

F-ME012 Reciprocating Compressors Operation and Maintenance

Course dates: TBA @ Dubai, UAE

This course is a comprehensive, highly practical and interactive course that the participants shall have an opportunity to discuss reciprocating compressors operations and maintenance issues and be provided with the most up-to-date information with best practice in dealing with the subject.

Why Attend

The course is designed to provide a thorough perspective of reciprocating compressor technology in terms of selection, operation, maintenance and repair. Topics covered include reciprocating compressor terminology, packing, mechanical seals and sealing systems, bearings, couplings and other vital components.

At the completion of the course, participant will be able to recognize the various applications of reciprocating compressors; recognize the design and materials for compressor components; review and improve the operation and maintenance of reciprocating compressors; carryout overhauling and repairing techniques of reciprocating compressors; apply troubleshooting to various compressor problems; identify the importance of preventive maintenance of reciprocating compressors; and emphasize the safety in the operation and maintenance and reciprocating compressors.

Course Objectives

By the end of the course, among various achievements, participants will get specialist insight into:

- ◇ Apply and gain an in-depth knowledge on reciprocating compressors and their various applications
- ◇ Recognize the design and materials for compressor components
- ◇ Review and improve the operation and maintenance of reciprocating compressors
- ◇ Carryout overhauling and repairing techniques of reciprocating compressors
- ◇ Employ troubleshooting to various compressor problems
- ◇ Identify the importance of preventive maintenance for reciprocating compressors
- ◇ Emphasize the safety in the operation and maintenance of reciprocating compressors.

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Who should attend

This course provides an overview of all significant aspects and considerations of reciprocating compressors for engineers, managers and other technical staff in all industries using reciprocating compressors.

Course Outline

Reciprocating Compressors and their Applications

Introduction , Definition of compressors? , How do Compressors operate, Types of Compression , Types of Compressors ,

Pressure , Pressure Definitions Associated with Compressors , Theory of Reciprocating Compressors , Features of Reciprocating Compressors , Compressor Selection , Reciprocating Compressor Cylinder Arrangements

Design and Materials for Compressor Components

Materials of Manufacture, Non-Lubricated or Oil-Free Cylinder Construction , Piston Rod Column or Frame Loading .

Basics for Reciprocating Compressors , Compressor Piping and Pulsation , Design Overview of Labyrinth , Piston Compressors

Operation and Maintenance of Reciprocating Compressors

Lubrication of Reciprocating Compressors

Operational Problems and Maintenance of Compressor Valves

Compressor Piston Rod Packing , Compressor Control Systems , Compressor Cylinder Cooling Non-Lubricated Compressor Maintenance , Labyrinth-Piston Compressors

Overhaul and Repair of Reciprocating Compressors

Rule of Thumb for General Running Clearances , Compressor Alignment , Web Deflection Measurements

Compressor Cylinder Alignment , Foundation Problems and Repairs , Compressor Bearing Maintenance and Replacement

Cylinder Repair and Maintenance , Compressor Piston Maintenance , Rebuilding Compressor Pistons

Installing Pistons, Other Component Repairs , Part Replication

Troubleshooting Compressor Problems

Introduction , Compressor Problems , Characteristic Compressor Problems , Troubleshooting Lubrication Systems , Importance of Inter-Cooler Pressures , Inter-Stage Pressures

Belt Drives , Motor Controls , Diagnostic Tests , Estimating Reciprocating Compressor

Condition Using Ultrasound and Vibration Patterns , Compressor Service Technician Reports , Basic Air Compressor System Evaluation

Preventive Maintenance for Reciprocating Compressors

Introduction , Compressor Maintenance , Emergency Repairs should be Minimized

Effectiveness of Preventive Maintenance , Compressor Preventive Maintenance Program

Spare Parts Vendor Selection , Personnel Training , Maintenance Contractors

Predictive Maintenance , Joined Condition Monitoring Systems



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Safety in Operation and Maintenance

Basic Safety Rules, Lock-Out/Tag-Out Program , Safe Maintenance
Valve Installation, Fires and Explosions, Summary, Air Piping

The workshop

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures
- 30% Workshops & Work Presentations
- 20% Case Studies & Practical Exercises
- 20% Videos, Software & General Discussions

The course instructor may modify the above training methodology before or during the course for technical reasons with no prior notice to participants

Falcon Consulting Professionals established in Greece for the last 15 years in the areas of technical consulting and professional training for the local industries. **Falcon** is expanding in GCC, aiming to provide the best consulting and training solutions to the industries of the region. **Falcon's instructors are accredited trainers and highly experienced in their fields, as well as adult training.** We aspire to build our business relationships on mutual trust. The achievement of results with an emphasis on innovation and sustainability, quality, cost analysis and time scheduling are non-negotiable from the conceptual phase of the training sessions to their successful closure.



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