

AxeBlock 16000, X616

Torque-reducing ridged diamond element cutter block

APPLICATIONS

- Vertical, high-curve, and lateral sections
- Flexible BHA configuration
- Medium to hard formations with unconfined compressive strengths (UCS) greater than 5,000 psi [35 MPa]

ADVANTAGES

- Increases ROP
- Reduces overall torque while reducing reactive torque fluctuation
- Improves toolface control in high-curve applications

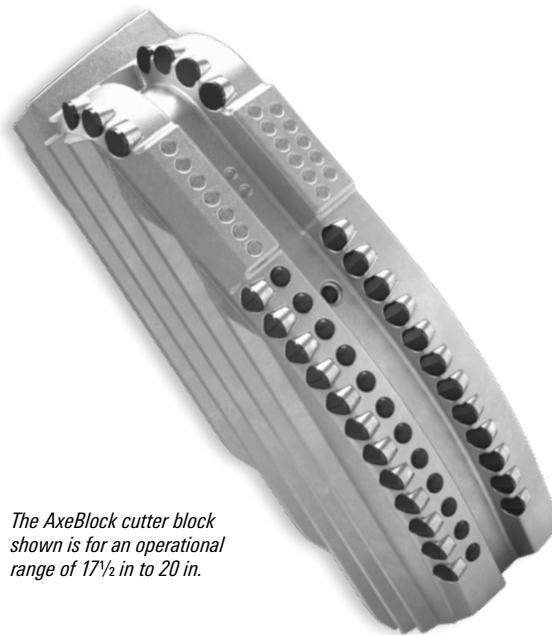
FEATURES

- Axe* ridged diamond elements combine shearing and crushing actions to cut rock more effectively
- Ridge-shaped elements reduce cutting force requirements for less overall torque
- Thicker diamond table improves frontal impact durability
- Compatibility with Rhino* integrated borehole enlargement systems to improve operational flexibility
- Diamond semiround top (SRT) inserts placed behind the Axe elements improve block stability and reduce damage to the cutting structure by restricting lateral movement and axial impact

The series 16000 AxeBlock* torque-reducing ridged diamond element cutter block improves rock cutting efficiency through a combination of sheering and crushing actions. This provides higher instantaneous ROP with the same drilling parameters applied, compared with using conventional PDC cutter geometry on ordinary cutter blocks.

Enhanced stability for overall torque reduction

In medium to hard formations with UCS greater than 5,000 psi [35 MPa], conventional cutter blocks lack the necessary stabilization qualities to reduce torque while improving performance during hole-enlargement-while-drilling (HEWD) operations. The reduced cutting force required by Axe elements translates to less overall torque, reduced reactive torque fluctuation, and better toolface control in aggressive-curve applications. This advantage enables better build rates and higher overall ROP, maximizing production zone exposure and minimizing drilling time.



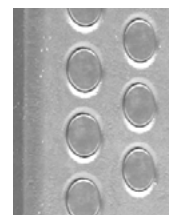
The AxeBlock cutter block shown is for an operational range of 17½ in to 20 in.



Axe elements are the primary cutters.



SRT diamond inserts behind the Axe elements improve stability.



Thermally stable inserts maximize gauge retention.

Specifications

Total cutters	92
Reaming cutters	71 Axe elements, 16 mm
Backreaming cutters	21 PDCs, 16 mm
Blocks	3
Rows	6 (2 per block)
Opening range	17½ in–20 in

Note: Operating parameters are typical ranges. Contact your Schlumberger representative for individual well recommendations.

Cutter block nomenclature

X 6 1 6

