QOMOLANGMA CWFL-2000BN

QOMOLANGMA S&A CWFL-2000BN Industrial Water Chiller User Manual

Model: CWFL-2000BN | Brand: QOMOLANGMA

1. Introduction

This manual provides essential instructions for the safe and efficient operation, installation, maintenance, and troubleshooting of the QOMOLANGMA S&A CWFL-2000BN Industrial Water Chiller. Please read this manual thoroughly before operating the unit and retain it for future reference.

The CWFL-2000BN chiller is specifically designed for cooling 2000W fiber lasers. It features a dual temperature control system, allowing it to cool both the fiber laser and its optical lens simultaneously. This design optimizes space utilization and facilitates mobility, enhancing user convenience.

2. Safety Instructions

WARNING: Failure to follow these safety instructions may result in equipment damage, personal injury, or death.

- **Electrical Connection:** The water chiller is delivered without a power plug. Connection to the electrical power source must be performed by a licensed electrician. Ensure the electrician installs a suitable amperage, phase, and voltage-rated plug appropriate for the installation country.
- **Power Source:** Verify that the power supply voltage and frequency match the specifications of the chiller (AC 1P 220V, 50Hz).
- **Grounding:** Always ensure the chiller is properly grounded to prevent electrical shock.
- **Placement:** Position the chiller on a stable, level surface. Ensure adequate ventilation around the unit to prevent overheating. Maintain at least 30 cm (12 inches) clearance from walls or other obstructions.
- **Water Quality:** Use distilled or deionized water to prevent scale buildup and corrosion within the cooling system.

- **Refrigerant:** This unit contains refrigerant. Do not attempt to service the refrigerant system yourself. Refer to qualified personnel for any refrigerant-related issues. Note: Refrigerant is not included in the package upon delivery.
- **Emergency Shutdown:** Familiarize yourself with the location of the power switch and emergency stop procedures.

3. Product Overview

3.1 Main Components

The following images illustrate the key external components of the CWFL-2000BN Industrial Water Chiller.



Figure 3.1: Front view of the QOMOLANGMA S&A CWFL-2000BN Industrial Water Chiller, showing the control panel, power switch, and water pressure gauge.



Figure 3.2: Rear view of the QOMOLANGMA S&A CWFL-2000BN Industrial Water Chiller, showing the water connections, drain valve, and warning labels.

3.2 Control Panel (T-607)



Figure 3.3: Close-up of the T-607 intelligent temperature controller panel with digital displays for low and high temperature, and control buttons.

The intelligent temperature controller features two control modes for various applications and offers multiple setting and display functions.

3.3 Water Connections

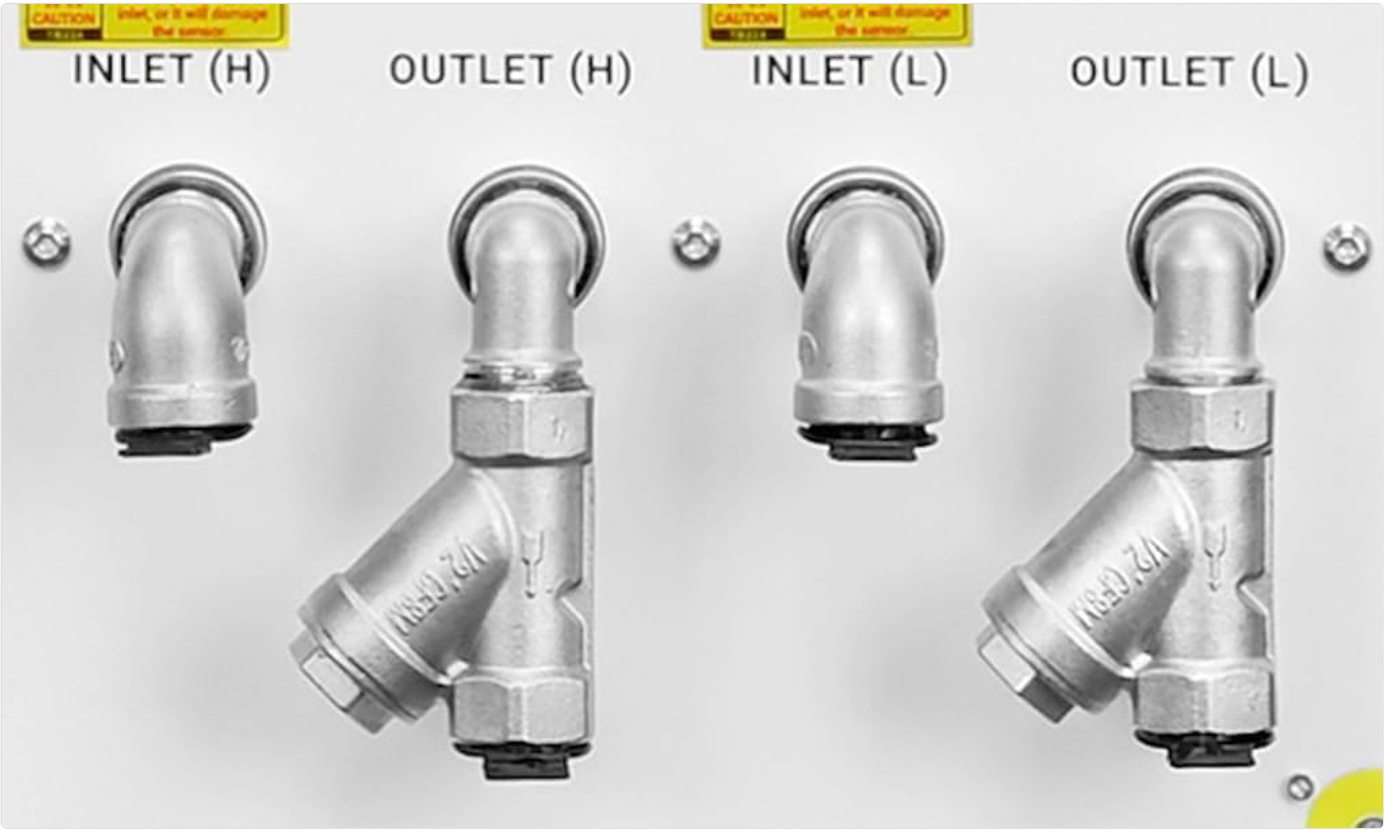


Figure 3.4: Close-up of the water inlet and outlet ports (H and L) on the chiller, showing the connection points and filters.

- **INLET (H):** High-temperature water inlet.

- **OUTLET (H):** High-temperature water outlet.
- **INLET (L):** Low-temperature water inlet.
- **OUTLET (L):** Low-temperature water outlet.

4. Setup

4.1 Unpacking and Placement

1. Carefully unpack the chiller and inspect for any shipping damage. Report any damage to your supplier immediately.
2. Place the chiller on a firm, level surface capable of supporting its weight when filled with water.
3. Ensure there is at least 30 cm (12 inches) of clear space around all sides of the chiller for proper air circulation and heat dissipation.
4. The chiller is equipped with caster wheels for easy positioning. Ensure the wheels are locked once the chiller is in its final position.



Figure 4.1: Caster wheel for mobility and positioning.

4.2 Electrical Connection

As noted in the safety instructions, a licensed electrician must handle the electrical connection. Ensure the power supply meets the chiller's requirements (220V, 50Hz).

4.3 Water Filling

1. Locate the water inlet port, typically on the top or rear of the unit.
2. Use a funnel to fill the water tank with distilled or deionized water until it reaches the recommended level, usually

indicated by a sight glass or level indicator. Do not overfill.

3. Connect the chiller's water inlet and outlet ports to the corresponding ports on your fiber laser system using appropriate hoses and clamps. Ensure all connections are secure and leak-free.



Figure 4.2: The CWFL-2000BN Chiller integrated with a laser system.

5. Operating Instructions

5.1 Initial Startup

1. After ensuring all connections are secure and the water tank is filled, turn on the main power switch of the chiller.
2. The chiller will initiate its startup sequence. Observe the control panel for any error messages or alarms.
3. Allow the chiller to run for a few minutes to circulate water and stabilize temperatures. Check for any leaks in the water lines.

5.2 Temperature Control

The intelligent temperature controller (T-607) allows for precise temperature management. It features dual temperature zones to satisfy the different cooling needs of the fiber laser device and its optical lens.

- **Setting Temperature:** Use the 'SET' button and arrow keys (up/down) on the control panel to adjust the desired temperature for both the high and low temperature circuits. Refer to the specific temperature requirements of your fiber laser system.
- **Display:** The digital displays show the current water temperatures for both circuits.
- **Control Modes:** The controller has two control modes (e.g., constant temperature mode, intelligent control mode) applicable to different operating conditions. Consult the controller's specific manual for detailed mode selection and parameter settings.

5.3 Alarm Functions

The chiller is equipped with multiple alarm functions to protect the unit and the connected equipment:

- **Compressor Time-Delay Protection:** Prevents frequent compressor starts, extending its lifespan.
- **Compressor Overcurrent Protection:** Shuts down the compressor if current exceeds safe limits.
- **Water Flow Alarm:** Activates if water flow is insufficient, protecting the laser from overheating.
- **Over High / Low Temperature Alarm:** Alerts if water temperature deviates significantly from the set point.

When an alarm is triggered, the corresponding indicator on the control panel will illuminate, and an audible alert may sound. Refer to the troubleshooting section for resolving common alarm conditions.

6. Maintenance

Regular maintenance ensures optimal performance and extends the lifespan of your chiller.

- **Water Replacement:** Replace the cooling water every 3-6 months, or more frequently depending on usage and water quality. Always use distilled or deionized water.
- **Dust Filter Cleaning:** Regularly clean the dust filters located on the side panels. Accumulated dust can reduce cooling efficiency. Use compressed air or a soft brush to remove dust.
- **Condenser Cleaning:** Periodically clean the condenser fins to ensure efficient heat exchange. This may require professional assistance.
- **Water Pump Inspection:** Check the water pump for unusual noises or vibrations.
- **Leak Inspection:** Regularly inspect all water connections and hoses for any signs of leaks.

6.1 Refrigerant

The chiller uses a specific refrigerant. As stated previously, refrigerant is not included in the package. Any work involving the refrigerant circuit, such as refilling or repairs, must be performed by certified refrigeration technicians to ensure safety and compliance with environmental regulations.

7. Troubleshooting

This section provides solutions for common issues. For problems not listed here or if issues persist, contact customer support.

Problem	Possible Cause	Solution
Chiller does not power on	No power supply; loose electrical connection; tripped circuit breaker.	Check power cord, wall outlet, and circuit breaker. Ensure professional electrical connection.
Water flow alarm (E1/E2)	Insufficient water level; clogged filter; pump malfunction; kinked hose.	Check water level and refill if necessary. Clean water filter. Inspect hoses for obstructions. Contact support if pump is faulty.

Problem	Possible Cause	Solution
High temperature alarm (E3)	Poor ventilation; dirty condenser; ambient temperature too high; refrigerant leakage.	Ensure adequate clearance around chiller. Clean condenser fins. Relocate chiller to a cooler environment. Contact technician for refrigerant check.
Low temperature alarm (E4)	Ambient temperature too low; sensor malfunction.	Increase ambient temperature. Contact support for sensor diagnosis.
Compressor overcurrent alarm (E5)	Voltage instability; compressor fault.	Check power supply stability. Contact qualified technician for compressor inspection.

8. Specifications

Feature	Detail
Model	CWFL-2000BN
Brand	QOMOLANGMA
Cooling Capacity	Designed for 2000W Fiber Laser
Power Source	AC 1P 220V, 50Hz
Water Tank Capacity	2 Liters
Temperature Control	Intelligent Controller (T-607), Dual Temperature Zones
Number of Settings	2 (Control Modes)
Style	Industrial
Manufacturer	Sign-in-China
ASIN	B09RH3BDM5

9. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your original point of purchase or the manufacturer directly. Ensure you have your product model number (CWFL-2000BN) and purchase date available when contacting support.

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Details

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