TIMKEN



COLD COMFORT: TIMKEN'S RAPID RESPONSE FOR LNG PUMP BEARINGS

CHALLENGE

Liquified natural gas (LNG) pumps face harsh conditions, operating at temperatures as low as -162°C (-260°F) without external lubrication. These conditions cause standard ball bearings to fail rapidly due to material instability and contamination by particles in the liquified gas. Frequent bearing failures lead to significant downtime, costly repairs, and operational disruptions for facilities that depend on these pumps.

TIMKEN SOLUTION

Timken responded swiftly to the challenges faced by LNG pump operators by developing a specialized deep groove ball bearing optimized for ultra-low temperature applications. The bearings feature stainless steel races treated to maintain dimensional stability at -162°C (-260°F), with silicon nitride balls providing superior fatigue resistance under poor lubrication conditions. Additionally, a PEEK cage with custom rivets and washers enhances the bearing's performance in contaminated environments.

Timken's quick turnaround time was crucial, providing a lead time of only 14 weeks—much faster than the six to nine months typically offered by competitors. The team maintained excess components from each order, enabling even faster response times for future needs. This proactive approach ensures that Timken can swiftly address customer demands, delivering high-quality bearings at an unmatched speed.



RESULTS THAT MATTER

Timken's rapid manufacturing and responsive service dramatically reduced rebuild times for LNG pumps, allowing them to return to service faster and significantly increasing uptime for the end user. The quick deployment of Timken's bearing solution minimized operational disruptions, enabling facilities to maintain a seamless workflow. By prioritizing short lead times and high responsiveness, Timken demonstrated its commitment to maximizing customer satisfaction and operational efficiency.

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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