

FL 6500/8500 Water Jacketed Micro Cell Holder w/Stirrer Installation Instructions

This instruction sheet describes the installation of this accessory which is used with the FL 6500/8500 Fluorescence Spectrometer.

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

- Controls the temperature by circulation of liquid
- Built-in stirring mechanism
- Control stirring speed using Spectrum FL software
- Suitable size for micro cells
- Adjustable cell holder position



Figure 1 FL 6500/8500 Water Jacketed Micro Cell Holder w/Stirrer [P/N:N4201016]



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

Produced in the USA.

Dimensions and Specifications

Physical Characteristic		Specification
Outline	Height (mm)	87 ~97 (Adjustable)
	Width (mm)	130
	Depth (mm)	260
Weight (Kg)		0.98

Environmental Conditions for Operation

Specification	Comment
RT ~ 100°C	Controls the temperature using Circulator

Configuration of the Water Jacketed Micro Cell Holder w/Stirrer

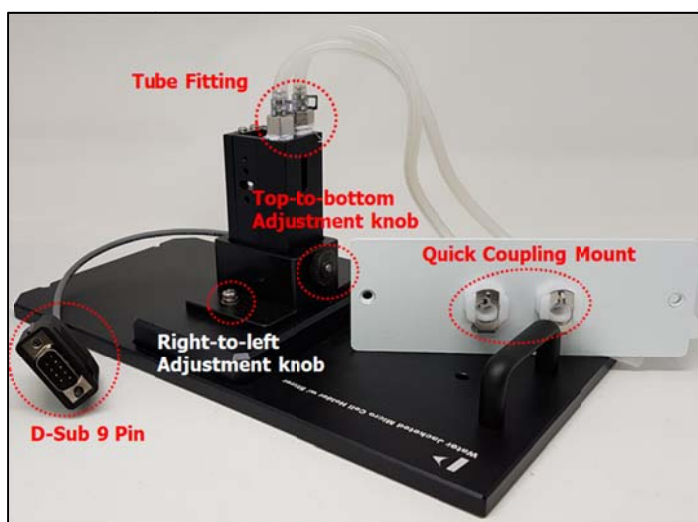


Figure 2 Water Jacketed Micro Sample Holder w/Stirrer Configuration



Figure 3 Male connector of Quick Coupling (2 each)



Figure 4 Magnetic Bar (1 each)

Installation

1. Prepare the FL 6500/8500 Fluorescence Spectrometer to install this accessory.
2. Connect the power cord and the communication cable.
3. Loosen the accessory fixing bolt to take apart the existing cell holder.



Figure 5 Loosening the Accessory Fixing Bolt

4. Pull out the cell holder by hand.

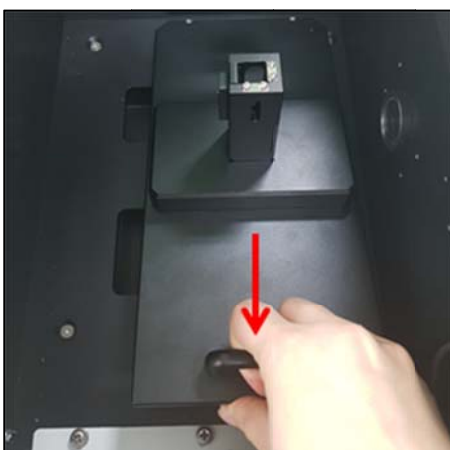


Figure 6 Pulling Out the Cell Holder

5. Remove the existing front cover plate.



Figure 7 Front Cover Plate

6. After checking the pogo pin position of the sample compartment, attach the Water Jacketed Micro Cell Holder w/Stirrer to the pogo pin.



Figure 8 Installing the Accessory

7. Fix the front cover plate attached to the Water Jacketed Micro Cell Holder w/Stirrer and tighten the bolts.



Figure 9 Fixing the Front Cover Plate

8. Tighten the accessory fixing bolt.

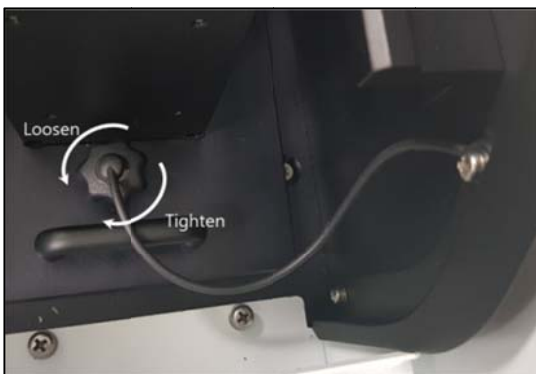


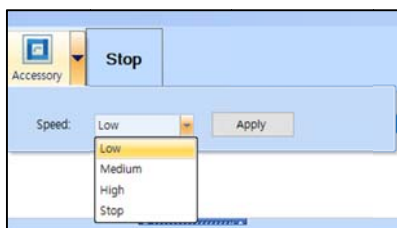
Figure 10 Tightening the Accessory Fixing Bolt

9. Insert the D-Sub 9 pin of Water Jacketed Micro Cell w/Stirrer into the accessory port.



Figure 11 Inserting the D-Sub 9 pin

NOTE: The stirrer is controlled using the Spectrum FL software by clicking the accessory icon. Four speeds can be set: Low, Medium, High, Stop. When you click **Apply**, the stirrer begins to spin.



10. Assemble the tube with male connector of quick coupling.

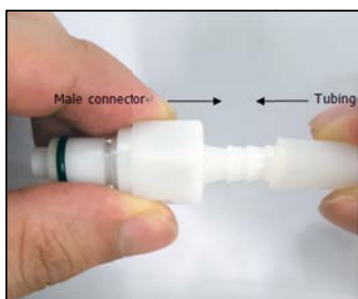


Figure 12 Assembling the tube with the male connector

NOTE: The tube size is recommended 3 mm-ID and 6 mm-OD silicon tube which has thermal resistance at least 100°C.

11. Connect the male connector with the tube to the quick coupling mount of the front plate.



Figure 13 Connecting the Male Connector to the Quick Coupling

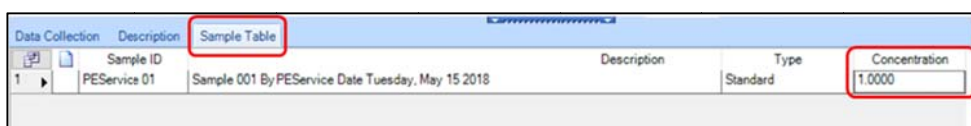
12. Put an empty micro cell into the Micro Cell Holder w/Stirrer.
13. Beam Align is performed according to the following Beam Align Chapter.

Beam Align

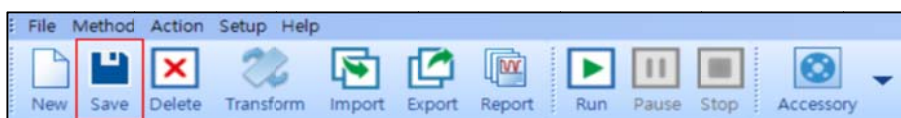
1. Prepare the white paper (Ex, A4 paper) and micro cell.
2. Open the lid and put an empty micro cell into the Micro Cell Holder.
3. Execute the Spectrum FL Software.
4. Click **Kinetics** mode.



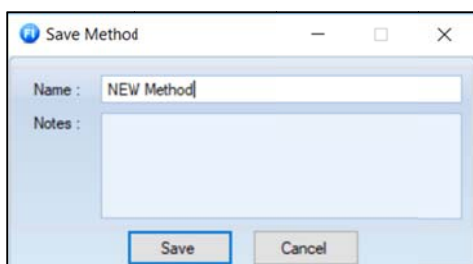
5. Set the parameters as follows.
 Excitation Slit : 1 nm
 Excitation Wavelength : 0 (Zero Order)
 Emission Wavelength : No problem at all
 Duration : 180 sec
6. After setting the parameters, click Sample Table and write the any value in the concentration area.



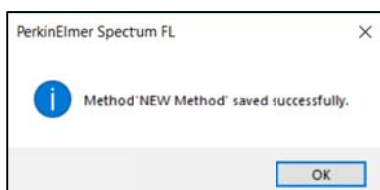
7. Click **Save** button to save the method.



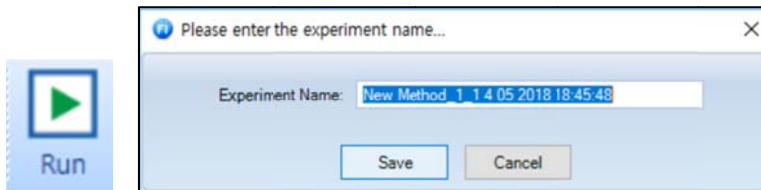
8. The **Save Method** window will be displayed. Click **Save**.



9. Click **OK**.



10. Click **Run**. Enter the Experiment Name and click **Save**.



11. When the measurement starts, the light (Zero order light) pass through the micro cell.
12. Adjust the position and the height of the Micro Cell holder.
13. For the height alignment of the Micro Cell Holder, loose hand screw on the side of the Micro Cell Holder.



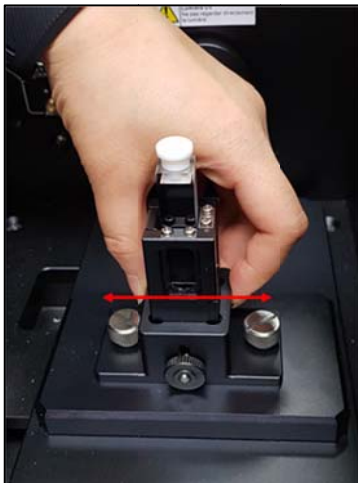
14. Adjust the height by moving the Micro Cell Holder up and down slowly so that the large portion of light passes through the window of the micro cell. After the height adjustment is completed, tighten the hand screw.



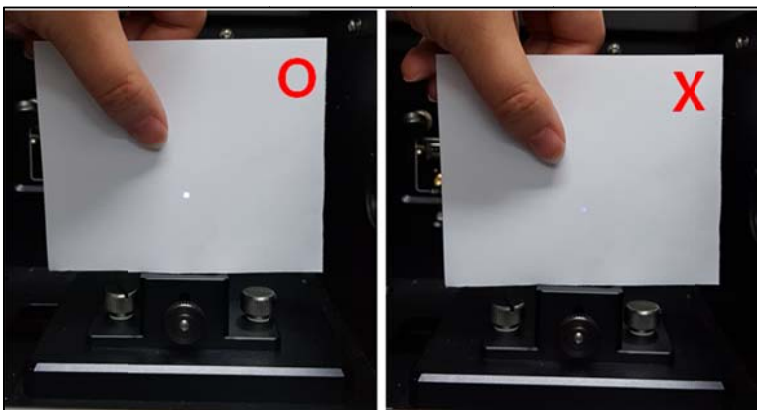
15. For the position adjustment of the Micro Cell Holder, loose 2 hand bolts on the bottom plate of the Micro Cell Holder.



16. Adjust the position by moving the Micro Cell Holder right and left slowly so that the large portion of light passes through the window of the micro cell. After the position adjustment is completed, tighten the hand bolts.



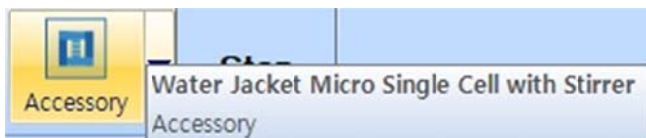
NOTE: *Align Example*



17. After the adjustment of the Micro Cell Holder is finished, click **Stop**.

Measurement

1. Double click on the **Spectrum FL** software and select the measurement mode.
2. Check the recognition of Accessory.



3. Set up the measurement parameters.

NOTE: For more detail of method, refer to *Spectrum FL Software Users Guide*.

4. Click **Save** to save the method after setting up the parameters.
5. Put the sample into the sample holder.

NOTE: Please refer to the **Beam Align** chapter for beam align.

6. Close the lid and select the **Run** icon.
7. Input the sample name and select **OK**.
8. Confirm the spectrum and results. Save or print the data.

Troubleshooting

When liquid leakage occurs

1. When liquid is leaking among the fittings.
 - Using wrench, turn the fitting counter-clockwise to detach from the Water Jacketed Micro Cell Holder w/Stirrer.
 - Remove the Teflon which is wound around the fitting. Wind a length of new Teflon tape around the fitting.
 - Turn the fitting clockwise to attach to the Water Jacketed Micro Cell Holder w/Stirrer.
2. When liquid is leaking between the quick coupling mount (or 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.
3. When liquid is leaking between the quick coupling mount and the Water Jacketed Micro Cell Holder w/Stirrer or unknown spot.
 - Contact your PerkinElmer Service representative to replace the Water Jacketed Micro Cell Holder w/Stirrer.

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 Water Jacketed Micro Cell Holder w/Stirrer through the tube.
2. Check the tube connection.
 - Check if the tube is connected tightly.

When the tube frequently becomes detached

1. Replace the tube.
 - You should replace the tube as it is aged.
 - 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 tube frequently becomes detached

1. Check whether the accessory is recognized correctly.

When the magnetic bar does not work properly

1. Check whether the accessory is recognized correctly.
2. Contact your PerkinElmer Service representative to replace the Water Jacketed Micro Cell Holder w/Stirrer.