

INNOMOTICS

Less maintenance.

More uptime.

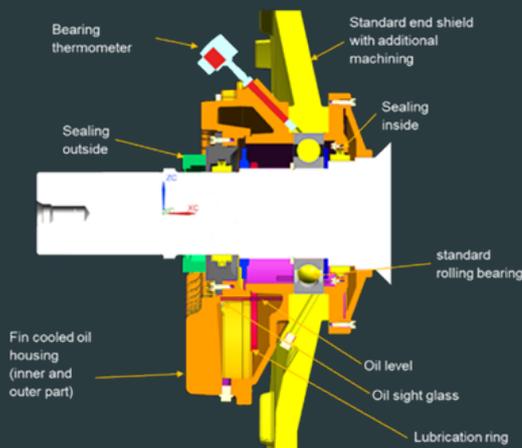
Oil-Lubricated Rolling Bearing

The Issue

Antifriction bearings in electric motors wear components that can fail prematurely due to various factors. Evaluations show that over 50% of motor failures are caused by bearing issues.

Why do bearings in large electric motors fail prematurely?

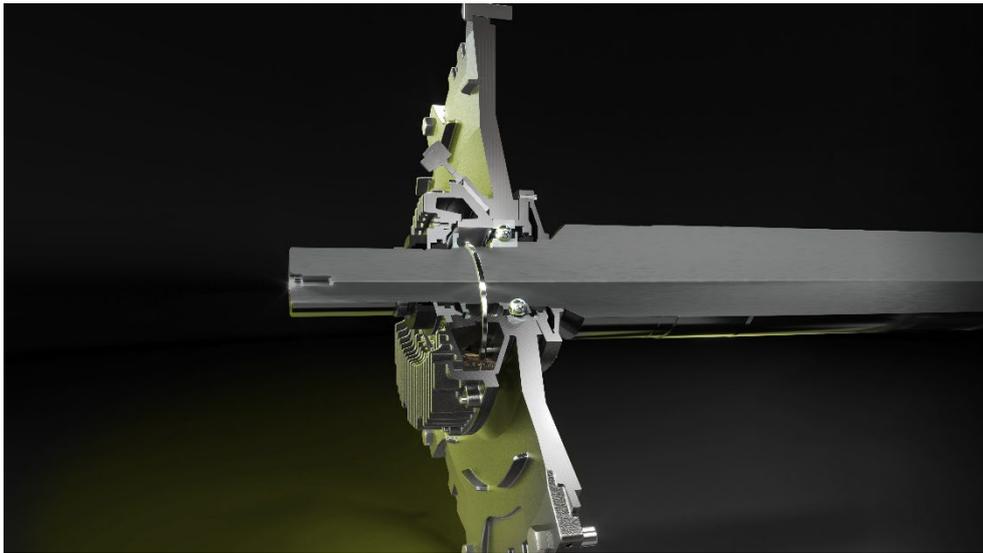
Approximately 80% of motor breakdowns are caused by improper lubrication practices, which may include:



- Contaminated lubricant
- Insufficient lubricant quantity
- Incorrect lubrication intervals
- Unsuitable lubricant types
- Human errors

The Solution: Oil-Lubricated Rolling Bearings (OLRB)

The selected bearings are standard ISO anti-friction types. The bearing housing uses oil seals and gap seals to create a sealed chamber suitable for harsh, dirty, dusty outdoor environments, both hazardous and nonhazardous, with ingress protection rated up to IP56.



The oil lubrication system uses an oil ring - like those in sleeve bearings with self-cooling design - that distributes oil across the rolling elements.

As the main shaft turns, the oil ring also rotates, picking up oil from the oil reservoir. This oil ring carries the oil upward, and gravity helps spread it over the shaft and bearings for lubrication. With self-oil cool system in sealed design, the likelihood of oil leaks and contamination are significantly reduced.

An oil lubrication system is similar to grease-lubricated bearings but offers significant advantages that improve reliability.

The Benefits

Key Advantage

The oil lubrication system maintains a lower bearing temperature compared to grease-lubricated bearings and requires minimal maintenance - only one oil change every two years compared to bearing regreasing every few months. This eliminates risks associated with improper greasing, such as over-greasing, under-greasing, mixing incompatible greases, and failures from automated greasing systems.

Operational Reliability

This innovative design offers superior protection against premature bearing failure, potentially leading to significant cost savings by reducing motor overhaul frequency and with lower bearing temperature.

Cost Efficiency

Oil Lubricated Rolling Bearings (OLRB's) are less expensive than sleeve bearings related to grease lubricated bearings and offer a return on investment (ROI) of less than one year.

Performance Advantage

Unlike sleeve bearings, OLRB's are well-suited for applications with frequent start-stop cycles, wide operational speed ranges with critical speed above 3600 rpm and suitable for constant low speed operation.