Residual Gas Analysis & Mass Spectrometry
Ref. EL117 18 hours, including 15 hours of virtual classes

COURSE OBJECTIVES

To understand outgassing, to become familiar with mass spectroscopy, and especially with a residual gas analyser (RGA).
To acquire the knowledge of the limits of how to use a RGA
To learn how to analyse spectra in mass spectroscopy.

AUDIENCE

Technicians and engineers who use a residual gas analyser and who want to acquire an understanding of the phenomenon under vacuum, depending on time and/or temperature, the limits of the use of a RGA and spectrum analysis.

INNOVATIVE TEACHING RESOURCES

Lectures and «hands on» exercises.
Custom training manual.
Prior interview with the trainees possible in order to qualify their needs.
Multiple choice questions at the start and end of the training.
Training centres integrated with 40-30 workshops.
Maximum 6 persons per group.

MAIN TRAINERS

Michel THIAM: PhD in Physics (Strong Experience in Surface Physics and Surface Chemistry under UHV Conditions), from 40-30 Engineering Department.

DATE

April 13-16 ‖ May 25-28

15 hours : Live Online Training – 3 hours per day
3-5 hours : exercises (theorical calculations and analysis)
For other dates, please, contact us.

PRICE per person

1674 € ex.VAT

We need 3 registrations to open a session.

Can be also held in your premises for a specific training.

PROGRAM

Prerequisites and individual start-up activities in e-learning - 2- 3 hours
e-learning positioning test in mathematics, physics, chemistry, technology and methodology
Course on vacuum physics and technology.

First live virtual class with the trainer – 3 hours
1- Outgassing
- Definition
- Physical chemistry phenomenon linked to outgassing
- Outgassing effects
- Thermal outgassing
- Non baked metallic materials
- Baked metallic materials
- Non-metallic materials (Elastomers, ceramics…)
- Outgassing Induced

Second virtual classroom – 3 hours
2. Mass spectroscopy
- Theory
- Different kinds of mass spectroscopy
- Principle of a residual gas analyser (RGA):
Functional units
Spectrum interpretation
Baking of a RGA: Care
- Existing equipment and their comparison
- Limits of the use of a RGA

Individual training activities -3 hours
Degassing units, degassing rates, quantitative calculations of gas concentration...

Third virtual class – 3 hours
3. Applications
- Humidity
- Organic contamination
- Spectrum analysis
- Temperature Programmed Desorption (TPD)

Individual training activities -3 hours
Spectrum analisis

Fourth virtual class -3 hours
4. practical cases
Spectrum analysis
Participants' case studies

This training can be customised according to your equipment as well as the initial skills of the participant

Updated January 2021