

Success Story

Industry: Power Generation

Application: Centrifugal Pump

Cost Savings: € 28 970

Introduction

Key Facts

- Energy producer – water recirculation centrifugal pumps
- Frequently failures due to poor lubrication
- NSK Solution: DDU Sealed Deep Groove Ball Bearings
- A trial was performed on 3 out of 20 pumps without any failures for more than 6 months
- After changing to the NSK solution on all pumps no failure occurred within a period 12 months
- Significant cost savings due to failure-free running but also due to reduced material and maintenance cost



↑ Centrifugal Pump

Value Proposals

- Repeated failures on the pumps were recognised. The customer requested the local distributor to check the possibility to improve the lifetime of the bearings.
- NSK and the local distributor performed a bearing analysis on site and concluded that the failure occurred due to lack of lubrication. Considering the age of the equipment and the poor condition of the seals, a design modification to avoid the oil leaks was not considered.
- Instead NSK proposed to use Deep Groove Ball Bearings with DDU seals and a high temperature grease.
- A trial was performed on 3 pumps and the bearings have been monitored for 6 months without any failures.
- After changing to NSK Deep Groove Ball Bearings with DDU seals and a high temperature grease on all pumps no failure occurred within a period of 12 months period.

Product Features

- High Quality Steel - Ultra clean steel to extend bearing life by up to 80%
- Super Finished Raceways – Specially honed to minimise noise, improves lubricant distribution and life
- Patented Seals – Provide resistance to contamination in the toughest environments, standard seal material is nitrile rubber
- Pressed Steel Cage - close coined cage pockets and tightly controlled clearances reduce friction and ensure even distribution of lubricant. The pressed steel cages also have the advantage of high temperature resistance.
- Grease Technology - High temperature resistance and speed capability with good resistance to water and contamination



↑ Deep Groove Ball Bearings with DDU seals

Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 Cost of bearings used before	€ 1,550	DGBB bearings with DDU seals	€ 480
 Oil replenishment costs	€ 1,700	Oil replenishment costs	€ 0
 Maintenance costs	€ 7,200	Maintenance costs	€ 0
 Downtime costs	€ 19,000	No downtime costs	€ 0
Total Costs	€ 29 450		€ 480