Air Compressors Maintenance Inspection & Overhaul

Course general description:

This 5-day training course will provide a comprehensive understanding of compressor maintenance, inspection and overhaul for reciprocating, rotary, and centrifugal compressors including trunk piston compressors, sliding crosshead piston compressors, diaphragm compressors, rotary screw compressors, straight lobe compressors, sliding vane compressors, liquid ring compressors, centrifugal, and axial compressors.
Compressor maintenance and troubleshooting will be presented as well as safety precautions corresponding to working with compressors.

Audience:

This course is designed for engineers, experienced maintenance technicians and operations supervisors. It is also suitable for Design Engineers, Plant Engineers, Facility Managers, Plant Operators, Safety Engineers and Recent College Graduates. It is also recommended for production operatives or for craft personnel already involved in maintenance activities.

Course objectives:

This course is designed to benefit all levels of Technical Personnel in the oil and gas industry as well as in chemical and process industries but will greatly benefit:

1. Mechanical Engineers
2. Operation, technical service and maintenance professionals
3. Engineers, Consultants and Sales professionals
4. Technical professionals responsible for interdisciplinary energy projects compressors

Course duration:

5 days

Course location:

Cairo-Dubai-Istanbul

Course contents:

Day-1

- Introduction
- First Exam
- Safety Consideration
- Thermodynamic Basics and Fluid Mechanics
- What is Compression?
- Compressible Fluids – Gas Properties
- Types of Compressors
- The Gas Laws for Ideal and Real Gases
- Compression Efficiency
- Classification of Compressors (Interactive Workshop)

Day-2

- Compressor Efficiency
- Multi-stage compression

- Reciprocating Compressors & Rotary Compressors
- Centrifugal Compressor
- Axial Compressor
- Compressor Problems

Day-3

- Compressor Major Inspection
- How to Test?
- Types of inspection
- Inspection procedure
- Compressor maintenance types
- Condition based monitoring

Day-4

- Compressor Troubleshooting
- Compressor Need for Overhauling
- Steps of Compressor Overhauling
- Overhauling a rotary screw compressor: A step-by-step
- Electric Motor
- Noise
- Compressor Bearing
- Dry Gas Seal
- Lubrication Oil

Day-5

- Shaft Alignment
- Valves
- Preventive and Predictive Maintenance of Compressors
- Compressor Troubleshooting problems causes & solutions
- Computer Program for Troubleshooting (Workshop)
- Safety in Compressor Operation and Maintenance.
- Conclusion
- Posttest

Methodology:

- 50% lectures & concepts
- 10% Videos
- 10% Case studies
- 10% Exercises
- 10% Discussions
- 10% Software (if applicable or examples)

Course code: (TEME032)