

# ProTech™ SG Bearing Isolators

No. 5278B1/USA

## Superior Bearing Protection for Electric Motors

### *Innovative design provides 100% exclusion and dissipates shaft voltages*

Parker Hannifin's innovative ProTech Self Grounding (SG) design provides the highest level of exclusion against water and dust, per IP66 from the International Electromechanical Commission (IEC), specification 60034-5. The seal provides two types of superior bearing protection on electric motors; it excludes 100% of the contaminants and dissipates electrical shaft voltages caused by variable frequency drives (VFD). The carbon brush assembly in the ProTech SG quickly and effectively transfers the "transient" shaft voltages to the conductive PTFE bearing isolator body, then to motor ground. The proprietary labyrinth sealing design also outperforms and outlasts isolators that rely on a single O-ring for sealing.

### **Features of the ProTech SG**

- Reduces shaft voltage that causes bearing pitting / fluting damage
- Non-contact sealing design means seal will not wear out
- Carbon brush assembly can be easily replaced in the field via an external set screw port
- Two-piece unitized construction provides single cartridge installation
- Proprietary labyrinth design outperforms and outlasts isolators that rely on a single internal O-ring for sealing
- Economical upgrade on NEMA motors that require expensive isolator bearings
- Constructed from proprietary conductive PTFE material with documented test results
- First isolator U.L. tested to IEEE 841, meets or exceeds IP55, IP56, IP66, IP69k and API 610
- Includes fluoroelastomer O-ring for effective sealing in the most severe applications
- CNC machined, no tooling charges

### **Application Experience**

With over 60 years experience in the design and manufacture of sealing solutions, Parker is an industry leader in seal design and the innovation leader when it comes to bearing isolator design.



### **Quality**

ProTech bearing isolators are manufactured under tight control of the entire process - from raw materials to finished product. The highest quality and absolute consistency from lot to lot are assured by:

- Use of only first-grade PTFE resins
- Our sophisticated systems for controlling the critical sintering process
- Specialized CNC production equipment
- QS 9000 registered

### **ProTech Materials**

ProTech's standard reinforced PTFE construction provides a wide range of operating capabilities including high or low temperatures and extreme chemical environments. The addition of other PTFE fillers extends the capability to special designs and services with enhanced physical properties. For example, we offer a PTFE blend for high-temperature stability in large diameter seals, and we also have a new electrically conductive PTFE used in the ProTech SG design.

### **Best Solution for Electric Motor Shaft Voltage**

The ProTech SG's unique design and superior performance make it an excellent solution for the electric motor market. The seal adds value by decreasing downtime common with bearing pitting / fluting damage, and prevents bearing damage common with contamination intrusion. Both of these design features are incorporated into one bearing isolator.

### **Contact Us**

Our experienced application engineers are your link to technical support for all of your sealing needs. They can help you optimize an existing seal design or explore innovative design alternatives. Call 800-233-3900 for technical assistance.

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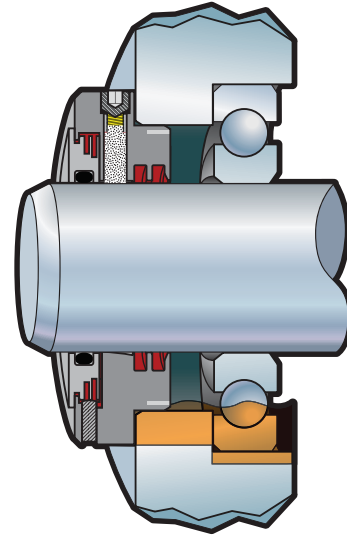
  
 anything possible

**Self Grounding Design - SG  
Standard Operating Parameters**

Total Eccentricity: .002" (.51 mm)  
 Shaft Speed: Up to 5,000 fpm (25 m/s)  
 Pressure: 0 psi  
 Temperature Range: -40°F to 250°F (-40°C to 121°C)  
 Axial Movement: .020" (0.51 mm)  
 Special designs up to .070" (1.78 mm)

**Seal Material:**  
 Standard Proprietary conductive PTFE  
 Optional N/A

**O-Ring Material:**  
 Standard FKM



MOUNTING		LUBRICATION		
	Position	Grease	Oil	Dry
Horizontal	Y	Y	Y	Y
Vertical Up	Y*	Y*	Y*	Y*
Vertical Down	Y	Y	N	Y

\* For Vertical Up, consult factory

**Retain:** Grease and oil splash (oil level must be below shaft)  
**Exclude:** Water spray & dry contaminants from bearing cavity - IP66 rating  
**Equipment:** IEEE 841 & NEMA electric motors. Any application that requires a reduction of

- First to offer two piece unitized construction. Patented design locks seal together and won't wear like internal o-rings, PTFE elements or other locking rings.
- A carbon brush is used to dissipate electrical shaft voltages. These brushes can be easily replaced in the field via an external set screw port.
- Contaminant exclusion relies on labyrinth technology, not an internal seal. ProTech does not rely on a simple internal o-ring to protect your bearings.
- I.D. o-rings provide press fit at shaft for zero wear of shaft. Also allows for easy installation.
- Setting the standard for oil retention. Inboard labyrinth is the most efficient design for retaining oil splash. Far superior to the single groove concept.
- Electrical conductivity is provided by proprietary PTFE material. Superior chemical resistance is also maintained by use of our standard PTFE material.

**ProTech "SG"**

First Isolator U.L. tested to IEEE 841, meets or exceeds IP55, IP56, IP66, IP69k and API 610.