Training - Reciprocating Compressors

EECV-EN-P | **Face-to-face only** | **5 days**

This training improves participants' skills on technology, operation and maintenance of reciprocating compressors

Level
Skilled

Public
Engineers and technicians involved in the operation, inspection and maintenance of reciprocating compressors

Objectives
Attendees will be able to implement the following skills:

- List the different parts of a compressor and explain their characteristics
- Explain the evolution of compressor operating parameters
- Implement appropriate monitoring for each type of compressor
- Be involved in troubleshooting activities

Pedagogical & technical resources

- Actual examples from the Oil & Gas and petrochemical industries
- Trainee participation is continuously encouraged through case studies selected by the lecturer or proposed by the trainees
- Use of a dynamic simulator (start-up/shutdown, general operation, disturbances/troubleshooting)

Assessment of achievements
Quiz

Prerequisites
No prerequisites are necessary to follow this course

Responsable
IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

TECHNOLOGY — 1.5 days

Construction and design philosophies.
Components of reciprocating compressors: frame, cylinders, piston and rings, piston rod and crank head, crankshaft and connecting rods, bearings, compartment distance pieces, valves.
Auxiliary systems: pulsation dampeners, lubrication circuits, cooling systems, drains and vents,...
Safety devices.

PERFORMANCES — 1 day

Gas compression: models, discharge temperature, compression work and power.
Compressor efficiency vs valves, piston rings, cylinder cooling system and rod packings behavior.
Indicator diagram. Compression/expansion cycle.

Case studies: discharge temperature and power calculation, indicator card plotting, efficiency calculation.

COMPRESSOR OPERATION 0.5 day

Flow control.
Start-up, shutdown.
Performances vs compression ratio, gas composition, pressure and suction temperature.
Multistage compressors.
Case study.

TROUBLESHOOTING 1 day

Machine monitoring: noise, vibration and temperature.
Typical defects and failures on: valves, piston rings and packings, piston rod,…
Safety devices.
Case studies: typical failures on reciprocating compressors.

DYNAMIC SIMULATION - APPLICATIONS 1 day

Use of a dynamic simulator.
Exercises on start-up and shutdown phases.
Applications using disturbances generated by the lecturer.

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com