

FL 6500/8500 Water Jacketed 4-Position Multi-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
- 4-position cell holders
- Built-in stirring mechanism
- Control stirring speed using Spectrum FL software

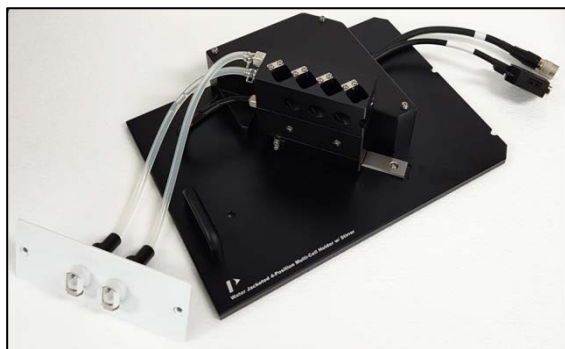


Figure 1 Water Jacketed 4-Position Multi-Cell Holder w/Stirrer (P/N:N4201027)



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

Produced in the USA.

Dimensions and Specifications

Physical Characteristic	Specifications
Moving distance of one cell (mm)	12.8
Moving distance of four cells (mm)	38.4
Moving time of one cell (sec)	1.55
Moving time of four cells (sec)	4.3
Dimensions (mm)	190 (W) X 267 (D) X 98 (H)
Weight (Kg)	1.84

Environmental Conditions for Operation

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

Configuration of the Water Jacketed 4-Position Multi-Cell Holder w/Stirrer

- Water Jacketed 4-Position Multi-Cell Holder w/Stirrer

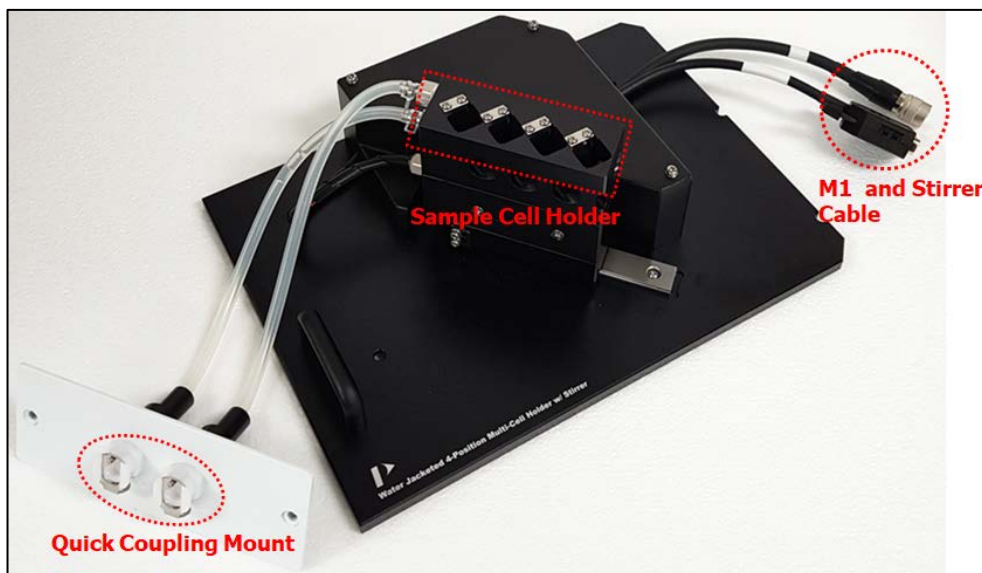


Figure 2 Water Jacketed 4-Position Multi-Cell Holder w/Stirrer Configuration

- Four Stirring Beads (P/N: N4202032)
- Four Teflon Blocks (P/N: N4202033)

- Two Male Connectors of Quick Coupling

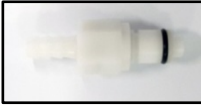


Figure 3 Two Male connectors of quick coupling

Installation

1. Prepare the FL 6500/8500 Fluorescence Spectrometer to install this accessory.
2. Connect the instrument power cord and the communication cable.
3. Loosen the accessory fixing bolt and remove the current sample accessory.

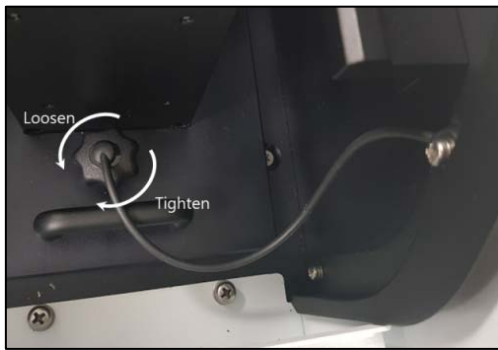


Figure 4 Loosening the accessory fixing bolt

4. Pull out the cell holder by hand.

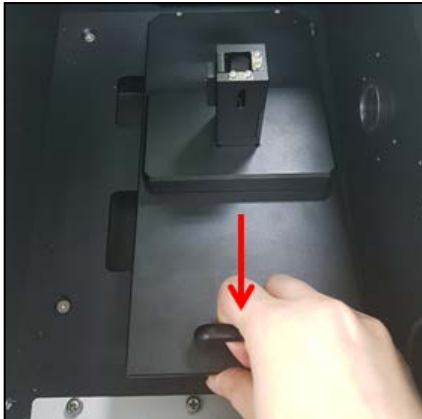


Figure 5 Pulling out the cell holder

5. Remove the current front cover plate.



Figure 6 Front Cover Plate

6. After checking the pogo pin position of the sample compartment, place the Water Jacketed 4-Position Multi-Cell Holder w/Stirrer into the pogo pin.

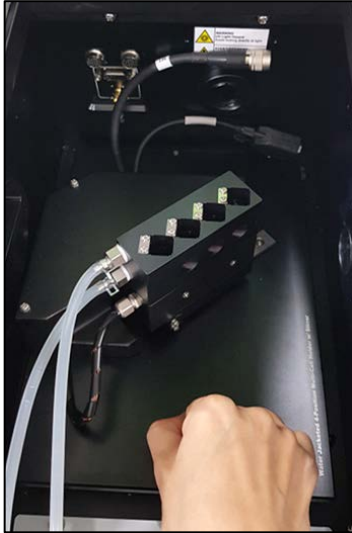


Figure 7 Installing the accessory

7. Fix the front cover plate of the Water Jacketed 4-Position Multi-Cell Holder w/Stirrer with the bolts.



Figure 8 Fixing the Front Cover Plate

8. Tighten again the accessory fixing bolt.
9. Connect the M1 and Stirrer cable of Water Jacketed 4-Position Multi-Cell Holder w/Stirrer to the accessory communication ports inside the sample compartment.



Figure 9 Insert the M1 and Stirrer cables

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

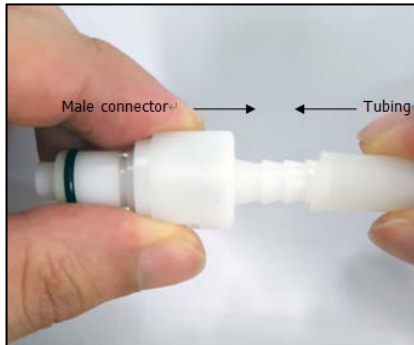


Figure 10 Assembling the Tube with the Male Connector

NOTE: *Tube size is recommended 3 mm-ID and 6 mm-OD and made of silicon which has thermal resistance up to at least 100°C.*

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



Figure 11 Connecting the male connector to the quick coupling

- Switch on the instrument.

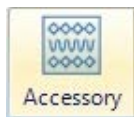
Calibration of Multi-Cell Position

Calibrate the beam position of the Water Jacketed 4-Position Multi-Cell Holder w/Stirrer when the Multi-cell is installed for the first time or the beam position is observed to be incorrect.

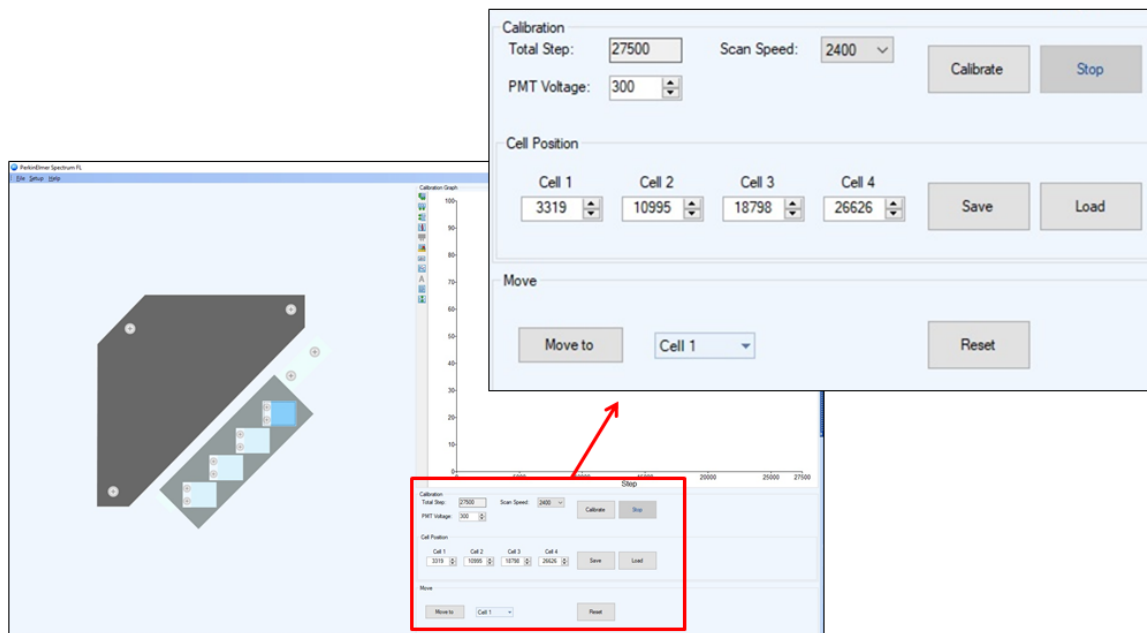
- Put the four Teflon blocks into each cell holder.



2. Close the sample compartment cover.
3. In the spectrum FL software, click the **Accessory** icon to perform the calibration.

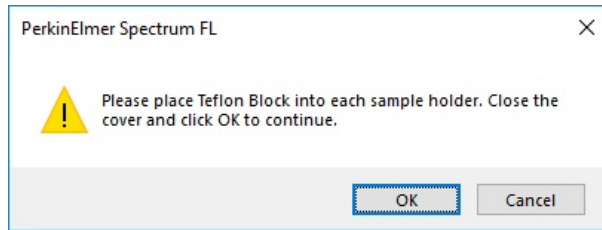


4. The following window appears.



Command	Function
Total Step	The total accessory number of steps is fixed at 27500.
Scan Speed	Select the calibration scan speed. 30, 60, 240, 1200, 2400, 12000 nm/min. Default is 2400 nm/min.
PMT Voltage	Enter the PMT voltage. Ensure that the intensity of the Teflon block is not saturating.
Calibrate	Used to perform the Multi-cell calibration.
Stop	Used to stop the Multi-Cell calibration.
Cell Position	Show saved steps about each cell position of the Multi-cell.
Save	Used to save the calibrated result.
Load	The last stored cell position value is loaded.
Move to	Used for moving Multi-Cell position. Select a cell position and click Move to button.
Reset	Used to move to '0' step of Multi-Cell position.

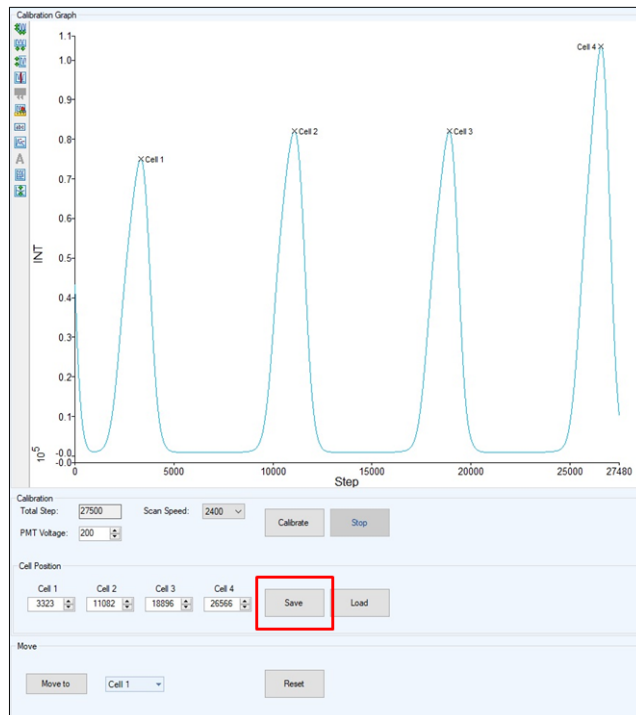
- Set the PMT voltage and click **Reset** to format the Multi-Cell steps.
- Click **Calibrate**, and then the following dialog box will appear. Click **OK**.



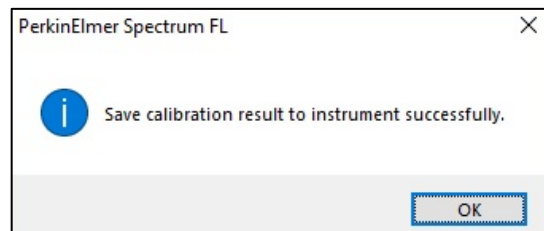
- The Multi-Cell calibration will start.

NOTE: *If the peaks do not look as shown in step 8 or if any peak is saturated, click **Stop**, and then go back to step 5 and lower the PMT Voltage value and resume the calibration.*

- When calibration is finished, click **Save** to save the result.



- As the following message box appears, click **OK**.



Measurement

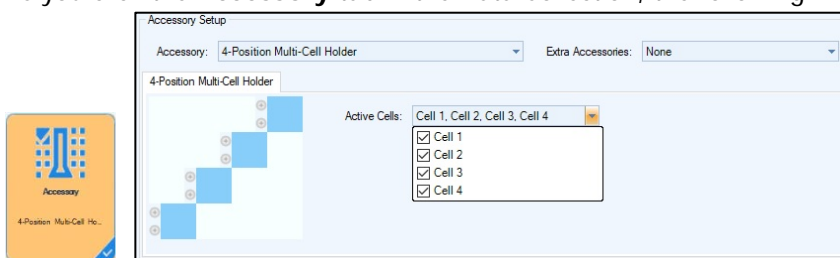
1. Run **Spectrum FL** software as **Administrator** and select a measurement mode.
2. Check the recognition of **Accessory**.



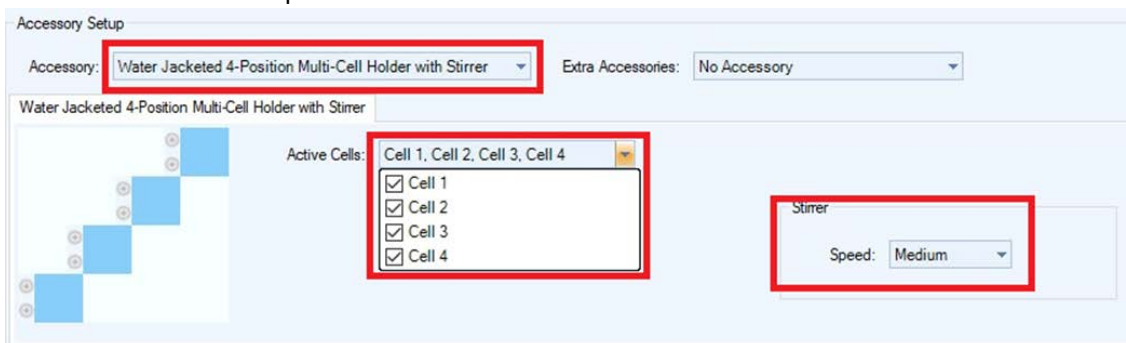
3. Set up the measurement parameters in turn.

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

4. As you click the **Accessory** tab in the Data Collection, the following window appears.



5. Select **Water Jacketed 4-Position Multi-Cell Holder with Stirrer** and select the cells to be used. Then select the stirrer speed.



6. Set the number of samples, type and cell position for measurement in the **Sample Table** tab.

Data Collection		Description	Sample Table	Advanced
Sample ID	Description	Type	Cell	
1	PEService 07	Sample 007 By PEsService Date Wednesday, October 31 2018	Cell 1	4
2	PEService 08	Sample 008 By PEsService Date Wednesday, October 31 2018	Cell 2	Add
3	PEService 09	Sample 009 By PEsService Date Wednesday, October 31 2018	Cell 3	Insert
4	PEService 10	Sample 010 By PEsService Date Wednesday, October 31 2018	Cell 4	Remove
			Cell 1	Up
			Cell 2	
			Cell 3	
			Cell 4	

7. Click **Save** to save the method after setting up the parameters.
8. Put samples into the sample holder and close the sample compartment lid.
9. Select the **Run** icon.
10. Input the sample name and select **OK**.
11. Check the spectrum and results. Save or print the data if required.

Troubleshooting

When the Multi-Cell does not move

1. Check the Connection status between the M1 cable and the accessory communication port.

When the cell holder position is not aligned precisely

1. Recalibrate the Multi-Cell holder if the light beam does not go through the center of the cell holder hole.
2. If the intensity value is still low after the recalibration, the lamp of the light source may be deteriorated and needs replacing. Contact your local PerkinElmer service office.

When the Multi-Cell does not reset

If the resetting is failed, the photo interrupter switch inside the Multi-cell Holder needs replacing. Contact your local PerkinElmer service office.

When constant temperature is not maintained

1. Check if the water bath is working normally.
 - a. Check if the temperature of the water bath is maintained well.
 - b. Check if liquid is flowing well through the tube to the accessory.
2. Check if the tubes are connected to the connectors tightly.

When a magnetic bar does not work properly

1. Check the connection status between the instrument and the stirrer cable.
2. Test the stirrer's speed in turn between Low and High.

