



Protecting VFD-Driven Motors In: Dairy Production

VFDs Provide Precise Control Required to Ensure Dairy Product Quality

Milk is the basic ingredient in the production of a long list of dairy products and by-products ranging from whole pasteurized milk to cheese, to derivatives such as whey, agglomerated milk and high protein powders, infant formula, whey product concentrate, whey permeate, lactose, and coffee whiteners.

And every step in the production of dairy products — from collecting raw milk to transporting, processing, packaging, and storing milk and milk products — requires precise control of process variables such as temperature, flow rates, pressure, line speed, etc. By precisely controlling the speed and torque of motors, VFDs provide cost-effective control of these key process variables.

The Need for Shaft Grounding on VFD-Driven Motors

But, VFDs can damage motors. They induce voltages on the shafts on motors they control — voltages that discharge through the bearings, causing pitting, fluting, and catastrophic motor failure. Without bearing protection, any benefits from the use of VFDs can be quickly wiped out by the high costs of motor repair, downtime, and lost production.

Proven, Long-Term Bearing Protection

By diverting damaging bearing currents safely to ground, AEGIS® Shaft Grounding Rings ensure the reliable, long-term operation of VFD-driven motor and systems.

To meet the stringent sanitary requirements for dairy processing facilities, washdown motors with AEGIS Rings factory installed inside the motor housing are available.



Applications:

- ☐ Cow shed turntables
- ☐ Milking parlor motors
- ☐ Milking pumps
- ☐ Milk transfer pumps / fluid pumps
- ☐ Barn ventilation fans
- ☐ Well and water holding tank pumps
- ☐ Mechanical vapor-recovery systems
- ☐ Manure separators
- ☐ Hoist motors
- ☐ Vacuum pumps
- ☐ Chiller motors
- ☐ Evaporator fans
- ☐ Screw compressors
- ☐ Condenser fans
- ☐ Wash pumps





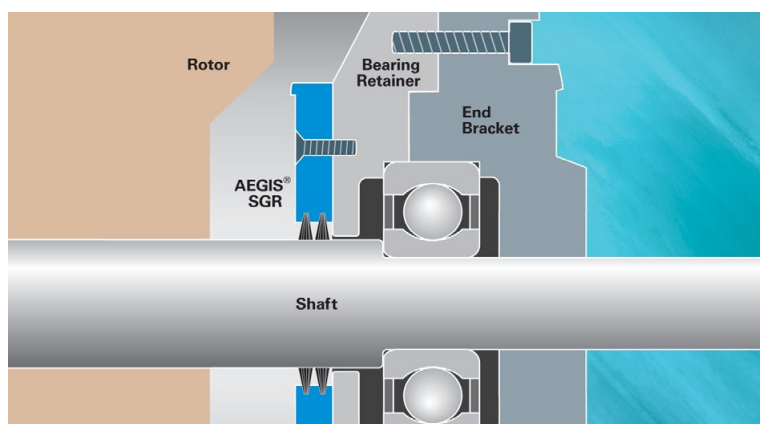
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The Problem

Dairy farms and milking facilities are not sterile environments. Dust, dirt, and other organic matter present in these facilities can interfere with the shaft contact of grounding devices and severely hamper their effectiveness.

In contrast, plants that process dairy products must be exceptionally clean. To maintain their cleanliness and prevent contamination, these facilities conduct frequent high-pressure washdowns using special detergents.

Neither of these environments is ideal for shaft grounding devices. The dirt and dust of milking facilities can reduce the effectiveness of shaft grounding devices, while high-pressure washdowns of dairy processing plants can damage the devices themselves.



The Solution

To protect them from excessive dirt, dust, and other contaminants at dairy farms and from high-pressure washdowns in processing plants, AEGIS® Rings should be installed inside the motor. While motor repair shops can easily handle this type of installation, a growing number of motor manufacturers now offer off-the-shelf motors with AEGIS® Rings factory installed internally.

Washdown Motor with AEGIS® Ring Installed Internally

For information on LEESON® Extreme Duck Washguard® Motors with AEGIS® Shaft Grounding Rings factory installed inside, visit: www.est-aegis.com/oems-leeson.php



AEGIS® Rings are available through: