



A Successful 5-Day In-house Training Course

Air Compressors Maintenance & Troubleshooting

Targeted Participants: Marine Terminal Staffs

Air Compressors Maintenance & Troubleshooting

WHY CHOOSE THIS TRAINING COURSE?

This course will provide detailed explanation of important aspects of the design, operation and maintenance of air compressors as they are applied at marine terminals and pumping stations of typical oil and gas operations. Vital elements of compressor construction such as valves, seals and bearings will be discussed, and their impact on the reliability and availability in operation will be explained. Special attention will be devoted to lubrication system, cooling system, as well as vibration monitoring system. The course will also cover details of compressor performance analysis and evaluation of compressor data, and will provide answers to questions related to compressor fitness for service (FFS), root cause analysis (RCA) and failure mode analysis.

The main focus in the course will be on providing guidelines for efficient preventive maintenance and techniques for troubleshooting and problem solving. This will be demonstrated and practiced on the existing air compressors, rotary screw and reciprocating models, found at marine terminals and pumping stations

WHAT ARE THE GOALS?

Upon successful completion of this course, participants will be able to:

- Maintain the compressors in a safer and economical manner
- Make more effective contribution to the operation of machinery
- Enhance their knowledge and experience of evaluating compressor operating parameters
- Improve maintenance planning.

WHO IS THIS TRAINING COURSE FOR?

- Technical professionals dealing with operation of air compressor systems
- Technicians in charge of maintenance and reliability of air compressors
- Technical staff dealing with condition monitoring
- Technical professionals from maintenance and technical support

HOW WILL THIS TRAINING COURSE BE PRESENTED?

The course will be conducted along the workshop principles, consisting of formal lectures and interactive worked examples that will be part of workshops. This will encourage the participants to actively contribute to class discussions and team work. Real life examples and case studies will be selected to illustrate the procedure for operating and controlling various types of air compressors. The emphasis in the course will be on the explanation of technical issues and providing answers to problems that are encountered in everyday industrial practice related to maintenance and troubleshooting.

Practical sessions will be devoted to maintenance and overhauling of selected types and models of air compressors

ISO 29990 :2010 Certified



ISO 9001:2015 Certified



Quality Certifications



Daily Topics

DAY ONE

Overview of Air Compressors Technical Features

- Overview of air compressors technical features
- Classification of air compressors based on design and application
- World standards and codes related to air compressors
- Main features of centrifugal & axial compressors
- Comparison between positive displacement & dynamic compressors
- Preventive maintenance guidelines of air compressors
- Monitoring of compressor operation and evaluation of working data
- Vibration monitoring and analysis
- Lubrication and lube quality checks
- Workshop: Problems and solutions

DAY TWO

Reciprocating Compressors: Operation & Maintenance

- Mechanical components of reciprocating compressors
- Valve design and operating characteristics
- Piston assembly, piston rod, crosshead and crankshaft
- Auxiliary systems: filters, silencers, pulsation dampers
- Lubrication system
- Cooling system
- Capacity control & instrumentation
- Start up and shut down operation sequence
- Gas pressure pulsations and compressor vibrations
- Condition monitoring and inspection
- Diagnostics, alignment and maintenance organization
- Troubleshooting and problem solving
- Workshop: Problems and solutions

DAY THREE

Rotary Screw Compressors – Operation & Maintenance

- Main mechanical components of rotary screw compressors
- Lubrication system options: flooded or dry rotors
- Cooling arrangements
- Rotor alignment and timing gears
- Bearing defects and lubrication oil analysis
- Seals selection and installation
- Operation range and performance curve
- Capacity control system and instrumentation
- Vibration monitoring and control
- Inspection of most critical parts
- Guidelines for compressor starting and stopping procedure
- Scope of regular maintenance
- Troubleshooting procedure and problem solving
- Workshop: Problems and solutions

DAY FOUR

Technical Details and Operation of Atlas Copco GA110

- Operation and maintenance guidelines of Atlas Copco GA110
- Maintenance procedure (hands on) and overhaul

DAY FIVE

Technical Details and Operation of JP Sauer & Sohn WP65L

- Operation and maintenance guidelines of JP Sauer & Sohn WP65L
- Maintenance procedure (hands on) and overhaul

Quality Certifications






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