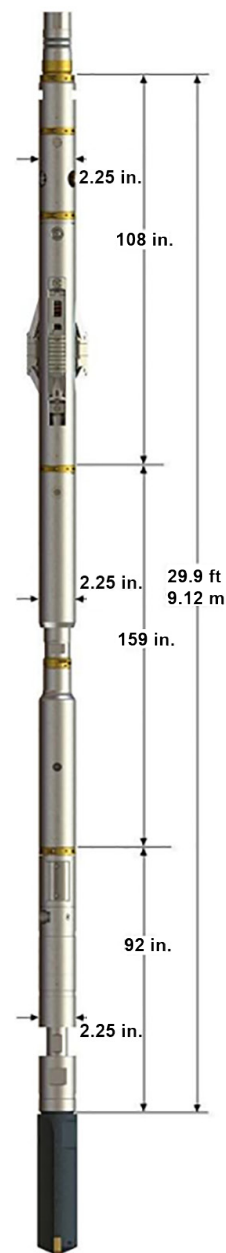
Three-pad anchor



Coupon mill bit



Electrical feedthrough actuator



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