Drive solutions for the oil and gas industry.

maxon Heavy Duty drives: Robust designs for extreme operating conditions.
maxon – a strong global brand.

maxon motor, with headquarters in Sachseln/Central Switzerland, has production sites in Switzerland, Germany, Hungary, South Korea, France and the Netherlands, as well as sales subsidiaries in more than 30 countries. We produce many of the key components for our drive systems on machines and production lines that we have largely developed ourselves. This not only enables economical manufacturing of large series, but also high flexibility for handling special requirements or smaller quantities.

Driven by precision.

maxon motor develops and builds precision drive systems: brushless and brushed DC motors with maxon’s unique ironless core winding. Flat motors with iron cores complete our modular product portfolio. maxon motor’s modular system includes: planetary and spur gearheads, spindle drives, as well as encoders and control electronics.
When it’s about Heavy Duty drives.

Operating temperatures (-55…200°C)

Withstands high shock loads and vibrations: 1000 g / 25 grms

Highly reliable, even in harsh environments

New materials and process technologies.

The ironless core winding and high performance rotor is the “heart” of maxon heavy duty motors. Together with the powerful gearhead, maxon provides high torque drive solutions. Most parts of heavy duty drives are made of stainless steel. The assembly minimizes the use of adhesives, concentrating instead on the connection of individual components through mechanical fits and secured with laser welding. This results in a reliable and mechanically robust drive system.

maxon’s commitment.

Whether you need a standard or customized product, maxon’s experienced sales engineers are here to help guide you to the best solution for your application. Contact us: contact.maxonmotor.com
Down hole drilling

- Rotary Steerable System (RSS)
- Inspection & Testing
- Drilling
- Fishing
- Tractor
- Mud Pulsing
- Intervention
- Logging
- Valve settings
- Wireline
- MWD
- Pulser
- Packer
- Completion
- Cutting
- Tractor
- MWDPulser
- Plugging Wireline Intervention
- Generator
- Down hole drilling
Measurement While Drilling.

Measurement While Drilling (MWD) uses a measurement module located behind the drill head in the string. The tool’s control system measures variables such as angle, vibration, and drilling speed. The “pulser” unit sends the collected information back to the surface, across several thousand meters, through pulses in the drill mud (MPT – Mud Pulse Telemetry).

The pulses are generated by the actuator system that is driven by maxon’s Heavy Duty assembly. Providing reliable data information to the drilling technicians is critical so they can respond quickly and make corrections as needed.

MWD – The maxon solution.

EC 22 HD brushless DC motor with GP 22 HD planetary gearhead.
- Ultra compact (Ø22 mm), highly efficient (>75 %) and powerful (240 W) drive solution.
- Fully welded stainless steel assembly along with encapsulated samarium-cobalt magnet.
- High temperature ironless core winding, proven to withstand temperatures up to 240°C.
- Gearhead designed for high torque (12 Nm overload torque capability).
maxon Heavy Duty technology.
Highly reliable, even in harsh environments.

Versatile
EC-4pole 32 HD, 480 Watt
Brushless DC motor with slotless winding, Ø32 mm. For applications in air or oil. 220...480 Watt.
With or without Hall sensors.

Compact
EC 22 HD, 240 Watt
Brushless DC motor with slotless winding, Ø22 mm. For applications in air or oil. 80...240 Watt.
With or without Hall sensors.

Operating temperatures (-55...200°C)
Withstands high shock loads and vibrations: 1000 g/25 grms
Highly reliable, even in harsh environments
Key advantages of maxon HD motors.

- **Wide temperature range (-50 ... 200°C)**
  Components tested up to 240°C
- **Robust design**
  Laser welded connections
- **High performance / volume ratio**
  Compact, high power density
- **High quality / reliability**
  Production process controls
- **Low energy consumption**
  High efficiency
- **Excellent control properties**
  Linear motor characteristics
- **Operation in air or in hydraulic oil**
- **Low magnetic interference**

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**Gearheads and sensors**

**maxon modular system**

- Extremely robust HD gearheads available in Ø22 mm, Ø32 mm and Ø42 mm diameters
- Also available with spindle drives, customized gearheads or resolvers

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**Customized**

**maxon special design**

- The perfect fit for your application
- Based on our standard solutions
- Benefit from our 50 years of experience in configuring drives for extreme applications

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**maxon motor**

driven by precision
Quality tests. Reliable and efficient.

In the development phase, we push our drives to their limits. Our in-house laboratory provides us with the ability to simulate extreme conditions and perform standard maxon tests to ensure that the products we offer our customers are robust and reliable.

Internal full load test.

We test the motors in hydraulic oil, at extreme temperatures, and under full load during continuous operation. During this load test the winding heats up to its maximum rated temperature. Continuous monitoring provides information on the drive’s performance characteristics.

Load test EC 22 HD (60-70 mNm at 180°C in oil)
**Vibration and thermal stress test.**

The drives are placed in a climate controlled cabinet and subjected to high vibration. Testing is carried out with the motors in operation at high temperature. The motors are required to continue functioning within their performance specification while vibrations are applied in all directions.

**Shock test.**

The laboratory system performs a variety of shock loads of more than 1000 g. After the shock test, the drives must be fully functional.

**Random vibration 17.4 grms**

**Half sine pulse (MIL-STD-202G Method 213B)**
Standard test procedure.

Prior to delivery to the customer, all of maxon’s HD drives have to pass our standard test procedure.

Motor + Combination

Environmental Stress Screening (ESS)
- high temperature test

General Electrical Test
- load test
- insulation test
- maxon standard test

Visual & Dimensional Check
- Visual inspection
- dimension check
A global network.

Everywhere in the world, maxon motor’s sales engineers collaborate with customers to develop tailor-made drive solutions.

- **maxon Manufacturing Companies**
  Switzerland (headquarters), Germany, Hungary, South Korea, France, Netherlands, USA and China.

- **maxon Sales Companies**
  Australia, Belgium/Luxembourg, China, Denmark, Germany, Finland, France, Great Britain, India, Italy, Japan, South Korea, the Netherlands, Norway, Austria/Hungary/Slovenia/Romania, Sweden, Switzerland, Spain, Taiwan, Czech Republic/Slovakia/Poland, USA.

- **maxon Sales Agents**
  Brazil, Hong Kong, Israel, Canada, Malaysia, Russia, Singapore, South Africa, Thailand, Turkey.

For detailed contact information please visit contact.maxonmotor.com
Precise drives since 1961.

maxon motor develops and builds precision drive systems that are among the best in the world. They are used wherever requirements are demanding and engineers cannot afford to compromise: maxon-motors drive NASA’s Mars rovers. They can also be found in insulin pumps, surgical power tools, humanoid robots, and in precision industrial applications. We not only provide motors, gearheads, encoders, and controllers, but also offer our know-how and many years of experience. Since 1961, maxon’s engineers have been true partners in the quest to create the right solution for each customer. Prototypes, custom systems, or large series: Whatever your requirements may be, we are happy to be of assistance with our global sales network, eight production sites, and more than 2,500 employees worldwide.