



# NXG-MSDR: MULTI-STAGE DRILLING REAMER

DEVELOPED TO OVERCOME THE TOUGHEST CHALLENGES.

## NXG'S MULTI-STAGE DRILLING REAMER (MSDR) DELIVERS EFFECTIVE HOLE ENLARGEMENT IN A SIMILAR MANNER AS A ROLLER CONE HOLE OPENER, BUT IN SMALLER INCREMENTS.

The NXG Multi-Stage Drilling Reamer can replace conventional hole openers for smaller sizes, eliminating many of the challenges of traditional roller cone hole openers.

By cutting the formation in smaller increments over several intermediate stages, the formation is stress relieved and as such, larger hole drilling can be done at a more aggressive ROP, even in robust formations.

The cutting structure is laid out to optimize cutting efficiency through the formation while generating a smooth torque response by minimising work rates on each cutter position for maximum durability.

The tool is capable of back reaming thanks to a straight bladed uphole taper, lined with a row of TCI protected cutters.

Nozzles on the tool prevent balling and ensure the cutting structures are cleaned and cooled, as well as scouring the rock face ahead of the cutters.

Large nozzles are used to ensure softer formations are not washed out by covering a large flow area at low pressure. These are standard bit nozzles which can be replaced with smaller orifice sizes or blanked off to adjust as required according to the desired through flow area.

### KEY FEATURES

- Simple design with no moving parts or components
- Aggressive cutting structures for maximum ROP
- Facilitates both reaming and back reaming operations
- Adjustable TFA as the nozzle orifices can be easily substituted
- Capable of custom design for specific client requirements
- Various blade and cutter configurations are possible, allowing for a modular approach to BHA design - these tools can be used in tandem for additional enlargement