

USER MANUAL

Plate Heater-Shaker+



Safety instructions



Do not touch moving parts during operation!

The user must never put their fingers or any objects on and around the moving platform.



Risk of burns!

Exercise caution when touching the housing parts and the heating plate. The heating plate can reach temperatures in excess of 99°C. Pay attention to the residual heat after switching off. The device may only be transported when cold!

Do not cover the heating surface with anything except compatible labware.



- The device must always be completely switched off (cables removed) before moving it.
- The device must be handled with caution as it contains moving parts.
- The user must maintain a distance of at least 20cm from the product (WiFi antenna) while it is being installed and operated.
- The device is intended for indoor use only.
- Device maintenance has to be done exclusively by a Waters representative.
- If the device is used in a manner not specified by the manufacturer, the protection provided by the device may be impaired.
- All the input/output ports are Safety Extra Low Voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits. To avoid damaging the unit, do not remove labware from the device if the device's clamps are closed. If the device's clamps are closed onto a labware and the device is OFF, the device must first be turned ON. The clamps will automatically open upon device initialization and will thus release the labware
- Non-slip pads are positioned below each Heater-Shaker+ Device. If any of these pads are damaged or have been removed, they must be replaced with a new set of pads to avoid damaging Heater-Shaker+ units.

About this manual

Read the user manual before using this device. Strictly follow usage and maintenance instructions provided in the manual. It is the user's responsibility to become familiar with all available information concerning the correct use, care and limitations of these products. If you are uncertain about the correct use or limitations of the products, contact Waters service and support. The manufacturer, the distributor and their respective owners, employees, agents and representatives are not responsible or liable for errors or omissions.

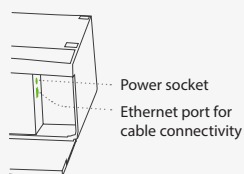
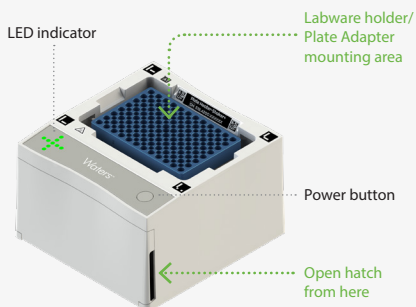
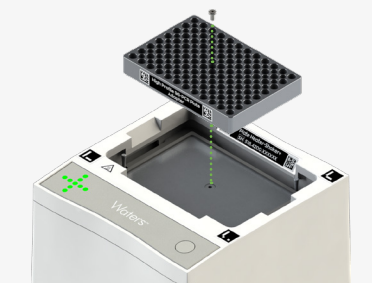
Information in this User Manual is subject to change without notice and does not represent a commitment on the part of Waters. Waters assumes no responsibility for any inaccuracies that may be contained in this User Manual. Waters makes no commitment to update or keep current the information in this User Manual, and reserves the right to make improvements to this User Manual and/or to the products described in this User Manual, at any time without notice.

If you find information in this manual that is incorrect, misleading, or incomplete, we would appreciate your comments and suggestions.

Product overview

Removal and positioning of Plate Adapters

1. Switch OFF the power supply of the unit and make sure the heating elements are cold.
2. Remove labware (if any).
3. Loosen (rotate counterclockwise) the Torx screw by using the supplied screwdriver (T8).
4. Remove the Plate Adapter from the Device+ and place it on a soft surface.
5. Insert the new Plate Adapter straight into the plate holder and make sure it is well aligned.
6. Insert and tighten the Torx screw (rotate clockwise).



Getting started

Before you begin

If you do not have a OneLab account, please create one by going to: <https://onelab.andrewalliance.com/signup>

1 Plug your Plate Heater-Shaker+ into a power source.

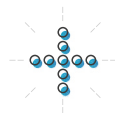
The device will automatically start up.



Only use the provided AC/DC power supply unit and cords.

2 Wait for the LED indicator to turn blue and blink.

After a couple of minutes, the Plate Heater-Shaker+ will inform you when it is in installation mode.



If the Plate Heater-Shaker+ doesn't automatically enter installation mode, press the power button 5 times.

3 Connect your computer, tablet or smartphone to the Plate Heater-Shaker+

A. Go to your Wi-Fi settings

and select the network named **HeaterShaker-5xx.4xxx.xxxxx**

xxxx.xxxxx is the device serial number (you can find it on top of your device)



If you do not have access to a Wi-Fi compatible device, please refer to our online help: help.andrewalliance.com



B. The LED indicator will stop blinking when the device has been successfully connected.

4 Launch a web browser, type <http://192.168.2.1>

and follow the on-screen steps to continue the installation.



Please note that the installation page might open automatically.



Feel free to contact the
Waters support team



Chat with our support team
directly in OneLab



Send us an email to
aa_support@waters.com

We reply within 1 business day

Operations

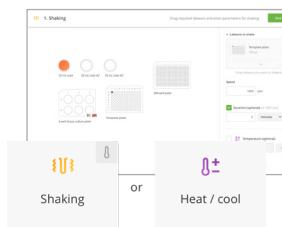
Design your protocol

Our drag-and-drop editor makes it easy to design a precise and complete protocol with all that you need to run your experiment perfectly.



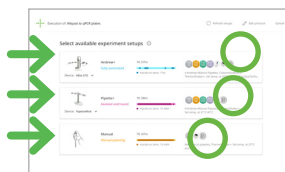
Create a Shaking or Heating action by clicking on this menu, which is located on the left of the screen.

Please note that it is possible to set a temperature within a Shaking action.



Execute experiment with your Plate Heater-Shaker+

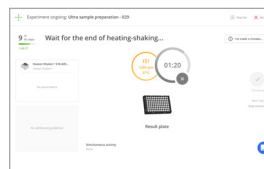
OneLab will automatically select your Plate Heater-Shaker+ and allows you to use it with every available experiment set-up: manual, semi-automated or fully automated. Choose your desired experiment setup and then prepare all the required materials.



Start the experiment and let OneLab control your device

Follow the visual instructions based on the protocol being used and you will be guided through your experiment.

Each step of the experiment will be recorded and available in OneLab.



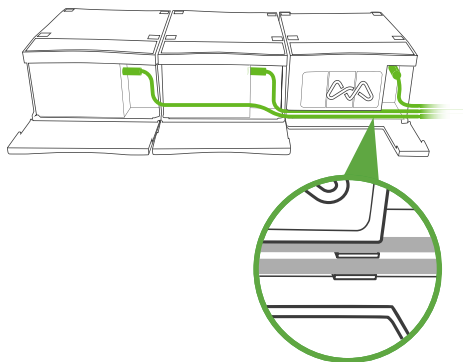
Please note that after turning on the device (for the first time or after a previous use), if after 5 minutes the inside sensor doesn't reach a thermal plateau, the current temperature of the Plate Heater-Shaker+ will be automatically set at 18°C.

This will allow you to select your device for an experiment that needs a lower temperature without waiting for your device to reach the room temperature first.

Technical data

Labware compatible	Check the OneLab Domino Catalog at andrewalliance.com/domino-catalog
Temperature range	Ambient to 99°C
Temperature resolution	0.1°C
Temperature accuracy	±0.1°C (Accuracy of the device without Plate Adapter mounted)
Mixing frequency	200 rpm up to 2500 rpm (The maximum speed may differ according to the type of used labware)
Mixing orbit constant	2 mm
Speed setting resolution	1 rpm
Mixing regulation accuracy	±25 rpm
Relative humidity	80% at 37°C
Maximum operating altitude	2000 m
Environment temperature operating range	+4 to +37°C
User interface	Through OneLab software
Ingress protection	IP20*
Dimensions (W x L x H)	170 x 162 x 100 mm (The specified dimensions are subject to change according to the labware)
Weight	2.55 kg
External power supply	Input 100-240 VAC, 1.4 A / output 24 VDC, 5 A, 120 W
Power or current rating	5 A
Overvoltage category DC port	Cat I
Operating voltage	24 VDC
Network connectivity	• Gigabit Ethernet • Wi-Fi 2.4 GHz and 5 GHz
Pollution degree of the intended environment	Pollution degree 2
Cleaning	Only with a wet tissue or isopropanol
Warranty	1 year
Certifications	CE, FCC, RoHS, WEEE, UKCA

Multiple connected devices installation



1. Place your connected devices in front of Andrew+ as indicated by OneLab.
2. Open the hatches.
3. Plug the power cables into the power sockets of your devices.
4. Pass the cables into the dedicated path in front of the devices.
5. Close the hatches.

Operating device

Power on



When the device is in standby mode (plugged into a power source but turned off), press the power button to turn on the device.

Note: The device will automatically start up when you plug it into a power source.

Power off



When the device is in its idle state (no experiment running), press the power button for 5 seconds to turn off the device.

*Avoid spilling liquid on the device.



Unit end of life



When a unit reaches the end of its useful life, contact Andrew Alliance for directions and information on the end-of-life policy.

This is in accordance with the European Union Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Certifications

Electrical safety

- I. IEC 61010-1: 2010
- II. IEC 61010-1/A1: 2016
- III. UL 61010-1:2012
- IV. CAN/CSA 22.2#61010-1-12

EMC

- I. EN 61326-1: 2013
- II. EN 301 489-1 V2.2.3
- III. EN 301 489-17 V3.2.4

RADIO

- I. EN 300 328 Ver 2.1.1
- II. EN 301 893 V2.1.1

FCC

- I. FCC 47 CFR part 15 subpart B section 15.107 (b) and section 15.109 (b and g) Class A all over other device tested per ANSI C63.4 (Ed. 2014) procedures
- II. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RoHS

RoHS 3 (EU) 2015/863



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