



Drives developed for aerospace applications

RoboDrive technology was developed by the Institute for Robotics and Mechatronics of the German Aerospace Centre (DLR). This technology, patented by TQ-Systems, combines a high torque curve and power density relative to the weight and installation space.

Features and Benefits

- Lightweight: ½ the weight of comparable motors
- High torque with compact design: ½ the size of comparable motors
- High power density through maximum copper fill factor
- Stator and rotor design reduces power loss
- Used as direct drive with reduced motor speed
- Highly precise controllability and positioning accuracy
- High efficiency with compact design
- Modeled drive, tool-based optimization over the entire drive train
- Hollow shaft design

Technical Overview

- Outer diameter range from 25 - 115 mm
- Largest hollow shaft on the market
- Torque 0.1 - 40 Nm
- Rotational speed up to 25,000 rpm
- No cogging
- Zero lash-back

Rotor and Stator Sets

Today's robotic and medical applications demand high performance and precision drives in a small form factor.

The RoboDrive motors have been manufactured by TQ-Group since 2006. The product spectrum includes standard stators and rotor sleeves as installation sets for the highest possible user-specific integration.

Alternatively, the motors can be equipped with hall sensors or magneto-resistive position sensors, depending on the application and requirement profile for speed or motion detection.

Hollow-shaft precision drives

The RoboDrive motor meets and exceeds those requirements, plus the unique hollow shaft design provides access to an unlimited world of applications: the space facilitates the pass-through of lasers, supply cables, power transmissions and optics (and other media usually routed outside the motor casing in other motors).