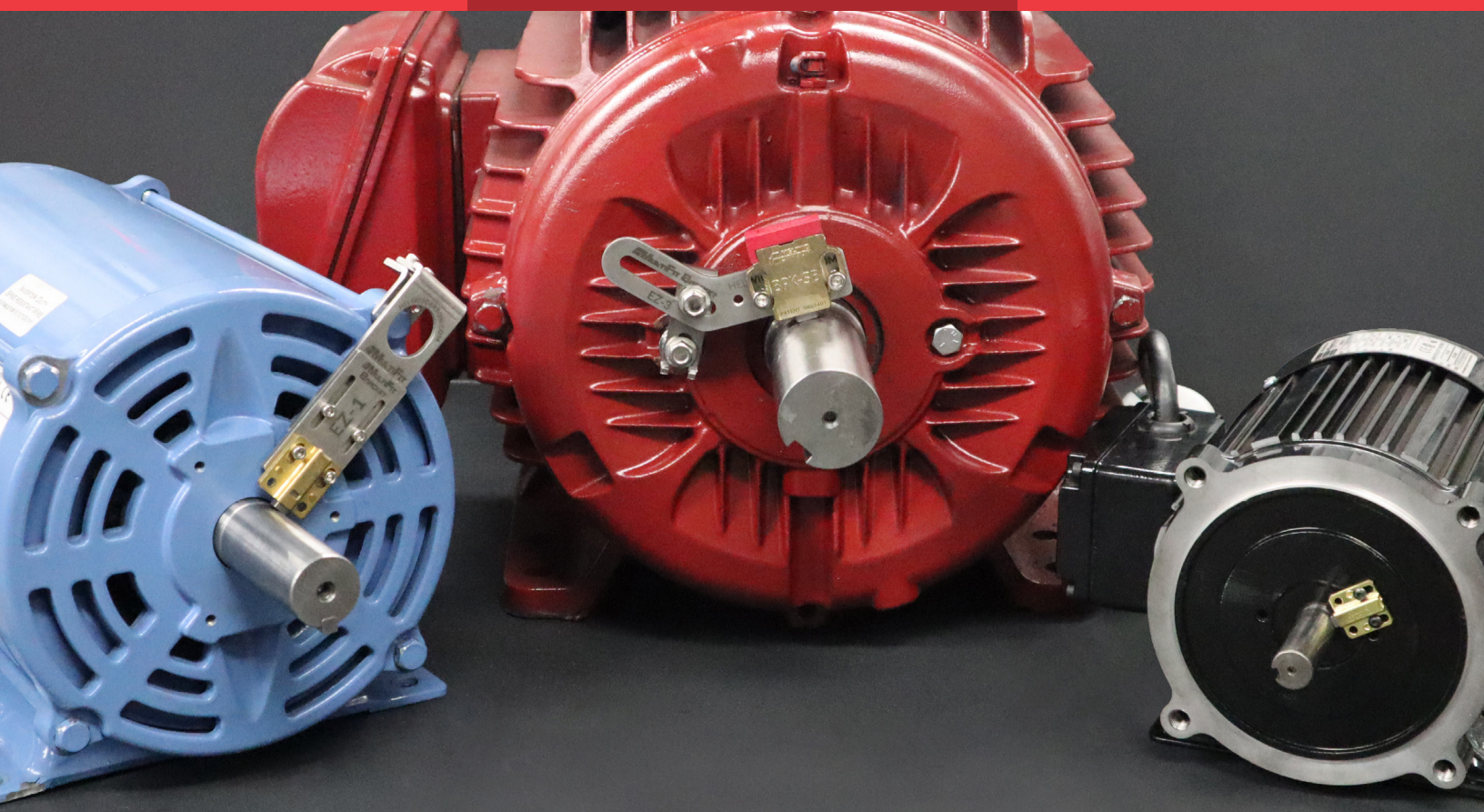


THE INDUSTRY'S BEST SHAFT GROUNDING SOLUTION

# BEARING PROTECTION KITS™

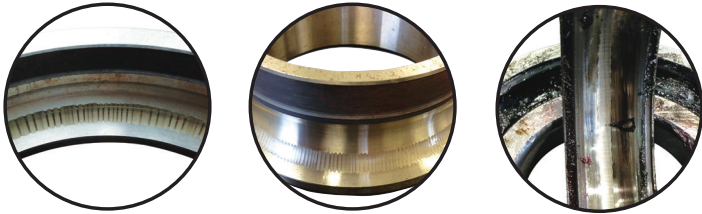


[helwigcarbon.com/shaft-grounding](http://helwigcarbon.com/shaft-grounding)



# Stop Bearing Failure Caused by VFD Currents

With Helwig's Bearing Protection Kit-BPK™ Shaft Grounding Solution



**Say Goodbye to Arcing, Fluting, Burnt Grease, and Bearing Failure**  
**With the Helwig BPK - The Industry's Best Shaft Grounding**

Motors driven from Variable Frequency Drives (VFDs) are susceptible to damaging electrical discharges that seek the path of least resistance to ground, which is typically through the motor bearings. When these currents pass through the bearings, electrical arcing takes place leading to fluting, pitting, burnt grease, noise, vibration, and eventual bearing failure.

## **BPKs Mitigate & Provide Long-Lasting Protection Against Damaging Electrical Discharge**

### **BPKs Feature:**

- Highly Conductive Proprietary Silver Graphite Brush (not a carbon brush) provides the lowest resistance path to ground
- Superior Current Mitigation - typically reduces shaft voltage to less than 1V at frequencies greater than 1 MHz
- Maintenance Free
- Average Lifespan of 10+ Years
- Easy to Install with EZ MultiFit® Brackets
- Effective at High Frequencies
- Stock Kits Fit Most Motors and Multiple Shaft Sizes, reducing overall inventory
- **Custom Internal Mount Options Available** - avoids exposure to outside contaminated environments

### **Protects:**

HVAC UNITS  
PUMP MOTORS  
FANS/AIR HANDLING  
WIND MAIN SHAFTS  
WIND PITCH MOTORS  
PROPULSION SYSTEMS  
COMPRESSORS  
ELEVATORS  
DATA CENTERS  
CHILLERS  
CONVEYORS

**OR ANY MOTOR  
DRIVEN BY VFDs!**



**UL**®  
**US**  
UL APPROVED

## **HELVIG CARBON** **Advantages**

- The Industry's Best Shaft Grounding Solution
- Extensive experience with field service and support
- Custom engineered solutions for superior BPK™ performance
- Expert problem diagnosis and technical recommendations

# BPK Product Line

Featuring EZ MultiFit® Brackets - Install in Minutes

MultiFit Brackets Use Motor Bolts - No Drilling and Tapping Required!



**SB Sealed Brass**  
0.45 x 1.59 x 1.52 inch  
(11.4 x 41.3 x 38.1mm)



**IM5**  
0.325 x 1.0 x 1.0 inch  
(8.26 x 25.4 x 25.4mm)



**AXIALLY MOUNTED**  
For Non-Drive End

## BPK-IM5 & BPK-SB Fit a Majority of Shaft Sizes

Additional Options Available - Contact Us!

| Shaft Diameter | 0.0in<br>0mm | 0.5in<br>13mm | 1.0in<br>25mm | 1.5in<br>38mm | 2.0in<br>50mm | 2.5in<br>64mm | 3.0in<br>75mm | 3.5in<br>89mm | 4.0in<br>101mm | 4.5in<br>114mm | 5.0in<br>127mm | 5.5in<br>140mm | 6.0in<br>152mm |
|----------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
| BPK-IM5        |              |               |               |               |               |               |               |               |                |                |                |                |                |
| BPK- SB        |              |               |               |               |               |               |               |               |                |                |                |                |                |
| BPK-AM         |              |               |               |               |               |               |               |               |                |                |                |                |                |

For shaft diameters >6 in (152mm) or for high vibration/extremely rough applications contact us for assistance: 414-354-2411

## Find the Right MultiFit Bracket with Selection Tool



Scan QR Code  
or visit  
[helwigcarbon.com/  
shaft-grounding/multifit-ez-brackets/](http://helwigcarbon.com/shaft-grounding/multifit-ez-brackets/)

Protect Multiple Motors  
with the BPK-Field Pack

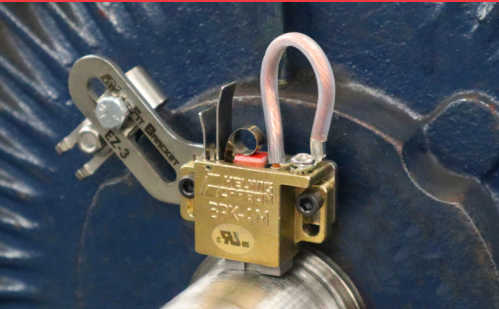


Measure Shaft Voltage with  
the BPK-Probe™

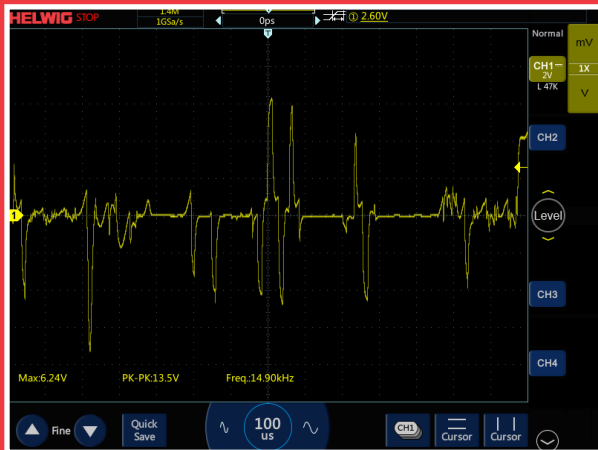


Remote Monitoring  
Options Also Available

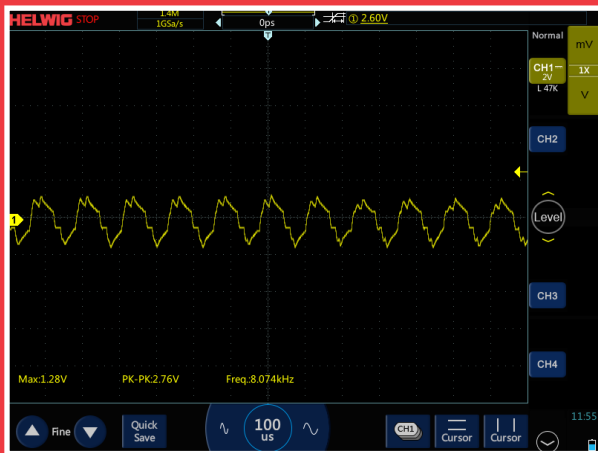
- Dedicated & knowledgeable Customer Service team
- On-time delivery averaged better than 98%
- ISO 9001 Certified for accuracy and consistency
- Made in the USA



# Helwig Protects Motors Better

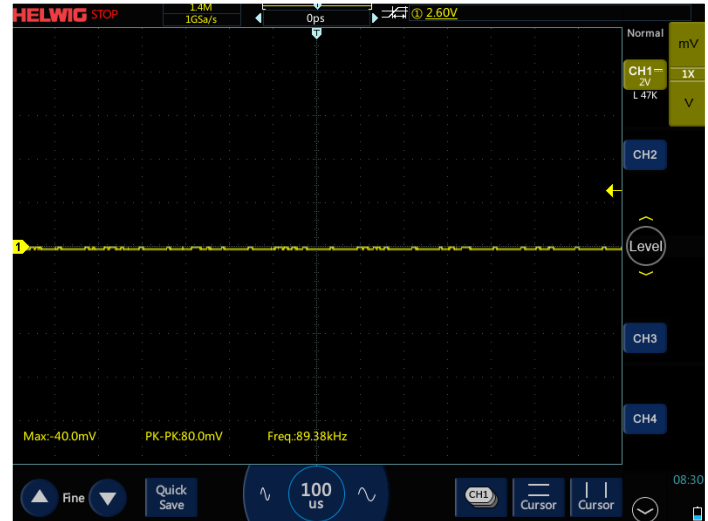


**UNPROTECTED MOTOR SHAFT (13.5V)**



**CARBON-FIBER RING (2.76V)**

Bearing Protection Kits (BPKs)<sup>™</sup> effectively mitigate electrical discharge. The following oscilloscope screenshots compare induced shaft voltage with our BPK-SB vs. a carbon fiber ring.



**HELWIG BPK-SB (0.08V)**

Oscilloscope screenshots were taken in a controlled testing environment, using a Patented BPK-Probe<sup>™</sup>. The test was conducted on a 10HP Nidec motor with the following specifications: 460VAC, 1765RPM, and driven by an Emerson VFD at 52Hz

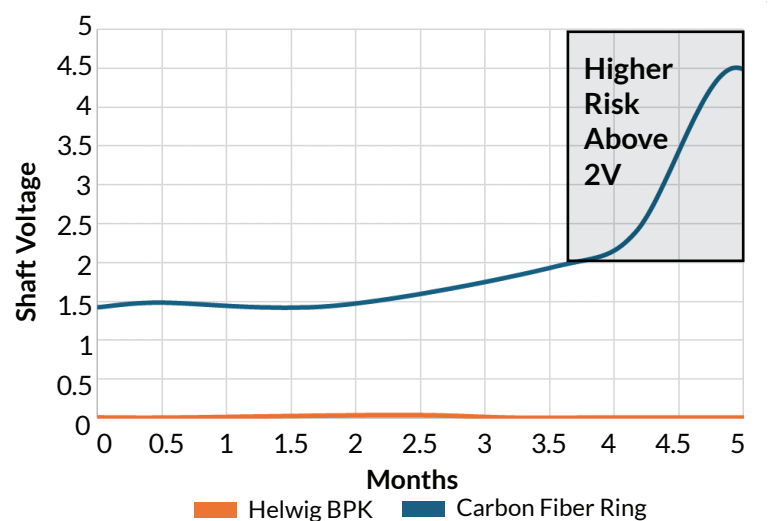
The silver graphite used in Helwig BPKs is more than **5X lower** in resistance than carbon fiber.

**BPKs provide optimal grounding for the long haul.**

## Data Confirms: BPKs Protect While Rings Fail

Helwig BPKs offer superior, long-lasting protection while Carbon Fiber Rings quickly lose effectiveness and fail to protect the motor bearings from harmful electrical discharge.

This test was performed on a Greenheck unit with a WEG 1HP, 230/460VAC, 1760RPM, 143/5T frame motor driven from a Mitsubishi 3-Phase 460VAC motor drive.



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