

Introduction to LC Maintenance at Customer Site

At SCIEX, our Success Technology Programs follow the proven spaced learning approach to maximize learning retention. The training process includes a unique blend of self-paced eLearning, instructor led and hands-on training provided at the customer site.

COURSE GOALS AND OUTCOME:

This SCIEXUniversity course provides a variety of hands-on LC Maintenance exercises with a focus on your LC system. It is a locally delivered program by an experienced SCIEX Service Engineer. It is supported by a series of easy-to-use Quick Reference Guides. It is intended for those who have completed a SCIEXUniversity Success Program, or have some operational experience with SCIEX LC-MS systems.

You will learn how to recognize LC issues on your LC system, and troubleshoot various chromatography issues. You will also learn how to proactively maintain your LC system, and how to exchange various consumable parts to keep your system running properly between regular maintenance visits.

Upon completion of the course, you will have a deeper understanding of LC troubleshooting. This will enable you to increase your lab's productivity and uptime of your LCMS system, and reduce the need for engineer call outs or remote assistance. You will gain knowledge of which consumables to keep on-site to increase your system uptime.

TRAINING PROGRAM OVERVIEW:

Your Success Technology Training includes the following:

- 1 day of instructor led and hands-on training provided at your site by a Service Engineer
- Related self-paced eLearning courses, lectures, reference material and lab exercises
- Complimentary follow-up WebEx session with an Applications Support Scientist
- Workflow certification upon successful completion of final exam
- Access to SCIEXUniversity database of >100 eLearning courses

- Access to SCIEXNow™ online support tools available for up to 3 Learners

ONSITE INSTRUCTOR LED TRAINING TOPICS:

• LC Maintenance for Shimadzu Systems

- Replace the autosampler needle
- Replace low pressure rotor
- Replace high pressure rotor
- Replace check valves
- Replace plunger and plunger seal
- Resetting counters
- Understanding access controls
- Autosampler calibration and position adjustment
- Routine maintenance tasks

• LC Maintenance for Agilent Pumps

- Disassemble and maintain pump heads (pistons, support rings, piston seals, wash seals and gaskets as applicable)

Note: for 1290 Infinity and Infinity II pumps, this task will only be performed for Easy Maintenance and Long Life pumps.

- Replace seal wash peristaltic pump (if applicable)
- Replace PTFE frit for purge valve and replace seal cap assembly
- Replace inline and high pressure filter frits
- Replace seal cap assembly for outlet valves (if applicable)
- Seal wear-in procedure
- EMF reset

• LC Maintenance for Agilent Autosamplers

- Replace needle
- Replace needle seat
- Replace rotor seal
- Replace peristaltic pump
- Autosampler calibration and position adjustment
- Replace plunger and plunger seals
- Replace sample loop

• LC Maintenance for Agilent Column Ovens

- Replace rotor seal if valve is installed

- **LC Maintenance for Agilent Column Ovens**
 - Inspect for leaks
 - Replace flow cell

- **General LC Maintenance for Agilent Systems**
 - Using Lab Advisor software

- **Troubleshooting LC Issues**
 - Constant carryover
 - Classic carryover
 - Retention time shift
 - Poor chromatography

The LC system must be installed and configured before the training. The course includes consumables for use during the training as detailed in *[Required Consumables for Introduction to LC Maintenance at Customer Site Training Course](#)*.

Consumables for use during the training must be ordered and delivered prior to the start of the training. Please consult with your service engineer to arrange the order of the appropriate consumables for your system prior to the delivery of your training.

For Agilent 1290 and 1290 Infinity and Infinity II pumps, disassembly of the pump heads will only be performed for **Easy Maintenance** and **Long Life** pumps. For **Classic** pumps, the pump heads will be removed and reinstalled with no disassembly.

Required Consumables for Introduction to LC Maintenance Training Course at Customer Site

At SCIEX, our Success Technology Programs follow the proven spaced learning approach to maximize learning retention. The training process includes a unique blend of self-paced eLearning, instructor led and hands-on training provided at the customer site. This SCIEXUniversity course provides a variety of hands-on LC Maintenance exercises.

For this training to be successful, the LC system must be installed and configured before the training. **Table 1** lists the parts that you are required to provide for use during the training course.

The course includes consumables for use during the training as shown in **Table 2**. Please consult with your service engineer to arrange the order of the appropriate consumables for your system prior to the delivery of your training.

Table 3 lists consumables that you may wish to purchase from SCIEX after the training.

Applicable System	Description	Part Number
All LC Systems	MS-grade Methanol	N/A
All LC Systems	MS-grade Water	N/A
All LC Systems	MS-grade Isopropanol	N/A
All LC Systems	Lint-free wipe	018027
All LC Systems	PEEK tubing Red (0.13 x 3000 mm)	4425163
All LC Systems	PEEK tubing Yellow (007"ID X 0.062"OD 50)	4407322
All LC Systems	PEEK Tube Cutter	011281
All LC Systems	Triazine	4376887
Shimadzu LC 20A	Nuts & Ferrule	4426018
Shimadzu LC 20	Seal Tool	4413357
Shimadzu LC 20XR/30	AS Needle Seal Remover	228-50570-00
Shimadzu LC 30	ToolKit	5047014
Shimadzu LC 30	Seal Tool	5050409
All Shimadzu Systems	Stop Joint	4426109
All Shimadzu Systems	AS Plunger Tool	4425115
All Shimadzu Systems	Pump Plunger Driver	4425148
All Sil HPV	FTG, UHPLC one-piece fitting	4466409

Table 1: General Parts Required

Applicable System	Description	Part Number
Shimadzu LC 20AD	Essential LC20 Kit	5045275
Shimadzu LC 20XR	Essential XR Kit	5045276
Shimadzu LC 30AD	Essential LC30 Kit	5045277
Agilent 1260 Infinity II	Essential LC 1260	5063009
Agilent 1290 Infinity/Infinity II	Essential LC 1290	5063011
Agilent 1200/1260	Pump Seal	4463767

Table 2: Consumables Included with On-site Training Course

Applicable System	Description	Part Number
Shimadzu LC 20AD	Essential LC20 Kit Complete	5050501
Shimadzu LC 20XR	Essential XR Kit Complete	5050502
Shimadzu LC 30AD	Essential LC30 Kit Complete	5047079
Agilent 1260 Infinity II	Essential LC 1260 Infinity II Kit Complete	5063010
Agilent 1290 Infinity II	Essential LC 1290 Infinity II Kit Complete	5063012
Agilent 1200 G1329A	Rotor Seal	4400229
Agilent 1200 G1329B Agilent 1260 G1367	Rotor Seal	4400918
Agilent 1290 G4226A	Rotor Seal	4457448
Agilent 1200 G1329	Needle	4391945
Agilent 1200 G1367C/D	Needle Assembly	4455008
Agilent 1260 G1367E Agilent 1290	Needle Assembly	4456318
Agilent 1200	Seat Assembly	5041619
Agilent 1290	Seat Assembly	4456696

Table 3: Optional Consumables Available for Purchase From SCIEX

SCIEX Diagnostics products are for in vitro diagnostic use. Product(s) may not be available in all countries. For information on availability, please contact your local representative. All other SCIEX products are for research use only. Not for use in diagnostic procedures. AB Sciex is operating as SCIEX.
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