Lambda 265/365/465 Auto Sipper Installation Instructions

This instruction sheet describes the installation of this accessory which is used with the Lambda 265, 365 or 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

- Easy to install
- Easy to use
- Flow of the sample is controllable

Figure 1 Auto Sipper with Software Control

for Lambda 265 [P/N : N4101050] and Lambda 365/465 [P/N : N4101012]

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

Produced in the USA.

Dimensions and Specifications

Physical Characteristic	Specifications
Speed (RPM)	0.1 to 100
Flow rate	0.0002 - 35 ml/min/channel (tube dependent)
Motor type	Stepper motors
Channels	2
Pump rollers	8
Power	100 – 240 V AC, 50/60 Hz, 30W
Temperature operating (°C)	-5 to 40 °C
Humidity (%)	Up to 80%
Dimensions (mm)	170(H) X 125(W) X 193(D)
Weight (Kg)	2.7

Table of correlation between tube i.d. and ml per revolution

Tube i.d. (mm)	Flow Rate* (mL/min per channel)
	0.1 ~ 100 RPM
0.13	0.0002 to 0.11
0.51	0.0017 to 1.7
0.57	0.0021 to 2.1
0.64	0.0026 to 2.6
0.95	0.0056 to 5.6
1.02	0.0063 to 6.3
1.42	0.011 to 11
1.75	0.016 to 16
1.85	0.017 to 17
2.54	0.027 to 27
2.79	0.031 to 31
3.17	0.035 to 35

Description

Configuration of the Auto Sipper with Software Control for Lambda 265/365/465

- *Peristaltic Pump*

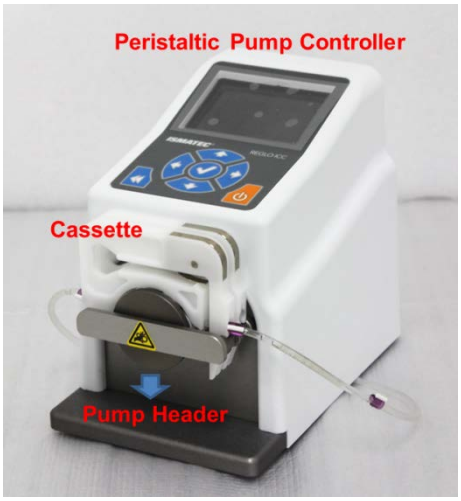


Figure 2 Peristaltic Pump for Lambda 265/365/465

- *Lambda 265/465*

Tube connection components

Conical Adapter (2ea)		*Outlet tube (1ea)*	
Peristaltic pump tube (1ea)		*Inlet tube (1ea)*	
Tube 1.5 M (1ea)		*Flow cell (1ea) Beam height: L265(8.5 mm) /465(15 mm)*	

- *Flow cell for L265 P/N: N4101051*
- *Flow cell for L465 P/N: N4101052*

- *Lambda 365*

Tube connection components

Conical Adapter (2ea)		*Outlet tube (1ea)*	
Peristaltic pump tube (1ea)		*Inlet tube (1ea)*	
Tube 1.5 M (1ea)		*Flow cell (1ea) Beam height: L365(15 mm)*	

- *Flow cell for L365 P/N: N4101052*

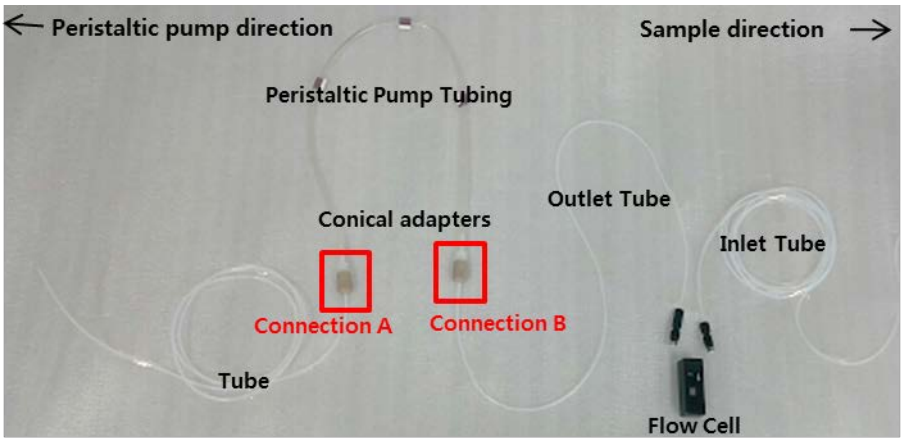
Front plate for Auto Sipper accessory [P/N: N4101026]

Connection Tube Assembly (2ea)		*Flangeless Fittings (2ea)*	
Phillips round head screw with washer **(M4 *12L)** *(2ea)*	 *Used to fix a front plate for Auto Sipper Accessory Lambda 365*	*Front plate for Auto Sipper Accessory (1ea)*	

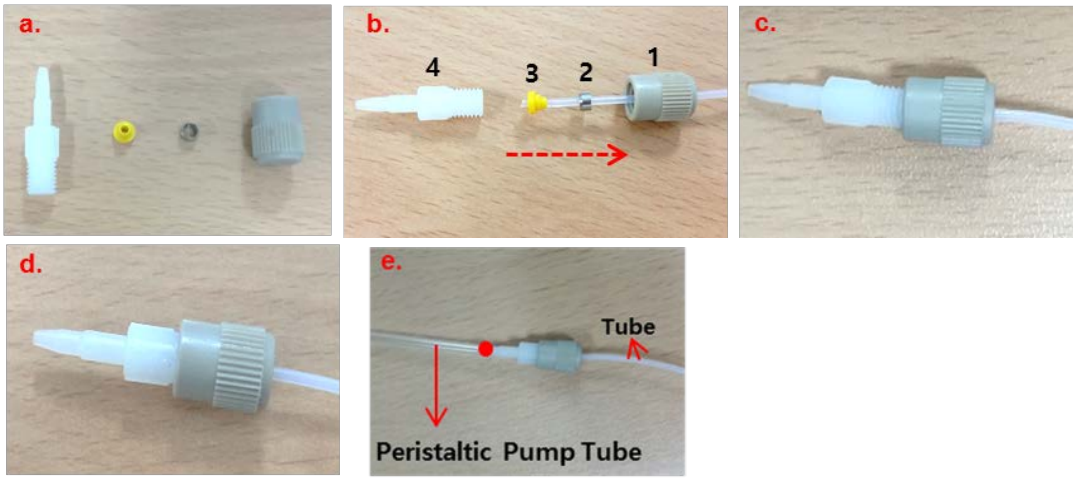
NOTE: *Front plate for auto sipper accessory must be purchased separately.*

Installation for Lambda 265 and 465

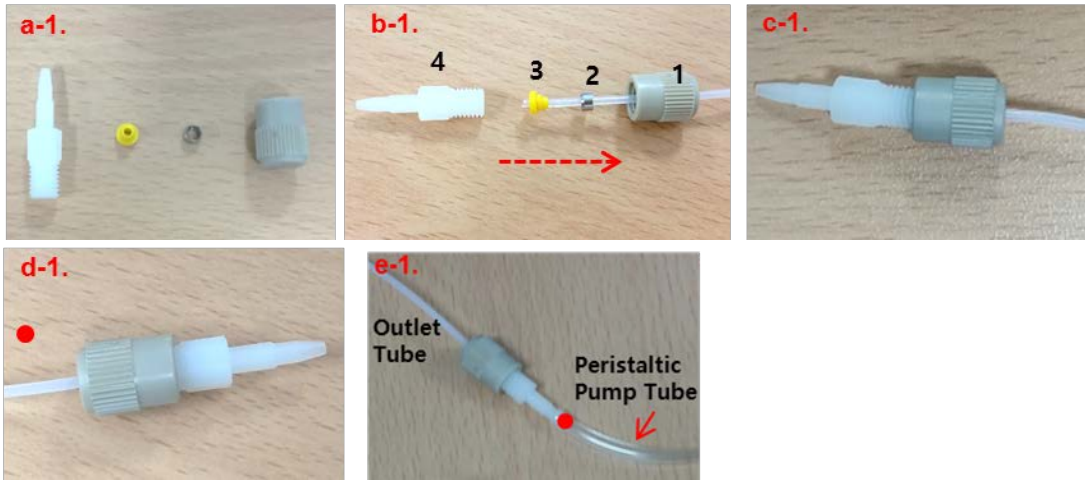
1. Prepare the tube connection components and connect each component one by one.



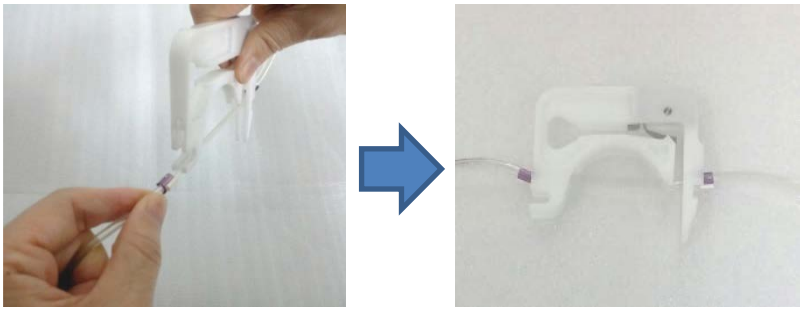
Connection A: Connect the tube to the conical adapter, and to the peristaltic pump tube.



Connection B: Connect the outlet tube of the flow cell to the conical adapter, and to the peristaltic pump tube.



2. Insert the peristaltic pump tube into the cassette by placing the fixing collars of the peristaltic pump tube in the holes on each side of the cassette.



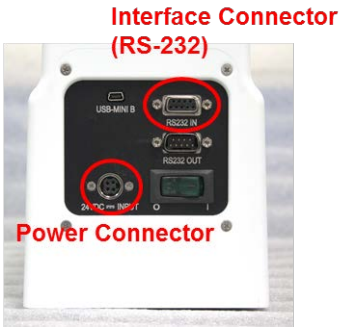
3. Press the cassette down to lock the right side snap lever on the locking bar.

4. Connect the inlet tube to the port of the flow cell with the arrow mark and the outlet tube is connected to the other port of the flow cell.

5. Put the flow cell into the cell holder.

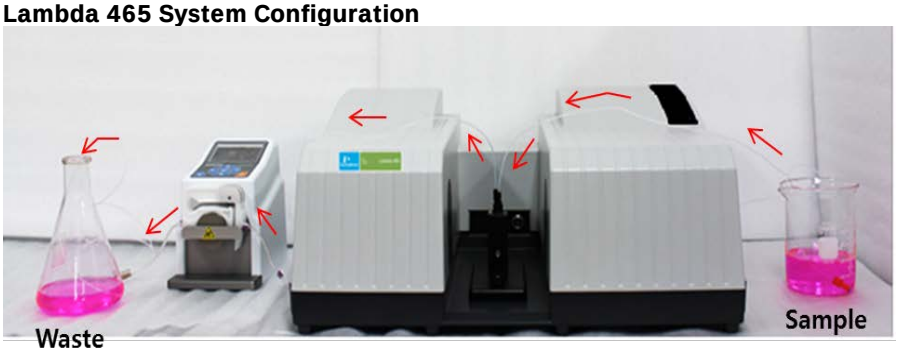
6. Connect the peristaltic pump controller to the PC via the RS-232 cable (or USB to RS-232 cable) or USB cable.

7. Connect the power cable to the peristaltic pump controller.

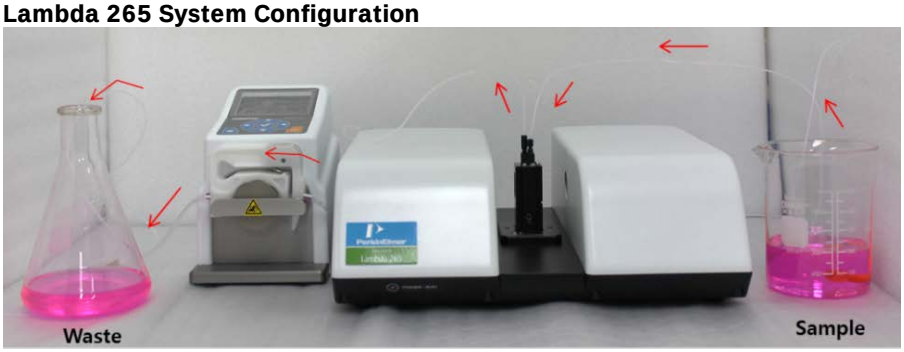


8. Make the system configuration as shown in the picture below.

Lambda 465 System Configuration



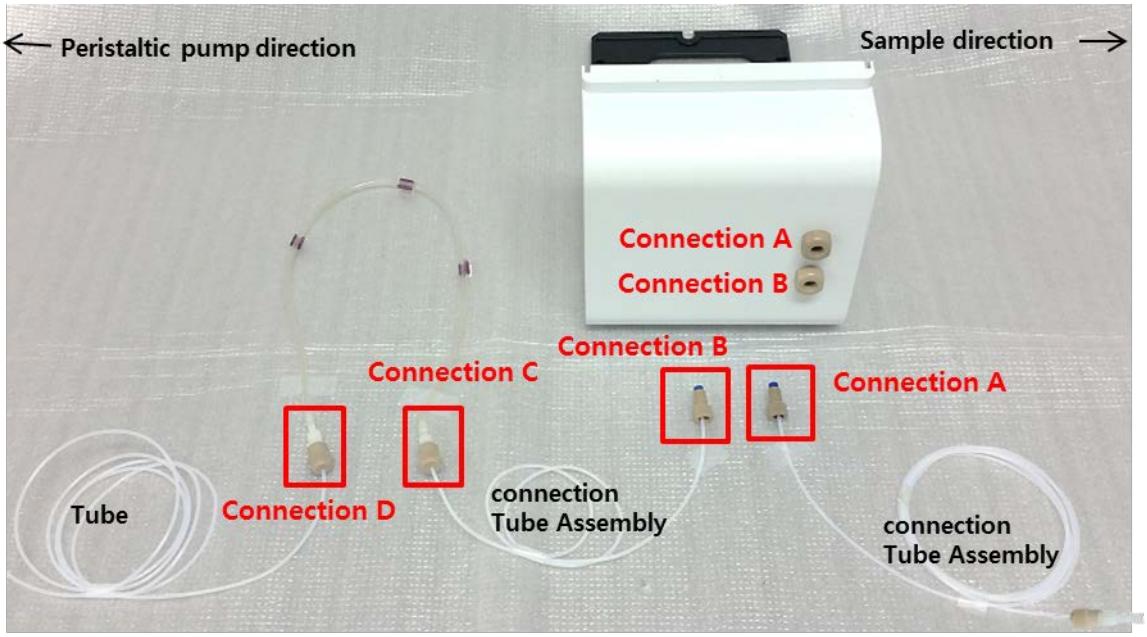
Lambda 265 System Configuration



9. Turn on the power of the Lambda 265/465 and peristaltic pump controller.

Installation for Lambda 365

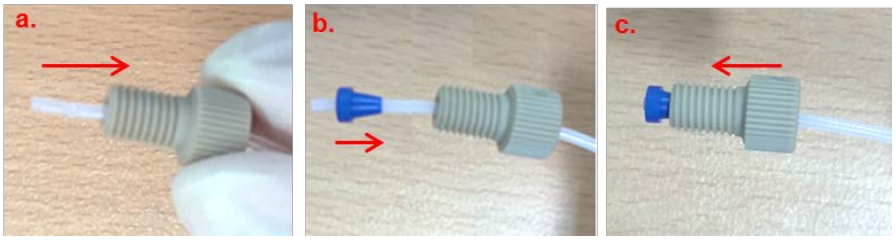
1. Prepare the tube connection components and the front plate for Auto Sipper accessory and connect each component one by one.



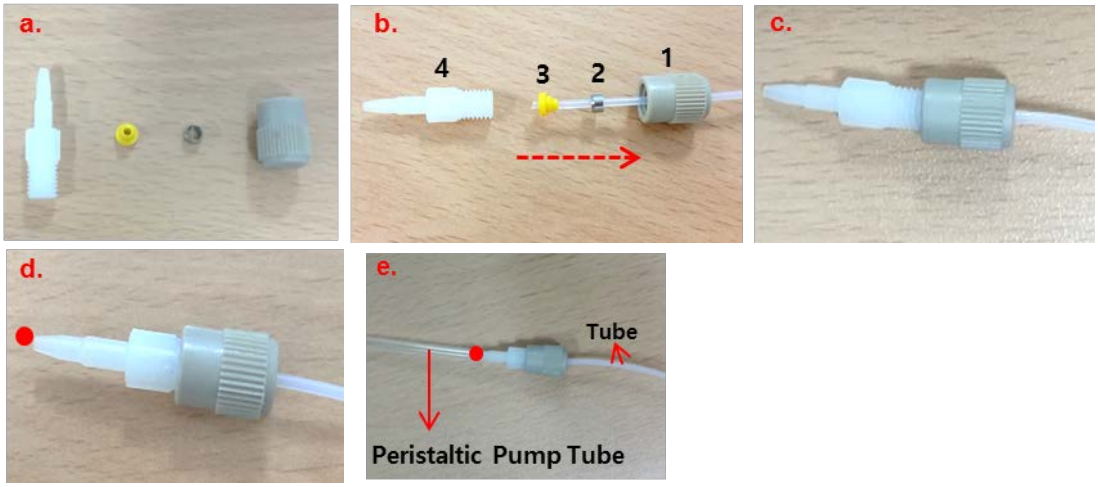
Connection A and B: Tighten the Flangeless fittings of the all two Connection Tube Assembly on the front plate for Auto Sipper accessory.
Connection C: Connect the conical adapter of the Connection Tube Assembly to the peristaltic pump tube.

NOTE: *Assemble the Flangeless fitting for Connection A and Connection B following the procedures in the picture below.*

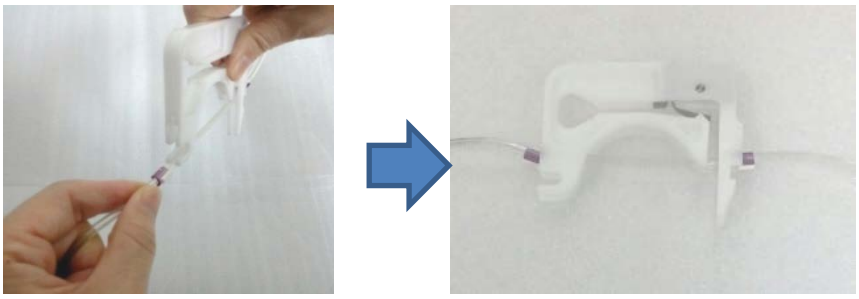
Flangeless fitting



Connection D: Assemble the conical adapter to the tube, and connect to the peristaltic pump tube. Procedure for assembling conical adapter.

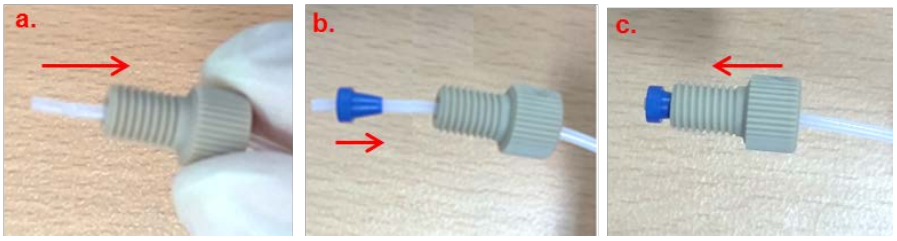


2. Insert the peristaltic pump tube into the cassette by placing the fixing collars of the peristaltic pump tube in the holes on each side of the cassette.

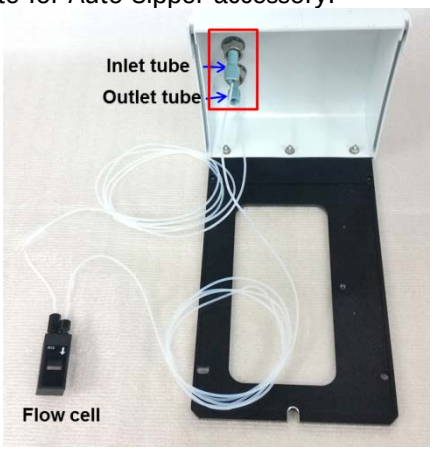


3. Press the cassette down to lock the right side snap lever on the locking bar.

4. Connect to the flangeless fittings to the inlet and outlet tubes for the flow cell.

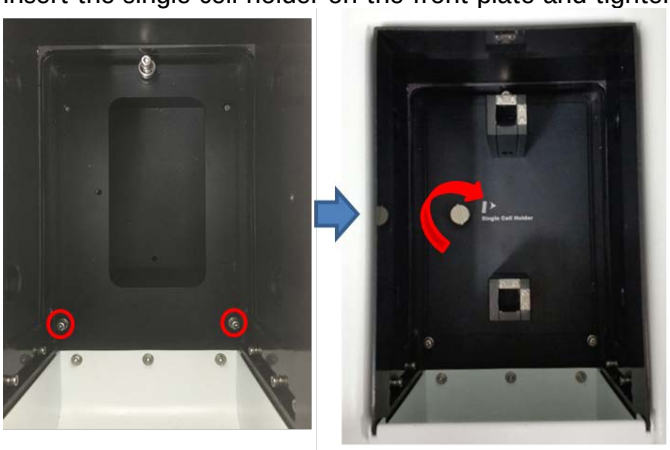


5. Connect one connector of the inlet tube to the port of the flow cell with the arrow mark and the other connector of the inlet tube to the upper port inside of the front plate for Auto Sipper Accessory, and connect the outlet tube to the outlet port of the flow cell and to the lower port inside of the front plate for Auto Sipper accessory.



6. Remove the two Phillips round head screws with washer (M4*12L) to disassemble the existing cell holder and base plate and insert the front plate for Auto Sipper accessory in the sample compartment.

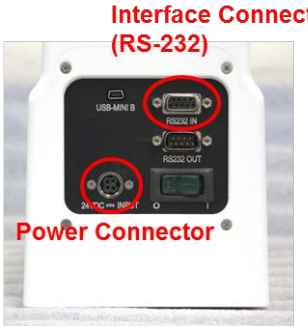
7. Tighten the front plate for Auto sipper accessory in the sample compartment with the screws and insert the single cell holder on the front plate and tighten the knob.



8. Put the empty flow cell into the cell holder.

9. Connect the peristaltic pump controller with the PC via RS-232 cable (or USB to RS-232 cable) or USB cable.

10. Connect the power cord to the peristaltic pump controller.



11. Make the system configuration as shown in the picture below.

12. Turn on the power of the Lambda 365 and peristaltic pump controller.

Installing the USB Driver

When using the USB cable you should download USB driver on the IDEX website.

1. Connect to the website: http://www.ismatec.com/int_e/downloads/software/download.htm and download the proper version of the driver.

2. Install the driver by following the instructions.

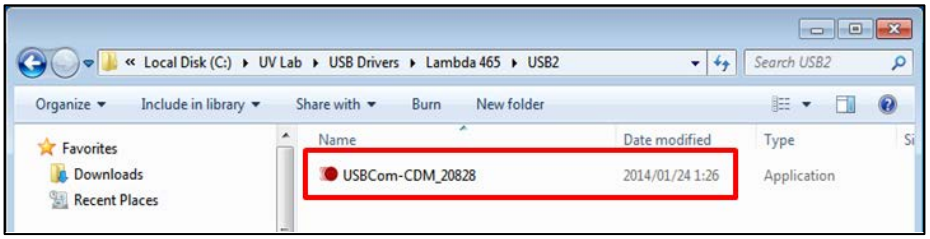
Installing the USB to RS-232 Driver of Lambda 465

When using the RS-232 cable, the COM Port is set automatically. If it is not automatically set, install the COM port drive properly according to the following procedure.

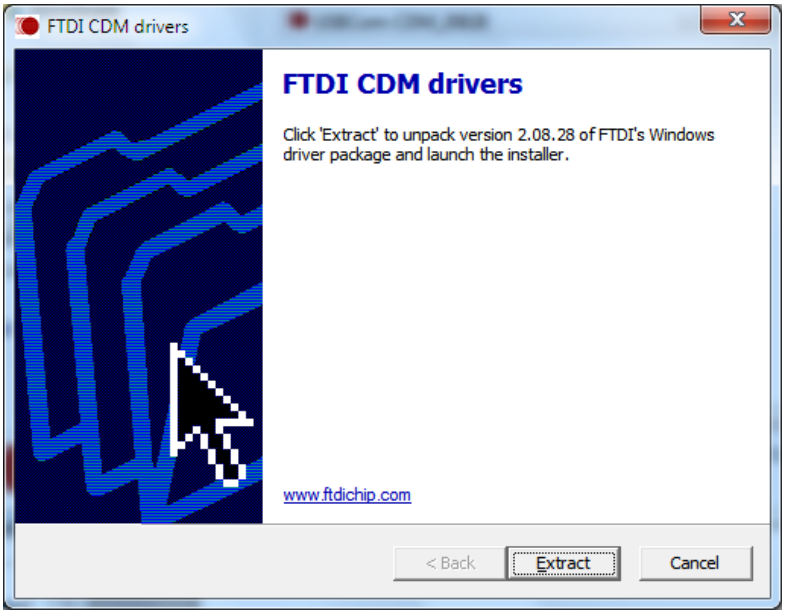
NOTE: *In case of Lambda 265/365, as the USB to RS-232 Driver has already been installed when installing the software, user does not need to install it again.*

1. Turn on the computer and the instrument.
2. Connect the USB to RS-232 Cable between the computer and the instrument.
3. Select **C>UV Lab> USB Drivers> Lambda 465> USB2 folder**.

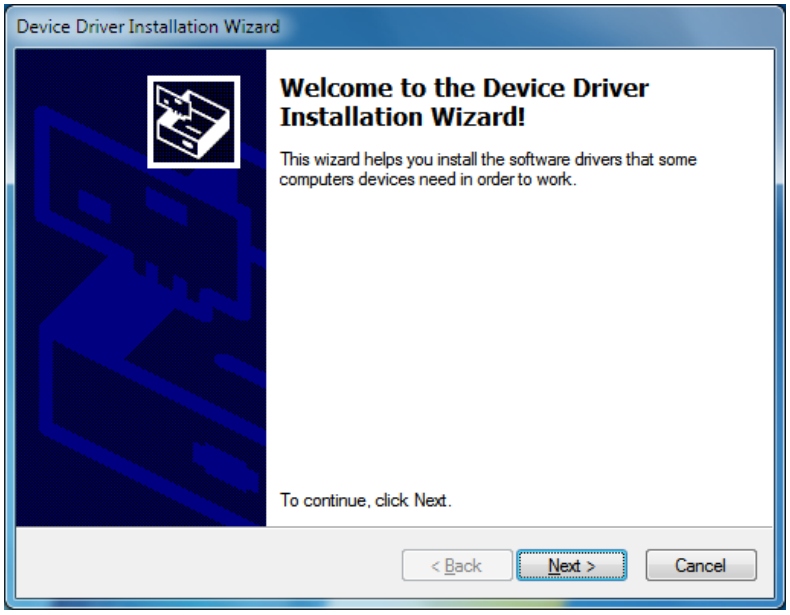
4. Double click **USBCom-CDM_20828**.



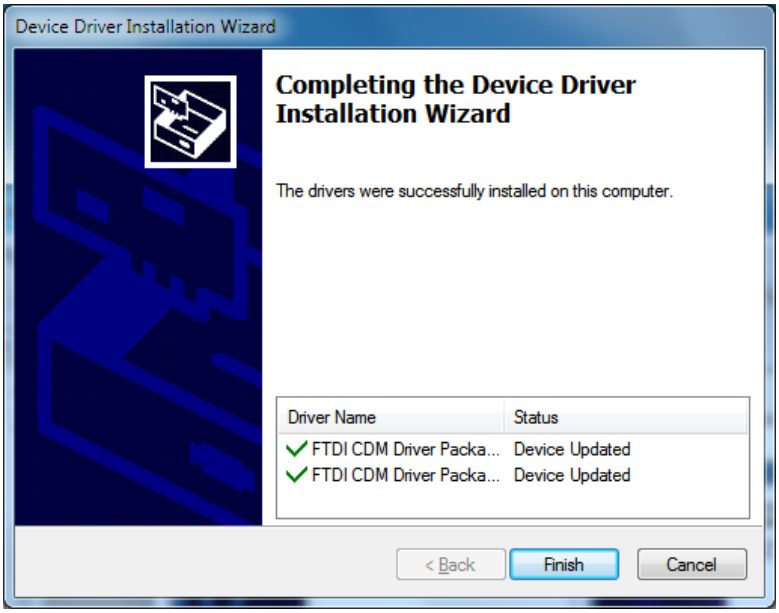
5. Click **Extract**.



6. Click **Next**.



7. The following dialog box will appear. After installation is completed successfully. Click **Finish**.

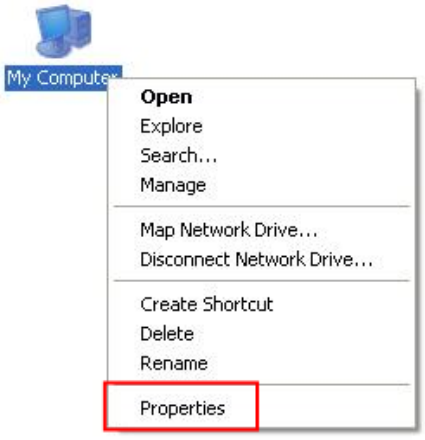


8. Set parameters for the USB serial Port after finishing driver setup, referring to the following section.

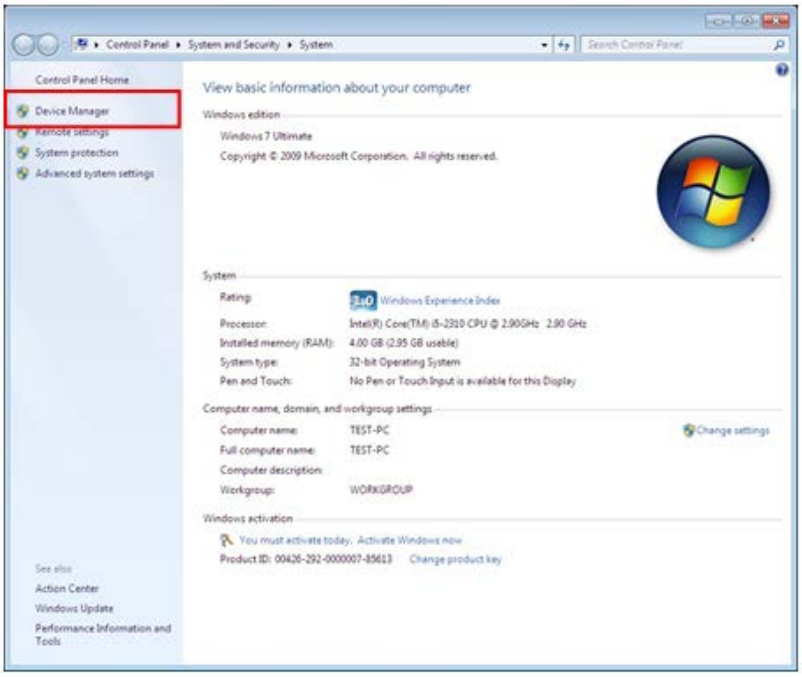
Setting USB to RS-232 Cable

When using the RS-232 cable, the COM Port is set automatically, and then you should set USB serial port

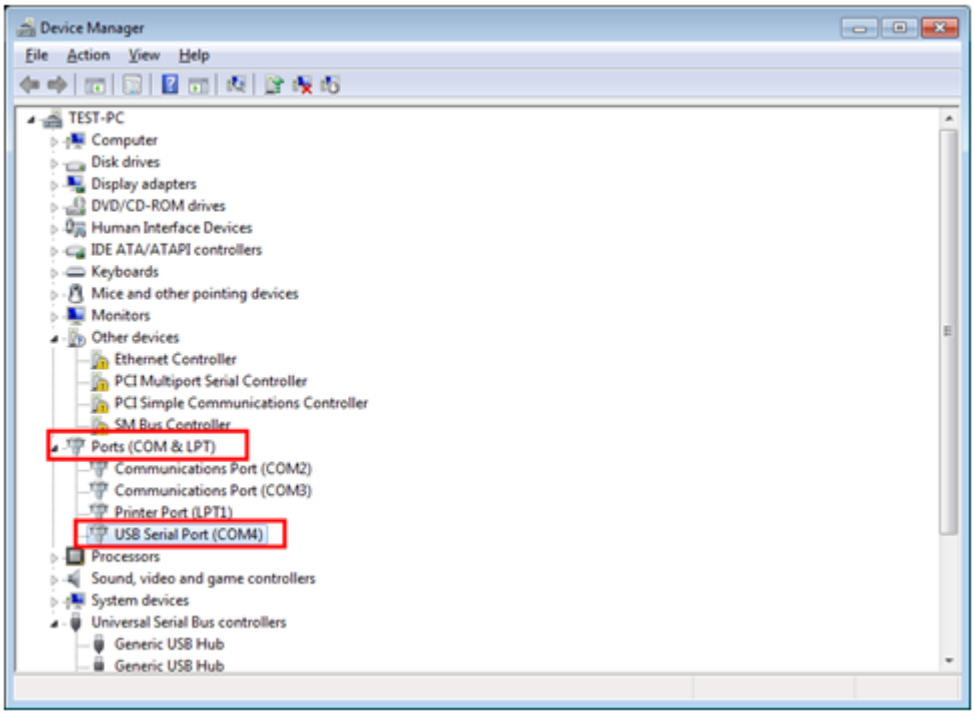
1. Select **My Computer** → **Properties**.



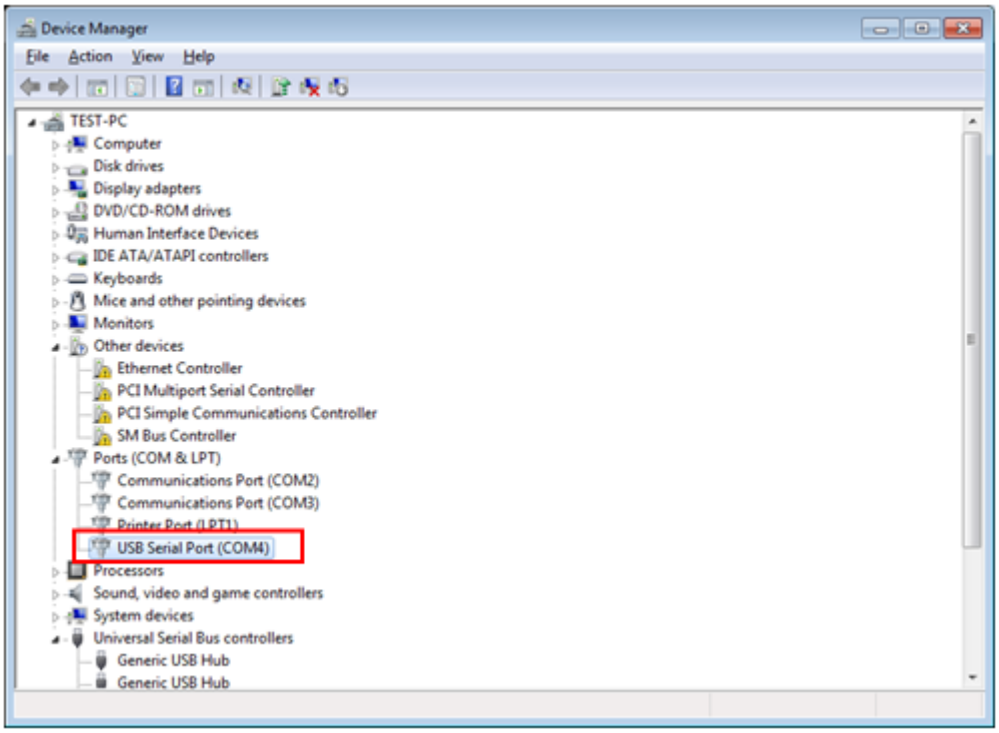
2. Select **Device Manager**.



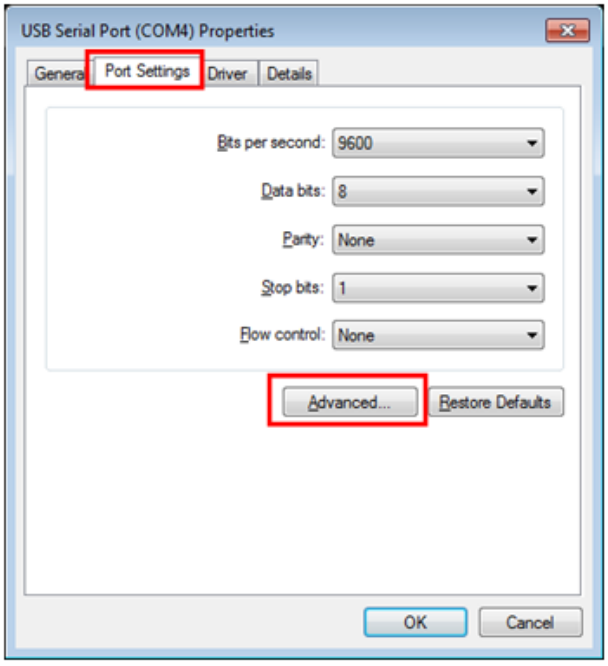
3. Select the **Ports (COM & LPT)** to expand the listing. These are the devices currently connected to the COM ports. The **USB Serial Port (COMx)** is visible when the driver installation is completed successfully.



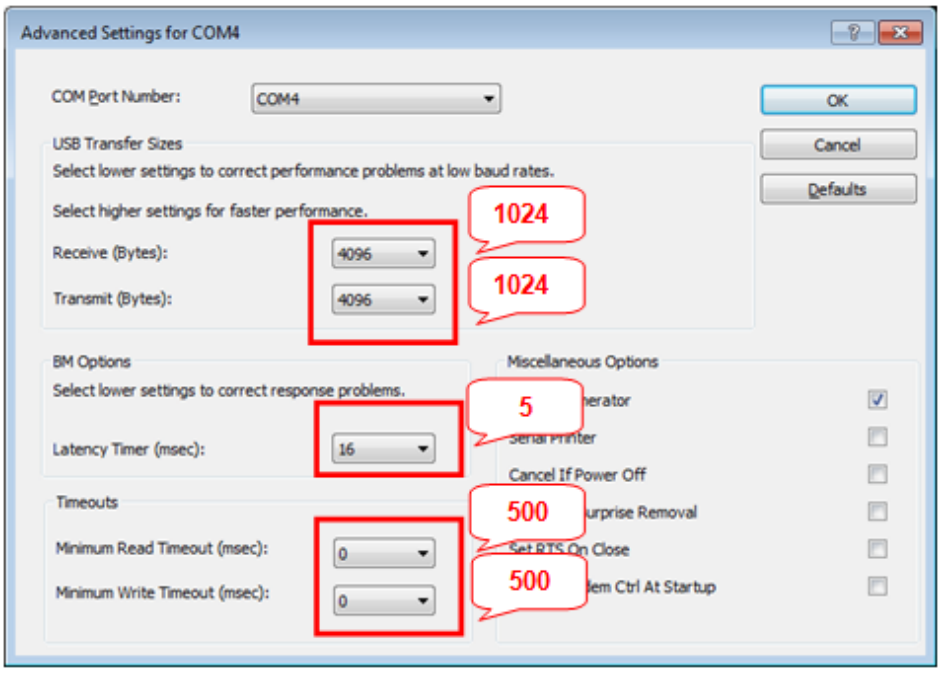
4. Double click on **USB Serial Port (COMx)** of the Ports (COM & LPT) section.



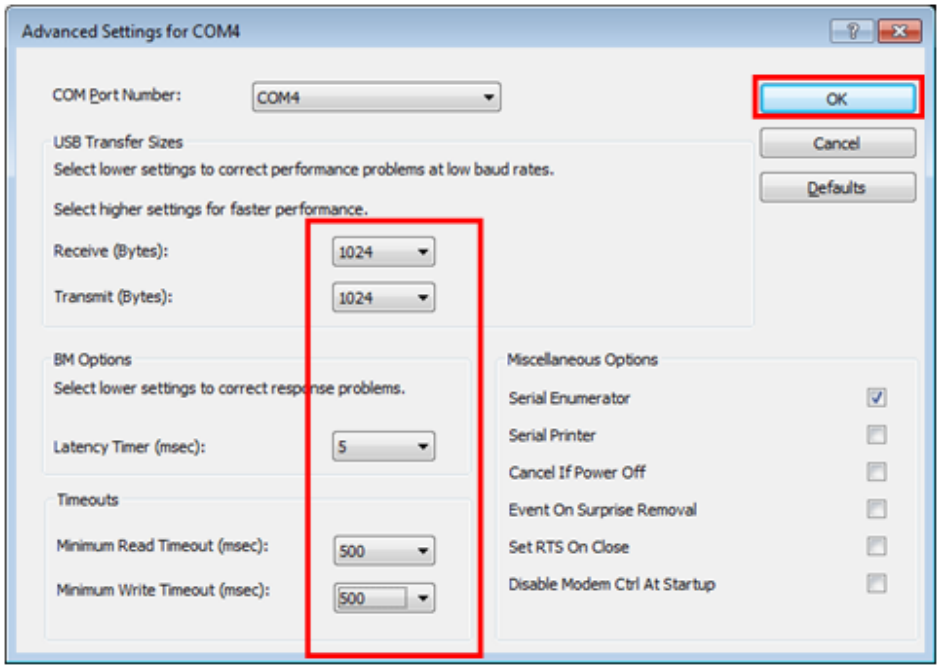
5. Select on the **Port Settings** tab and click on the **Advanced... button**.



6. Change the parameter values as shown below.

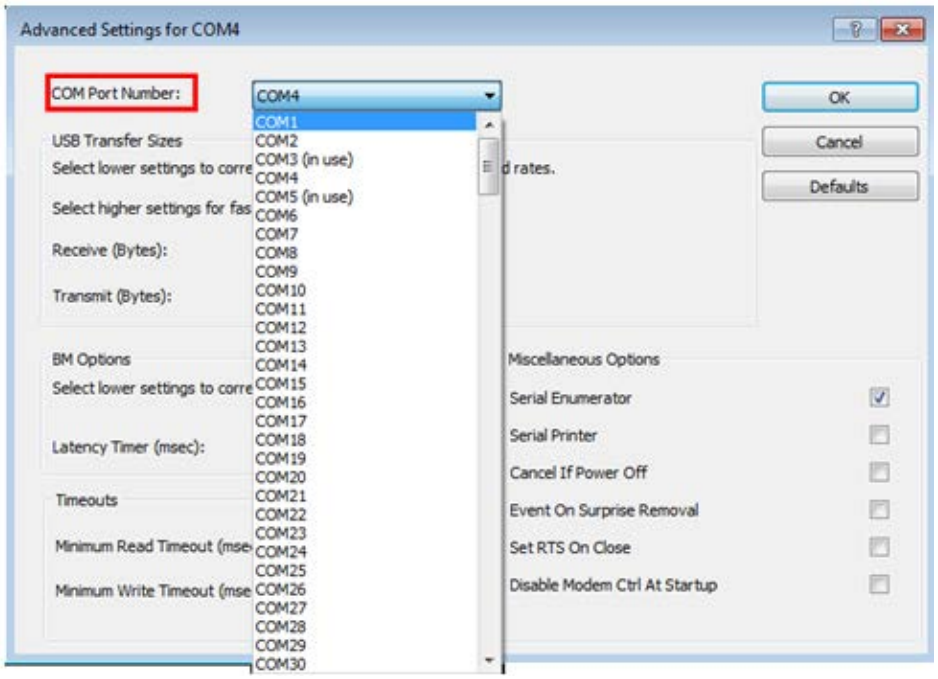


7. Select **OK** after checking the changed parameter values.

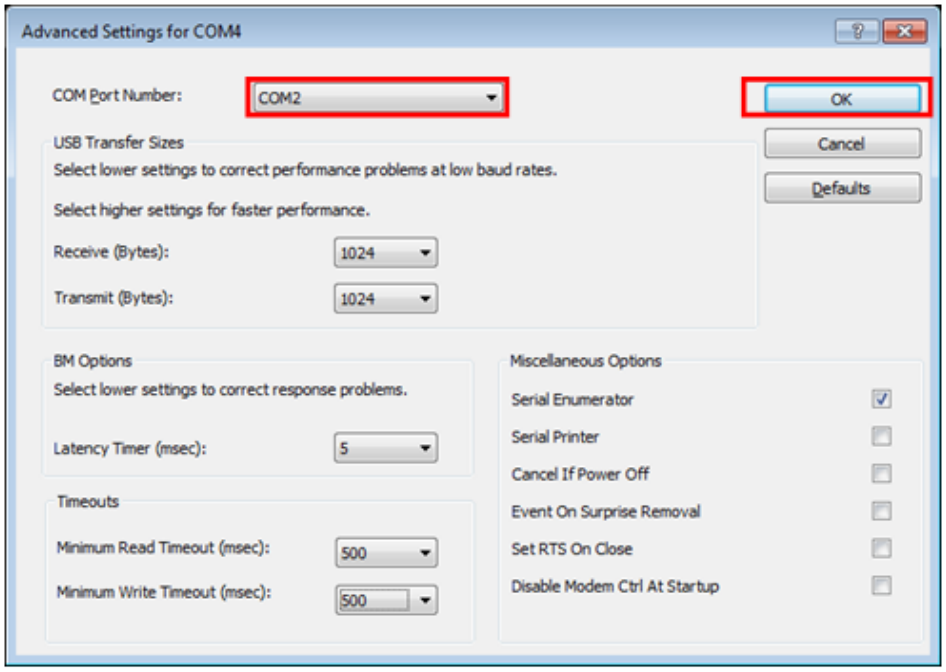


8. Execute the software.
9. If the instrument fails to communicate with the PC, change the COM Port Number as following procedure.
10. Open **Advanced Setting for COMx** window following steps 1 to 7.

11. Select on the COM Port number list to expand it and change the COM port number to another one which is not in use from COM 1 to COM 10.



12. Make sure that the changed COM Port Number is applied and select **OK**.



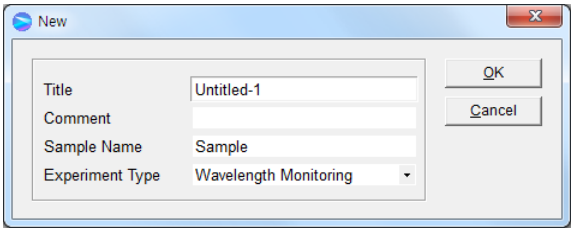
13. Restart the computer after finishing the driver setting.

Measurement

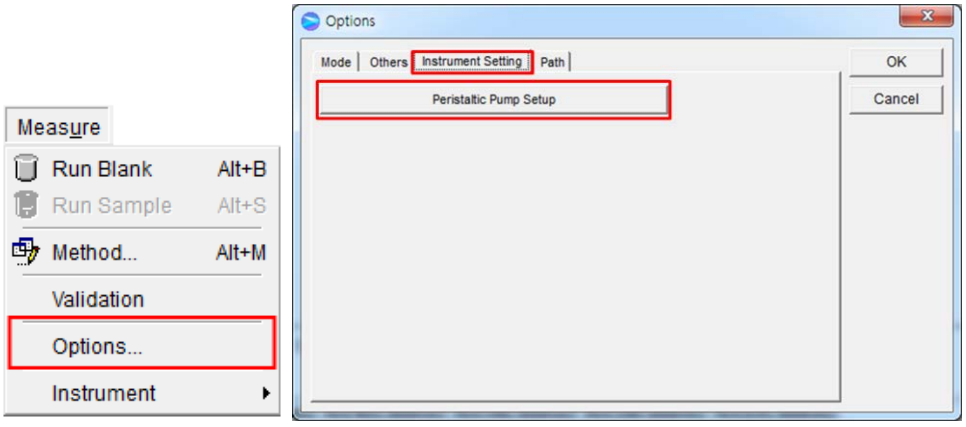
Lambda 265/465 with UV Lab Software

NOTE: *In case of Lambda 465, start the sample measurement after warming up the system at least 20 minutes.*

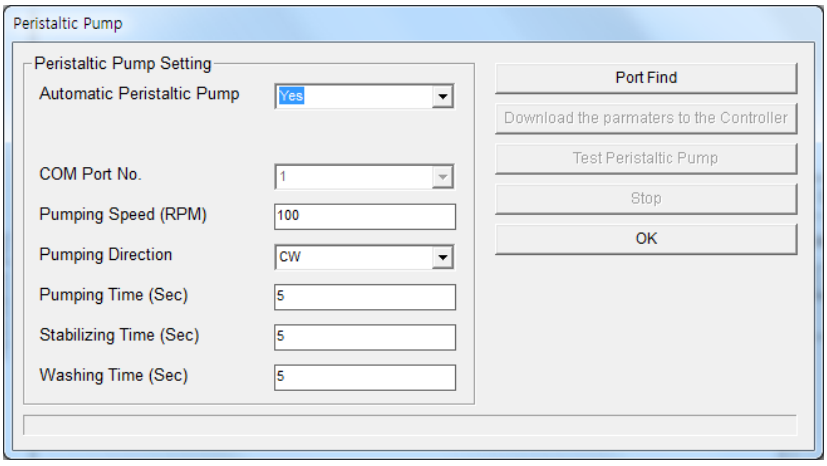
1. Launch the UV Lab software. When the following window appears, select **Experiment Type** and click **OK**.



2. Select **Measure → Options → Instrument Setting → Peristaltic Pump Setup**.



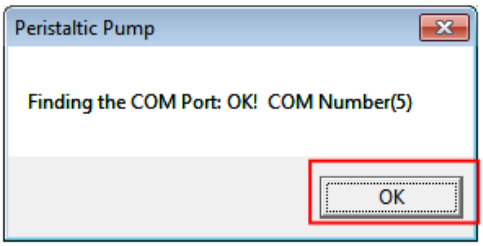
3. The following box will be displayed. Enter each parameter.



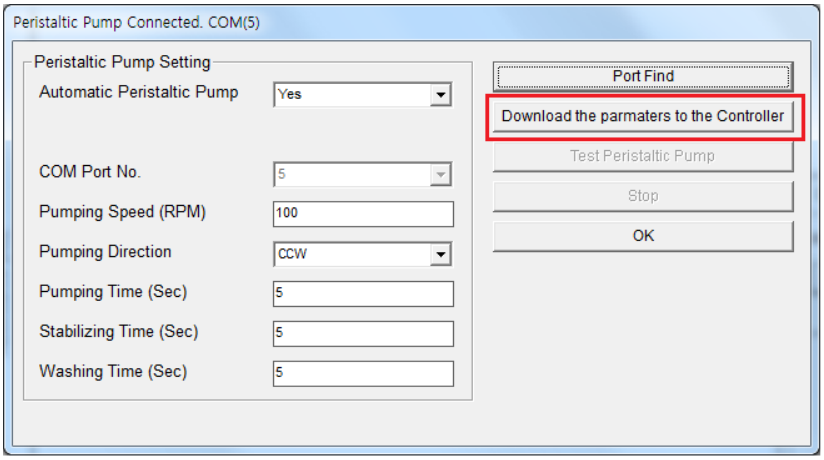
- Automatic Peristaltic Pump: Select **Yes**.
- COM Port No.: Click **Port Find**. The COM port no. will be selected automatically.
- Pumping Speed (RPM): Enter the Pumping Speed. (0.1 ~ 100)

- Pumping Direction: Select the Pumping Direction. You can select either **CW (clockwise)** or **CCW (counter-clockwise)**.
- Pumping Time (Sec): Enter the pumping time of a sample. Enter sufficient time to remove the waste which in rest in the flow-through cell.
- Stabilizing Time (Sec): Enter the stabilizing time after pumping a sample. Measurement will be started after stabilizing finished.
- Washing Time (Sec): Enter the washing time after measuring a sample.

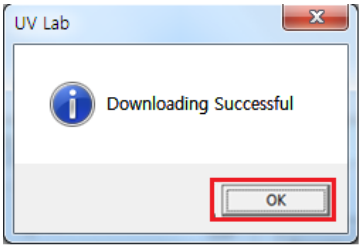
4. Select **Port Find**. The following box will be displayed, click **OK**.



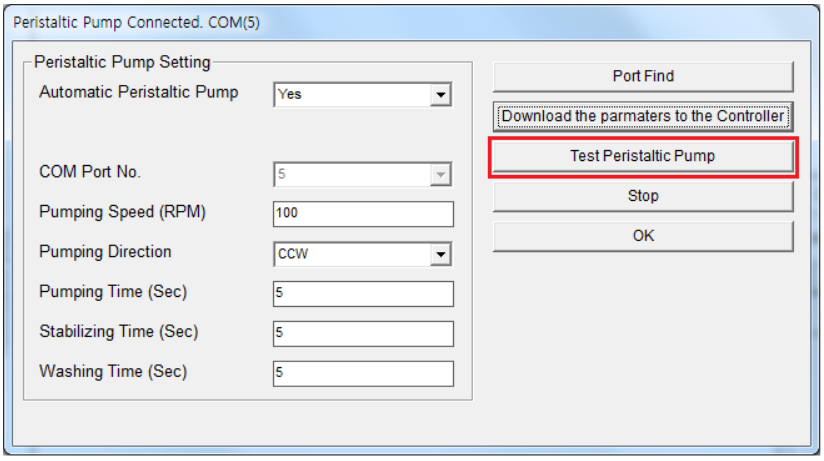
5. After set the parameters and click **Download the parameters to the Controller**.



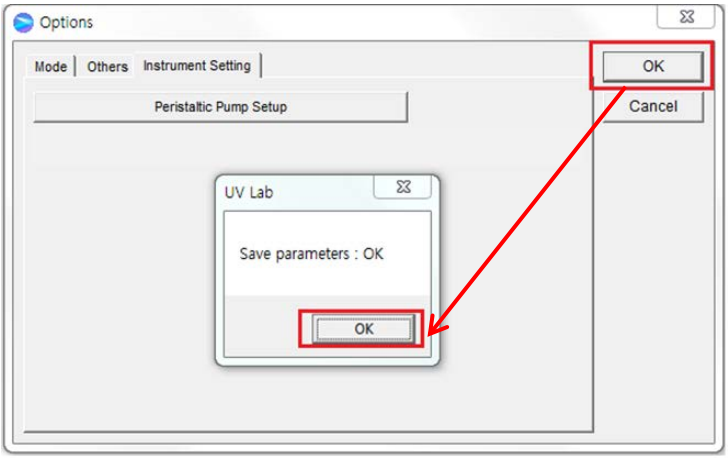
6. The following box will be displayed, click **OK**.



7. If you want to run a trial test with this setting, select **Test Peristaltic Pump**.



8. After finishing the test run, select **OK**.
9. Select **OK** on **Option**s window.



10. Prepare the blank solution.
11. Select the **Blank** icon. Pump through the blank solution and measure the blank spectrum.
12. Prepare the sample solution.
13. Select the **Sample** icon. Pump through the sample solution and measure the sample spectrum.

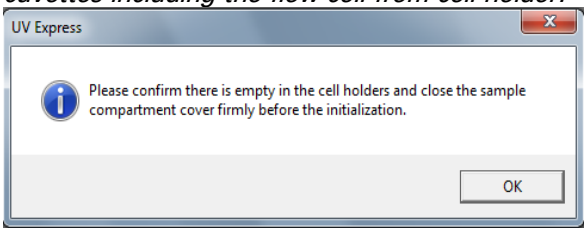
Lambda 365 with UV Express Software

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

1. Double-click **UV Express** folder and select Measurement mode, e.g. **Scan** mode**,** for starting.

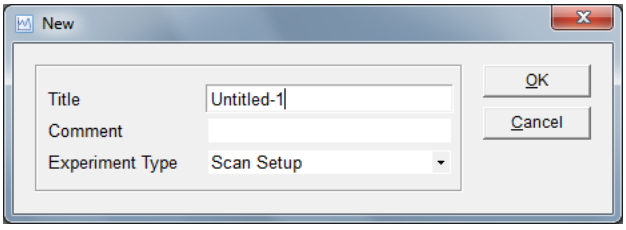
2. The following window will be shown. Empty the cell holder and close the lid firmly.

NOTE: *When performing System Self Test, both reference and sample cell holder has to be emptied. Please remove cuvettes including the flow cell from cell holder.*



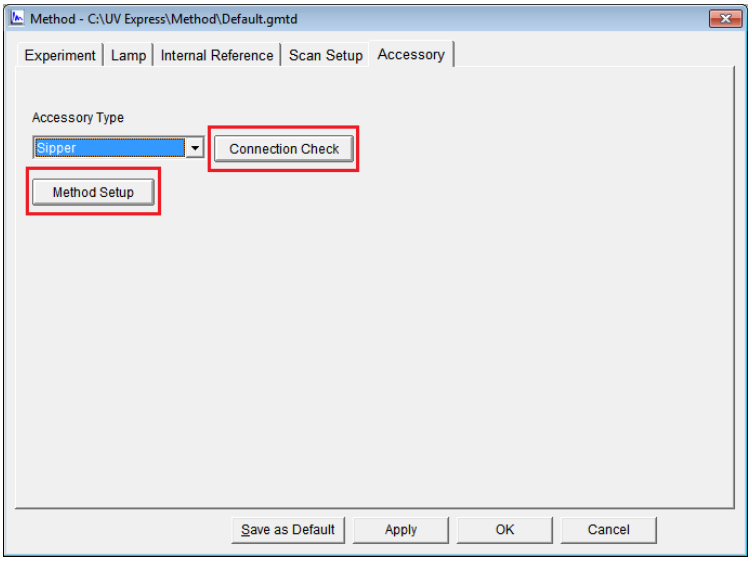
3. Click **OK** after finishing the System Self Test.

4. Click **New** to open a new window. Select **Experiment Type** and click **OK**.



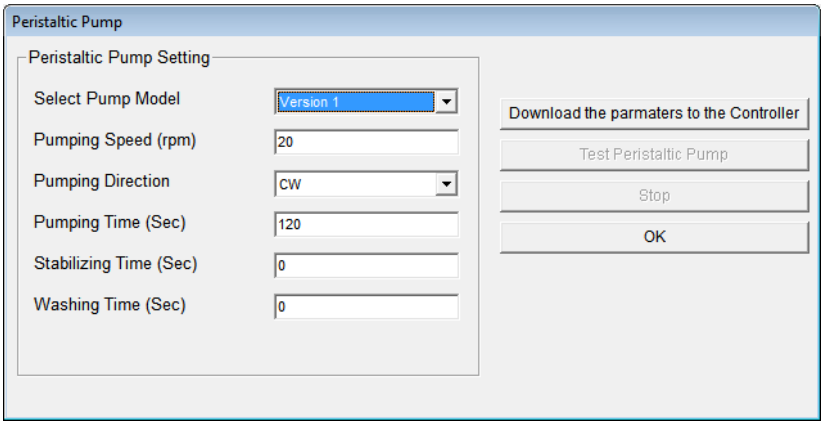
5. Click **Method** for set up parameter and then Click **Accessory** tab.

6. Select the **Sipper** in the **Accessory type** and click **Connection Check** and then **Method Setup** will be activated. Click **Method Setup**.



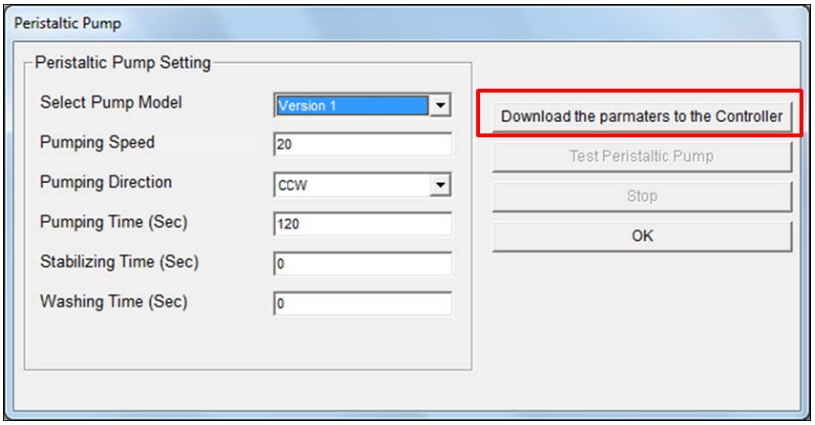
NOTE: *Check the communication between Computer and peristaltic pump if the **Method setup** is inactivated.*

7. The peristaltic pump setup box will be shown. Set each parameter according to the experiment conditions.

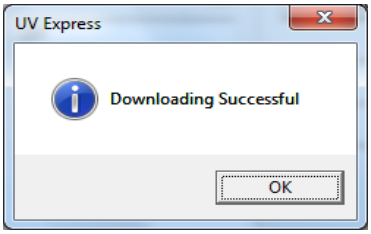


- Select Pump Model: Select the model Version 1.
- Pumping Speed (rpm): Enter the pumping speed. (0.1 ~100)
- Pumping Direction: Select the pumping direction. You can select either **CW (clockwise)** or **CCW (counter-clockwise)**.
- Pumping Time (Sec): Enter the pumping time of a sample. Enter sufficient time to remove the waste which is rest in the flow-through cell.
- Stabilizing Time (Sec): Enter the stabilizing time after pumping a sample. Measurement will be started after stabilizing finished.
- Washing Time (Sec): Enter the washing time after measuring a sample.

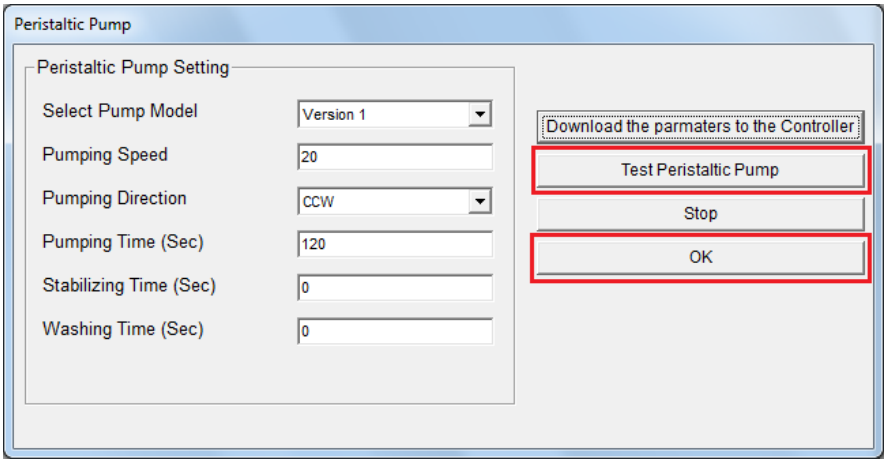
8. If the parameters is set, click **Download the parameters to the Controller**.



9. The following dialog box will be displayed, then click **OK**.

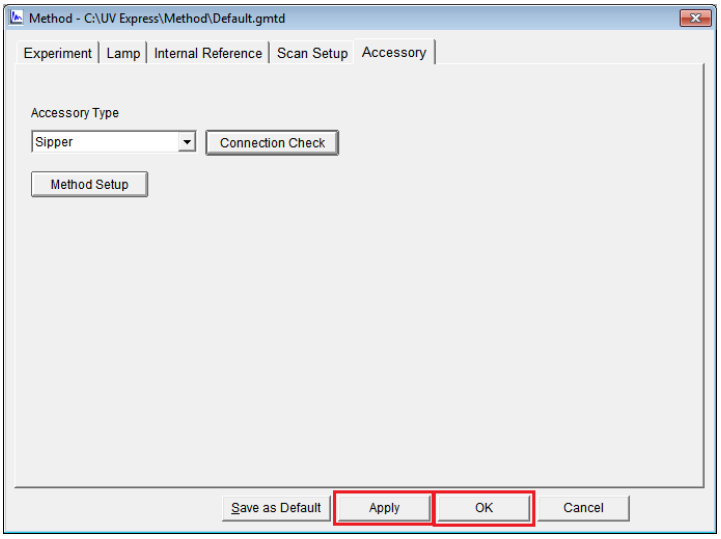


10. If you want to run a trial test with this setting, select **Test Peristaltic Pump**. After finishing the test run, select **OK**.



NOTE: *Click **Download the parameters to the controller** when the parameter is changing or COM Port No. is newly finding.*

11. After completing the parameter setup, slect **Apply** and **OK**.



NOTE: *For more details of the method setup, refer to **Measurement mode** in the UV Express Software Users Guide.*

12. Insert flow cell into the sample cell holder. If necessary, insert reference sample into the reference cell holder additionally.

13. Dip inlet tube of peristaltic pump into the reference solution and Click **Baseline**.

14. Remove inlet tube from reference solution and insert that into the sample solution. Click **Sample.**

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

Troubleshooting

When liquid leaks out of the flow cell and tube

1. Replace the tube.
2. Replace the flow cell.

When the COM port could not opened

RS-232 Cable

1. Replace the cable.
2. Replace the cable to the USB to RS-232 Cable.

USB to RS-232 Cable

- See the procedure port Setting of USB to RS-232 Port on page 154.