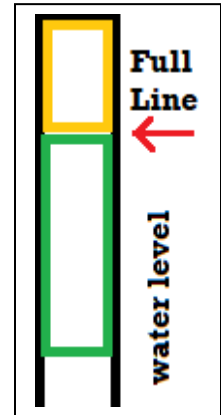


# Lightobject Water Chiller Instructions

Please read the instructions below before using the chiller.

## Startup procedures

- 1) Remove the cap on the back and slowly pour in distilled water until the water level reaches below the “Full” line. This ensures accurate temperature reading and high cooling efficiency.
- 2) Connect the chiller’s water outlet to the laser machine’s water inlet. Connect the chiller’s water inlet to the laser machine’s water outlet.
- 3) Make sure the power button is off. Connect the AC power cord from the back of the chiller to a wall mount AC outlet.
- 4) Power up the chiller. Check the water flow direction. Check for any leaks.



## Operation

By default, the water temperature is set to **22.5° Celsius (71° F)**. When the chiller power is on, water pump is always running. The chiller will try to maintain water temperature to the Set Value within +/-one degree. The refrigerant split valve will open when water temperature drops below set temperature. It will close again when water temperature rises above SV+FB. The purpose of this valve is to keep the water temperature relatively constant during the use of the laser tube.



LightObject  
www.lightobject.com Fig. water flow sensor behind water outlet

## Alarm

- 1) **Water is not flowing. Flow sensor becomes open contact.**  
Loud beeping.
- 2) **The current water temperature is too high/low.**  
Loud beeping. Press esc button to turn off alarm. Make sure the alarm temperatures are correct.

The left and right alarm pins become open circuit when alarm occurs. The middle pin is not used.

## Chiller Control Instruction



AC Power Input  
&  
Fuse location

Alarm cord  
(optional)

Number on the left is the water tank temperature reading.

SV: set cooling water temperature

FB: for controlling refrigerant valve (default 0.3)

Hold the set button for 4seconds to get into menu. Press esc after changing parameters.

Parameters implemented under menu:

Set temperature: SV

Temperature unit: C/F

High/low water temperature for alarm

System reset: change parameters and language back to factory setting

## Cautions and Conditions

- 1) Water pump can be damaged when running without water.
- 2) Air filters on the side doors must be cleaned regularly. Leaves space around the chiller for proper ventilation.
- 3) Distilled water is recommended to prevent bacterial growth. Change the water every 3 - 6 months, or before water gets dirty.
- 4) **Do not power on immediately after powering off the chiller, it could possibly blow the fuse** (fuse is located under the power socket on chiller). Please wait for about 30 seconds.
- 5) To avoid water back flow from the machine when draining, drain water from the bottom of the chiller at the drain plug first.
- 6) Drain out water before transportation. Do not lay the chiller on the side or put it upside down.

## Specification

Water Inlet/Outlet outer diameter: 10 mm

Recommended Ambient Temperature:  $\leq 35^{\circ}\text{C}$  ( $95^{\circ}\text{F}$ )

Recommended Water Temperature setting:  $18\sim 24^{\circ}\text{C}$

Recommended F type Fuse: 15A(for 600 and 800 model), 25A(for 1600)

Built-in water flow alarm and high temperature alarm

## Trouble Shooting

- 1) **Chiller does not turn on when switch is on.**  
Check if the water pump is running. If not, the fuse could be blown. Replace the fuse.
  
- 2) **Chiller does not cool down the water to 22°C.**  
Quick Check: Turn off the laser power and see if the chiller can cool down the water. If it does, it means the chiller is still functioning but not able to cool down high water temperature.
  - a) Make sure you are using the appropriately sized water chiller for your laser tube power. If not, you may need to upgrade to a higher power water chiller.
  - b) If your compressor's performance is getting worse, it could potentially be that there is not enough refrigerant left in your water chiller.
  
- 3) **Chiller does not cool down water the first time I use it.**  
The fans and compressor should be running when the chiller is cooling water. If the compressor has strange noise, it could be the 3 connectors on the run capacitor are loose. If it does not function as intended, turn off the chiller and seek assistance from LightObject. Repair or replacement might be needed to prevent damage to your laser tube.
  
- 4) **The water flow alarm shows up but I don't see any kink.**  
Power off, and unplug power cord. Remove side cover panels and check if there is a kink in the silicone tubing inside the chiller. If the water flow sensor is dirty, it can get stuck. Open the flow sensor to clean. If water pump is dirty, the water flow rate can be low. Drain out water and open the pump to clean.