

# VFD-driven Electric Motor

Type: 4000HP Motor

Industry: Mining

### Challenge

A large VFD-driven electric motor with a 9.447 in. (239.95 mm) shaft was experiencing stray shaft currents. This caused Electrical Discharge Machining (EDM) resulting in premature bearing failure. The remote motor location in the Nunavut territory in Northern Canada and the criticality of this application has resulted in increased maintenance costs and production interruptions due to equipment downtime.

### Solution

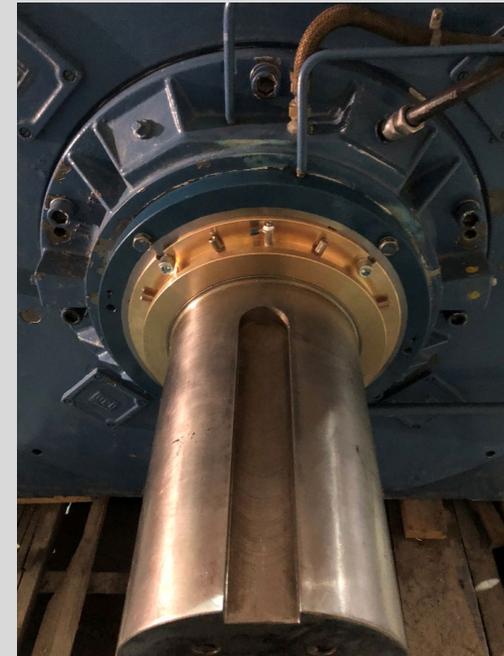
A flange mounted Inpro/Seal® Smart MGS® with Smart Ground Monitor were installed for complete bearing protection and monitoring. The Smart MGS is an IP66 rated Bearing Isolator that permanently protects against contamination ingress and lubrication loss and utilizes shaft grounding technology to safely divert harmful shaft currents away from the bearings. The Smart MGS uses isolated conductive filaments that ride on an internal rotor, ensuring connectivity by completely protecting the filaments from the outside elements. The Smart Ground Monitor was installed to provide instant feedback on shaft grounding performance.

### Result

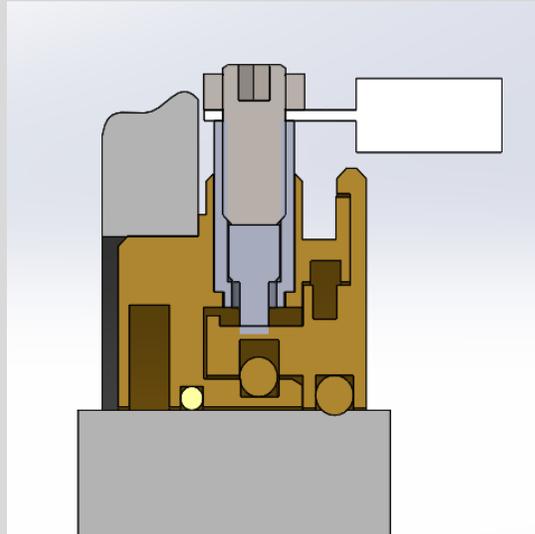
The Smart MGS and Smart Ground Monitor were installed in the fall of 2018 and have been running without issue, significantly reducing downtime and maintenance costs.



Electrical Discharge Machining (EDM) on the bearing race



Inpro/Seal Smart MGS installed on a VFD-driven motor



Inpro/Seal Smart MGS cutaway



Inpro Seal Smart Ground Monitor