

Lambda 265, 365 and 465 Automatic Magnetic Stirrer Assembly Installation Instructions

This instruction sheet describes the installation of this accessory which is used with the Lambda 265, 365 and 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 1-800-762-4002, 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

- Easy to install
- Stirring bar rotating evenly at variable speed
- Vertical mixing
- Ideal for small to medium stirring volumes of low-viscosity liquids
- Two channel stirring available



Figure 1 Magnetic Stirrer Control Unit [P/N: N4101016]



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

Produced in the USA.

Dimensions and Specifications

Physical Characteristic	Specification
Dimensions (mm)	200 (W) x 155 (D) x 380 (H)
Weight (kg)	1.4
Speed (rpm)	100 ~ 1,600
Stirring Power (W)	20
Operating Condition	0 ~ 40°C, 80% Humidity
Power	AC 100-240 V / 50-60Hz / 1.5 A

Description

Front of the Control Unit



Figure 2 Front of the Control Unit

- (1) The ON/OFF key for the magnetic stirrer:
Press the ON/OFF key to turn the control unit on or off.
- (2) The MODE-key for power adjustment of the magnetic stirrer

NOTE: For the operation, the power settings should be set to 25%.

- (3) The display for the speed indicator and the power indicator
- (4) MINUS-key for reducing the stirrer speed
- (5) PLUS-key for increasing the stirrer speed

Rear of the Control Unit



Figure 3 Rear of the Control Unit

- (1) Power switch
- (2) Power socket
- (3) Socket for DistriBOX 4 cable



Configuration of the Magnetic Stirrer Assembly

- Control Unit
- DistriBOX 4
- Stirrer Control Cable, 2ea
- Power Cord, 3ea






Figure 4 Magnetic Stirrer Assembly

Compatible Lambda 265 Cell Holders to Magnetic Stirrer Assembly

Accessory	Drawing
Single Cell Holder	 A black, rectangular cell holder with a central vertical slot and a small, clear, rectangular component at the top, mounted on a black base.
Water Jacketed Single Cell Holder	 A black, rectangular cell holder with a central vertical slot and two small, clear, rectangular components at the top, mounted on a black base.

Compatible Lambda 365 Cell Holders to Magnetic Stirrer Assembly

Accessory	Drawing
Single Cell Holder	 A black, rectangular cell holder with two vertical slots, mounted on a black base.
Water Jacketed Single Cell Holder	 A black, rectangular cell holder with two vertical slots, mounted on a black base, with a white, cylindrical component and two coiled metal tubes attached to the side.
Micro Cell Holder	 A black, rectangular cell holder with two vertical slots, mounted on a black base.

Compatible Lambda 465 Cell Holders to Magnetic Stirrer Assembly

Accessory	Drawing
Single Cell Holder (Upon request)	
Water Jacketed Single Cell Holder (Upon request)	
8 Cell Water Jacketed Cell Changer	
Water Jacketed Automatic Referencing Stage	

Where, the cell holder will be modified to be connected with the magnetic stirrer only upon request.

Lambda 265 Installation

- NOTE:** The maximum ambient temperature is 50°C in air and water immersed. The operation with over 50 °C temperature will damage the stirrer head.
- NOTE:** The Power Setting for setting the DistriBox4 to 25. Whenever turning the main switch on or off, you should set the power to 25. [The default power set is 50]
- NOTE:** Two stirrer control cables should be connected via the DistriBOX4.
- NOTE:** Stirrers should be connected in pairs: [Position 1+1B] or [Position 2+2B]. The single stirring connection is not supported.

**CAUTION
ATTENTION**

Make sure the instrument is turned off while installing this accessory.
Assurez-vous que l'instrument est éteint lors de l'installation de cet accessoire.

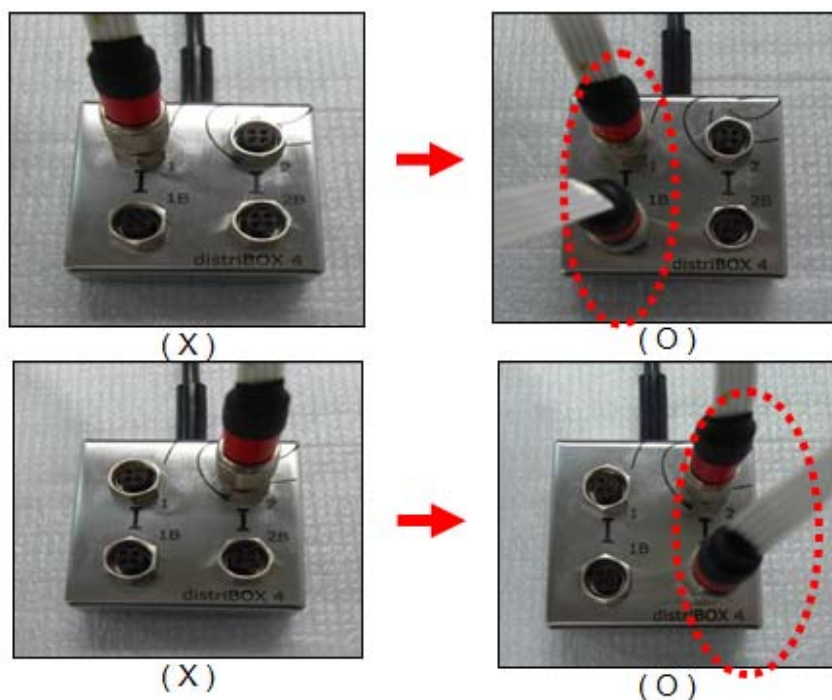


Figure 5 Connecting Stirrers (Two stirrer heads should be connected in pairs)

1. Connect the power cable to the control unit.



Figure 6 Connecting the power cable

2. Connect the distriBOX4 to the socket for the stirrer control cable.



Figure 7 Connecting the distriBOX4

Connect to the Single / Water Jacketed Single Cell Holder

1. Connect two stirrer control cables to the 4-pin socket of the distriBOX4.



Figure 8 Connecting two stirrer control cables

2. Using the M3 wrench, remove the screw in the single cell holder and disassemble the holder.



Figure 9 Removing the screw

3. Insert the stirrer head of the stirrer control cable into the single cell holder.



Figure 10 Inserting the Stirrer head

4. Assemble the single cell holder with the stirrer head inserted, and tighten the screw using the M3 wrench.



Figure 11 Stirrer head inserted

5. Press the ON/OFF key to turn on the control unit. When the stirrer speed is displayed, adjust the desired stirrer speed by using the MINUS-key and PLUS-key.



Figure 12 Pressing the MINUS-key & PLUS-key

NOTE: *When you press the mode key, power adjustment mode is displayed. The power settings should be set to P 25.*

NOTE: *The default power set is 50. Whenever turning the main switch on or off, set the power to 25.*



Figure 13 Power Setting

Lambda 365 Installation

- NOTE:** The maximum ambient temperature is 50°C in air and water immersed. The operation with over 50 °C temperature will damage the stirrer head.
- NOTE:** The Power Setting for setting the DistriBox4 to 25. Whenever turning the main switch on or off, you should set the power to 25. [The default power set is 50]
- NOTE:** Two stirrer control cables should be connected via the DistriBOX4.
- NOTE:** Stirrers should be connected in pairs: [Position 1+1B] or [Position 2+2B]. The single stirring connection is not supported.

**CAUTION
ATTENTION**

Make sure the instrument is turned off while installing this accessory.
Assurez-vous que l'instrument est éteint lors de l'installation de cet accessoire.

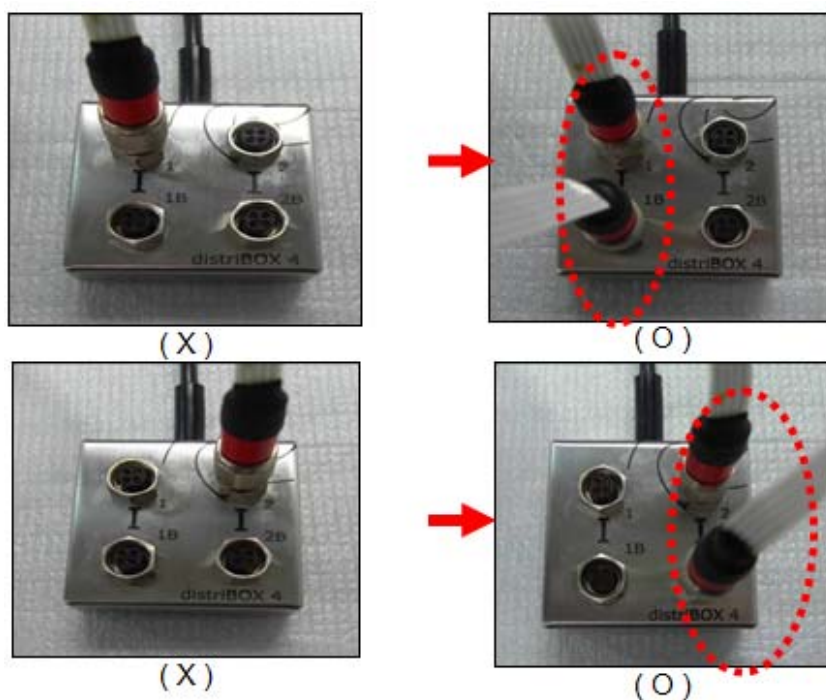


Figure 14 Connecting Stirrers (Two stirrer heads should be connected in pairs)

1. Connect the power cable to the control unit.



Figure 15 Connecting the Power Cable

2. Connect the distriBOX4 to the socket for the stirrer control cable.



Figure 16 Connecting the distriBOX4

Connect to the Single Cell Holder

1. Connect two stirrer control cables to the 4-pin socket of the distriBOX4.



Figure 17 Connecting the two stirrer control cables

2. Using the M3 wrench, remove the screw in the single cell holder and disassemble the holder.



Figure 18 Removing the screw in the single cell holder

3. Insert the stirrer head of the stirrer control cable into the single cell holder.



Figure 19 Inserting the stirrer head

4. Assemble the single cell holder with the stirrer head inserted, and tighten the screw using the M3 wrench.



Figure 20 Assembling the single cell holder

5. If it is required to connect the stirrer head to the reference holder, install the stirrer head at the reference holder following the procedures of #2 to #4.

6. Press the ON/OFF key to turn on the control unit. When the stirrer speed is displayed, adjust the desired stirrer speed by using the MINUS-key or PLUS-key.



Figure 21 Pressing the MINUS-key or PLUS-key

NOTE: When you press the mode key, power adjustment mode is displayed. The power settings should be set to P 25.

NOTE: The default power set is 50. Whenever turning the main switch on or off, you should set the power to 25.



Figure 22 Power set to 25

Connect to the Micro Cell Holder

1. Connect the two stirrer control cables to the 4-pin socket of the distriBOX4.

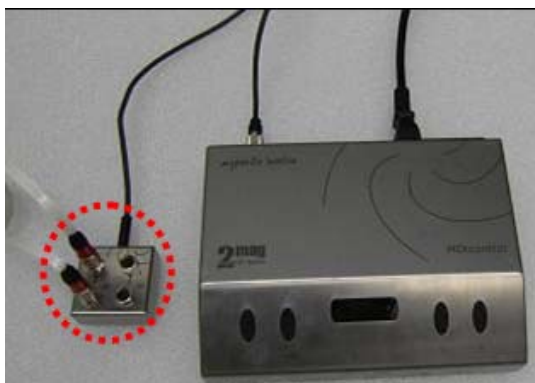


Figure 23 Connecting two stirrer control cables

2. Loosen the top-to bottom adjustment knob by hand.



Figure 24 Loosening the top-to bottom adjustment knob

3. Using the M3 wrench, remove the screw in the micro cell holder and disassemble the holder.

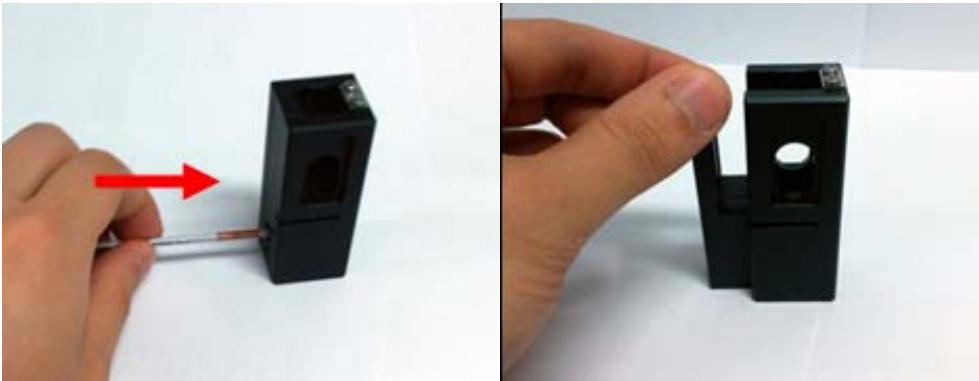


Figure 25 Screwing in the micro cell holder

4. Insert the stirrer head of the stirrer control cable into the micro cell holder.

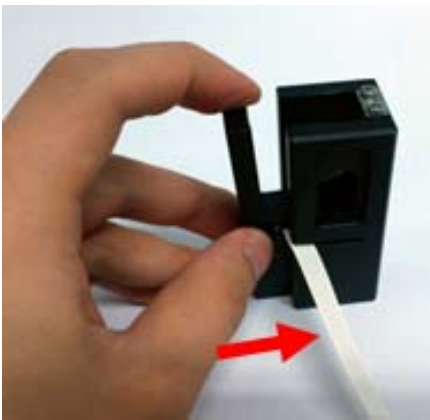


Figure 26 Inserting the stirrer head

5. Tighten the screw using the M3 wrench and reassemble the Micro cell Holder to the base plate. Be careful that the stirrer cable does not block the light beam path to the cell holder.



Figure 27 Tightening the screw

6. If it is required to connect the stirrer head to the reference holder, install the stirrer head at the reference holder following the procedures of #2 to #5.
7. Press the ON/OFF key to turn on the control unit. When the stirrer speed is displayed, adjust the desired stirrer speed by using MINUS-key or PLUS-key.



Figure 28 Pressing MINUS-key or PLUS-key

NOTE: When you press the mode key, power adjustment mode is displayed. The power settings should be set to P 25.

NOTE: The default power set is 50. Whenever turning the main switch on or off, you should set the power to 25.



Figure 29 Power set to 25

Connect to the Water Jacketed Single Cell Holder

1. Connect the two stirrer control cables to the 4-pin socket of the distriBOX4.



Figure 30 Connecting two stirrer control cables

2. Using the M3 wrench, remove the screw in the water jacketed single cell holder and disassemble the holder.



Figure 31 Removing the screw

3. Insert the stirrer head of the stirrer control cable into the water jacketed single cell holder.

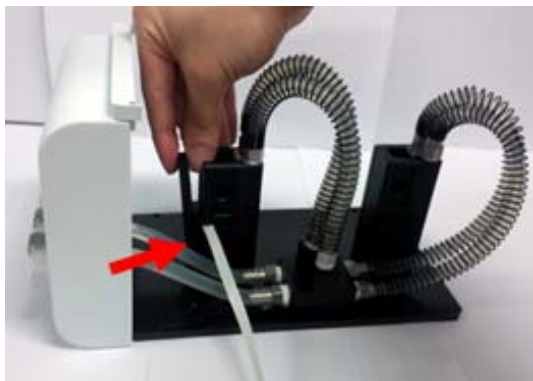


Figure 32 Inserting the stirrer head

4. Assemble the water jacketed single cell holder with the stirrer head inserted, and tighten the screw using the M3 wrench.

5. Install the stirrer at the reference holder in the same as from step 2 to step 4.
6. Using the screw driver, remove M3 Phillips round head screw with washer (M3*10L) and detach the Stirrer cable fixing block from the front cover as marked with the red box in the picture below. Take out the connecting port of the stirrer cable through the hole of the fixing block.



Figure 33 Detaching the Stirrer cable fixing block

7. After arranging the stirrer cable neatly, assemble the stirrer cable fixing block in the front cover using screw driver. Be careful that the stirrer cable does not block the light beam path to the cell holder.



Figure 34 Assembling the Stirrer cable fixing block

8. Press the ON/OFF key to turn on the control unit. When the stirrer speed is displayed, adjust the desired stirrer speed by using the MINUS-key or the PLUS-key.



Figure 35 Pressing the MINUS-key or PLUS-key

NOTE: When you press the mode key, power adjustment mode is displayed. The power settings should be set to P 25.

NOTE: The default power set is 50. Whenever turning the main switch on or off, you should set the power to 25.



Figure 36 Power set to 25

Lambda 465 Installation

NOTE: The maximum ambient temperature is 50°C in air and water immersed. The operation with over 50 °C temperature will damage the stirrer head.

NOTE: The Power Setting for setting the DistriBox4 to 25. Whenever turning the main switch on or off, you should set the power to 25. [The default power set is 50]

NOTE: Two Stirrer control cable should be connected via the DistriBOX4.

NOTE: Stirrers should be connected in pairs: [Position 1+1B] or [Position 2+2B]. The single stirring connection is not supported.

CAUTION ATTENTION

Make sure the instrument is turned off while installing this accessory.
Assurez-vous que l'instrument est éteint lors de l'installation de cet accessoire.

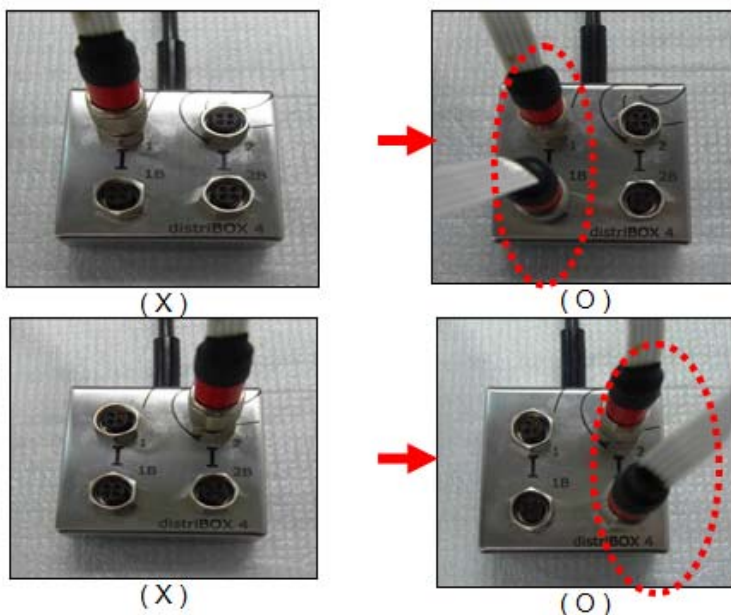


Figure 37 Stirrers

1. Connect the power cable with the control unit.



Figure 38 Connecting the power cable

2. Connect the distriBOX4 to the socket for the stirrer control cable.



Figure 39 Connecting the distriBOX4

Connect to the Single/Water Jacketed Single Cell Holder

1. Connect two stirrer control cables to the 4-pin socket of the distriBOX4.



Figure 40 Connecting the two stirrer control cables

2. Using the M3 wrench, remove the screw in the single cell holder and disassemble the holder.



Figure 41 Removing the screw

3. Insert the stirrer head of the stirrer control cable into the single cell holder



Figure 42 Inserting the stirrer head

4. Assemble the single cell holder with the stirrer head inserted, and tighten the screw using the M3 wrench.



Figure 43 Assembling the single cell holder

5. Press the ON/OFF key to turn on the control unit. When the stirrer speed is displayed, adjust the desired stirrer speed by using the MINUS-key or PLUS-key.



Figure 44 Pressing MINUS-key or PLUS-key

NOTE: When you press the mode key, power adjustment mode is displayed. The power settings should be set to P 25.

NOTE: The default power set is 50. Whenever turning the main switch on or off, you should set the power to 25.



Figure 45 Power set to 25

Connect to the 8 Cell Water Jacketed Cell Changer

1. Connect two stirrer control cables to the 4-pin socket of the distriBOX4.



Figure 46 Connecting the two stirrer control cables

2. Using the M4wrench, remove the screw of the 8 cell water jacketed cell changer and disassemble the stirrer mount.



Figure 47 Removing the screw

3. Place the magnetic stirrer head on the stirrer mount of the 8 cell water jacketed cell changer.



Figure 48 Placing the magnetic stirrer

4. Fix the stirrer mount to the 8 cell water jacketed cell changer and tighten the screw using the M4 wrench.

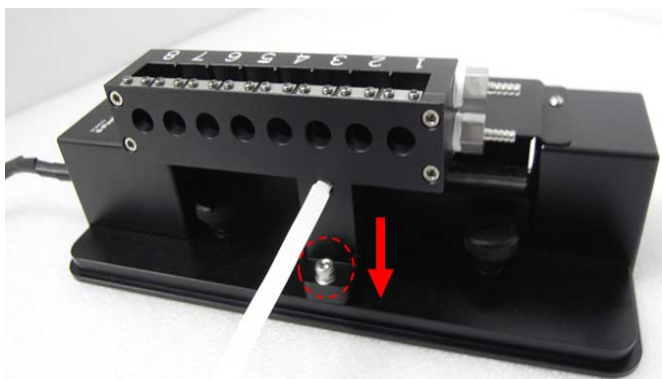


Figure 49 Fixing the stirrer mount

- Press the ON/OFF key to turn on the control unit. When the stirrer speed is displayed, adjust the desired stirrer speed by using the MINUS-key or PLUS-key.



Figure 50 Pressing the MINUS-key or PLUS-key

NOTE: When you press the mode key, power adjustment mode is displayed. The power settings should be set to P 25.

NOTE: The default power set is 50. Whenever turning the main switch on or off, you should set the power to 25.



Figure 51 Power set to 25

Connect to the Water Jacketed Automatic Referencing Stage

- Connect two stirrer control cables to the 4-pin socket of the distriBOX4.



Figure 52 Connecting two stirrer control cables

2. Using the M4wrench, remove the screw of the water jacketed automatic referencing stage and disassemble the stirrer mount.



Figure 53 Removing the screw

3. Place the magnetic stirrer head on the stirrer mount of the water jacketed automatic referencing stage.



Figure 54 Placing the magnetic stirrer head

4. Fix the stirrer mount to the water jacketed automatic referencing stage and tighten the screw using the M4 wrench.

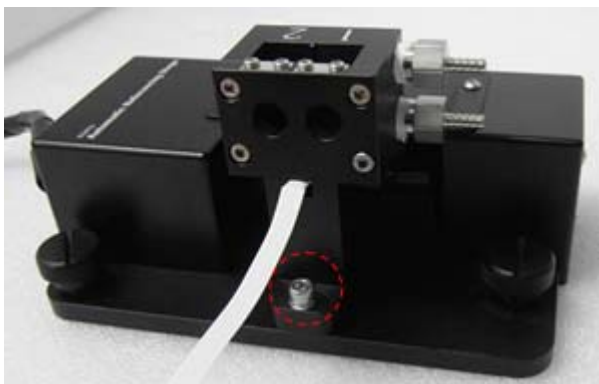


Figure 55 Fixing the stirrer mount

5. Press the ON/OFF key to turn on the control unit. When the stirrer speed is displayed, adjust the desired stirrer speed by using the MINUS-key or PLUS-key.



Figure 56 Pressing MINUS-key or PLUS-key

NOTE: When you press the mode key, power adjustment mode is displayed. The power settings should be set to P 25.

NOTE: The default power set is 50. Whenever turning the main switch on or off, you should set the power to 25.



Figure 57 Power set to 25

Troubleshooting

When a magnetic bar does not move

1. Check whether the control unit is powered on.
2. Check the connection status between the control unit and the stirrer control cable.
3. Check whether the rotating speed (rpm) is properly set in the control unit.

When a Magnetic Bar always rotates irregularly

It is unavoidable that magnetic bars are aged with time, for example through sterilization, at excessive temperatures, or mechanical stress (such as when you drop it).

- Replace the magnetic bar with a new one.