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BOSS LASER

CW 5200 Water Chiller

Operators Manual



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WELCOME TO THE BOSS LASER FAMILY

Over the years, Boss Laser has provided quality laser solutions, and I am thankful that we have always focused on delivering value not only for our clients but also contributing positively to our community.

Our mission statement is "Boss Laser strives to honor God by positively impacting its clients, employees, and community by providing products and services with Integrity, Honesty, and Value."

Your continued support has allowed us to make an impact not only in our own backyard but yours as well. Boss Laser Products are owned and operated across the world by hobbyists, small businesses, educational institutions, and Fortune 50 companies, just to name a few. But do you know what truly makes Boss Laser successful? You!

You have given us the opportunity to provide for families both locally and around the globe, whether a Boss Laser is being used in a home-based business that enables a family to have financial freedom, allowing college students at the University of Central Florida to make their designs become a reality, or inching the aerospace industry closer to new explorations and discoveries, you as a Boss Laser owner are the reason why.

When you purchase a Boss Chiller, you're not just getting the chiller, you're getting us, and by us, I mean the 40+ employees who strive to provide top-notch products, services, and support, day in and day out because they want you to be successful.

Owning a Boss Chiller makes you a part of our family and we are thrilled that you have chosen us to be your laser solution. I can promise you that you now have an army of 40+ people who are rooting for you to succeed and are here to help you along the way.

So, what are you waiting for? Let's get that machine fired up and put to work!



Dan Fox
Owner & Co-Founder



BOSS CW 5200 Water Chiller

EXPLORE EVERY WAVELENGTH OF INNOVATION

We're thrilled you've chosen the BOSS CW 5200 Water Chiller as your air chiller solution. Designed for ease of use, durability, and reliability, the BOSS CW 5200 Water Chiller is ready to assist you in bringing both your creative and professional projects to life.

We recommend printing out this manual to save time in the future. It will guide you through the basic setup of the chiller, so keep it close to your computer or machine for easy access while designing files or operating the chiller.

Be sure to read the manual in its entirety before operating the chiller as this will give you a solid understanding of how it works. We know there can be a learning curve with any new equipment, but with a bit of effort and patience, you'll be running your new chiller with confidence and efficiency in no time!

Our team is here to support you every step of the way. If you have any questions while reading the manual or setting up your chiller, feel free to call us at 407-878-0880 or email techsupport@bosslaser.com. A member of our technical support team will be happy to help!

Welcome aboard, and here's to countless projects and endless possibilities!



CONTENTS

1. Introduction	7
1.1 Definition of Procedures.....	7
1.1a Operation.....	7
1.1b Maintenance	7
1.1c Service	8
1.2 Warranty Disclaimer	8
2. Safety Information	10
2.1 Pre-Operation & Environment Requirements.....	10
2.2 Electrical Safety.....	12
3. Fire Hazards	12
4. Chiller Safety & Policies	13
5. Parts Diagram	14
6. Accessing Our “How To” Videos and Manuals.....	15
7. Receiving Your BOSS CW 5200 Water Chiller	15
8. Installation	15
9. Operation and Adjustment.....	17
9.1 Control Panel	17
9.2 Restoring Factory Settings	18
9.3 Thermostat Parameters List.....	18
9.4 General Settings Adjustment.....	19
9.5 Advanced Settings Adjustment.....	19
9.6 Advanced Parameters Adjustment Examples.....	20
10. Alarms	21
11. Specifications.....	22
12. Troubleshooting.....	23
13. Maintaining Your BOSS CW 5200 Water Chiller	26
13.1 Operating Environment Requirements and Precautions	26
13.2 Environment, & Maintenance Schedule.....	26
13.3 Maintenance Schedule Practices.....	27

Introduction

1. Introduction

This manual is provided with information specific to your BOSS CW 5200 Water Chiller. The Boss Laser BOSS CW 5200 Water Chiller is designed to encapsulate all functional components within one common housing. With their small footprint, high reliability, and low maintenance requirements, the chillers are ideal for small and medium scale industrial environments, but also capable enough to support operations in larger general manufacturing, vehicle service centers, woodworking, and machining industries.

1.1 Definition of Procedures

To ensure you feel confident when operating your chiller, we will go over everything you will need to know about the BOSS CW 5200 Water Chiller in this manual, but most of these sections can be broken down into three basic categories: Operation, Maintenance, and Service. We will provide a general overview of each category below and go into depth throughout this manual.

1.1a Operation

The safe operation of the chiller is essential to ensure both operator safety and long-term equipment performance. These chillers are engineered for industrial environments. Proper handling, routine maintenance, and adherence to safety protocols are critical to preventing accidents and minimizing downtime.

Before operating the chiller, users must thoroughly review the operator's manual and ensure that all personnel are trained in the correct startup, shutdown, maintenance and emergency procedures. The chillers should only be used in well-ventilated indoor environments, with adequate clearance for heat dissipation and service access. Personal protective equipment (PPE) such as safety gloves are recommended during operation and maintenance. Always disconnect power and follow lockout/tagout (LOTO) procedures before performing any service tasks.

1.1b Maintenance

The best way to keep your chiller performing optimally is to keep up with maintenance by setting a schedule. Please do NOT disassemble the equipment without written permission from Boss Laser. All maintenance can only be carried out by trained Boss Laser technicians, or by the direction of a Boss Laser technician, and the upgrading process can be carried out on site by our technical support engineers only. If the equipment is dismantled without permission, all potential damage that could result will not be covered by the warranty.

Introduction / Warranty Disclaimer

Proper maintenance of the chiller is essential to ensure optimal performance, energy efficiency, and long-term reliability. These chillers are designed with serviceability in mind, featuring accessible panels and components that simplify routine inspections and part replacements. Adhering to the recommended maintenance schedule not only extends the life of the chiller but also helps prevent unexpected downtime and costly repairs.

It is important to follow the intervals outlined in this operator's manual, which typically include daily visual checks, monthly inspections, and quarterly or annual component servicing. Always ensure the unit is powered down and properly locked out before performing any maintenance. Using only approved replacement parts will help maintain warranty coverage and ensure continued compliance with safety and performance standards.

1.1c Service

Service refers to needed repairs. Your BOSS CW 5200 Water Chiller should arrive mostly ready to go, but you may need some replacement parts, or to conduct minor repairs in the future.

Procedures during service may require the chiller to be turned on. Boss Laser recommends that only trained service personnel, such as Boss Laser Technicians, complete service or repairs unless directed by a Boss Laser Technician. Always call Technical Support if you are unsure what to do when servicing your chiller.

1.2 Warranty Disclaimer

This Limited Warranty applies to the chiller itself, and all parts purchased from Boss Laser, LLC. This Limited Warranty covers any defects in material or workmanship while the chiller is operating under normal use and for its intended purpose during the warranty period.

During this Warranty Period, Boss Laser LLC will repair or replace any part or product that has proven to be defective while the chiller is being used under normal conditions and for its intended purpose. This does NOT include labor and/or on-site tech support.

The Warranty Period for the chiller equipment will begin on the day of arrival and will be covered for 1 year unless an extended warranty is purchased. All parts purchased, and replacement parts are under warranty for one year from the time of installation by Boss Laser.

This Limited Warranty does not cover any problem that is caused by: conditions, malfunctions or damage not resulting from defects in material or workmanship (ex. modifications done to the chiller). All modifications that are made to the chiller must have written consent from Technical Support or the warranty will be voided.

Lack of proper maintenance of the chiller will also result in a voided warranty.

Warranty Disclaimer

To obtain a warranty service or part you must first contact Technical Support via phone at 407-878-0880 or email via techsupport@bosslaser.com to determine any issues and the most appropriate solution for the chiller.

Safety Information

2. Safety Information

Before setting up and turning on the chiller, all operators are required to read this manual carefully and adhere to the operating requirements & specifications. We understand that the number of safety precautions can be overwhelming to first-time users, therefore, we have provided a bulleted list below to give you a quick reference guide.

Warning!

- DO NOT run this chiller without first providing adequate water. (See page 16.)
 - Distilled water is preferable.
 - Use tap water only as a last resort.
- ONLY use with stable, compatible, and well-grounded power supplies.
 - See page 22 for the correct voltage for your model.
- Place this chiller in a well-ventilated, dry environment away from heat sources but warm enough to avoid freezing temperatures.
- Leave at least 1 foot (30 cm) of space behind the rear air outlet.
- Leave at least 4 inches (10 cm) of space around the two side air inlets.
- Do not allow children or untrained people to use this chiller.
- Pay attention to possible condensation on the chiller and its water lines.
 - If condensation is observed, raise the water temperature, keep the water lines and cooled components warmer, or reduce ambient humidity until no condensation occurs.
- When cooling a laser engraver, take care that this device does not cause the room's humidity to exceed safe levels.
- Do not allow the air filter to become blocked by dust. Clean it regularly.
- Disconnect the power and drain all water from the chiller before storage or transport.

Caution!

- Remember that the OUTLET of the water chiller should connect to the INLET of the product to be cooled.
 - Similarly, the water chiller's inlet should be connected to the other machine's water outlet.

2.1 Pre-Operation & Environment Requirements

Prior to operating the chiller, all doors, covers, hoods, and safety mechanisms should be in place.

Safety Information

- In this manual, we provide you with important product safety operation specifications and other reference information. To ensure your personal safety when operating this product and to maximize the performance of the product, please follow the precautions and warnings and other relevant operating specifications within this manual.
- Do not operate in high temperature, high humidity or high-pressure environment, otherwise it may cause a short circuit and/or a high temperature alarm, affecting the regular use of the chiller and the life of the chiller.
 - The ideal environment for the BOSS CW 5200 Water Chiller is one with an ambient temperature range of 5°C to 45°C (41°F to 113°F).
 - Relative humidity should remain below 80%, and the environment must be non-condensing to prevent moisture from building up inside the chiller system.
 - Operating outside of these conditions may lead to reduced efficiency, overheating, or premature wear of internal components.
 - It is important to avoid installing the chiller in areas subject to freezing temperatures, direct sunlight, or high humidity without adequate climate control.
 - These chillers are intended for indoor installation only and should be placed in a clean, dry, and well-ventilated industrial environment.
 - Proper airflow is essential to ensure the internal cooling system functions effectively.
 - The installation area should be free from airborne contaminants such as dust, oil mist, or corrosive gases, which can impair performance and reduce the lifespan of the chiller.
 - Adequate space around the chiller is critical for both ventilation and maintenance access.
 - A minimum clearance of 1 foot (12") should be maintained behind the rear air outlet to allow for proper airflow and to facilitate routine inspections and service procedures.
 - The chiller should be installed on a flat, vibration-free surface capable of supporting its full weight with water.
 - The air intake for the chiller must be free of corrosive gases, excessive dust, and oil mist to prevent contamination of internal components and ensure efficient operation.
 - These chillers are not designed for use in washdown areas or wet environments unless additional protective measures are implemented.
 - Exposure to water or aggressive cleaning agents can compromise electrical components and lead to safety hazards.
 - If the installation site poses such risks, consult with Boss Laser for appropriate enclosure or environmental protection solutions.
- Before connecting the power, please check if the voltage of the external power supply meets the requirements and visually make sure there is no abnormality in the chiller's power interface and ensure that the power interface is properly connected. Improper connection may cause unrecoverable damage to the equipment.

Safety Information

- To ensure stable and efficient operation, the chillers require a 110V (or in some cases 220V) power supply.
- The electrical source must be stable and protected from voltage fluctuations, surges, or interruptions that could damage sensitive control electronics or cause unexpected shutdowns.
- It is recommended to use a dedicated circuit with appropriate overcurrent protection and grounding in accordance with local electrical codes and standards.

2.2 Electrical Safety

The BOSS CW 5200 Water Chiller uses electricity to power the chiller, which increases the risk of electrical shock if not handled properly.

The internal electrical systems of the chillers, including wiring, circuit boards, and control modules, may contain trace amounts of heavy metals such as lead, commonly found in solder. These materials are safely enclosed and pose no risk during normal operation. However, during end-of-life disposal or recycling, these components must be handled in accordance with electronic waste regulations such as the Waste Electrical and Electronic Equipment (WEEE) Directive and Restriction of Hazardous Substances (RoHS) compliance. Disassembly should only be performed by qualified personnel or certified recycling facilities to ensure safe handling and environmental responsibility.

Any time any electrical work is done, it should be done by a trained technician. Do not touch live components in the electrical cabinet during power-on. Whenever possible, any electrical work should be done when the system is deenergized and a Lock Out Tag Out (LOTO) system is in place. If work must be done while the system is energized extreme caution must be used by trained personnel.

Please note the following:

- Do not disassemble the chiller without prior approval and direction from Boss Laser Technical Support, otherwise, the warranty may be voided and injury or death from electrical shock may occur.
- Ensure all sources of power are unplugged prior to conducting service and maintenance on the chiller.

3. Fire Hazards

⚠ **WARNING:** Although the chillers are designed with safety in mind, they still present potential fire hazards if not operated and maintained properly. Accumulated dust, lint, or debris near the chiller's intake or cooling system can act as fuel in the event of an electrical fault or overheating.

Chiller Safety & Policies / Parts Diagram

To minimize fire risk, the chiller should be installed in a clean, dry, and well-ventilated area, away from flammable materials and ignition sources. Regular maintenance is essential. This includes checking and ensuring that cooling fans and heat exchangers are free of obstructions. Electrical connections should be inspected periodically for signs of wear, corrosion, or overheating. Fire extinguishers rated for electrical fires (Class B and C) should be readily accessible in the chiller area. Operators must be trained in emergency shutdown procedures and fire response protocols to ensure a safe working environment.

4. Chiller Safety & Policies

First, BE CAREFUL! Chillers are necessary tools, and the proper precautions should be taken, just as if you were working with any other tool or machinery. To ensure the safe and effective operation of the chillers, all personnel must adhere to established safety policies and operational guidelines. These chillers require trained operators, routine inspections, and strict adherence to lockout/tagout (LOTO) procedures during maintenance and service. Only authorized and qualified personnel should operate or service the equipment, and all users must be familiar with the contents of the operator's manual before use.

Company safety policies should include regular safety briefings, documented maintenance schedules, and clearly posted emergency procedures near the chiller installation site. Personal Protective Equipment (PPE), such as gloves, should be worn during operation and service. Additionally, the chiller area should be kept clean, dry, and free of obstructions or flammable materials. Any signs of abnormal operation, such as unusual noise, vibration, or overheating, must be reported immediately and the unit shut down until inspected by qualified personnel. These policies are essential not only for protecting personnel and equipment but also for maintaining compliance with workplace safety regulations such as OSHA, ISO, and CE directives.

Never leave the chiller unattended while it is running. The operator should not leave during the operation of the chiller. If an abnormality occurs during the use of the device, immediately press the Power toggle switch to the OFF position, if it is safe to do so.

The following safety measures must be strictly implemented and be abided by to ensure the safety of the chiller and the individual operating it. Boss Laser, LLC shall not be held responsible for any damage or injuries resulting from improper use or dismantling of the chiller.

- NEVER operate the chiller unless you have been professionally trained
- ALWAYS operate the chiller as designed
- NEVER set anything on top of the chiller while NOT in use
- NEVER leave the chiller unattended while it is running
 - This will ensure that you are able to see or hear any abnormalities/potential hazards
- ALWAYS maintain the chiller's environment free of heavy pollution, such as strong magnetic electrical interference
- NEVER operate the chiller near flammable or explosive substances

Chiller Safety & Policies / Parts Diagram

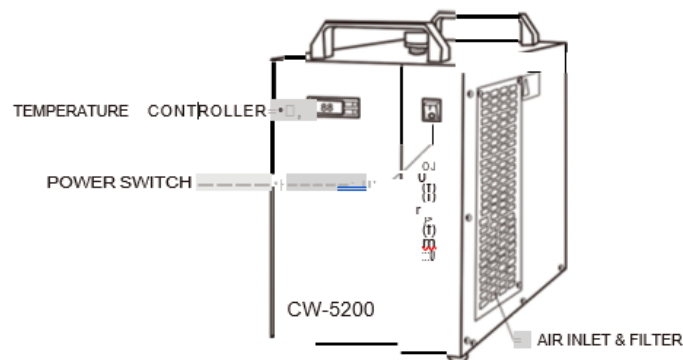
- NEVER dismantle the chiller
 - This can cause harm or injury
- ALWAYS have a clean area around the chiller to allow it to function properly
- ALWAYS have an appropriate fire extinguisher and method of egress in case of an emergency

In Case of a Fire:

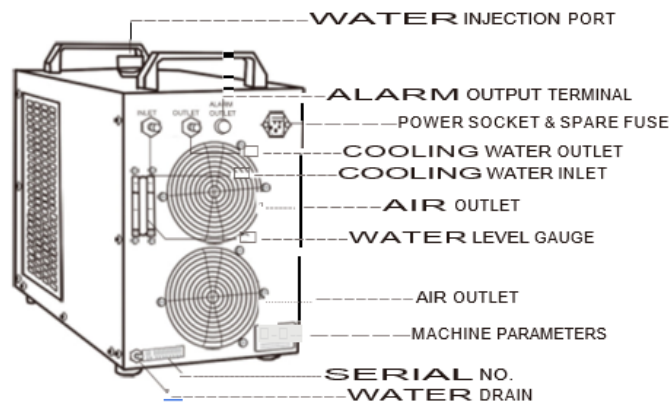
1. Press the Power toggle switch located on the front of the chiller to the OFF position, if it is safe to do so.
2. Quickly blow out the flame(s) with an ABC fire extinguisher for serious flames.

5. Parts Diagram

FRONT



BACK



Accessing Our “How To” Videos and Manuals / Receiving Your Boss CW 5200 Water Chiller / Installation

6. Accessing Our “How To” Videos and Manuals

We strive to provide support for our customers, which is why we have a variety of videos and manuals to assist our customers during the use or setup of their machine. In this manual, certain pages will contain a QR code. This will indicate that there is a video located on our website that will be able to guide you through this process or give you a better idea of how something is done.

Scan this QR code to access
our Instructional Videos.



Scan this QR Code to
access our Manuals Online



7. Receiving Your BOSS CW 5200 Water Chiller

While most of our machine accessories arrive unharmed, we urge you to inspect the chiller upon delivery to ensure that no damage has occurred while in transit. Damage can include pierced or broken pallets, smashed sides, or components. If there seems to be any damage to the chiller, take pictures prior to removing any bands.

If no damage is visible on the outside, proceed to removing the plastic wrap covering. If there is damage to the chiller under the plastic wrap covering, contact your Sales Consultant or Client Services Coordinator and send them pictures so we can report that damage to the carrier. The chiller is insured for its full value while in transit and if it is damaged to the point of needing parts or replacement, the carriers are particularly good at covering those costs. But the damage must be reported within 24 hours of delivery.

After the chiller has been inspected for damage and all the components/accessories have been accounted for, be sure to remove any foam or padding.

8. Installation

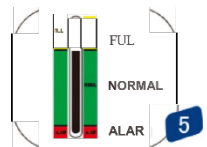
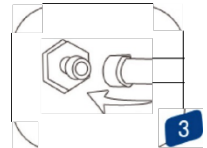
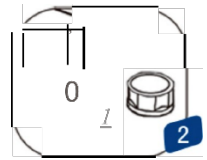
It is very simple to install this industrial chiller. The following steps will ensure that your chiller is installed correctly and ready for use.

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



Installation

- Open the injection port and add water.
 - For best results, use deionized water.
 - Use the water level gauge and ensure the level is in the middle or top of the **NORMAL** (green) area.
 - Pour slowly and do not allow the water to overflow.
 - For cooling carbon steel equipment, the water should have the appropriate amount of anticorrosive additive.
- Connect the water inlet and outlet pipes to the system you wish to cool.
 - Be sure to connect the chiller's **OUTLET** pipe to your system's **INLET** port and the chiller's inlet pipe to the system's outlet port.
- Plug in the power and flip the power switch. The pump will begin working.
 - There may be some bubbles at first.
 - These should disappear after a minute or two.
 - Don't worry if the fans and other components of the chiller do not activate.
 - They are usually automatically controlled (see p. 5) and will not begin working until they are needed by the machine.
 - In different conditions, the time for startup may vary from seconds to a few minutes.
 - Do not become frustrated and switch the machine on and off, except when necessary to add water.
- Check the water level of the water tank again, as in Step 2 above.
 - The water level of the chiller will lower somewhat as it fills the cooling path of your machine.
 - If necessary, carefully add more water to the chiller to maintain the level in the **NORMAL** (green) area.
 - If the water level drops sharply or continues to go down during normal use, turn off your devices and examine the water pipes and cooling path for leakage.
 - Repair any such leaks before restarting the devices and continuing work.
- Adjust the parameters of the device as needed.
 - The CW-5200 has an intelligent thermostat and normally does not need any adjustment. If it becomes necessary, refer to the next page.



Operating Your Boss CW 5200 Chiller

9. Operation and Adjustment

The new T-503C intelligent temperature controller does not need to adjust its parameters in normal circumstances. It will self-adjust its parameters according to the ambient room temperature to meet its cooling requirements.

The new T-503C intelligent temperature controller has a separate default, maintaining a constant 77°F (25°C). Users can adjust this value as needed.

The two controllers have the same functions and operating system, apart from their default modes.

9.1 Control Panel



1. Indicators D1 & D2 above convey the following information:

D1

ON: The thermostat is adjusting water temperature according to the room temperature.
OFF: The thermostat is maintaining a constant water temperature.
FLASHING: The thermostat is accepting new parameters from the user or showing the ambient room temperature.

D2

ON: The chiller is working in its refrigeration mode.
OFF: The chiller is working in its insulation mode.
FLASHING: The chiller is working in its energy-saving mode.

2. Press T to show the ambient room temperature.
 - a. D1 will flash.
 - b. After 3 seconds, the display will revert to its previous default.
3. T adjust the display status and the values of the parameters.
4. RST enters commands.
5. SET allows parameters to be changed and reset.

Operating Your Boss CW 5200 Chiller

9.2 Restoring Factory Settings

Before the machine starts up, press and hold • and T until the controller displays rE. 3 seconds after releasing the buttons, the control panel will resume working with all parameters restored to their factory defaults.

9.3 Thermostat Parameters List

Order	Code	Item	Range	T-503C Defaults	T-503C Defaults	Note(s)
1	F0	Water Temperature	F9-F8	25	25	Celsius value of constant temperature mode
2	F1	Temperature Difference	-15 to +5	-2	-2	Celsius value of the difference between water and air temperatures in intelligent control mode
3	F2	Cooling Hysteresis	0.1-3.0	0.8	0.1	
4	F3	Control Mode	0-1	1	0	1 is intelligent control mode 0 is constant temperature mode
5	F4	Overheated Water Alarm	1-20	10	10	
6	F5	Overchilled Water Alarm	1-20	15	15	
7	F6	Overheated Room Alarm	40-50	45	45	
8	F7	Password	00-99	8	8	
9	F8	Highest Allowed Water Temperature	F0-40	30	30	

Operating Your Boss CW 5200 Chiller

10	F9	Lowest Allowed Water Temperature	1-FO	20	20	
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9.4 General Settings Adjustment

1. Press SET to enter the user-defined parameter mode.
 - a. D1 will flash.
2. In constant temperature mode, the first screen will be FO, showing the temperature the chiller will keep the water.
 - a. Press • or T to change the value. After you have chosen a value, press RST to save it and exit.
 - b. Pressing SET will exit without saving your changes.
 - i. Waiting more than 20 seconds to choose an action will also exit without saving any changes.
3. In intelligent control mode, the first screen will be F1, showing the control panel for the set temperature difference between the water and air in degrees Celsius.
 - a. Adjust its value in the same way.

9.5 Advanced Settings Adjustment

1. Press • and then hold SET until O is displayed.
2. Press • to choose the one- or two-digit passcode.
 - a. (The factory default is 08.)
 - b. Press SET again.
 - c. If the password is correct, FO is shown and D1 will flash.
 - i. If the password is incorrect, the system will exit to its default display.
3. Press • or T to cycle through the parameters mentioned on p. 6.
4. Press SET to select one of these parameters to adjust.
5. Press • or T to adjust its value. Press RST to save your changes and exit.
 - a. Pressing SET will exit to the previous menu level without saving your changes.
 - i. Waiting more than 20 seconds to choose an action will also exit without saving any changes.
6. No changes will take effect until you have used RST to save the changes and exited parameter adjustment, returning to normal operation.

Operating Your Boss CW 5200 Chiller

9.6 Advanced Parameters Adjustment Examples

Order	Code	Item	Range	T- 503C Defaults	T- 503C Defaults	Value in Case 1	Value in Case 2	Value in Case 3
1	FO	Water Temperature	F9-F8	25	25		28	25
2	F1	Temperature Difference	-15 to +5	-2	-2	-3		
3	F2	Cooling Hysteresis	0.1-3.0	0.8	0.1	0.5	2.0	1.0
4	F3	Control Mode	0-1	1	0	1	0	0
5	F4	Overheated Water Alarm	1-20	10	10	10	5	4
6	F5	Overchilled Water Alarm	1-20	15	15	10	10	14
7	F6	Overheated Room Alarm	40-50	45	45	45	45	45
8	F7	Password	00-99	8	8	8	8	8
9	F8	Highest Allowed Water Temperature	F0-40	30	30	31	30	30
10	F9	Lowest Allowed Water Temperature	1-F0	20	20	25	5	5

Case 1: The chiller is in intelligent control mode and requires the water to be between 77-88°F (25-31°C). With the ambient room temperature kept constant, the water temperature will remain 5°F (3°C)

Operating Your Boss CW 5200 Chiller / Alarms

lower with a deviation of $\pm 0.9^{\circ}\text{F}$ ($\pm 0.5^{\circ}\text{C}$). An alarm will sound if the water temperature is 18°F (10°C) higher or lower than this target.

Case 2: The chiller is in constant temperature mode and requires the water to be at 82°F (28°C) with a deviation of $\pm 3.6^{\circ}\text{F}$ ($\pm 2^{\circ}\text{C}$). An alarm will sound if the water temperature is 9.6°F (5°C) higher than this target or if the water is 18°F (10°C) lower than this target.

Case 3: The chiller is in constant temperature mode and requires the water to be at 77°F (25°C) with a deviation of $\pm 1.8^{\circ}\text{F}$ ($\pm 1^{\circ}\text{C}$). An alarm will sound if the water temperature goes above 86°F (30°C) or below 50°F (10°C).

10. Alarms

1. Alarm display

- When an alarm occurs, the display will alternate between the water temperature and the error.

b.

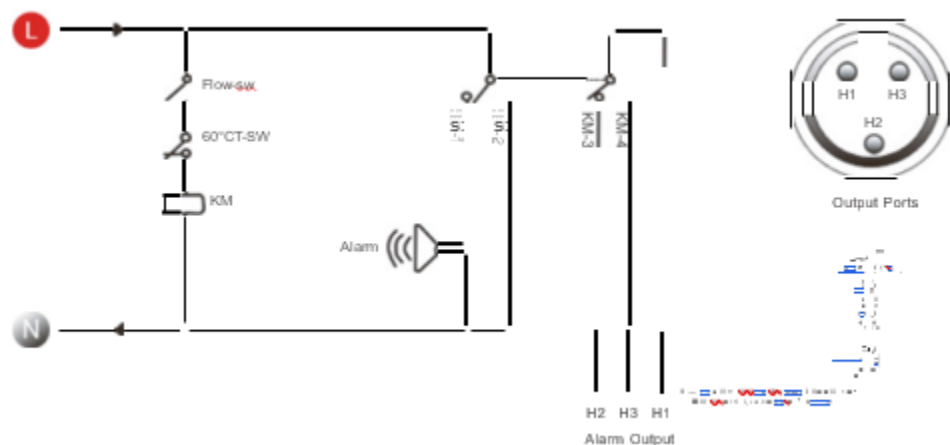
E1	E2	E3	E4	E5	E6	E7
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- There will also be a separate alarm if the chiller senses that there is insufficient flow of water.

2. Turning off an alarm

- To silence the noise from an alarm, push any button.
 - The display will continue to show the error until the underlying problem is corrected.

3. Flow alarm ports and wiring diagram



a.

4. Flow alarm causes

Alarms / Specifications

DISPLAY	Alarm	H1/H2	H1/H3
CONDITION		Output	Output
Normal	None	Off	On
Blocked pathway	Buzzing	On	Off
Water shortage	Buzzing	On	Off
Faulty pump	Buzzing	On	Off
Power interruption		On	Off

-
- Note that the flow alarm is connected to relay contacts requiring that the operating current be less than 5A and working voltage less than 300V.

11. Specifications

Model	CW-5200AG	CW-5200BG	CW-5200DG	CW-5200AI	CW-5200B1	CW-5200DI	CW-5200AK	CW-5200BK	CW-5200DK
Voltage	220V	220V	110V	220V	220V	110V	220V	220V	110V
Frequency	50Hz	60Hz	60Hz	50Hz	60Hz	60Hz	50Hz	60Hz	60Hz
Current	2.4-3.1A	2.6-3.3A	4.5-6.5A	2.4-3.1A	2.6-3.3A	4.5-6.5A	2.4-3.1A	2.6-3.3A	4.5-6.5A
Compressor Power	0.52kW	0.50kW	0.68kW	0.52kW	0.50kW	0.68kW	0.52kW	0.50kW	0.68kW
	0.71 hp	0.68 hp	0.93 hp	0.71 hp	0.68 hp	0.93 hp	0.71 hp	0.68 hp	0.93 hp
Refrigeration Capacity	5084 BTU/h	4982 BTU/h	5186 BTU/h	5084 BTU/h	4982 BTU/h	5186 BTU/h	5084 BTU/h	4982 BTU/h	5186 BTU/h
	1.49kW	1.46kW	1.52kW	1.49kW	1.46kW	1.52kW	1.49kW	1.46kW	1.52kW
	1281kcal/h	1256 kcal/h	1307 kcal/h	1281 kcal/h	1256 kcal/h	1307 kcal/h	1256 kcal/h	1256 kcal/h	1307 kcal/h

Specifications / Troubleshooting

Refrigerant	R-407C/R-410A								
Refrigerant Charge	350g	280 g	280 g	350 g	280 g	280 g	350 g	280 g	280 g
Precision	±0.5°F(±0.3°C)								
Pump Power	30W			SSW			88W		
Capacity	1.6 US gal.(6L)								
Port Dia.	10mm						8 mm		
Max. Lift	32.8 ft.(10 m)			49.2 ft.(15 m)			82 ft.(25 m)		
Max. Flow	2.6 gpm (10L/min.)			4.2 gpm (16 L/min.)			5.3 gpm (20 L/min.)		
Net Weight	66.1 lb.(30 kg)								
Dimensions	22x11.4x17 in. (55.9x29x43.2 cm)								

12. Troubleshooting

Failure	Approach
	Check that the power cord is firmly connected.

Specifications / Troubleshooting

The machine has no power.	Cut the device's power and pull out the fuse box from the back of the machine. If the fuse has blown, ensure that the power supply is stable or install a voltage regulator. Replace the fuse with the spare stored in the fuse box.
The machine is on, but the water does not flow.	Check that there are no leaks in the water pipes or cooling pathway. Then add more water until the water gauge rises to the correct height.
The water is flowing but there is an alarm.	Check that there are no leaks in the pipes and add more water.
	Check that the chiller has proper room for ventilation and the air filter is clean.
	Ensure that the power supply is stable or install a voltage regulator.
	Restore the factory default parameters (See p. 5).
The water temperature is too high.	

Specifications / Troubleshooting

	Ensure that there is sufficient time for refrigerator to occur before activating the device you want to cool. At most, with a functioning machine, this should take less than 5 minutes.
The fan does not turn on.	Reduce the heat load or upgrade to a stronger chiller.
The room temperature is too high.	Ensure the chiller has proper room for ventilation (See p. 2). If it already does, take action to cool the surrounding workspace.
There is constant condensation around the machine and the water line.	Increase the water temperature or heat the area around the cooling path. Failing this, take action to reduce the ambient humidity of the surrounding workspace.
Water drains slowly.	Open the injection port.

Additional Troubleshooting Assistance

You can contact Boss Laser Technical Support via phone at 407-878-0880 or via email techsupport@bosslaser.com

Specifications / Troubleshooting / Maintaining Your Boss CW 5200 Water Chiller

Some common issues can be caused by being out of sequence for the Startup/Power On procedure. Many issues can be remedied by shutting the system down, pause for about 1 minute, and then going back through the Startup/Power On process again.

13. Maintaining Your BOSS CW 5200 Water Chiller

13.1 Operating Environment Requirements and Precautions

Failure to use this chiller according to the methods specified in this user manual may lead to a decrease in the reliability and service life of the product. Therefore, please carefully read the following requirements and precautions, and follow the relevant specifications when operating.

As a reminder, to ensure optimal performance and safety, the chillers must be installed and operated in a controlled indoor environment. The installation site should be clean, dry, and well-ventilated, with a stable ambient temperature between 5°C and 45°C (41°F to 113°F) and relative humidity below 80%, non-condensing. Avoid placing the chiller in areas exposed to direct sunlight, corrosive gases, excessive dust, or high moisture levels.

Ensure a minimum clearance of 1 meter (3.3 feet) around all sides of the chiller for proper airflow and maintenance access. The unit should be installed on a flat, vibration-free surface capable of supporting its weight. Do not operate the chiller in explosive or flammable environments unless it is specifically rated for such use. Always follow local safety codes and consult with a qualified technician if environmental conditions fall outside the recommended range.

13.2 Environment, & Maintenance Schedule

Humidity plays a critical role in the performance and longevity of the chiller. High humidity levels can lead to condensation inside the air system, increasing the risk of corrosion, oil contamination, and reduced air quality. The integrated air dryer helps mitigate moisture, but it is essential to maintain ambient humidity below 80% RH to prevent system overload.

If the chiller is installed in a region with consistently high humidity or temperature fluctuations, consider additional environmental controls such as dehumidifiers or climate-controlled enclosures. Regular inspection of the air dryer and moisture traps is recommended to ensure they are functioning correctly and not saturated.

Maintaining Your Boss CW 5200 Water Chiller

13.3 Maintenance Schedule Practices

The compressed air contains water, mist and oil. If it is not cleaned, the high-pressure jet will be sprayed onto the protective mirror surface of the laser cutting head, assuming the chiller is connected to a laser machine, which will seriously affect the transmission of the laser beam as the focus will be scattered, leading to incomplete product cutting and waste products.

Always follow the specific maintenance instructions provided in this operator's manual and use only approved replacement parts and lubricants. Record all maintenance activities in a service log for warranty and compliance purposes.

Routine maintenance is essential to ensure the reliability, efficiency, and safety of the chiller. The following schedule outlines standard maintenance intervals:

- **Daily:**
 - Make a record of the daily operation status of the chiller.
 - Observe whether the water level is within the specified range.
 - Make sure connections to the water hoses are secured.
- **Monthly:**
 - Remove dust from the air inlet of the chiller.
 - Clean the chiller water lines and change out the distilled water.
 - Turn the chiller off
 - Add a cap full of Clorox to the water in the chiller
 - Turn the chiller back on and run it for 10 minutes
 - Turn the chiller off
 - Drain the water from the chiller
 - Add 1 gallon of regular water
 - Turn the chiller back on and run it for 10 minutes to dilute any remaining Clorox
 - Drain the water from the chiller
 - Add 2 gallons of distilled water
 - Turn the chiller back on