ekspert™ ultraLC Systems

Site Planning Guide

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RUO-IDV-05-0862-A
December 2013

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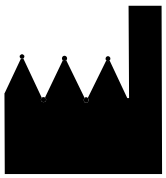
Printed in Canada.



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Revision History

Revision	Reason for Change	Date
A	First release.	December 2013


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Contents


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Customer and FSE Responsibilities

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This guide is for the site planner, the individual responsible for preparing the facility for the installation of the ekspert™ ultraLC system.

Note: For regulatory and safety information for the ekspert ultraLC 110 and 110-XL systems, refer to the *ekspert™ ultraLC Systems Hardware User Guide*. For regulatory and safety information for ekspert ultraLC 110 HTC systems, refer to the *HTC PAL / PAL HTC-**xt** User Manual: Installation and Operation.* For regulatory and safety information for ekspert ultraLC 110 HTS systems, refer to the *HTS PAL / HTX PAL, PAL HTS-**xt** / PAL HTX-**xt** User Manual: Installation and Operation*

Note: If the site preparation tasks are not complete when the AB SCIEX Field Service Employee (FSE) arrives, the scheduled installation will be postponed.

Customer Site Planner Responsibilities

- Select the desired configuration, and verify that adequate space is available. Refer to Site Layout Requirements on page 13.
- Provide all required electrical receptacles. Refer to Electrical Requirements on page 15.
- Provide the required laboratory ventilation. Refer to Ventilation Requirements on page 16.
- Provide a printer and the required software. Refer to Computer and Software Requirements on page 16.
- Verify that the requirements for the operating environment are met. Refer to Environmental Requirements on page 17.
- Provide the required solutions and laboratory equipment required to complete the installation. Refer to Customer Supplied Reagents and Equipment on page 17.
- Complete the checklist in Site Planning Checklist on page 9 and return it to the Field Service Employee (FSE).

  Note: The FSE will follow up if the checklist is not received prior to the scheduled installation date.

FSE Responsibilities

- Review the checklist and discuss outstanding issues with the site planner.
- Supply all fittings, plugs, and cables required to connect the LC system to the electrical receptacles.
- Set up ekspert™ ultraLC equipment sold and supported by AB SCIEX.
- Test the system to the specifications in the *Data Log*.

During Installation

The FSE unpacks the system, sets up the system, and then confirms its operation. After the system is set up, the FSE performs installation tests.

Technical Support

AB SCIEX and its representatives maintain a staff of fully-trained service and technical specialists located throughout the world. They can answer questions about the system or any technical issues that may arise. For more information, visit the web site at www.absciex.com.

Customer Information

Organization			
Address			
City			
Country		ZIP/Postal code	
Telephone #		Fax #	
Site planner contact name			
E-mail address			

Requirements

Table 2-1 Site Planning Checklist

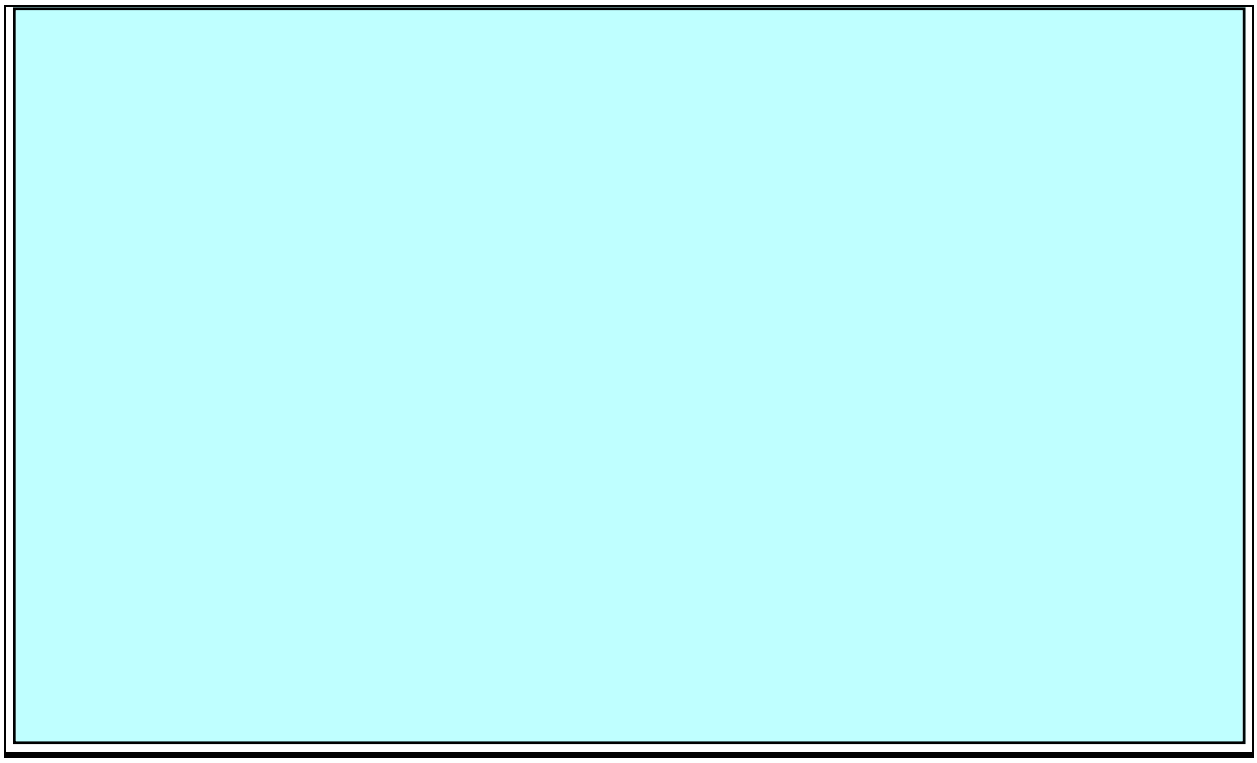
Requirements	Complete
The site is not designated as BioSafety Level 3 (BSL-3) or BSL-4.	
Site Layout Requirements Refer to Site Layout Requirements on page 13.	
The installation location can accommodate the equipment dimensions. If the requirements cannot be met, contact the FSE.	
Electrical Requirements Refer to Electrical Requirements on page 15.	
An electrical outlet is provided for each component of the system: autosampler, pump A, pump B, and (optionally) the column oven.	
The mains supply includes a correctly installed protective earth conductor.	
Ventilation and Waste Collection Requirements Refer to Ventilation Requirements on page 16.	
Installation of plumbing and ventilation fixtures complies with local biohazard regulations and safety standards.	
Ventilation of the laboratory environment in which the mass spectrometer will be used complies with local regulations, and the air exchange rate is appropriate for the work performed.	

Table 2-1 Site Planning Checklist (Continued)

Requirements	Complete
Computer and Software Requirements	
Refer to Computer and Software Requirements on page 16.	
A network printer or a dedicated printer and necessary print drivers are available.	
The Analyst® 1.6 software, or a later version, is installed on the acquisition computer.	
An account with Administrator privileges is available for the FSE.	
Environmental Requirements	
Refer to Environmental Requirements on page 17.	
The ambient temperature and relative humidity meet the requirements for the individual components.	
Materials Required for Routine Operation	
Refer to Customer Supplied Reagents and Equipment on page 17.	
All required LC equipment and supplies are available.	
Consumables and reagents for the Functional Tests are available.	
Product Familiarization	
Obtain and review system documentation. Go to www.eksigent.com.	

Comments

Exceptions



Signoff

Complete the checklist and return it to the FSE email specified below on or before the Return date.

Site Planner contact name		Completion date (yyyy-mm-dd)	
I acknowledge that all installation requirements, as specified in this document, have been met.			
FSE name		Return date (yyyy-mm-dd)	
FSE e-mail			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Note: The site must not be designated BioSafety Level 3 (BSL-3) or BSL-4. AB SCIEX does not install, service, or repair equipment in areas designated BSL-3 or BSL-4.

Site Layout Requirements

Return to checklist.

Table A-1 System Footprint and Weight

System	Width	Length	Weight	
			Without Cooling	With Cooling
ekspert ultraLC 110 Configurations				
ekspert ultraLC 110 system	300 mm (12 inches)	500 mm (20 inches)	51 kg (112 lb)	53 kg (116.5 lb)
ekspert ultraLC 110 system with an uncooled column oven	475 mm (19 inches)	500 mm (20 inches)	63.5 kg (139.5 lb)	69 kg (151.5 lb)
ekspert ultraLC 110 system with a cooled column oven	475 mm (19 inches)	500 mm (20 inches)	67 kg (147 lb)	69 kg (151.5 lb)
ekspert ultraLC 110 HTC Configurations				
ekspert ultraLC 110 HTC system	855 mm (37.5 inches)	500 mm (20 inches)	N/A	48.85 kg (107.7 lb)
ekspert ultraLC 110-XL system with an uncooled column oven	1030 mm (46.5 inches)	500 mm (20 inches)	N/A	61.35 kg (135.3 lb)
ekspert ultraLC 110-XL system with an cooled column oven	1030 mm (46.5 inches)	500 mm (20 inches)	N/A	64.85 kg (143 lb)
ekspert ultraLC 110 HTS Configurations				
ekspert ultraLC 110 HTC system	1138 mm (48.6 inches)	500 mm (20 inches)	N/A	50.85 kg (112.1 lb)
ekspert ultraLC 110-XL system with an uncooled column oven	1313 mm (57.6 inches)	500 mm (20 inches)	N/A	63.35 kg (139.7 lb)
ekspert ultraLC 110-XL system with an cooled column oven	1313 mm (57.6 inches)	500 mm (20 inches)	N/A	66.85 kg (147.4 lb)
ekspert ultraLC 110-XL Configurations				
ekspert ultraLC 110-XL system	330 mm (13 inches)	500 mm (20 inches)	58 kg (155 lb)	62 kg (136 lb)
ekspert ultraLC 110-XL system with an uncooled column oven	505 mm (20 inches)	500 mm (20 inches)	70.5 kg (155 lb)	74.5 kg (163.5 lb)

Table A-1 System Footprint and Weight (Continued)

System	Width	Length	Weight	
			Without Cooling	With Cooling
ekspert ultraLC 110-XL system with an cooled column oven	505 mm (20 inches)	500 mm (20 inches)	74 kg (162.5 lb)	78 kg (171 lb)

Table A-2 Weights and Dimensions of Individual Components

Equipment	Height	Width	Length	Weight
ultraLC 110 autosampler	510 mm (20 inches)	300 mm (12 inches)	360 mm (14 inches)	19 kg (42 lb)
ultraLC 110 autosampler with cooling option	575 mm (27 inches)	300 mm (12 inches)	360 mm (14 inches)	21 kg (46.5 lb)
ultraLC 110 HTC autosampler with the cooled sample compartment	648 mm (25.5 inches)	545 mm (21.5 inches)	385 mm (15.2 inches)	16.85 kg (37.1 lb)
ultraLC 110 HTS autosampler with the cooled sample compartment	648 mm (25.5 inches)	828 mm (32.6 inches)	385 mm (15.2 inches)	18.85 kg (41.6 lb)
ultraLC 110-XL autosampler	540 mm (21 inches)	330 mm (13 inches)	480 mm (19 inches)	26 kg (57.5 lb)
ultraLC 110-XL autosampler with cooling option	620 mm (24.5 inches)	330 mm (13 inches)	480 mm (19 inches)	30 kg (66 lb)
LC pump	120 mm (5 inches)	300 mm (12 inches)	500 mm (20 inches)	16 kg (35 lb)
Column oven (optional)	600 mm (24 inches)	170 mm (7 inches)	345 mm (13.5 inches)	Without cooling: 12.5 kg (27.5 lb) With cooling: 16 kg (35 lb)

Note: Specifications for individual components does not include optional accessories.

Table A-3 Distances

From	To	Maximum Distance
Computer	Autosampler	2.4 m

Note: For optimum performance, make sure that the column outlet is as close to the ion source as possible.

Electrical Requirements

Return to checklist.

WARNING! Electrical Shock Hazard: Use only qualified personnel for the installation of all electrical supplies and fixtures, and make sure that all installations adhere to local bylaws.

Power surges, line spikes, and transient energy sources can impede instrument operation. Ensure that the instrument's electrical supply is adequately protected from these conditions and includes a correctly installed protective earth conductor. A qualified electrician must install or inspect the earth conductor before the system components are connected.

The system requires four electrical outlets, one each for:

- Autosampler
- Pump A
- Pump B
- Column oven (optional)

The ultraLC 110 HTC and HTS autosamplers require an additional outlet for the cooled sample compartment.

Note: The AC mains supply cables provided with the ultraLC 110 HTC and HTC autosamplers and their cooled sample compartment are 3 m (118 inches) in length. The cables provided with the other system modules are 2.5 m (99 inches) in length. If the power cables are too far from the AC mains supply outlet, the customer must supply extension cords.

Protective Earth Conductor

Return to checklist.

The mains supply must include a correctly installed protective earth conductor that must be installed or checked by a qualified electrician before connecting the LC system components.

WARNING! Electrical Shock Hazard: Do not intentionally interrupt the protective conductor. Any interruption of the protective conductor is likely to make the installation dangerous.

System Electrical Specifications

Table A-4 contains the electrical specifications for the HPLC system components.

Note: Specifications are subject to change without notice. Contact your FSE for the latest specifications.

Table A-4 Electrical Specifications

System	Power Consumption	Nominal Input Voltage	Frequency
ultraLC 110 autosampler	200 VA	95 V to 240 V	50 Hz or 60 Hz
ultraLC 110 HTC autosampler	150 W	100 V to 240 V	50 Hz or 60 Hz
ultraLC 110 HTS autosampler	150 W	100 V to 240 V	50 Hz or 60 Hz
ultraLC 110-XL autosampler	450 VA	100 V to 240 V ± 10%	50 Hz or 60 Hz
Pump	150 VA	100 V to 240 V	50 Hz or 60 Hz
Column oven	550 VA (maximum)	115 V to 230 V	50 Hz or 60 Hz

Ventilation Requirements

Return to checklist.

WARNING! Potential Radiation Hazard, Biohazard, or Toxic Chemical Hazard: Make sure that the laboratory is equipped with adequate ventilation to maintain solvent vapor within local occupational exposure limits. The use of an organic solvent as part of a rinse protocol may release solvent vapor in excess of occupational exposure limits.

WARNING! Potential Radiation Hazard, Biohazard, or Toxic Chemical Hazard: Use only qualified personnel for the installation of plumbing and ventilation fixtures, and make sure that all installations follow local bylaws and biohazard regulations.

The venting of fumes and disposal of waste must be in accordance with all federal, state, provincial, and local health and safety regulations, and that the air exchange rate is appropriate for the work performed.

Note: In the United States, OSHA 29 CFR Part 1910-1450 requires 4 to 12 air changes per hour in laboratories.

Computer and Software Requirements

Return to checklist.

- A network or dedicated printer, including any necessary print drivers.
- The ekspert™ ultraLC software requires the Analyst® 1.6 software, or a later version, to be installed on the acquisition computer.

  For requirements for the acquisition computer, see the *Installation Guide* for the Analyst software.
- The FSE must be logged in to the acquisition computer with Administrator privileges to install the ekspert ultraLC software.

Environmental Requirements

Return to checklist.

Table A-5 Requirements and Specifications

System	Ambient Temperature	Relative Humidity (non-condensing)	Altitude	Noise Level
ultraLC 110 autosampler	10°C to 40°C (50°F to 104°F)	20% to 80%	To 2000 m	70 db
ultraLC 110 HTC autosampler	4°C to 40°C (39°F to 104°F)	75% (maximum)	To 3000 m	62 db
ultraLC 110 HTS autosampler	4°C to 40°C (39°F to 104°F)	75% (maximum)	To 3000 m	62 db
ultraLC 110-XL autosampler	10°C to 40°C (50°F to 104°F)	20% to 80%	To 2000 m	70 db
Pump	5°C to 40°C (41°F to 104°F)	20% to 80%	To 2000 m	70 db
Column oven	5°C to 40°C (41°F to 104°F)	30% to 80%	To 2000 m	N/A

Customer Supplied Reagents and Equipment

Return to checklist.

Laboratory-Supplied Requirements

General equipment and consumables

- Disposable gloves
- Pipetting accessories (pipettors and tips)
- PEEK tubing, 0.005-inch i.d., 1/16-inch o.d. (red); 4 meters or more, and cutter

Glassware

- Measuring cylinders, 100 mL, 1000 mL
- HPLC bottles, 1000 mL
- Glass autosampler vials, 1 mL, 1.5 mL, or 2 mL
- Caps for all autosampler vials

Consumables and Reagents

- Ammonium formate (minimum 10 g)
- MS-grade methanol
- HPLC-grade water

- MS-grade isopropanol
- MS-grade acetonitrile

AB SCIEX Supplied Requirements

The following consumables are required for the HPLC MS system test and the Cliquid® System Suitability Test. They are supplied with Cliquid:

- Phenomenex 00B-4424-B0, Synergi 4 µm Fusion-RP 80A 50 x 2 mm columns (PN 4376878). Required for use with the Cliquid software, and provided when the Cliquid software is purchased with an AB SCIEX mass spectrometer.
- Triazine Standard Mixture (AB SCIEX PN 4376887). Shipped separately from the system.