

HIGH-PERFORMANCE LAMBDA SPECTROMETERS



Getting Started Guide

Release History

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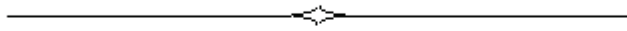
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Introduction

About this Manual

This Getting Started Guide contains the safety information for your instrument and the basic information you will need to get started with your instrument. It also includes the installation details for a Lambda spectrometer (usually performed by a PerkinElmer Service Engineer). For detailed information on your instrument, maintenance and troubleshooting procedures, see the *High-Performance Lambda Spectrometers Hardware Guide* (L6050008) on the *High-Performance Lambda Spectrometers User Manuals CD* (L6050009).

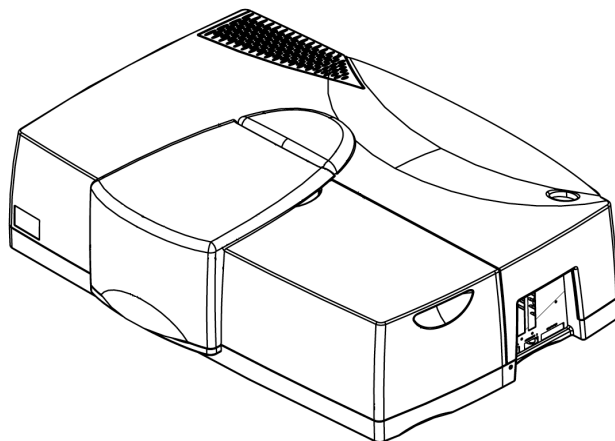


Figure 1 High-performance Lambda Spectrometer

Conventions used in this manual

Normal text is used to provide information and instructions.

Bold text refers to text that is displayed on the screen.

UPPERCASE text, for example ENTER or ALT, refers to keys on the PC keyboard. '+' is used to show that you have to press two keys at the same time, for example, ALT+F.

All eight digit numbers are PerkinElmer part numbers unless stated otherwise.

Unless stated otherwise, High-performance Lambda spectrometer refers to the Lambda 650, 750, 850, 950, 1050 WB or 1050 NB spectrometer, as applicable.

Notes, cautions and warnings

Three terms, in the following standard formats, are also used to highlight special circumstances and warnings.

NOTE: A note indicates additional, significant information that is provided with some procedures.

CAUTION	<i>We use the term CAUTION to inform you about situations that could result in serious damage to the instrument or other equipment. Details about these circumstances are in a box like this one.</i>
D	Caution (Achtung) <i>Bedeutet, daß die genannte Anleitung genau befolgt werden muß, um einen Geräteschaden zu vermeiden.</i>
DK	Caution (Bemærk) <i>Dette betyder, at den nævnte vejledning skal overholdes nøje for at undgå en beskadigelse af apparatet.</i>
E	Caution (Advertencia) <i>Utilizamos el término CAUTION (ADVERTENCIA) para advertir sobre situaciones que pueden provocar averías graves en este equipo o en otros. En recuadros éste se proporciona información sobre este tipo de circunstancias.</i>
F	Caution (Attention) <i>Nous utilisons le terme CAUTION (ATTENTION) pour signaler les situations susceptibles de provoquer de graves détériorations de l'instrument ou d'autre matériel. Les détails sur ces circonstances figurent dans un encadré semblable à celui-ci.</i>
I	Caution (Attenzione) <i>Con il termine CAUTION (ATTENZIONE) vengono segnalate situazioni che potrebbero arrecare gravi danni allo strumento o ad altra apparecchiatura. Troverete informazioni su tali circostanze in un riquadro come questo.</i>
NL	Caution (Opgelet) <i>Betekent dat de genoemde handleiding nauwkeurig moet worden opgevolgd, om beschadiging van het instrument te voorkomen.</i>
P	Caution (Atenção) <i>Significa que a instrução referida tem de ser respeitada para evitar a danificação do aparelho.</i>



WARNING

We use the term **WARNING** to inform you about situations that could result in **personal injury** to yourself or other persons. Details about these circumstances are in a box like this one.

D

Warning (Warnung)

Bedeutet, daß es bei Nichtbeachten der genannten Anweisung zu einer **Verletzung** des Benutzers kommen kann.

DK

Warning (Advarsel)

Betyder, at brugeren kan blive **kvæstet**, hvis anvisningen ikke overholdes.

E

Warning (Peligro)

Utilizamos el término **WARNING (PELIGRO)** para informarle sobre situaciones que pueden provocar **daños personales** a usted o a otras personas. En los recuadros como éste se proporciona información sobre este tipo de circunstancias.

F

Warning (Danger)

Nous utilisons la formule **WARNING (DANGER)** pour avertir des situations pouvant occasionner des **dommages corporels** à l'utilisateur ou à d'autres personnes. Les détails sur ces circonstances sont données dans un encadré semblable à celui-ci.

I

Warning (Pericolo)

Con il termine **WARNING (PERICOLO)** vengono segnalate situazioni che potrebbero provocare **incidenti alle persone**. Troverete informazioni su tali circostanze in un riquadro come questo.

NL

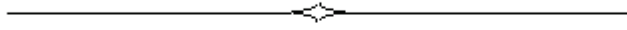
Warning (Waarschuwing)

Betekent dat, wanneer de genoemde aanwijzing niet in acht wordt genomen, dit kan leiden tot **verwondingen** van de gebruiker.

P

Warning (Aviso)

Significa que a não observância da instrução referida poderá causar um **ferimento** ao usuário.



Safety Practices

Overview

This chapter describes the general safety practices and precautions that must be observed when operating your high-performance Lambda spectrometer.

This advice is intended to supplement, not supersede, the normal safety codes in the user's country. It is also a supplement to the PerkinElmer standard Safety and Health Policy. The information provided does not cover every safety procedure that should be practiced. Ultimately, maintenance of a safe laboratory environment is the responsibility of the analyst and the analyst's organization.

Please consult all manuals and CDs supplied with your high-performance Lambda spectrometer and accessories before you start working with the instrument. Carefully read the safety information in this chapter and in the other manuals supplied. When setting up the instrument or performing analyses or maintenance procedures, strictly follow the instructions provided.

Precautions



WARNING

Be sure that all instrument operators read and understand the precautions listed below. It is advisable to post a copy of the precautions near or on the instrument itself.

The following precautions must be observed when using your high-performance Lambda spectrometer:

- Connect the instrument to a correctly installed line power outlet that has a protective conductor (earth/ground).
- Do not attempt to make internal adjustments or replacements except as directed in this handbook.
- Do not operate the instrument with any covers or parts removed.
- Servicing should only be carried out by a PerkinElmer Service Engineer or a similarly authorized and trained person.
- Disconnect the instrument from all voltage sources before opening it for any adjustment, replacement, maintenance, or repair. If, afterwards, the opened instrument must be operated for further adjustment, maintenance or repair, this must only be done by a skilled person who is aware of the hazard involved.
- Use fuses with the required current rating only and of the specified type for replacement.
- Do not use makeshift fuses or short-circuit the fuse holders.



WARNING

If the equipment is used in a manner not specified herein the protection provided by the equipment may be impaired.

General Operating Conditions

Only use the high-performance Lambda spectrometer indoors and under the following conditions:

Temperature 15 °C to 35 °C

Relative humidity 80% maximum (non-condensing)

If possible, avoid any adjustment, maintenance or repair of the opened, operating instrument. If any adjustment, maintenance or repair of the opened instrument is necessary, this must be done by a skilled person who is aware of the hazard involved.

Whenever it is likely that the high-performance Lambda spectrometer is unsafe, make it inoperative. The high-performance Lambda spectrometer may be unsafe if it:

- shows visible damage;
- fails to perform the intended measurement;
- has been subjected to prolonged storage in unfavorable conditions;
- has been subjected to severe transport stresses.

Environmental Conditions

The instrument has been designed to be safe under the following conditions:

- Indoor use;
- Altitude up to 2000 m;
- Ambient temperatures of 5 °C to 40 °C;
- A maximum ambient relative humidity of 80% for temperatures up to 31 °C, decreasing linearly to 50% relative humidity at 40 °C;
- Mains fluctuations not exceeding $\pm 10\%$ of the nominal voltage.



WARNING

This instrument is not designed for operation in an explosive atmosphere.

Other Environmental Conditions

Chemicals

Use, store, and dispose of chemicals that you require for your analyses in accordance with the manufacturer's recommendations and local safety regulations.



WARNING

Hazardous Chemicals

Some chemicals used with this instrument may be hazardous or may become hazardous after completion of an analysis.

The responsible body (for example, the Laboratory Manager) must take the necessary precautions to ensure that the surrounding workplace and instrument operators are not exposed to hazardous levels of toxic substances (chemical or biological) as defined in the applicable Material Safety Data Sheets (MSDS) or OSHA, ACGIH, or COSHH documents.

Venting for fumes and disposal of waste must be in accordance with all national, state and local health and safety regulations and laws.

OSHA: Occupational Safety and Health Administration (U.S.A.)

ACGIH: American Conference of Governmental Industrial Hygienists (U.S.A)

COSHH: Control of Substances Hazardous to Health (U.K.)

Toxic Fumes

If you are working with volatile solvents or toxic substances, you must provide an efficient laboratory ventilation system to remove vapors that may be produced when you are performing analyses.

Waste Disposal

Waste containers may contain corrosive or organic solutions and small amounts of the substances that were analyzed. If these materials are toxic, you may have to treat the collected effluent as hazardous waste. Refer to your local safety regulations for proper disposal procedures.

Deuterium lamps and other spectral lamps are maintained under reduced pressure. When you dispose of lamps that are defective or otherwise unusable, handle them correctly to minimize the implosion risk.

UV Radiation

Although the instrument is safe during normal use, you should be aware of the health hazards presented by ultraviolet radiation. The deuterium lamp in the instrument emits hazardous ultraviolet (UV) radiation. The radiation can cause serious damage to the eyes.

- When the deuterium (UV) lamp is illuminated, do not open the spectrophotometer covers unless specifically instructed to do so in the manual.
- Always wear UV-absorbing eye protection when the deuterium lamp is exposed.
- Never look directly into the deuterium lamp.

Ozone

The deuterium (UV) lamp generates ozone while it is illuminated. Exposure to ozone can result in severe irritation to the skin, eyes and upper respiratory system.

- ALWAYS ventilate the area surrounding the instrument such that the concentration of ozone does not exceed the maximum permissible level (0.1 parts per million (0.2 milligrams per cubic meter)). All venting must be to the outside air and never within the building.
- Switch off the UV lamp when the spectrometer is not in use. You can switch off the lamp using the Manual Control screen in UV WinLab by unchecking the lamp option and clicking **Apply**.

Compressed Gases

Handle cylinders of compressed gas with care, in accordance with local regulations.

We recommend that gas cylinders be located outside the laboratory and the gases led to the laboratory through approved gas supply lines.

Use only approved tubing, connectors, and regulators for gas supply lines.

Electrical Safety

The high-performance Lambda spectrometer has been designed and tested in accordance with PerkinElmer specifications and in accordance with the safety requirements of the International Electrotechnical Commission (IEC). The high-performance Lambda spectrometer conforms to IEC 61010-1 (Safety Requirements for electrical equipment for measurement, control and laboratory use) as it applies to IEC Class 1 (earthed) appliances and therefore meets the requirements of the low-voltage EC directive 2006/95/EC.

This instrument is also certified by the Canadian Standards Association for safety of laboratory equipment.

The instrument has been designed to protect the operator from potential electrical hazards. This section describes some recommended electrical safety practices.



Electrical Hazard

Any interruption of the protective conductor inside or outside the instrument or disconnection of the protective conductor (earth/ground) terminal is likely to make the instrument dangerous.

Intentional interruption is prohibited.

Lethal Voltages are Present In the Instrument:

- *Even with the power switch OFF, line power voltages can still be present within the instrument.*
- *When the instrument is connected to line power, terminals may be live, and opening covers or removing parts (except those to which access can be gained without the use of a tool) is likely to expose live parts.*
- *Capacitors inside the instrument may still be charged even if the instrument has been disconnected from all voltage sources.*

Electrical Safety Issues

To ensure satisfactory and safe operation of the instrument, it is essential that the green/yellow lead of the line power cord is connected to true electrical earth (ground).

If any part of the instrument is not installed by a PerkinElmer Service Engineer, make sure that the line power plug is wired correctly:

Terminal	Cord Lead Colors	
	International	USA
Live	Brown	Black
Neutral	Blue	White
Protective Conductor (earth/ground)	Green/Yellow	Green

NOTE: The instrument must always be positioned so that it can be easily disconnected from the power supply.

EMC Compliance


EMC directive

This product has been designed and tested to meet the requirements of the EMC directive 2004/108/EC.




FCC rules and regulations

This product is classified as a digital device used exclusively as industrial, commercial, or medical test equipment. It is exempt from the technical standards specified in Part 15 of the FCC Rules and Regulations based on Section 15.103(c).

Warning Labels

 WARNING	<p><i>When this label is attached to an instrument it means refer to the manual.</i></p>
---	--

The following electrical warnings are shown on the rear of the instrument, as identified in Figure 2:

 Warning <i>To avoid electrical shock, disconnect power supply before changing fuse. Disconnect supply whenever cover is removed.</i>	FUSE(S) 100-240 VAC ~ 50/60 Hz 3.15 AMP TYPE T 250 V MAX POWER 250 VA
 Warning <i>Grounding circuit continuity is vital for safe operation of equipment. Never operate equipment with grounding conductor disconnected.</i>	 Warning <i>For protection against fire hazard, replace only with same type and rating of fuse.</i>

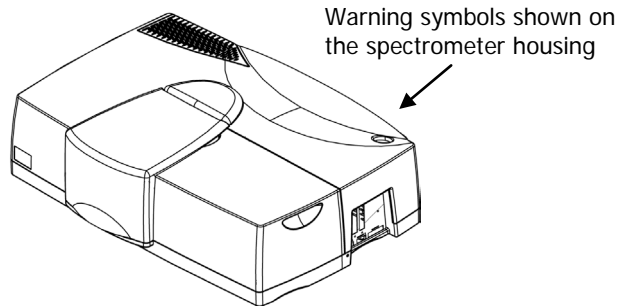


Figure 2 Warning labels on the high-performance Lambda spectrometer

The following warnings are shown on the inside of the lamp compartment, as identified in Figure 3:

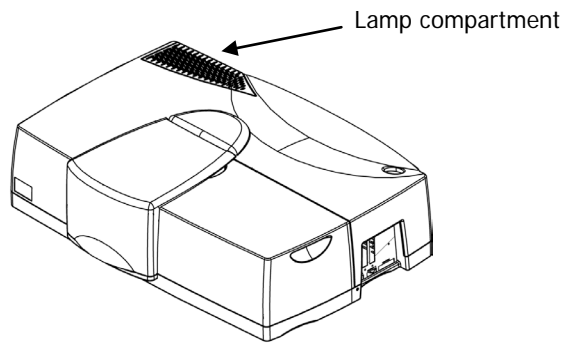



Figure 3 Position of the lamp compartment

Fuses

 <p>WARNING</p>	<p>Electrical hazard</p> <p><i>To prevent potential injury to yourself and damage to the instrument, switch OFF all instruments in the system and disconnect them from the line power supply before you alter, or make any new, electrical connections.</i></p>
---	--

The fuses are located in a fuse holder at the rear of the instrument, as shown in Figure 4.

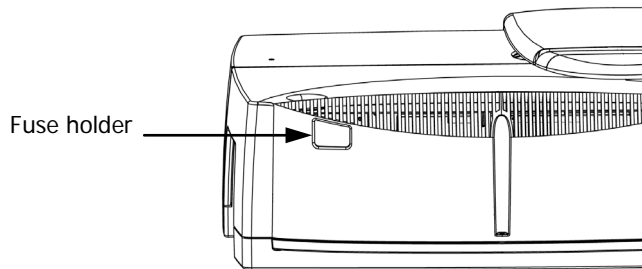


Figure 4 Rear view of the fuse holder

To change the fuses:

1. Switch off the instrument and remove the line power cord from the electrical supply.
2. Squeeze in and lever out the two lugs at each side of the fuse holder one at a time using a flat-headed screwdriver.
3. Gently pull out the fuse holder, as shown in Figure 5.

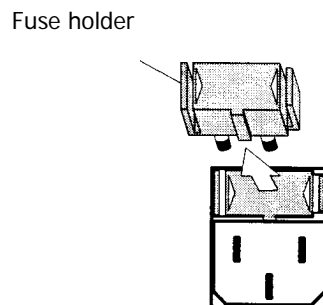


Figure 5 Removing the fuse holder

4. Replace the fuses with new ones of the same type and rating (3.15 A time delay).

NOTE: The module has two fuses and you should always replace both at the same time, even if only one blew, as the other may have been weakened.

5. Replace the fuse holder by aligning the lug at the bottom of the fuse holder with the slot in the socket and then pushing the holder into place.
You can hear a click as each lug snaps into place.

NOTE: If you use the correct fuses but the instrument still does not work correctly, or the fuses blow repeatedly, contact your PerkinElmer Service Engineer.

Moving the Instrument



WARNING

The instrument weighs about 77 kg. Four people are needed to lift the instrument.

CAUTION

If you must move the instrument any great distance, especially if the instrument may be subject to vibrations or jolts, contact your local PerkinElmer Service Engineer for guidance or advice.

If you are only moving the instrument within the laboratory or to a nearby laboratory then four people should lift the instrument using the handholds, as shown in Figure 6.

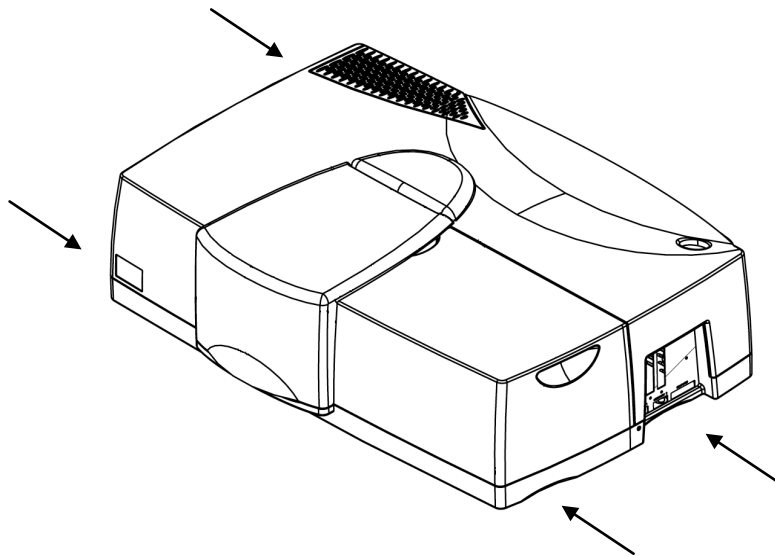


Figure 6 Position of handholds for lifting the instrument

System Description

Overview

The Lambda 650, 750, 850, 950 and 1050 spectrometers are versatile instruments operating in the ultraviolet and visible (UV/Vis) spectral ranges. Additionally, the Lambda 750, 950, and 1050 spectrometers operate in the near-infrared (NIR) region. The spectrometer features a double-beam, double-monochromator, ratio-recording optical system.

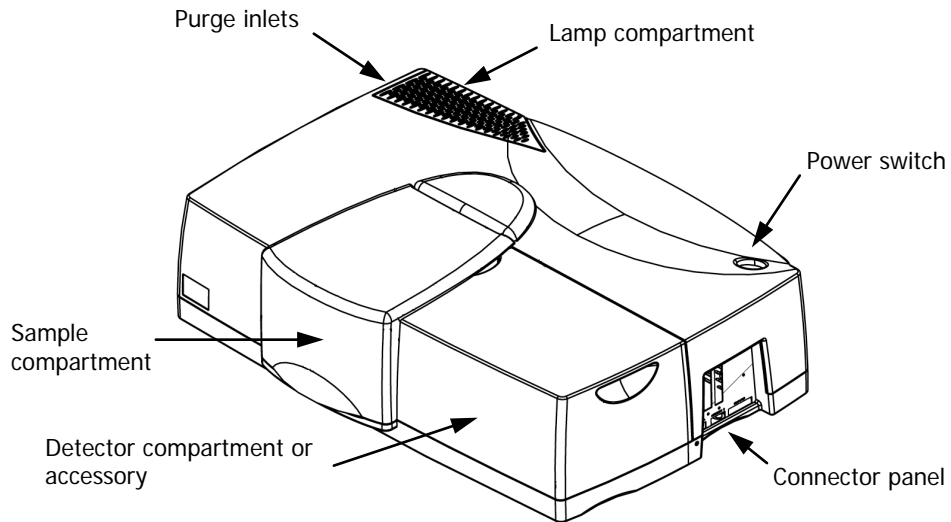


Figure 7 Main features of the high-performance Lambda spectrometer

Startup Procedure

NOTE: If you have purchased accessories, you may want to install these first before commencing with the Startup procedure. In this case, see the manual for the relevant accessory.

CAUTION

Do not turn power to the instrument on and off quickly as this may damage the power supply.

Wait at least 30 seconds before restarting.

1. Open the sample compartment cover.
2. Make sure that the beam paths are free from obstruction.
This means that no objects (for example, cables) project into the beam paths, no samples are in the sample compartment, and any accessories are properly installed.

NOTE: If the sample compartment is obstructed during the startup procedure, the spectrometer will not initialize correctly.

3. Close the sample compartment cover.
4. Switch on the power switch located at the top right hand corner of the instrument as shown in Figure 8.
The switch will light up when there is power to the instrument.

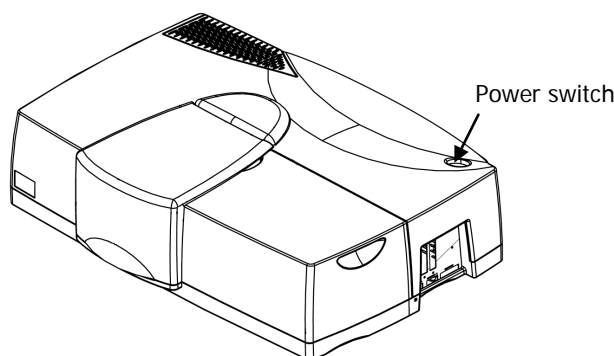


Figure 8 Power switch

5. Switch on any accessories.
6. Wait until all instrument initialization is complete.
This will take approximately three minutes after you switch the power on.
7. Start the UV WinLab software.

NOTE: We recommend that for optimal performance of the instrument you should leave the spectrometer switched on for approximately one hour to allow the lamps to warm up and stabilize before starting analysis.

Further Information

For detailed information on your instrument, maintenance and troubleshooting procedures see the *High-Performance Lambda Spectrometers Hardware Guide* (L6050008), which can be found on the *High-Performance Lambda Spectrometers User Manuals CD* (L6050009).

NOTE: The *High-Performance Lambda Spectrometers Hardware Guide* is shipped as a .pdf file and you will need *Adobe Reader* software to be able to view it. This software is available on the *Software Utilities* CD shipped with your instrument.

HTML Help

A full HTML Help system is provided with the UV WinLab software and can be accessed by selecting **Contents and Index** from the Help menu. A version of the help file in .pdf format, for viewing away from the PC, can be accessed by clicking on the User's Guide.pdf button on the toolbar in the Help window.

Installing your Lambda Spectrometer

Overview

NOTE: The first-time installation of your instrument will be carried out by a PerkinElmer Service Engineer. The following information is for reference only.

Site Requirements

For maximum stability and minimum maintenance, observe the following requirements when choosing where to site the instrument:

- A firm base free from vibration;
- Enough space around and underneath the instrument for efficient air circulation, as shown in Figure 9;
- A constant temperature between 15 °C and 35 °C;
- A constant relative humidity of between 20% and 80%;
- An atmosphere free from dust and corrosive fumes;
- Keep out of direct sunlight (illumination with diffuse lighting is ideal);
- A suitable source of electrical power in the vicinity of the instrument, in this case a proper earth-grounded 3-wire electrical outlet. The power requirements are 90–250 VAC, 50/60 Hz, 250 VA.

The standard sample compartment baseplates have drain holes in them to run off spilled liquids to the benchtop underneath the instrument. If required, place a sheet of thick filter paper under the instrument.

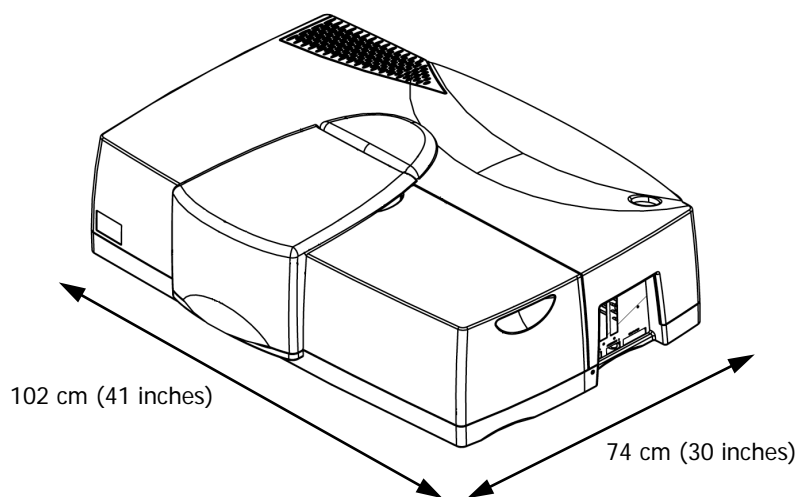


Figure 9 Space requirements

Unpacking

CAUTION

Take great care when installing your Lambda spectrometer, and follow the procedures described in this manual. If you require assistance, contact your local PerkinElmer Service Engineer.



WARNING

The instrument weighs about 77 kg. Four people are needed to lift the instrument.

1. Unpack the components carefully, using four people to lift the instrument itself. Keep the packing materials for possible future storage or reshipment.

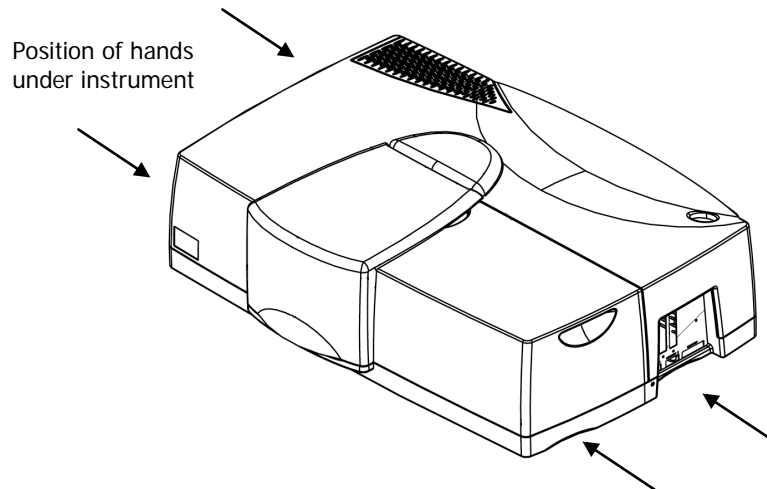


Figure 10 Lifting the instrument

2. Check that you have the following items:

Part No.	Description
L6100126/7	UV WinLab Software Kit (ES/Standard)
L6050009	<i>High-Performance Lambda Spectrometers User Manuals CD</i>
B0505071	2 Single-cell holders
B0142227	Screwdriver 5.5 mm
B0126972	Screwdriver 4.0 mm
L9001764	Long crosshead screwdriver
L9005024	Connecting cable, spectrometer to PC
B0507756	Spare fuse drawer
B0155573	Spare fuses (10 × 3.15 A T)
L6020277	2 × 10% manual attenuators
L6020276	2 × 1% manual attenuators
L6020376	2 × beam block assembly
N/A	Country specific power lead

NOTE: The two manual attenuators and the beam block assemblies are supplied only with a Lambda 650 or Lambda 750 spectrometer.

3. Examine the components for any signs of damage in shipment:

- Check the entire outer cabinet of the spectrometer for damage, and make sure that the terminals, fuse holders and so on are not damaged.
- Open and close the sample compartment cover, checking that it moves freely, without binding.
- Make sure that the compartment is free of dust or other foreign matter.

NOTE: In the event of damage or missing parts, file an immediate claim with the authorized carrier, and inform your PerkinElmer office or representative.

Connecting the System Components




Electrical Hazard

To prevent potential injury to yourself and damage to the instrument, switch OFF all instruments in the system and disconnect them from the line power supply before you alter, or make, any new electrical connections.

- The PC and the printer may be placed either side of the spectrometer, but must not be placed on top of the spectrometer.
- When placing instruments side by side, always leave a small gap between them and make sure that air can circulate freely over and under the system as well as behind it.
- Do not place anything on or under any of the components that could hinder air circulation.

Connecting to the PC

- ∅ The PC is connected using the connection marked COMPUTER or the USB connection marked  on the right side of the instrument, as shown in Figure 11.

NOTE: You can connect to the PC using either the USB connector or the 9-pin RS 232 connector. You must first install UV WinLab version 6.3 (or later). Do not use the Ethernet connector; this is only used for updating the firmware.

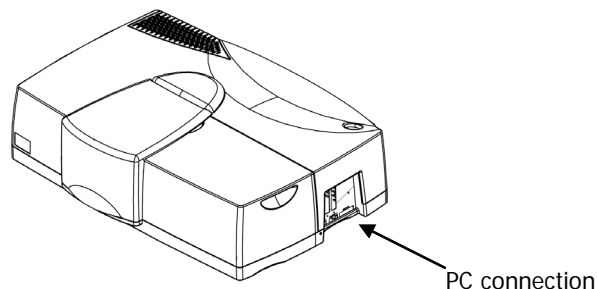


Figure 11 PC connection

NOTE: You can use an external printer for hard-copy printouts of the analytical results. The printer is connected via the PC.

NOTE: To install the software, refer to *Installing the UV WinLab Software* on page 35.

Connecting to the Line Power Supply



Electrical Hazard

To prevent potential injury to yourself and damage to the instrument, first make any electrical connections in the system before connecting to the line power supply.

The spectrometer automatically adjusts to the correct operating voltage. Before starting the instrument for the first time, make sure that the correct fuse is fitted to your line power supply.

- *If you have a different fuse, change it for the correct one.*
- *Do not connect the spectrometer to the line power supply if the wrong fuse is fitted.*

1. Make sure that the correct fuses are fitted in the holder at the rear of the spectrometer (see *Fuses* on page 22).

NOTE: The module has two fuses.

2. Make sure that the plug fitted to the line power cord provided with the spectrometer is suitable for your local electrical outlets.

If it is not, remove it and fit a plug conforming to the local regulations.

3. After all connections have been made between the various components of the system, make certain that all power switches are set to off, then connect the line cords to the electrical power supply.

The power switch is located at the top right-hand rear of the spectrometer.

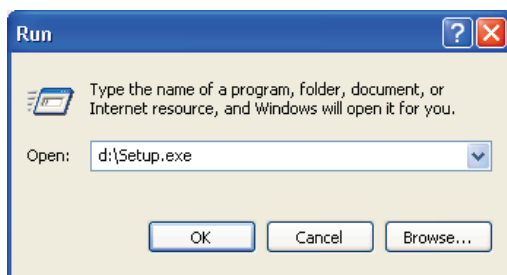
NOTE: To prevent interferences caused by earth loops when operating with ancillary instruments (for example, printers), connect all components of the system to the same phase of the electrical supply via a multisocket distributor.

Installing the UV WinLab Software

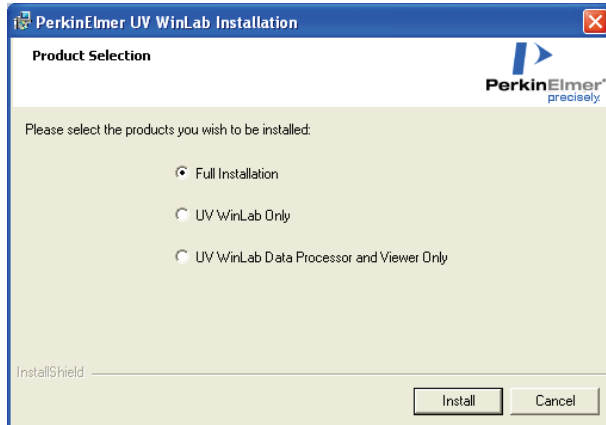
NOTE: For instructions on the installation and use of the Enhanced Security version of the UV WinLab software, see the *UV WinLab (ES) Administrator's Guide* (L6050012) provided with your software.

To install UV WinLab and/or UV WinLab Data Processor and Viewer (DPV):

1. Place your UV WinLab Software CD into your CD drive.
2. If the installation does not start automatically, select **Run** from the Start menu. The Run dialog is displayed.



3. Enter **d:\Setup.exe** and then click **OK**. Replace d:\ with the drive letter for your CD, as required. After the start-up picture, the Wizard is set up and the Product Selection page is displayed.



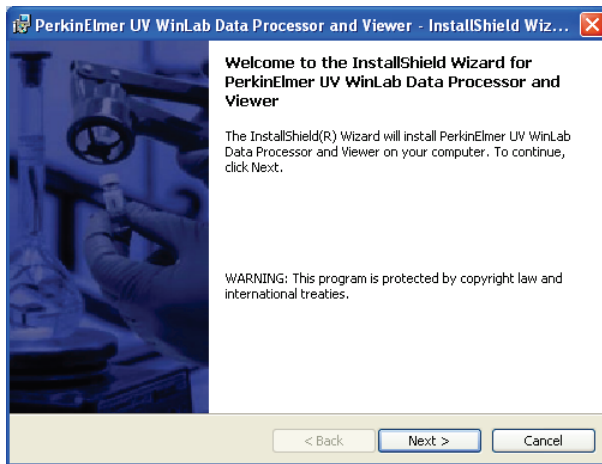
4. Select the products you wish to install and then click **Install**.

NOTE: If your PC is running the Windows 7 operating system AND you have another PerkinElmer application already installed, the **UV WinLab Only** option is not made available until after you have installed the UV WinLab DPV software.

If you want to install UV WinLab, you are advised to select the **Full Installation** option. Alternatively, you can select **UV WinLab Data Processor and Viewer Only** and then subsequently re-run the installation process to install UV WinLab.

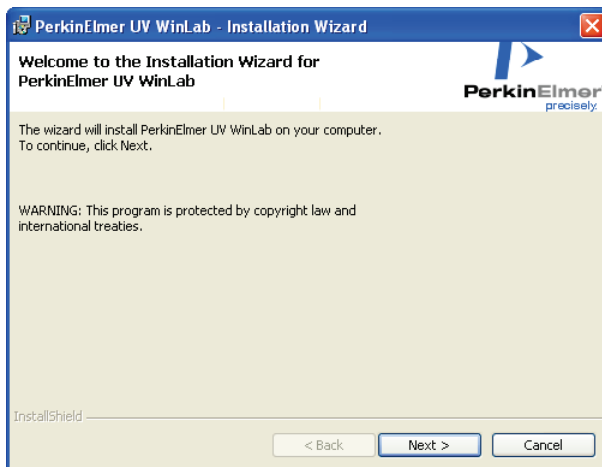
If you select **Full Installation**, both UV WinLab and UV WinLab DPV will be installed. In this case, UV WinLab DPV software is installed before the UV WinLab software.

The Welcome page for UV WinLab Data Processor and Viewer (DPV) is displayed. Go to Step 5.



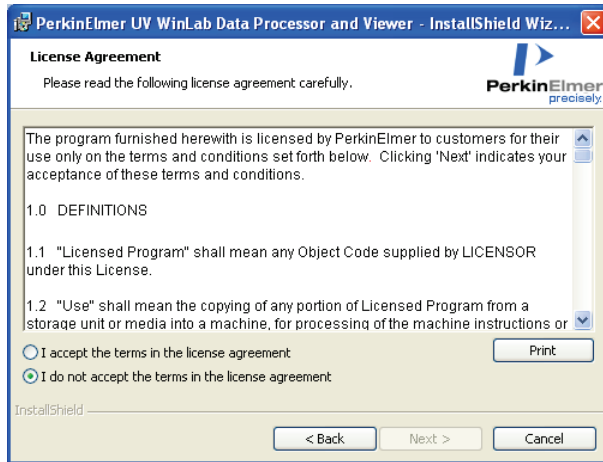
OR

If you select **UV WinLab Only**, the UV WinLab Welcome page is displayed. Go to Step 9.



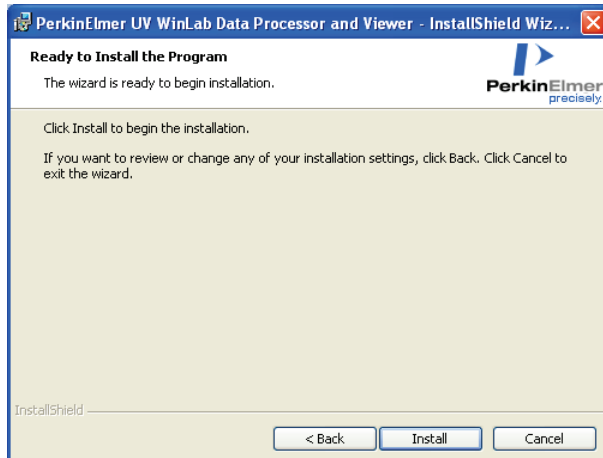
5. Click **Next**.

If your PC does not meet any of the requirements you will be informed of the problem and will need to correct it before the installation can be performed. Otherwise, the UV WinLab DPV License Agreement will be displayed.



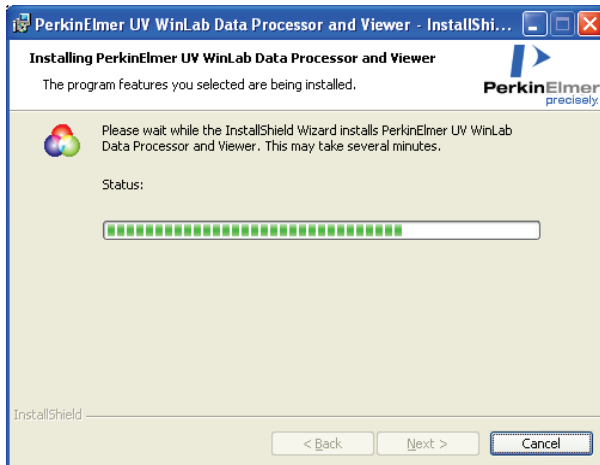
6. Read the License Agreement and if you accept the terms, select that option and then click **Next**.

The Ready to Install the Program page is displayed.

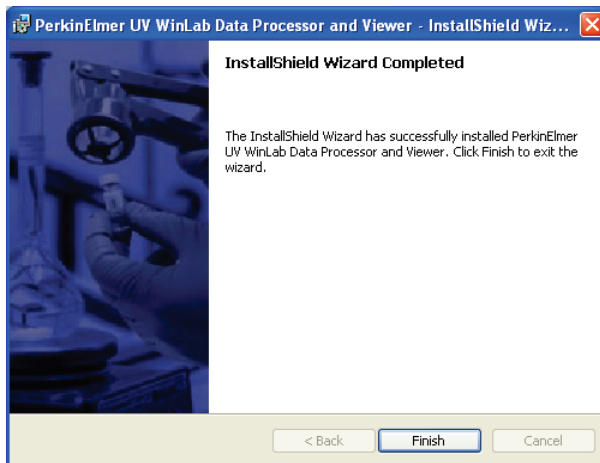


7. Click **Install**.

The Installation begins.

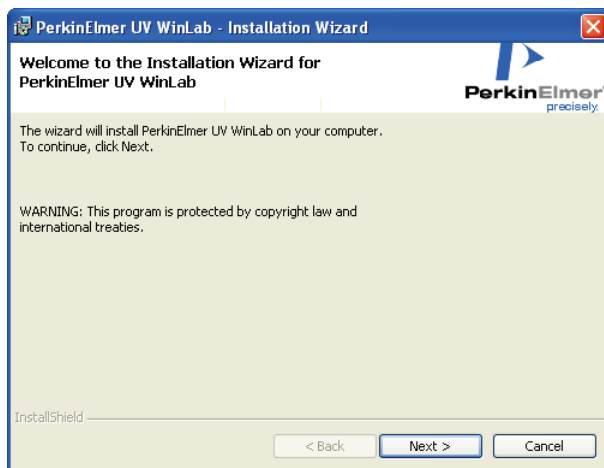


When the installation is complete a confirmation message is displayed.



8. Click **Finish**.

If you selected **Full Installation**, the UV WinLab installer will run. After a few seconds, the UV WinLab Welcome page is displayed. Go to Step 9.



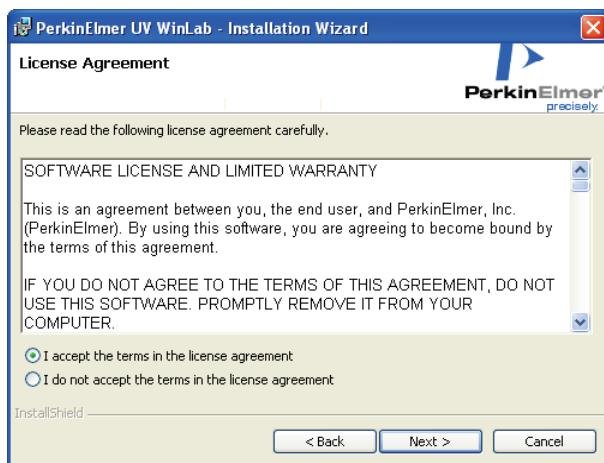
OR

If you selected **UV WinLab Data Processor and Viewer Only**, the installation is now complete.

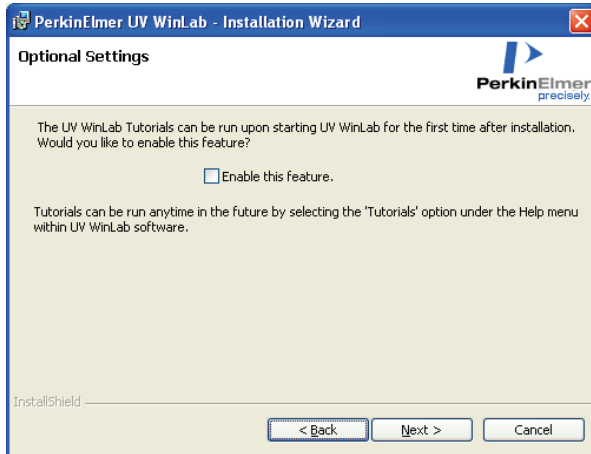
UV WinLab DPV is now ready to be used. You do not need to restart your computer.

9. Click **Next**.

If your PC does not meet any of the requirements you will be informed of the problem and will need to correct it before the installation can be performed. Otherwise, the UV WinLab License Agreement will be displayed.



10. Read the license and if you accept the terms, select that option and then click **Next**. The Optional Settings page is displayed.

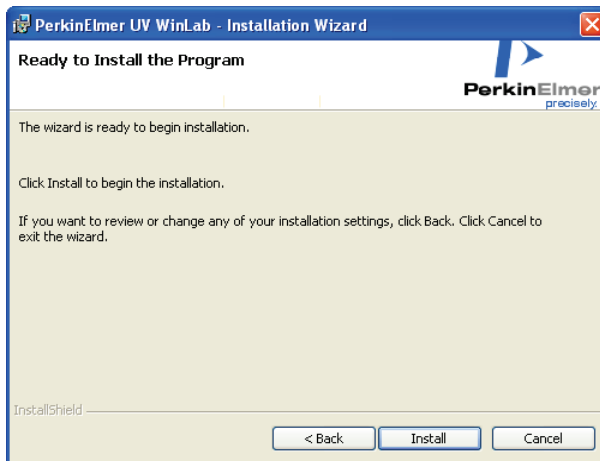


11. Select the check box if you wish the Getting Started Tutorial to start up the first time you run the UV WinLab software after installation. The option is disabled as default.

NOTE: The Getting Started Tutorial is designed to be a quick introduction to UV WinLab 6 to help you to start collecting your data as soon as possible. The Getting Started Tutorial and other tutorials covering a range of UV WinLab functions can be accessed at any time. Select **Tutorials** from the Help menu within the UV WinLab Explorer.

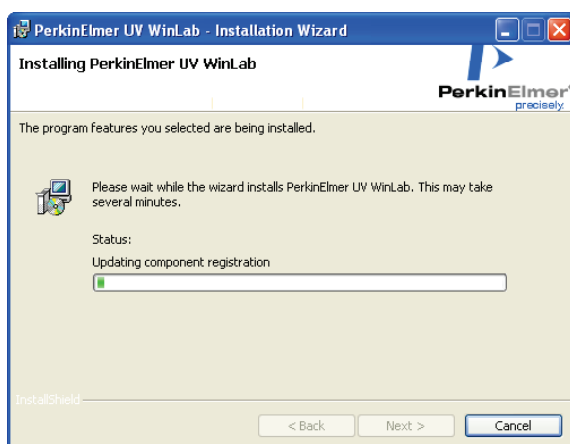
12. Click **Next**.

The Ready to Install the Program page is displayed.



13. Click **Install**.

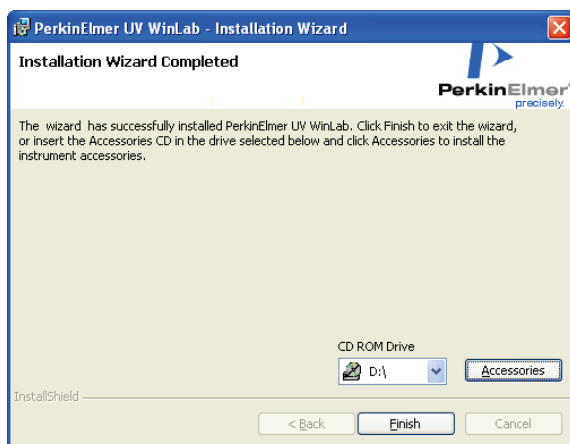
The Installation begins.



If you are upgrading UV WinLab, or installing the application onto a system with other PerkinElmer applications already installed, then the PerkinElmer Login dialog may be displayed. In this case, login as a PerkinElmer software Administrator. Use the Administrator User name and password that you use for the PerkinElmer software that is already installed on the PC.

NOTE: If password control in the security component is set to No Passwords Login, the PerkinElmer Login dialog does not include the password field. Select the Administrator from the User Name drop-down list.

When the installation is complete a confirmation message is displayed.

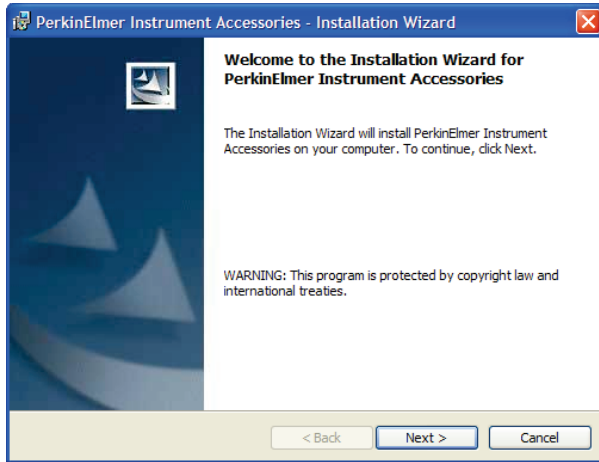


14. If you do not wish to install any accessories, go to Step 18.

OR

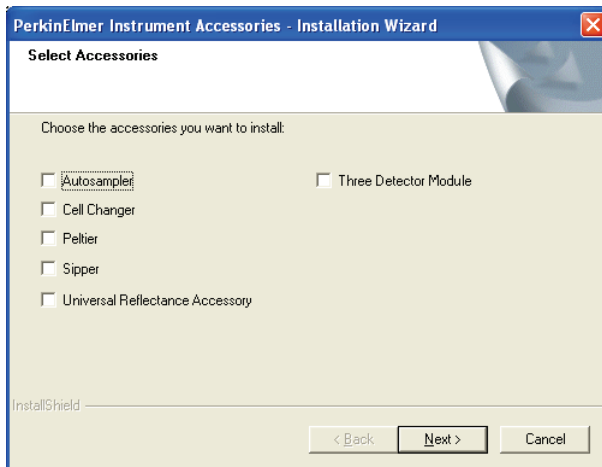
If you wish to install accessories, insert the accessory CD into the CD drive, select the drive from the drop-down list and then click **Accessories**.

The Accessory Wizard starts.



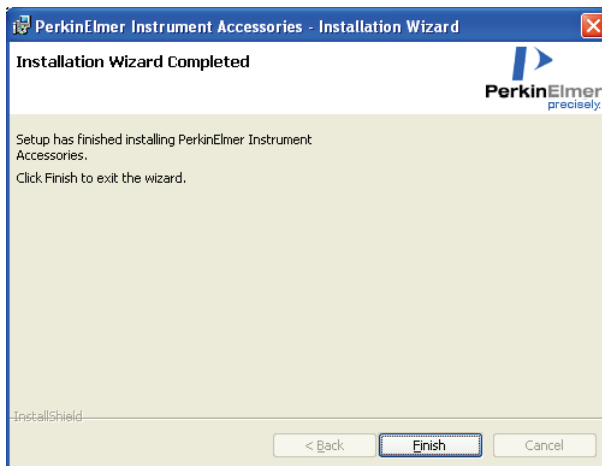
15. Click **Next**.

The Select Accessories page is displayed.



16. Select the accessories you want to install and then click **Next**.

Each of the selected accessories is installed in turn using the Accessory Wizard. Follow the instructions on the screen. When all the selected accessories have been installed, the Installation Wizard Completed dialog is displayed.

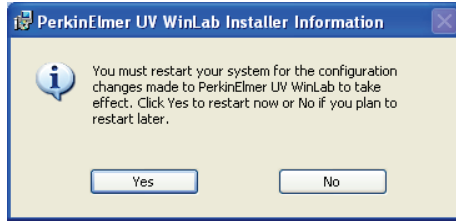


17. Click **Finish**.

The Installation Wizard Completed page is displayed.

18. Click **Finish**.

A message is displayed prompting you to restart your computer.



19. Click **Yes**.

The computer will restart. The installation is now complete.

NOTE: After installing the software, we recommend that you read and print the release notes (UV WinLab Release Notes.pdf), which can be found in the UV WinLab Documentation folder under UV WinLab, from the PerkinElmer Applications section of the Start menu. They contain important information that may not be in this Getting Started Guide or the on-screen Help.

NOTE: On starting the UV WinLab software, the Login dialog will be displayed. The default user name is **Analyst** and the password is **analyst**. We recommend that the default passwords are changed by the Administrator as soon as possible.

Setting up the Instrument in the Software

Before you can use your instrument with the UV WinLab software, you must set up the instrument in the UV WinLab Explorer.

NOTE: If your instrument has been installed by a PerkinElmer Service Engineer, you should not need to do this. You will require permission to configure instruments to add a new instrument.

1. With the instrument switched on, from the **Folder List** in the Explorer Window select **Instruments**.

The Instruments pane is displayed.

2. Double-click **Add New Instrument**, .

The New Instrument Wizard starts.

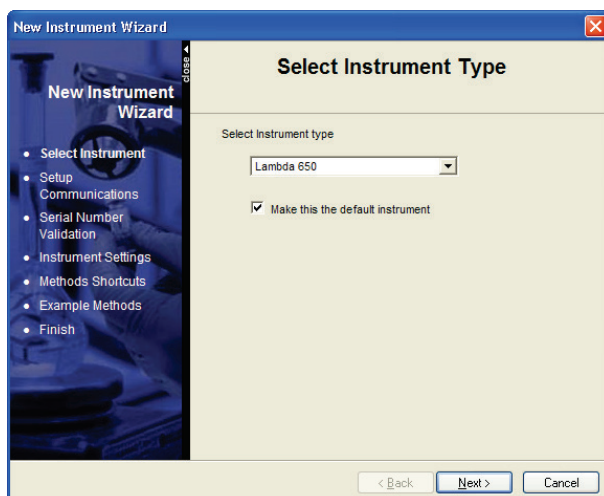


3. Select the **High performance UV/Vis/NIR instrument** from the **Choose the type of instrument** drop-down list.

The **Description** below the drop-down list details the available instruments for the selected type.

- Click **Next**.

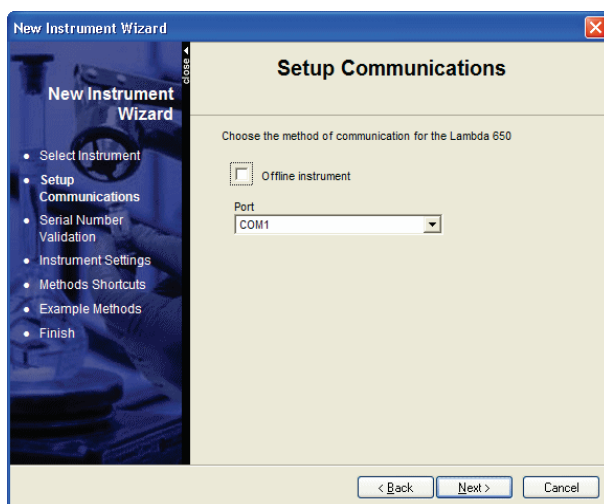
The Select Instrument Type page is displayed.



- Select the instrument type from the drop-down list and, if required, select **Make this the default instrument**.

- Click **Next**.

The Setup Communications page is displayed.



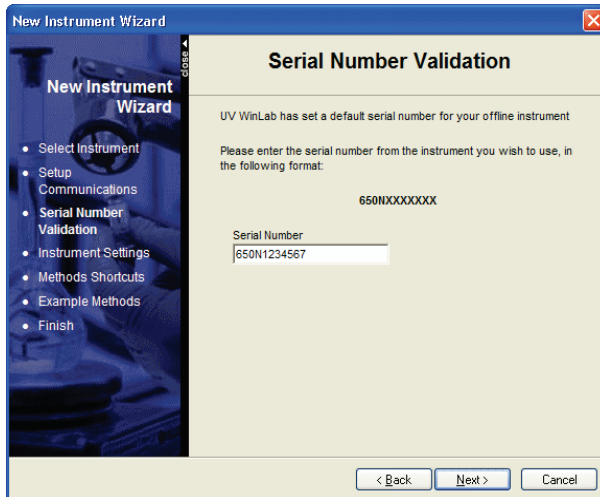
- From the drop-down list, select the **Port** the instrument is connected to.

In most cases, this will be the highest COM port number in the list, because when you connect the instrument for the first time, the software configures the next available port.

8. Click **Next**.

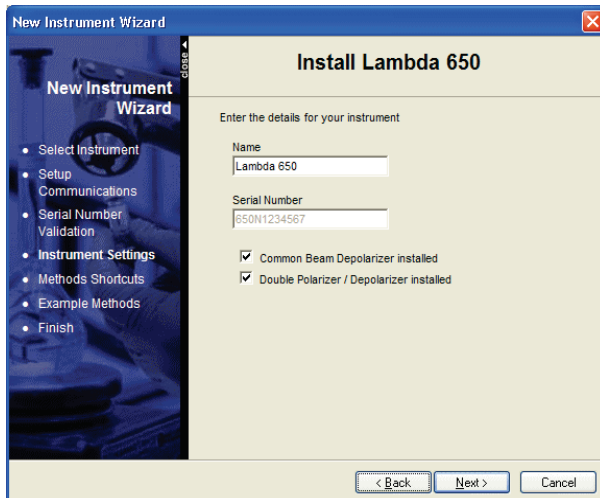
The software will automatically perform a check to see if the correct instrument is attached to the selected port and switched on, and will display a warning message if not.

You may then be asked to confirm the serial number of the instrument.



9. Check the serial number on the right-hand side of the instrument, where the PC connects to the instrument, correct it if necessary, and then click **Next**.

The Install Lambda page is displayed.



10. Enter a **Name** for the instrument.

The **Name** you enter will be displayed in the UV WinLab Explorer beneath the instrument icon. It can be edited in future if required.

11. Select whether a **Common Beam Depolarizer** and/or **Double Polarizer/Depolarizer** are installed.

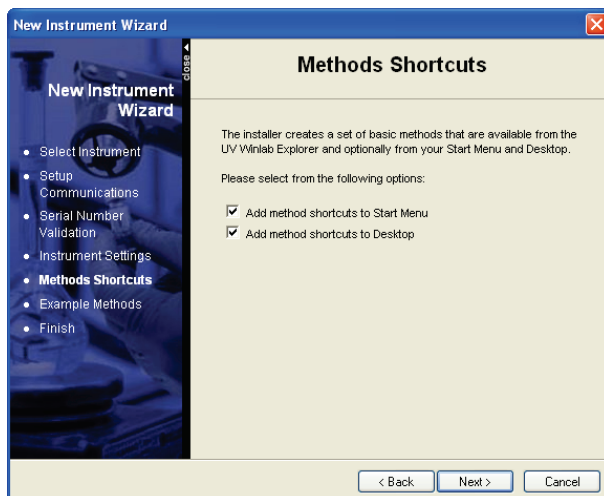
These can be selected if you are going to use them, even if they are not currently installed.

NOTE: If you are installing a Lambda 850, 950 or 1050 spectrometer, which have automatic attenuators, the option **Sample/Reference Beam Attenuators** option is also available. The Lambda 650 and Lambda 750 spectrometers have manual attenuators only.

NOTE: The Common Beam Depolarizer and Sample/Reference Attenuators must be enabled within the Instrument tab of the Instrument Properties dialog. Select **Enable common beam depolarizer** or **Enable Internal attenuators**. Do not alter the instrument properties unless you fully understand the implications of doing so.

12. Click **Next**.

The Methods Shortcuts page is displayed.



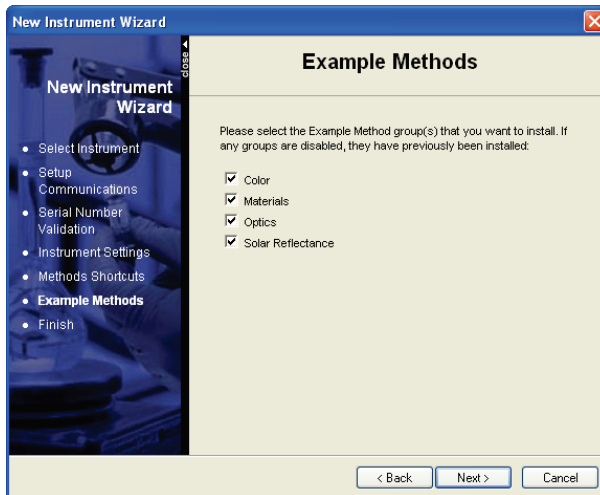
13. Select your shortcut options.

UV WinLab can install shortcuts on the Windows Start menu, on your Desktop and on the Shortcut bar in the UV WinLab Explorer Window, as required.

All options are selected by default.

14. Click **Next**.

The Example Methods page is displayed.



15. Select the group(s) of Example Methods that you would like to install.
The groups include: **Color**, **Materials**, **Optics** and **Solar Reflectance**.
16. Click **Next**.

The Finish page displays all the selected settings.



17. If all the settings are correct, click **Finish** to close the wizard and add the instrument.
The Wizard closes, a confirmation message that the instrument has been successfully installed is displayed, and the instrument is displayed in the UV WinLab Explorer.

OR

Click **Back** to return to the previous page(s) and amend the settings as required.

Calibrating the Instrument

Once the instrument is set up in the software you will need to calibrate it.

NOTE: Make sure that the instrument has been switched on for at least an hour before calibrating it.

1. From the Instruments pane of the UV WinLab Explorer Window, click the right mouse button on the new instrument and select **Calibrate**.
The Calibration Utility dialog is displayed.
This dialog displays the names of the routines, a description, the last calibration date of the routine, and whether the test is enabled.
2. Select the routines to be performed by the calibration.
There are three calibration routines available for the Lambda 650/850 spectrometer: **UV/Vis Wavelength**, which calibrates the UV/Vis wavelength range, **Slits**, and **Zero Percent T**, which calibrates the electronic offsets.
There are four calibration routines available for the Lambda 750/950/1050 spectrometer: **UV/Vis Wavelength**, which calibrates the UV/Vis wavelength range, **NIR Wavelength**, which calibrates the NIR wavelength range, **Slits**, and **Zero Percent T**, which calibrates the electronic offsets.
A check mark indicates the routine is selected and will be performed. The Zero Percent T calibration must be performed when you change the detector, but is not usually required at other times.
3. To view (and change) the settings for a particular routine, highlight the routine in the table and then click **Settings**.
The Settings dialog for the selected routine is displayed.

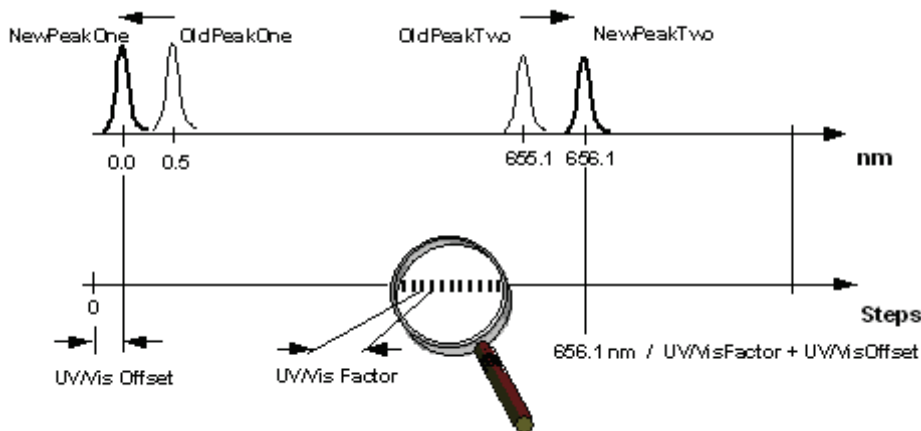
NOTE: **Settings** is not available for Slits or Zero Percent T.

4. Select the options for each calibration routine.

UV/Vis Wavelength:

- Select **Manual set**, **Manual set 1 peak**, **Manual set 2 peaks**, **Auto search 1 peak**, or **Auto search 2 peaks**.
- **Manual set** enables you to enter the **offset** and **factor** (without the need to determine the values in advance).
- **Manual set 1 peak** enables you to change the offset. A well known peak can be shifted to an exact wavelength by entering values of **Old Peak 1** and **New Peak 1**.
- **Manual set 2 peaks** enables you to change the offset and factor by specifying the old and new values of 2 well known peaks by entering values of **Old Peak 1**, **New Peak 1**, **Old Peak 2** and **New Peak 2**.
- **Auto search 1 peak** enables you to change the offset. The software performs an automatic search for the D₂ peak at 656.1 nm. The measured peak is then shifted to the exact wavelength.
- **Auto search 2 peaks** enables you to change the offset and factor. The software performs an automatic search for the D₂ peak at 656.1 nm and the peak at 0.0 nm. The measured peaks are then shifted to the exact wavelengths.

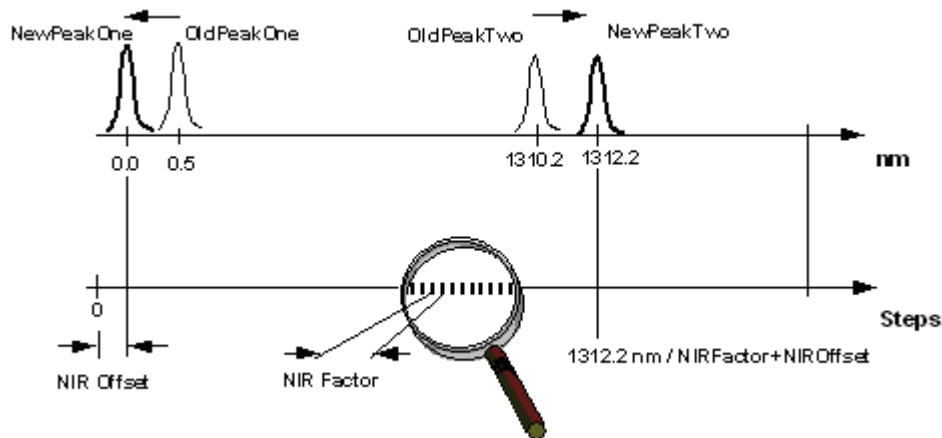
NOTE: Auto search 2 peaks is the default setting.



NIR Wavelength:

- Select **Manual set**, **Manual set 1 peak**, **Manual set 2 peaks**, **Auto search 1 peak**, or **Auto search 2 peaks**.
- **Manual set** enables you to enter the **offset** and **factor** (without the need to determine the values in advance).
- **Manual set 1 peak** enables you to change the offset. A well known peak can be shifted to an exact wavelength by entering values of **Old Peak 1** and **New Peak 1**.
- **Manual set 2 peaks** enables you to change the offset and factor by specifying the old and new values of 2 well known peaks by entering values of **Old Peak 1**, **New Peak 1**, **Old Peak 2** and **New Peak 2**.
- **Auto search 1 peak** enables you to change the offset. The software performs an automatic search for the D₂ peak at 1312.2 nm. The measured peak is then shifted to the exact wavelength.
- **Auto search 2 peaks** enables you to change the offset and factor. The software performs an automatic search for the D₂ peak at 1312.2 nm and the peak at 0.0 nm. The measured peaks are then shifted to the exact wavelengths.

NOTE: Auto search 2 peaks is the default setting.



Slits:

There are no user-defined settings in the Slits calibration.

Zero Percent T:

There are no user-defined settings in the Zero Percent T calibration.

5. Click **Calibrate**.

The calibrations are performed in the order listed in the table. Messages below the table show the progress of the calibration.

If you are performing the Zero Percent T calibration on a Lambda 650/750, you will be prompted to place the magnetic beam blocks supplied over the ports in the sample compartment wall.

When a calibration has passed, a green check mark is displayed in the first column of the table. If the test fails, a red cross is displayed. In such an event please contact your local PerkinElmer Service Engineer.

6. When the calibration has finished, click **Close** to close the dialog.

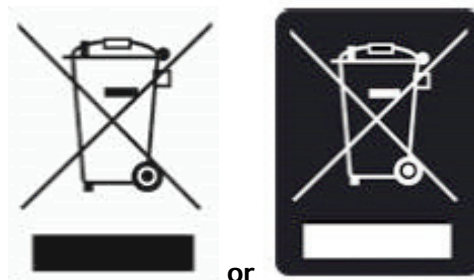
The date and time of the calibration are recorded in the instrument event log.

NOTE: It is not possible to print the calibration results.

Your instrument is now ready to be used.

Appendices

Appendix 1: WEEE Instructions for PerkinElmer Products



A label with a crossed-out wheeled bin symbol and a rectangular bar indicates that the product is covered by the Waste Electrical and Electronic Equipment (WEEE) Directive and is not to be disposed of as unsorted municipal waste. Any products marked with this symbol must be collected separately, and in accordance with the regulatory guidelines in your area.

The objectives of this program are to preserve, protect and improve the quality of the environment, protect human health, and utilize natural resources prudently and rationally. Specific treatment of WEEE is indispensable in order to avoid the dispersion of pollutants into the recycled material or waste stream. Such treatment is the most effective means of protecting the customer's environment.

The requirements for waste collection, reuse, recycling, and recovery programs are set by the regulatory authority in your location. Contact your local responsible person (such as your laboratory manager) or authorized representative for information regarding applicable disposal regulations.

See the PerkinElmer web address below for information specific to PerkinElmer products, and contact details for the Customer Care department in your region.

<http://las.perkinelmer.com/OneSource/Environmental-directives.htm>

Products from other manufacturers may also form a part of your PerkinElmer system. These other manufacturers are directly responsible for the collection and processing of their own waste products under the terms of the WEEE Directive. Please contact these manufacturers directly before discarding any of their products. Consult the PerkinElmer web address (above) for manufacturer's names and web sites.

Appendix 2: Decontamination and Cleaning

Before using any cleaning or decontamination methods except those specified by PerkinElmer, users should check with PerkinElmer that the proposed method will not damage the equipment.

Decontamination

Customers wishing to return instrumentation and/or associated materials to PerkinElmer for repair, maintenance, warranty or trade-in purposes are advised that all returned goods must be certified as clean and free from contamination.

The customer's responsible body is required to follow the "Equipment Decontamination Procedure" and complete the "Certificate of Decontamination". These documents are available on the PerkinElmer public website:

<http://las.perkinelmer.com/OneSource/decontamination.htm>

Alternatively, if you do not have access to the internet contact Customer Care:

Customer Care USA: (8:30 a.m. – 7 p.m. EST)	1-800-762-4000	(inside the USA)
	(+1) 203-925-4602	(outside the USA)
Customer Care Canada:	800-561-4646	
Customer Care EU:	0800 40 858	(Brussels)
	0800 90 66 42	(Monza)

If you are located outside these regions, please call your local PerkinElmer sales office for more information.

Cleaning the Instrument

Exterior surfaces may be cleaned with a soft cloth, dampened with a mild detergent and water solution. Do **not** use abrasive cleaners or solvents.

