



# Training Courses

Gain Your Chromatography Knowledge From Sartorius Experts With Tailor-Made and On-Site Trainings

Simplifying Progress

**SARTORIUS**

# Comprehensive Set of Trainings

Investing in training and development is necessary to remain competitive in today's market. The growth and development of your company heavily depend on your employees' abilities to quickly gain skills, retain knowledge and feel empowered to perform their jobs.

In Pharma & Biopharma production, human intervention is still predominant, and process robustness is essential to guarantee product quality. In this context, training and continuing education plays a vital role.

We acquired process experience with our equipment and it's a unique opportunity to transfer this knowledge to our customers.

We have developed a comprehensive set of trainings for your specific needs covering key aspects and features of Sartorius Chromatography products. We have built 3 levels of training for Hipersep® systems and 2 levels of training for Prochrom® LC columns.



# Hipersep<sup>®</sup> Systems Trainings



## Level 1: Quick Start Training for a Basic Features Overview

**Level 1: Basic Features of Hardware and Hipersep<sup>®</sup> SC Software | Duration: 0.5 day**

### Program and Objectives

Description of Hardware	Description of Hipersep <sup>®</sup> SC Software	Objectives
<ul style="list-style-type: none"><li>▪ P&amp;ID review in front of equipment</li><li>▪ Equipment components overview with link to software flowchart</li><li>▪ Explanations of the electrical cabinet (incl. release button &amp; emergency stop)</li></ul>	<ul style="list-style-type: none"><li>▪ Sartorius application overview with the description of all screens</li><li>▪ Manual mode: Purpose – How to operate</li><li>▪ Software principles, philosophy &amp; screens usability</li><li>▪ Alarm management</li><li>▪ Reserved parameters</li><li>▪ Support software description and explanation (Graphics, Historian &amp; Batch report)</li></ul>	<ul style="list-style-type: none"><li>▪ Handle properly the system for basic operation</li><li>▪ Be more confident to perform qualification tests for the IQ   OQ (installation qualification   operational qualification) of the system by yourself. (Sartorius could also help you with defined protocol and services for tests execution)</li><li>▪ More familiar with equipment to write SOPs</li></ul>

### When?

As an extension of the SAT (Site Acceptance Tests), the training is performed by a certified trainer next to the equipment.

### Who should attend?

- Production employees responsible for operating the system
- Quality employees responsible for the system validation and protocols' redaction (IQ | OQ protocol, Standard Operating Procedures (SOPs), ...)
- Maintenance department

## Level 2: Hands-on Training for In-Depth Knowledge With Theoretical and Practical Cases

### Level 2: In-Depth Knowledge of Hipersep® SC Software | Duration: 2 days

#### Program

Theoretical Session With Virtual Machine (VM)	Practical Session in Production Room With System
<ul style="list-style-type: none"><li>▪ Software principles and philosophy</li><li>▪ First contact and screens usability</li><li>▪ Reserved Parameters and hardware related settings</li><li>▪ Historical trends: tool presentation and how to configure new trends</li><li>▪ Graphics: tool presentation and how to calculate column HETP</li><li>▪ Alarm management overview</li><li>▪ Details for the 3 different modes:<ul style="list-style-type: none"><li>▪ Maintenance mode: Purpose - Possible action overview - Warnings</li><li>▪ Manual mode: Purpose - How to operate in manual mode</li><li>▪ Automatic mode: Recipe editor - Elution grid - Events and triggers</li></ul></li><li>▪ How to run a recipe and a sequence with theoretical recipe preparation and record in VM</li><li>▪ Batch management &amp; report</li><li>▪ "Security" aspects (user privileges, configuration and creation of users, login   logout management and inactivity control, electronic signatures)</li><li>▪ Some predesign recipes will be created to make the users familiar with all features and possibilities given by the recipe editor:<ul style="list-style-type: none"><li>▪ "How to perform an HETP test" will be created in manual mode</li><li>▪ A recipe containing current and basic functions that operators need to know (Elution - Peak simulation - Single peak collection with UV signal and or volume - peak fractionation - AZ - backflush - ...) in automatic mode.</li></ul></li></ul>	<ul style="list-style-type: none"><li>▪ "P&amp;ID" review in front of the system</li><li>▪ Equipment hardware overview:<ul style="list-style-type: none"><li>▪ Link to the software flowchart</li><li>▪ Explanation of the electrical cabinet (incl. release button &amp; emergency stop)</li></ul></li><li>▪ User account creation step by step</li><li>▪ Customer hands-on:<ul style="list-style-type: none"><li>▪ Creation of 2 recipes in manual mode:<ul style="list-style-type: none"><li>▪ Pump priming</li><li>▪ HETP testing mimic with acetone and column in bypass mode</li></ul></li><li>▪ Creation of the predesigned recipes in automatic mode</li><li>▪ Run it with water   solvent (UV peaks to be simulated)</li></ul></li><li>▪ Conclusions and Q/A session.</li></ul>

#### Objectives

- Be autonomous to create and configure your own recipe on Hipersep® software and supervise the production
- Be able to understand separation curves and results
- Be able to maximize the capabilities of the Hipersep® system

#### When?

You want to use properly Hipersep® system in production perspectives.

#### Who should attend?

- All people who recently acquired a Sartorius system
- Production employees and future users of the system

## **Level 2+: Your Recipe Creation on Your System | Duration: 2 days**

### **Program and Objectives**

The program will be custom-made depending the customer's needs: scale-up | scale-down, transfer from another equipment. Sartorius' trainer will support you with recipe creation from your separation method. This recipe will be validated with a system in a production room with water or solvent (UV peaks will be simulated). The recipe will faithfully transpose the separation method provided by the customer independently of its performance criteria.

### **Prerequisite**

Customer separation method should be sent to the Sartorius team at last 3 weeks prior to the training to prepare practical session.

### **Who should attend?**

- You want to start your production with a recipe and want to be sure that all parameters are well-defined
- You want Sartorius' presence at your site to assist on your software's configuration and be sure that recipe will run as expected
- You are interested in process development.



# Prochrom® LC Columns Trainings



# Level 1: Columns Quick Start Training for Basic Features Overview

**Level 1: Basic Features of Prochrom® LC Columns | Duration: 0.5 day**

## Program and Objectives

Theoretical Explanation	Objectives
<ul style="list-style-type: none"><li>▪ P&amp;ID review front of column</li><li>▪ Frits and seals description</li><li>▪ Explanation on piston's manipulation (to up and down the piston)</li><li>▪ Handling tools kits listing and purpose's explanation</li><li>▪ Slurry transfer description</li></ul>	<ul style="list-style-type: none"><li>▪ Handle properly the column for basic operation and manipulate parts and handling tools.</li><li>▪ Be more confident to perform qualification tests for the IQ   OQ (installation qualification   operational qualification) of the system by yourself. (Sartorius could also help you with defined protocol and services for tests execution)</li><li>▪ More familiar with equipment to write SOPs</li></ul>

## When?

As an extension of the SAT (Site Acceptance Tests) the training is done by a certified trainer next to the column.

## Who should attend?

- Production employees responsible for column operation
- Quality employees responsible for the column validation and protocols' redaction (IQ | OQ protocol, Standard Operating Procedures (SOPs), ...).
- Maintenance department

## Level 2: How to Properly Pack Prochrom® Columns

**Level 2: In-Depth Knowledge of Column Use | Duration: Depending on Column Diameter\***

### Program

Theoretical Session in Meeting Room	Practical Session in Production Room With Column
<p>Columns experts will explain the best practices to pack your column with your silica.</p> <ul style="list-style-type: none"><li>▪ Theoretical explanation about packing operation</li><li>▪ Plates calculation explanation</li><li>▪ Review of your packing method</li><li>▪ Description of packing operation step by step</li></ul>	<p>You will pack and test all scale columns, with different design features and dimensions, using your types of chromatography resins and your process development study.</p> <ul style="list-style-type: none"><li>▪ Explanation about column and associated slurry preparation</li><li>▪ Maintenance aspect with installation of new frits and seals assembly</li><li>▪ Piston up and down explanation and execution</li><li>▪ Handling tools kits explanation</li><li>▪ Column integrity checking with water tightness</li><li>▪ Column packing in real conditions**:<ul style="list-style-type: none"><li>▪ Slurry preparation</li><li>▪ Slurry transfer</li><li>▪ Packing</li><li>▪ Column equilibration</li><li>▪ Column test</li></ul></li><li>▪ Conclusions and Q/A session</li></ul> <p>** No warranty that the column test will be successful as expected.</p>

### Objectives

- Understand the critical parameters and possible issues during columns packing
- Manipulate on your own all column parts

### When?

Ensure that your team is properly trained for production perspective and quick reaction during troubleshooting.

### Who should attend?

- Production employees responsible for column operation
- Maintenance employees

### \* Duration

LC50 – LC200:	1 day
LC300 – LC450:	2 days
LC600 – LC800:	3 days
LC1000 – LC1200:	4 days



## **Level 2+: Packing Assistance | Duration: Custom**

### **Program and Objectives**

Your Sartorius trainer will pack and test the column performances.\*

### **Prerequisite**

Customer URS should be discussed with Sartorius to check feasibility. Sartorius' packing expert will prepare a custom-made session based on customer separation process objectives.

\*Spare parts kits should be available at customer's site if replacement is needed.

### **When?**

You want Sartorius assistance to be sure that your column is perfectly packed.

# General Considerations



Equipment and utilities (water, solvents...) should be available at disposal next to the training's location (check list provided by Sartorius prior to the session).

For optimal and friendly training conditions, Sartorius limits attendees to a maximum of 6 persons. Training in larger groups can be made upon request.

Upon completion of trainings, a training certificate and PDF training support will be delivered to each participant.

We are committed to maintaining a high training level quality. Each participant will be invited to fill an evaluation form about speakers, contents, presentations and materials.

Prices are defined including travel costs, workload preparation, training days on site, report writing (if applicable).

The training durations correspond to the number of days at customer's site (travel time excluded).

Sartorius proposes a wide range of training offering useful for your daily work. By choosing Sartorius training, you will take advantage of our expertise and separation knowledge. All training session provide a truly learning experience on all Sartorius equipment.

Contact your local representative for a quotation.




## Germany

Sartorius Stedim Biotech GmbH  
August-Spindler-Strasse 11  
37079 Goettingen  
Phone +49 551 308 0

## USA

Sartorius Stedim North America Inc.  
565 Johnson Avenue  
Bohemia, NY 11716  
Toll-Free +1 800 368 7178

 For further contacts, visit  
[www.sartorius.com](http://www.sartorius.com)