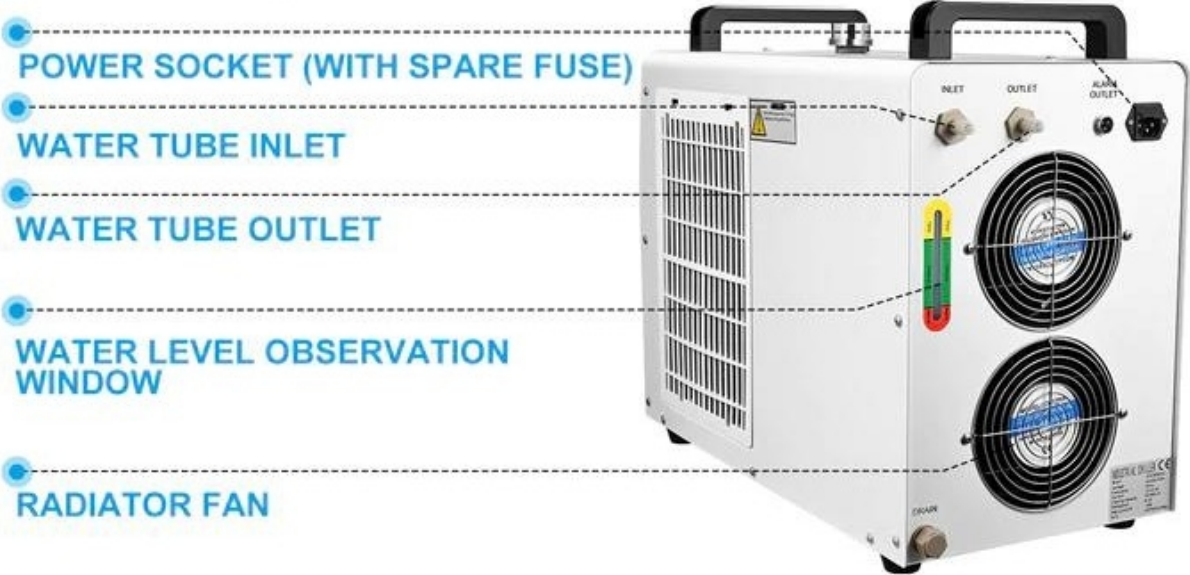
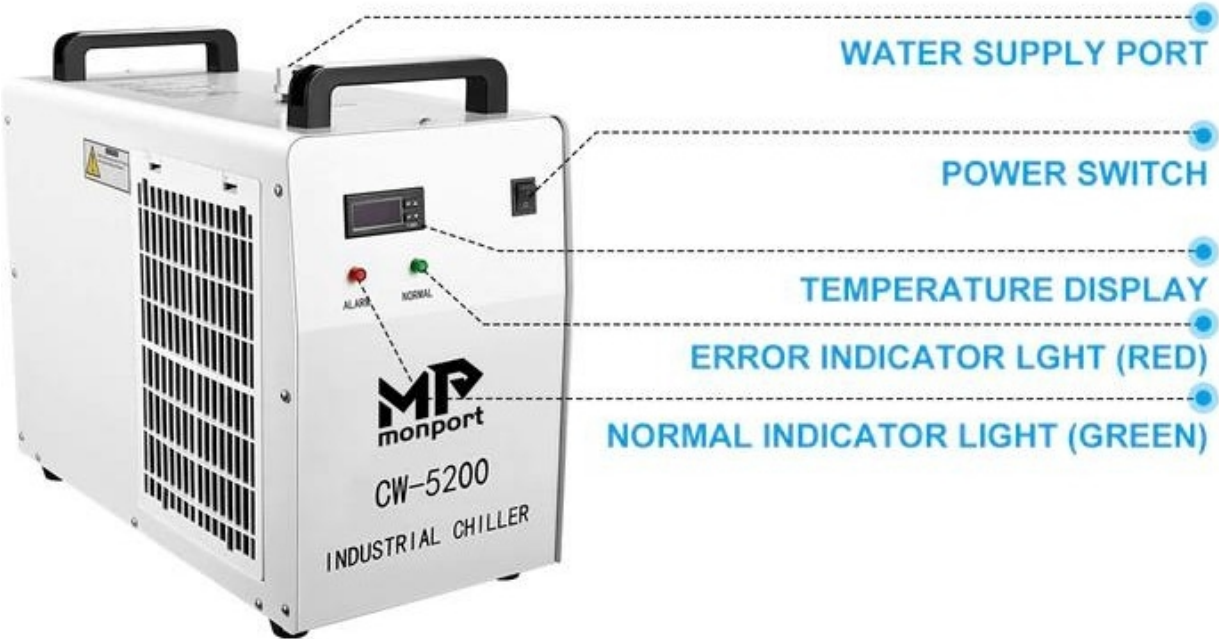


Monport CW-5200 Series Chiller



Congratulations on the purchase of your new Monport CW 5200 series chiller! Here at ***Monport***, we believe in customer service, and we strive to support our customers by providing clear and concise directions for proper use of our products! The following will detail the installation, use & maintenance of the CW-5200 series of chillers. Following these directions, you should expect long life from this product and your Co2 tube!

Connection Overview:



Installation It is very simple for the typical laser user.

NOTE: *If there are any shipping damages on the outside of the box, please take photos now, before unpacking in case a damage claim needs to be filed!*

Open the package to check if the machine is intact and all the necessary accessories are included.

Water Fill:

NOTE: *You cannot ever start the chiller without the proper water level. Doing so may/will damage the internal pump!*

- 1)** Open the water supply port on the top of the unit to fill with water. **Use purified or distilled water only!** Normal tap water contains contaminants that can/will cause a short in the laser tube. The chiller will take six liters of water, or almost two gallons.
- 2)** Use a funnel to start filling the water tank. Watch the ***water level observation window*** as you fill the tank. It will take an entire gallon of water before the indicator starts to read in the window; this is normal.
- 3)** Fill the tank all the way up until the indicator reads about ½ way up the yellow gage. This level will drop to the top of the normal range after your laser tube is filled and all the air is evacuated from the tube and the lines.
- 4) OPTIONAL, but recommended:** Add 4 to 5 ***drops*** of ***aquarium algicide*** and ***dishwashing liquid*** to the water. We recommend ***Tetra Algae Control*** and ***Dawn*** dishwashing liquid; both available on Amazon. The algicide is self-explanatory. The dishwashing liquid will lubricate the pump motor as well as the Co2 tube, allowing the air bubbles inside the tube to evacuate more easily. If you see air bubbles in the tube after 5 minutes of run time, pinch the water outlet hose for a brief moment (*a momentary alarm will sound*) to dislodge the stuck bubbles; repeat if

necessary. Both of the additives are non-conductive and will not hurt the chiller or the tube.

Connecting the water lines:

NOTE: *To prevent debris from contaminating the water chamber, the chiller ships with either a short hose or protective caps (or both) over the inlet and outlet fittings. Please remove these and recycle or discard them.*

- 1) Slide two included hose clamps onto each water hose.
- 2) Connect a water hose from the **inlet** fitting on the **chiller** to the water **outlet** port on your **laser**.
- 3) Connect the 2nd water hose from the **outlet** fitting on the **chiller** to the water **input** port on your **laser**.
- 4) Tighten all four clamps.

Powering on the unit for the first run:

1) With the **Power Switch in the OFF position**, plug the power cord firmly into the power socket and make sure it is fully seated. Plug the other end of the cord into a properly grounded wall outlet.

NOTE: *The 5200 series chillers can draw about 4.6 to 6.5A of power depending on whether the compressor is on or off. It is highly recommended to use a dedicated wall outlet rated at 15A or better. Using a 15-20A outlet should be fine for both the laser and the chiller. We do not recommend using a household extension cord!*

2) **Before** turning on the **power** switch, **press and hold both the up and down arrows** on the controller, then turn the power switch to the **on** position. You will hear an alarm, and after approximately **three seconds**, the **controller LED screen** will read, **rE**. Release the up and down arrows and approximately **six seconds** later, the chiller will go into **intelligent start up mode** with the factory-controlled settings.

NOTE: *Do not power off the chiller during the startup mode! Normal startup will take from 2 to 5 minutes, and the compressor will not start immediately. The chiller must operate for at least 5 minutes before you can power it off. Turning the power off during the startup mode may/will cause damage to the internal components.*

3) Check all water connections for leaks! Keep a watchful eye for the first **10 minutes** of operation on all of the water hose connections, as well as the water indicator gage to check for leaks. Also open the back cover of your laser and ensure that water has filled the tube and is flowing, and there are no leaks inside the laser. If you filled the tank to the appropriate level, the water indicator gage should be at the top of the green, up to the middle of the yellow. Although this is a sealed system, please check your water indicator gage every day to ensure proper water levels in the tank.

4) Important! Locate the chiller in its final position in an area with no obstructions and at least **one foot** of clearance all the way around for proper airflow.

Congratulations!

You have completed the installation of the Monport CW-5200 series chiller!

Maintenance

There is very little maintenance involved in the use of the *Monport CW-5200 series chillers.*

1) There are two ventilation doors, one on either side of the chiller. If you depress the two tabs on top, you can pull open the door. Fitted inside the door are filters in each side. These filters should be washed under running water at least once for every 40 hours of use, or once a week. Dust buildup in these filters will cause the chiller to run hot and malfunction. Wipe down the outside of the chiller and the vent doors while cleaning the filter screens.

2) It is highly recommended to change the water at least once every 4 weeks. If you followed the optional water conditioning instructions, it is possible for the water to last up to 3 months, however you should inspect the water color in the Co2 tube at least weekly. At the first sight of change in clarity (*cloudy water*) the water should be changed.

NOTE: *If you see any **discoloration** in the water in your tube, that indicates **contamination** and the tank and lines need to be disinfected immediately. Drain and refill the water tank, and add 6-8 capfuls of ordinary unscented laundry bleach. Run the chiller for 45-60 minutes and then drain and refill again following the Water Fill procedure above.*

Visual inspection is also good practice every day. Inspect the water lines for leaks, the water level, the inside of your laser for leaks and water clarity, and check for obstructions on or around the chiller. The chiller requires approximately one foot of clearance from anything that could obstruct the airflow!

FAQ

Q: Why do you recommend “Intelligent Mode”?

A: Intelligent mode will keep your laser tube within 2° of the ambient room temperature, which is the optimal setting for your Co2 tube. Going -5° or more below ambient room temperature may/will lead to condensation on the tube and a probable “*short down*” which can/will damage the tube and cause it to stop operating, requiring replacement. The water in your tube and chiller should never be more than 5° lower than room temperature.

Q: How do I know if the room temperature is too high to use my laser?

A: The CW-5200 has built in alarms to warn you! If your room temperature is too high to operate the laser. You will get an **audible alarm**, and the LED screen will read **E1**. In this case, **turn off** the laser and the chiller immediately. To resolve the problem, lower the temperature of the room.

Q: How do I know if the water temperature is too low to use my laser?

A: The CW-5200 has built in alarms to warn you! If your water temperature is too low to operate the laser You will get an **audible alarm**, and the LED screen will read **E3**. In this case, **turn off** the laser and the chiller immediately. To resolve the problem, raise the temperature of the room.

Q: How do I know if the water temperature is too high to use my laser?

A: The CW-5200 has built in alarms to warn you! In rare cases, after constant, long periods of laser use, your water temperature may get too high for the chiller to compensate. You will get an **audible alarm**, and the LED screen will read **E2**. In this case, **turn off** the laser immediately but leave the chiller on. To resolve the problem, wait for the water temperature to stabilize. You can press the **RST** button once to silence the audible alarm while you wait.

Q: Are there other alarm codes?

A: Yes, there are malfunction alarms as well. **E4** is a failed room temperature sensor, and **E5** is a failed water temperature sensor. Both of these error codes would require factory service immediately.

Q: I have an alarm but there is no error message, what is causing this?

A: When you get this alarm, you will see the **red LED** on the controller lit up; this is a water **flow alarm**! Stop the laser immediately if it hasn't stopped already. Find the kink in the water line that's causing the

obstruction. There may be an object on the water line, or a kink in the hose. If there are no visible kinks in the water lines, the kink is inside your laser. Open the back door and find the obstruction. Do not continue using the laser until the red LED turns **off**. This means water flow has been restored.

Q: Can I turn off intelligent mode and use my own settings?

A: Yes, but we highly recommend against it! Advanced parameters are listed in the owner's manual that comes with the chiller if you want to set your own. Do this at your own risk! This chiller, when properly used in intelligent mode, in the proper environment, will provide years of optimal protection for your Co2 laser tube. Using custom user settings can cause damage to your laser tube and/or the chiller if improperly set.

Q: What is the optimal room temperature and operational range for a Co2 laser?

A: The best performance and longest life of a laser tube is an operational temperature in the ranges of **15° - 25°C (59° - 77°F)**. Your ambient room temperature should remain between these temperatures for best performance. A Co2 laser should always be used in an HVAC environmentally controlled room.

Q: What is the metal Aviation plug that looks like a microphone jack used for?

A: This is an optional water flow sensor connector for the chiller. Your laser should already be equipped with flow protection, but if it is not, you would wire this to your water sensor connection to the controller (*WP & GND on the controller*). Almost all 50W & above lasers already have a water flow circuit, so the chances of you needing this are slim. To check if you need it, look at the WP & GRD terminals on your

controller. If there are 2 wires coming out and going to your laser tube, you do not need to use this accessory.

Troubleshooting

The chiller does not turn on.

Check the power cord, make sure both ends are plugged in. Check your circuit breaker to see if it tripped. Remove and check the fuse at the power plug. If any of these conditions happen, have an electrician check to see if the voltage is stable and within parameters at the wall outlet.

The RED LED light on the control panel is on.

This is your flow alarm; it should be accompanied by an audible alarm. Check the water level. Check to make sure there are no obstructed water lines.

The water is draining very slowly:

Remove the cap from the top of the chiller.

This document was prepared by Monport USA LA Technical Support, by Rich Faraone, The Louisiana Hobby Guy LLC. It is designed as an aide for end-user use and problem solving. Monport & The Louisiana Hobby Guy LLC take no responsibility for the content, use or misuse of this document or user errors resulting in hardware failure or any other consequence.

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