OMTech LCW-3000-US

OMTech CW-3000 Industrial Water Chiller Instruction Manual

Model: LCW-3000-US

1. Product Overview

The OMTech CW-3000 Industrial Water Chiller is an essential cooling system designed for 40W K40 CO2 laser engraving and cutting machines. This unit efficiently radiates heat away from your laser tube, maintaining optimal operating temperatures without using a refrigeration compressor. Its design focuses on energy efficiency and reliable performance, ensuring the longevity and precision of your laser equipment.

Figure 1: Front view of the OMTech CW-3000 Industrial Water Chiller, showing the digital display and control panel.

Key features include a 2.4-gallon (9L) enclosed water tank to minimize evaporation, high-grade brass inlet and outlet ports for leak-free operation, and internal sensors with a digital display for real-time monitoring and alarm functions.

2. Setup and Installation

2.1 Unpacking and Inspection

Carefully remove the chiller from its packaging. Inspect the unit for any signs of damage during transit. Report any damage to your supplier immediately.

2.2 Placement

Place the chiller on a stable, level surface in a well-ventilated area. Ensure there is adequate space around the unit for proper airflow, especially around the fan vents.

2.3 Filling the Water Tank

The chiller has a 2.4-gallon (9L) water tank. Use distilled or deionized water for optimal performance and to prevent mineral buildup. Do not use tap water. Fill the tank through the inlet port until the water level reaches the 'Normal' range on the water level gauge.

Figure 2: Illustration of the 9L water tank, indicating the fill level.

2.4 Connecting to Your Laser Machine

Connect the chiller's water inlet and outlet ports to your laser machine's cooling ports using appropriate tubing. The chiller's inlet port should connect to the laser's water outlet, and the chiller's outlet port should connect to the laser's water inlet. Ensure all connections are secure to prevent leaks.

Figure 3: Rear view of the chiller, highlighting the brass inlet and outlet ports for water circulation.

Figure 4: Detailed view of the water inlet and outlet ports, designed for secure connections.

2.5 Power Connection

Connect the chiller's power cord to a suitable electrical outlet. Ensure the voltage matches the chiller's requirements.

3. Operation

3.1 Powering On

Flip the power switch to the 'ON' position. The chiller will begin circulating water and the digital display will show the current water temperature in Celsius.

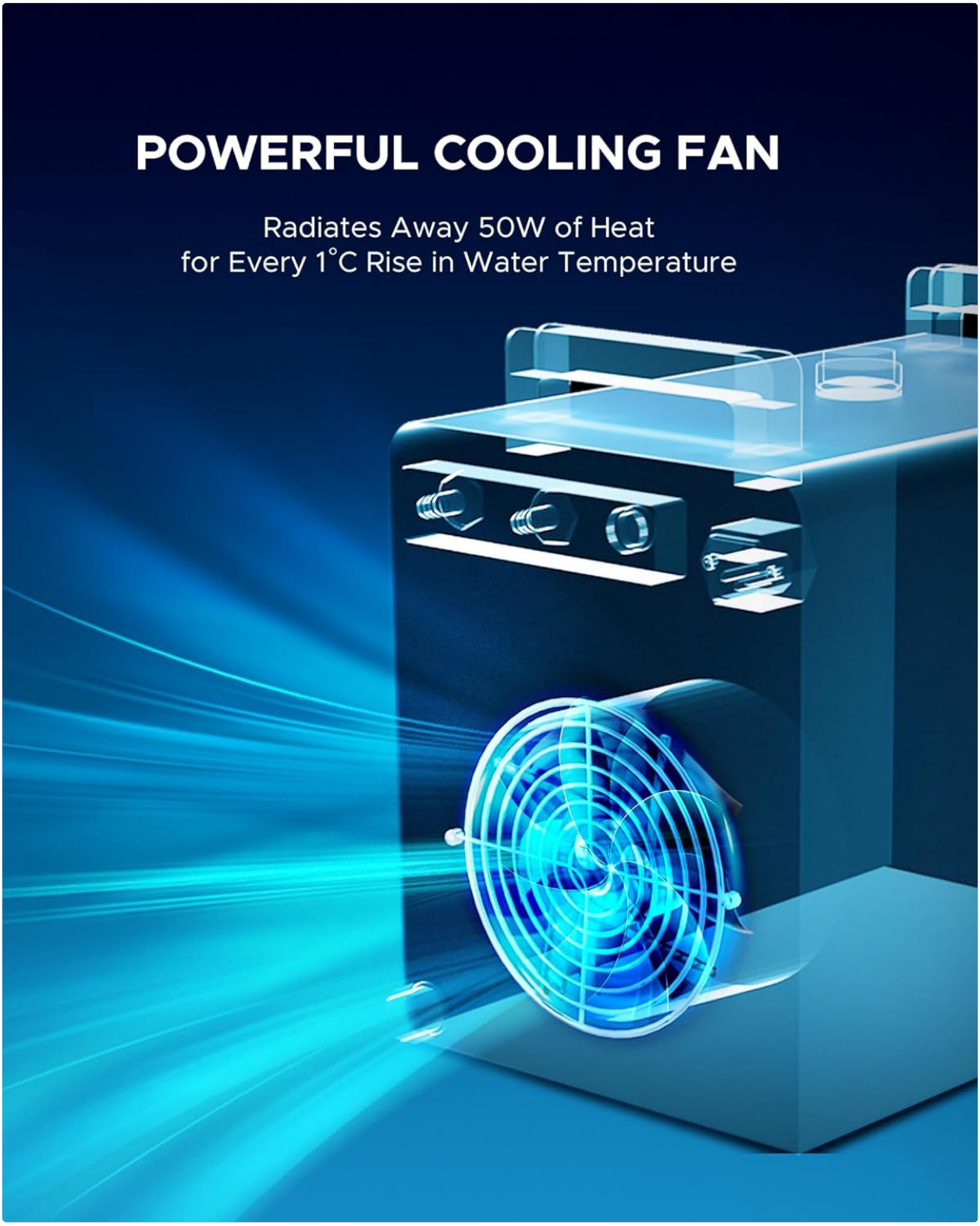

Figure 5: The digital display provides real-time water temperature readings.

Figure 6: The digital display and indicator lights provide operational status at a glance.

3.2 Monitoring Performance

The CW-3000 uses powerful fans to radiate 50W of heat for every 1°C rise in water temperature. Monitor the digital display to ensure the water temperature remains within acceptable limits for your laser machine. The 'Normal' indicator light (green) will be illuminated during normal operation, while the 'Alarm' indicator light (red) will activate if an issue is detected.

Figure 7: The internal cooling fan efficiently dissipates heat from the water.

Figure 8: Visual representation of the powerful cooling fans at work.

3.3 Alarm Functions

The chiller is equipped with internal sensors that trigger an alarm for conditions such as low water flow or high water temperature. If the alarm sounds, refer to the troubleshooting section to identify and resolve the issue.

4. Maintenance

4.1 Water Level Check and Refill

Regularly check the water level using the observation window. If the level is low, refill with distilled or deionized water. The enclosed tank design reduces evaporation, but periodic top-offs are necessary.

4.2 Water Replacement

It is recommended to replace the water in the tank every 1-3 months, depending on usage and water quality. To drain the water, use the quick drainage port located at the bottom of the unit.

Figure 9: The quick drainage port allows for easy removal of water for maintenance.

4.3 Cleaning

Keep the exterior of the chiller clean and free of dust. Periodically clean the fan vents to ensure unrestricted airflow, which is crucial for efficient heat dissipation.

Figure 10: For best results, consider using OMTech Laser Coolant.

5. Troubleshooting

5.1 Alarm Sounds / Red Indicator Light

- **Low Water Level:** Check the water level gauge. If low, add distilled or deionized water until it reaches the 'Normal' range.

- **No Water Flow:** Ensure the water pump is operating. Check for kinks or blockages in the water tubing. Verify connections are secure.
- **High Water Temperature:** Ensure the chiller is in a well-ventilated area and the fan vents are not obstructed. If the ambient temperature is very high, the chiller's cooling capacity may be exceeded. Allow the unit to cool down.

5.2 No Power

- Check the power cord connection to both the chiller and the electrical outlet.
- Verify the electrical outlet is functioning.
- Check the fuse located near the power socket on the chiller. Replace if blown.

5.3 Leaks

- Tighten all water tube connections at both the chiller and the laser machine.
- Inspect tubing for cracks or damage and replace if necessary.

6. Specifications

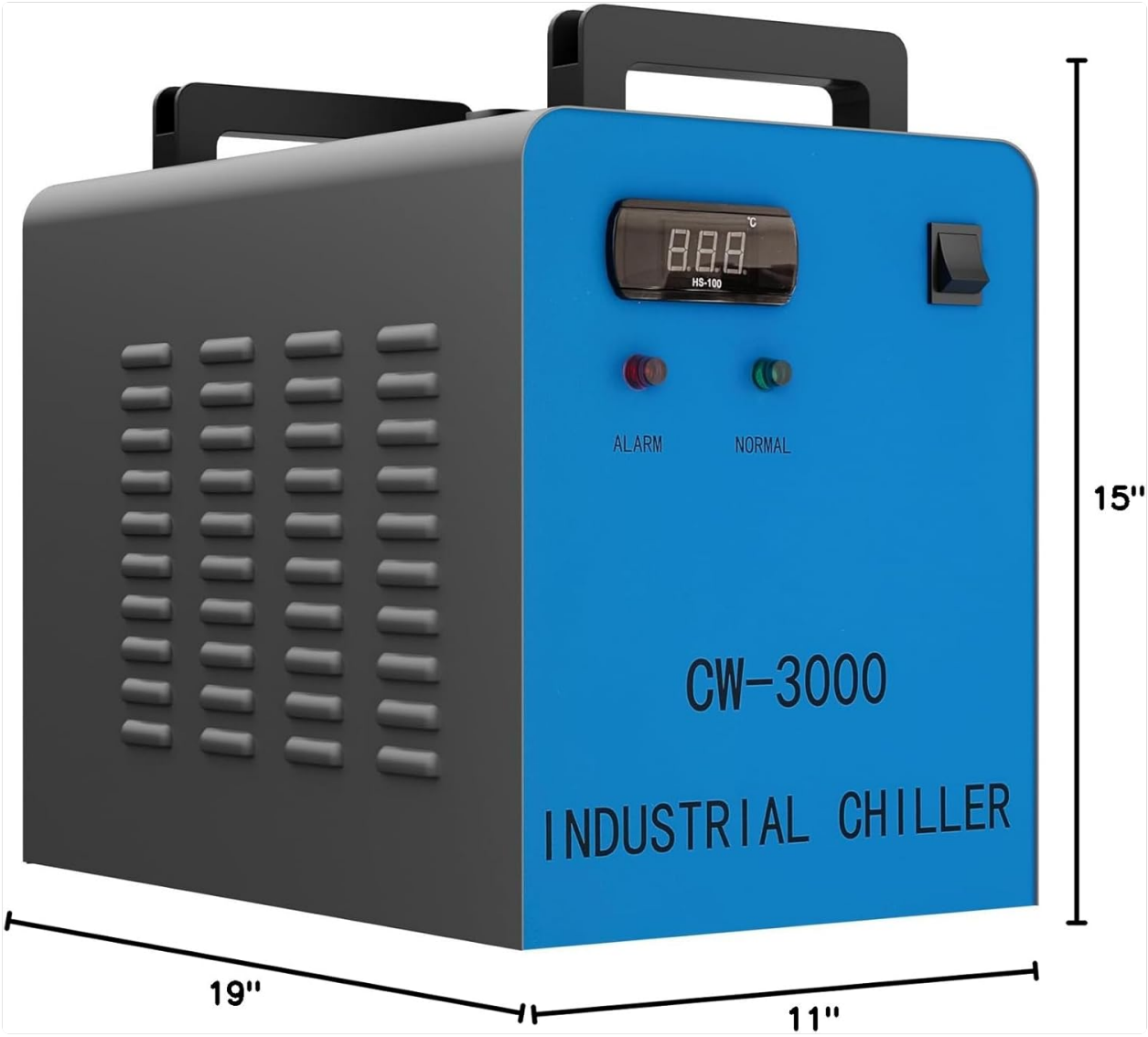

Figure 11: Dimensions of the CW-3000 Water Chiller: 19"D x 11"W x 15"H.

Specification	Value
Model	CW-3000 (LCW-3000-US)
Material	Metal, ABS, Copper
Net Weight	20.9 lb. (9.5 kg)
Tank Capacity	2.4 gal. (9 L)
Max. Flow Rate	2.6 gal./min. (10 L/min.)
Cooling Capacity	50W/°C
Product Dimensions (L x W x H)	19"D x 11"W x 15"H
Wattage	40 watts
Protection	Low Water Flow, High Water Temperature

7. Warranty and Support

OMTech provides a strong warranty and friendly 24/7 customer service for this product. If you encounter any issues or have questions regarding the OMTech CW-3000 Industrial Water Chiller, please contact OMTech customer support for assistance. Your satisfaction is guaranteed.

Related Documents - LCW-3000-US

	CW-3000 Series Industrial Refrigeration Chiller User Manual User manual for the CW-3000 Series Industrial Refrigeration Chiller, providing essential safety information, installation procedures, troubleshooting guides, maintenance instructions, and detailed technical specifications for various models.
	CW-5200 Series Industrial Refrigeration Chiller User Manual Comprehensive user manual for the CW-5200 Series Industrial Refrigeration Chiller, covering installation, operation, advanced settings, troubleshooting, and specifications. Essential guide for maintaining optimal cooling performance for industrial applications.
	OMTech 032B (40W) Desktop Laser Engraver User Manual Comprehensive user manual for the OMTech 032B (40W) Desktop Laser Engraver, covering installation, safety, operation, maintenance, and troubleshooting. Learn to safely and effectively use your laser engraving machine.
	OMTech K40+ Desktop Laser Engraver User Manual Comprehensive user manual for the OMTech K40+ Desktop Laser Engraver, covering installation, operation, safety guidelines, maintenance procedures, and troubleshooting for optimal performance and safe use.

	[OMTech Solis Duo Dual Laser Engraver User Manual] Comprehensive user manual for the OMTech Solis Duo Dual Laser Engraver (20W Fiber & 20W Diode). Covers safety precautions, technical specifications, component identification, assembly, software installation, operation procedures, maintenance, and additional applications.
	[OMTech Polar 350 50W Desktop Laser Engraver Owner's Manual and Guide] This comprehensive owner's manual provides detailed instructions for the installation, operation, safety, and maintenance of the OMTech Polar 350 50W Desktop Laser Engraver. Learn about its features, specifications, and best practices for use.