StonyLab®

Cooling & Heating Circulator
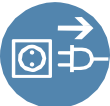
(HLX-series)

Operation Manual

(Please read the instruction carefully before you use the machine)

# Contents

1. Warning

Risk of Electrical Hazards	a. Seek service and repairs exclusively from authorized experts. b. Before any maintenance or repairs, turn off the unit and unplug it.
Avoid Operation in Hazardous Environments	a. Do not use the device in potentially explosive atmospheres or with dangerous substances.
High Surface Temperature	a. Device parts may reach ≥60°C / 140°F. b. Allow the device to cool before handling and use safety gloves.
Requirements for Operating Personnel	a. Ensure qualified personnel operate, maintain, and install the unit. b. All personnel involved must read and understand the safety information and user manual. c. Only trained personnel may configure, install, maintain, or repair the unit. d. Operators handling hazardous substances must be fully familiar with the substances and capable of assessing risks. e. Operators must receive regular training about workplace hazards and preventive measures. f. The device must operate without any malfunction or damage. If any malfunction or damage occurs, follow these steps: 1) Turn off the device. 2) Disconnect by unplugging the device. 3) Contact us for troubleshooting or repair.
Precautions	a. Place the unit on a level, stable, clean, non-slip, dry, and fire-resistant surface. Flammable materials may be present in the bath — fire hazard! b. Use only recommended fluids; chemical hazards may occur depending on the bath medium. c. Prevent water from entering hot bath oils. d. Set the safety temperature limit at least 25°C below the flash point of the fluid used. e. Regularly check the bath fluid level to ensure the pump and heater are fully submerged. f. Be cautious of burns from vapor or hot water at the cooling coil outlet. g. Ensure adequate ventilation; insufficient ventilation may lead to the formation of explosive mixtures.

2. Installation

Position the unit on a level, secure, clean, non-slip, dry, and fire-resistant surface. Maintain a minimum clearance of 10 cm on both the front and rear sides.

Avoid placing the device near heat sources or exposing it to direct sunlight. Ensure the pump plug is securely connected without any external circulation.

2.1 Functional Module
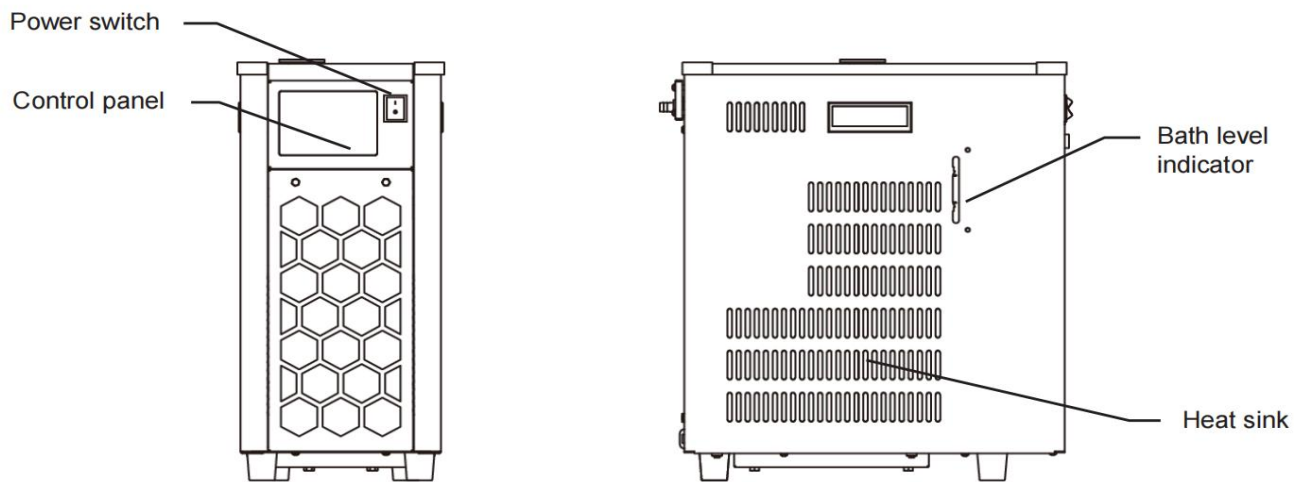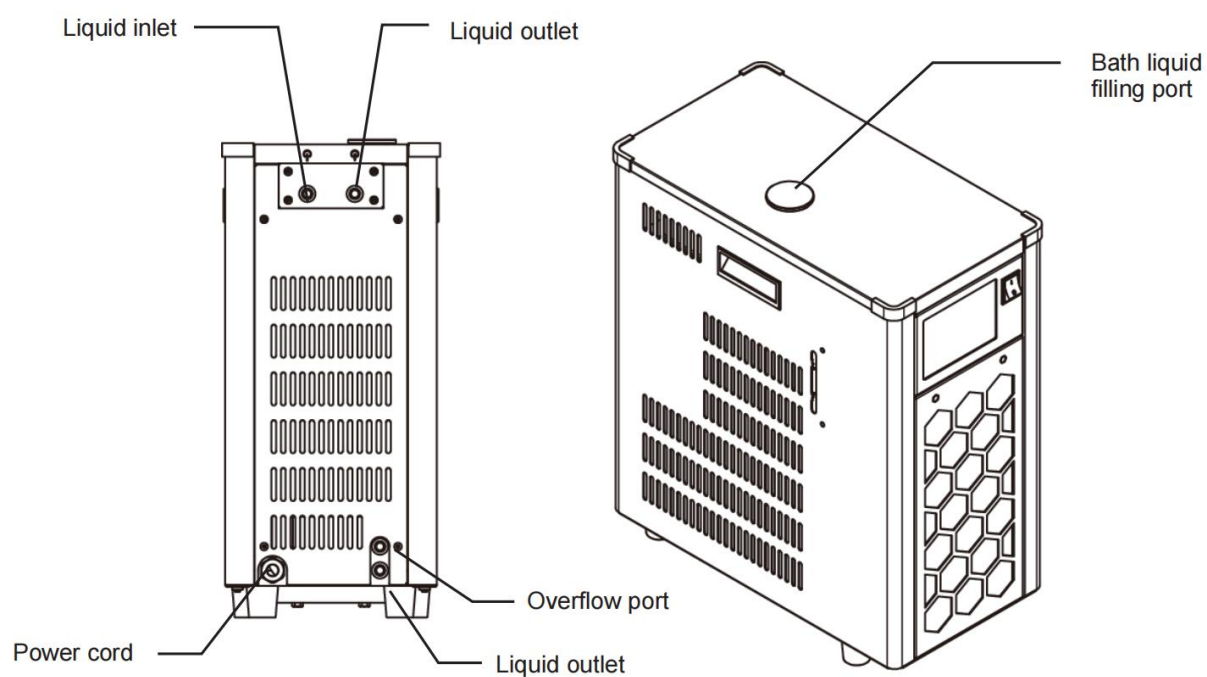
2.2 Filling and Draining

Connect the inlet and outlet to the external reactor (if needed).

Attention:

(1) Ensure the drain valve is fully closed before filling. Remove the bath cover before filling.

(2) Monitor the liquid level during filling.

(3) Do not empty the bath while it is still hot as there is a risk of burns! Only drain with a suitable draining hose and container.

3. Operation

3.1 Control Panel

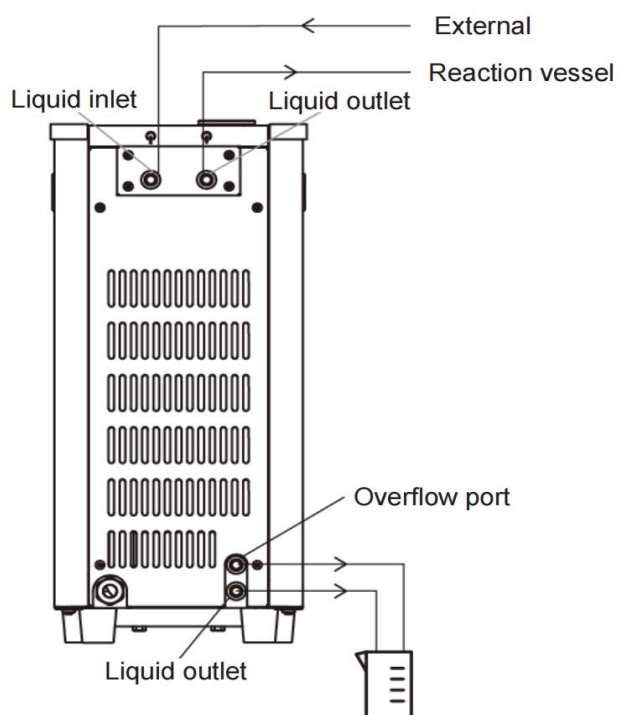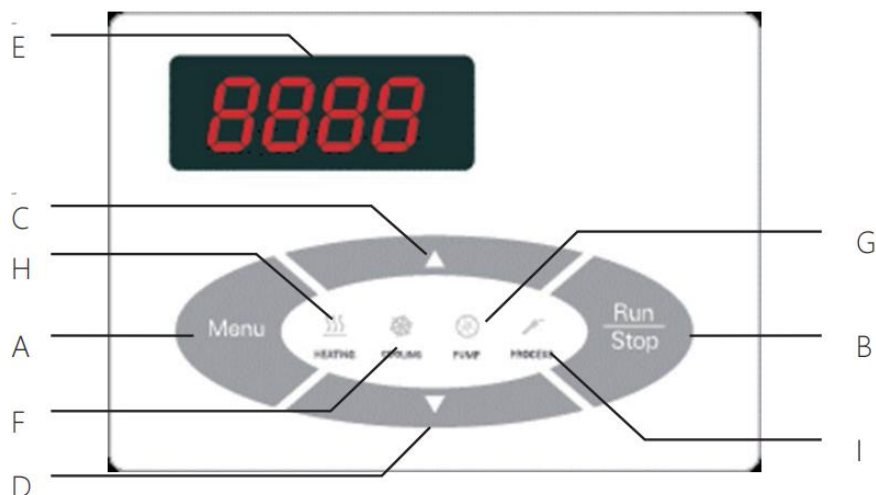| Item	Button / Indicator	Function
A	Menu / Pump button	Press for 1 second to turn on/off the circulation pump. Press for 5 seconds to enter setting mode (Menu).
B	Run / Stop button	Press to start/stop circulation and temperature control.
C	Temperature setting (up)	Press to increase the setting temperature.
D	Temperature setting (down)	Press to decrease the setting temperature.
E	LED display	Displays the temperature and pump speed.
F	Cooling indicator	Lights up when the compressor is activated.
G	Pump indicator	Lights up when the pump is activated.
H	Heater indicator	Lights up when the heater is on.
I	External temperature sensor indicator	Lights up when the external temperature sensor is plugged in.

3.2 Menu

Press button (A) for 5 seconds to enter the setting mode.

(1) To set the Max temperature limitation (High temperature - Hi T)

- Press button (B), to jump to the next setting item.
- Press button (A), to exit the setting mode, and display the working temperature.
- Press button (C) or (D) to enter the max. temperature setting interface.

- Press button (C) or button (D) to adjust the max. temperature limitation.
- Press button (B) to save the setting and exit.
- Press button (A), to exit the setting mode, and display the operation temperature.

(2) To set the Min temperature limitation (Low temperature - LO T)

- Press button (B), to jump to the next setting item.
- Press button (A), to exit the setting mode, and display the working temperature.
- Press button (C) or (D) to enter the lowest temperature setting interface.

- Press button (C) or button (D) to adjust the lowest temperature limitation.
- Press button (B) to save the setting and exit.
- Press button (A), to exit the setting mode, and display the operation temperature.

(3) Beeper (Beep)

- Press button (B) to navigate to the next setting item.
- Press button (A), to exit the setting mode, and display the operation temperature.
- Press button (C) or button (D) to enter the beeper setting interface.

0: Beeper off;   1: Beeper on

- Press button (C) or button (D) to turn on/off the beeper.
- Press button (B) to save the setting and exit.
- Press button (A), to exit the setting mode, and display the operation temperature.

(4) Working mode (Mode)：

- Press button (B), to jump to the next setting item.
- Press button (A), to exit the setting mode, and display the operation temperature.
- Press button (C) or (D) to enter the working mode setting interface.

- Press button (C) or button (D) to adjust the working mode setting. Press button (B) to save the setting and exit.
- Press button (A), to exit the setting mode, and display the operation temperature.

Note：

Mode 1: After power failure, no automatic restart of functions.
Mode 2: After power failure automatic restart of functions, depending on previous settings.
Mode 3: After power failure automatic restart of functions, depending on previous settings. Set values (set in A1or B) cannot be changed.

(5) Over temperature protection(Over temperature - O T)

- Press button (B), to jump to the next setting item.
- Press button (A), to exit the setting mode, and display the operation temperature.
- Press button (C) or (D) to enter the over temperature protection setting interface.

- Press button (C) or button (D) to adjust the over temperature protection temperature value. (For example, to set the over temperature protection temperature value at 110 ° C, then the device will cut off the heating circuit if the fluid temperature is higher than the setting value 110° C.)
- Press button (B) to save the setting and exit.

Note: The over temperature protection will be changed to HIT+10.0°C after the maximum temperature (HIT) modification.

(6) Temperature calibration Reset (Calibration - rCAL)

- Press button (B), to jump to the next setting item.
- Press button (A), to exit the setting mode, and display the operation temperature.
- Press button (C) or (D) to enter the temperature calibration mode setting interface.

0：reset 1：1-points cal. 2：2-points cal. 3：3-points cal

- When the setting value is "0", press button (B) to reset the previous calibration data.

.
Temperature calibration point 1:

The interface for viewing the value before correction:

- ❖ Press button (B), to jump to the next CLP2 item.
- ❖ Press button (A), to exit the setting mode, and display the operation temperature.
- ❖ Press button (C) or (D) to enter the interface for viewing the value.

- ✧ Press button (B), to jump to the temperature calibration point 1 deviation value interface.

◇ Press button (A), to exit the setting mode, and display the operation temperature.

Deviation value interface：

```
COP1
```

❖ Press button (B), to jump to the next CLP2 item.
❖ Press button (A), to exit the setting mode, and display the operation temperature.
❖ Press button (C) or (D) to enter the temperature calibration point 1 deviation value input interface.

```
-0.05
```

◇ Press button (B), save the deviation value and jump to the next CLP2 item.
◇ Press button (A), to exit the setting mode, and display the operation temperature.

The device can be calibrated a total of 3 points.
Examples：
The actual measurement data of the third-party sensor is 37.00°C, and the value before CLP1 correction is 37.05°C, then the COP1 deviation value should be entered -0.05
(deviation value=actual measurement data - pre-correction value)

CLP1 Before correction
```
37.05
```
, COP1 Deviation
```
-0.05
```

Note: Make sure the calibration value is stable and reliable, and then press the button (B) , to save the deviation value.

(7) Show device serial number
To show the 1st 4 Digi of the serial number(High Serial number - HiSn)

```
HiSn
```

■ Press button (B), enter the menu to show another 4 Digi of the serial number.
■ Press button (A), to exit.
■ Press button (C) or (D) to show the 1st 4 Digi of the serial number.

To show another 4 Digi of the serial number(Low Serial number - LoSn)

```
LoSn
```

■ Press button (B), enter the next menu.
■ Press button (A), to exit.
■ Press button (C) or (D) to show another 4 Digi of the serial number.

4. Troubleshooting

In the event of an error occurring, the device will halt both circulation and heating, activate the beeper, and display an error message on the screen.

Follow these steps in such instances:

(1) Power off the device and disconnect it by unplugging.
(2) Implement the necessary corrective actions.
(3) Restart the device.

Error code	Cause	Solution
Er00	Internal temperature sensor error	Restart the device.
Er01	External temperature sensor error	Check the sensor connection.
Er02	Cooling system over-pressure	Switch off the device for 1 hour to cool down, and clean the ventilation mesh screen.
Er03	Communication timeout	Check the data cable connection.
Er04	Low liquid level	Check the liquid level of the bath vessel.
Er05	Over-temperature	Check the over-temperature setting value; check the temperature sensor and the heater.

Note: Please contact us if the corrective action described fails.

5. Maintenance

(1) Avoid any impact on the device, particularly the control panel. Prior to startup, conduct a thorough inspection of the device.

(2) Regularly inspect the control panel and warning notes every functional cycle (approximately every six months).

(3) Operating temperature range: Maximum 32°C, Minimum 5°C. Maximum humidity: 50% (40°C). Operate the unit exclusively in well-ventilated, dry, and frost-free environments.

(4) Prevent direct exposure of the device to sunlight. Ensure a solid PE connection for the device.

(5) Before cleaning, servicing, or performing maintenance tasks, always power off the device. Completely drain the unit before transportation.

(6) Refrain from starting the unit if it exhibits any signs of damage or leakage.

6. Warranty

Warranty is effective from the date of purchase and is non-transferable.
For more details about the warranty, please refer to the link below:
stonylab.com/pages/warranty

For any inquiries or assistance, feel free to contact us:
Company: StonyLab Inc.
Email: support@stonylab.com
Phone: 631-406-6080
Website: stonylab.com

This instruction manual is subject to change without prior notice.