SXL SCREW CONVEYOR BEARINGS

LONG LASTING BEARINGS ENGINEERED TO PERFORM IN THE TOUGHEST ENVIRONMENTS

THORDON

THORDON BEARINGS INC.

ZERO POLLUTION | HIGH PERFORMANCE | BEARING & SEAL SYSTEMS

OVERVIEW

OIL & GREASE-FREE SCREW CONVEYOR (HANGER) BEARINGS

About 2,000 years ago, a wise man named Archimedes invented a device for pumping water. The basic principle has been in use ever since. Today, Archimedes' discovery forms the basis for the screw conveyor; one of the most efficient ways of moving bulk materials.

With downtime and maintenance costs on the rise, the reliability of the hanger bearings is critical to the elements in keeping the screw suspended and in many cases is the single most important factor in assessing the operating cost of a screw conveyor system. In addition, noise pollution and lubrication problems must be considered.

BENEFITS:

- Improved Reliability
- Reduced Operational Costs
- Increase in MTBF (Mean Time Between Failure)
- Proven Performance
- Lowest Environmental Impact
- Elimination of Grease
- Significant reduction in noise

ENGINEERED TO PERFORM IN THE TOUGHEST ENVIRONMENTS

Operating Environments:

- ✓ Abrasive conditions
- ✓ Corrosive conditions
- ✓ High impact load environments
- ✓ High humidity environments
- ✓ Operation with infrequent maintenance periods

INDUSTRIAL APPLICATIONS

Forestry, sewage & wastewater treatment, mining and other industrial applications

PROPERTIES

DELIVERING RELIABILITY, INCREASING PERFORMANCE

Thordon SXL conveyor bearings ensure reliable, quiet and safe operation of your screw conveyor with minimal maintenance.

Thordon SXL conveyor bearings are made from a tough, wear resistant and unique polymer alloy that require no oil or grease lubrication. Thordon SXL provides outstanding abrasion resistance from the elastomeric material properties and self-lubrication capabilities. Hanger bearings often operate dry. Introducing grease or other lubricants can have an adverse effect on the bearing surface, and may trap abrasives resulting in higher wear rates.

Laboratory testing of Thordon SXL was conducted in aluminum oxide powder; the most abrasive environment available. With shaft and bearing continually immersed, Thordon SXL wears better than any competitive product tested. In more than ten years of field testing on screw conveyors, Thordon SXL has consistently outperformed UHMWPE (Ultra-high-molecular-weight polyethylene), phenolics, wood, nylon, PTFE (Teflon), and hard iron.

Features:

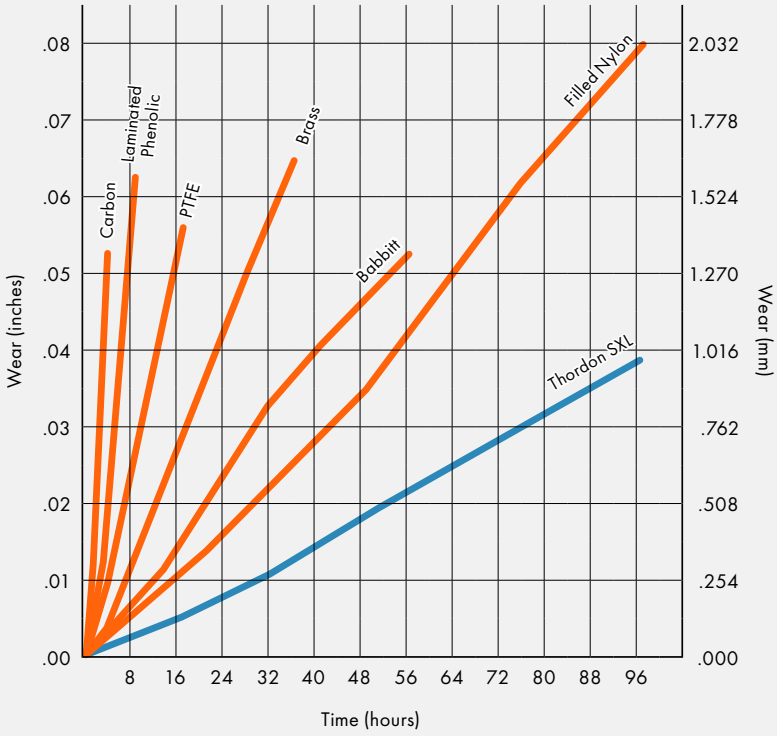
- ✓ High resistance to abrasion in both dry and wet applications
- ✓ High impact resistance
- ✓ Low coefficient of friction (typically 0.10 - 0.20)
- ✓ High dry PV (pressure velocity) rating
- ✓ Dry start-up capability
- ✓ Self-lubrication
- ✓ High resistance to shock loading and vibration

WEAR RATES IN ABRASIVE OPERATING ENVIRONMENTS

This graph shows wear performance of Thordon SXL compared with frequently used competitive products.

Test Parameters

To induce maximum wear over a minimum period, each product was tested in aluminum oxide suspended in oil. At an operating pressure of 100 psi (7.2 kg/cm²) and a speed of 52 ft./minute (0.27 m/s), substantial wear is recorded in a 96 hour period on most materials. Field results on actual screw conveyor applications confirm these test relationships.



SXL STOCK SIZES

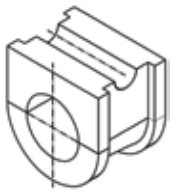
SXL SCREW CONVEYOR BEARINGS

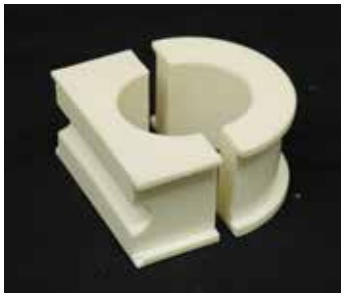
High abrasion resistance, low coefficient of friction, excellent self-lubricating qualities for dry or wet applications.

Type 216 Split Bearing - Flat Top

This design fits a simple U hanger with a locking bolt.

PROFILE





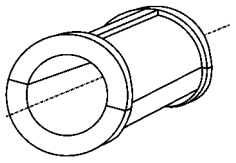
Shaft Diameter (mm)	Style	Approx. Weight (kg)	Shaft Diameter (inches)	Style	Approx. Weight (lbs.)	Thordon Part Number
38	Flat Top	0.1	1 1/2	Flat Top	0.2	F173002
51	Flat Top	0.1	2	Flat Top	0.3	F173004
62	Flat Top	0.3	2 7/16	Flat Top	0.6	F173006
76	Flat Top	0.3	3	Flat Top	0.8	F173008
87	Flat Top	0.7	3 7/16	Flat Top	1.6	F173010

Type 226 Split Bearing - Circular Top

Outside dimensions match standard link-belt design and inner dimensions fit either inch or metric stub shafts.

A longitudinal rib (or keeper bar) prevents rotation and end flanges prevent axial movement.

PROFILE



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62	Circular Top	0.2	2 7/16	Circular Top	0.5	F163006
76	Circular Top	0.3	3	Circular Top	0.7	F163008
87	Circular Top	0.6	3 7/16	Circular Top	1.4	F163010
100	Circular Top	0.7	3 15/16	Circular Top	1.6	F163012

Special Designs

Thordon screw conveyor bearings can also be fabricated from tube stock to suit non-standard sizes. Anti-rotation pins, lubrication lines or "air sweep" arrangements can be included in the design.

INSTALLATION & MAINTENANCE GUIDELINES

In order to increase the life expectancy of SXL screw conveyor bearings, please refer to the following guidelines.

1. Shaft Condition and Surface Finish

For best bearing life, fit a new stub shaft of a hardened steel with a good surface finish. The better the condition of the surface finish, and the harder the surface finish is, the better the bearing will perform. A badly worn shaft will increase wear until the bearing's surface conforms to the shaft profile.

2. Alignment of the Screw Axis

If the hanger and shaft axis are not aligned, bearing wear may increase due to heat produced from excess pressure.

3. Bearing Support

Thordon bearings will only support a load over an area where it is completely backed by the steel hanger. A U-bolt, for example, gives the bearing minimal support. A bearing which does not fully contact the lower half of the hanger will also result in excess pressure causing heat softening and higher wear rates. A fully machined hanger which gives 100% contact is the optimum arrangement, particularly where significant loads are expected.

4. Loading

Screw conveyors handling abrasive materials should be loaded at less than 30% capacity dependant on screw speed so that the abrasive material doesn't flow past the bearing. If higher loadings are used, increased wear rates may be expected.

5. Speed

If the bearing is running dry, a high-speed conveyor may impose pressure/velocity conditions that exceed even the limits of SXL. The best solution to improve wear rates is either to reduce the speed or use lubrication.

6. Noise

If noise reduction is desired, SXL has successfully reduced noise in several installations.

***NOTE:** For other material grades and sizes or for special applications, contact Thordon Bearings Inc.*

CUSTOMER FOCUSED TO QUICKLY MEET YOUR NEEDS

Quick and Responsive Service

It takes quality products to be globally successful in the bearing and shaft seal industry.
It also takes great service to keep customers coming back.

Thordon Bearings Inc. is geared to respond quickly to supply high performance bearing and seal solutions.
Our products arrive quickly, fit right and last!

Extensive Distribution Network

Thordon Bearings has an extensive distribution network of more than 75 distributors in 100 countries to supply and service our global customer base. Non-standard requests are met with responsive design, quick machining and speedy delivery.

Application Engineering

Thordon engineers work closely with customers to provide innovative bearing and shaft seal system designs and solutions.

The Global Service and Support team can install, commission, service and maintain the full range of Thordon Bearings' environmentally-safe industrial products.

Manufacturing Quality

Thordon Bearings Inc. is a family-owned company with manufacturing and new product development facilities in Burlington, Ontario, Canada. In addition, we operate a new leading edge manufacturing plant in Slupsk, Poland.

We manufacture to ISO 9001 Quality System requirements. Contact us for our installation references.

High Performance Bearings and Seals; Industry-Leading Service

Thordon Bearings is an industry leader in the design, manufacture, supply and installation of high performance, pollution-free, shaft bearing and seal systems.

Your Authorized Thordon Distributor

THORDON

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