

PackRyt[®] Bearing Systems

PATENTED TECHNOLOGY

BLR - Bearing with Integrated lantern ring

Stuffing box sealing system for thousands of applications that require flush

BRG - Bearing Sealing System

Stuffing box sealing system for thousands of applications

ORM - Bearing with O-Ring

Bearing system designed to protect mechanical seals

SteamRyt - Soot Blower Sealing System

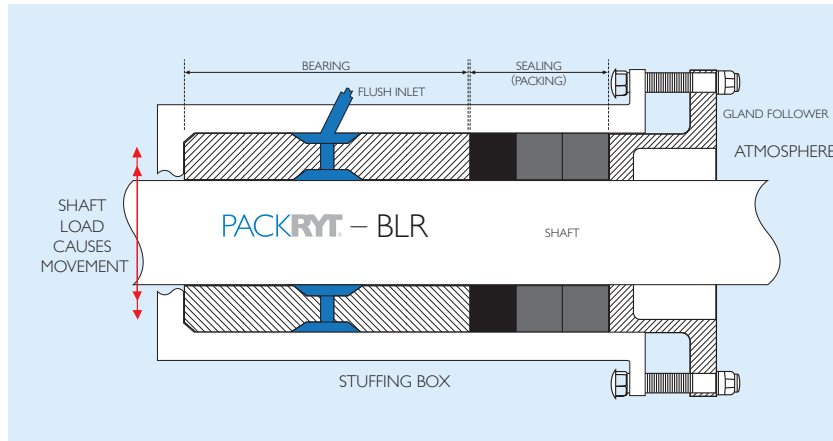
Long-term soot blower sealing dual bearing system

Diverter - Flush Relocation Without Stuffing Box Modification

Internal flush channel diverts flush away from the process and throttles volume

BLR* – Bearing with Integrated Lantern Ring

The PackRyt® Sealing System is a unique stuffing box sealing arrangement that incorporates a bearing and flush channel system together. This replaces outdated packing/lantern ring/packing configurations. Our system brings shafts into concentricity and keeps them there, significantly increasing sealing reliability.



THE ROOT CAUSE OF MOST ROTATING EQUIPMENT FAILURE IS SHAFT MOVEMENT.

SealRyt's patented technology has proven its ability to seal, support shafts, and increase reliability.



ADVANTAGES

- Machined to close-clearance, the bearing stabilizes the shaft and prevents movement
- Cavitation caused deflection is minimized
- Results in minimal friction to sleeve/shaft
- Minimal clearance sharply throttles solids, which allows the low-flush to keep them out of the shaft area
- Flush use reduction averages over 65%
- Flush flow remains constant
- Automatically positions flush channel correctly, lantern ring cannot move past flush inlet
- Little, or in some cases, no leakage from gland follower to atmosphere
- Eliminates need to constantly adjust packing
- As few as two rings of packing required
- High performance, ultra pure heat conductive sealing rings can virtually eliminate sleeve/shaft wear

HIGH-PERFORMANCE THERMOPLASTIC BEARING BLOCK

- Tremendous compressive strength
- Impervious to most chemicals.
- Virtually no dimensional growth up to 260°C
- Split, pinned, drilled and tapped for easy installation and removal.
- Available as split bearing without lantern ring groove (Product Name: BRG).

*Patented Product

IMPROVED RELIABILITY IN THOUSANDS OF APPLICATIONS

PULP & PAPER

Thick Stock
Digester Liquor
Evaporator
Condensate
Stock
White Water
Medium Consistency
High Pressure Shower
Agitators
Dissolving Tank
Blow Tank
Stock Chest
Fiberline
Outlet Device
Top Separators
Steaming Vessels
High Pressure Feeders
Low Pressure Feeders
Chip Metering Screws
M&D Digester
Equipment
Hydro Pulpers

WASTE WATER

Pumps
Digester Circulation
Thickened Sludge
Lift Station Vertical
Influent
Shower
Activated Sludge
Sewerage pumps

POWER

Pumps
Ash Sluice
Ash Disposal
Condensate
General Service Water
Cooling Water
Circulating Water
River Water
Feed Pumps
Screen wash pumps
Soot Blowers

MINING

Pumps
Tails Booster
Autoclave
Crusher
De-watering

FOOD

Brewery Mash Cookers
Steam Peelers
Poultry By-products
Pumps
Screw Conveyors

CHEMICAL

Dry Powder Mixers
Slurry
Mixer/Agitator
Reactors

ASK US ABOUT YOUR APPLICATION

The SealRyt® Corporation was founded in 2001 to develop and manufacture effective sealing systems for rotating and reciprocating applications. This is done by applying advanced technology, effort, and knowledge to applications, one at a time.

WATER CONSERVATION

Water is plentiful outside the plant, quietly expensive inside. Whether the issue is the treatment of wastewater, evaporating water from the process, or water getting into bearings, the use of water must be sharply curtailed to reduce operating costs.

Use of the PackRyt® Sealing System guarantees a substantial reduction of flush water used. Due to very close clearances between bearing and sleeve, water entry to the process is severely throttled. This throttling is inherent and automatic. Unlike conventional sealing bushings, PackRyt's® do not require flow meters to reduce flow.

Below are typical maximum flow rates experienced on example pumps @ 15 psi differential, little or no leakage to atmosphere, without flow meter adjustment.

Goulds 3196MT – 0.147 gpm - (0,556 lpm)

Goulds 3175S – 0.837 gpm - (3,168 lpm)

Ahlstrom 2LRS15/20 – 1.074 gpm - (4,066 lpm)

Goulds 3175L – 1.252 gpm - (4,739 lpm)

ENERGY CONSERVATION

Actual field tests routinely show that, after an approximate 10 -30 minute break in period, the PackRyt® Sealing System draws the same or less amps than a single mechanical seal on the same or identical pump.

CASE STUDIES

Dissolving Tank Agitators

A PackRyt® Sealing System was installed on 4 hard coated shaft tank agitator units and they have been running trouble free for over 2 years.

Previously these units had shaft change outs every year at a cost of approximately \$80,000.00.

Stock Pumps

A PackRyt® Sealing System was installed on a 3175 stock pump having extreme leakage and maintenance issues. The PackRyt® eliminated the problems. All pumps and agitators on the paper machine and the pulp dryer are now being considered for change out.

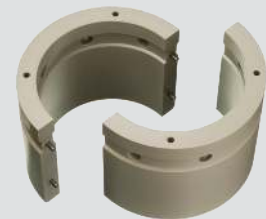
Fiber Line Equipment

A chip shoot pump was being re packed every 2 months and now with the PackRyt® Sealing System installed it has one annual packing change. The bearing has had a life span of over 5 years.

SPLIT DESIGN FOR EASY INSTALLATION

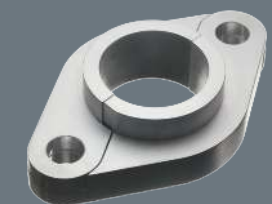
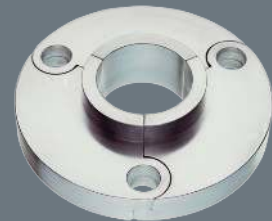


SPECIALTY AND FDA/USDA COMPLIANT BEARING AND TEXTILE MATERIALS AVAILABLE



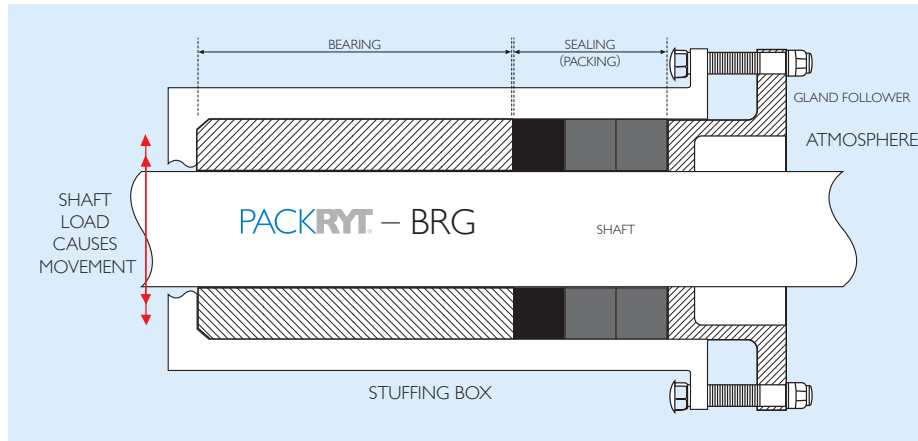
CUSTOM MILLED GLAND FOLLOWERS

For all applications, in any material desired, using an interlocking design and completely milled, not welded and machined.



BRG* – Bearing Sealing System

The PackRyt® Sealing System is a unique stuffing box sealing arrangement that incorporates a bearing with premium SealRyt® mechanical packing. This replaces outdated high-quantity packing configurations. Our system brings shafts into concentricity and keeps them there, significantly increasing sealing reliability.



THE ROOT CAUSE OF MOST ROTATING EQUIPMENT FAILURE IS SHAFT MOVEMENT.

SealRyt's patented technology has proven its ability to seal, support shafts, and increase reliability.



ADVANTAGES:

- Machined to close-clearance, the bearing stabilizes the shaft and prevents movement
- Cavitation caused deflection is minimized
- Results in minimal friction to sleeve/shaft
- Minimal clearance sharply throttles solids, which allows the premium packing to keep solids out of the shaft area
- Little, or in some cases, no leakage from gland follower to atmosphere
- Eliminates need to constantly adjust packing
- As few as two rings of packing required
- High performance, ultra pure heat conductive sealing rings can virtually eliminate sleeve/shaft wear

HIGH-PERFORMANCE THERMOPLASTIC BEARING BLOCK

- Tremendous compressive strength
- Impervious to most chemicals.
- Virtually no dimensional growth up to 260°C
- Split, pinned, drilled and tapped for easy installation and removal.
- Available as split bearing with lantern ring groove (Product Name: BLR).

*Patented Product

IMPROVED RELIABILITY IN THOUSANDS OF APPLICATIONS

PULP & PAPER

Thick Stock
Digester Liquor
Evaporator
Condensate
Stock
White Water
Medium Consistency
High Pressure Shower
Agitators
Dissolving Tank
Blow Tank
Stock Chest
Fiberline
Outlet Device
Top Separators
Steaming Vessels
High Pressure Feeders
Low Pressure Feeders
Chip Metering Screws
M&D Digester
Equipment
Hydro Pulpers

WASTE WATER

Pumps
Digester Circulation
Thickened Sludge
Lift Station Vertical
Influent
Shower
Activated Sludge
Sewerage pumps

POWER

Pumps
Ash Sluice
Ash Disposal
Condensate
General Service Water
Cooling Water
Circulating Water
River Water
Feed Pumps
Screen wash pumps
Soot Blowers

MINING

Pumps
Tails Booster
Autoclave
Crusher
De-watering

FOOD

Brewery Mash Cookers
Steam Peelers
Poultry By-products
Pumps
Screw Conveyors

CHEMICAL

Dry Powder Mixers
Slurry
Mixer/Agitator
Reactors

ASK US ABOUT YOUR APPLICATION

The SealRyt® Corporation was founded in 2001 to develop and manufacture effective sealing systems for rotating and reciprocating applications. This is done by applying advanced technology, effort, and knowledge to applications, one at a time.

WATER CONSERVATION

Water is plentiful outside the plant, quietly expensive inside. Whether the issue is the treatment of wastewater, evaporating water from the process, or water getting into bearings, the use of water must be sharply curtailed to reduce operating costs.

Use of the PackRyt® Sealing System guarantees a substantial reduction of flush water used. Due to very close clearances between bearing and sleeve, water entry to the process is severely throttled. This throttling is inherent and automatic. Unlike conventional sealing bushings, PackRyt's® do not require flow meters to reduce flow.

Below are typical maximum flow rates experienced on example pumps @ 15 psi differential, little or no leakage to atmosphere, without flow meter adjustment.

Goulds 3196MT – 0.147 gpm - (0,556 lpm)

Goulds 3175S – 0.837 gpm - (3,168 lpm)

Ahlstrom 2LRS15/20 – 1.074 gpm - (4,066 lpm)

Goulds 3175L – 1.252 gpm - (4,739 lpm)

ENERGY CONSERVATION

Actual field tests routinely show that, after an approximate 10 -30 minute break in period, the PackRyt® Sealing System draws the same or less amps than a single mechanical seal on the same or identical pump.

CASE STUDIES

Dissolving Tank Agitators

A PackRyt® Sealing System was installed on 4 hard coated shaft tank agitator units and they have been running trouble free for over 2 years.

Previously these units had shaft change outs every year at a cost of approximately \$80,000.00.

Stock Pumps

A PackRyt® Sealing System was installed on a 3175 stock pump having extreme leakage and maintenance issues. The PackRyt® eliminated the problems. All pumps and agitators on the paper machine and the pulp dryer are now being considered for change out.

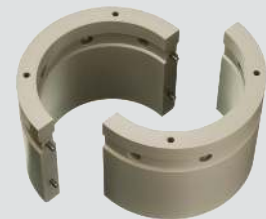
Fiber Line Equipment

A chip shoot pump was being re packed every 2 months and now with the PackRyt® Sealing System installed it has one annual packing change. The bearing has had a life span of over 5 years.

SPLIT DESIGN FOR EASY INSTALLATION

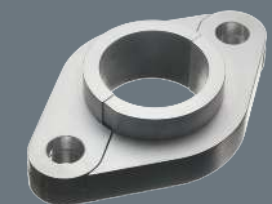
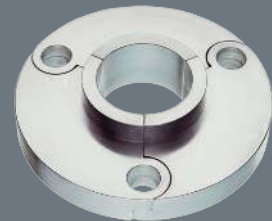


SPECIALTY AND FDA/USDA COMPLIANT BEARING AND TEXTILE MATERIALS AVAILABLE



CUSTOM MILLED GLAND FOLLOWERS

For all applications, in any material desired, using an interlocking design and completely milled, not welded and machined.



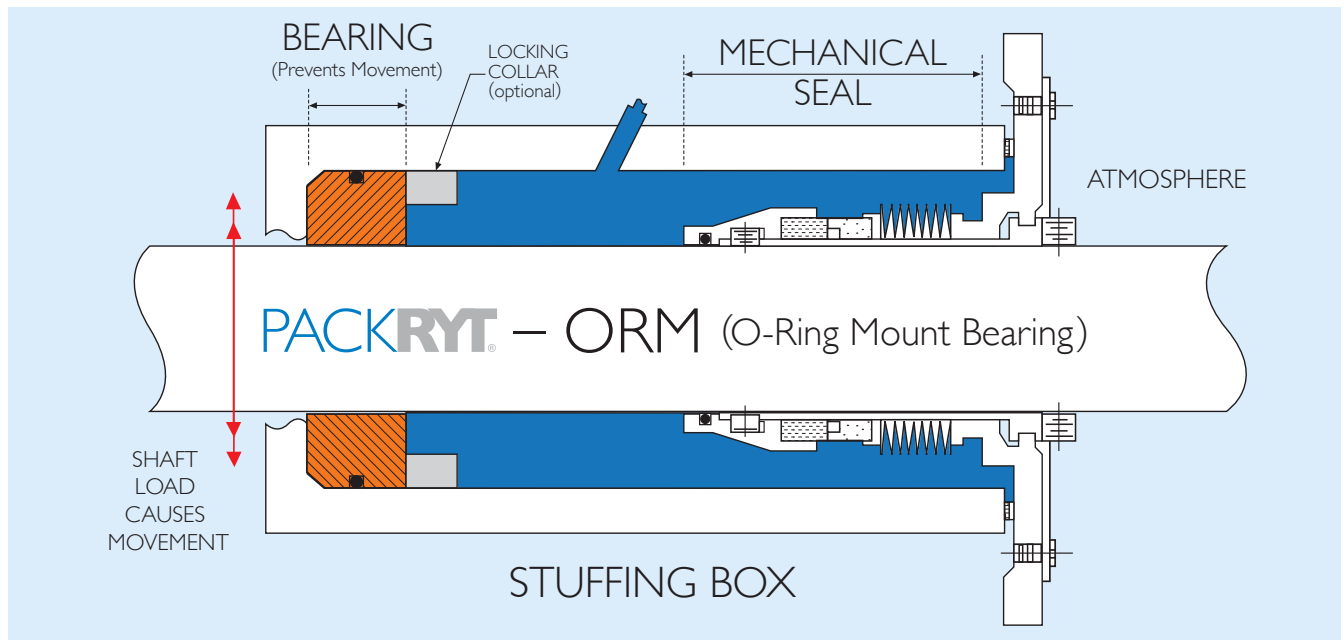
ORM* – Bearing with O-Ring

SAVE FACE. LET US BEAR THE LOAD.

Mechanical seals are ultra-precision devices with seal faces carefully lapped to less than 1.8 microns. This type of precision is expensive and downtime, due to seal face parting and failure, is even more costly.

THE ROOT CAUSE OF MOST ROTATING EQUIPMENT FAILURE IS SHAFT MOVEMENT.

SealRyt's patented technology has proven its ability to seal, support shafts, and increase reliability.



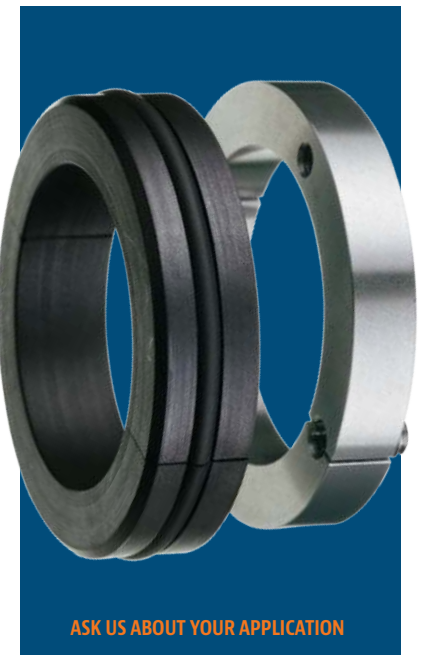
PROTECT SEAL FACES FROM FAILURE

SealRyt's patented bearing technology augments Mechanical Seal performance by:

- Minimizing radial shaft movement from run out or misalignment
- Acting as the replaceable wear surface
- Transferring load and wear from the seal faces to the bearing
- Allowing the mechanical seal faces to remain in close contact and do their job
- Aiding in vibration dampening

SEALRYT® – INSURANCE FOR YOUR CRITICAL MECHANICAL SEALS

***Patented Product**

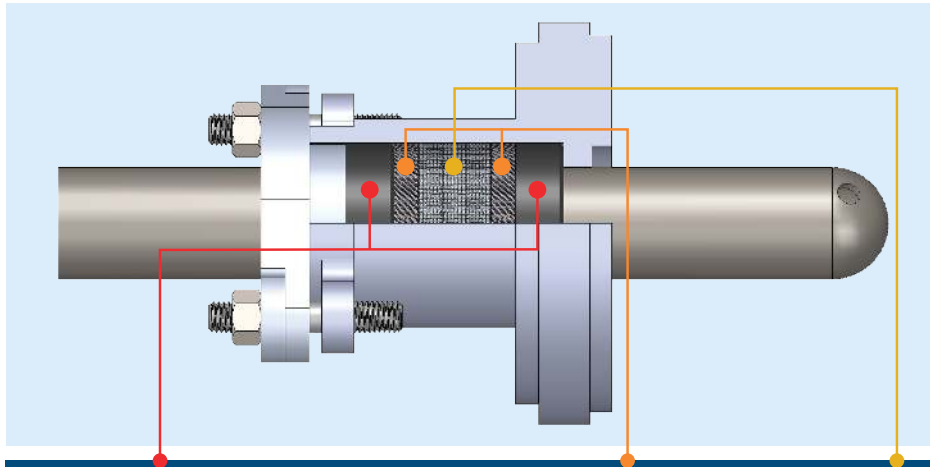


STEAMRYT* – Soot Blower Sealing System

The SteamRyt™ is a long term soot blower sealing solution developed through years of polymeric and textile research. SealRyt's polymer bearing attains exceptional, previously unheard of temperature capabilities and our unique arrangement of one bearing fore, one bearing aft creates a protected cavity for our sealing material.

THE ROOT CAUSE OF MOST ROTATING EQUIPMENT FAILURE IS SHAFT MOVEMENT.

SealRyt's patented technology has proven its ability to seal, support shafts, and increase reliability.



PACKING STYLE 283R



PACKING STYLE 357

PACKRYT BRG BEARING SYSTEM

A blend of very high temperature capability imidized polymers allows effective use in very high temperature air or steam under severe mechanical forces.

SEALRYT STYLE 357

99.6% pure carbon textile bound with carbon reinforced twisted graphite sheet is placed on the inside of both bearings and acts as wiper rings.

SEALRYT STYLE 283R

Pretwisted combination of imidized polymer textile and 99.6% pure carbon textile braided over a center of carbon reinforced twisted graphite sheet, make an incomparably strong sealing component which seals with low gland force.

COMMON SOOT BLOWER PROBLEMS

Problem 1. Retract blowers have long overhangs which can cause severe radial/elliptical movement of the shaft in the stuffing box area.

SOLVED! Shaft movement is eliminated with use of two very high strength polymer bearings, one fore, one aft in the stuffing box.

Problem 2. Throat bushings become worn from shaft movement and as they wear, packing can be easily extruded through increased clearances.

SOLVED! The use of two close clearance bearings eliminates shaft contact with the throat bushing & prevents inner packing from extruding.

Problem 3. Mechanical forces on the packing causes tearing and disfiguration.

SOLVED! Mechanical forces are eliminated in the stuffing box with the use of two close clearance bearings. Packing remains square and works only to seal along the stabilized shaft.

Problem 4. Excessive number of packing rings which consolidate rapidly.

SOLVED! The two bearing positions eliminate several former packing positions allowing use of optimal number of sealing rings.

Problem 5. Very high air/steam temperature.

SOLVED! All components, both bearings and packing are rated to 800 degrees F or higher.

SteamRyt sealing sets are in stock for soot blower sealing box sizes (lance diameter x box bore diameter x box length): (2.375" x 3.125" x 3.375") and (2.750" x 3.500" x 3.500"). All other sizes are made to order.

***Patented Product - PATENT # 8,814,432**

DIVERTER* – Flush Relocation Without Stuffing Box Modification

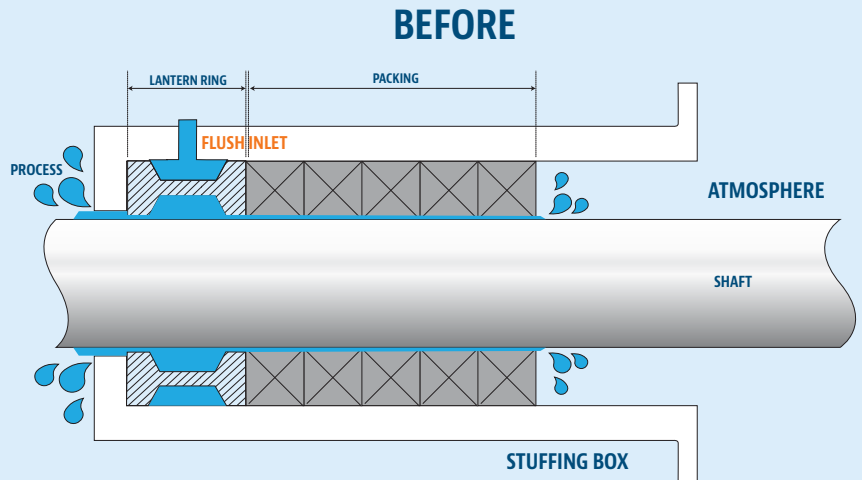
The PackRyt® Diverter is a unique stuffing box sealing arrangement that incorporates a flush channel relocation system internally within the composite bearing. This replaces outdated lantern ring/packing configurations that dump excess water into the process. The Diverter relocates the flush deposit and drastically throttles flush volume. Our system ALSO brings shafts into concentricity and keeps them there, significantly increasing sealing reliability.

THE PROBLEM

Many pump and equipment manufacturers locate the flush water port at the bottom of the stuffing box.

Flush water is allowed to flow **IN VERY HIGH VOLUMES** to process unchecked.

Manually reducing flush flow allows slurry to enter the stuffing box and destroy expensive hard parts.



MOVING FLUSH DEPOSIT AWAY FROM PROCESS DRASTICALLY REDUCES VOLUME USED.

THE SOLUTION

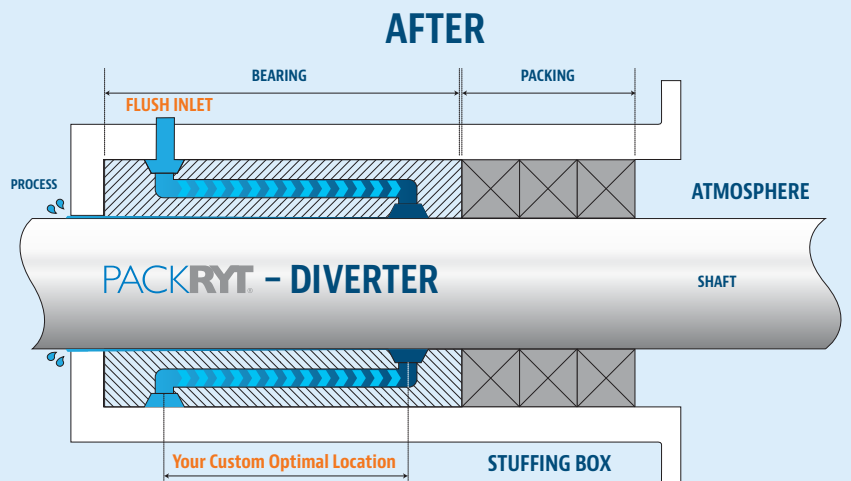
The PackRyt® Diverter solves the problem and more.

Flush water is relocated to the optimal position for YOUR application using channels within the bearing.

Shaft stabilization technology prevents shaft movement such as run-out and deflection.

No equipment modifications required.

The PackRyt® Diverter Sealing System greatly increases sealing reliability and equipment bearing life.



UP TO 85% REDUCTION IN FLUSH AUTOMATICALLY!

***Patent Pending**



ADVANTAGES

- Machined to close-clearance, the bearing stabilizes the shaft and prevents movement
- Cavitation caused deflection is minimized
- Results in minimal friction to sleeve/shaft
- Minimal clearance sharply throttles solids, which allows the low-flush to keep them out of the shaft area
- Flush use reduction averages over 65%
- Flush flow remains constant
- Automatically positions flush channel correctly, lantern ring cannot move past flush inlet
- Little, or in some cases, no leakage from gland follower to atmosphere
- Eliminates need to constantly adjust packing
- As few as two rings of packing required
- High performance, ultra pure heat conductive sealing rings can virtually eliminate sleeve/shaft wear

HIGH-PERFORMANCE THERMOPLASTIC BEARING BLOCK

- Tremendous compressive and flexural strength
- Impervious to most chemicals.
- Virtually no dimensional growth up to 260°C
- Split, pinned, drilled and tapped for easy installation and removal.
- Available as split bearing without lantern ring groove (Product Name: BRG).

CASE STUDIES

Dissolving Tank Agitators

A PackRyt® Sealing System was installed on 4 hard coated shaft tank agitator units and they have been running trouble free for over 2 years.

Previously these units had shaft change outs every year at a cost of approximately \$80,000.00.

Stock Pumps

A PackRyt® Sealing System was installed on a 3175 stock pump having extreme leakage and maintenance issues. The PackRyt® eliminated the problems. All pumps and agitators on the paper machine and the pulp dryer are now being considered for change out.

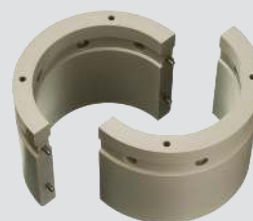
Fiber Line Equipment

A chip chute pump was being re packed every 2 months and now with the PackRyt® Sealing System installed it has one annual packing change. The bearing has had a life span of over 5 years.

SPLIT DESIGN FOR EASY INSTALLATION

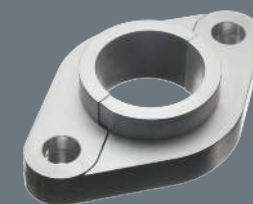
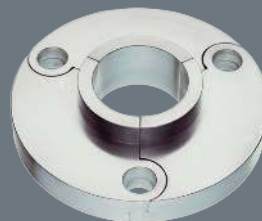


SPECIALTY AND FDA/USDA COMPLIANT BEARING AND TEXTILE MATERIALS AVAILABLE



CUSTOM MILLED GLAND FOLLOWERS

For all applications, in any material desired, using an interlocking design and completely milled, not welded and machined.



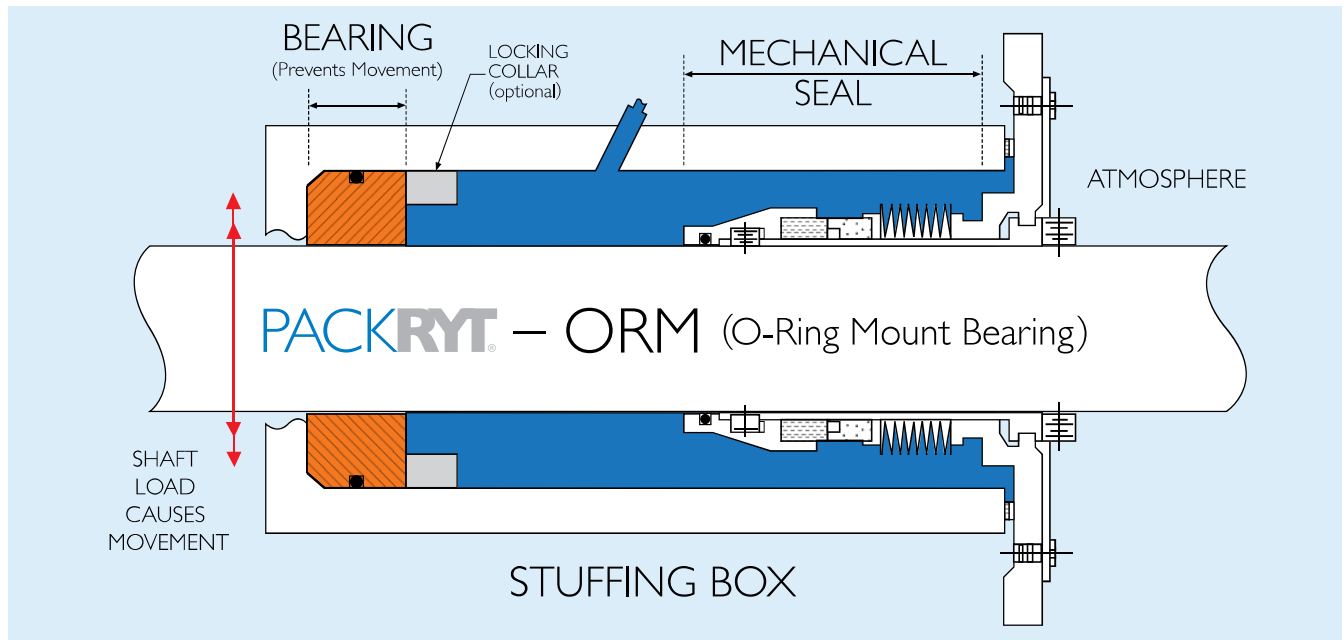
ORM* – Bearing with O-Ring

SAVE FACE. LET US BEAR THE LOAD.

Mechanical seals are ultra-precision devices with seal faces carefully lapped to less than 1.8 microns. This type of precision is expensive and downtime, due to seal face parting and failure, is even more costly.

THE ROOT CAUSE OF MOST ROTATING EQUIPMENT FAILURE IS SHAFT MOVEMENT.

SealRyt's patented technology has proven its ability to seal, support shafts, and increase reliability.



PROTECT SEAL FACES FROM FAILURE

SealRyt's patented bearing technology augments Mechanical Seal performance by:

- Minimizing radial shaft movement from run out or misalignment
- Acting as the replaceable wear surface
- Transferring load and wear from the seal faces to the bearing
- Allowing the mechanical seal faces to remain in close contact and do their job
- Aiding in vibration dampening

SEALRYT® – INSURANCE FOR YOUR CRITICAL MECHANICAL SEALS

***Patented Product**

