Training

Theory and operation of Calorimeters, Thermal Analyzers and Manometry instruments

DSC, Calorimetry, TGA, TG-DTA, TG-DSC, TMA, Evolved Gas Analysis, Sorption

2022/2023 Catalogue
Our 2022/2023 Training Catalogue is for laboratory managers or users of Setaram Thermal Analyzers, Calorimeters or Manometric Instruments. You will find a training session whatever your need whether that is understanding the basics of measurements or becoming an advanced user of a specific technique or instrument.

To support you with your Setaram instrument we have developed specific training programs.

They include:

- Overview of theory and measurement principles
- Detailed description of the instrument and its accessories
- Explanation of the operational conditions and tips to optimise user experience
- Experiments and data treatment of at least one analysis
- Predictive and curative maintenance

Dedicated training on the use of Calisto software (signal acquisition and processing) can be performed:

- On your site
- In our laboratory
- Online

Easily improve your skills by trying our new online 2 hour training sessions:

- Good measurement practices
- Enthalpy calibration and temperature correction
- Heat capacity determination
- Heat of reaction

Customized sessions can be developed with you. These can be focussed on instrument, technique or specific applications with training on thermal data interpretation.

Can’t find your instrument in the list or need to know more about a specific training session?

Email us at setaram@kep-technologies.com
We will get back to you within 72 hours
**Instruments**
- SETLINE DSC/DSC+
- SETLINE STA/STA+
- SETLINE TGA

**Price**
- 2100€

**Duration**
- 1.5 days

**Highlights**
- Training room
- Laboratory for hands-on practice
- Experienced trainers

**Location**
- EMEA Laboratory
- On your site

**Theory**
- Theoretical presentation of the DSC
- Instrument: equipment and its key parts, preventive and curative maintenance
- Calibrations and corrections: energy calibration and temperature correction
- Optimization of key experimental parameters
- Review of key applications and discussion around customer applications
- Presentation of the autosampler

**Practice**
- Blank measurement
- Standard sample measurement
- Calisto software utilization
- Implementation of an option (read more in the SETLINE brochure)

**Thermal Analysis Applied to the SETLINE Range**

- **SETLINE DSC / DSC+**
  - 1.5 days
  - 2100€ ($2100)
  - Calibration and checking of the instrument

- **SETLINE STA / STA+**
  - 1.5 days
  - 2100€ ($2100)
  - Calibration and checking of the instrument

- **SETLINE TGA**
  - 1.5 days
  - 2100€ ($2100)
  - Calibration and checking of the instrument

All training marked with a circle are available in our EMEA laboratory.
THERMAL ANALYSIS APPLIED TO THE THEMYS RANGE

Instrument
THEMYS
THEMYS HP
THEMYS DUO
THEMYS LV
THEMYS H2
THEMYS FLASH
THEMYS DUO

Price
From 2100€

Duration
From 1.5 to 3 days

Highlights
• Training room
• Laboratory for hands-on practice
• Experienced trainers

Location
• EMEA Laboratory
• On your site

---

Training Theory Practice

THEMYS
From 2 to 3 days
From 2800€ ($2800)
Change of measurement configuration

THEMYS HP
2 days
2800€ ($2800)
Use of high pressure TGA

THEMYS DUO
From 2 to 3 days
From 2800€ ($2800)
Symmetrical TGA measurement optimization

THEMYS LV
2 days
2800€ ($2800)
Large volume TGA measurement optimization

THEMYS H2
2 days
2800€ ($2800)
Cautions of use under H2

THEMYS FLASH
2 days
2800€ ($2800)
Fast heating TGA measurement optimization

THEMYS ONE / ONE+
From 1.5 to 2 days
From 2100€ ($2800)
Thermal analysis method optimization

All training marked with a orange circle are available in our EMEA laboratory

---

• Principles of thermal analysis: DTA, DSC, TGA, TMA
• Instrument: equipment and its key parts, preventive and curative maintenance
• Calibrations and corrections
• Optimization of key experimental parameters
• Review of key applications and discussion around customer applications

• Blank measurement
• Standard sample measurement
• Calisto software utilization
• Change of measurement configuration or accessories installation
• Implementation of an option (read more in the THEMYS brochure)
CALORIMETRY APPLIED TO THE CALVET RANGE

**Training**
- Principles of calorimetry
- Instrument: equipment and its key parts, preventive and curative maintenance
- Calibrations and corrections: energy calibration and temperature correction
- Optimization of key experimental parameters
- Review of key applications and discussion around customer applications

**Theory**
- Standard sample measurement
- Calisto software utilization
- High pressure or mixing cell set-up
- Implementation of an option (read more in the CALVET brochure)

**Practice**
- Instrument: equipment and its key parts, preventive and curative maintenance
- Calibrations and corrections: energy calibration and temperature correction
- Optimization of key experimental parameters
- Review of key applications and discussion around customer applications

**Instruments**
- CALVET
- CALVET CRYO
- CALVET HT
- CALVET LV
- CALVET LV 4C
- CALVET DC ALEXSYS
- CALVET PRO
- CALVET DC

**Price**
From 2100€

**Duration**
From 1.5 to 3 days

**Highlights**
- Training room
- Laboratory for hands-on practice
- Experienced trainers

**Location**
- EMEA Laboratory
- On your site

---

**CALVET**
- from 1.5 to 3 days
- from 2100€ ($2100)
- Calorimetric measurement optimization

**CALVET CRYO**
- from 1.5 to 3 days
- from 2100€ ($2100)
- Low temperature calorimetric measurement optimization

**CALVET HT**
- from 1.5 to 3 days
- from 2100€ ($2100)
- High temperature calorimetric measurement optimization

**CALVET LV**
- from 1.5 to 3 days
- from 2100€ ($2100)
- Calorimetric measurement optimization

**CALVET LV 4C**
- from 1.5 to 3 days
- from 2100€ ($2100)
- Calorimetric measurement optimization

**CALVET DC ALEXSYS**
- from 1.5 to 3 days
- from 2100€ ($2100)
- Drop calorimetry measurement optimization

**CALVET PRO**
- from 1.5 to 3 days
- from 2100€ ($2100)
- Thermal analysis method optimization

All training marked with a circle are available in our EMEA laboratory.
**MICRO CALORIMETRY APPLIED TO THE MICROCALVET RANGE**

**Training, Theory, Practice**

**Instruments**
- MICROCALVET
- MICROCALVET ULTRA
- MICROCALVET ULTRA 4C

**Price**
From 2100€

**Duration**
From 1.5 to 2 days

**Highlights**
- Training room
- Laboratory for hands-on practice
- Experienced trainers

**Location**
- EMEA Laboratory
- On your site

- Principles of calorimetry
- Instrument: equipment and its key parts, preventive and curative maintenance
- Calibrations and corrections: energy calibration and temperature correction
- Optimization of key experimental parameters
- Review of key applications and discussion around customer applications

- Standard sample measurement
- Calisto software utilization
- High pressure or mixing cell set-up
- Implementation of an option (read more in the MICROCALVET brochure)

**MICROCALVET**
from 1.5 to 2 days
from 2100€ ($2100)
Calorimetric method optimization

**MICROCALVET ULTRA**
from 1.5 to 2 days
from 2100€ ($2100)
Calorimetric method optimization

**MICROCALVET ULTRA 4C**
from 1.5 to 2 days
from 2100€ ($2100)
Calorimetric method optimization

All training marked with a ▼ are available in our EMEA laboratory
MANOMETRY APPLIED TO THE GASPRO RANGE

Instrument
GASPRO

Price
From 2100€

Duration
From 1.5 to 2 days

Highlights
• Training room
• Laboratory for hands-on practice
• Experienced trainers

Location
• On your site

Training

• Reminder on sorption phenomena
• Principles of Sievert’s method
• Instrument: equipment and its key parts, preventive and curative maintenance
• Description of PCT and Kinetic Measurements
• Description of calibration methods of dead volume
• Optimization of key experimental parameters
• Review of key applications and discussion around customer applications

Theory

• Measurement of a standard sample: Pre-treatment, Calibration of dead volume, PCT or kinetics measurement
• Hy-data and Hy-Analysis Software
• Implementation of an option (read more in the GASPRO brochure)

Practice

MANOMETRY APPLIED TO THE GASPRO RANGE

GASPRO
from 1.5 to 2 days
from 2100€ ($2100)
Manometric measurement set-up
Instruments
FLEXI HYCO
FLEXI HP MS
FLEXI HP 1000
FLEXI BALANCE
FLEXI WET 50
FLEXI WET 200

Price
200€

Duration
1 hour

Highlights
• Training room
• Laboratory for hands-on practice
• Experienced trainers

Location
• EMEA Laboratory
• On your site
• Online

Principles of operation
• Instrument : equipment and its key parts, preventive and curative maintenance
• Optimization of key experimental parameters
• Review of key applications and discussion around customer applications

Practical operation
• Programming (if available)
• Parameters set-up
• Coupling to an adapted instrument

ACCESSORIES : FLEXI LINE

FLEXI HYCO
1 hour
200€ ($200)
Plug-in : GASPRO, CALVET, CALVET PRO

FLEXI HP 1000
1 hour
200€ ($200)
Plug-in : GASPRO, THEMYS HP

FLEXI HP MS
1 hour
200€ ($200)
Plug-in : GASPRO, THEMYS HP

FLEXI HP 200
No training
Plug-in : THEMYS HP

FLEXI BALANCE
1 hour
200€ ($200)
Plug-in : THEMYS, THEMYS DUO

FLEXI WET 50
1 hour
200€ ($200)
Plug-in : THEMYS, CALVET

FLEXI WET 200
1 hour
200€ ($200)
Plug-in : THEMYS, CALVET

All training marked with a are available in our EMEA laboratory.
SOFTWARE: CALISTO

Training
On your site
In our laboratory
Online

Price
700€

Duration
0.5 day

Highlights
- Training room
- Teams visioconference
- Experienced trainers

Location
- EMEA Laboratory
- On your site
- By Teams video

Sessions
- Calisto Acquisition: direct programming and programming of an experiment
- Main tools of Calisto Processing
- Calculations of temperature correction and sensitivity coefficients
- Processing a HeatFlow curve (DSC/DTA)
- Processing a mass variation curve (TGA)
- Processing a displacement curve (TMA)
- Review of advanced tools: calculation of heat capacity (Cp), peak separation, crystallinity rate, MS/FTIR/GCMS data imports...

- Importing an experiment
- Curve processing
- Exporting data or graphs

On your site
0.5 day
700€ ($700)
Calisto use optimization

EMEA laboratory
0.5 day
700€ ($700)
Calisto use optimization

Online
0.5 day
700€ ($700)
Calisto use optimization
SHORT TRAINING SESSIONS

**Sessions**
- TGA measurement practice
- DSC measurement practice
- Calorimetric measurement practice
- TMA measurement practice
- Enthalpy calibration and temperature correction
- Heat capacity (Cp) determination
- Heat mixing/reaction

**Price**
400€

**Duration**
2 hours

**Highlights**
- Teams visioconference
- Experienced trainers

**Location**
- By Teams video

---

**Training Theory Practice**

- Measurement practice
  - Instrument checking
  - Configuration choice
  - Experimental parameters optimization
  - Sample set-up
- Calibration
  - Enthalpy calibration principle
  - Temperature correction principle
  - Experimental parameters optimization according to the sensor
- Cp determination
  - Heat capacity definition
  - Different calculation methods
  - Experimental parameters optimization
- Heat of mixing/reaction
  - Presentation of the different mixing cells
  - Experimental parameters optimization
  - Results interpretation

---

**TGA measurement practice**

- Duration: 2 hours
- Price: 400€ ($400)

---

**DSC measurement practice**

- Duration: 2 hours
- Price: 400€ ($400)

---

**Calorimetric measurement practice**

- Duration: 2 hours
- Price: 400€ ($400)

---

**TMA measurement practice**

- Duration: 2 hours
- Price: 400€ ($400)

---

**Enthalpy calibration and temperature correction**

- Duration: 2 hours
- Price: 400€ ($400)

---

**Heat capacity (Cp) determination**

- Duration: 2 hours
- Price: 400€ ($400)

---

**Heat measurement of mixing/reaction**

- Duration: 2 hours
- Price: 400€ ($400)

---

**Heat capacity (Cp) determination**

- Duration: 2 hours
- Price: 400€ ($400)
## TRAINING SUMMARY

<table>
<thead>
<tr>
<th>TRAINING</th>
<th>PRICE / PERSON (*)</th>
<th>DURAT. (from) **</th>
<th>DATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETLINE DSC/DSC+</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>SETLINE STA/STA+</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>THEMYS</td>
<td>2800€</td>
<td>2 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>THEMYS ONE/ONE+</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>THEMYS HP</td>
<td>2800€</td>
<td>2 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>THEMYS LV (TG96)</td>
<td>2800€</td>
<td>2 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>THEMYS DUO (TAG)</td>
<td>2800€</td>
<td>2 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>THEMYS H2</td>
<td>2800€</td>
<td>2 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>THEMYS FLASH</td>
<td>2800€</td>
<td>2 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALVET (C80)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALVET PRO (SENSYS)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALVET CRYO (BT215)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALVET LV (MS80)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALVET LV 4C</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALVET DC (MHTC)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALVET DC ALEXSYS</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALVET HT (C600)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>MICROCALVET (µDSC7)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>MICROCALVET ULTRA (µSC)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>MICROCALVET ULTRA 4C (µSC)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>GASPRO (PCTPro)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TRAINING</th>
<th>PRICE / PERSON (*)</th>
<th>DURAT. (from) **</th>
<th>DATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLEXI HYCO</td>
<td>200€</td>
<td>1 hour</td>
<td>Contact us</td>
</tr>
<tr>
<td>FLEXI HP MS</td>
<td>200€</td>
<td>1 hour</td>
<td>Contact us</td>
</tr>
<tr>
<td>FLEXI HP 1000</td>
<td>200€</td>
<td>1 hour</td>
<td>Contact us</td>
</tr>
<tr>
<td>FLEXI BALANCE</td>
<td>200€</td>
<td>1 hour</td>
<td>Contact us</td>
</tr>
<tr>
<td>FLEXI WET 200</td>
<td>200€</td>
<td>1 hour</td>
<td>Contact us</td>
</tr>
<tr>
<td>FLEXI WET 50</td>
<td>200€</td>
<td>1 hour</td>
<td>Contact us</td>
</tr>
<tr>
<td>SETSYS evolution (Old instrument)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>Labsys evo (Old instrument)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>DSC131 evo (Old instrument)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>µDSC3 evo (Old instrument)</td>
<td>2100€</td>
<td>1.5 days</td>
<td>Contact us</td>
</tr>
<tr>
<td>CALISTO</td>
<td>700€</td>
<td>0.5 day</td>
<td>Contact us</td>
</tr>
<tr>
<td>SHORT TRAINING SESSIONS (Online)</td>
<td>400€</td>
<td>2 hours</td>
<td>Contact us</td>
</tr>
</tbody>
</table>

*For on site training, transport and living costs are charge extra
** Option only available coupled with an instrument training session. Duration and price vary depending on the options
(All prices exclude tax)