OWNER'S MANUAL

Cambro Camtherm®
Plate Heater

This manual covers instructions for the following models:
CHPL100 – Cambro Camtherm Plate Heater



Table of Contents

Introduction 1
Section I Product Information 2
Section II Safety Precautions 2
Section III Start Up 3
Section IV Maintenance 3
Section V Troubleshooting Guides 4
Section VI Replacement Parts 4
Section VII Wiring Diagram and Electrical Components 5
Section VIII Cambro Warranty 6

For Service, call 800-833-3003 x 4118.

Please provide the following information:

Model number: _____

Serial number: _____

Introduction

Congratulations on the purchase of your new Cambro Camtherm Heater. This Owner's Manual provides you with a step-by-step guide to assembling, operating and maintaining your Plate Heater.

IMPORTANT SAFETY INFORMATION: Read and follow all instructions, CAUTION, DANGER, NOTICE and WARNINGS supplied in this User Manual.

If you have any further questions, please do not hesitate to contact your Cambro Sales Representative, visit our Web site at www.cambro.com or call our Customer Service Department at 800 833 3003.

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Section I - Product Information

This unit is designed to heat plates up to a temperature of 80˚F (26.7) to 175˚F (79.4˚C). It is equipped with self-leveling mechanisms that are calibrated at the factory. The digital temperature displays will light up once either silo is turned on. The fan motor circulates the heated air around the plates in a convection process that promotes an efficient and even heat absorption by the plates. Once the air inside the cabinet has reached the desired set-point temperature, the digital controller will continue to maintain this temperature. To dispense plates use the Cambro Plate and Pellet Lifter (MDSPL) to safely lift the plates from the unit.

The Cambro Plate Heater accommodates plates ranging from 9" (22,8 cm) to 10.5" (26,7 cm) diameter.

Model	**CHPL100**
Description	Plate Heater
Number of Stacks	2
Capacity	100 plates (50 in each silo)
Overall Dimensions	
Width	39 ¾” (100,97 cm)
Depth	26 ½” (67,31 cm)
Height	39 7/8" (101,28 cm)
Product Weight	355.5 lbs. (161,25 Kg)
Electrical Specifications	
Voltage/Phase	208-240 VAC
Amperage	10.5
Watts	2400
Hz	50/60
NEMA Plug Configuration	6-15
Cord Length	6' (183 cm)
Factory Set Temperature	80˚F – 175˚F (26,7˚C – 79,4˚C)
Heat-Up Time	2 hours

Section II – Safety Precautions

A protected circuit of the correct voltage and amperage must be available for connection of the line cord. Refer to your local electrical codes or the National Electrical Code or refer to a qualified electrician to be sure the unit is connected to the proper power source.

Important Safeguards

WARNING: Electric shock hazard, Unit must be grounded. Plug the supplied power cord into a properly grounded receptacle that matches the plug. Do not use any adapter. Do not use an extension cord. Make sure receptacle is protected by a dedicated circuit breaker rated at 15 amps or higher.

DANGER: Electric shock hazard, Turn main power switches on unit to the OFF positions and unplug the unit before servicing or performing any maintenance.

WARNING: Hazardous voltage inside. Do not open back of cabinet. No user-serviceable parts inside. For service please call Cambro at 800-833-3003 x4118.

WARNING: Adjustments and service work should be performed only by a Cambro qualified service technician. For service please call Cambro at 800-833-3003 x4118.

NOTICE: This equipment is intended for Indoor commercial foodservice use only. Not for household use.

NOTICE: Do not use any corrosive cleaners. Use only cleaners designed for stainless steel.

DANGER: Keep hands and fingers away from the lid hinges (pinch point) located at the rear edge of each lid. Lift and close using the lid handles only, slamming or dropping the lid or flipping open may cause damage or injury.

WARNING: Temperature of plates inside silos may cause injury if handled directly.

Section III - Start Up

1. Remove all external packing materials, tape and protective coverings and inspect for damage. Keep packing materials if damage is discovered.
2. Wipe all surfaces of the cabinet and self-leveling dispensers with a clean damp cloth and dry thoroughly.
3. Select a location within reach of a 208-240 VAC, 50/60 Hz grounded NEMA No. 6-15 electrical outlet.
4. Place the unit near enough to the electrical outlet so that the power cord is not stretched or strained when plugged in.
5. When unit is properly located, engage the two rear caster brakes by pushing down on the wheel brake levers.
6) Make sure the power switch is OFF before plugging into the electrical receptacle, plug the unit in.
7) Carefully place the plates into the self-leveling dispensers, avoid dropping the plates into the silo or allowing the dispenser to bounce excessively.
8) Close both lids and turn the power switch to the ON position for which silo is being used.

Set Point Setup:

- Press the Set key once and Set will be displayed.
- Press the Set key again and set point value will be shown, blinking.
- Use the Up and Down arrows to adjust the set point. (Minimum 80˚F / 26,7˚C, Maximum 175˚F / 79,4˚C)
- Press the Set key to save the new set point.
- Press Set and Down arrow keys at the same time to exit.

Led Indicators:

((•)) Indicates an Error or Alarm.

Display Messages

In normal operation the probe temperature will be displayed. The display blinks when waiting for a parameter to be saved or when there is an error saving a parameter to memory. The following messages can also appear (Call service for assistance to address the messages displayed):

ERP1	Probe Error (check wiring or replace probe)
Eri	Internal Parameter Error (factory default programming)
ALH	High Temperature Alarm
ALL	Low Temperature Alarm
ooo	Open Probe Error
---	Short Circuited Probe Error

Section IV - Maintenance

The following procedures should be followed during the regular maintenance and cleaning of all Camtherm Plate Heaters:
(READ ALL Warnings below before proceeding)

WARNING: Make sure unit is off and unplugged from the electrical outlet, plates are removed, and unit is completely cool before cleaning or maintenance is performed.

WARNING: Remove the plug by grasping the plug body and pulling it straight out of the receptacle, never pull on the cord.

NOTICE: Do not use abrasives, harsh chemicals, or chlorine products for cleaning.

WARNING: Do not steam or pressure clean or hose down the cabinet; this could damage the equipment and possibly cause an electrical shock to the operator.

WARNING: Repairs should be done by qualified service personnel only.

A. Cabinet, Exterior

Clean the outside of the cabinet with a mild, non-abrasive soap or detergent in a warm water solution. A commercial stainless steel cleaner can also be used for this procedure. Allow to air-dry before use.

B. Interior

Clean inside uprights, leveling shelves and baskets with a mild, non-abrasive soap or detergent in a warm water solution. Squeeze out any excess liquid from soft cloth to ensure liquid does not slosh into the bottom of the unit. A commercial stainless steel cleaner can also be used. Air-dry the unit completely before use.

C. Casters

Caster maintenance should be performed after every cleaning.

1. Grease swivel raceway of caster using a lubricant such as Lubriplate #930-AA, Keystone #84EPXLT multi-purpose grease or equivalent. Apply grease using a grease gun with a needle nose adapter or a tube-type applicator such as Sta-lube Molygraph Assembly Lube. These can be obtained at most auto parts stores.
2. Use a light oil such as WD-40 on the hub. Check caster for damage and test caster spin and swivel rotation before returning to service.


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D. Cord and Plug

1. Inspect plug blades for distortion and replace cord if any blades are missing, bent or broken.
2. Inspect exterior wiring. If wires are showing on the outside of the unit remove the unit from service. For service, call Cambro at 800-833-3003 ext. 4118.

Section V – Troubleshooting Guide

TROUBLESHOOTING GUIDE

NOTE: Electrical Adjustments or Electric Part Replacements Under Warranty Must Be Carried Out by An Authorized Cambro Service Technician. For Service in the USA or CANADA Call 1-800-833-3003 ext. 4118.

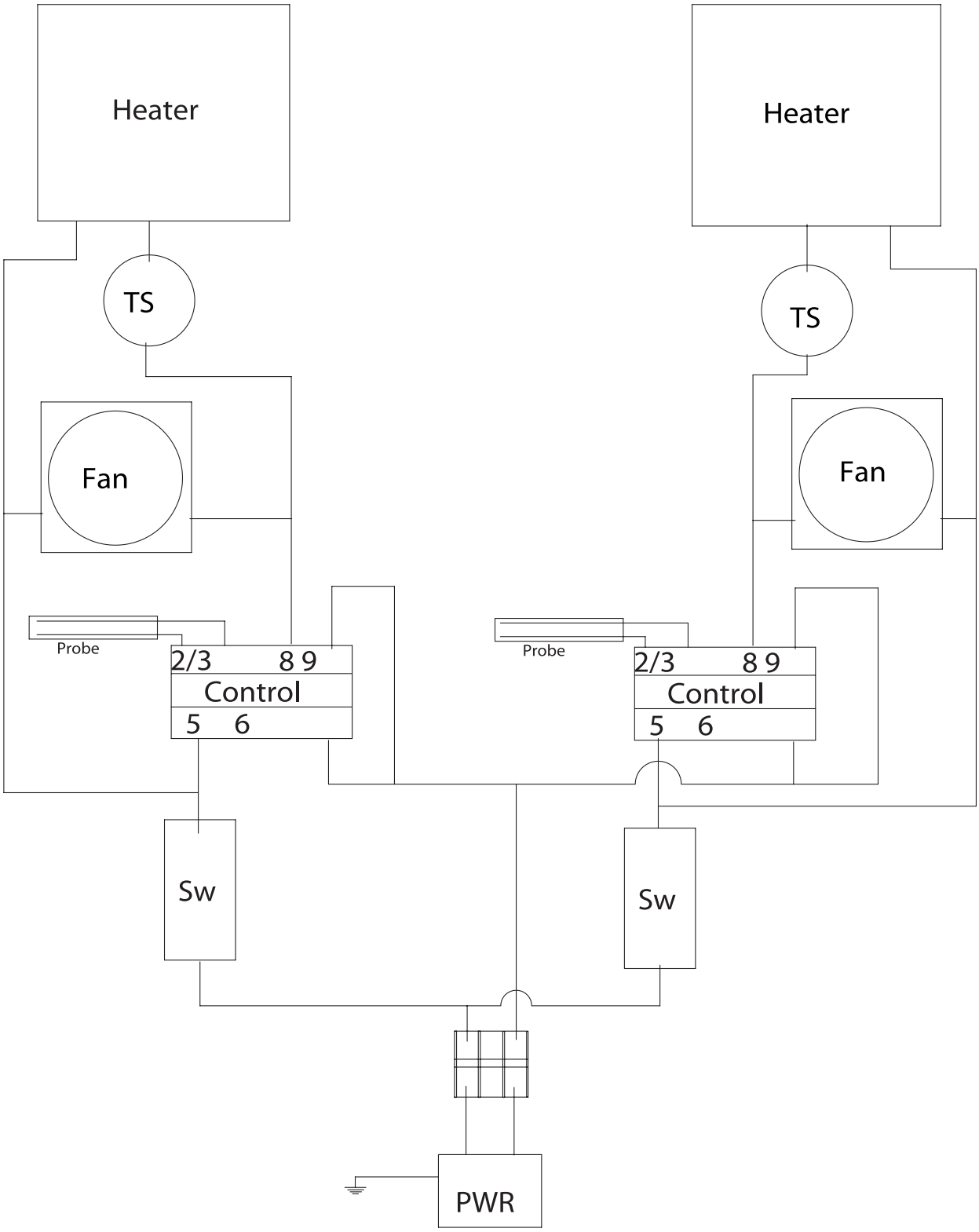
Owner/Operator Reference		
Issue	**Possible Cause**	**Possible Solution**
Self Levelling Dispenser for Plates Does Not Glide Smoothly	Worn Out, Over Extended or Unattached Springs	Inspect all springs for wear, over-extension or detachment. Replace worn springs as necessary or reattach existing springs that have come loose.
	Debris on Dispenser guides	Clear guides of debris per maintenance/cleaning instructions in manual.
	Debris on Dispenser Uprights	Clean uprights thoroughly per maintenance/cleaning instructions in manual.
Unit Does Not Roll Smoothly	Debris on Casters	Clean casters thoroughly. Refer to caster maintenance section in manual.
	Lack of Lubrication on Caster Axles and Bearings	Clean axles and bearings and lubricate with WD-40 or similar spray lubricant. Refer to caster maintenance section in manual.
Unit Operates But Plates Are Too Hot	Faulty Heating System or wrong set points	Check to make sure unit is a set at a max of 175˚F (79.4˚C). If the unit continues to heat higher than 175˚F (79.4˚C), CALL FOR SERVICE.
Unit Operates But Plates Are Not Hot Enough	Using too high of a set point to Heat Plates or Faulty Heating System	Check to make sure unit is a set to at least 140˚F (60˚C). If the unit continues to not get hotter than 140˚F (60˚C), CALL FOR SERVICE.
Service Technician Reference		
Issue	**Possible Cause**	**Possible Solution**
Unit Powers On But Does Not Heat	Thermal Overload Protection Activated	Owner/Operator Call for Service. Technician: The thermostats for hi-limit protection are automatic reset type and are located in the plenum, accessible by removing the heater access panel. If they are not closing to allow power to pass, replace the Hi-limit thermostat.
	Faulty heater controller or sensor	Owner/Operator Call for Service. Technician: Open the back cover and verify there is voltage present at the heater connections. If there is no voltage when the controller is loaded, replace the controller. If the controller displays three zero's or three lines, check the sensor wiring, replace if needed.
	Faulty Heating Elements	Owner/Operator Call for Service. Technician: For each silo, after verifying voltage is present at the heater and the hi-limit is operating properly, replace the heater element.
Unit Powers On But Does Not Display Temperature.	Temperature Controller or sensor faulty	Owner/Operator Call for Service. Technician: Inspect all function of the controller, replace Temperature Controller if needed. If the controller displays three zero's or three lines, check the sensor wiring, replace if needed.
	Faulty Controller Relay	Owner/Operator Call for Service. Technician: Check controller and replace if necessary.
Unit Powers On and Heats Up But Never Reaches The Set-point Operating Temperature	Faulty Heating Elements	Owner/Operator Call for Service. Technician: Ensure both elements are securely connected and operating properly. Replace heater element if necessary.
	Faulty controller or sensor	Owner/Operator Call for Service. Technician: Inspect all function of the controller, replace Temperature Controller if needed. If the controller displays three zero's or three lines, check the sensor wiring, replace if needed.
Unit Overheats	Faulty Exhaust Fan	Owner/Operator Call for Service. Technician: Open back cover. Ensure that fan wiring is properly and securely connected. If wiring is properly and securely connected, replace the fan.
Unit Plugged In, Power Confirmed, Turn Unit On and Nothing	Wiring Not Connected	Owner/Operator Call for Service. Technician: Open back cover. Ensure that all wiring is properly and securely connected.
	Faulty Controller	

Section VI – Replacement Parts

Please visit www.cambro.com for a complete list of replacement parts or contact your local Cambro Representative or Distributor.

Section VII – Wiring Diagram and Electrical Components

A. General Wire Layout and Electrical Components



LIMITED ORIGINAL COMMERCIAL ELECTRICAL EQUIPMENT WARRANTY

Cambro Manufacturing warrants its new product(s) to be free from defects in material and workmanship for a period of one (1) year from the date of shipment from authorized CAMBRO distribution locations.

This Warranty is subject to the following conditions and limitations:

1. This warranty is limited to product(s) sold by Cambro Manufacturing to the original user in the continental United States and Canada. For International Warranty Claims contact your local Cambro Representative.

2. The Liability of Cambro Manufacturing is limited to the repair or replacement of any part found to be defective. Parts and labor required for preventative maintenance or cleaning are not covered under this warranty.

3. Cambro Manufacturing will bear normal charges incurred in the repair or replacement of a warranted piece of equipment within 50 miles (80 kilometers) of an authorized service agency. Time and travel charges in excess of 50 miles (80 kilometers) will be the responsibility of the person or firm requesting the service. All labor to repair and/or service the warranted unit(s) shall be performed during regular working hours. Overtime premium will be charged to the buyer and is NOT covered by this warranty.

4. Charges incurred by delays or operating restrictions that hinder the service technician's ability to access or perform service to equipment in question are NOT covered by this warranty. This includes Institutional, Correctional, Military, and Marine facilities.

5. Cambro Manufacturing will bear no responsibility or liability for any product(s) which have been mishandled, abused, misapplied, misused, subjected to harsh chemical action, damaged by flood, fire, or other acts of nature, field modified by unauthorized personnel or which have altered or missing serial numbers.

6. Cambro Manufacturing does not recommend or authorize the use of any product(s) in a non-commercial application, including but not limited to residential use. The use or installation of any product(s) in non-commercial applications renders all warranties, express or implied, including the warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, null and void, including any responsibility for damage, costs and legal actions resulting from use or installation of product(s) in any non-commercial setting.

7. Adjustments such as calibrations, leveling, tightening of fasteners or utility connections normally associated with the original installation are the responsibility of the dealer or installer and not that of Cambro Manufacturing. Improper installation includes, but is not limited to, use of inadequate electrical wiring and/or insufficient or improper voltage.

8. Replacement part(s) which are replaced in the field by CAMBRO authorized service technicians ONLY will be warranted for the duration of the equipment warranty or 90 days effective from date of installation, whichever is greater. This warranty is for part(s) cost only and does not include freight or labor charges.

9. This states the exclusive remedy against Cambro Manufacturing relating to the product(s), whether in contract or in tort or under any other legal theory, and whether arising out of warranties, representations, instructions, installations or defects from any cause. Cambro Manufacturing shall not be liable, under any legal theory, for loss of use, revenue or profit, or for substitute use of or performance, or for incidental, indirect, or special or consequential damages or for any other loss or cost of a similar type.

10. THIS WARRANTY AND THE REPRESENTATIONS AND TERMS SET FORTH HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, INCLUDING BUT NOT LIMITED TO, OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE AND CONSTITUTES THE ONLY WARRANTY OF CAMBRO MANUFACTURING WITH RESPECT TO THE PRODUCT(S).

RETURN POLICY: Cambro Manufacturing products cannot be returned without prior written factory authorization (RMA). The restocking charge is 15% plus any costs required to recondition the equipment. No returns accepted after 90 days from date of invoice. Electrical components returned are subject to inspection prior to credit being issued. Electrical components which have been installed by an operator or non-approved service agent are not returnable for credit.

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UMCPH 06/15