



Magnetic rotary mixer

TANBead Nucleic Acid Extraction System

Maelstrom 8 Autostage (non-sterile)

Model: M8-H Autostage

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About this manual

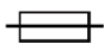
The label on the back of the instrument, the User Manual, and other packaging material may contain the following symbols:



Catalog number



Serial number



Specification of fuse



Manufacturer



The date of manufacture



This product fulfills the requirements of the European Directive



In Vitro Diagnostic Medical Device



Consult Instructions for Use



Authorized Representative in the European Community



Caution, consult accompanying documents



Hot surface, contact with skin may cause burns




Watch your fingers and your hands

1. Introduction

TANBead Nucleic Acid Extraction System Maelstrom 8 Autostage (the M8-H Autostage) provides an efficient and comfortable operating platform for the Maelstrom 8 (M8-H) which is a magnetic bead handling device with high speed stirring capability and eight 2500 gauss magnetic rods. The M8-H Autostage is a firm stand and a precise arm for the M8-H operations. The M8-H Autostage can coordinate with the M8-H to automate mixing, collecting, and transferring the magnetic beads for a completely hands-free nucleic acid extraction or protein purification process.

Please read this manual carefully before using the M8-H Autostage.

	Model	M8-H Autostage
	Weight	8.33 kg
	Dimensions	310 X 190 X 305 mm
	Power supply	19 V. 6.32A.120W
	Capacity	8 samples per run when paired with the M8-H (sold separately)
	Heater	1 heated plate (maximum: 100° C)

Device Purpose

The M8-H Autostage holds the Maelstrom 8 (M8-H) which uses magnetic rods to mix, collect, and transfer magnetic beads from one well to another automatically.

Intended Use:

- The M8-H Autostage can be used in combination with the Maelstrom 8 and TANBead's Nucleic Acid Extraction Kits to extract DNA/RNA from samples.
- The M8-H Autostage can hold the Maelstrom 8 for stable, precise, and automated operation.

Safety and EMC information:




Safety Requirements

- The medical device has passed the tests and conformed to the standards of IEC 61010-1:2010, "Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements".
- The medical device has passed the tests and conformed to the standards of IEC 61010-2-101:2015, "Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment".

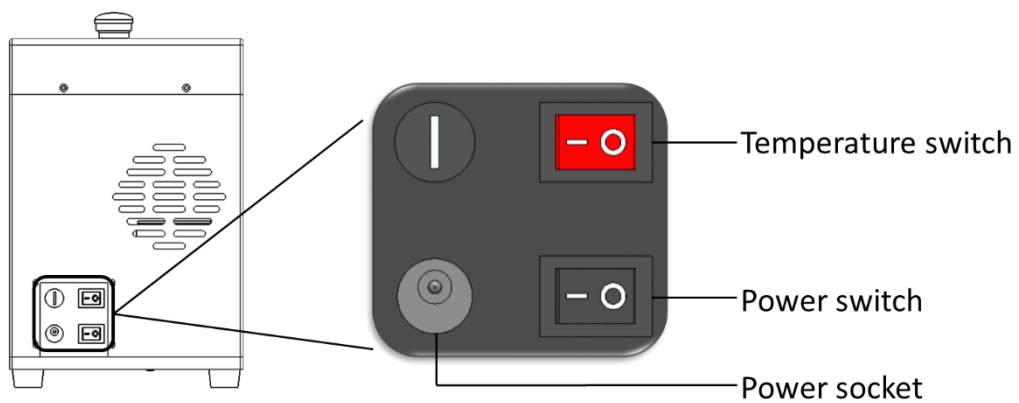
EMC requirements

- The medical device has passed the tests and conformed to the standards of IEC 61326-1:2012 & IEC 61236-2-6:2012, "Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-6: Particular requirements - In vitro diagnostic (IVD) medical equipment".
- The medical device has passed the tests and conformed to following standards:
EN 61326-1:2013
EN 61326-2-6:2013
EN 61000
EN 62304:2015
IEC 62366-1:2015-02

2. Equipment list

<p>M8-H Autostage</p>	 A black, boxy electronic device with a blue top panel featuring several buttons and a small display. It has a front-loading slot and a base with a yellow warning triangle.
<p>Power cord & Adapter (Chicony A15-120P1A or FSP FSP120-ABAN2)</p>	 A black power adapter with a standard AC power cord on one end and a DC power connector on the other.
<p>Transmission cable</p>	 A black cable with two different connectors at each end, likely for data transmission.

3. Overview



4. Environmental Requirements

Temperature: 4-40°C

Storage and transportation condition:

(Temperature, humidity)

4-60°C, 0-85%

Maximum operating altitude: 2000 m

To avoid shortening the lifespan of the instrument, use the M8-H Autostage in a location that meets the following criteria:

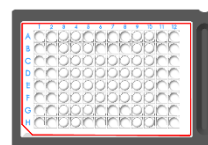
- Choose a location that has good air circulation.
- Do not use the M8-H Autostage in a location where there is large temperature variability or high humidity.

5. Safety instructions and guidelines

- This device can be used with potentially biohazardous materials. Use appropriate personal protective equipment (gloves, safety goggles, lab coat, etc.) for handling and disposing of biohazardous materials.
- Under normal condition, the sound pressure level from the M8-H Autostage does not exceed 80 dB and so does not cause a hazard. Please contact technical support in case of a higher sound pressure level.
- This device can be hazardous due to the use of chemical and biohazardous substances.
- Users should adhere to their institutional guidelines for the handling and disposal of all infectious substances used with this device.
- It is important to clean the device after every use. If samples or reagents have been spilled, it is important to clean the instrument immediately with alcohol to avoid damage or contamination of samples.
- This device is to be used with the compatible spin tips. Using incompatible spin tips may cause poor extraction performance.
- Read this user manual and the warning notes on the M8-H Autostage in its entirety prior to operating the device. Failure to read, understand, and follow the instructions in the manual may result in damage to the device, injury to the laboratory and operating personnel, or poor device performance.

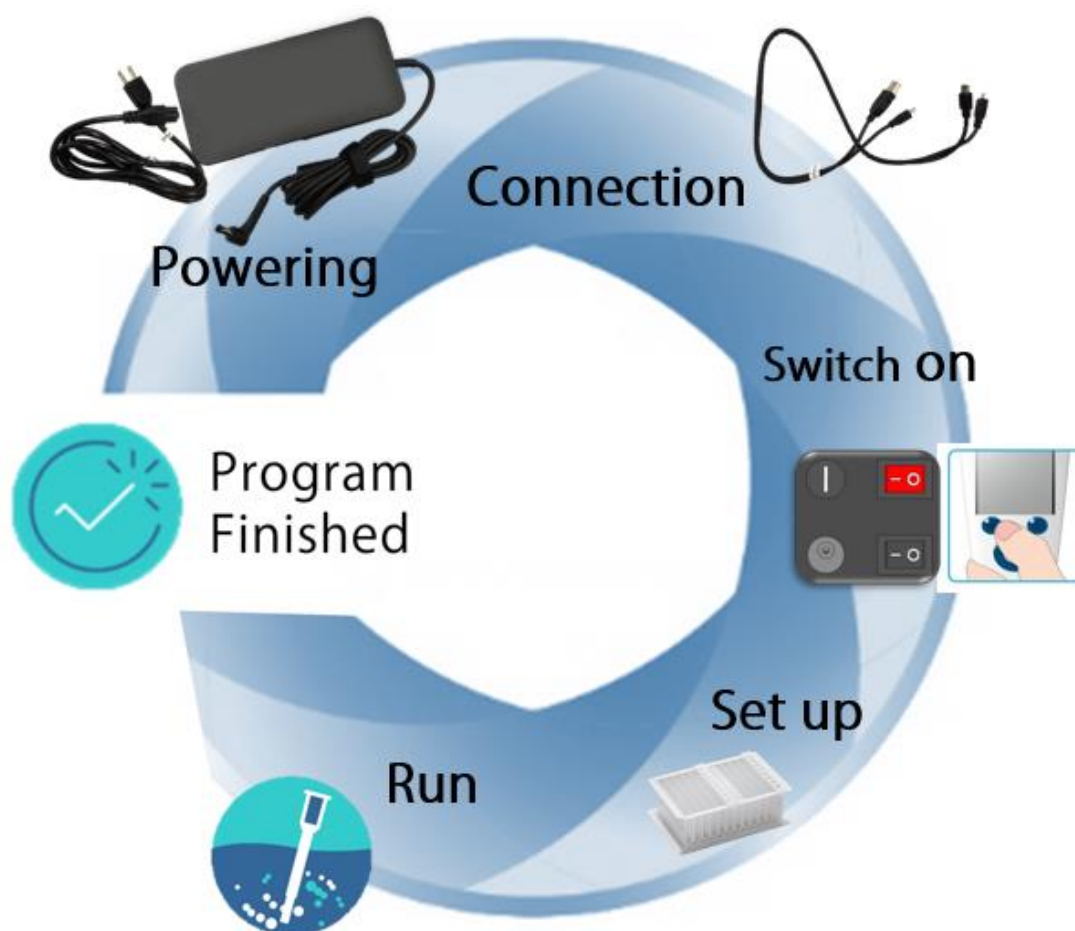
6. Before usage

1. Attach the adapter plug to the transformer.
2. Connect the M8-H and the M8-H Autostage with the transmission cable.
3. Turn on the M8-H and set “enable connection” on the M8-H.
4. Place the 96-well plate on the slider, and checking the relative position.
5. Place the protecting cover before running the program.




If further assistance is required, please contact us (Tel: +886-3-3167568).



7. Operating procedure




8. Powering

	<ol style="list-style-type: none"> 1. To power on the device, press the black (Power) and red (Heater) buttons to the "I" position. 2. To power off the device, press the black (Power) and red (Heater) buttons to the "O" position. <p>Note: the red button (on the top right of the picture at left) is the switch for the Heated carriage plate; the black button (on the bottom right of the picture at left) is the switch for the M8-H Autostage (excluding the heating plate)</p>
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9. Standby mode

	<ol style="list-style-type: none"> 1. Standby mode: the POWER and RUN LED lights are lit. 2. You can choose a program from the M8-H to operate the M8-H Autostage.
	<ol style="list-style-type: none"> 1. When the RUN LED light is flashing, the M8-H Autostage is running or resetting. Do not operate the M8-H Autostage or the M8-H.



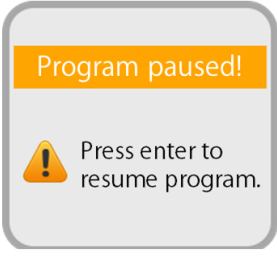
10. Heating Mode

	<ol style="list-style-type: none"> 1. Ensure the heating switch is on. 2. The HEATING LED light will turn red, meaning the M8-H Autostage is heating up. <p>Caution: Heated carriage plate holder may be very hot.</p>
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11. Emergency Mode

	<ol style="list-style-type: none">1. Push emergency stop (the red button) to stop the M8-H Autostage immediately. The M8-H Autostage will alert you with a warning tone.2. The SCRAM LED light will turn red as shown.
	<ol style="list-style-type: none">1. To exit the emergency mode, rotate the red button clockwise.
	<ol style="list-style-type: none">1. Next, press the RESET button.

12.Elution Setting

	<ol style="list-style-type: none"> 1. Elute at low position.
	<ol style="list-style-type: none"> 1. Elute at high position
	<ol style="list-style-type: none"> 1. You can adjust the position: <ul style="list-style-type: none"> -before starting a program -press the PAUSE button during the program (the M8-H will display the figure seen here) 2. you cannot adjust the position when the M8-H Autostage is heating.

13. Error messages

NO.	Description & Solution	Error messages	
		LED	Alarm
1	Emergency stop button is pushed -> rotate the button and press the RESET button		YES
2	Heating LED lights orange -> Examine whether the heating switch is on		YES
3	Run LED doesn't light blue -> Press the RESET button		NO

14. Cleaning and Maintenance

- It is important to clean the device after every use. If samples or reagents have been spilled, it is important to clean the device immediately with alcohol to avoid damage or contamination of the samples.
- Wear gloves and appropriate personal protective equipment. If the device is used with biohazardous materials, dispose of any cleaning materials used in accordance with your institutional guidelines.

15. Disposal

In case the product is to be disposed of, the relevant legal regulations are to be observed. As disposal regulations may differ from country to country, please contact your supplier if necessary. Please follow your institutional and country-specific requirements to handle the disposal of accessories. The device must be decontaminated prior to disposal.

16. Accessories

Maelstrom 8-channel Handler (M8-H) is a magnetic bead handling equipment with high-speed stirring function, which can spin up to 3000 rpm. With eight 2500 gauss magnetic rods, intuitive interface and simple operation, the M8-H can accomplish any application of magnetic beads.





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