Kymera FSR Directional Hybrid Drill Bit
Accelerate through curves with smoother, more consistent drilling

The Kymera FSR™ directional hybrid drill bit—designed to be the fastest, most consistent bit in the curve—drills to total depth (TD) with fewer bits, less nonproductive time (NPT), and better overall drilling economics.

Drilling the curve through challenging carbonates typically takes two or more bits when using individual polycrystalline diamond compact (PDC) or tricone roller cone bits. While PDC bits drill quickly, they create reactive torque that can, in turn, send the bottomhole assembly (BHA) off its intended trajectory. That excessive vibration can also influence downhole tool failure, increasing the odds of additional trips, part repair, and NPT. Roller cone bits create less vibration for better directional control, but drill more slowly.

The best of both bit worlds
By focusing on the best attributes from both the tricone and PDC bit designs, the new directional Kymera hybrid bit drills faster, smoother, and more consistently for precise steerability in challenging carbonate formations. The sharper tungsten carbide insert (TCI) teeth of the roller cones cut and crush hard rock, while the PDC cutters sweep away the remaining rock and effectively clean the borehole. The balance of the two cutting structures provides better tool face control and cutter protection, keeping torque in check and eliminating excess energy to the drillstring.

Speed made easy, every time
With energy focused where it needs to be in a smooth borehole, tools in the drillstring can be more effective, and directional drillers can spend less time correcting trajectory. In the case of the new directional Kymera bit, with its increased efficiency, the result is a consistent show of rate of penetration (ROP) exceeding and at times doubling that of the fastest PDC and tricone bits. And on a majority of curve runs, it only takes one Kymera bit to reach TD.

The resulting smoothness and ease of the run has an added benefit of drilling at high buildup rates (BURs)—a pay zone win.

Applications
- Directional drilling
- Interbedded carbonate formations
- Unconventional plays with high BUR curves and extended-reach laterals

Features and benefits
- Hybrid bit design
  - Improves borehole quality
  - Reduces wear on cutters to maintain higher ROP than individual PDC and tricone bits
  - Provides better tool face control
  - Improves efficiency
- Rolling torque management
  - Reduces fluctuations in torque for smoother drilling
  - Reduces downhole tool failure
  - Provides higher BUR and more pay zone
  - Keeps the bit on course
Operators can now consistently tackle directional drilling faster, on target, and with fewer bits—a feat rarely achieved by other bit types. For more information on how the new directional Kymera hybrid drill bit can speed through the curve faster and more economically, contact a Baker Hughes representative today, or visit bakerhughes.com/FastCurve.