MECOS / MAN Diesel & Turbo

Active Magnetic Bearing Technology Enhancement based on Field Experience

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Sealed Compressors – Historical Development

The steps to HOFIM™ Sealed – a consequent and logical development

Combining the advantages of the unique, hermetically sealed design of the MOPICO®...

...with the high ratio and wide flow range of the HOFIM™ Standalone...

...resulted in the new compressor concept HOFIM™ Sealed
HOFIM™ Design Concept

- High-speed motor
- Motor terminal box
- Axial bearing
- Radial bearing
- HP compressors
- LP compressors
- 9 Axis Machine
  (4 radial bearings
  1 axial bearing)
MAN Diesel & Turbo’s unequaled success and experience with high-speed AMB technology.
MDT – High Speed Compressors

Overview: One product family = 4 applications

Subsea

Offshore

Pipeline / gas transport

Hofim
High-speed oil free integrated motor compressor

Mopico
Motor Pipeline Compressor

compressor
electric motor
New AMB Partner MECOS with improved technology

- >20 Years of MAN Application Experience
- >20 Years of MECOS AMB experience
- <20 km of distance

- Robustness of components
- Control
- Understanding of System / Transparency
- Quality of Service
- Commissioning Speed

→ leads to End Customer Happiness

teaming up was logical step
MECOS: 9 Axis Magnetic Bearing Control Cabinet

- 20kVA / channel
- Modular System for AMB systems with up to 9-axes
- Based on well-proven technology of high volume applications (10'000 units)
- Numerous novel control features
Ivar Aasen Overview & Evolution of MECOS AMB

MBX20 Cabinet: Overview

- Power Supplies
- UPS
- Main Controller
- Power Amplifier
- PA Safety Circuit
- Cabinet Cooling
- Machine Connections
- Analog In/Out
- Data logger
Controller features

- Force Control, excellent stabilization up to 100% actuator capability
- Compensation of nonlinearities
- Special algorithms to cope with mechanical hardware imperfections of rotor (e.g. sensor run-out)

Software Tools

- Assembly support tools
- Diagnostic tools
- Commissioning tools for non-experts
Upcoming Installation: Ivar Aasen Platform

- 1st hermetically sealed motor compressor installation on Platform
- Delivery in Q3 / 2014

Breakthrough in offshore compression
1st offshore hermetically-sealed motor compressor unit from MAN Zurich
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