

Lambda 465 8 Cell Water Jacketed Cell Changer Installation Instructions

This instruction sheet describes the installation of this accessory which is used with the Lambda 465 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 1-800-762-4000, 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

- Suitable size for the standard cells
- Controls the temperature by circulation of liquid
- Available to use with a Magnetic Stirrer Assembly
- Excellent durability



Figure 1 Lambda 465 8 Cell Water Jacketed Cell Changer [P/N:N4104001]



PerkinElmer, 710 Bridgeport Avenue,
Shelton, CT 06484-4794, U.S.A

Produced in the USA.

Dimensions and Specifications

Dimensions

Physical Characteristic		Specification	Comment
Outline	Height (mm)	83.5	
	Width (mm)	92	
	Depth (mm)	237.5	
Inner	Height (mm)	27.5	Suitable for the Standard Cell
	Width (mm)	12.5	
	Depth (mm)	12.5	
Weight (kg)		1.52	

Specifications

Physical Characteristic		Specification	Comment
Space between cells	(mm)	1	
Moving distance of one cell	(mm)	13.6	
Moving distance of eight cells	(mm)	95.2	
Moving time of one cell	(sec)	0.5	
Moving time of eight cells	(sec)	2	

Configuration of the 8 cell Water Jacketed Cell Changer

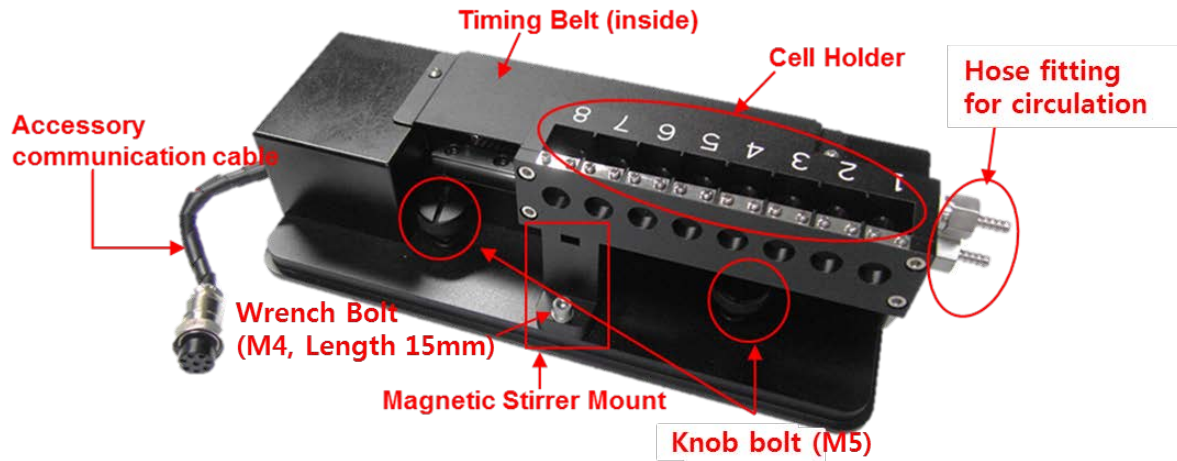
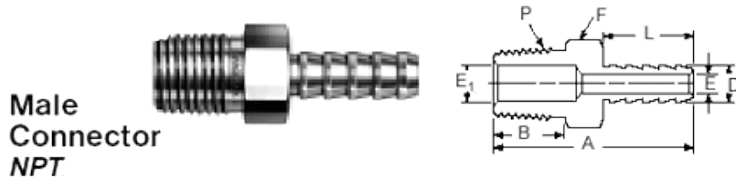


Figure 2 Lambda 465 8 Cell Water Jacketed Cell Changer

Hose fitting × 2



Hose fitting Dimensions (inches)

A	B	D	E	E ₁	F	L
1.08	0.38	0.15	0.08	0.19	7/16	0.40

Note: The recommended tube size and material are 3 mm-ID and 6 mm-OD silicon tube which has thermal resistance at higher than 100 °C.

Figure 3 Hose fitting (Model No.: [Swagelok] SS-2-HC-1-2 Element: 316 Stainless Steel) (2 ea)

Installation

1. Disassemble the existing cell holder.

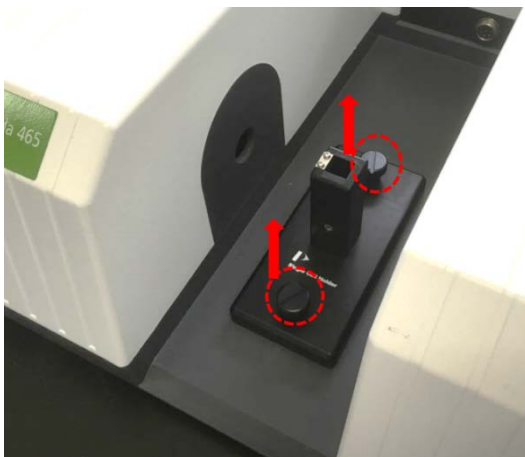


Figure 6 Location of the two knob bolts

2. If the magnetic stirrer is used, disassemble the stirrer mount by using M4 wrench and then place the magnetic stirrer head on the Stirrer Mount. (Refer to the stirrer accessory installation instructions for more details.)

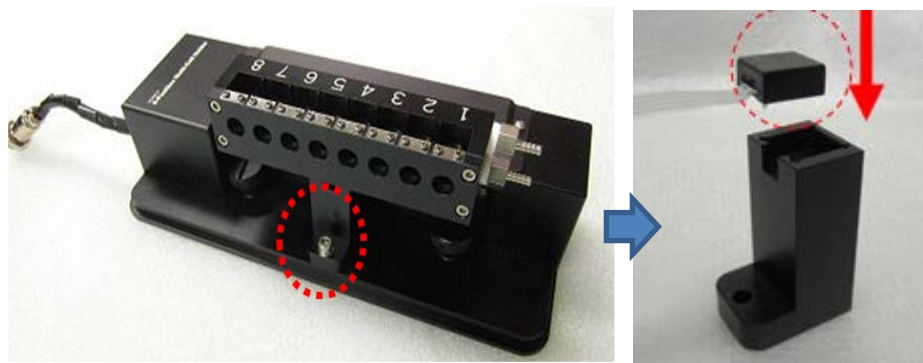


Figure 7 Placing the magnetic stirrer head on the 8 Cell Water Jacketed Cell Changer

3. Fix the stirrer mount to the 8 cell water jacketed cell changer and tighten the cell holder with a bolt.

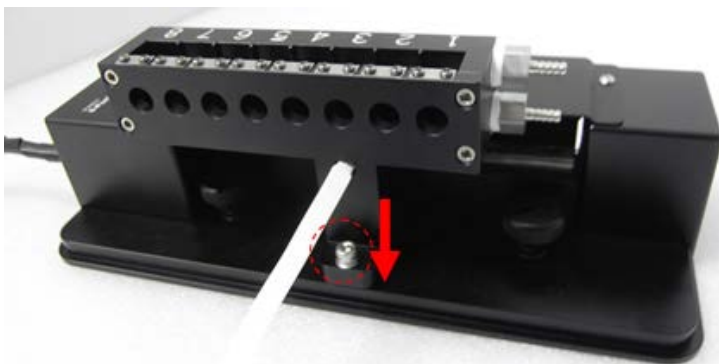


Figure 8 Location of the bolt

4. Locate the 8 cell water jacketed cell changer in the sample compartment and fasten the knob bolt in the front side.



Figure 9 Locating the 8 Cell Water Jacketed Cell Changer in the hole

5. Move the cell part to the front side and fasten the knob bolt in the back side.



Figure 10 Moving the cell part

6. Connect the communication cable to the port in the sample compartment and then attach the hose to the hose fitting.



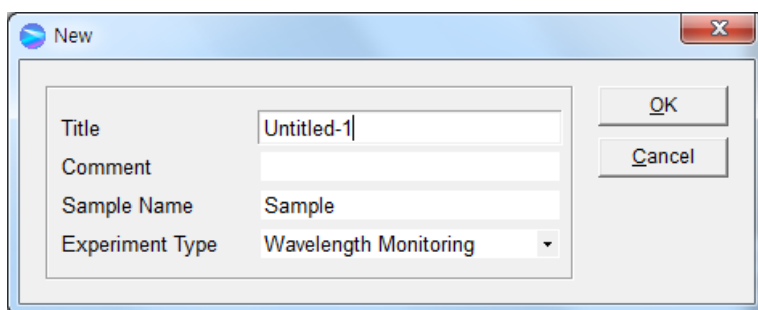
Figure 11. Connecting the communication cable

7. Connect the communication cable and the power cord, and then turn on the power of the Lambda 465.

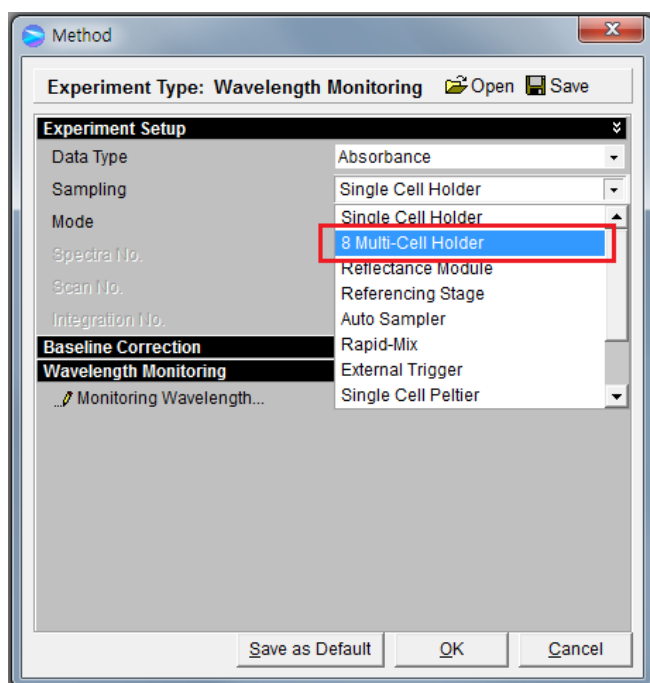
Measurement

NOTE: Start the sample measurement after warming up the system for at least 20 minutes.

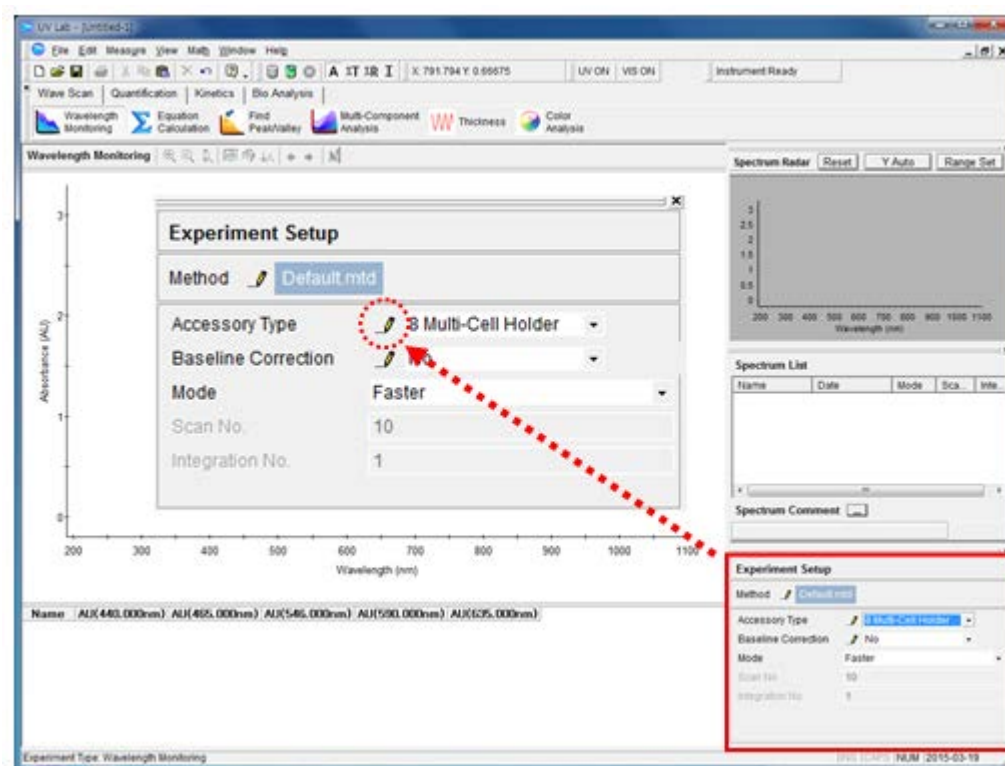
1. Launch the **UV Lab** software. When the window below is appeared, select **Experiment Type** and select **OK**.



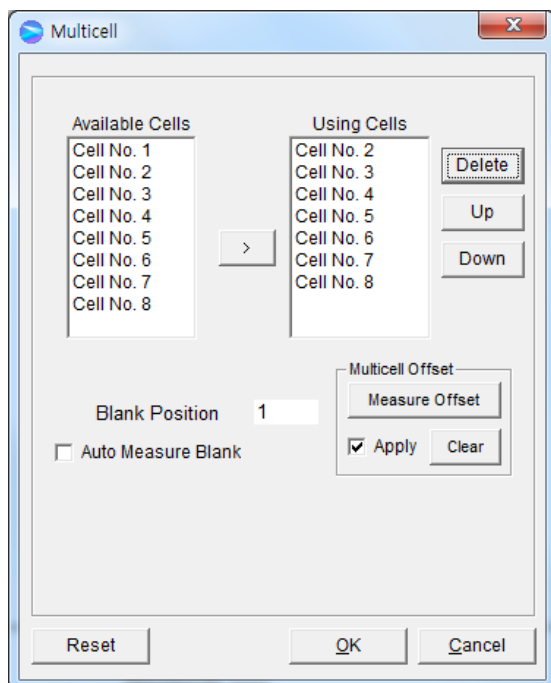
2. The following dialog box will be displayed. Enter each parameter and select **OK**.



3. Select the **red-marked icon (pencil icon)** when you want to change the parameters about the 8 cell water jacketed cell changer.



4. The following dialog box will appear. Change the parameters for the 8 cell water jacketed cell changer. Select **OK**.



► **Available Cells:** Indicate cells that are available for measurement.

► **Using Cells:** Shows the cell position which is selected for measurement.

Using the button, , select the Cell No.

Using ,  and  keys, you set up the order of measurement.

► **Blank Position:** Enter the blank position of Multi-Cell Holder (Generally, place blank in the position No.1.)

► **Auto Measure Blank**

- Check: Each time for measuring of sample, the blank is measured previously.

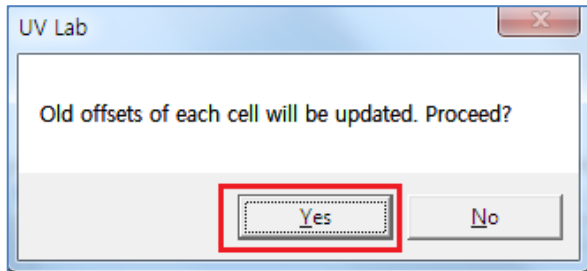
This function is very useful for the long-term kinetic mode.

- No check: Only sample is measured without measurement of the blank.

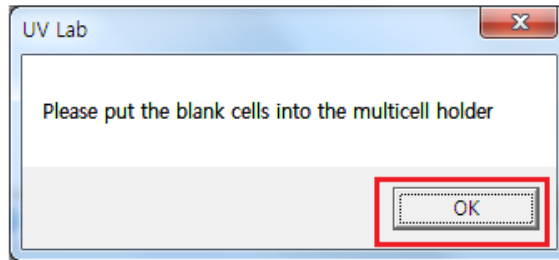
► **Reset:** Use for formatting the 8 Cell Water Jacketed Cell Changer.

► **Multicell Offset:** Multicell Offset is a function that corrects the transmittance difference between the cells, and it should be performed before starting experiments.

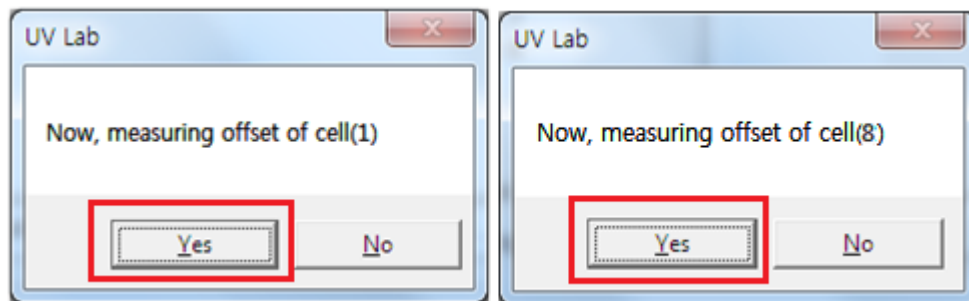
a. Select **Measure Offset**. The following dialog box will appear. Select **Yes**.



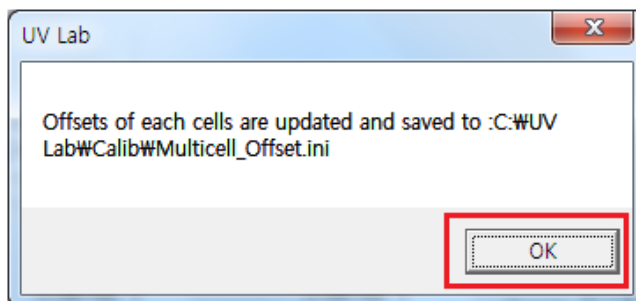
- b. This dialog box will be shown. Put blank cells into the 8 position multi-cell holder. Select **OK**.



- c. Select **Yes** for measurement at each position one at a time.



- d. The dialog box will be shown when the measuring offset is finished. Select **OK** to save the offset data.



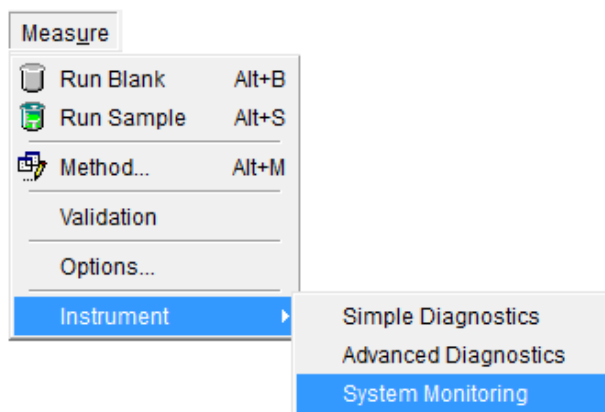
- ▶ Apply: Save the Offset values.
- ▶ Clear: Remove the saved offset data.

5. Measure blank and samples.

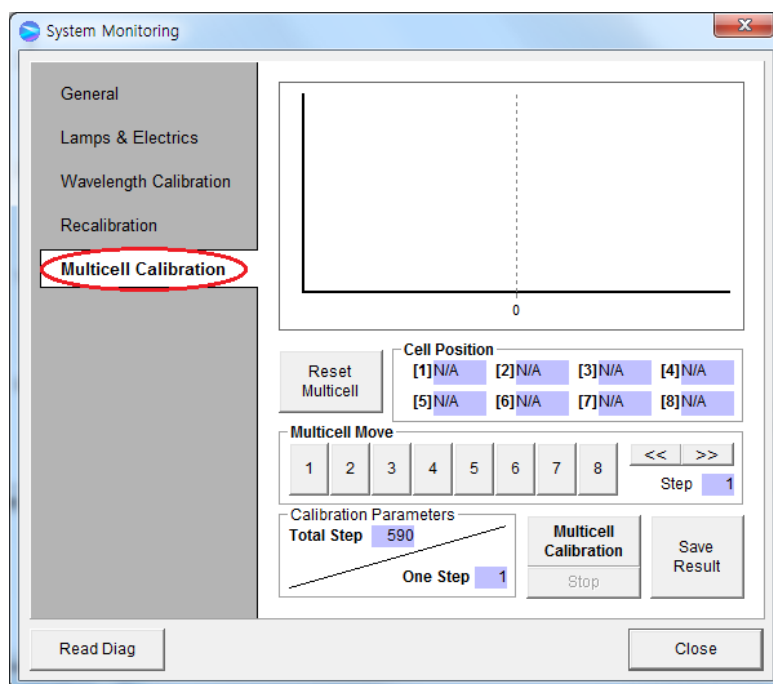
Calibration of Multi-Cell Position

Calibrate the beam position of the 8 Cell Water Jacketed Cell Changer (Multi-Cell) when the Multi-Cell is installed at the first time or beam position is incorrect.

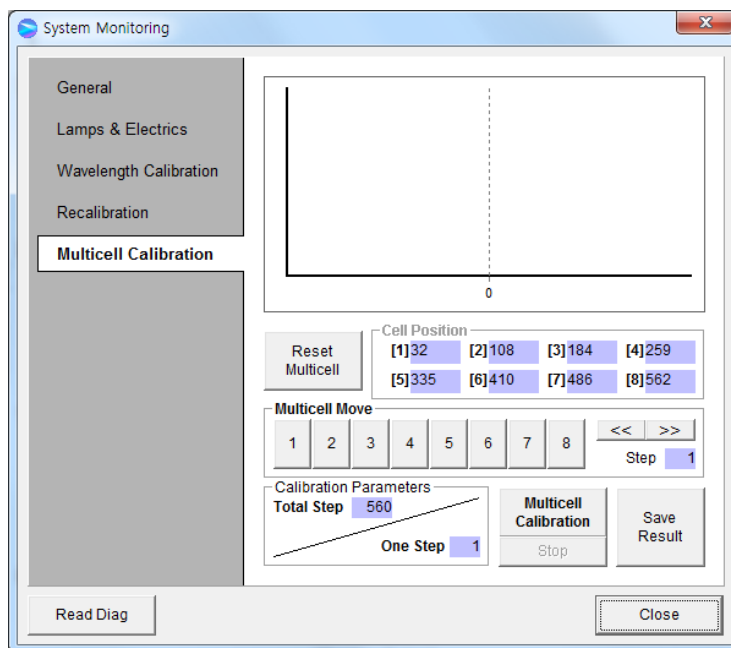
1. Launch the **UV Lab** software and select **System Monitoring** in the **Measure** menu.





2. Select **Multicell Calibration** in the **System Monitoring**. The following dialog box will appear.



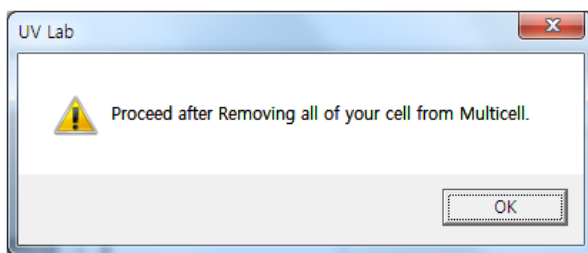
3. The functions of the Multicell Calibration are shown as follows.



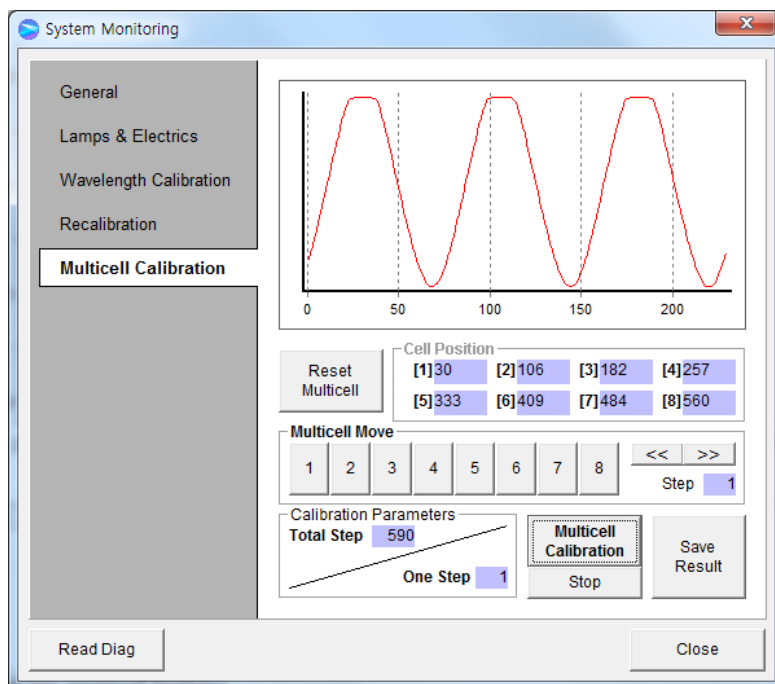
Command	Function
Reset Multicell	Use to move to '0' step of Multi-Cell position.
Cell Position	Show saved steps about each cell position of the Multi-Cell.
Multicell Move	Used for moving Multi-Cell position as clicking  buttons. Used for moving Multi-Cell position using  buttons by entered step.
Calibration Parameters	Total Step: Shows the limitation of operation of the Multi-Cell pulse. Usually you can use the set value as a default. (560) One Step: Shows the unit of the operation of the Multi-Cell step. (usually used as 1 value)
Multicell Calibration	Used to perform the Multi-Cell Calibration.
Stop	Used to stop the Multi-Cell Calibration.
Save Result	Use to save the calibrated result.

4. Select the **Reset Multicell** to format the Multi-Cell steps.

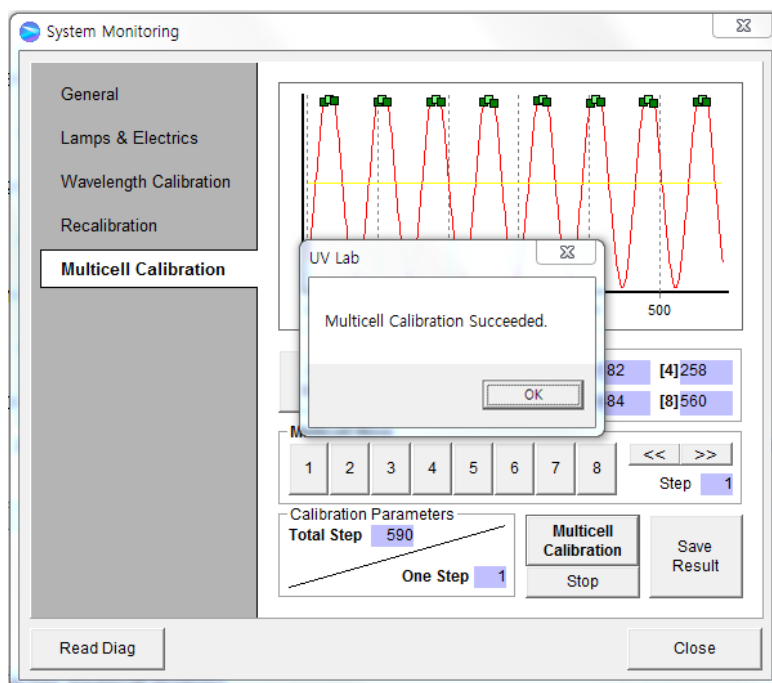
5. Select the **Multi-Cell Calibration**. Then this dialog box will appear. Remove all samples from the Multi-Cell.



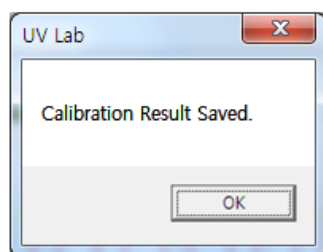
6. Select **OK**. Then the multi-cell calibration will start. The current process of calibration will be shown in the main window.



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 liquid leakage occurs

1. When liquid is leaking between the hose fitting and the 8 Cell Water Jacketed Cell Changer.
 - Turn the hose fitting counter-clockwise to detach from the 8 Cell Water Jacketed Cell Changer.
 - Remove the Teflon which is wound around the hose fitting. Wind around a new length of Teflon tape.
 - Turn the hose fitting clockwise to attach to the 8 Cell Water Jacketed Cell Changer.
2. When liquid is leaking between the hose fitting and the tube.
 - Replace the tube.
 - The replaced tube should be able to withstand a temperature at least 10 °C higher than the experimental temperature.

- Firmly fix the tube by winding Teflon tape around the connection.
- 3. When liquid is leaking from the 8 Cell Water Jacketed Cell Changer.
 - Contact your PerkinElmer service representative since the 8 Cell Water Jacketed Cell Changer needs to be replaced.

When constant temperature is not maintained

1. Check if the circulator is working normally.
 - Check if the temperature is maintained normally in the circulator.
 - Check if liquid is transferred normally to the 8 Cell Water Jacketed Cell Changer through the tube.
2. Check the tube connection.
 - Check if the tube is connected normally.

When the tube frequently becomes detached

1. Replace the tube.
 - You should replace the tube if it is old.
 - The replaced tube should be able to withstand a temperature at least 10°C higher than the experimental temperature.
2. Fix with Teflon tape.
 - Firmly fix the tube by winding Teflon tape around the connection.

When the Multi-Cell does not move

1. Check with the accessory port.
 - Check if the accessory port and Multi-Cell accessory cable are connected.

When the intensity value is low

1. Recalibrate the Multi-Cell.
 - Recalibrate if the light path doesn't go through the center of the cell holder.
2. Replace the lamp.
 - If the intensity value is still low after recalibration, the lamp will need replacing. Contact your PerkinElmer service representative for replacing the lamp.

When the Multi-Cell does not reset

If resetting fail, the photo interrupter switch inside the Multi-Cell will need replacing. Contact your PerkinElmer Service Representative.