maxon motor launches its EC22 HD (Heavy Duty) motor, a 22mm-diameter brushless dc motor that outperforms any other commercial electric drive on shock, vibration and temperature tolerances. This motor was developed for the exceptionally high requirements in deep drilling technology and resists the most extreme operating conditions. Also available in combination with the GP22 heavy duty gearhead in 1 to 5 stages for use in oil or air operation.

The electronically commutated EC22 HD (heavy duty) brushless motor was developed in collaboration with the oil exploration industry and is designed to operate at depths of around 16,000 feet and in boreholes up to 36,000 feet long.

As part of the motor’s development program, a high-temperature test facility was built, and extensive field trials were undertaken. The motor operated at temperatures up to 240°C and under atmospheric pressure conditions from high vacuum to 25,000 psi. It has also been proven to resist impulse and impact forces of 100G. It can operate while submerged in oil, trebling its 80W output rating to 240W because of the improved heat dissipation.

Although developed to perform critical downhole actuation functions, maxon believes this motor will also appeal to other industries where reliability is essential. The motor’s efficiency of 88% in air (and above 70% in oil) makes it particularly suitable for battery-powered applications.

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