# *Lambda 365 Changer 8-Cell for Dissolution 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*

- Suitable size for the standard cells
- Excellent durability

**Figure 1 Lambda 365 Changer 8-Cell for Dissolution [P/N: N4104018]**

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) | 140.5 | |
| | Width (mm) | 134.5 | |
| | Depth (mm) | 356.5 | |
| Inner | Height (mm) | 35 | Suitable for the Standard Cell |
| | Width (mm) | 14 | |
| | Depth (mm) | 12.5 | |
| Weight (kg) | | 2.5 | |

## *Specifications*

| Physical Characteristic | | Specification | Comment |
|---|---|---|---|
| Space between cells | (mm) | 10.4 | |
| Moving distance of one cell | (mm) | 11.5 | |
| Moving distance of eight cells | (mm) | 80.5 | |
| Moving time of one cell | (sec) | 1.3 | |
| Moving time of eight cells | (sec) | 8.5 | |

## *Configuration of Changer 8-Cell for Dissolution*

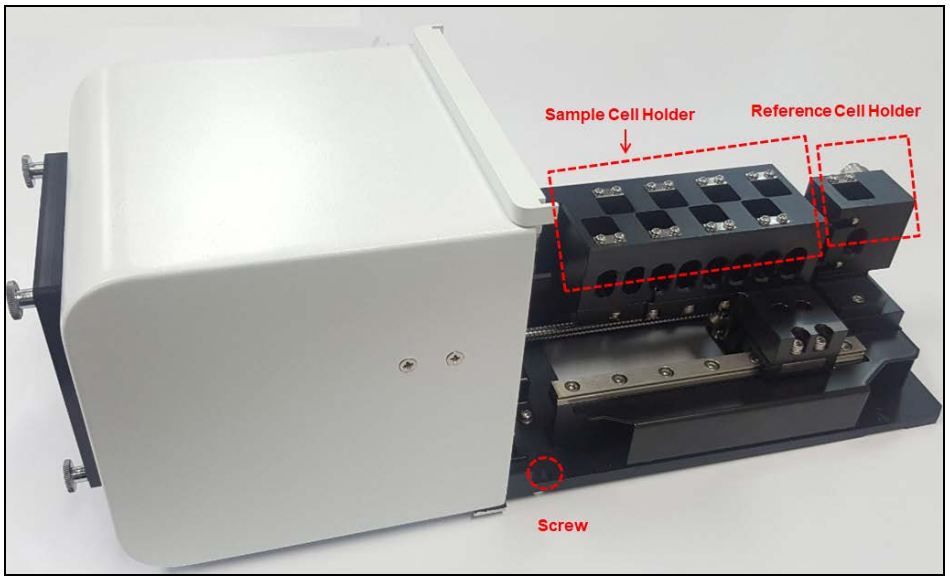



**Figure 2 Changer 8-Cell for Dissolution Configuration**

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

**Figure 3 Round headscrew with washer (M4 *12L)**

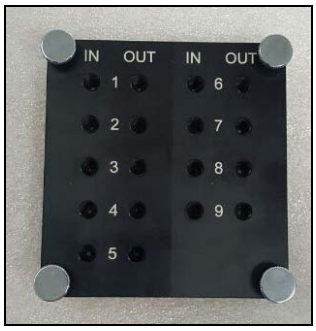



**Figure 4. Manifold**

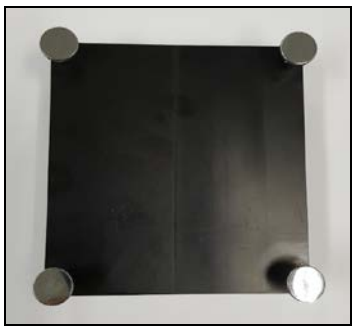


**Figure 5. Plate for Calibration**

**Figure 6. Lid**


**Figure 7. Tubings for cell compartment inside (P/N B2000049) and outside (P/N B2000515)**


**Figure 8. Flow Cell (N4101052)**

*NOTE: Tubings for cell compartment inside (B2000049) and outside (P/N B2000515) and Flow cell (P/N N4101052) must be purchased separately.*

## *Manifold and tubing connection*

1. Prepare a manifold

2. Connect a red connector of the inside tube (P/N B2000049) to the **In** port of the manifold and other white connector of the inside tube (short connector) to the flow cell with the arrow mark (Inlet).

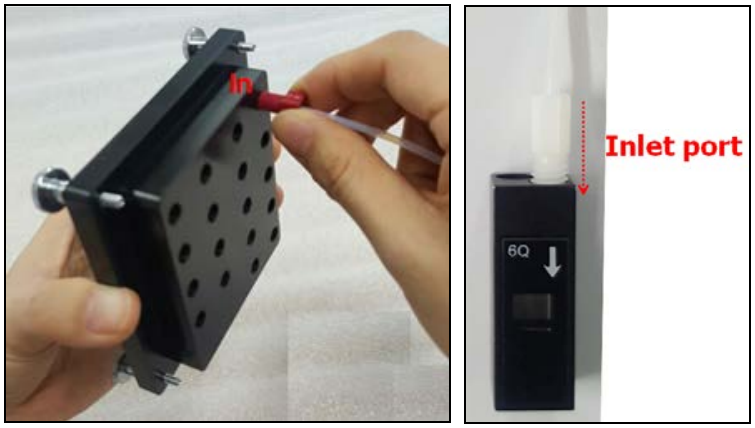



**Figure 9. Connecting the inlet tube**

3. Connect a red connector of the inside tube (P/N B2000049) to the **Out** port of the manifold and other white connector of the inside tube (long connector) to the flow cell's outlet port.

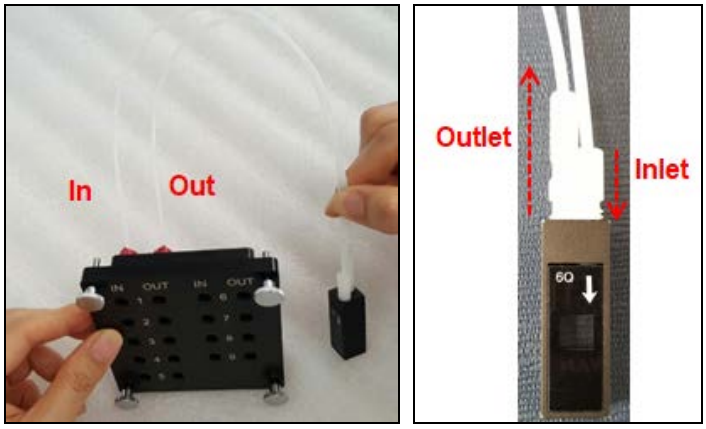



**Figure 10. Connecting the outlet tube**

4. Connect a red connector of the outside tube (P/N B2000515) to the port of the manifold.

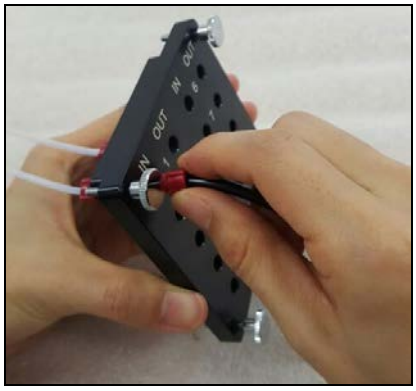


**Figure 11. Connecting the outside tube**

5. Connect all the connectors in the same way.

**Figure 12. Manifold and tubing connection**

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

**Figure 13. Location of the round head screws with washer**

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

**Figure 14. Pulling out the cell holder and base plate**

5. Insert the Changer 8-Cell for Dissolution in the sample compartment.

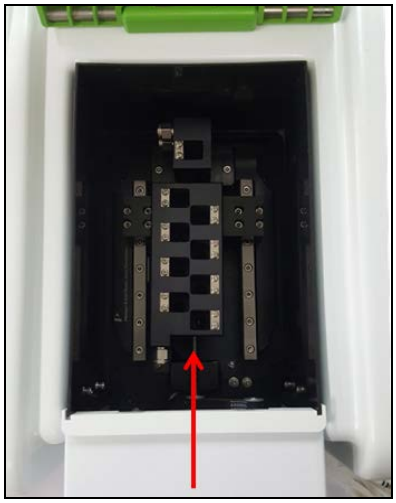


**Figure 15. Inserting the Changer 8-Cell for Dissolution into the sample compartment**

6. Gently press the Changer 8-Cell for Dissolution to connect the communication port (male) under the bottom of the Changer 8-Cell for Dissolution to the port (female) in the sample compartment.


**Figure 16. Connecting the communication ports**

7. Tighten the Changer 8-Cell for Dissolution in the sample compartment with the screws. (The red circles indicate the location of the screws in the figure).

**Figure 17. Tighten the Changer 8-Cell for Dissolution**

8. Attach the plate for calibration on the front plate and tighten the 4 bolts.


**Figure 18. Tighten the 4 bolts**

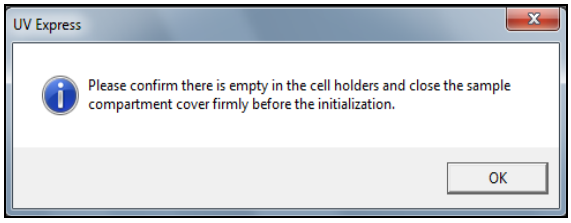
9. Close the sample compartment cover and turn on the power switch of the instruments.

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

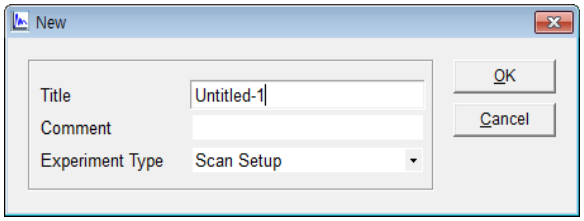
## *Measurement*

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

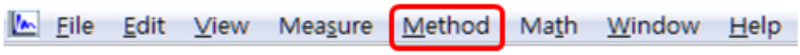
1. Double-click on the **UV Express Software** folder and select one of the mode for starting.
2. The following message box will be shown. Empty the cell holder and close the lid firmly. Click **OK**.




3. System Self Test stars. Click **OK** after finishing the **System Self Test**.
4. Select **New** to open a new window. Select **Experiment Type** and select **OK**.




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




6. Perform multi-cell calibration according to the ‘Calibration of Multi-Cell Position’ chapter. (p 15)

**NOTE:** *Calibrate the beam position of the Changer 8-Cell for Dissolution whenever it is installed or beam position is incorrect.*

7. After completing the multi-cell calibration, remove the Plate for Calibration.

**Figure 19. Removing the Plate for Calibration**

8. Prepare the manifold with all the tubing connected in Chap. ‘Manifold and tubing connection’ (p4).


**Figure 20. Manifold with all the tubing connected**

9. Insert the tubes and cells through the front cover first and hold the manifold in place.

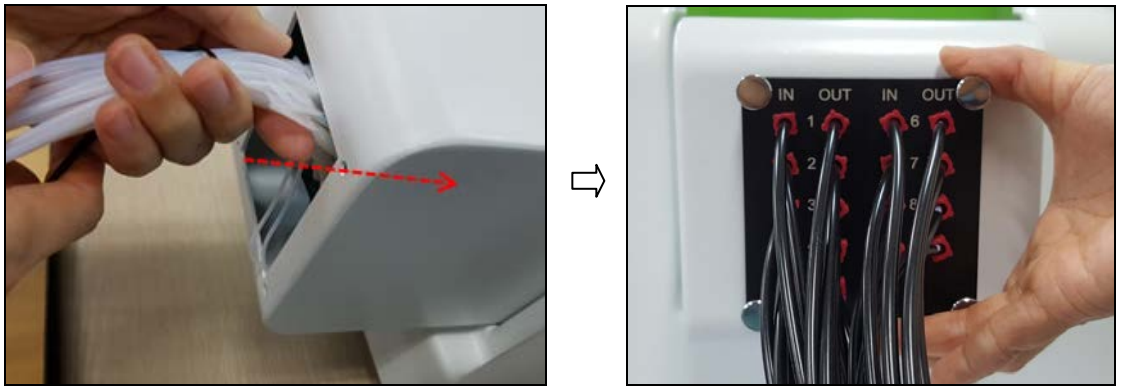



**Figure 21. Inserting the tubes and cells**

10. Tighten the 4 bolts.

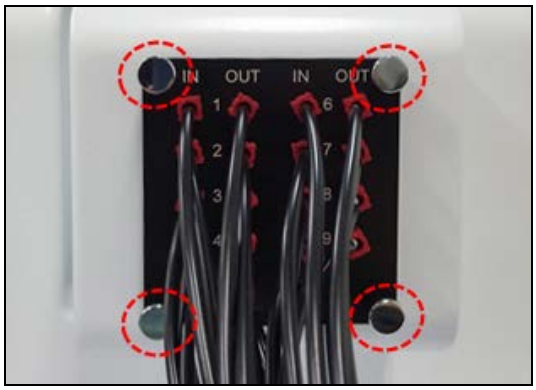



**Figure 22. Tighten the 4 bolts**

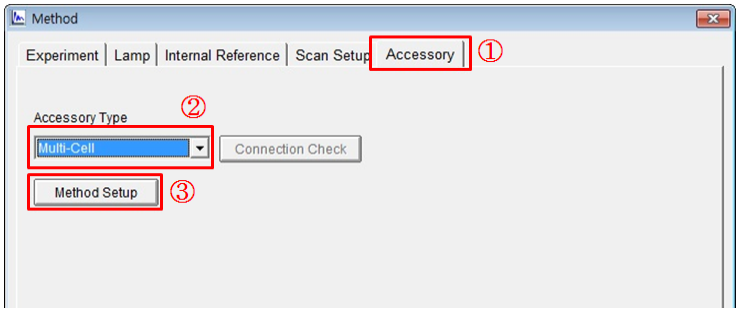
11. Insert flow cells for each position of the multi-cell holder.

**Figure 23. Inserting flow cells**

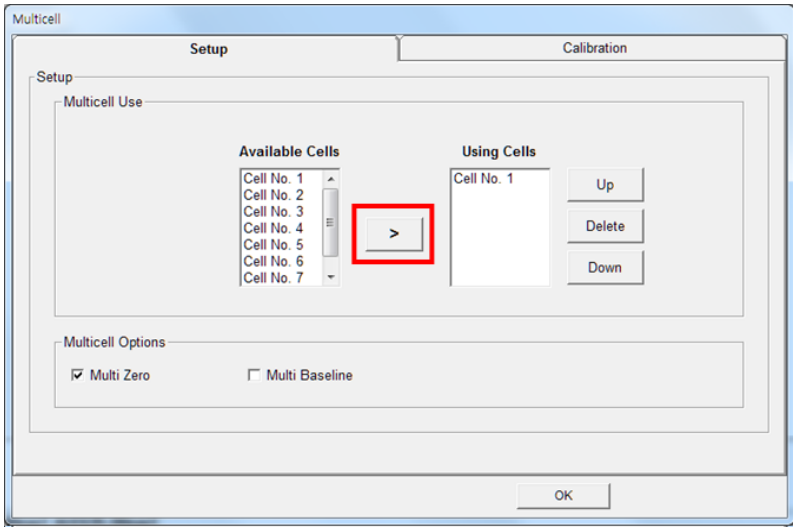
12. Close the lid.


**Figure 24. Closing the lid**

13. ①Select the **Accessory** tab and ② Select **Multi-cell** on **Accessory Type**, and then click the ③**Method Setup** button to open the **Multicell** window.



14. Using the [ > ] button, select cells to be used among the available cells list. Check (√) Multi Baseline or Multi Zero, if it is required to use. And then click **OK**.




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

b. **Using Cells:** Shows the cell positions which are selected for measurement. Remove cells using [Delete] key and switch positions using [Up] and [Down] keys.

c. **Multicell Options**

**Multi Zero**: If checked (√), zero will be measured all the selected 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.*

15. After setting parameters for **Experiment, Lamp, Internal Reference and Scan Setup**, click **Apply** and then select **OK.**

16. After placing the reference solution into the selected Using Cell positions and the reference cell position of the Changer 8-Cell for Dissolution, click the **Baseline** or **Zero** button to perform the Baseline or Zero function.

**NOTE:** *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 powered off/on, the wavelength is changed, SBW is changed or Reference sample is changed.*

17. Place the reference into the reference cell position and sample into the selected **Using cell** positions

18. Select the **Sample** button to measure.

19. After the measurement is finished, the results are displayed in the result window. Save or print the results as required.

## *System Self Test method when using the Lambda 365 with the Changer 8-cell for Dissolution*

**NOTE:** *When the Lambda 365 system is powered on again after turned off, the System Self Test need to be performed with the cell holder empty. If you want to have the System Self Test done with a Changer 8-cell Water Jack for Dissolution and manifold installed, follow the procedures below.*

**NOTE:** *If you re-install the changer 8-cell water jack for dissolution after removing it, you need to perform the multi-cell calibration referring to section 'Calibration of Multi-Cell Position' (page 15).*

1. Insert cells for each position from 2 to 8.


**Figure 25. Inserting cells from 2 to 8**

2. Empty the No.1 and reference cell position, and place those two cells into the flow cell storage block inside the cell compartment.

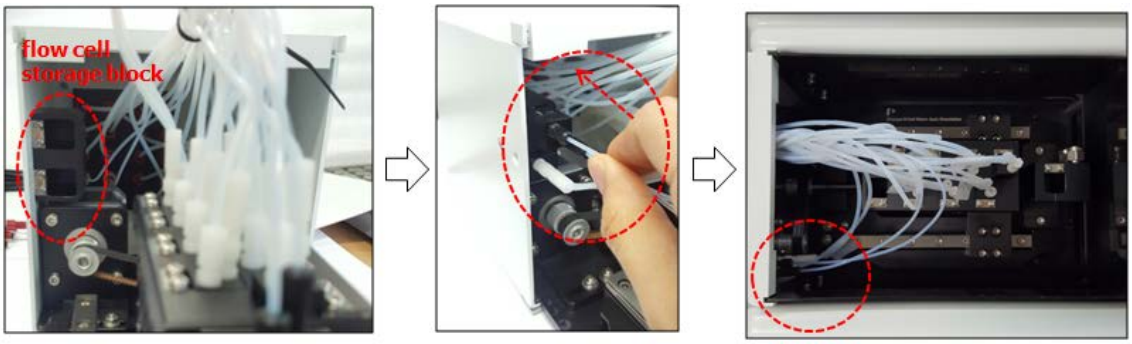



**Figure 26. Inserting No.1 and reference cells into the flow cell storage block**

3. Turn on the instrument.

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

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

4. Double-click on the **UV Express Software** folder and select one of the mode for starting.
5. The following message box will be shown. Empty the cell holder and close the lid firmly. Click **OK**.

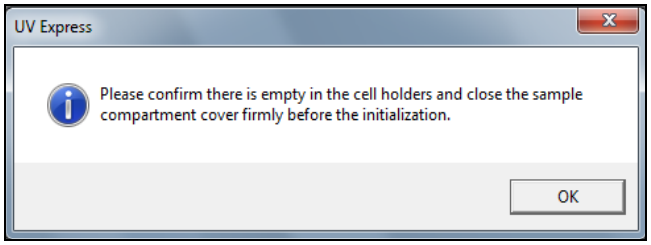


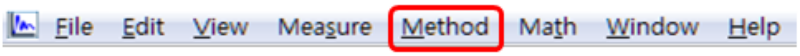


**Figure 27. Closing the lid**

6. System Self Test stars. Click **OK** after finishing the **System Self Test**.
7. Place the No. 1 and reference cells for each position. Close the lid.


**Figure 28. Inserting No.1 and reference cells into the cell holder**

8. And then click **New** to open a new window.
9. Open **Method** in the main menu.

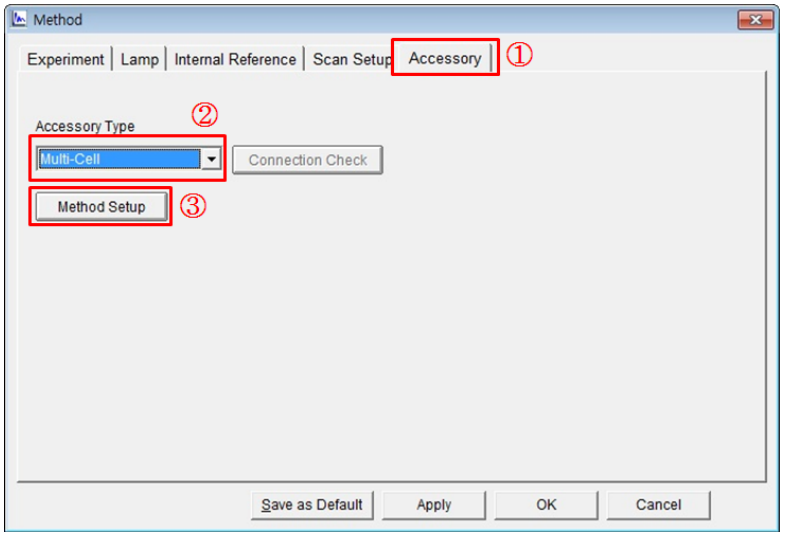



10. Measure the sample according to the procedure 13-19 of Measurement section. (page 11)

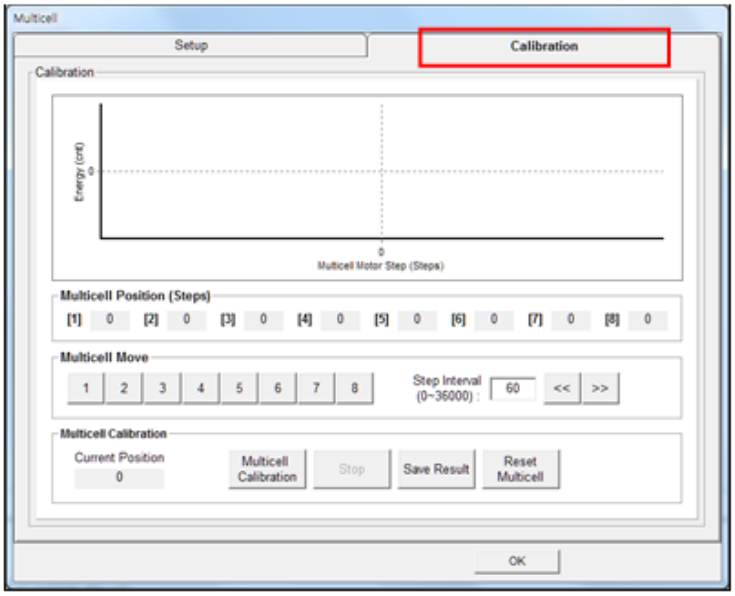
## *Calibration of Multi-Cell Position*

Calibrate the beam position of the Changer 8-Cell for Dissolution 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 Method window. ② Select **Multi-cell** on **Accessory Type**, and then click the ③**Method Setup** button to open the **Multicell** window.



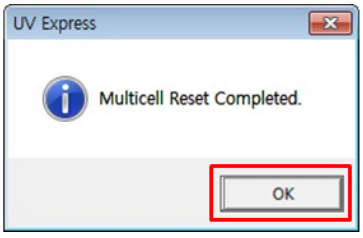
2. Select the **Calibration** tab in the **Multicell** window. The following dialog box will appear.



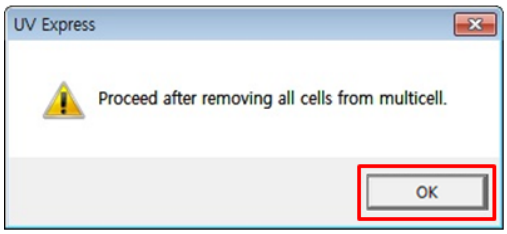

3. The functions of the Multicell Calibration are shown as follows.

| 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 1 2 3 4 5 6 7 8. 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. |

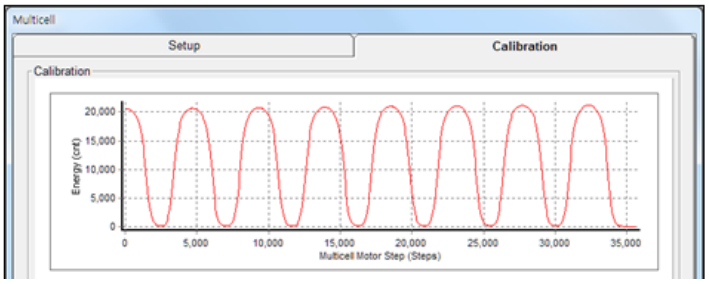
4. Click on **Reset Multicell** Reset Multicell to format the Multi-Cell steps. Click **OK**.



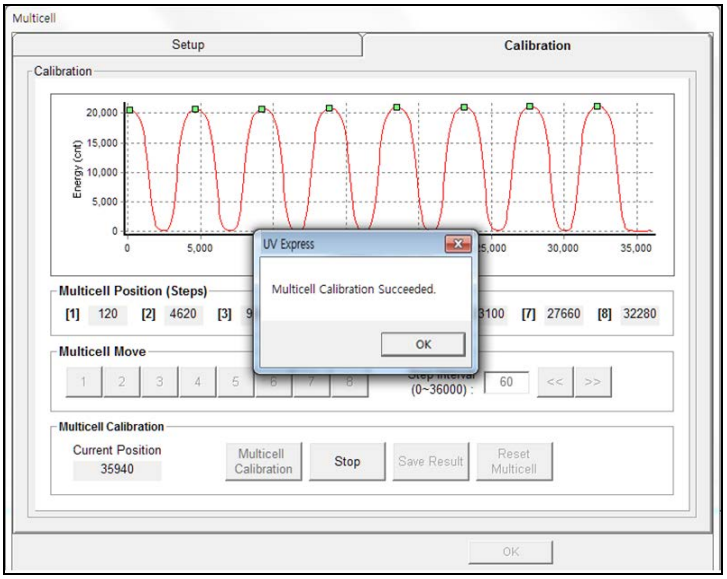
5. Select **MultiCell Calibration** Multicell Calibration, and then the following dialog box will appear. Remove all samples from the Changer 8-Cell for Dissolution (Empty the Changer 8-Cell for Dissolution).



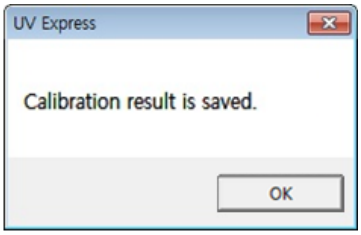

6. Select **OK**, and then the Multicell calibration will start. The current process of calibration will be shown in the main window.




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




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



# *Troubleshooting*

## *When the Multi-Cell does not move*

1. Check with the connector port.
   - Check if the Changer 8-Cell for Dissolution connector is connected firmly to the Lambda 365.

## *When the intensity value is low*

1. Recalibrate the Multi-Cell.
   - Recalibrate if the light beam does not go through the center of the cell holder.
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 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.