

**OWNERS / OPERATORS MANUAL**  
for Chip Warmers  
Models: CW1, CW2E and CW4



READ THIS MANUAL COMPLETELY  
BEFORE OPERATING THIS APPLIANCE

MANUFACTURED BY:

**CARTER-HOFFMANN**  
1551 McCormick Avenue  
Mundelein, IL 60060 U.S.A.

Phone: 847-362-5500  
Fax: 847-367-8981  
Toll Free: 800-323-9793

Email: [technicalservice@Carter-Hoffmann.com](mailto:technicalservice@Carter-Hoffmann.com)



**CW1**



**CW2E**



**CW4**

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## SAFETY PRECAUTIONS



### WARNING: ELECTRIC SHOCK HAZARD

All service requiring access to non-insulated components must be performed by qualified service personnel. Failure to heed this warning may result in severe electric shock.



### CAUTION: ELECTRIC SHOCK HAZARD

Disconnect this appliance from electrical power before performing any maintenance or service.



### CAUTION: BURN HAZARD

Exposed metal surfaces can be hot to the touch and may cause burns.

## IMPORTANT SAFETY INSTRUCTIONS

When using electrical appliances basic safety precautions should be adhered to, including the following:

- 1) Be familiar with the appliance use, limitations and associated restrictions. Operating instructions must be read and understood by all persons using or installing this appliance.
- 2) This appliance must be grounded. Connect only to properly grounded outlet.
- 3) Use this appliance only for its intended use as described in the manual.
  - a. This equipment is specifically designed to hold pre-cooked food at temperature.
  - b. This equipment is intended for use in commercial establishments only.
  - c. This equipment is not designed for industrial or laboratory use.
- 4) Cleanliness of this appliance and its accessories are essential to good sanitation.
- 5) DO NOT submerge this appliance in water. This appliance is not jet stream approved. DO NOT direct water jet or steam jet at this appliance, or at any control panel or wiring. DO NOT splash or pour water on, in or over any controls, control panel or wiring. DO NOT use corrosive chemicals or vapors in this appliance.
- 6) DO NOT store this appliance outdoors. DO NOT use this product near water – for example, near a kitchen sink, in a wet basement, or near a swimming pool, and the like.
- 7) DO NOT operate this appliance if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped. Do not immerse cord or plug in water, keep cord away from heated surfaces, and do not let cord hang over edge of table or counter.
- 8) DO NOT cover or block any openings on the appliance.
- 9) **Only qualified service personnel should service this appliance.**

### NOTE:

The technical content of this manual, including any wiring diagrams, schematics, parts breakdown illustrations and/or adjustment procedures, is **intended for use by qualified technical personnel** and is subject to change without notice.

## FEATURES & SPECIFICATIONS

### Features & Benefits

- Gentle, even heating—our exclusive heat duct and baffle system forces air down rear wall duct and up through the chips. No hot or cold spots - and no burned chips!
- Top-mounted heating system — all components easily accessible for service and located away from chip dust, crumbs and oils.
- Serving door flips down for a handy shelf to set baskets while serving.
- Factory pre-set temperature of 180°F (79°C). Adjustable thermostat.
- Pull-out crumb pan for easy cleaning.

### OPTIONS AND ACCESSORIES

220 or 240 volt operation

2" casters (CW1 only)

Rolling stand (CW2E & CW4 only)

Clear polycarbonate doors

\*Height includes 4" for legs. Ordering optional casters (CW1), or rolling stands (CW2E, CW4) will alter height.

Model Number	Chip Capacity		Overall Dimensions			Legs in (mm)	Class 100 Shipping Weight lbs (kg)
	Cubic feet	Gallons	Height *	Depth in (mm)	Width		
CW1	2.75	20	27-1/4 (692)	25-1/2 (648)	28-3/8 (721)	4 (102)	135 (61)
CW2E	3.00	22	38-3/4 (984)	23 (584)	22-3/4 (578)	4 (102)	165 (75)
CW4	5.75	44	45-1/2 (1156)	28 (711)	29-5/8 (752)	4 (102)	245 (111)



#### CW1

Electrical Information NEMA Plug Type	
1040 watts 120 volts 8.7 Amps 60 Hz Single Phase	NEMA 5-15P 

#### CW2E & CW4

Electrical Information NEMA Plug Type	
1530 watts 120 volts 12.8 Amps 60 Hz Single Phase	NEMA 5-15P 

## UNPACKING AND INSPECTION



This appliance should be thoroughly cleaned prior to use.

See the **CLEANING INSTRUCTIONS** in this manual.

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**NOTE: DO NOT** discard the carton or other packing materials until you have inspected the appliance for hidden damage and checked it for proper operation.

Refer to **SHIPPING DAMAGE CLAIM PROCEDURE** on bottom of this page.

1. Remove the cabinet from shipping carton, ensuring that all packing materials and protective plastic has been removed from the unit. Inspect all components for completeness and condition.
2. If any freight damage is present, a freight claim must be filed immediately with the shipping company.
3. **Freight damage is not covered under warranty.**
4. Check to insure all components are included: cabinet, instruction packet and additional accessories.
5. Read operation instructions completely.
6. Appliance should be thoroughly cleaned before use. See **CLEANING INSTRUCTIONS** in this manual.

## FREIGHT DAMAGE PROCEDURE

**NOTE:** For your protection, please note that equipment in this shipment was carefully inspected and packaged by skilled personnel before leaving the factory. Upon acceptance of this shipment, the transportation company assumes full responsibility for its safe delivery.

### IF SHIPMENT ARRIVES DAMAGED:

1. **VISIBLE LOSS OR DAMAGE:** Be certain that any visible loss or damage is noted on the freight bill or express receipt, and the note of loss or damage is signed by the delivery person.
2. **FILE CLAIM FOR DAMAGE IMMEDIATELY:** Regardless of the extent of damage. **Contact your dealer immediately.**
3. **CONCEALED DAMAGE:** If damage is unnoticed until the merchandise is unpacked, notify the transportation company or carrier immediately, and then file a "CONCEALED DAMAGE" claim with them. This should be done within fifteen (15) days from the date the delivery was made to you. **Be sure to retain the container for inspection.**

Carter-Hoffmann cannot assume liability for damage or loss incurred in transit, **freight damage is not covered under warranty.** We will, however, at your request, supply you with the necessary documents to support your claim.

## INSTALLATION



### **WARNING:** Risk of personal injury

Installation procedures must be performed by a qualified technician with full knowledge of all applicable electrical codes.

Failure can result in personal injury and property damage.



### **IMPORTANT:**

If necessary, contact a licensed electrician to install an appropriate rated electrical circuit with correct NEMA receptacle.

DO NOT use an extension cord.



### **CAUTION:** Electrical Shock Hazard

The ground prong of the power cord is part of a system designed to protect you from electric shock in the event of internal damage.

DO NOT cut off the large round ground prong or twist a blade to fit an existing receptacle.



### **IMPORTANT:** Not under warranty:

Damage to unit due to being connected to the wrong voltage or phase is **NOT** covered by warranty.

### Location

For proper operation and maximum performance, locate the unit in an ambient air temperature of 70°F (21°C).

Avoid placement in areas near exhaust fans where there are active air movements.

For safe operation, locate the unit at least 2" from combustible walls and materials, on a solid level surface.

### **GROUNDING INSTRUCTIONS**

This appliance is equipped with a cord having a grounding wire with a grounding plug which must be plugged into an outlet that is properly installed and grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current.

**WARNING—Improper use of the grounding can result in a risk of electric shock.** Consult a qualified electrician or serviceman if the grounding instructions are not completely understood, or if doubt exists as to whether the appliance is properly grounded.

## STARTUP



### CAUTION:

#### Risk of personal injury

Unit is not waterproof, to avoid electrical shock keep unit and counter from being submerged in water.

Do not operate if unit has been submerged in water.

### NOTE:

The cabinet temperature is preset at the factory for 180°F.

1. Ensure all protective plastic and packaging materials have been removed.
2. Plug the power cord of the cabinet into a grounded outlet with a minimum 15 amp 120VAC, 60HZ, single phase electrical service.
3. Set POWER switch to "ON" position.
4. Do not load product into the cabinet. Allow the heat to remove any residual oils which may adhere to inside metal surfaces. A slight emission of smoke is common during the first few hours of operation.
5. Thoroughly clean the interior of the unit, per the instructions in this manual.

## NORMAL OPERATION



### CAUTION: HOT SURFACE

Inner surfaces of the unit will be very hot during and after operation.

Avoid touching the cabinet when loading or removing product.



### IMPORTANT:

Unit must be properly installed and cleaned prior to use.

Please read the content of this manual to understand the proper operation and maintenance of this product.

1. For the CW2E and CW4, Install 12"x20" crumb pan (included) under the cabinet. Cabinet performance will be severely affected if the pan is not in place. The CW1 crumb pan should already be in the proper location.
2. Before using, familiarize yourself with the cabinet controls.
3. Turn the cabinet on.
4. For best results and more uniform heating, preheat the cabinet prior to loading.
5. Wait 30 minutes for the cabinet to preheat.
6. Load the cabinet with chips.
7. Allow at least 30 minutes for the chip temperature to stabilize.
8. Serve the chips by unloading from the bottom door.
9. Use the top door to reload chips into the cabinet to ensure chips are always hot and available.
10. At the close of the business day, perform the daily cleaning procedures.



CW1 crumb pan location

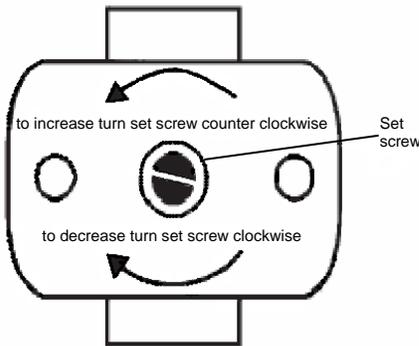


CW2E crumb pan location; fits in rails under cabinet—end-loaded

CW4 crumb pan location (not shown): fits in rails under cabinet—side-loaded

## NORMAL OPERATION

### FOR UNITS WITH THERMOSTATIC CONTROLS



#### NOTE:

Heating system should cycle at least two times after the last adjustment to achieve accurate calibration.

#### THERMOSTAT CALIBRATION

If additional heat range is required in the cabinet, unplug the heating unit, remove the thermostat knob, insert a small straight blade screwdriver into opening in center and turn limit control set screw counter-clockwise one full turn. See diagram on left.

Replace thermostat knob and turn clockwise to reach new maximum temperature. Repeat this until desired temperature is reached. Each 1/4 turn of the calibration set screw will raise the element heating capacity by approximately 25-35°F.

If a reduction of heat is desired, turn limit screw clockwise one full turn. Hold the door open allowing unit to cool until inside temperature is below the desired temperature. Close the door and allow unit to rise to a new maximum temperature. Repeat this until desired temperature is reached.



#### THERMOMETER CALIBRATION

Place an oven thermometer or accurate temperature meter in the geometric center of the cabinet. Power heating system up and turn thermostat clockwise, to maximum setting and wait approximately 45 minutes.

Open the door and check inside thermometer temperature. In recalibration is required, pry the plastic cover off the dial body and with a small flat blade screwdriver, insert into the pointer as shown.

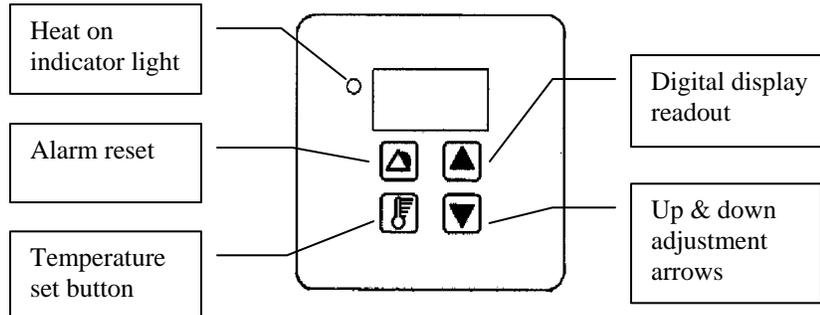
Carefully turn the pointer with your finger to match the stabilized internal temperature. Be careful not to bend the pointer, as it is very fragile.

## NORMAL OPERATION

### FOR UNITS WITH DIGITAL CONTROLS

#### Default values

-temp set point: 180°F  
-operating range: 140-200°F  
-low temp alarm: 140°F  
--temp scale: °F



**NOTE : controllers may be are used without the decal so button positions need to be noted for programming.**

#### ***To View or Change the Temperature set point:***

Turn the power on. To view the temperature set point, press and hold the temperature set button. To change the temperature set point, press and hold the temperature set button, press the up or down arrow button until the desired air temperature is displayed. The display will advance in 1° increments. **Turn off the power to the cabinet to save the changes in the controller memory.**

#### ***To View or Change Alarm set point:***

Turn the power on. To view the alarm set point, press and hold the alarm-reset button. To change the alarm set point, press and hold the alarm-reset button, press the up or down arrow button until the desired alarm temperature is displayed. The display will advance in 1° increments. **Turn off the power to the cabinet to save the changes in the controller memory.**

#### ***To View or Change Temperature Scale:***

The cabinet is programmable for a temperature scale in degrees Fahrenheit and Centigrade (Celsius). With the cabinet power off, press and hold the **UP** and **DOWN** arrow buttons. Turn power back on while holding both arrows. Display will show current scale (C or F). If desired, push the up or down arrow to change the scale. **Turn off the power to the cabinet to save the changes in the controller memory.**

## PROGRAMMING INSTRUCTIONS (Units with Digital Controls)

### Default values

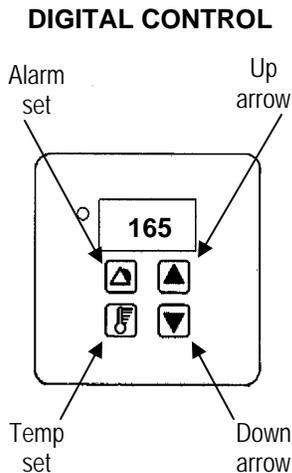
-temp set point: 180°F  
-operating range: 140-200°F  
-low temp alarm: 140°F  
--temp scale: °F

### **To Change the Temperature Range:**

The temperature range is the range that the cabinet is designed to operate within. With the cabinet power off, press and hold the **UP** and **DOWN** arrow buttons. While still holding in the arrow buttons, turn back on the power to the cabinet. The display will read: **Ser F** and then **F** (if temperature scale is set to F) will display.

To change the range, press and release the **TEMP SET** button. The display will read: **rLo** and then the current low temperature range set point. To change the temperature, press the **UP or DOWN** arrows until the desired temperature is displayed. The low setting should be set to **140°F**.

Press the **TEMP SET** button again. The display will read **Rhi**. and then the current high temperature range set point. To change the temperature, press the **UP or DOWN** arrows button until the desired temperature is displayed. The high setting should be set to **200°F**. **Turn off the power to the cabinet to save the changes in the controller memory.**



### **To Change the Alarm Range:**

The alarm range is the range that the low temperature alarm is designed to operated under. **The alarm range should be programmed for 140°F Maximum and 65°F Minimum.** The cabinet low temperature alarm can be programmed to operate within these two set points.

With the cabinet power off, press and hold the **UP** and **DOWN** arrow buttons. While still holding in the arrow buttons, turn back on the power to the cabinet. The display will read: **Ser F** and then **F** will display. (if temperature scale is set to F) To change the range, press and release the **ALARM RESET** button. The display will read **ALo** and then the current low alarm temperature set point. To change the low alarm temperature, press the **UP or DOWN** arrows until the desired temperature is displayed. The low setting should be set to **65°F**.

Press the **ALARM RESET** button again. The display will read **AHi** and then the current high alarm temperature set point. To change the high alarm temperature, press the **UP or DOWN** arrows until the desired temperature is displayed. The high setting should be set to **140°F**. **Turn off the power to the cabinet to save the changes in the controller memory.**

## DAILY CLEANING PROCEDURES



### CAUTION: ELECTRIC SHOCK HAZARD

Disconnect appliance from electric power before cleaning.



### CAUTION: HOT SURFACE

Exposed surfaces can be hot to the touch and may cause burns. Allow appliance to cool before cleaning.



**IMPORTANT:**  
DO NOT spill or pour water into controls, control panel or wiring. Water damage is **not** covered by warranty.



### CAUTION:

Beware of sharp edges on sheet metal during cleaning.

1. Turn the power switch to “OFF” and allow the cabinet to cool.
2. Unplug the unit prior to any cleaning.
3. Remove all leftover chips from the cabinet, and store for future use.
4. Remove the two bottom chip covers from inside the cabinet. (see figure 1.)



FIGURE 1

5. Brush any crumbs down into the bottom 12” x 20” clean out pan.
6. Remove and clean the chip crumb pan from the bottom of the unit by sliding it out towards the operators side of the unit. Clean the pan, dry thoroughly and replace.



CW1 crumb pan location



CW2E crumb pan location; fits in rails under cabinet—end-loaded

CW4 crumb pan location (not shown): fits in rails under cabinet—side-loaded

**NOTE:** This equipment has been designed and manufactured to meet all applicable health and safety codes and will give years of dependable service if used properly.

All cabinets should be thoroughly cleaned before using.

7. After cleaning and sanitizing, rinse all exposed surfaces with clean water, ensuring no water reaches any electrical areas.
8. Replace the bottom chip covers.
9. The unit is now ready to be used for the next business day.

## MONTHLY CLEANING PROCEDURES



**CAUTION:  
ELECTRIC SHOCK  
HAZARD**

Disconnect appliance from electric power before cleaning.



**IMPORTANT:  
DO NOT spill or pour  
water into controls,  
control panel or wir-**

ing. Water damage is **not** covered by warranty.



**CAUTION:  
Beware of sharp  
edges on sheet metal  
during cleaning, especially  
during removal the grease  
filters**

1. Follow steps 1 through 5 from the daily cleaning instructions (previous page).
2. Remove heat duct from inside back of cabinet by lifting upwards and towards front of cabinet.
3. Clean cabinet interior with soap and water. Use a bristle brush to clean around the (4) bolts located on the back wall.
4. Replace the heat duct, locating the (4) holes in the heat duct over the (4) bolts on the inside back of the cabinet and slide the duct down to secure it in place.
5. Replace the clean the chip covers (slanted bottom pieces) inside the cabinet, and the clean crumb pan at the bottom of the cabinet.

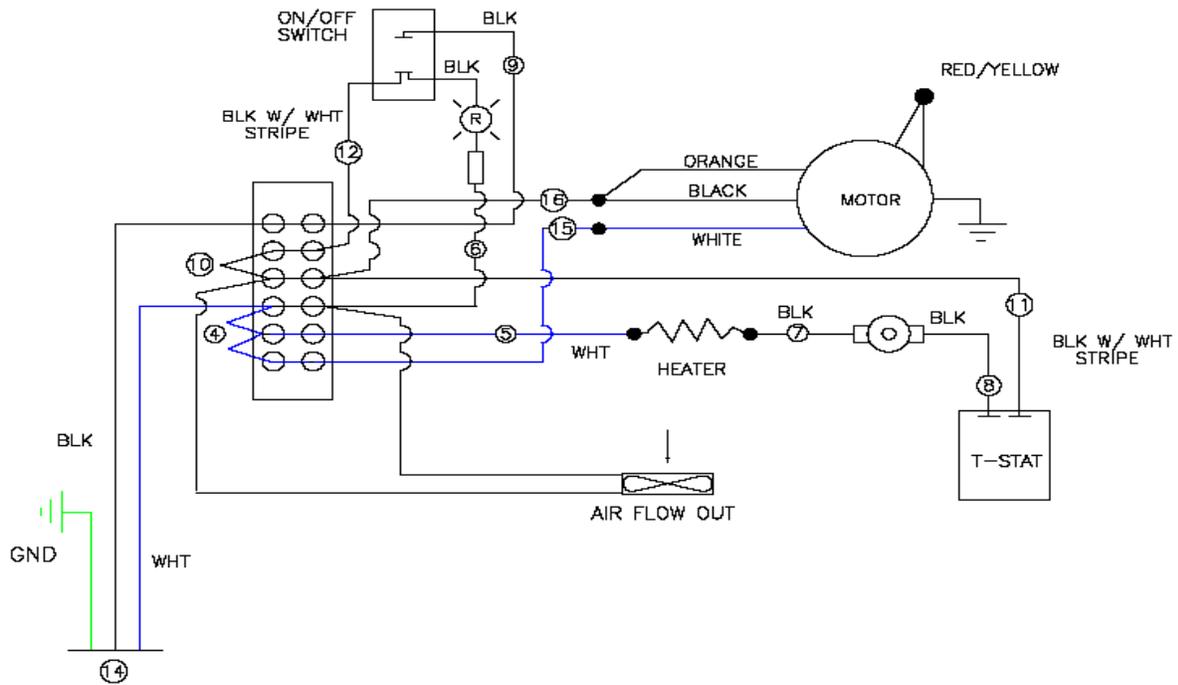
Cleaners, detergents, degreasers, sanitizers, or bleaching agents that contain chlorides or phosphates will cause permanent damage to stainless steel products. The damage appears as pits, eruptions, voids, small holes, severe discoloration or dulling of the metal finish. Water with high chloride content can also damage stainless steel. **CAUTION:** If unsure of your water quality, we recommend you have it tested.

**THIS DAMAGE IS PERMANENT, COSTLY TO REPAIR,  
AND IS NOT COVERED BY THE WARRANTY.**

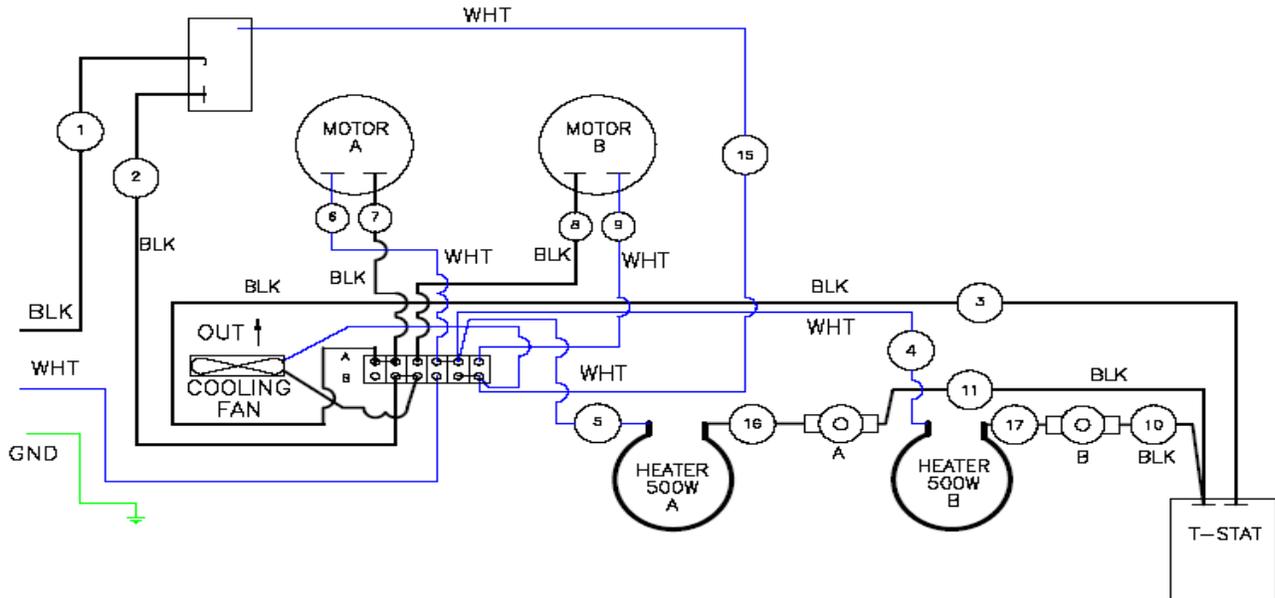
### RECOMMENDED TIPS FOR CLEANING STAINLESS STEEL

<u>Purpose</u>	<u>Frequency</u>	<u>Cleaning Agent</u>	<u>Method of Application</u>
Routine cleaning	Daily	Soap, ammonia detergent and water	Sponge with cloth, rinse with clear water and wipe dry.
Smears/ Fingerprints	As needed	Stainless steel cleaner or similar products	Rub with soft cloth as directed on package. Rub in direction of grain of stainless steel. Do not use on vinyl trim.
Stubborn spots and stains	Daily as needed	Any chloride-free or phosphate-free cleaner	Apply with damp sponge or cloth. Rub in direction of grain of stainless steel. Rinse thoroughly, especially if cleaner contains chlorine bleach, do not use on vinyl trim.
Hard water spots	Daily as needed	Vinegar	Swab with cloth. Rinse with water and wipe dry.

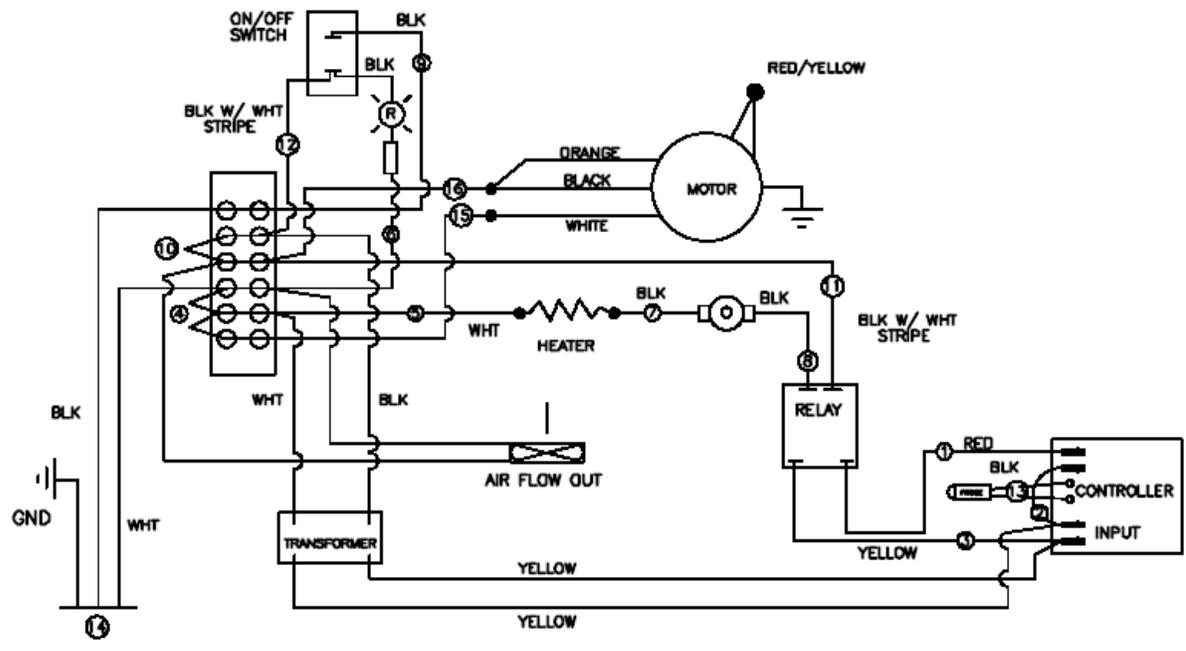
**CW2E & CW4:**  
**1530 watts, 120 volts, 12.8 A, 60 Hz, 1Ph**



**CW1:**  
**1040 watts, 120 volts, 8.7 A, 60 Hz, 1Ph**



**CW2E & CW4 with digital control:**  
 1530 watts, 120 volts, 12.8 A, 60 Hz, 1Ph



## TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SUGGESTED REMEDY
No power to unit	Not plugged in or circuit breaker tripped	Check or reset circuit breaker Connect to proper receptacle
	Power cord damaged	Check - replace if required
	Power switch damaged or defective	Check - replace if required
Product dries out too quickly	Operation where product temp is too high	Check product temps going into holding cabinet
	Thermostat incorrectly set or defective	Check proper operation or calibration of thermostat
Unit is on, motors are running but no heat	Internal wiring error	Call service technician
	Element hi-limit trip / defective	Call service technician
Takes too long to get to temperature	Improper voltage	Call service technician to verify incoming voltage matches cabinet specifications.
Unit is hot but low or no airflow	Internal wiring error	Call service technician
	Circulation motor has quit	Call service technician
	Improper voltage	Call service technician to verify incoming voltage matches cabinet specifications.

**NOTE:**

The technical content of this manual, including any wiring diagrams, schematics, parts breakdown illustrations and / or adjustment procedures, is **intended for use ONLY by qualified technical personnel.**

**NOTE:**

For warranty service, call Carter-Hoffmann direct at 800-323-9793 for authorization, we will dispatch the nearest authorized service agency.

## WARRANTY

### ***Carter-Hoffmann Warranty:***

*Carter-Hoffmann ("CARTER-HOFFMANN") warrants to the initial purchaser of its standard Carter Line Products that CARTER-HOFFMANN will, at its option, repair or replace, during the warranty period set forth below, any part of such products made necessary due to a defect in material or workmanship which is present when the product leaves its factory and which manifests itself during the warranty period under normal use and service.*

*This warranty applies only to original equipment owned and possessed by the initial purchaser and the warranty period begins on the date of original shipment from the CARTER-HOFFMANN factory and extends as follows: **to component parts and labor for 12 months; to refrigeration compressor unit for one year** (limited to replacement only - not to include labor for removal, repair or replacement).*

*Repair or replacements under this warranty will be performed, unless otherwise authorized in writing by CARTER-HOFFMANN, at its factory. All parts or components to be repaired or replaced under this warranty are to be shipped prepaid to CARTER-HOFFMANN, with reimbursement credit for such part or component to be given if found by CARTER-HOFFMANN to be defective.*

*CARTER-HOFFMANN neither makes nor assumes and does not authorize any other person to make or assume any obligation or liability in connection with its products other than that covered in this warranty. This warranty applies only within the continental United States and Canada. In Alaska and Hawaii, this warranty applies only to and is limited to the supply of replacement parts.*

### ***Warranty Exclusions and Limitations:***

*Any implied warranty of merchantability or fitness for a particular purpose is hereby specifically disclaimed by CARTER-HOFFMANN. There are no warranties, expressed or implied, which extend beyond the description on the face hereof. This warranty does not cover and CARTER-HOFFMANN shall not under any circumstances be liable for any incidental, consequential or other damages (such as injury to persons or property, loss of time, inconvenience, loss of business or profits, or other matters not specifically covered) arising in connection with the use of, inability to use, or failure of these products.*

***Specifications subject to change through product improvement and innovation.***

### ***Carter-Hoffmann***

**1551 McCormick Ave.**

**Mundelein, Illinois, 60060 USA**

**Phone: 847-362-5500 Toll free: 800-323-9793 Fax: 847-367-8981**

**Sales and Marketing E-mail: [sales@carter-hoffmann.com](mailto:sales@carter-hoffmann.com)**

**Service E-mail: [technicalservice@carter-hoffmann.com](mailto:technicalservice@carter-hoffmann.com)**

**Company Website: [www.carter-hoffmann.com](http://www.carter-hoffmann.com)**

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