CLS SCIENTIFIC

Thermo Circulator User Manual

For all your questions and more

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Read this manual before installing and using the device!

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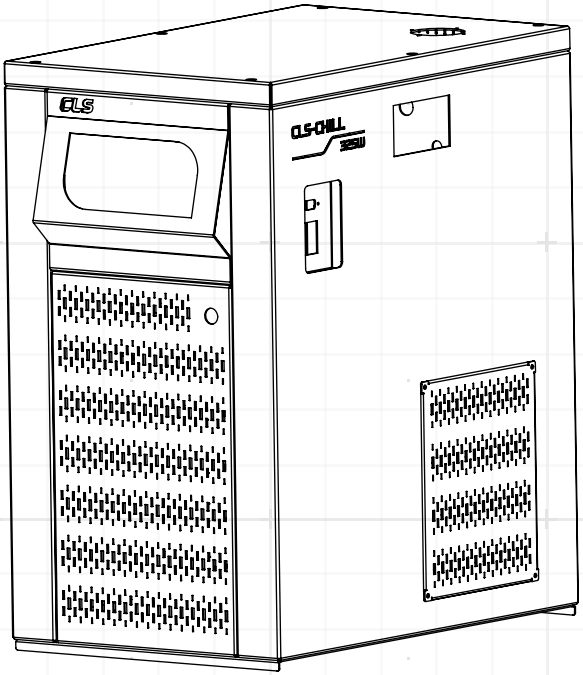
User Manual

CLRC-05C / CLRC-05CL



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Contents

1. User Information & Safety

The information given in the present manual must by all means be carefully read and observed. Only then can a perfect functioning of the Vacuum Oven be guaranteed.

Vital information within the manual are emphasized in bold letters.

Safety precautions are additionally marked with the following symbols

Warning
use gloves
always

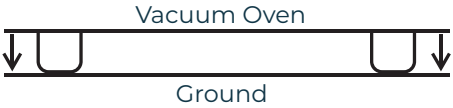
Warning
oven hot
when operating!

Warning
of high
voltage

*** A free of charge guarantee repair cannot be granted for defects due to improper installation or handling. In order to protect the Vacuum Oven during transport, all free openings are covered with tape. These transport protections have to be removed before installation.**

*** The door and the security glass panels must be checked regularly for scratches or damage. No vacuum must be applied to the oven if there is any damage.**

The unit is suitable for both bench and cabinet. Suitable for indoor use only.
If the unit is to be placed on a bench, place it only on solid, level surfaces. If the unit is to be placed on a cabinet, check the carrying capacity of the cabinet in relation to the total weight of the unit (see technical data). Make sure that the feet under the vacuum oven are firmly on the ground.



*** Always use gloves when removing ingredients from the oven.**

*** Do not try to move the oven by yourself.**

*** Always operate the oven on a level surface.**

*** Do not keep any flammable materials very close to the oven where you place it.**

***The right to technical modifications is reserved.**
Dimensional details are not binding.

2. Voltage

Main switch of the vacuum oven must be in **OFF** position.
Mains voltage and voltage stated on the name plate at the left-hand side of the unit must be identical.
If this applies, unit can be connected.

The vacuum oven must only be installed connected to a properly installed power connection with neuter (PE), according to the local regulations. It must be secured that power can be cut all-pole (switch or socket).

Note: Any work involving opening up the oven must only be carried out by a suitably qualified electrician!

3. Unpacking

Make sure you receive your device safely. Unpack carefully and check that the device is not damaged during transportation. Follow these steps when unpacking:

Opening the Outer Packaging:

Carefully open the box and remove all packaging materials.

Removing the Device:

Place the device on a solid surface when removing it from the box.

Checking the Accessories:

Check all accessories and documentation inside the box. If there are missing or damaged parts, contact the supplier immediately.

Saving the Packaging Materials:

Keep the packaging materials in case it is necessary to move the device to another location or return it.

Be careful of physical impacts such as falling or bumping when lifting or carrying the device.

3.1 Included as standard

By connecting an external temperature sensor (PT100) to the device, the ambient temperature can be precisely monitored and controlled. The PT100 sensor must be correctly connected to the relevant connection point on the device.

In addition, the circulation pump speed of the device can be adjusted to suit different applications.

Pump speed adjustment can be easily made from the control panel on the device or the relevant setting menu.

3.2 Accesories

External temperature sensor (PT 100)

Insulated connection hose

Heat transfer fluid

4. Device Description

The CLRC 05C and CLRC 05CL refrigerated circulator devices are designed to provide precise temperature control for laboratory and industrial applications. These devices ensure the cooling and circulation of liquids within a specified temperature range through a built-in cooling system and circulation pump, suitable for both closed and open systems.

Refrigerated circulators are commonly used in chemistry, biotechnology, pharmaceuticals, material science, and general laboratory applications for temperature-controlled tests, reactor temperature control, viscosity measurements, sample preparation, and calibration.

With features such as external temperature sensor (PT100) connection and adjustable circulation pump speed, these devices provide high-precision compatibility with various application requirements.

4.2 Main Buttons

There are 5 buttons for use on the device.

1. Main power button

2. Settings button

3. Increase value button

4. Decrease value button

5. Start/Stop button

5. Install Device

Ask for help from a person with technical knowledge for the installation of the device.

Do not install the device with bare hands.

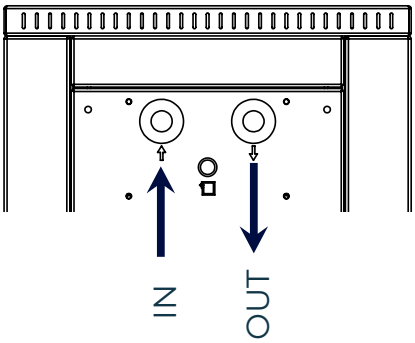
Fill the liquid to be added to the device slowly and carefully.

5.1 Connection

Proper and secure connections are essential for the safe and efficient operation of the CLRC 05C and CLRC 05CL refrigerated circulators. Please follow the guidelines below for correct installation and connection of the devices.

Power Connection:

Ensure that the device is connected to a power source that matches the specified voltage requirements. Carefully plug the power cord into the appropriate socket, ensuring a firm and secure connection. Before turning on the device, verify that the electrical connection is properly established to avoid potential electrical hazards or malfunctions.



Liquid Connections:

The device features Inlet (IN) and Outlet (OUT) ports designed for circulating liquids through external systems. When making the connections, use suitable hoses that are compatible with the device's ports and ensure they are securely attached to prevent leaks. It is recommended to use hose clamps or fittings to enhance the connection's stability and prevent disconnections during operation.

External Temperature Sensor Connection (PT100):

The device allows the connection of an external temperature sensor (PT100) for more precise temperature control. To connect the sensor, carefully insert the PT100 sensor plug into the designated socket on the device. Ensure the connection is secure and properly seated. Using the external sensor enables accurate temperature monitoring and regulation, especially when controlling the temperature of external systems or samples.

Connection Inspections:

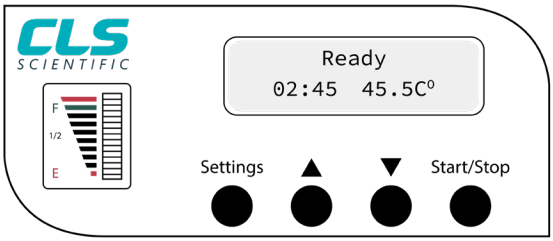
Before powering on the device, thoroughly inspect all connections to ensure they are properly made and secure. Check for any signs of leaks, loose connections, or improper fittings. If any issues are detected, do not operate the device until the connections are corrected and verified as safe.

Always double-check the connections before use and ensure that the device is placed on a stable, level surface to avoid accidental disconnection or spills.

6. How to use

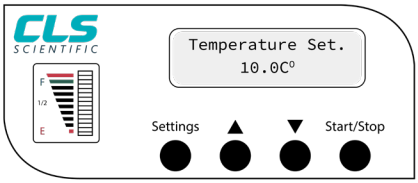
It is not recommended to use water in the device for temperatures other than -10C and 90C.

Before using the device, determine the temperatures required for your process in advance and determine the correct value.



How to set temp?

After the device is connected to electricity, the main power switch should be set to position I, then water should be added to the device until the lights on the electronic level indicator are in position F. If the screen says “READY”, the device will be ready for use.

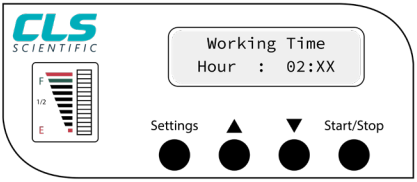


1. Press the **Settings** button once.
2. When the above mentioned screen appears, set the temperature you want to work at.
3. Press the **Up Arrow** key to increase the temperature, and the **Down Arrow** key to decrease it.
4. If you press the **Settings** button after entering the operating temperature, the value you entered will be saved.
5. To go to the main screen, press the “**Settings**” button several times until you see the word “**READY**”.
6. If you press the **Start/Stop** button, the device will start working at the value you entered.

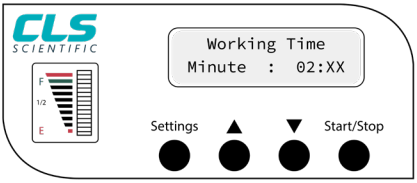
How to set time?

Enter the working time in hours and minutes using the arrow keys.

Hour Setting



Minute Setting



How to stop application?

When you want to stop the device, simply press the Start/Stop button. The device will warn you with an audible signal when it starts and stops working.

8. Technical Data

General Data

Device	Refrigirated Circulation Bath
Model	CLRC - ***CLRC L series are means LOW TEMP series***
Identification	CE
Quality Management	DIN EN ISO 9001:2008

General Tech. Data	04C	05C	08C	17C	30C
Capacity	4 lt	7 lt	8,3 lt	17 lt	30 lt
Sensor	PT 100				
Working Temp	- 10 ~ +60 °C	- 25 ~ +100 °C			
Heating Capacity	1000 W	1500 W	1500 W	1500 W	2200 W
Cooling Capacity at 0 °C	150 W	150 W	150 W	850 W	1100 W
Connection	Standart 8 mm			Standart 10 mm	
Controller	Full Automatic PID control software				
Drain	Uniq manual drain valve				

Material-Specific Data

Material of work area	1.2 mm tihcknes SS 304 Material No : 1.4301
Housing Material	Powder-coated 1.2 mm thick Zincor steel plate

Mechanical Data	04C	05C	08C	17C	30C
Interior (mm)	270x540x380	310x470x580	235x500x605	175x320x150	235x500x605
Exterior (mm)	270x540x380	310x470x580	235x500x605	330x474x752	400x523x807
Packing Size (mm)	370x640x480	410x570x680	335x600x705	430x574x852	500x623x907
Gross Weight (kg)	18 kg	25 kg	20 kg	30 kg	35 kg
Power consumption	1500W	1950W	1950W	2200W	3000W

9. Declaration of Confitmitiy

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