



BEST PRACTICES FOR

# Protecting Large Motors and Generators from Damaging Bearing Currents with AEGIS<sup>®</sup> PRO Series Rings



## AEGIS® PRO Series - Shaft Grounding Rings For Maximum Bearing Protection

The AEGIS® PRO Series design provides reliable shaft grounding for medium voltage applications, generators and turbines to divert harmful shaft voltages to ground and extend bearing life. Install the AEGIS® PRO on the DE and insulate the bearing on the opposite end (NDE) for best results. Large motors and generators often have much higher induced shaft voltages and bearing currents. The six circumferential rows of conductive microfiber provide the extra protection for these high current applications.

Generators may experience current surges which can cause electrical arcing in their bearings and equipment. The AEGIS® PRO Rings have a high current capable design and can discharge these currents.

Designed for:

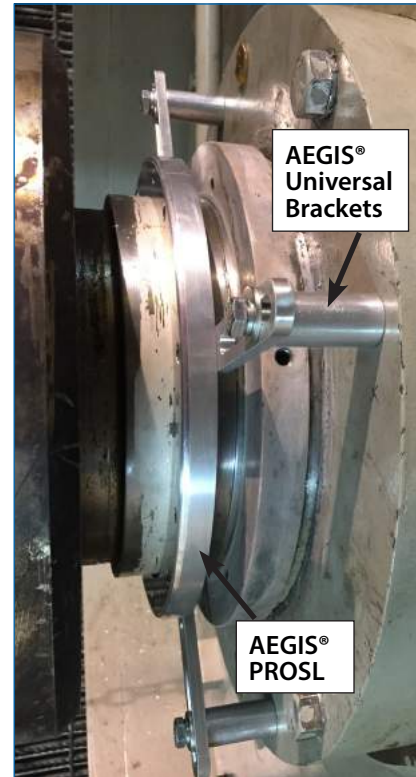
- Large frame low-voltage motors: 500 HP (375kW) or greater
- Medium-voltage motors
- DC motors: 300 HP or greater

### Specifications:

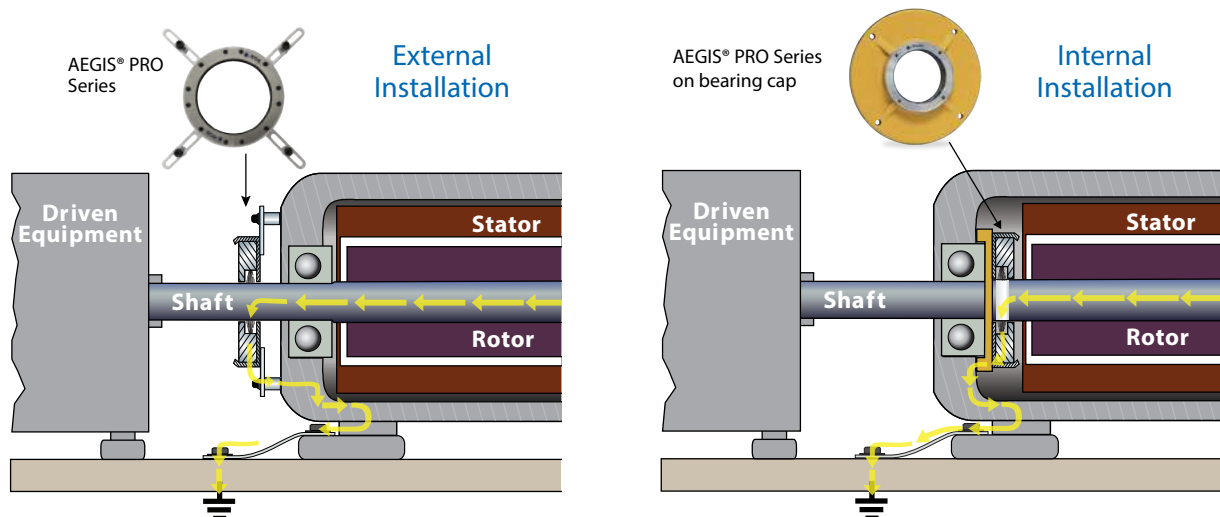
- Available in shaft diameters from 2.5" to 30" [63.5mm to 762mm]
- Circumferential Conductive MicroFiber rows in FiberLock™ Channel
- Rows of fiber: 6
- Fiber overlaps shaft 0.030" [.76mm]
- Ships with CS015 AEGIS® Colloidal Silver Shaft Coating
- Aluminum or stainless steel construction

### Options:

- Solid and split ring designs
- Monitoring ring option for voltage monitoring
- Stock brackets and stand-off kits
- Custom brackets available



AEGIS® PROSL with Universal Brackets



## AEGIS® PRO Series - Shaft Grounding Ring

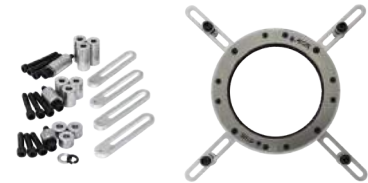
### AEGIS® PROSL

The AEGIS® PROSL is a high current capable AEGIS® PRO Series Bearing Protection Ring for large motors, generators and turbines operated by VFDs. The slim design and flexible installation options allow for adaptation to virtually all large motors.

#### Specifications

Designs: Solid, Split and Press Fit  
 Shaft Dia: 2.5" to 15.75" [63.5mm to 400mm]  
 OD: Shaft Dia + 1.86" [47.24mm]  
 OAL: 0.650" [16.51mm] MAX assembled with mounting screws  
 Mounting: Supplied with screws for bolt through mounting  
     English: 8-32 x 1" Flat Head Cap Screws  
     Metric: M4 x .7 x 25mm Flat Head Cap Screws

*Optional Universal Brackets for easy mounting.*



### AEGIS® PROSLR

Severe Duty motors are operated in general processing industry applications requiring protection from severe environmental operating conditions - often where there is debris, powder, dirt, liquids, lubricants or other contaminants. For these applications the AEGIS® PROSLR incorporates an O-ring dust and debris barrier which will prevent ingress of materials that could interfere with the contact of the conductive microfibers to the motor's shaft.

Note: When the AEGIS® PROSLR is installed inside the motor the O-ring barrier will prevent grease from clogging the fibers in an over-lubricated condition.

#### Specifications

Designs: Solid and Split  
 Shaft Dia: 2.5" to 15.75" [63.5mm to 400mm]  
 OD: Shaft Dia + 1.86" [47.24mm]  
 OAL: 0.775" [19.68mm] assembled with mounting screws  
 Mounting: Supplied with screws for bolt through mounting  
     English: Solid Ring 8-32 x 1" FHCS, Split Ring 8-32 x 1.25" FHCS  
     Metric: Solid Ring M4 x .7 x 25mm FHCS, Split Ring M4 x .7 x 31mm FHCS

*Optional Universal Brackets for easy mounting.*



### AEGIS® PROMAX

The AEGIS® PROMAX is designed for installation on the most critical and largest motors, generators and turbines. Scalable to any shaft diameter over 15.75" [400mm], this high current capable AEGIS® PROMAX Shaft Grounding Ring is custom engineered for each application to ensure the best bearing protection possible.

#### Specifications

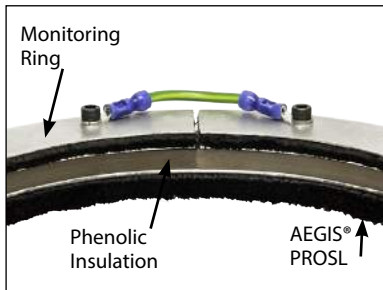
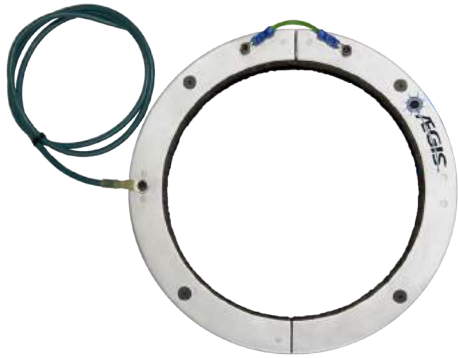
Designs: Split Ring only  
 Shaft Dia: 15.75" to 30" [400mm to 762mm]  
 OD: Shaft Dia + 3.0" [76.2mm]  
 OAL: 1.875" [47.62mm] assembled with mounting Screws  
 Mounting: Supplied with (4) M8 x 1.25 x 50 Socket Head Cap Screws  
     for bolt through mounting

*Custom brackets and O-ring barrier available upon request*



## AEGIS® PRO Series Shaft Grounding Ring

### AEGIS® PROMR



The AEGIS® PROMR “monitoring ring” combines the AEGIS® PROSL with an additional isolated SGR ring that can be used as a monitoring device. The PROSL channels the voltages and currents safely to ground while the monitoring SGR ring measures voltage on the shaft and is not grounded. A phenolic plate between the 2 rings is used to isolate the monitoring ring.

For shaft diameter of 2.5” to 15.75” [63.5mm to 400mm].

Designs: Solid and Split

OD: Shaft Dia + 1.86” [47.24mm]

OAL: 1.312” [33.32mm] assembled with mounting screws

Mounting: Supplied with screws for bolt through mounting

English Screws: 8-32 x 1” Flat Head Cap Screws

Metric Screws: M4 x .7 x 25mm Flat Head Cap Screws

*Optional Universal Brackets for easy mounting.*

## Optional Mounting Brackets for AEGIS® PRO Series

For AEGIS® PROSL, PROSLR, PROMR



### AEGIS® PROSL Universal Brackets

Kit includes brackets, four different spacer lengths and hardware for each.

## Custom Brackets/Installation Examples

Contact our Engineering Team for special mounting applications.



Custom Split Mounting Plate with tie bars



Bearing Cap Mounting



Custom Mounting Brackets

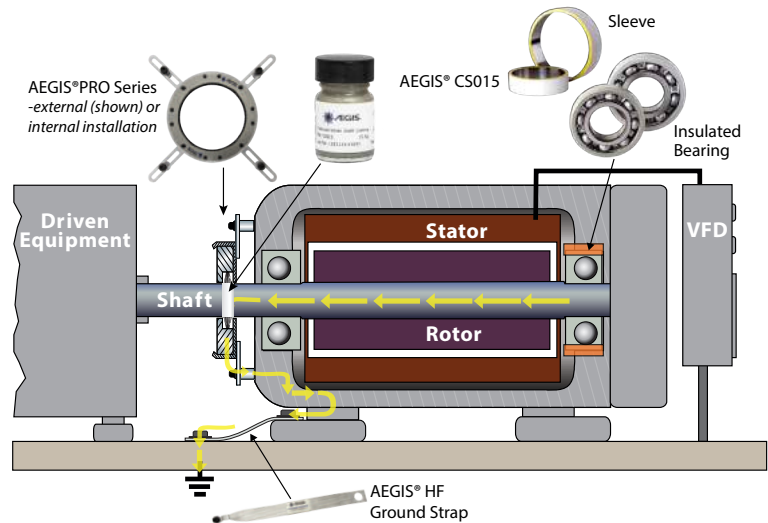


## Motors Greater than 100 HP (75 kW)

### Medium Voltage Motors:

For horizontally mounted motors with single row radial ball bearings on both ends of the motor:

- Non-Drive end: Bearing housing must be isolated with insulated sleeve or coating or use insulated ceramic or hybrid bearing to disrupt circulating currents.
- Drive end: Install one AEGIS® Bearing Protection Ring .
- AEGIS® Ring can be installed internally on the back of the bearing cap or externally on the motor end bracket.
- Use AEGIS® Colloidal Silver Shaft Coating (PN# CS015) on motor shaft where fibers touch.



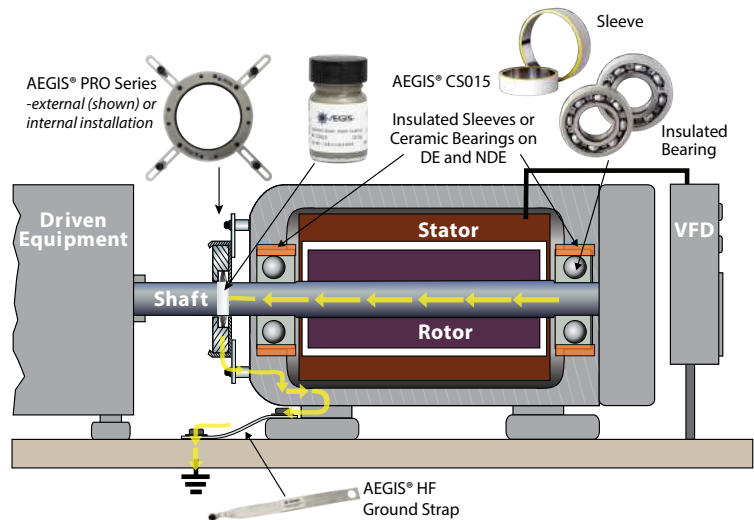
**!** Product recommendation:  
AEGIS® PRO Series

Install AEGIS® Ring on opposite end from insulation

## Motors Where Both Bearings are Insulated - Any HP/kW

### Medium Voltage Motors:

- Install one AEGIS® Bearing Protection Ring, drive end preferred, to protect bearings in attached equipment (gearbox, pump, fan bearing and encoder, etc...).
- AEGIS® Ring can be installed internally on the back of the bearing cap or externally on the motor end bracket.
- Colloidal Silver Shaft Coating PN CS015 is required for this type of application.



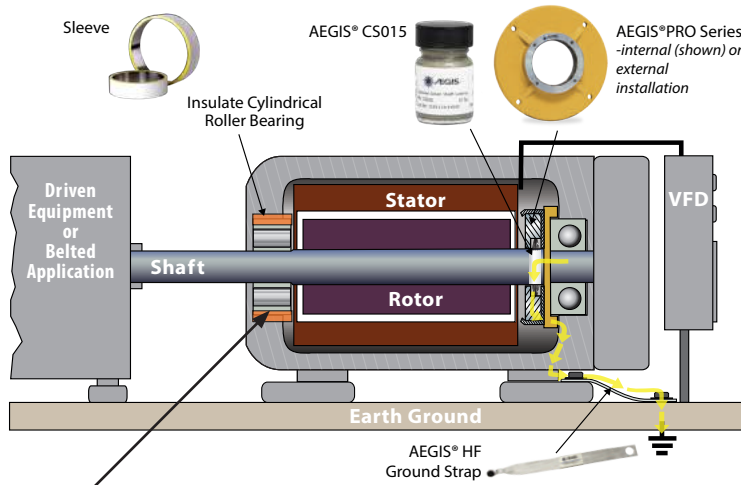
**!** Product recommendation:  
AEGIS® PRO Series

Install AEGIS® Ring on opposite end from insulation

**STOP** Bearings in attached equipment may be at risk from VFD induced shaft voltage unless AEGIS® Shaft Grounding is installed.



## Motors with Cylindrical Roller, Babbitt or Sleeve Bearings



Note: Insulated DE bearing is preferred. However, if this is not possible then insulate the NDE bearing instead and install an AEGIS® Ring on the DE (cylindrical roller bearing side).

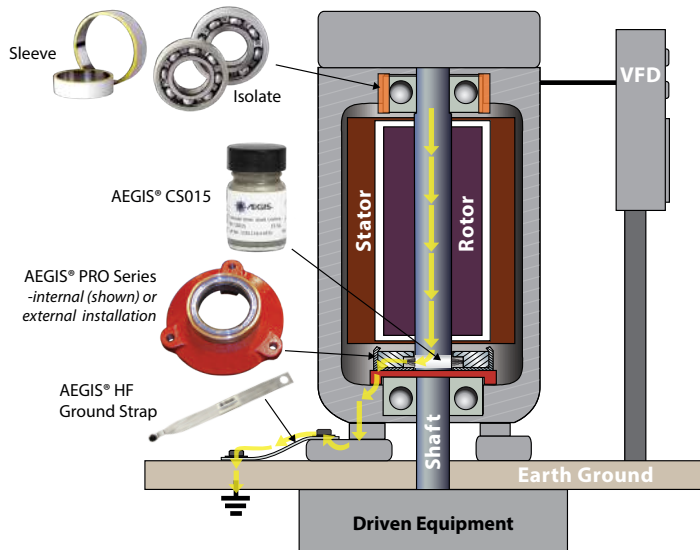
AEGIS® Ring must be installed opposite side of insulation.

### Medium Voltage Motors:

- Cylindrical Roller Bearing, Babbitt, or Sleeve bearing: Bearing housing should be isolated or use insulated bearing.
- Motors with insulated cylindrical roller bearing DE: Install AEGIS® Bearing Protection Ring on opposite drive end (NDE).
- AEGIS® Ring can be installed internally on the back of the bearing cap or externally on the motor end bracket.
- Colloidal Silver Shaft Coating PN CS015 is required for this type of application.

**! Product recommendation:**  
AEGIS® PRO Series

## Vertical Solid Shaft Motors Greater than 100 HP (75 kW)



### Medium Voltage Motors:

- Upper Bearing: Bearing journal must be isolated or insulated ceramic or hybrid ceramic bearing installed.
- Bottom Bearing: Install one AEGIS® Bearing Protection Ring.
- AEGIS® Ring can be installed internally on the back of the bearing cap or externally on the motor end bracket.
- Colloidal Silver Shaft Coating PN CS015 is required for this type of application.

**! Product recommendation:**  
AEGIS® PRO Series

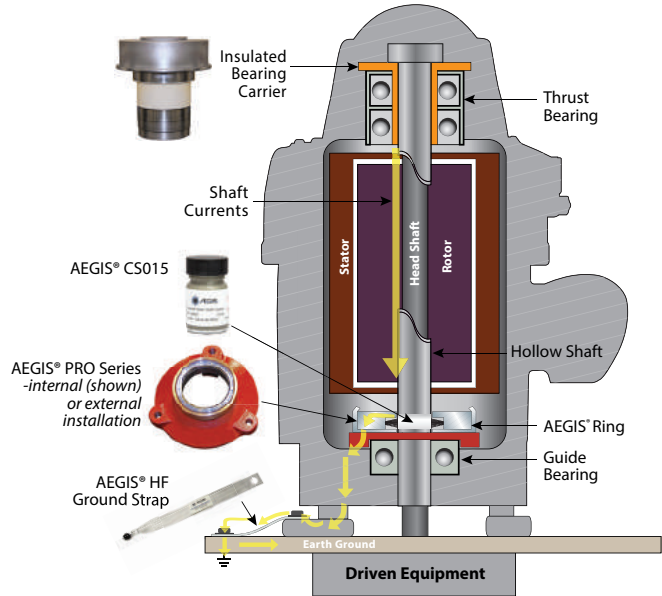


## Vertical Hollow Shaft Motors Greater than 100 HP (75 kW)

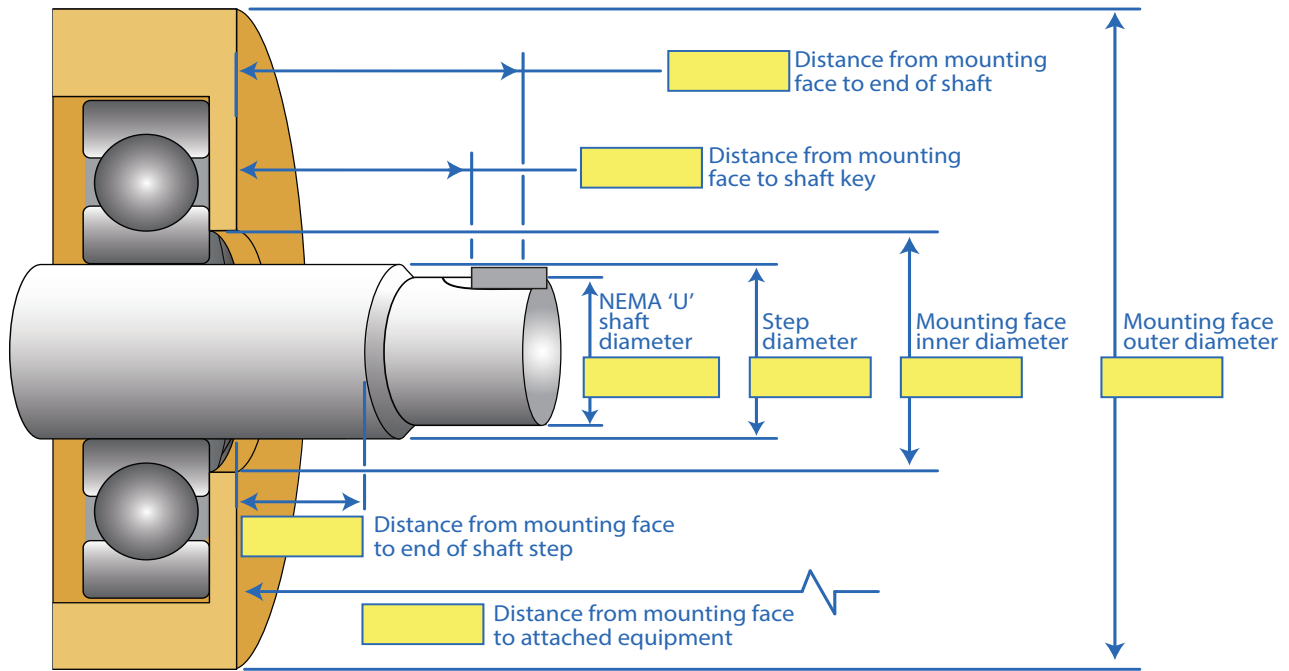
### Medium Voltage Motors:

- Upper Bearing: Bearing carrier must be isolated or insulated ceramic or hybrid ceramic bearing installed.
- Lower Bearing: Install one AEGIS® Bearing Protection Ring.
- AEGIS® Ring can be installed internally on the back of the bearing cap.
- Colloidal Silver Shaft Coating PN CS015 is required for this type of application.

**!** Product recommendation:  
AEGIS® PRO Series



## All AEGIS® PRO Series Rings are custom-manufactured to the measurements provided



Measure dimensions to: Inches: 3 decimal places / Metric: 2 decimal places





SlimLine  
AEGIS®  
PROSL Rings

## AEGIS® PRO Series: Designed and Built for Maximum Bearing Protection and Long Life

Available in Aluminum or Stainless Steel Construction

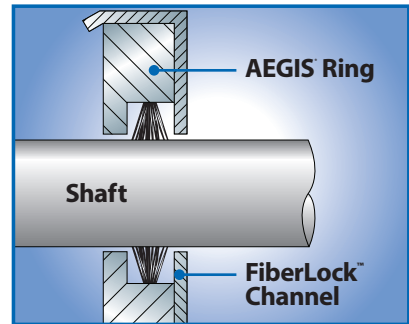
**6 rows of conductive microfibers provide greater current-carrying capacity for larger motors**



**Specially engineered microfibers flex without breaking for longest bearing life**



**Patented FiberLock™ Channel secures fibers and protects them from contamination**



### Protect bearings in:

- Large frame low-voltage motors: 500 HP (375kW) or greater
- Medium-voltage motors
- DC motors: 300 HP or greater
- Turbines
- Generators



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31 Winterbrook Road  
Mechanic Falls, ME 04256  
(866) 738-1857  
sales@est-aegis.com  
[www.est-aegis.com](http://www.est-aegis.com)

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Static  
Technology™**  
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