



GlideXtm - Electric Motor Sealing

Advanced surface texturing for zero leakage and low friction

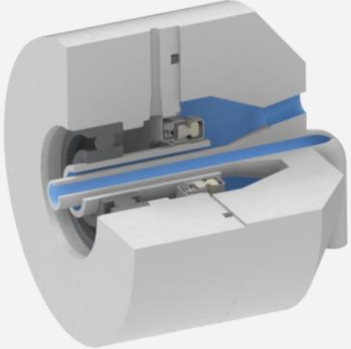

The automotive world is getting electrified, driven by environmental legislation, public opinion and newcomers to the market. Since 2020, EU legislation limits CO₂ emissions for newly registered cars, and further reductions are planned for the coming years. With the trend of vehicle electrification, the need for high power density in electric motors is increasing in order to increase efficiency and achieve optimal packaging.

High power density has a high effect on the requirements for thermal management of the electric motor with increasing demand for rotor cooling. Rotor cooling systems require dynamic sealing in high speed and durable conditions, exceeding physical limits of conventional sealing products.

The GlideXtm-EMS enables electric motor manufacturers to cross these limits and utilize high rotational shaft speeds and active rotor cooling, without having to be afraid of high friction and leakage.

GlideXtm seals are based on mechanical seals, using advanced surface texturing technology that results in microscopic flow control in the dynamic sealing faces. This technology breaks the boundaries of the reciprocal relationship between friction and leakage, enabling the reduction of both sealing parameters. The test result verifies the reduction of both properties to an unreached sealing performance, with zero leakage capability and over 90% less friction compared to the conventional one.

Features & benefits:

- Zero leakage capability
 - Oil or coolant medium
 - Extreme low torque / friction coefficient
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- Extreme high speed capability (>20,000 rpm)
 - Operating temperatures:
 - Coolant: -20 °C to 100 °C
 - Oil: -20 °C to 150 °C
 - Wear resistant



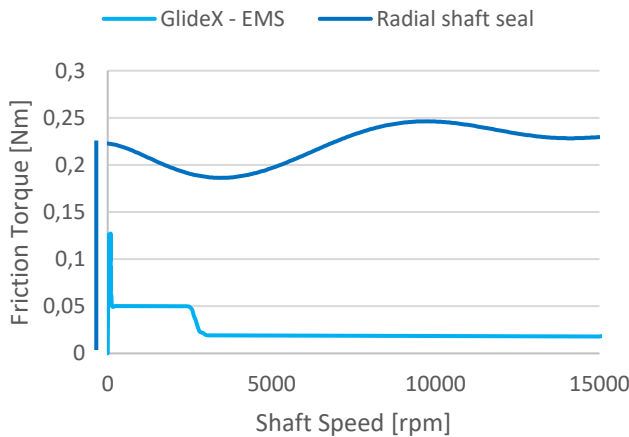
EAGLE INDUSTRY

Perfection in motion.

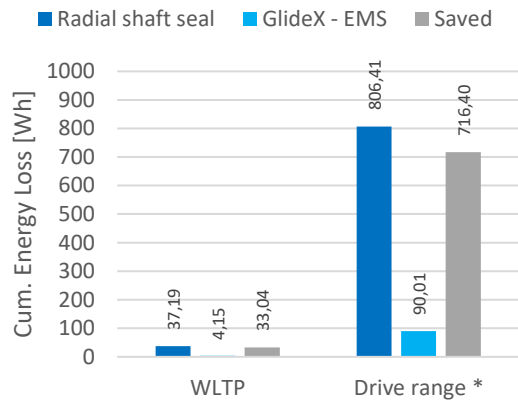
Energy saving

The driving range for battery electric vehicles depends on the capacity of the battery. Because this battery capacity is limited, reducing the energy loss of motor components is a key focus. The GlideX™ seals show very low friction compared to conventional sealing products.

The energy saved during one WLTP drive cycle by using a GlideX™ seal instead of a conventional radial shaft seal saves 33 Wh. Over a complete specified drive range of 500 km, this saving increases to over 700 Wh.



Conditions: SD 25mm | 50% Coolant/water | 80 °C | 100 kPa



*Drive range 500 km; WLTP cycle as reference.

Dimensions & Conditions

As a sealing specialist Eagle Industry is able to follow all customer necessary dimensions with a wide range of shaft diameters. In general the requirements are customer specific with no existing standard in the industry. General conditions, including extreme speeds, are belonging to the possibilities.

Please contact us with your requirements.

About EKK

EKK Eagle Industry Co., Ltd. has been manufacturing and supplying sealing and controlling solutions for the automotive industry for more than 50 years, including mechanical seals, and specialty valves. EKK supplies to OEM and Tier 1 manufacturers around the world, providing solutions for thermal management, fuel systems, turbo compressors, turbo chargers, high pressure pumps and other devices. EKK Eagle Industry has around 500 employees in Europe, and over 6000 on global scale.

Disclaimer

EKK achieves zero liquid leakage – in particular operating conditions, the seal can show minor vapour leakage.