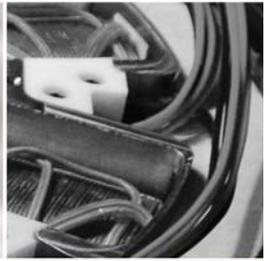


Synchrony®

# Active Magnetic Bearings



*Typical lube oil system.*

## Replace Oil-Lubricated Bearings With State-Of-The-Art Active Magnetic Bearings

A Middle Eastern national oil company required installation of additional gas compression equipment at an unmanned, remote location — a reliable, modern, maintenance-free solution was a must.

The solution was a Dresser-Rand DATUM® compressor package with Synchrony® AMBs.

One of the key reasons why Dresser-Rand was selected for the installation was because the compressors are built with Synchrony AMBs. As the location is unmanned and remote, the national oil company wanted a solution whereby it wouldn't have to worry about physical and regular maintenance of the lube oil system.

- Eliminates cost and complexity of an oil-lubrication system.
- Reduces maintenance by eliminating the oil-lubrication console.
- Eliminating oil makes it environmentally friendly.

Additionally, since the controller for Synchrony AMBs can be accessed remotely, the client gets the added ability to perform diagnostics and trend analysis without traveling to the site.

- Machine health monitoring provides the ability to constantly monitor rotor position, forces and temperatures.
- Offsite personnel can be notified of changes in machine performance so that proactive measures can be taken if needed.



*Active magnetic bearing controller.*

**DRESSER-RAND®**

Bringing energy and the environment into harmony.®

## Synchrony® AMB Features

- Operate in temperatures up to 350°F (176°C) and as low as -300°F (-184°C), enabling the bearings to be in the process gas.
- Compact controller can be mounted on or near the machine; simplifies installation and reduces cable length and losses.
- Standard Ethernet port for ease of communications.
- Optimized magnetic structure reduces magnetic bearing size.
- Integrated eddy current sensors reduce axial length of bearing.
- Health monitoring of coils and amplifiers.
- Vibration and position monitoring.
- Rotordynamic condition monitoring and protection.
- MTBF > 110,000 hour.
- Synchrony advanced control algorithms for stability under diverse and adverse conditions.
- Communications protocol: Modbus TCP/IP provides remote monitoring capability.
- Optional fault tolerant controller - no single point of failure.
- Easy to optimize bearing parameters; reduces start-up and commissioning time.



## Typical AMB Applications

- Gas compression equipment
- High-speed compressors for refrigerant and air
- Motors as a prime mover
- Turboexpanders
- High-speed generators
- Expansion turbines
- High-speed blowers
- Pumps
- Fans

## How can I find out more?

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*Active magnetic bearing  
stator and rotor*

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