DirectKNCT™ shankless PDC drill bit technology

Gain uncompromising directional response with a shorter, more stable PDC drill bit design

Traditional methods for improving directional response while drilling focused on shortening bit designs by reducing gauge length. This approach could lead to lateral instability and borehole quality issues that limit the BHA's durability and performance.

The Baker Hughes DirectKNCT™ shankless PDC drill bit technology takes an alternative approach. By reducing makeup length, DirectKNCT bits enhance directional control of bent motor and RSS assemblies—without compromising stability or borehole quality.

Spend less time steering

DirectKNCT designs improve directional response by shortening makeup length in two ways. First, the bit-breaker slots are moved into the gauge pads, which allows for interchangeability at the rig site. Second, the designs eliminate the shank, which brings the connection closer to the PDC cutting structure. By reducing makeup length, the designs improve build-rate potential so that the BHA spends more time drilling ahead and less time steering.

Improve lateral stability and wellbore quality

DirectKNCT shankless PDC designs allow for the use of longer gauge pads, without increasing overall bit makeup length. Longer pads provide additional lateral stability to enhance wellbore quality and protect the BHA from lateral vibrations for improved steering performance.

Achieve better buildup rates

DirectKNCT shankless PDC designs reduce stresses on the BHA by shifting the cutting structure closer to the motor bend and rotary steering unit. This improves BHA reliability and steerability in conventional directional and rotary steerable assemblies alike. For conventional assemblies, side forces are transmitted more efficiently from the BHA to the cutting structure, allowing for higher build-rate capabilities. For rotary steerable assemblies, required steering forces are reduced. In all cases, the shorter steering time and reduced BHA forces allow the driller to achieve its directional objectives more efficiently and economically.

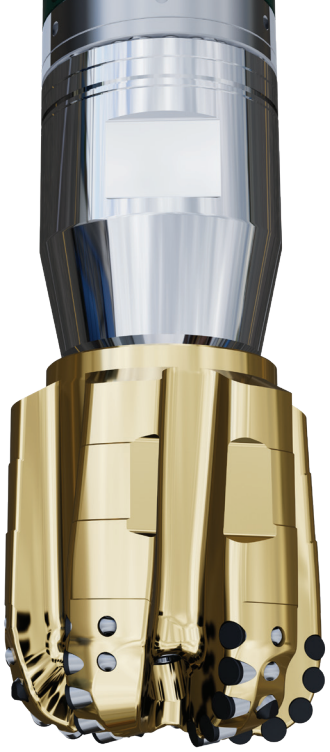
Contact your Baker Hughes representative today to learn how the DirectKNCT shankless PDC drill bit can improve the efficiency, reliability, and control of your directional drilling operations.

Applications

- Directional drilling
- Bent-motor bottom hole assemblies (BHAs)
- Rotary steerable assemblies (RSS)

Benefits

- Allows higher doglegs and facilitates steering
- Reduces the force required to steer and achieve buildup rates
- Maintains bit durability and wellbore quality in the lateral with an optimal gauge length
- Affords interchangeability at the rig site, with breaker slots moved into the gauge pads
- Available in pin-up or box-up configurations to match BHA requirements to the application



The DirectKNCT shankless PDC bit improves drilling stability and efficiency in both pin-up-connection (left) and box-connection (right) configurations.

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