



# PERMANENT BEARING PROTECTION

## INPRO/SEAL BEARING ISOLATOR



**INPRO/SEAL<sup>®</sup>**

A Waukesha Bearings Business

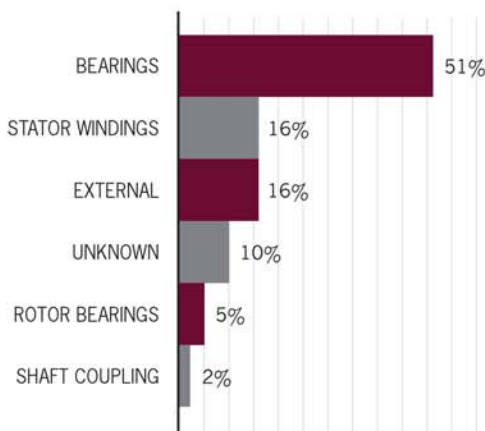
# INCREASE THE RELIABILITY OF YOUR ROTATING EQUIPMENT

## The Importance of Bearing Protection

As a leading cause of equipment downtime and lost production, bearing failure affects rotating equipment reliability in almost every industry. While there are many factors that contribute to failed bearings, over half are caused by lubrication loss and contaminants, such as moisture or particulate entering the bearing housing.

Manufacturers and users of rotating equipment continue to place an increased emphasis on bearing protection as a means of improving the overall reliability of their rotating equipment.

## LEADING CAUSES OF MOTOR FAILURE



EASA: IEEE DATA

## The High Cost of Contact Seals

Most seals rely on mechanical contact as a means of sealing the bearing housing against lubrication loss and contamination. Examples of contact seals include lip seals, mechanical seals and magnetic seals.

All contact seals have a finite life expectancy, eventually wearing at the point of contact or grooving the shaft. As a result, they no longer effectively seal the bearing enclosure. This short and unpredictable service life makes contact seals inadequate. Rotating equipment becomes unreliable, and catastrophic failure due to bearing degradation is common.

To eliminate seal failure and increase equipment reliability, contact seals need to be replaced with a permanent solution.

| BEARING PROTECTION TECHNOLOGIES                                |                              |                           |                 |           |                |           |
|--|------------------------------|---------------------------|-----------------|-----------|----------------|-----------|
|  | INPRO/SEAL BEARING ISOLATORS | "OTHER" BEARING ISOLATORS | LABYRINTH SEALS | GAP SEALS | MAGNETIC SEALS | LIP SEALS |
| CONTACT SEAL   |                              |                           |                 |           | ✓              | ✓         |
| NON-CONTACT SEAL   | ✓                            | ✓                         | ✓               | ✓         |                |           |
| PROTECTS AGAINST BOTH LUBRICATION LOSS & CONTAMINATION INGRESS | ✓                            | ✓                         |                 |           | ✓              |           |
| PERMANENT NON-WEARING DESIGN                                   | ✓                            |                           |                 | ✓         |                |           |
| STANDARD SAME DAY SHIPMENTS                                    | ✓                            |                           |                 |           |                | ✓         |
| CUSTOM ENGINEERED  | ✓                            |                           |                 |           |                |           |
| ZERO ENERGY CONSUMPTION  | ✓                            |                           | ✓               | ✓         |                |           |
| SPLITS AVAILABLE   | ✓                            | ✓                         | ✓               |           |                |           |



**SAME-DAY  
SHIPMENTS  
AVAILABLE**

### **The Inpro/Seal Solution**

As the inventor of the original Bearing Isolator, Inpro/Seal® has delivered proven permanent bearing protection for rotating equipment applications for more than 40 years.

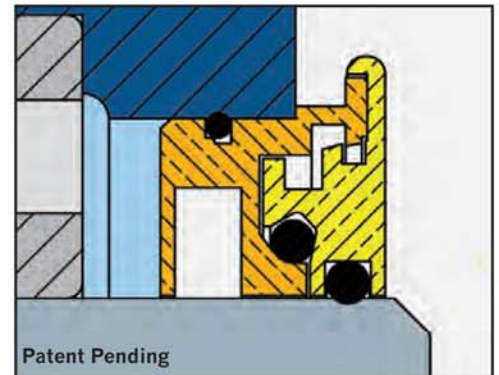
The Inpro/Seal Bearing Isolator is a non-contacting, permanent bearing protection device. Inpro/Seal's patented design consists of a unitized stator and rotor that form a compound labyrinth seal with no wearing parts – ensuring permanent equipment protection. The stator is typically pressed into the bearing housing, while the rotor turns with the shaft.

The Inpro/Seal Bearing Isolator protects in multiple ways. Internally, lubricant is captured in the inner portion of the labyrinth and flows back to the bearing housing. Externally, contamination attempting to enter the bearing housing is captured in the outer labyrinth paths and expelled through a port in the stator by centrifugal force and gravity.

Inpro/Seal's patented VBX® vapor blocking ring inhibits the free transfer of vapor contamination when the rotating equipment is cycled off.

**The only choice for permanent bearing protection:**

# **INPRO/SEAL BEARING ISOLATORS.**



The Inpro/Seal VB45-S Bearing Isolator is the standard design for permanent bearing protection.



# Pumps & Motors

Bearings are one of the most critical components of pumps and motors and are designed to operate for many years, yet they consistently fail prematurely due to lubrication loss and contamination ingress. Inpro/Seal® Bearing Isolators employ multiple designs to provide permanent bearing protection on pumps and motors - increasing reliability and maximizing uptime.

**Oil Lubricated Equipment-** The VB45-S Bearing Isolator is the standard on oil lubricated applications. Utilizing the VBXX® Interface and VBX® Ring for contamination protection and a large D-Groove for oil retention, this exclusive design is IP66 rated at a 0.625" (15.88mm) overall length.

**Grease Lubricated Equipment-** The mini66 Bearing Isolator is the perfect solution for grease lubricated applications. This unique design is IP66 rated at a 0.375" (9.53 mm) overall length, making it the most compact Bearing Isolator available offering permanent protection against bearing failure.

For severe environments, multiple robust designs, including VB45-U, Unitary and High-Head Bearing Isolators, are available to provide permanent bearing protection in the most challenging conditions.



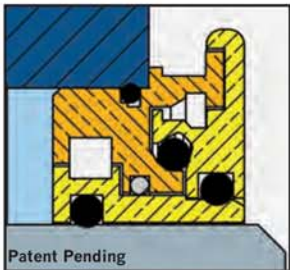
Inpro/Seal Bearing Isolators provide permanent bearing protection for a majority of pumps and motors.

# Gearboxes

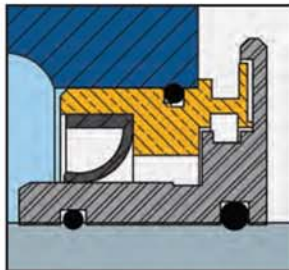
Inpro/Seal® Gearbox Bearing Isolators increase reliability and decrease maintenance costs by providing permanent bearing protection on a variety of gearbox designs.

**For oil levels below the shaft-** The robust VB45-U Bearing Isolator provides permanent protection against both oil and grease lubrication loss and is IP66 rated for premium contamination protection. With a unitized construction, the VB45-U Bearing Isolator accommodates extreme amounts of axial movement.

**For oil levels above the shaft-** The STS Bearing Isolator combines a PTFE contact seal with Bearing Isolator technology for long lasting results. This innovative design controls the contact sealing surface to reduce wear while preventing contamination from damaging the contact seal-maximizing seal life.



VB45-U



STS



There are multiple Inpro/Seal Bearing Isolator designs available to accommodate the large variety of gearbox designs.



# Pillow Blocks

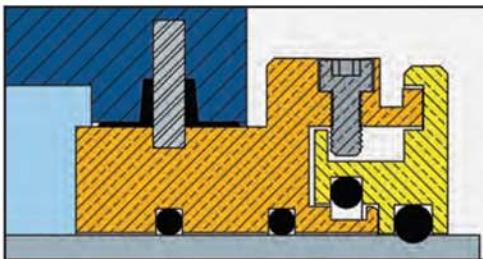
Pillow block bearings are an important component to the rotating equipment process, supporting shafts in multiple applications throughout a manufacturing facility. Designed to operate for many years, pillow block bearings typically fail from contamination entering the bearing housing or lubrication escaping – leading to reduced equipment life and increased maintenance costs.

The unique Inpro/Seal® Pillow Block Bearing Isolator fits directly into the LER groove of the pillow block, utilizing an anti-rotation pin to keep the stator from spinning with the shaft. To accommodate for misalignment, integral skates are used to align the seal precisely to the shaft and not the housing.

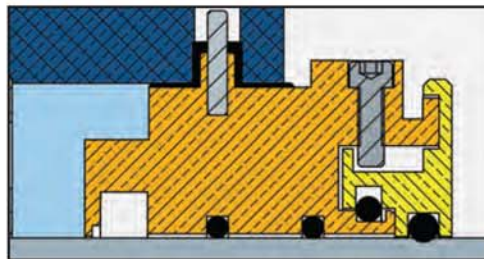
The Inpro/Seal Pillow Block Bearing Isolator can be designed for either grease or oil lubricated equipment.



Inpro/Seal Pillow Block Bearing Isolators fit directly in the pillow block, providing permanent bearing protection with no hassles.



Grease Lubed



Oil Lubed



## Specialty Designs

With more than 40 years of Bearing Isolator design experience, Inpro/Seal® has developed a product portfolio that includes many specialty designs for specific applications and operating environments. Some common specialty designs include:

**Sleeve Bearing Motor-** The Sleeve Bearing Motor Bearing Isolator permanently protects the motor windings from oil contamination due to windage as well as protect the bearings from external contamination.

**Paper Machine Roll (PMR)-** PMR Bearing Isolators are designed for wet and dry end paper machine rolls to prevent catastrophic bearing failure and minimize unscheduled downtime.

**Steam Turbine-** The Hi-Temp Steam Turbine Bearing Isolator will easily accommodate temperatures up to 1000°F (537°C) and utilizes a deflector rotor and VBXX® interface to permanently protect the bearings from steam leakage.

**And many more...**

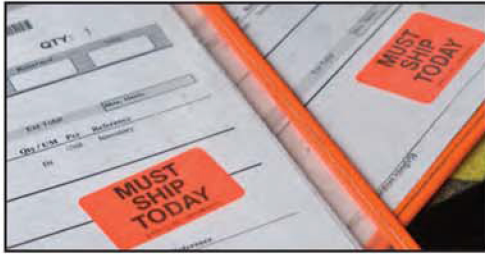


Inpro/Seal Hi-Temp Bearing Isolators permanently protect against steam ingress and lubrication loss.

# THE INPRO/SEAL ADVANTAGE

## Guaranteed Performance

Inpro/Seal® is committed to delivering innovative technology and superior customer support... standard with every solution. Inpro/Seal Bearing Isolators are backed by a performance guarantee. See our website for complete details.



## Unmatched Customer Service

Inpro/Seal's responsive global sales network is committed to making sure you have the right technology, right when you need it. We know that time is money. That's why we offer same-day shipments on most products, even new and custom designs. No matter the application or operating environment, we can deliver a solution designed to protect your equipment.

## Experience You Can Trust

Inpro/Seal, the leader in permanent bearing protection, has been maximizing uptime on rotating equipment for 40 years. Known as the trusted source of Bearing Isolator technology, we have installed millions of Bearing Isolators on applications worldwide.

## READY TO GET STARTED?

Visit [www.inpro-seal.com](http://www.inpro-seal.com) to contact your local Inpro/Seal representative or request a quote.



**INPRO/SEAL®**

A Waukesha Bearings Business

EXPERT ENGINEERING. PROVEN RESULTS®.

[www.inpro-seal.com](http://www.inpro-seal.com)