



## RELIABLY CLEAR YOUR UNDERPRESSURED HORIZONTAL WELL

Quantum Downhole's CCMS is a patented system that reliably removes wellbore obstructions on the first run to make your underpressured horizontals clear.

### Concentric Coiled Milling System

Removes downhole obstructions such as scale, frac balls, frac seats or plugs.

Isolated flow of nitrogen and power fluid.

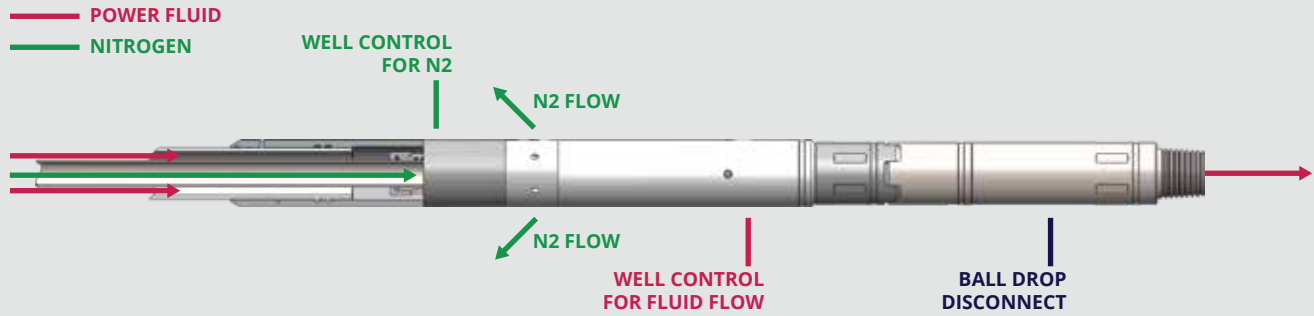
Integrates CIRCA Pro Coiled Tubing Simulation Software with CTRAN for multi-phase flow and solids transport modeling.



The Concentric Coiled Milling System (CCMS) BHA is comprised of a patented downhole connector, release tool, jar and milling assembly. It may include BHT and BHP recorders depending on the application.

### How it Works

- 1** The BHA is conveyed downhole using standard coiled tubing equipment.
- 2** When at depth of the fluid level, nitrogen is pumped down the inner coil to circulate the well.
- 3** When at depth of the obstruction, power fluid is pumped down the outer coil / inner coil annulus to activate the power section of the milling BHA.
- 4** A Quantum Downhole Technician independently adjusts the nitrogen and power fluid rates to effect immediate downhole changes and optimize wellbore material circulation, sweeps and nitrogen usage.
- 5** Coiled tubing is retrieved to complete the operation.
- 6** Quantum delivers a final report after the site operation.



## FEATURES

Separate nitrogen and power fluid flow paths

Fluid only to the mud motor

Improve cuttings and wellbore material circulation

Reduce nitrogen product usage

Check valves and redundant disconnects in the BHA

## BENEFITS

Adjust nitrogen and power fluid independently

Extend mud motor life, optimal torque output and consistent port and plug milling time

Reduce operational risk

Decrease operational costs

Prevent inflow and maintain well control

## SPECIFICATIONS

CCMS OD		JAR AND MOTOR OD		MAXIMUM TEMPERATURE		CCT OD	
mm	in	mm	in	°C	°F	mm	in
79.4	3.125	73.0	2.875	150	302	60.3	2.375
						66.7	2.625
						73.0	2.875



**TAKE THE GUESSWORK OUT OF UNDERPRESSURED HORIZONTAL WELL INTERVENTIONS.**