



Module de spécialisation machines tournantes : les compresseurs alternatifs [PC-6]

Minimum number of participants: 6

Objective:

- Analyze the operating parameters of reciprocating compressors.
- Identify causes of malfunctions.
- Anticipate serious failures.

Target group:

- This course is aimed at operators, foremen, technicians or engineers in operations, maintenance or process departments.
- Prerequisites: Introductory course on rotating machines or equivalent experience.
- 8 to 10 people maximum per session.

Content :

09:00 - 10:30

OPERATION

- Reciprocating compressor performance: flow rate, power, efficiency
- Influence of suction parameters (single and multi-stage)
- Operating limits: compression ratio and delta P, discharge temperature

10:30 - 10:45

Break

10:45 - 12:15

OPERATION

- Starting a reciprocating compressor
 - o Operating constraints, rotor turning, purges and presence of liquid
 - o Checking safety systems and alarms
- Operating point and operating limits:
 - o Delta refrigerant gas/water temperature
 - o Valve temperature monitoring
 - o Seal leakage rate
- Protection and safety
 - o Low suction pressure and delta pressure on each stage
 - o Safety valves on each stage
 - o Protection against abnormal vibrations: acceptable limits
 - o Circuit protection: lubrication and cooling
 - o Non-return valve on discharge line

12:15 - 13:15

Lunch

13:15 - 15:15

MALFUNCTION ANALYSIS

- Causes :
 - o Nature and quality of gas: deposits and valve fouling
 - o Flow control system anomalies: valve damage
 - o Gas condensation
- Behavioral anomalies :
 - o Abnormal vibrations: valves and crossheads
 - o Abnormal heating of bearings
- Failure analysis: cause tree and common failures

15:15 - 15:45

Break

15:45 - 17:00

INSTALLATION

General principles of reciprocating compressor assembly

- Cylinder mass and support
- Pipe docking: principle
- Thermal protection: cylinders, piping and suction tank

MAINTENANCE ELEMENTS

- Maintenance program: policy and strategy

Implementation / working method :

One-day interactive face-to-face course, with Powerpoint support shared at the start of the course in both paper and digital formats.

A questionnaire will be sent to trainees before the course in order to adapt the course content to participants' expectations as far as possible.

A course evaluation questionnaire will be distributed to participants at the end of the course.

Course language and materials:

French

Event Properties

Event Date	Wednesday, 24 September 2025 - Wednesday, 24 September 2025
Registration Start Date	Monday, 30 November -0001
Cut off date	Monday, 30 November -0001
Individual Price	Membre CHF 600.00, non-membre CHF 750.00, étudiants/doctorants/AVS CHF 320.00 (incl. Lunch)
Lecturer	Michel Huet , PRIMCO
Course language	French
Location	PRIMCO Thônex, Thônex

