

Lambda 365 5-Pos Variable Pathlength Cell Holder Installation Instructions

This instruction sheet describes the installation of this accessory which is used with the Lambda 365 Spectrophotometer.

NOTE: *Read these instructions before you install this accessory.*

Contacting PerkinElmer

Supplies, replacement parts, and accessories can be ordered directly from PerkinElmer, using the part numbers.

See our website:

<http://perkinelmer.com>

PerkinElmer's catalog service offers a full selection of high-quality supplies.

To place an order for supplies and many replacement parts, request a free catalog, or ask for information:

If you are located within the U.S., call toll free 1-800-762-4002, 8 a.m. to 8 p.m. EST. Your order will be shipped promptly, usually within 24 hours.

If you are located outside of the U.S., call your local PerkinElmer sales or service office.

Features

- Available with various pathlength cells (5, 10, 20, 40, 50 mm)
- Excellent durability



Figure 1 Lambda 365 5-Pos Variable Pathlength Cell Holder [P/N: 4100104]



PerkinElmer, 710 Bridgeport Avenue,
Shelton, CT06484-4794, U.S.A

Produced in the USA.

Dimensions and Specifications

Dimensions

Physical Characteristic		Specification	Comment
Outline	Height (mm)	139.5	
	Width (mm)	134.5	
	Depth (mm)	341	
Inner	Height (mm)	35	Suitable for the Standard Cells
	Width (mm)	58	
	Depth (mm)	12.6	
Weight (kg)		2.5	

Specification

Physical Characteristic		Specification	Comment
Space between cells	(mm)	7.4	
Moving distance of one cell	(mm)	20	
Moving distance of five cells	(mm)	80	
Moving time of one cell	(sec)	4	
Moving time of five cells	(sec)	11	

Description

Connectable Cells

Description
Precision cell, 5 mm light path, 1.7 ml, ea
Precision cell, 10 mm light path, 3.5 ml, ea
Precision cell, 20 mm light path, 7 ml, ea
Precision cell, 40 mm light path, 14 ml, ea
Precision cell, 50 mm light path, 17.5 ml, ea

Other cells are available upon request if what you want is not listed.

Configuration of the 5-Pos Variable Pathlength Cell Holder

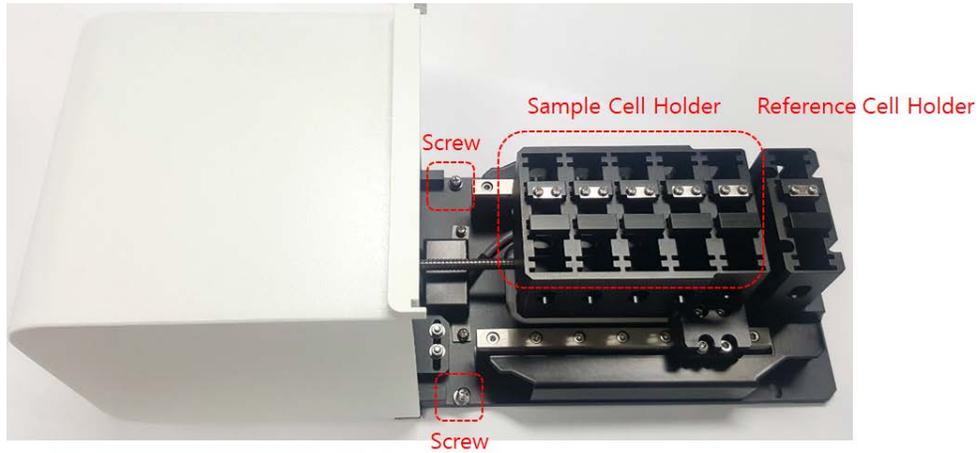


Figure 2 Lambda 365 5-Pos Variable Pathlength Cell Holder

Variable Partition

Variable Pathlength Cuvette Holder

- ① 5 mm cell
- ② 10 mm cell
- ③ 20 mm cell
- ④ 40 mm cell
- ⑤ 50 mm cell

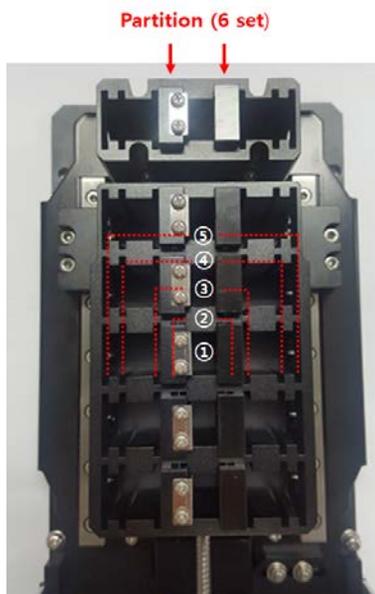


Figure 3 Lambda 365 5-Pos Variable Pathlength Cell Holder



- Used to fix a cell holder, a base plate or a front plate for Lambda 365.
- Spare screws (2ea) are enveloped with the accessory.

Figure 4 Phillips round head screw with washer (M4 *12L)

Installation

CAUTION *Make sure the instrument is turned off while installing this accessory.*
ATTENTION *Assurez-vous que l'instrument est éteint lors de l'installation de cet accessoire.*

1. Prepare the Lambda 365 Spectrophotometer to install this accessory.
2. Connect the power cord and the communication cable. **DO NOT** turn on the power of the instrument!



Figure 5 Connecting the power cord and USB communication cable

3. Remove the two Phillips round head screws with washer (M4*12L) to remove the existing cell holder and base plate.



Figure 6 Location of the two Phillips round head screws with washer

4. Pull out the cell holder and base plate by hand.



Figure 7 Pulling out the cell holder and base plate

5. Insert the 5-Pos Variable Pathlength Cell Holder in the sample compartment.



Figure 8 Inserting the 5-Pos Variable Pathlength Cell Holder in the sample compartment

6. Gently press the 5-Pos Variable Pathlength Cell Holder to connect the communication port (male) under the bottom of the 5-Pos Variable Pathlength Cell Holder to the port (female) in the sample compartment.



Figure 9 Connecting the communication ports

7. Tighten the 5-Pos Variable Pathlength Cell Holder in the sample compartment with the screws (The red circles indicates the location of the screws in the figure).



Figure 10 Tighten the 5-Pos Variable Pathlength Cell Holder in the sample compartment

8. Turn on the power switch of the instrument.

Measurement

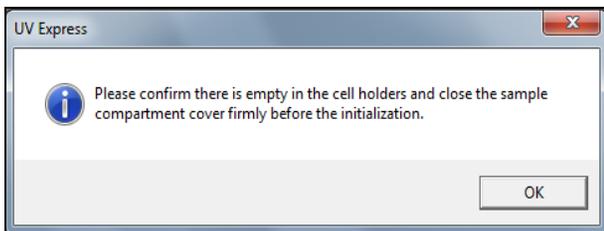
NOTE: Before executing System Self Test, the 5-Pos Variable Pathlength Cell Holder has to be installed first. Otherwise, the instrument can be damaged electrically and do not operate properly.

1. Install the 5-Pos Variable Pathlength Cell Holder referring to chapter **Installation**.
2. Close the sample compartment cover and turn on the instrument.

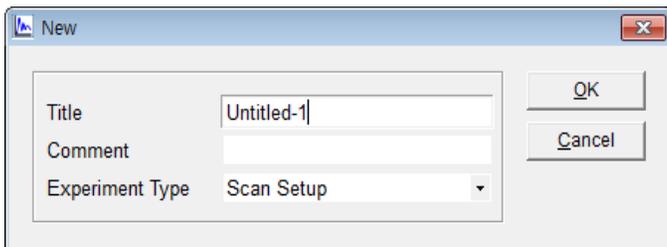
CAUTION	<i>Do not start the UV Express software before finishing the initialization of grating.</i>
ATTENTION	<i>Ne démarrez pas le logiciel UV Express avant de terminer l'initialisation du réseau.</i>

NOTE: Start the System Self Test after warming up the system for at least 20 minutes.

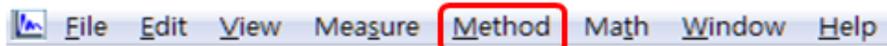
3. Double-click on the **UV Express software** folder and select one of the modes for starting.
4. The following message box will be displayed. Empty the cell holder and close the lid firmly. Click **OK**.



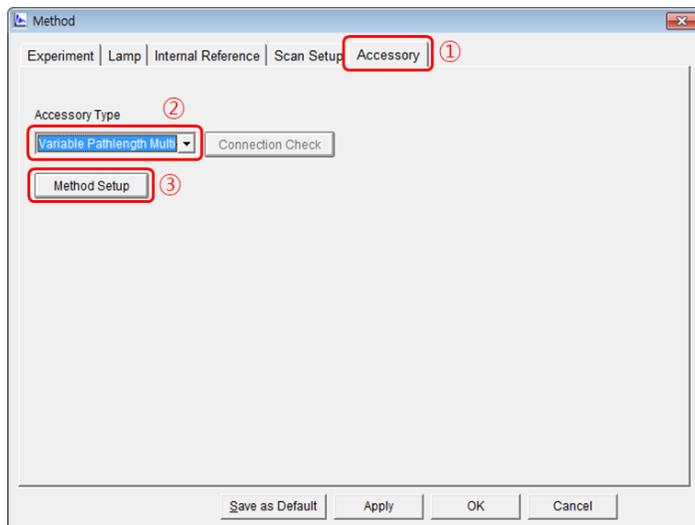
5. System Self Test starts. Click **OK** after finishing the **System Self Test**.
6. Click **New** to open a new window. Select **Experiment Type** and click **OK**.



7. Open **Method** in the main menu.



8. ① Click the **Accessory** tab and ② Select **Variable Pathlength Multi-Cell** on **Accessory Type**, and then click the ③ **Method Setup** button to open the **Multicell** window.



9. The Multicell window will be shown. Using the button, select cells to be used among the available cells list. Check (✓) Multi Baseline, if it is required to use.
- Available Cells:** Indicate cells that are available for measurement.
 - Using Cells:** Shows the cell positions which are selected for measurement. Remove cells using key and switch positions using and keys.
 - Multicell Options**
 - Multi Zero:** If checked (✓), zero will be measured at all the selected cell positions. If not, zero will be only measured at the 1st cell position among the using cells.
 - Multi Baseline:** If checked (✓), the baseline will be measured at each selected cell. If not checked, the baseline is only measured at the 1st cell position among the using cells.

NOTE: *To prevent inadequate baseline (zero) measurement because of the difference in transmittance among cuvettes or any other reasons, Multi Baseline (Multi Zero) measurement is recommended.*

- Click **OK**.
- After setting parameters for **Experiment, Lamp, Internal Reference and Scan Setup**, click **Apply** and then select **OK**.
- After placing the reference solution into both the selected Using Cell positions and the reference cell position of the Multicell holder, select the **Baseline** or **Zero** buttons to perform the Baseline function.

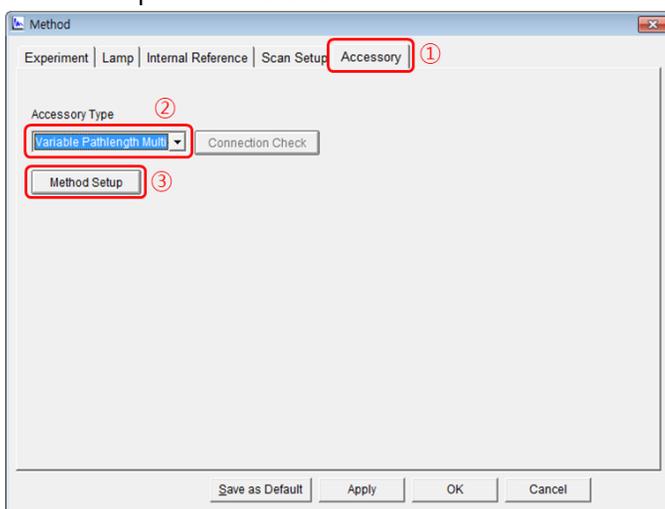
NOTE: *The baseline is required to run only one time when the first measurement is done, not every measurement. However, it should be done whenever the system is power off/on, the wavelength is changed, SBW is changed or Reference sample is changed.*

13. Place the reference into the reference cell position and sample into the selected using cell positions.
14. Select the **Sample** button to measure.
15. After the measurement is finished, the results are displayed in the result window. Save or print results as required.

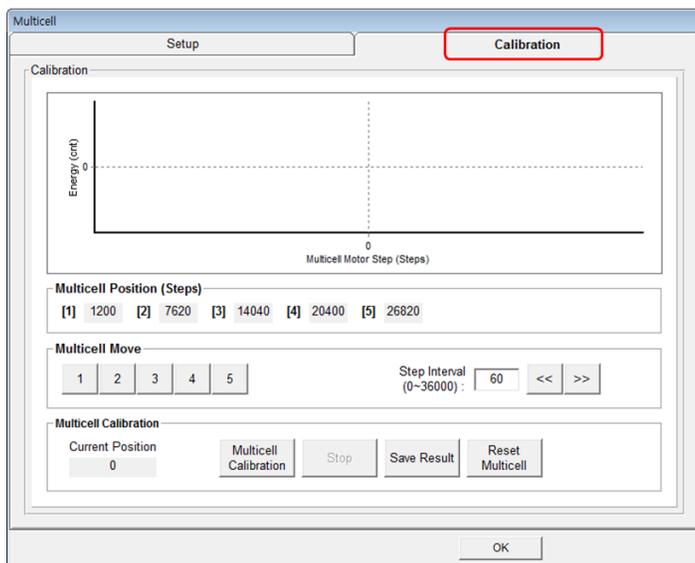
Calibration of Multi-Cell Position

Calibrate the beam position of the 5-Pos Variable Pathlength Cell Holder when the multicell is installed for the first time or beam position is incorrect.

1. Execute **Scan Setup** mode and ① click the **Accessory** tab of the Method window. ② Select **Variable Pathlength Multi-Cell** on **Accessory Type**, and then click the ③ **Method Setup** button to open the **Multicell** window.



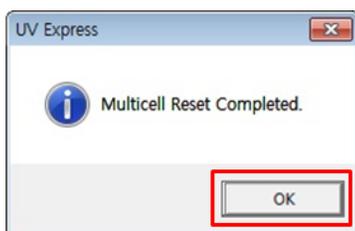
2. Select the **Calibration** tab in the **Multicell** window. The following dialog box will appear.



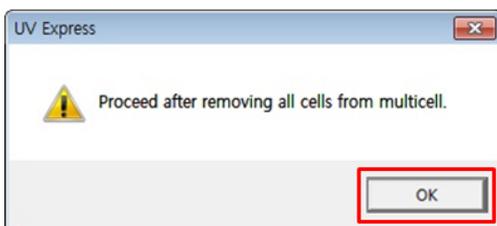
3. The functions of the Multicell calibration are shown as follows.

Command	Function
MultiCell Position	Show saved steps about each cell position of the Multi-Cell.
Multicell Move	Used for moving Multi-Cell position as clicking buttons  Used for moving Multi-Cell position using << >> buttons by entered step.
Multicell Calibration	Used to perform the Multi-Cell calibration.
Stop	Used to stop the Multi-Cell calibration.
Save Result	Used to save the calibrated result.
Reset Multicell	Used to move to '0' step of Multi-Cell position.

4. Click on **Reset Multicell**  to format the Multi-Cell steps. Click **OK**.

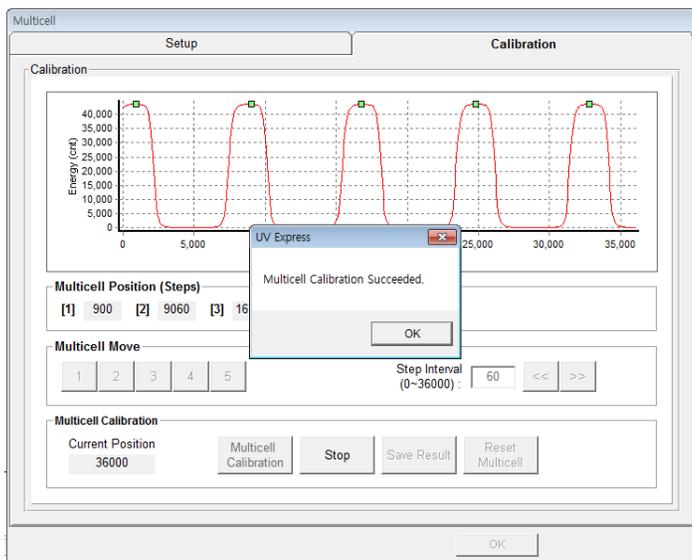


5. Select **MultiCell Calibration** , and then the following dialog box will appear. Remove all samples from the 5-Pos Variable Pathlength Cell Holder (Empty the multicell holder).

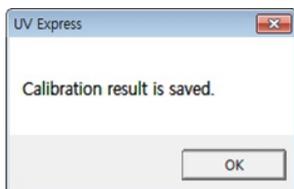


6. Select **OK**, and then the Multicell calibration will start. The current process of calibration will be shown in the main window.

7. When calibration is finished, the following box appears. Select **OK**.



8. Select **Save Result**  to save the result. If the following message box appears, select **OK**.



Troubleshooting

When the 5-Pos Variable Pathlength Cell Holder does not move

1. Check the Connector status.
 - Check if the 5-Pos Variable Pathlength Cell Holder connector is connected firmly to the Lambda 365.

When the intensity value is low

1. Recalibrate the 5-Pos Variable Pathlength Cell Holder.
 - Recalibrate if the light beam does not go through the center of the cell holder hole.
2. Replace the lamp.
 - If the intensity value is still low after the recalibration, the lamps of the light source for measurement may be deteriorated and need replacing. Contact PerkinElmer.

When the Multi-Cell does not reset

If the resetting is failed, the photo interrupter switch inside the 5-Pos Variable Pathlength Cell Holder needs replacing. Contact PerkinElmer for replacing the photo interrupter.