



SEALMASTER® APPLICATION WORKSHEET

EMERSON POWER TRANSMISSION

EPT MOUNTED BEARING DIVISION

Mail To: Sealmaster Bearings - Application Engineering
 1901 Bilter Rd.
 Aurora IL 60507

Fax to: Application Engineering 630-898-6064

Distributor Information	Customer Information
Distributor Name	Company Name
Contact Name	Contact Name
Street Address	Street Address
City/State/Zip	City/State/Zip
Phone	Phone
Fax	Fax
Internet E-Mail	Internet E-Mail
Is the Customer an: OEM or End User	Industry

Application Information

Is this a new application	Yes or No	Complete Climate Description
Speed: (rpm)		EXPLAIN: Climate Conditions: Wet <input type="checkbox"/>
Service Life Required: (hours):		Washdown <input type="checkbox"/>
Shaft Diameter:		Dry <input type="checkbox"/>
		Clean <input type="checkbox"/>
Load Information (lbs.):	Load Conditions: Steady <input type="checkbox"/>	Operating Temperature (°F):
Radial (lbs.):	Shock <input type="checkbox"/>	Is the bearing in the elevated temp? Yes / No
Axial / Thrust (lbs.):	Thrust <input type="checkbox"/>	Is the heat coming through the shaft? Yes / No
	Oscillation <input type="checkbox"/>	
If loads unknown attach detailed sketch***	Other <input type="checkbox"/>	Can the bearings be re-lubricated? Yes <input type="checkbox"/> No <input type="checkbox"/>
Complete Application Description: Horsepower (bhp):		Motor
		Driven Pulley Diameter (in.):
		Distance Between Bearings:

***PLEASE ATTACH DETAILED SKETCH OF APPLICATION.

INCLUDE ALL DIMENSIONS AND SYSTEM LOAD LOCATIONS



APPLICATION PROBLEM SOLVERS

SEALMASTER®

MODIFICATION AND SPECIAL CAPABILITIES

HIGH TEMPERATURE Pages 130-131



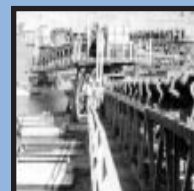
AIR HANDLING Pages 132-133



CONSTRUCTION Pages 134-135



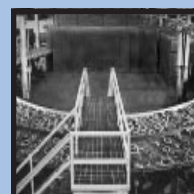
WET ENVIRONMENTS Pages 136-137



AGGREGATE/MINING Pages 138-139



ECCENTRIC DRIVES Pages 140-141



MIXERS Pages 142-143





SEALMASTER® APPLICATIONS...

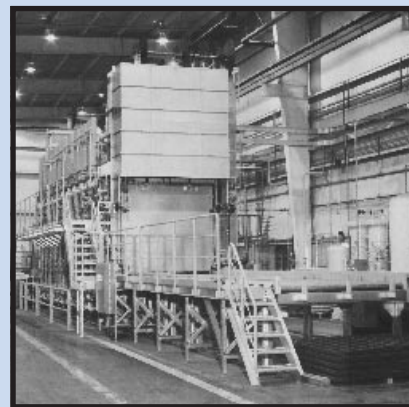
HIGH TEMPERATURE...

High temperature bearings are found in a broad range of industries. Temperature changes throughout the mounted bearings and shaft system impact the molecular structure of the materials causing expansion and contraction. Also, bearing components such as seals, grease, retainers, races, balls, etc., are affected by the high temperature and may require design modifications to optimize bearing performance.

Key Concerns... include effects on material and shaft expansion ranges.

Sealmaster bearings are frequently specified for:

- Industrial Furnaces.
- Bakery Ovens.
- Heat Treat Equipment.
- Incinerators.
- Drying Ovens.
- Fans and Blowers.



MOST BEARINGS REQUIRE MORE THAN ONE COMPONENT MODIFICATION TO INCREASE ITS EFFECTIVE OPERATING TEMPERATURE LEVEL. SEALMASTER BEARINGS CAN BE MODIFIED TO OPERATE AT UP TO 375°F.

GOLD LINE SOLUTIONS FOR HIGH TEMPERATURE APPLICATIONS.

Material Temperature Ranges:

Seals...

BALL - Sealmaster Gold Line Ball Bearings have a variety of special high temperature labyrinth and annular contact sealing options available per request. The most frequently used high temperature seals on ball bearings are the Nomex seal design (similar to the standard felt seal), HeatGard Seal (silicon fiberglass contact), or HeatGard Ultra Seal (spring loaded FKM oil seals). *Refer to the seal section found on page 188.*

ROLLER - Sealmaster RPB Bearings offer the high temperature Nomex seal design (similar to the felt seal).

Lubrication...

Sealmaster offers a wide selection of high temperature lubricants formulated to specifically meet specific application conditions. Relubrication frequency may need to be increased to ensure adequate lubrication is maintained.

Retainer...

BALL - The optional Brass Land riding retainer provides a low coefficient of material expansion and is able to withstand elevated temperatures.

ROLLER - Metal cage is standard with all Sealmaster Gold Tapered Roller Bearings.

Races and Balls...

Sealmaster high quality bearing steel extends the maximum effective operating temperature to 375°F.

Material Expansion:

Internal Clearances...

Individual bearing components may expand due to wide temperature changes. This condition can cause preloading or bearing seizing. By adjusting internal clearances in the manufacturing process, bearings can be customized to function in specific high temperature applications.

BALL - The application's temperature changes physically dictate the amount of clearance required. Sealmaster's extensive experience with high temperature applications have resulted in six unique and proprietary specifications for diametral clearance.

ROLLER - The standard Roller Bearing design has the inherent ability to accommodate expansion and contraction of bearing materials. *For more information on Bearing Clearances, see page 193.*

Shaft Expansion...

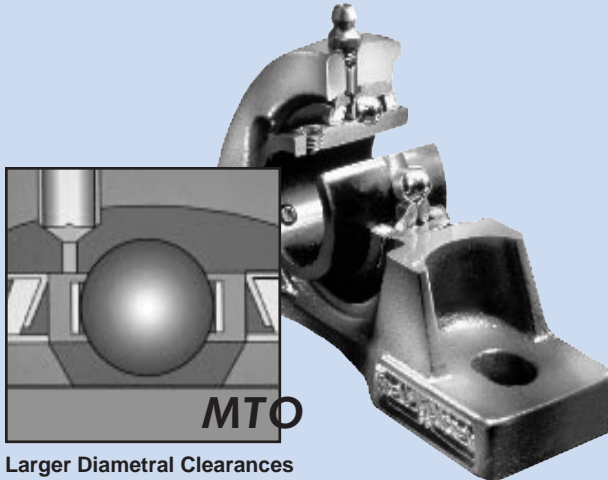
BALL - Sealmaster Ball Bearings handle shaft expansion through the use of an external insert expansion ring (AR, EMP) or the use of a unique half-dog set screw and lock wire arrangement. Refer to the Sealmaster standard Gold Line expansion ball bearing unit sizes for maximum allowable shaft growth. When shaft expansion requirements exceed these standard specifications, an alternate method is shaft slotting combined with the use of a special half-dog set screw and lock wire arrangement. *Contact Sealmaster Applications engineering for information regarding this option.*

ROLLER - Sealmaster Gold Line Tapered Roller Bearings are also offered with cylindrical insert cartridges (ERCI) that can move axially with shaft lengthening. *Refer to the expansion roller bearing unit pages for exact expansion specifications.*



STANDARD & CUSTOM SOLUTIONS FOR HIGH TEMPERATURE APPLICATIONS

**GOOD AS GOLD...
NO EQUAL!**



Larger Diametral Clearances



Expansion Ball Bearings



Brass Retainer



Half-dog set screw & wire



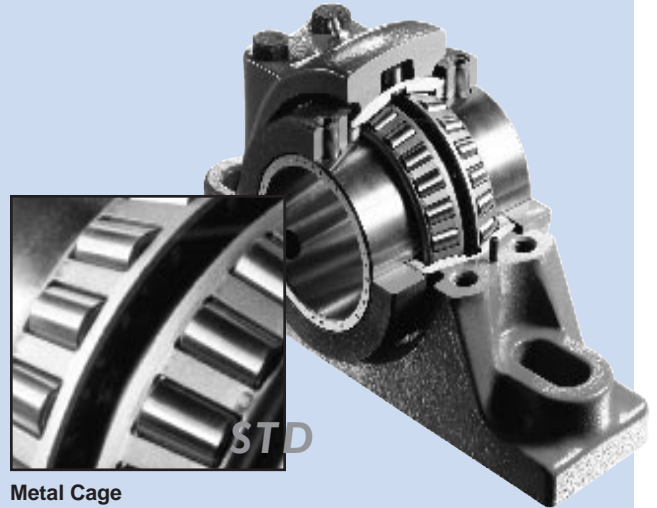
HeatGard Seal



Nomex Seals



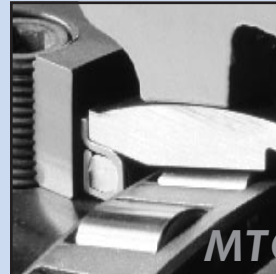
HeatGard Ultra Seals



Metal Cage



Expansion Roller Bearings



Nomex Seals

See Our...

Standard High Temperature Gold Line Furnace Bearings in the Ball Bearing section on pages 90 & 91.



SEALMASTER® APPLICATIONS...

AIR HANDLING...

Sealmaster Gold Line Bearings are used in Air Handling Applications more than any other type of equipment. They are found in a wide variety of industries including Heating, Ventilation, and Cooling (HVAC) equipment and industrial blowers. Sealmaster bearings have been extremely effective in air handling applications for over 50 years because of the cohesive interplay of Gold Line design features that satisfy many needs of this industry.

Air Handling equipment runs at relatively high speeds with high frequency vibration and ordinarily requires quiet bearing operation. Bearings are frequently mounted on light weight frames which can deform during bearing installation. In industrial blower and material handling applications, bearings are often subjected to intermittent shock loads. Energy consumption is also a growing issue in the air handling industry.

Key Concerns... are high speed, vibration, noise, frame structures, and energy efficiency.

GOLD LINE SOLUTIONS FOR AIR HANDLING APPLICATIONS.

Operating Conditions:

Misalignment...

The Sealmaster misalignment capabilities, $\pm 2^\circ$ on ball and, $\pm 3^\circ$ roller bearings overcome static alignment problems associated with the installation of mounted bearings on air handling equipment.

Housing Fits...

Sealmaster increases useful bearing life by incorporating a special air handling fit between the bearing insert/cartridge and the housing that allows the bearing to properly self-align when mounted on lightweight frame structures, without causing frame deflection.

Noise Test...

During Sealmaster's Ball Bearing manufacturing process, an extra noise test check point is added to identify those bearings that meet the exacting noise level needs of the air handling industry. Sealmaster also performs a honing operation after grinding to further polish the surface finish for quiet operation.

Vertical Mounting...

Sealmaster special "Rainshield" protective cover, available on certain Mounted Ball Bearings, is often specified on vertical shaft applications where condensation and water tends to travel down the shaft and cascade over the bearing. The special flinger design repels moisture build up through rotating motion or centrifugal force. Ask Sealmaster Application engineers about the S2100 Series "Rainshield" Bearings.

Label Identification...

Ball - AC/NT bearing units are labeled with a metal nameplate riveted into the housing that indicates that the unit is a *Sealmaster Air Handling Unit*.

Roller - Sealmaster RPB-AH Air Handling units (see page 125) are identified with a special **Sealmaster metal nameplate** indicating that they are equipped with the special housing fit and custom engineered for HVAC Air Handling applications.

High Speed and Vibration:

Locking Mechanism...

Often during high speed operation, any eccentricity resonates throughout the air handling system. Inner ring roundness is critical to smooth operation and longer useful bearing life. Sealmaster's balanced 3-point contact setscrew shaft lock system has been field tested and technically studied to provide longer useful bearing life. Double sided set screw shaft locking is standard on roller bearings and also available on medium duty ball bearings using four set screws to hold the bearing to the shaft and is recommended for high speed air handling applications. (See page 49).

Ball - Sealmaster Gold Line standard wide inner ring combined with our diamond faceted precision ground setscrews and zone hardened ball path all work together to increase shaft stability and improve our shaft lock ability during the most severe vibrating conditions.

For our most concentric locking available in a mounted ball bearing, see the SKWEZLOC Section on page 64.

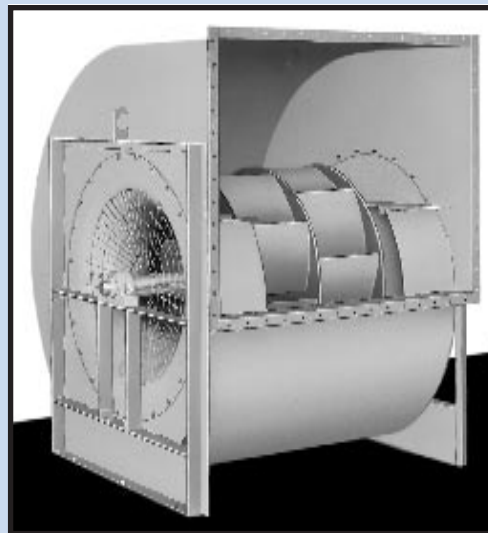
Locking Pin...

The locking pin design significantly lessens the likelihood of outer ring rotation that could compromise the integrity of the lubrication system and contribute to corrosive fretting between the outer race and housing.

Efficiency:

Seals...

Sealmaster's field proven felt lined labyrinth seals are ideally suited for air handling energy concerns. The labyrinth construction has an inherent low coefficient of friction between the metal flingers and the filtering material. Standard breakaway and running torques are significantly lower than contact seal designs. Sealmaster labyrinth seals can be modified to provide even lower break away and running torque values.





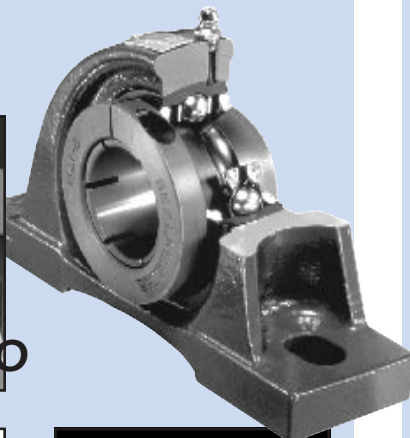
STANDARD & CUSTOM SOLUTIONS FOR AIR HANDLING APPLICATIONS

**GOOD AS GOLD...
NO EQUAL!**



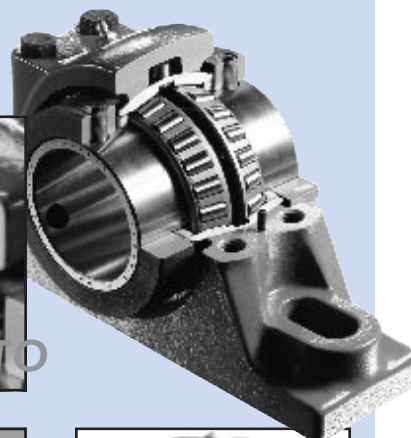
MTD

A/C Housing Fit



MTD

AH Housing Fit



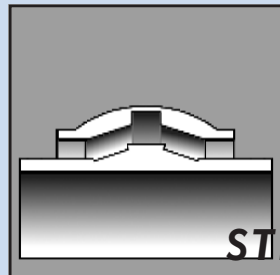
STD

Wide Inner Ring



STD

Solid Base Housing



STD

Wide Inner Race



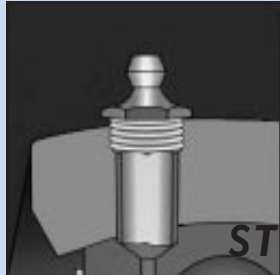
STD

Split Housing



STD

Diamond Faceted Set Screw



STD

Pin & Dimple



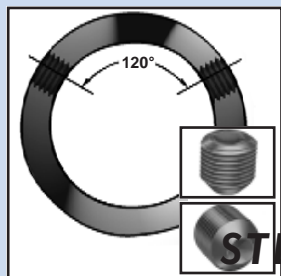
STD

Felt Seals



STD

Double Locking Set Screw



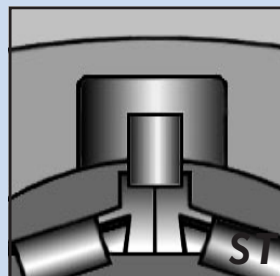
STD

120° Set Screw Positioning



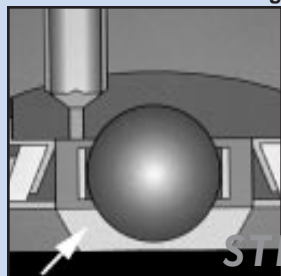
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Skwezloc Locking



STD

Lock Pin



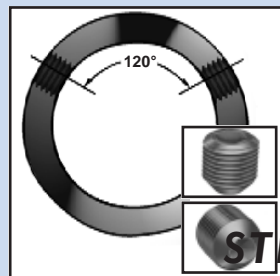
STD

Inner Ring Zone Hardening



STD

Felt Seal



STD

120° Set Screw Locking



SEALMASTER® APPLICATIONS...

CONSTRUCTION...

Construction equipment varies widely from hot asphalt pavers to earth movers to large material handlers, etc... The timing of construction projects is critical and it is important that equipment lasts through an entire season. Unexpected downtime delays are unacceptable.

Construction machinery typically is used outdoors and requires protection from weather, dirt, road debris, wide temperature fluctuations, etc... Bearings are normally subjected to heavy loads with vibration and operate at slow to high speeds. Seals may be exposed to abrasive materials and sharp objects found in construction environments which can lead to instant bearing problems.

In particular: Paver bearings support augers that come into direct contact with hot grading asphalt that quickly wears seals and races away. In this application bearings operate at slow to moderate speeds.

Another example: Construction saws need to cut both dry and wet concrete are also subjected to vibration and abrasive contaminant from the concrete dust. Mounted Bearings support the arbor shafts and are unusually ceiling mounted.

Key Concerns... include seal damage, shock loading, vibration, abrasives, loss of shaft lock, high temperatures, high speeds, and liquid and dry contamination.

Sealmaster bearings are frequently specified for:

- Concrete Saws. • Street Sweepers. • Front End Loaders. • Wheel Compactors. • Excavators.
- Paving Equipment. • Spreaders. • Backhoes. • Cranes. • Power Shovels.



GOLD LINE SOLUTIONS FOR CONSTRUCTION APPLICATIONS.

Vibration/Shock and Impact Loading:

Housing Fits...

Tight housing fit (interference) between the bearing insert and housing may be required to prevent the outer race from rotating in the housing. This minimizes fretting on the outer race and housing bore. Available as made to order on ball and roller bearings.

Locking Pin...

The locking pin design significantly lessens the likelihood of outer ring rotation that could compromise the integrity of the lubrication system.

Misalignment...

The Sealmaster misalignment capabilities $\pm 2^\circ$ on ball and $\pm 3^\circ$ on roller bearings overcome static alignment problems during installation which can be caused by inaccuracies in framework design.

Housing Style...

Piloted Flange housings are often recommended for these applications due to the 360° mounting shoulder for positive installation in the machine structure. This added support greatly reduces bolt stresses. Six mounting holes are standard on 4 7/16" through 5" roller bearing bore sizes. Sealmaster also recommends the use of 4 bolt hole mounting configurations on the pillow block style housing.

Throughout the Sealmaster ball bearing line solid base housings are standard and contribute to a more rigid mounting system.

Locking Mechanism...

Double sided set screw shaft locking, available standard on roller and medium duty ball bearings, uses four set screws to hold the bearing to the shaft and is recommended for these applications.

Contamination:

Seals...

Sealmaster's field proven felt lined labyrinth seals keep contaminants out and lubrication in. The felt filtering material is a highly effective barrier against abrasive particulate and the labyrinth construction allows for the grease and contamination to purge during re-lubrication. Depending upon individual application needs, other optional sealing arrangements can be considered and are found in the engineering section starting on page 176.

Sealmaster has developed a specialized MTO product known as "Shielded Ball". See picture on facing page. This extraordinary bearing incorporates a heavy duty multiple barrier sealing system that has proven valuable in the aggregate environment. One impressive feature is the use of thick structural shields staked onto the inner race to repel large aggregates. These shields protect the multiple barrier sealing system which consists of a dense high durometer seal wedge, a wave spring seal feature, and a third metal flinger contact seal. Between these features are grease chambers. Contact Sealmaster application engineering for more information on this most unique MTO product.

End Caps...

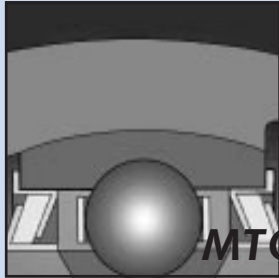
There are a variety of made to order end caps that can be manufactured for specific needs. End caps can be produced from stainless or low carbon steels, with or without coatings, to suit application needs. See *Beverage Bearing and HF/HFT Furnace bearing product lines for End Cap solution examples.*

Elevated Temperatures... Refer to the High Temperature application section on pages 130-131.



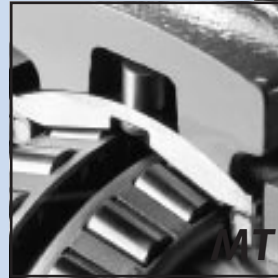
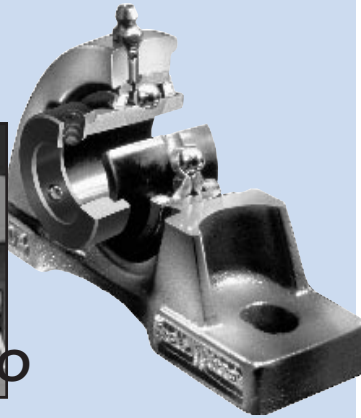
STANDARD & CUSTOM SOLUTIONS FOR CONSTRUCTION APPLICATIONS

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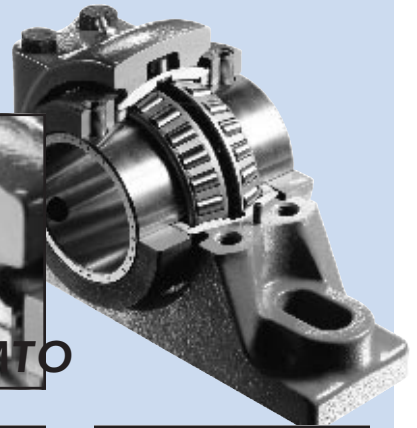
MTO

Tight Housing Fit



MTO

Tight Housing Fit



STD

Piloted Flange Housing



STD

4 Bolt Pillow Block



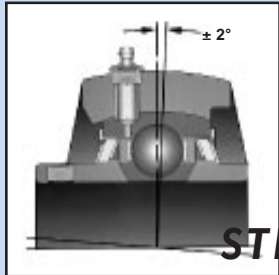
STD

Piloted Flange Housing



STD

4 Bolt Pillow Blocks



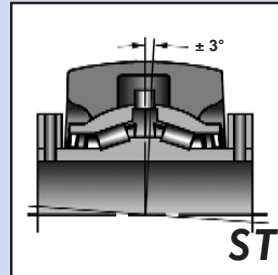
STD

$\pm 2^\circ$ Misalignment



STD

Solid Base Housings



STD

$\pm 3^\circ$ Misalignment



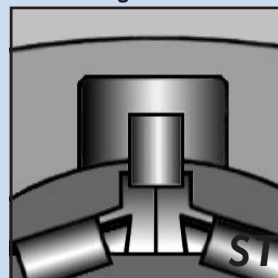
STD

Locking Pin & Dimple



STD

Double Lock Insert



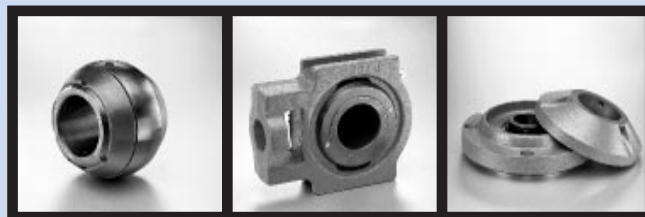
STD

Locking Pin



STD

Felt Seals



MTO



SEALMASTER® APPLICATIONS...

WET ENVIRONMENTS...

Many harsh applications expose bearings to water and chemicals which can contaminate bearing rolling elements and housings thereby reducing bearing life. Increased uptime is an overriding need in these applications and can be accomplished by preventing this rapid corrosion.

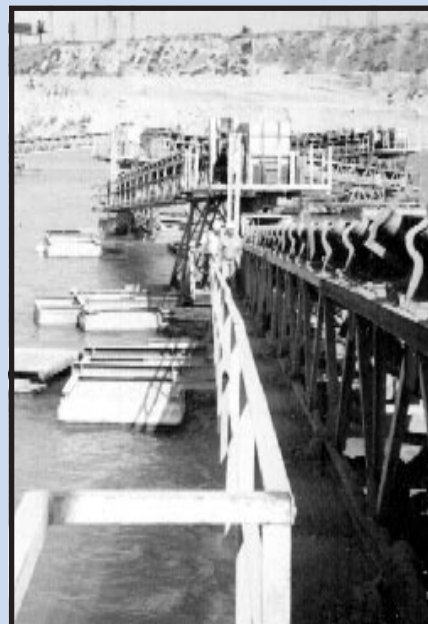
For example, machinery that packages food and beverages must remain extremely clean and is frequently washed down with high pressure caustic cleaning solutions. This can initiate corrosion, contaminate the bearing, and wash out valuable grease.

Another application where water creates a problem for mounted bearings is waste water treatment. Orbals and belt presses are subjected to moisture, chemicals, and sewage contamination. Keeping bearings operational and free from internal corrosion is critical to optimizing bearing life.

Key Concerns... include slurry, moisture, pressure wash, and chemicals.

Sealmaster bearings are frequently specified for:

- Truck and Water Washers.
- Food Processing.
- Beverage Filling.
- Pulp and Paper.
- Waste Water Treatment.
- Vertical Stroke Shake-Outs.
- Fluidizing Beds.
- Foundry Shake-Out Conveyors.
- Deburring Machines.
- Marine Applications.



GOLD LINE SOLUTIONS FOR WET ENVIRONMENTS APPLICATIONS. Contamination and Corrosion:

Seals...

The Sealmaster standard contact seal has good chemical resistance properties and lubrication retention characteristics in operating conditions up to 250°F.

Sealmaster Gold Line Ball Bearings can be customized with a variety of contact seal options. Auxiliary flingers are also available when needed. The most frequently used wet condition MTO seals on ball bearings are the UltraGard Seal (spring loaded buna oil seals) and the ProGard Seals (double lip contact). Refer to the seal section found on page 188 in the engineering section.

End Caps...

There are a variety of end caps that can be manufactured for specific application needs. End caps can be produced from stainless or low carbon steels, with or without coatings, and in open or closed configuration. *See our Beverage Bearing product line on page 86.*

Auxiliary Shield...

On some housing configurations, supplementary shields and gaskets can be included to protect the back side seals from corrosive materials and high pressure sprays that may be in the surrounding climate.

Lubrication...

Lubrication frequency may need to be increased to ensure adequate lubrication is maintained. Optional food grade greases are available where required. Sealmaster has had good experience with special wash out preventative lubricants. Contact application engineering for further information.

Coatings...

Sealmaster CR Duty mounted ball and roller bearings can be manufactured with a unique fluoropolymer coated cast iron corrosion-resistant housings. This offers excellent resistance to:

- Moisture.
- Abrasion.
- Peeling.
- Sticky Contaminants.
- High Pressure Washes.
- Most Chemical Solvents up to PH Levels of eleven.

See page 88 for a detailed description of CR Ball Bearings, and page 122 for CR Roller Bearings.

Thin dense chrome (TDC) coated races are available on request. This coating resists corrosion 10 to 15 times longer than ordinary bearing materials. TDC totally covers the entire surface area of the inner and outer race and is between 10-15% harder than industry standard bearing raceways.

Materials...

The following corrosive retardant components can be assembled into your bearings:

- Coated Set Screws
- TDC Raceways
- Brass and Nylon Coated Retainers
- Stainless Steel...Balls, Washers, End Caps, Seals, Lubrication Fittings, Flingers.



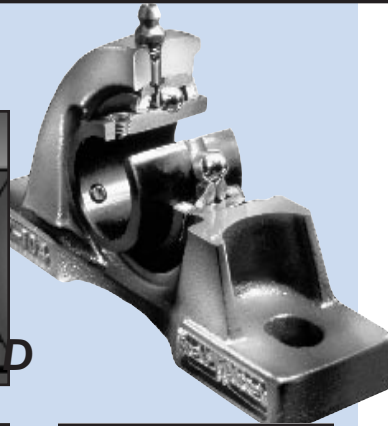
STANDARD & CUSTOM SOLUTIONS FOR WET ENVIRONMENTS APPLICATIONS

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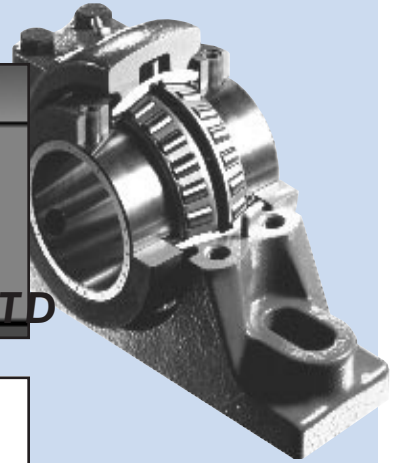
STD

Contact Seal



STD

Contact Seal



MTO

Ultra Gard Seal



STD
MTO

Fluoropolymer Cast Iron Coating



MTO

Fluoropolymer Cast Iron Coating



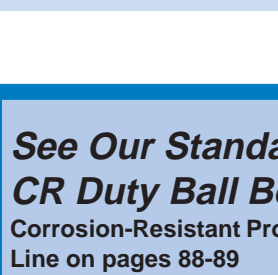
MTO

ProGard Seal

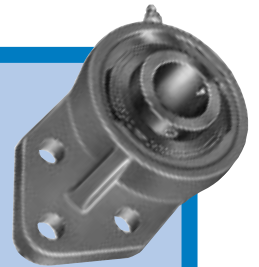


STD
MTO

TDC Inner Ring

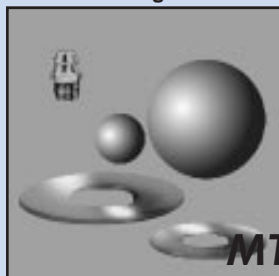


*See Our Standard
CR Duty Ball Bearings*
Corrosion-Resistant Product
Line on pages 88-89



MTO

End Caps



MTO

Stainless Steel Components

*Also See Our Standard
CR Duty Roller Bearings*
Corrosion-Resistant Product
Line on pages 122-123



MTO

Auxiliary Shield

*And See Our Standard
Beverage Bearing*
Product Line on pages 86-87





SEALMASTER® APPLICATIONS...

AGGREGATE/MINING...

Aggregate and Mining applications vary widely in the types of equipment used and in the types of material being conveyed. Aggregate conveyors move stone and rock between primary, secondary, and tertiary crushers and transport finished product into trucks for highway construction projects, and industrial, commercial and residential building needs.

Bearings are subjected to heavy loads with vibration and are exposed to rock dust and grit that tend to build-up on the seals. Generally, the speeds are slow to moderate. Conveyors are often sprayed with water to keep the dust down, thus creating a slurry. Often, bearing components are buried in the sand making sealing more difficult.

Key Concerns... include shock loads, loss of shaft lock, abrasive media, and water and dust contamination.

Sealmaster bearings are frequently specified for:

- Conveyor Pulleys.
- Augers.
- Screens.
- Crushers...Cone, Roll, Impact, Jaw, Gyratory.
- Conveyor Take-Ups.
- Screw Conveyors.
- Stackers.
- Feeders... Vibrating, Stepdeck, Reciprocating, Wobblers.



GOLD LINE SOLUTIONS FOR AGGREGATE/MINING APPLICATIONS.

Contamination:

Seals...

Sealmaster's field proven felt lined labyrinth seals keep contaminants out and lubrication in. The felt filtering material is a highly effective barrier against abrasive particulate and the labyrinth construction allows for grease and contamination to purge during re-lubrication. Rock plants generate an appreciable amount of stone dust. Water washdown is commonly used to calm the dust. Contact seals are recommended for these applications. Depending upon your individual application needs, you may consider the other optional sealing arrangements found on page 188 in our engineering section.

Sealmaster has developed a specialized MTO Ball Bearing known as "Shielded Ball". See picture on facing page. This extraordinary bearing incorporates a heavy duty multiple barrier sealing system that has proven valuable in the aggregate environment. One impressive feature is the use of thick structural shields staked onto the inner race to repel large aggregates. These shields protect the multiple barrier sealing system which consists of a dense high durometer seal wedge, a wave spring seal feature, and yet a third metal flinger contact seal. In between these features are grease chambers. Contact Sealmaster application engineering for more information.

Wide Inner and Outer Race...

This feature distributes the dynamic misalignment forces over a larger surface area between the bearing insert/cartridge and housing. This also provides a greater internal chamber volume that allows for increased grease capacity.

Shock and Impact Loading:

Housing Fit...

Tight housing fit (interference) may be required between the bearing insert and the housing to prevent the outer race from rotating in the housing. This minimizes fretting on the outer race and housing bore. Available as made to order on ball and roller design.

Locking Pin...

The locking pin design significantly lessens the likelihood of outer ring rotation that could compromise the integrity of the lubrication system.

Misalignment...

The Sealmaster misalignment capabilities, $\pm 2^\circ$ on ball and $\pm 3^\circ$ on roller bearings overcome static alignment problems caused by inaccuracy in framework design and settling of the equipment on uneven ground.

Internal Clearances...

Reduced internal clearance can be applied to ball bearings on a made to order basis to reduce pounding forces and internal stresses created from vibration and impact loads.

If required, Tapered Roller Bearings can be modified with reduced clearance ("endplay") which minimizes edge loading. This distributes forces more uniformly across each loaded roller. Contact application engineering for application review.

Locking Mechanism...

Double sided set screw shaft locking, available standard on roller and medium duty ball bearings, uses four set screws to hold the bearing to the shaft and is recommended for these applications.

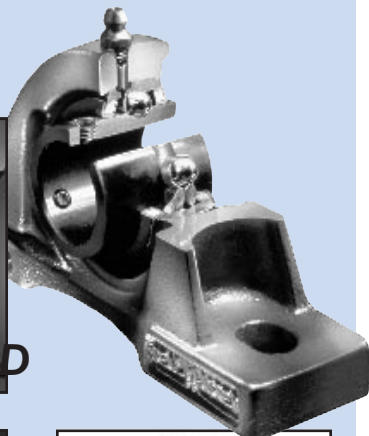


STANDARD & CUSTOM SOLUTIONS FOR AGGREGATE/MINING APPLICATIONS

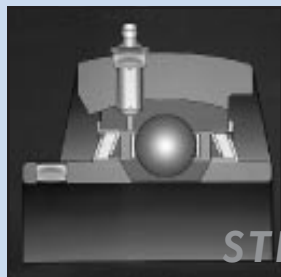
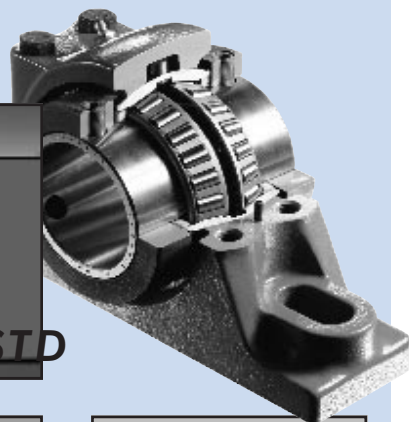
**GOOD AS GOLD...
NO EQUAL!**



Felt Seal



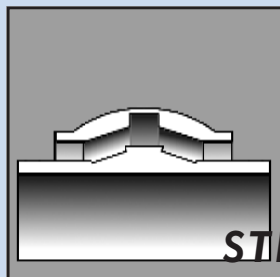
Felt Seal



Wide Inner & Outer Ring



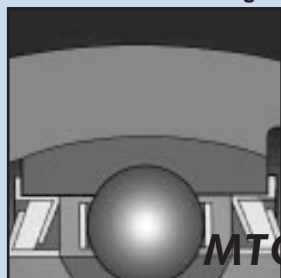
Double Side Set Screw Locking



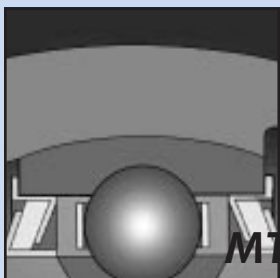
Wide Inner & Outer Ring



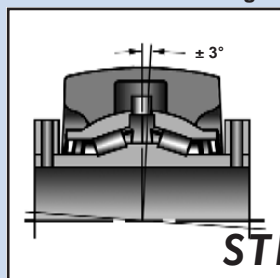
Reduced Internal Clearance



Tight Housing Fit



Reduced Internal Clearance



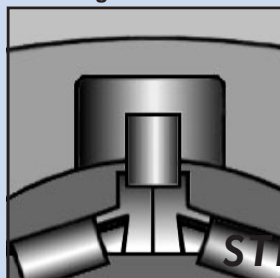
3° Misalignment



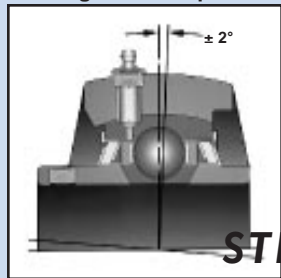
Double Side Set Screw Locking



Locking Pin & Dimple



Locking Pin



± 2° Misalignment



MTO



SEALMASTER® APPLICATIONS...

ECCENTRIC DRIVES...

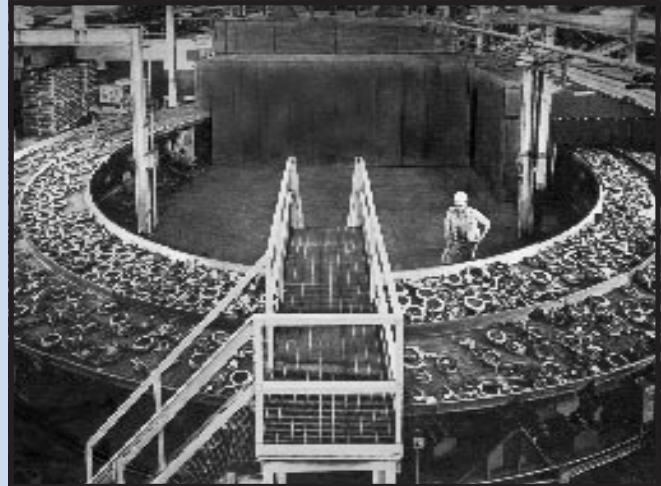
This equipment transfers or separates product through a reciprocating motion produced by an eccentric drive. Eccentric drive systems utilize a weight displaced asymmetrically from the centerline of rotation which creates a constantly changing force. Constant vibration and shock loads can pound the bearing rolling elements and races to reduce operational life by brinneling raceways and accelerating metal fatigue.

Eccentric drive applications tend to operate under high vibration and impact loading. The dynamic forces can cause high stress in bearing components. Many of these applications also operate in highly contaminated environments such as sand, dust, chips, etc.

Key Concerns... include shock and impact loading, vibration, loss of shaft lock, contamination, misalignment.

Sealmaster bearings are frequently specified for:

- Gyrating Screens.
- Vertical Stroke Shake-Outs.
- Vibrating Conveyors.
- Fluidizing Beds.
- Agitators.
- Foundry Shake-Out Conveyors.
- Sand Reclamation.
- Deburring Machines.



Quality-made SEALMASTER bearings help vibrate 60-tons of conveyor and hot castings in this tough installation. This 45-ton dynamically-balanced conveyor, vibrating at 360 cycles/minute, handles and cools 15 tons of hot foundry castings on a continuous basis. It operates on custom-modified SEALMASTER ball and roller bearings which have special tight housing fit-ups for this demanding vibratory service.

GOLD LINE SOLUTIONS FOR ECCENTRIC DRIVES APPLICATIONS.

Vibration/Shock and Impact Loading:

Housing Fit...

Tight housing fit (interference) is required between the bearing insert and housing to prevent the outer race from rotating in the housing. This minimizes fretting on the outer race OD and Housing bore. Available as made to order on ball and roller design.

Misalignment...

The Sealmaster misalignment capabilities, $\pm 2^\circ$ on ball and $\pm 3^\circ$ on roller bearings overcome static alignment problems during installation which can be caused by inaccuracy in framework design.

Internal Clearances...

Reduced internal clearance can be applied to ball bearings on a made to order basis to reduce pounding forces and internal stresses created from vibration and impact loads.

If required, Tapered Roller Bearings can be modified with reduced clearance ("endplay") which minimizes edge loading. This distributes forces more uniformly across each loaded roller. Contact application engineering for application review.

Housing Styles...

Piloted Flange housings are often recommended for these applications due to the 360° mounting shoulder for precision installation in the machine structure. This added support greatly reduces bolt stresses. Six mounting holes are standard on 4 7/16" through 5" roller bearing bore sizes. Sealmaster also recommends the use of four bolt hole mounting configurations on the pillow block style housings. Throughout the Sealmaster ball bearing line, solid base housings are standard and contribute to a more rigid mounting system.

Locking Mechanism...

Double sided set screw shaft locking, available standard on roller and medium duty ball bearings, uses four set screws to hold the bearing to the shaft and is recommended for these applications.

Contamination:

Seals...

Sealmaster's field proven felt lined labyrinth seals keep contaminants out and lubrication in. The felt filtering material is highly effective barrier against abrasive particulate and the labyrinth construction allows for the grease and contamination purge during re-lubrication. Depending upon your individual application needs, you may consider the other optional sealing arrangements found on page 188 in our engineering section.

Commonly Used Sealmaster Bearings:

Generally, Roller bearings are specified with a "TF" suffix and will be modified with a Tight Fit between the housing and the bearing insert. All Tight Fit bearings are furnished with the cap bolts snugged by hand and tagged with proper torque specifications. For reduced internal clearances ("RC suffix) contact Sealmaster Engineering for application review.

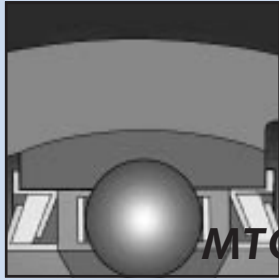
To order a Tight Fit bearing, add "TF" to the catalog part number.

For example: "RBP215-2TF"



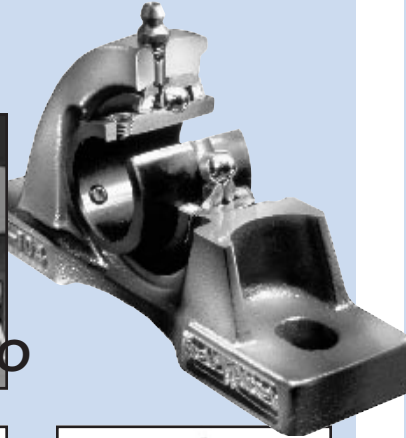
STANDARD & CUSTOM SOLUTIONS FOR ECCENTRIC DRIVES APPLICATIONS

**GOOD AS GOLD...
NO EQUAL!**



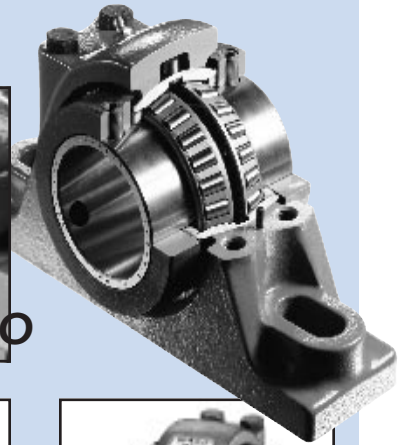
MTO

Tight Housing Fit



MTO

Tight Housing Fit



STD

Piloted Flange Housing Styles



STD

Four Bolt Pillow Blocks



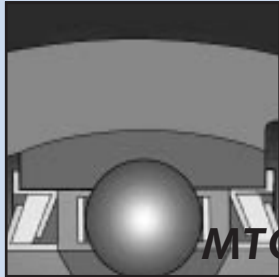
STD

Piloted Flange Housing Styles



STD

Four Bolt Pillow Block



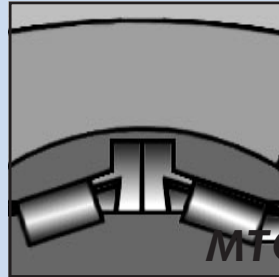
MTO

Tight Internal Clearances



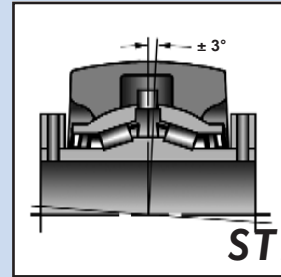
STD

Solid Base Housing Styles



MTO

Tight Internal Clearances



STD

± 3° Misalignment



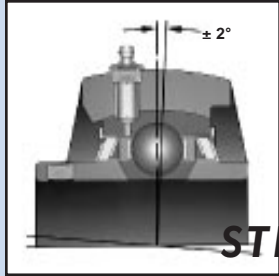
STD

Double Side Set Screw Locking



STD

Double Side Set Screw Locking



STD

± 2° Misalignment





SEALMASTER® APPLICATIONS...

MIXERS...

Industrial mixers are designed to combine materials in industries such as paint, ink, film, chemicals and food products. Mixers benefit from the standard Gold platform as well as special bearing modifications that address the demanding application dynamics.

Thrust loads are present due to the shaft weight, the mixing wheel, and the media being mixed. Often, mixers have a vertical shaft orientation. The bearings typically have close center distances and an extended shaft cantilevered into a mixing drum. The blade is positioned at the end of the mixing shaft to blend media. Shaft deflection results in dynamic loading on the bearing which causes dynamic misalignment. Often bearings must be protected from liquid splash or dry media debris.

Key Concerns... include misalignment, thrust, system imbalance, loss of shaft lock, and liquid, dry, and chemical contamination.



GOLD LINE SOLUTIONS FOR MIXERS APPLICATIONS.

Misalignment:

The Sealmaster misalignment capabilities, $\pm 2^\circ$ on ball and $\pm 3^\circ$ on roller bearings overcome static alignment problem associated with the extended cantilever set up found in mixers.

Thrust Loading:

Bearing Load Capability...

Sealmaster RPB tapered roller bearings are the recommended bearing choice for mixers because of their increased ability to perform heavy combined radial and thrust loading. Although, high speed applications may require the use of mounted ball bearings.

Locking Mechanism...

Double sided set screw shaft locking, available standard on roller and medium duty ball bearings, uses four set screws to hold the bearing to the shaft and is recommended for these applications.

System Imbalance:

Wide Inner and Outer Race...

This feature distributes the dynamic misalignment forces over a large surface area between the bearing insert/cartridge and housing. This also provides a greater internal chamber volume that allows for increased grease capacity.

Locking Pin...

The locking pin design significantly lessens the likelihood of outer ring rotation that could compromise the integrity of the lubrication system.

Housing Fits...

Sealmaster provides increased useful bearing life by incorporating a custom fit between the bearing insert/cartridge and the housing to minimize corrosive fretting, and accommodate dynamic misalignment.

Internal Clearances...

In Sealmaster RPB Roller Bearings the optional, reduced clearance modification diminishes edge loading from dynamic shaft misalignment caused by bending of the shaft and the overhung load due to viscous or heavy media.

Contamination:

Seals...

In wet or slurry applications the Sealmaster contact seal with protective flingers is suggested. Seal materials may need to be considered if media being mixed contains any aggressive chemicals.

Non-purgable spring loaded "V" seals (oil seals) can be utilized for grease retention on ball bearings in these vertical applications.

Lubrication...

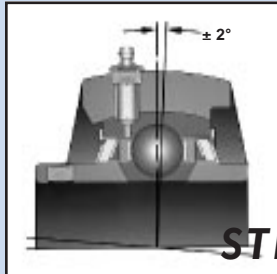
Lubrication frequency may need to be increased to ensure adequate lubrication is maintained. Optional food grade greases are available where required.

Contact application engineering with your application parameters for exact bearing selection (630-898-9620).

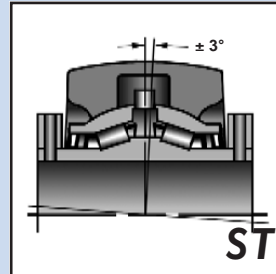
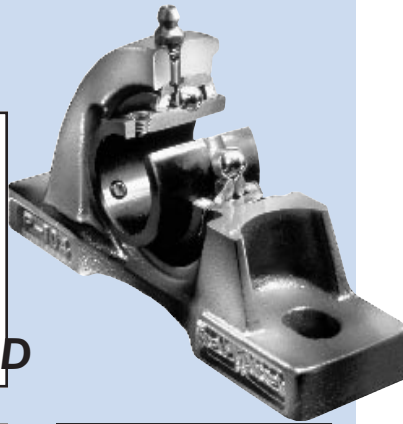


STANDARD & CUSTOM SOLUTIONS FOR MIXERS APPLICATIONS

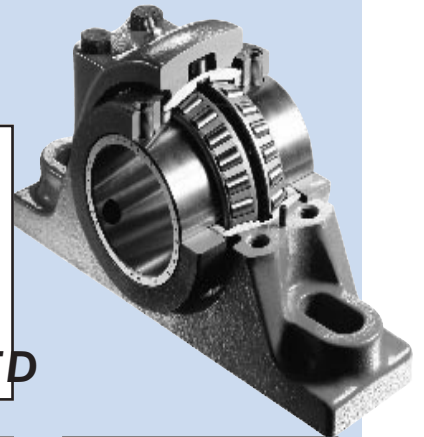
GOOD AS GOLD... NO EQUAL!



± 2° Misalignment



± 3° Misalignment



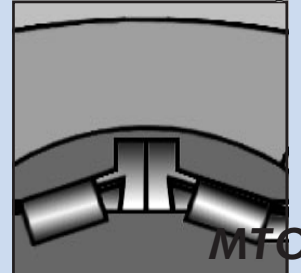
Double Sided Set Screw Locking



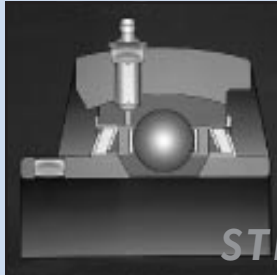
Reduced Internal Clearance



Double Sided Set Screw Locking



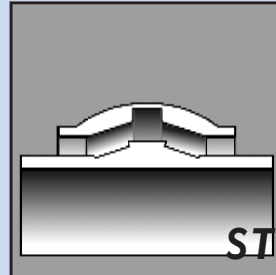
Reduced Internal Clearance



Wide Inner & Outer Race



Spring Loaded "V" Seal



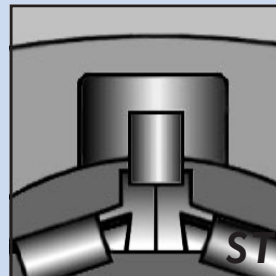
RCI Inner & Outer Race



Contact Seal



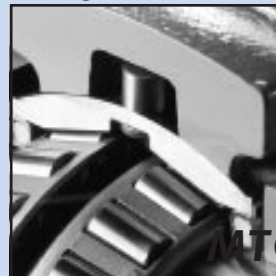
Locking Pin & Dimple



Locking Pin



Tight Housing Fit



Tight Housing Fit