



## Protecting VFD-Driven Motors In: Oil Drilling and Pipelines

### The Need for Exceptional Reliability

Used for everything from gasoline for vehicles, to power for lights and appliances, to key ingredients in plastics and other space-age materials, oil is extremely valuable. It is also very difficult to find. So, once deposits are found, the equipment and processes involved in getting oil out of the ground and to the refinery where it is processed operate continuously—24 hours a day, 7 days a week. And equipment failures are extremely costly in terms of lost production.

### Precise Motor Control Maximizes Productivity, Minimizes Risk in Drilling/Pumping Operations

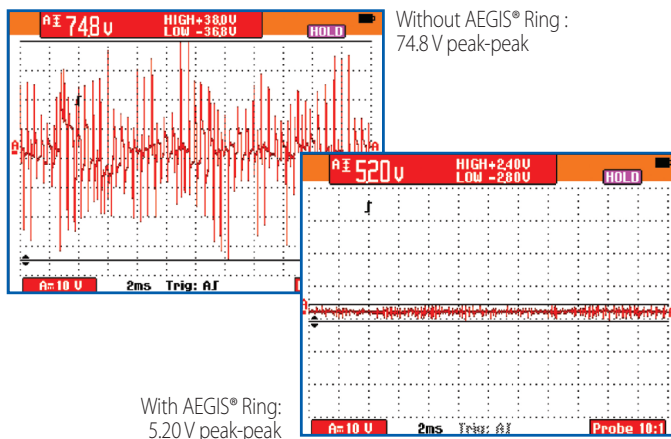
To maximize efficiency and control in oil drilling and transport, many of the motors used in these operations are controlled by variable frequency drives (also known as VFDs, adjustable speed drives, or inverters). VFDs allow precise control of motor speed or torque, maximizing productivity and control and minimizing risk to personnel and machinery.

### The Need for Shaft Grounding on VFD-Driven Motors

But, VFDs can damage the motors they control. They induce voltages on motor shafts 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 exceptionally high cost of 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.



### Applications:

- ☐ Drilling rigs
- ☐ Mud and circulating pumps
- ☐ Degassers and separators
- ☐ Generators
- ☐ Centrifuges
- ☐ Desanders/desilters
- ☐ Draw-works
- ☐ Shale shakers
- ☐ Suction pumps
- ☐ Ventilation fans
- ☐ Workover rigs
- ☐ Mud agitators
- ☐ Fracking blenders, hydration units, pumps, and vapor recovery units
- ☐ Pipeline pumps





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### The Problem

Oil drilling and pipelines often involve challenging environments. Dust, dirt, water, grease, and oil can interfere with the shaft contact of grounding devices and severely hamper their effectiveness.

### The Solution

To protect them from excessive dirt, oil, and other contaminants in oil drilling/transport applications, 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 offer off-the-shelf motors with AEGIS® Rings factory installed internally including:

- Baldor
- General Electric
- Marathon Electric
- Nidec
- TECO Westinghouse
- WEG Electric

If an explosion-proof motor is required, certain motor repair shops have been approved by UL to install AEGIS Rings inside explosion-proof motors. For more information on how such installations are performed and the names of motor repair shops that have been UL-approved to perform them, visit the AEGIS® website: [www.est-aegis.com/ULInstallers.php](http://www.est-aegis.com/ULInstallers.php)

Or, Regal Beloit/Marathon offers XRI Series explosion-proof motors with BCP (Bearing Current Protection) – AEGIS® Bearing Protection Rings factory-installed internally.

**AEGIS® Rings are available through:**

