CASE STUDY

Leading Customer in Agricultural Industry

High Performance, Lower Cost: NBC's Bearing Optimization Success

The customer was facing **continuous and multiple field complaints** in the SP6L pump used for agricultural applications.

End users were frequently reporting **high operating temperature issues,** leading to poor field performance. During trials of a new pump at the customer site, the operating temperature was observed to reach as high as 167°C.

These issues resulted in **repeated pump failures**, leading to multiple customer complaints and increased warranty claims, adversely impacting reliability and cost.

The **NBC Industrial Application Engineering team** visited the customer site upon request to address the issue. A detailed analysis was conducted, which revealed that the existing bearing was overdesigned, and the minimum load capacity requirement was not being met, leading to high operating temperatures.

Based on the findings, the following actions were taken:

- The existing 22308 bearing was replaced with a 3308 ZZ bearing, better suited to the application load conditions
- Bearing selection was optimized to ensure the minimum load criteria were met

Customer Savings & Benefits

- Bearing operating temperature reduced drastically to 44°C, from earlier critical levels
- Design change was implemented after successful trials, with no further failures observed
- Bearing cost reduced by **2.5 times** due to optimal downsizing, delivering significant cost savings
- Bearing cost reduced by **₹1,200 per pump**, resulting in direct cost savings