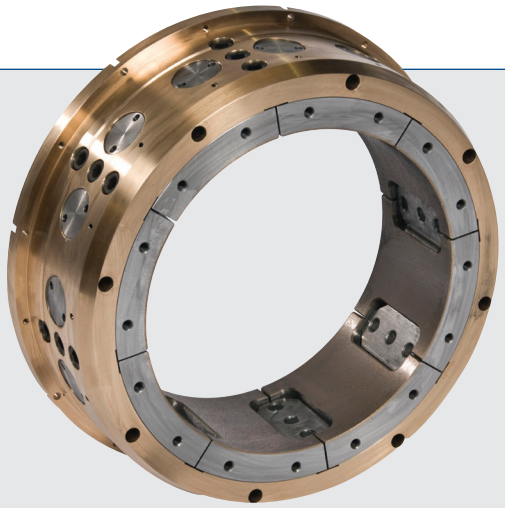
AUXILIARY BEARING TECHNOLOGY

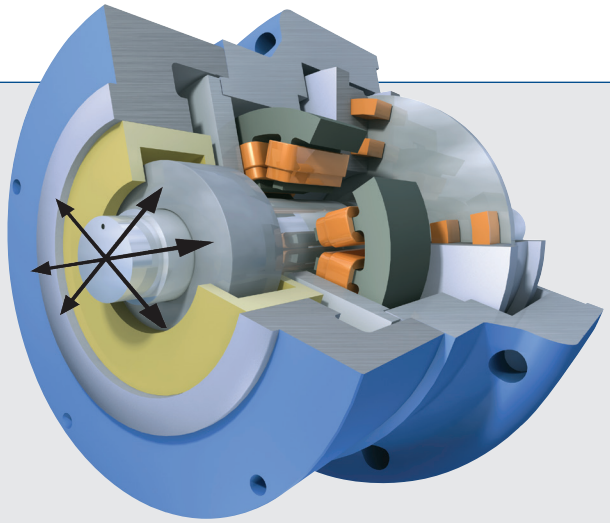
ROTOR DELEVITATION SYSTEM® (RDS®)

Waukesha Magnetic Bearings® patented RDS auxiliary bearing designs offer unmatched investment protection and observability of the service condition over the installed life of a machine, with a significantly reduced risk of unplanned downtime. Robust and reliable, Waukesha's proprietary RDS auxiliary bearing technology is designed for benign failure to prevent damage to machine components in the unlikely event of system malfunction.

The RDS design is comprised of a dry lubricated bushing mounted in a stator component and a special rotor component designed to reduce and dissipate heat during contact and coast-down. For small machines the radial and axial bushings are full 360-degree components; this technology is typically utilised in turbo-expanders and air compressors. For larger machines, such as centrifugal gas compressors and turbines, a tilting pad bearing technology is utilised. This design provides adjustable bearing stiffness and damping performance for rotor stability and imparted load control. Unlike other auxiliary bearings, the RDS auxiliary bearing is capable of operating in harsh environments, including those with arduous process fluids or elevated temperatures.



An RDS auxiliary bearing design for a large motor-compressor application.



The clearance from the rotor to the stator is measured while the system is statically levitated. The clearance provides a direct measurement of the remaining auxiliary bearing service life.

ADVANCED CAPABILITIES

- **Automatic Clearance Checking:** Because Waukesha's proprietary RDS auxiliary bearing technology is designed for benign failure (simple wear), its service condition can be observed locally or remotely without the need for machine disassembly. This checking process may be automated with Waukesha software.
- **Transient Overload Capability:** Waukesha's auxiliary bearings accept system overloads as needed, allowing the system to restore to a normal condition before returning the load to the magnetic bearings. This capability ensures the highest machine availability.

WAUKESHA® MAGNETIC BEARINGS
A Waukesha Bearings Business

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