



Module de spécialisation machines tournantes : les compresseurs centrifuges [PC-5]

Minimum number of participants: 6

Objective :

- Define centrifugal compressor performance criteria.
- Understand the field of operation.
- Identify causes of deviating behavior.

Target group :

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

Contents :

09:00 - 10:30

OPERATION

- Performance and operating limits :
 - o Minimum flow and compressor overload
 - o Maximum speed: overspeed
 - o Maximum discharge gas temperature

10:30 - 10:45

Break

10:45 - 12:15

OPERATION

- Centrifugal compressor start-up
 - o Making networks available: purging liquids
 - o Checking safety systems and alarms
- Operating point monitoring and operating limits:
 - o Suction and discharge temperature monitoring
 - o Seal leakage rate
 - o Minimum flow rate
- Protection and safety
 - o Anti-pumping valve and safety valves on each stage
 - o Protection against abnormal vibration and axial displacement
 - ? Safety principles and logic, acceptable limits.
 - o Lubrication circuit
 - 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 fouling
 - o Abnormal pressure drops: suction filter
- Behavioral anomalies :
 - o Abnormal rotor vibration
 - o Abnormal axial displacement
 - o Abnormal heating of bearings
- Failure analysis: cause tree and common failures

15:15 - 15:45

Break

15:45 - 17:00

INSTALLATION

- Pipe docking: principle and tolerances

MAINTENANCE ELEMENTS

- Maintenance program: policy and strategy
- Rotor inspection: non-destructive, dimensional and geometric checks, balancing.

Implementation / working method :

Interactive, one-day, face-to-face course. Powerpoint support will be shared at the start of the course in 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	Thursday, 18 September 2025 - Thursday, 18 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

