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Case Study

# Hospital Air Supply



*CERAMICSPEED*

# Boosting bearing life in a critical Air Handling unit

This air handling unit supplies ventilation to surgery theatres in a large UK hospital. Their operation is crucial for the utilization of the theatres and hence for performing surgery on patients in need.

## Problem

This high dependency application was a worry to the maintenance staff. The bearing life in the air handling unit was down to just two months of 24/7 running. Any stoppage, no matter how small, should have been planned carefully since it had a significant consequence on the theater's availability. Therefore, any performance improvement possible was badly needed.

## Result

After rebuilding the system with hybrid bearing units from CeramicSpeed, the reliability is now higher than ever before, thanks to a service life increased by a factor of four. The temperature in the bearings is now lower, securing longer lubricant life and less thermal strain on the cage and other bearing components.

## Solution

CeramicSpeed bearings consist of silicon nitride balls, which are less dense and much lighter (58 %) than regular steel balls. This means that the energy requirements for running the machinery will drop - but the main advantage is found in a longer bearing life. The low weight also reduces the centrifugal load on the raceway as the bearing spins. Wear and tear is significantly reduced, keeping the bearing in top condition for longer.

## Technical Highlights

- High dependency application
- Challenged by load and speed
- Bearing temperature 50-80 °C
- Lubrication: Wide temperature grease

