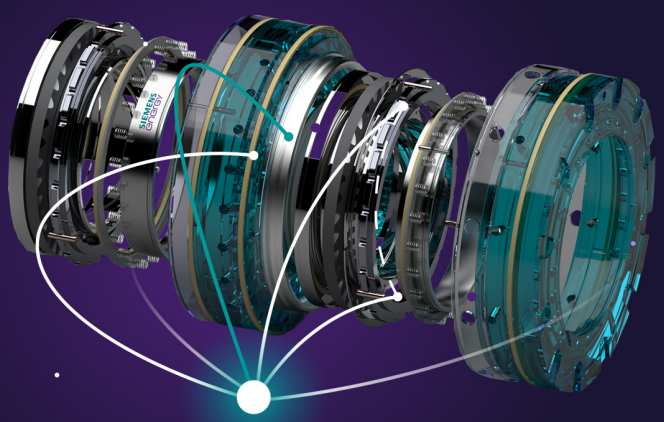
Siemens Energy turbocompressor

Replacement of dry gas seals



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Course objective

With this hands-on training customers' personnel will be trained to understand the technology of dry gas seals and to replace them in case of forced shut-down of customers' compressor equipment. Forced down time of customers' plant will be reduced significantly, thus increasing the overall availability of the turbo compressor.

Course structure

This training program is designed to instruct customers' personnel in a broad range of subjects, such as basic design of customers' equipment, principles of compressor operation, dry gas seal technology and all practical procedures to replace dry gas seals. In addition, all handling procedures are trained for peripheral components, like coupling, bearings, barrier seals, shaft monitoring devices, etc. Trainees can exercise on their own at our training modules which represent the original design of turbo compressors.

Course duration and location

The standard duration of this course is 5 days. Depending on customers' specific requirements, the duration of the training program can be adjusted to less or more than 5 days. This Hands-on training takes place at our purpose-built training center at the Product Lead Center for turbo compressors in Duisburg, Germany.



Who should attend:

- Personnel moving into the industry
- Experienced maintenance personnel, involved in changing seals in case of forced shut-down
- Other engineers

We have the ability to structure our training courses to the level of the individual person participating the course.

Course topics

- **Health, safety, environment Compressor design:** Casing, internal seals, dry gas seals, bearings, couplings, monitoring devices
- **P&I diagram:** principles of diagram, safety and protective system, instrumentation, operational aspects
- **Maintenance:** basic aspects, operating data sheets, inspections, cleaning and preservation, total care solutions
- **Troubleshooting:** cause & effects, rectification
- **Disassembly and assembly of shaft monitoring devices:** sensors, handling, adjustment system, system setting
- **Disassembly and assembly of coupling:** disassembly with hydraulic tools, control of coupling seat, tools, control measurements, reassembly of coupling, adjustments
- **Disassembly and assembly of bearings:** radial bearing, thrust bearing, tools, control measurements, reassembly of bearing, alignment procedures
- **Disassembly and assembly of barrier seal:** tools, control measurements, assembly procedures
- **Disassembly and assembly of dry gas seal:** driven end seal, non-driven end seal, assembly procedures, tools, control measurements
- **New developments:** emote monito-ring, brush seals, magnetic bearings

The above are typical course topics for a combined operation, maintenance and instrumentation training. In any case, the course topics can be adjusted to customers' specification.

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