TIMKEN

WATER-COOLED BEARING HOUSING ELIMINATES PRODUCT CONTAMINATION AND REDUCES COSTS

CHALLENGE

A Northeast Ohio steel mill faced a critical problem with their run-out table operations. The facility was using standard cast-iron-housed pillow block bearings, but the high ambient temperatures in this demanding application required an external water bath cooling system for the bearing housings. While this solution addressed the temperature issue, overspray from the cooling system was leaving water spots on the finished steel products, creating quality concerns and potential customer complaints.

TIMKEN SOLUTION

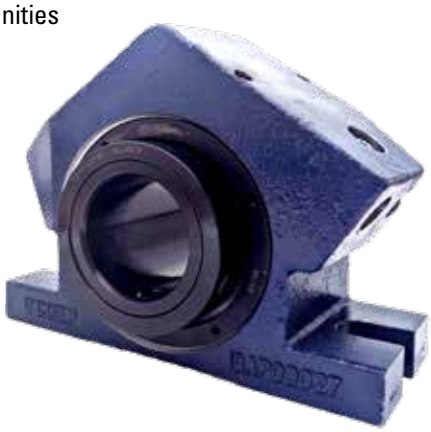
Timken collaborated with a local distributor to explore multiple bearing housing options before recommending Timken® Solid-Block Mounted Spherical Roller Bearings. The Timken solution featured an internally circulating water-cooled bearing housing that eliminated the need for external cooling baths. Through careful investigation and testing, the team developed a final cast steel design specifically engineered for the steel mill's demanding environment. The internally cooled system provided superior temperature management without the risk of product contamination from cooling water overspray.

RESULTS THAT MATTER

The cast steel, internally water-cooled bearing housing solution demonstrates how application-specific engineering can simultaneously solve quality issues while delivering substantial cost reductions in heavy industrial steel mill environments.

- **$45,000+ total cost savings** over three years through reduced housing purchases and improved reliability
- **Consistent year-over-year improvement:** Housing purchases decreased from 300 units to 220 units to 200 units over the years
- **Enhanced product quality:** Elimination of water spots on finished steel products
- **Improved maintenance efficiency:** Optimized greasing procedures, installation methods, and overall housing design
- **Long-term partnership value:** Ongoing collaboration between Timken and the distributor continues to identify additional cost-saving opportunities

45K SAVINGS OVER 3 YEARS



The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets bearings, gear drives, automated lubrication systems, belts, brakes, clutches, chain, couplings, linear motion products and related industrial motion rebuild and repair services.

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