FL 6500/8500 Rapid Mixing Accessory with Pneumatic Drive 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

- The rate constants define the reaction kinetics
- Easy to mix two compounds
- Simultaneously measure just behind injection

Figure 1 FL 6500/8500 Rapid Mixing Accessory with Pneumatic Drive [P/N:N4201015]

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

Produced in the USA.

Dimensions and Specifications

Dimensions

Physical Characteristic		Specification
Rapid Mixing Accessory Only	Dimensions (mm)	455 (W) x 150 (D) x 85 (H)
	Weight (Kg)	4.62

Specifications

Physical Characteristic	Specification
Dead Time	8 ms
Optical Pathlength	2 mm and 10 mm for absorbance/fluorescence/circular dichroism
Widow Size	40 mm^2 for fluorescence detection
Cell Material	Silica
Beam Height	15 mm from base of cuvette holder
Minimum Vol./Shot	120 µl/Shot for each reactant
Syringe Volume	2.5 ml
Ratio mixing	1:1 as standard, but different ratio is also available by altering syringes (up to 1:10)
Temperature Range	4 to 60°C
Triggering	TTL, open-collector and switch-contact
Flow Circuit	Biocompatible and chemically inert

Configuration of the Rapid Mixing Accessory with Pneumatic Drive

Figure 2 Rapid Mixing Accessory with Pneumatic Drive Configuration

1) Syringes
2) Reactant control valve
3) Circle valve
4) Stop syringe
5) Trigger-switch
6) Micro cell
7) Drive button
8) Gauge
9) Press regulator
10) Re-enforced tubing

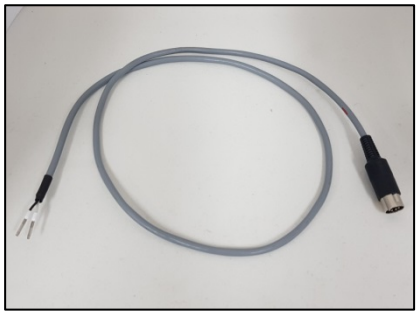


Figure 3 Rapid Mix Trigger Cable

Figure 4 Rapid Mix Cover

Installation

1. Prepare the FL 6500/8500 Fluorescence Spectrometer to install this accessory.
2. Connect the power cord and the communication cable.
3. Prepare a single cell holder. When using the Rapid Mixing accessory, remove the stopper of the cell holder. Unfasten the stopper fixing bolt and pull the stopper forward.

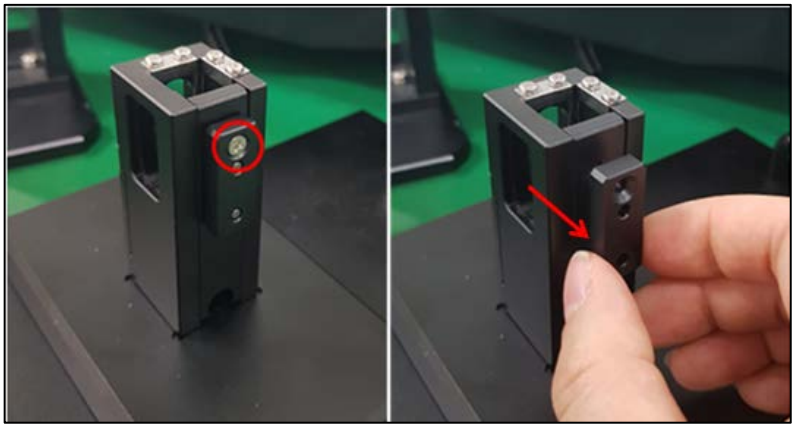


Figure 5 Removing the Stopper

4. After checking the pogo pin position of the sample compartment, attach the Single Cell Holder to the pogo pin.

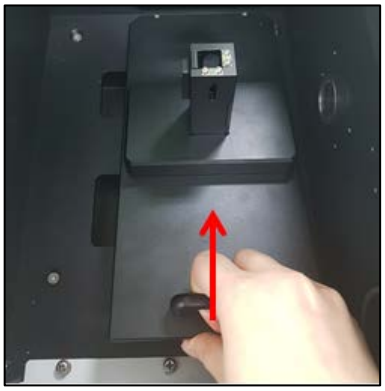


Figure 6 Install the Accessory

5. Tighten the accessory fixing bolt.

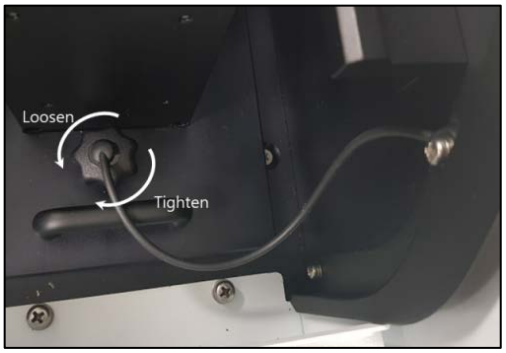


Figure 7 Tightening the Accessory Fixing Bolt

6. Prepare a Rapid Mixing Accessory and Rapid Mix Trigger. Connect the Rapid Mix Trigger to the Rapid Mixing Accessory.

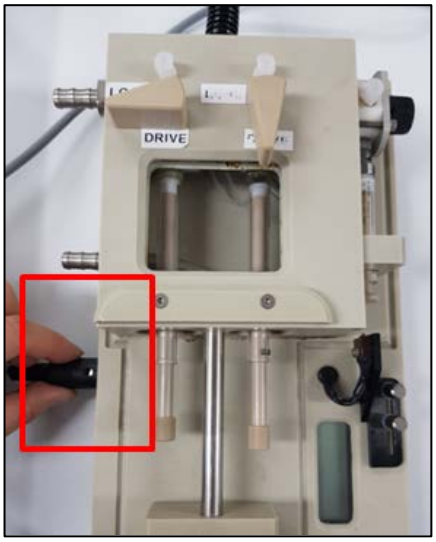


Figure 8 Connect the Rapid Mix Trigger to the Rapid Mixing Accessory

7. Connect the other Rapid Mix Trigger cable to the I/O port of the instrument. Connect **the white wire to port 2 and the black to port 4**.

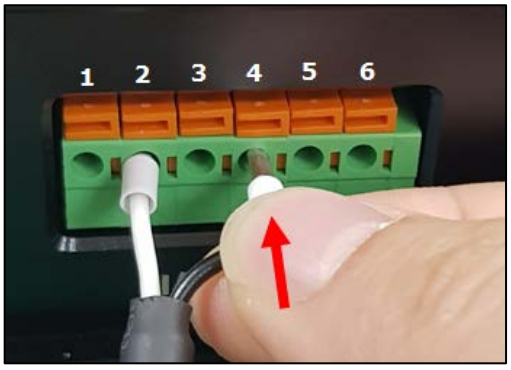
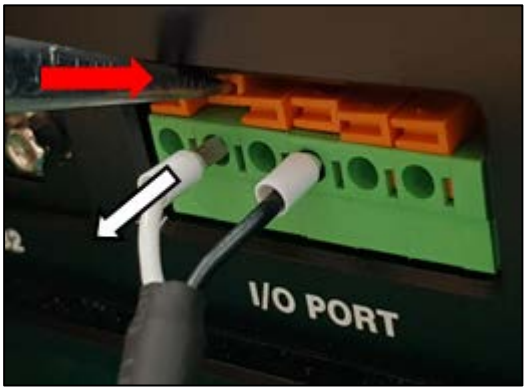


Figure 9 Connect the Rapid Mix Trigger to the Instrument

NOTE: *Push the wire firmly into each port.*

NOTE: *When the Rapid Mix Trigger Cable is disconnected, make sure the wires with the orange part are fully pushed in.*



8. Place the micro cell which is connected with Rapid Mixing Accessory into the cell holder.

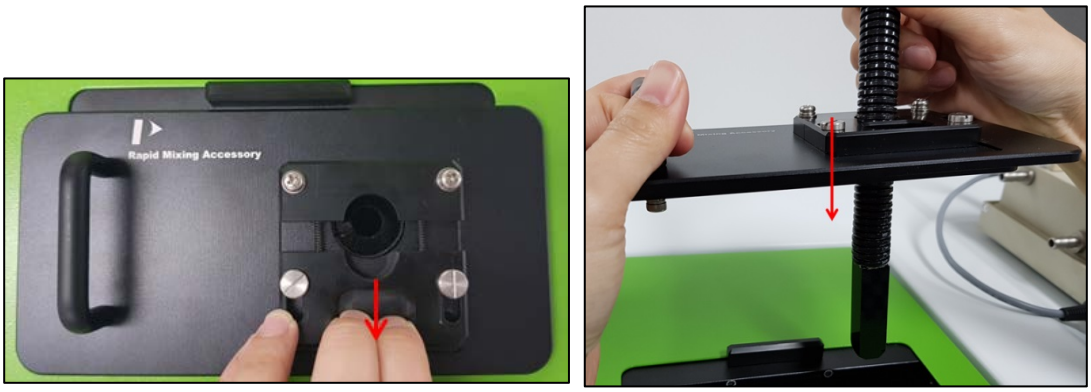


Figure 10 Inserting the Micro Cell

9. Open the lid door and attach the Rapid Mix Cover.

Figure 11 Attaching the Rapid Mix Cover.

10. Line the re-enforced tubing to the Air or N2-gas supplier and open the pressure regulator entirely by turning counterclockwise. After that, open the gas valve of supplier to push the gas into the Pneumatic drive.

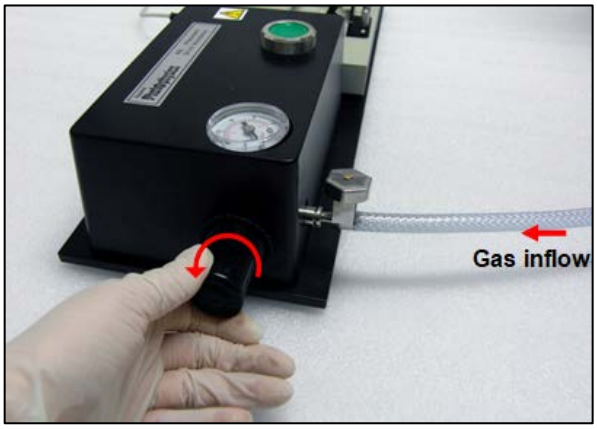
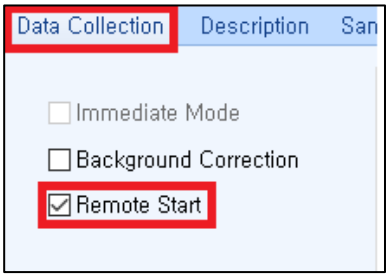


Figure 12 Line the Re-enforced Tubing to Gas Supplier

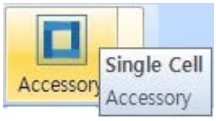
Measurement

NOTE : *When using the Rapid Mixing accessory, the measurable modes are Time Drive, Life Time, Wavelength Program and Kinetics.*

1. Double click on the **Spectrum FL** software and select a measurement mode.
2. Check **Remote Start** in the Data Collection tab.



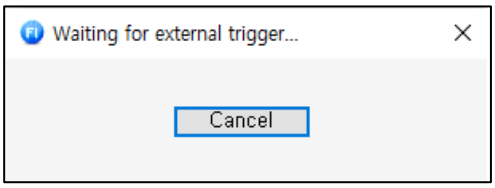
3. Check the recognition of accessory.



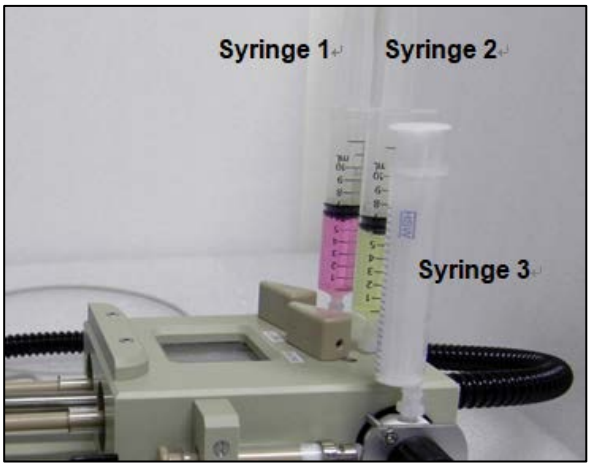
4. Set up the measurement parameters.

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

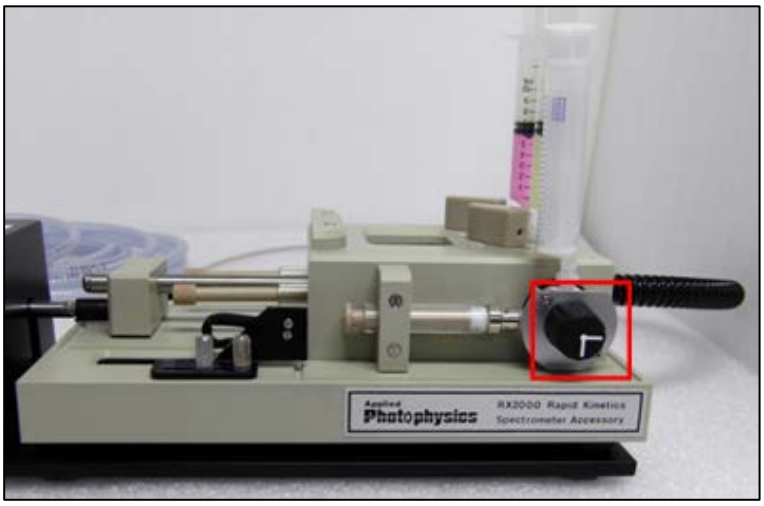
5. Click **Save** to save the method.
6. Click the **Run** icon. Write the experiment name and click **Save.**
7. A pop up window appears and wait for the signal of the trigger switch.



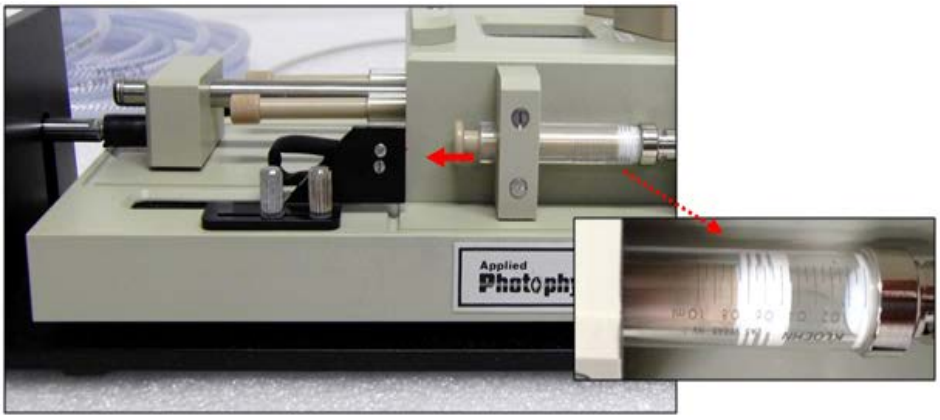
8. Input the sample into Syringe 1 and Syringe 2. Syringe 3 is used for throwing the mixed one away.



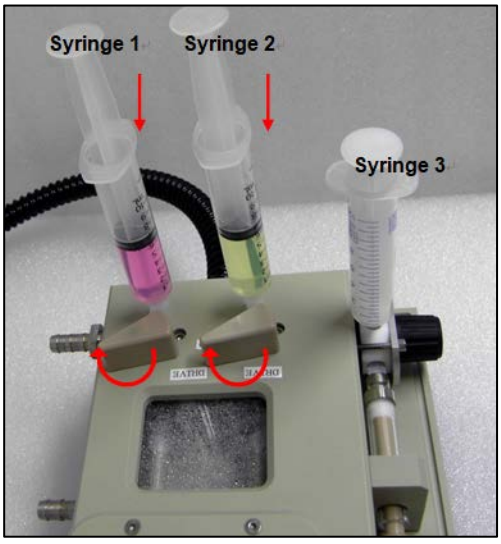
9. Place the position of the circle valve as shown below.



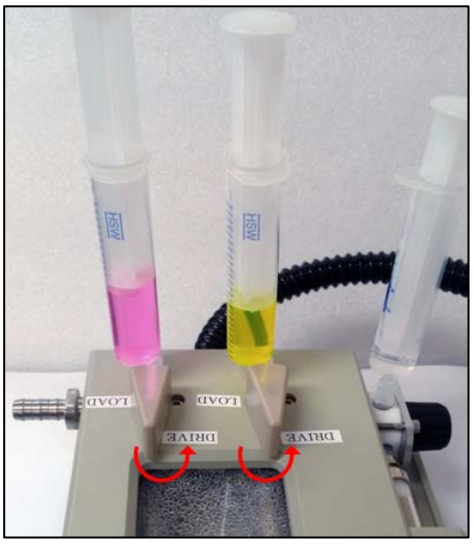
10. By pulling Stop syringe, decide the sample volume which will be injected to the cell. Notice that the volume is adjusted by reading graduation, it is an approximate value, not an exact volume.



11. Place the Reactant control valve to the LOAD direction. After that, push the Syringe 1 and 2 simultaneously for the samples to go to each reactant.

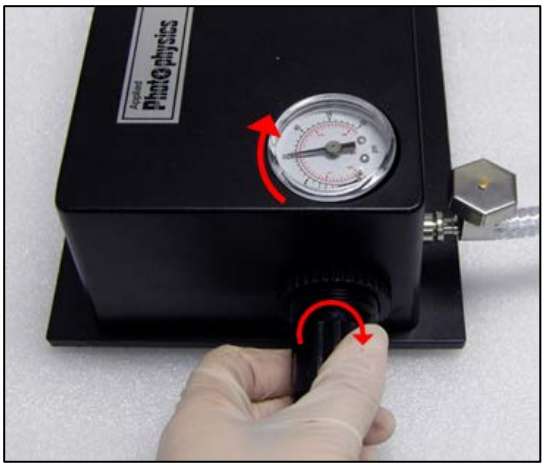


12. After that, place the Reactant control valve to the DRIVE direction.



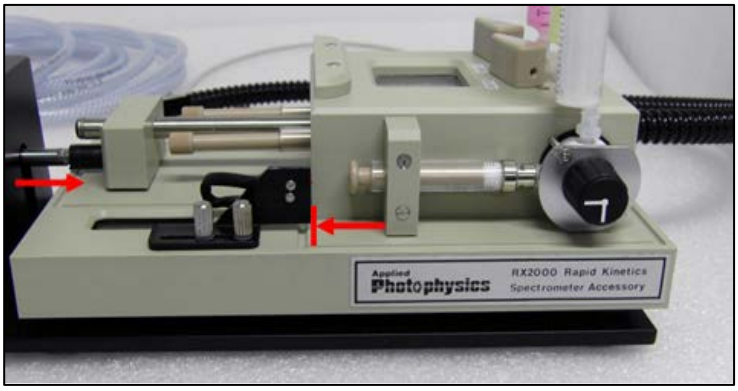
13. Place the position of the circle valve as shown below.

14. Charge the gas with closing regulator (turning clockwise) until the pressure is set as you want.



15. Press the Drive button. Keep pressing until the Actuator piston entirely pushes in the Push block.

16. When the Actuator piston is finished press the Push block, the Stop syringe will tap the Trigger switch.



17. The measurement is started as soon as the trigger switch is pressed.
18. Confirm the spectrum and results. Save or print the data.
19. Place the position of the circle valve as shown below. Then press the piston of the Stop syringe to waste the sample in the Stop syringe to Syringe 3.

Troubleshooting

When sample is not injected from Syringe 1 or 2

1. Check whether the Reactant control valve is correctly directed.
2. Check that the sample is already fully injected.
3. Make sure that the circle valve rotation is correct.

When Actuator piston does not move

1. Check that the gas is charged sufficiently.
2. Check whether the Push block is not hooked to an unwanted particle.

When the intensity fluctuate abnormally

1. Cover the sample compartment entirely with the cloth.

When sample is not wasted to Syringe 3

1. Make sure that the circle valve rotation is correct.