

Success Story

Industry: Material Handling

Application: Optical Sorter

Cost Savings: € 51 174

Introduction

A customer in the recycling industry was experiencing regular failures of a mounted bearing unit on a conveyor of an optical sorting machine. In the three months since the installation of the machine, a total of 5 bearing failures had been recorded. An NSK applications engineer examined the application and determined that vibration and lubrication issues were causing the bearing to fail prematurely. NSK recommended using SNN Plummer Blocks combined with NSKHPS Spherical Roller Bearings.

Key Facts

- Optical sorting machine
- Special mounted units failing prematurely
- Vibration causing grub screws to loosen and shaft to spin on bearing inner ring
- No lubrication escape path causing excessive heat generation
- NSK solution: SNN plummer blocks with NSKHPS Spherical Roller Bearings
- No bearing failures since NSK solution implemented
- Significant reduction in downtime and maintenance costs



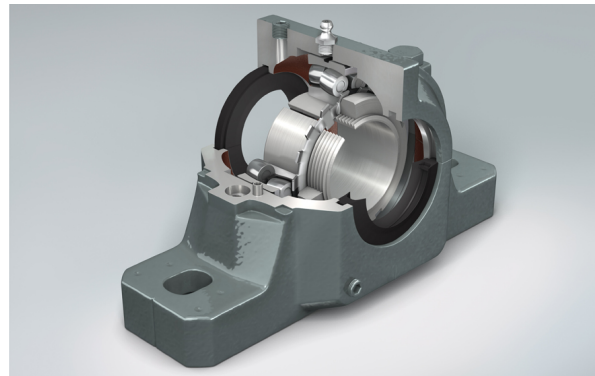
↑ Optical Sorter Conveyor

Value Proposals

- NSK Application Engineering performed an Application Review following a Failed Bearing Analysis
- It was determined that vibration in the application had caused the grub screws to loosen, resulting in the shaft spinning in the bearing inner ring
- It was also noted that the type of mounted unit being used had no grease escape path, causing excessive grease build up resulting in high heat generation
- NSK recommended using HPS Spherical Roller Bearings mounted on adapter sleeves in an SNN plummer block housing. The adapter sleeve locking method means that the bearing cannot become loose on the shaft even with vibration present
- NSK SNN plummer blocks are provided with a grease escape hole as standard, meaning excessive grease build up is avoided
- No failures recorded since the NSK solution was implemented

Product Features

- Equipped with 2 lubrication holes and 1 draining hole
- Solid corners in the base for locating pins
- Square shape and centre marks
- Easy assembly, easy alignment, low maintenance costs
- High rigidity (minimises deformation of the bearing seat)
- Comprehensive range of sealing & arrangements to match all needs
- Good heat transfer
- Same housing can be used with both double row self-aligning ball bearings or double row spherical roller bearings



↑ NSK Plummer Block SNN series

Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 20 bearings per year	€ 8.435	4 bearings per year	€ 844
 10 breakdowns per year, 2 hours per breakdown, 2.109€ per hour cost	€ 42.177	No breakdowns	€ 0
 Fitting and inspection 141€	€ 2.812	Initial fitting costs	€ 562
 No Training costs	€ 0	Training and supervision of fitting	€ 844
Total Costs	€ 53 424		€ 2 250