

# Operators Manual

**Installation, Operation, Use & Care**  
**Steam Cooker, Rethermalization Unit and Holding Cabinet\***  
(\*Optional)



**Series: SteamChef™ Models 22CET3A and 22CET6A**

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Cleveland, Ohio 44110

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 **Cleveland**

Part No. 22CET-OPM B 10/04

# FOR THE USER

## FOR YOUR SAFETY

Do not Store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

## WARNING

Disconnect power before servicing

## DANGER!

Wait for unit to cool before servicing!

## WARNING

Improper installation, adjustment, alterations, services or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

## WARNING

Never push food debris or scale down either the steamer drain, or through the overflow KleanShield™ drain.

## WARNING

Cleveland Range, LLC, strongly recommends the use of non-slip draining anti-fatigue mats (not included) rated for use in wet, greasy, or dry work areas to help prevent slipping and / or falling injuries. Obtain the best mats for your needs from your local supplier.

## WARNING

This steamer is constantly in a hot mode whenever the main power lever is ON, the door is closed and the unit is filled with water. When the selector switch of this unit is turned to the OFF position, this unit will remain hot by maintaining the Standby Heat temperature in the compartment.

## WARNING

If door is stuck shut: DO NOT force door open.  
Door stuck shut may indicate a blocked drain.  
Hot water will spill out if door is forced open.

- Turn OFF unit
- Call qualified Cleveland Range authorized service technician
- Wait for unit to cool before servicing

**ALL SERVICE MUST BE PERFORMED BY A QUALIFIED CLEVELAND RANGE AUTHORIZED TECHNICIAN**

**RETAIN THIS MANUAL FOR REFERENCE  
KEEP IT WHERE YOU CAN USE IT**

# Cleveland STATEMENT OF POLICIES

## LIMITED WARRANTY

CLEVELAND RANGE products are warranted to the original purchaser to be free from defects in materials and workmanship under normal use and service for the standard warranty period of one year from date of installation or 18 months from date of shipment, whichever comes first.

CLEVELAND RANGE agrees to repair or replace, at its option, f.o.b. factory, any part which proves to be defective due to defects in material or workmanship during the warranty period, providing the equipment has been unaltered, and has been PROPERLY INSTALLED, MAINTAINED, AND OPERATED IN ACCORDANCE WITH THE CLEVELAND RANGE OWNER'S MANUAL.

CLEVELAND RANGE agrees to pay any FACTORY AUTHORIZED EQUIPMENT SERVICE AGENCY (within the continental United States, and Hawaii) for reasonable labor required to repair or replace, at our option, f.o.b. factory, any part which proves to be defective due to defects in material or workmanship, during the labor warranty period. This warranty includes travel time not to exceed two hours and mileage not to exceed 50 miles (100 miles round-trip), BUT DOES NOT INCLUDE POST START-UP, TIGHTENING LOOSE FITTINGS, MINOR ADJUSTMENTS, MAINTENANCE, CLEANING OR DESCALING.

The standard labor warranty allows factory payment of reasonable labor required to repair or replace such defective parts. Cleveland Range will not reimburse the expense of labor required for the repair or replacement of parts after the standard warranty period, unless an Extended Labor Warranty Contract has been purchased to cover the equipment for the balance of the warranty period from the date of equipment installation, start-up, or demonstration.

PROPER INSTALLATION IS THE RESPONSIBILITY OF THE DEALER, THE OWNER-USER, OR INSTALLING CONTRACTOR, AND IS NOT COVERED BY THIS WARRANTY. Many local codes exist, and it is the responsibility of the owner and installer to comply with these codes. Cleveland Range equipment is built to comply with applicable standards for manufacturers, including UL, ANSI, NSF, ASME/Ntl. Bd., CSA, and others.

BOILER (Steam Generator) MAINTENANCE IS THE RESPONSIBILITY OF THE OWNER-USER AND IS NOT COVERED BY THIS WARRANTY. The use of good quality feed water is the responsibility of the Owner-User (see Water Quality Recommendations below). THE USE OF POOR QUALITY FEED WATER WILL VOID EQUIPMENT WARRANTIES. Boiler maintenance supplies, including boiler hand hole gaskets, are not warranted beyond the first 90 days after the date the equipment is placed into service. Preventive maintenance records must be available showing descaling per applicable Cleveland Operator Manual for Boiler Proration Program considerations.

### WATER QUALITY RECOMMENDATIONS

TOTAL DISSOLVED SOLIDS	less than	60 parts per million
TOTAL ALKALINITY	less than	20 parts per million
SILICA	less than	13 parts per million
CHLORIDE	less than	30 parts per million
pH FACTOR	greater than	7.5

The foregoing shall constitute the sole and exclusive remedy of original purchaser and the full liability of Cleveland Range for any breach of warranty. THE FOREGOING IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, OR IMPLIED, INCLUDING ANY WARRANTY OF PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR PURPOSE, AND SUPERSEDES AND EXCLUDES ANY ORAL WARRANTIES OR REPRESENTATIONS, OR WRITTEN WARRANTIES OR REPRESENTATIONS, NOT EXPRESSLY DESIGNATED IN WRITING AS A "WARRANTY" OR "GUARANTEE" OF CLEVELAND RANGE MADE OR IMPLIED IN ANY MANUAL, LITERATURE, ADVERTISING BROCHURE OR OTHER MATERIALS.

CLEVELAND RANGE'S liability on any claim of any kind, including negligence, with respect to the goods or services covered hereunder, shall in no case exceed the price of the goods or services, or part thereof, which gives rise to the claim. IN NO EVENT SHALL CLEVELAND RANGE BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES IN THE NATURE OF PENALTIES.

### LIMITED EXTENDED WARRANTY COVERAGE

The purchase of a Limited Extended Warranty Contract extends the standard warranty coverage to the purchased period of time (one to two years) from the date of installation, start-up, or demonstration, whichever is sooner.

\*An additional two years Parts and Labor Warranty can be purchased with each piece of Cleveland equipment for an additional 2% of the List Price per year. The 2% of list price charge will be the net invoice amount for each year of extended warranty purchased.

- Extended warranty must be purchased at the same time the equipment is purchased.
- Extended Warranty has the same exclusions as stated in our standard warranty.

Second year limited extended warranty coverage on Cleveland Steamers when purchased with a water filter applies to water related components only.



Operators and Installation Manual  
 SteamChef™ Steam Cooker, Rethermalization Unit and  
 Holding Cabinet (Optional)  
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# CHAPTER 1. INTRODUCTION

To use a SteamChef™ steamer safely and effectively, each operator must read and understand this section completely before starting operation. The owner(s) and operator(s) of steamer(s) must keep these instructions in an easily accessible location for reference and training.

The owner(s) and operator(s) of steamer(s) must be aware that steam can cause serious injuries and equipment damage. Pay particular attention to the Operational Safety section of this chapter, and the DANGERS, WARNINGS, and CAUTIONS displayed in this manual and on the equipment.

## A. OPERATIONAL SAFETY

The safe and effective operation of any steamer depends upon proper installation, training, use, maintenance, and repair. Operational safety must include all of these. This Operational Safety section outlines the minimum safety policies that must be used when operating one or more SteamChef™ steamers. Any operational safety program must be tailored to the specific site and use of the equipment.

Burn hazards are present in any professional food service operation.

When using the steamer, observe the following precautions.

1. The SteamChef™ is a constantly cooking appliance and is in some cooking or standby mode whenever it is turned ON so parts will **ALWAYS BE HOT**.
2. Remember at all times that steam can cause severe burns.
3. Never operate a SteamChef™ steamer without the KleanShield™ properly installed in the bottom of the water reservoir
4. Never operate a SteamChef™ steamer without the fan guard installed over the fan.
5. When checking inside the steamer always stand to the hinge side and back away from the steamer.
6. Open the door slightly to allow steam to vent before looking or reaching into cooking compartment.
7. Open the door slowly.
8. Do not reach into the cooking compartment until the steam has cleared
9. Do not reach into the cooking compartment until the cooking fan has stopped rotating.
10. Do not reach into steamer or handle hot items without wearing DRY heatproof gloves.
11. Wet or damp gloves conduct heat, and may cause burns when touching hot items.
12. Do not use anything but your hands to operate the controls of the steamer.
13. Do not block the vents on the sides or rear of the steamer.
14. Do not obstruct the flow of ventilation air to the steamer.
15. Do not store articles on top of the steamer.
16. Do not tilt the unit if the main external power to the steamer is on.
17. Do not tilt the steamer if the drain is closed.
18. Never push food debris or scale into the steamer drain.
19. Never push food debris or scale into KleanShield™ overflow drain.

The steamer requires a minimum of service if properly operated and maintained by trained personnel.

The following steps will help keep the steamer in a safe, efficient operating condition.

1. Do not store or leave combustible materials near the steamer.
2. Keep the area around and under the steamer free of combustible materials.

3. Place non-slip draining anti-fatigue mats rated for use in wet, greasy, or dry work areas on the floor in front of the steamer and other locations as needed. Obtain the best mats for your needs from your local supplier.
4. Train all personnel who will use the steamer.
5. Make sure operators know how to:
  - a. operate the steamer
  - b. drain the unit
  - c. clean the interior and exterior
6. Operators must be able to recognize problems, and report them so that corrective actions can be taken by trained personnel as outlined in the troubleshooting charts found in Chapter 3 of this manual.
7. Conduct regular steamer inspections. Check for:
  - a. water line leaks
  - b. door seal leaks
  - c. drain and drain valve leaks
  - d. clogged drain or KleanShield™
  - e. dirty water level sensors
  - f. steamer control malfunctions
8. Follow the instructions for steamer maintenance and cleaning found in this manual.
9. Clean steamer every night with vinegar solution and rinse thoroughly following the instructions outlined in Chapter 2, Part D “SHUTDOWN AND CLEANING PROCEDURE.”
10. Remove spilled food from the surface of the KleanShield™ and the inside of the steamer reservoir.
11. Never push food or scale down the KleanShield™ opening or the reservoir drain opening.
12. Before each use of the steamer:
  - a. Inspect the drain for blockage
  - b. Inspect KleanShield™ for blockage
  - c. Inspect the door gasket assembly the water level sensors, KleanShield™, fan guard and slide racks for proper installation and cleanliness.
13. Allow only qualified Cleveland Range authorized service representatives to service the steamer.
14. Use only factory authorized repair parts.
15. Maintain written records of steamer maintenance and service. Each record should include at least:
  - a. The date of the service or maintenance.
  - b. A description of the service, maintenance or repair performed.
  - c. Include part numbers if applicable.
  - d. Copies of purchase order(s) and invoice(s) for repair parts and service.
  - e. The name and signature of the person performing the maintenance or service.

## B. PRODUCT INFORMATION

Cleveland Range, LLC assigns two product identification numbers to each steamer: a model number and a serial number. The model number identifies the product characteristics. The serial number identifies the individual unit. The Model Number and Serial Number are also located on the control panel as well as the product information plate for your convenience in accessing this information.

### 1. Model Number

This manual covers the SteamChef™ steamer series Model Nos. 22CET3A and 22CET6A Steam Cookers, Rethermalizers, and Holding Cabinets (some Models). Each character of this model number identifies a characteristic of the steamer. The SteamChef™ 3 Model No. 22CET3A is **22** inches wide, is a **C**onvection Steamer, an **E**lectric **T**abletop Model, cooks up to **3** standard 2 ½” pans of food, and is equipped with **A**utomatic fill/drain. This manual covers all standard features and options available on SteamChef™ electric steamers.

Other than the selection of options and size (3 vs. 6 pan), there are presently no significant design, parts, or operating differences among steamers with these model numbers. Figures 1-2 and 1-3 illustrate the major external features of SteamChef™ Steamers.

### 2. Serial Number and Equipment Record


During manufacture, SteamChef™ Steamers are assigned individual serial numbers. Please provide the following information when you contact Cleveland Range or a qualified Cleveland Range authorized service representative:

Serial Number \_\_\_\_\_

Model Number \_\_\_\_\_

### 3. Product Information Plate

The Product Information Plate on the rear of the unit lists the model and serial number as well as the power and wiring requirements of the steamer. Refer to Figure 1-3 for the location of the plate. Figure 1-1 illustrates a typical SteamChef™ Product Information Plate.

Enodis®		CLEVELAND RANGE, LLC					C  US
CLEVELAND, OHIO							
Model No.	22CET3A		Serial No.	WC 12272-04D-01			SUPPLY
VOLTS	PH	WIRES	HZ	WATTS	AMPS	AW.G.	LISTED 414L
240	3	3	60	9400	22.8	8	

CAUTION: FOR SUPPLY CONNECTION USE ONLY COPPER WIRE OF THE GAUGE NOTED ABOVE SUITABLE FOR AT LEAST 75 °C ( 75 °F)

ATTENTION: POUR L'ALIMENTATION UTILISEZ DES FILS DE CUIVRE DE CALIBRE TEL QUE MENTIONNÉ CI-HAUT ET SUFFISANT POUR AU MOINS 75 °C ( 75 °F)

COMMERCIAL COOKING APPLIANCE 1017702 D

Figure 1-1 SteamChef™ Steamer Product Information Plate

4. "SteamChef™" Product Views

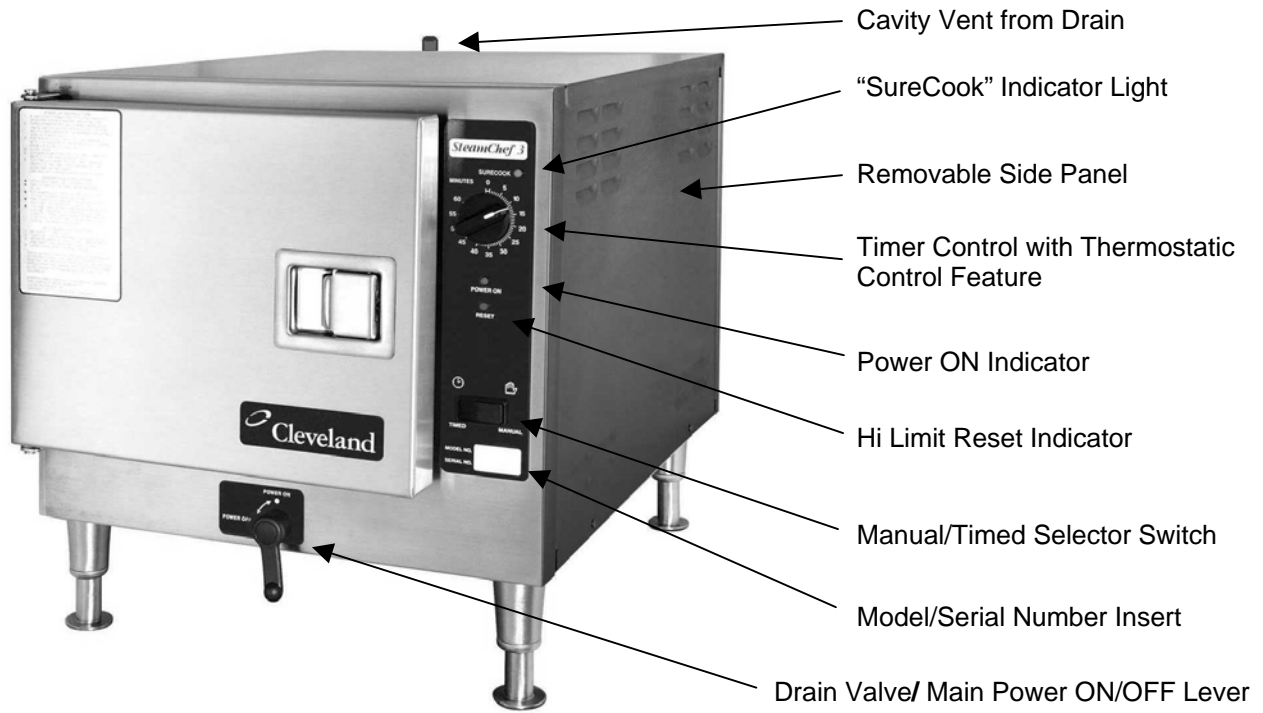


Figure 1-2 SteamChef™ Steam Cooker Front View (Model 22CET3 Shown)

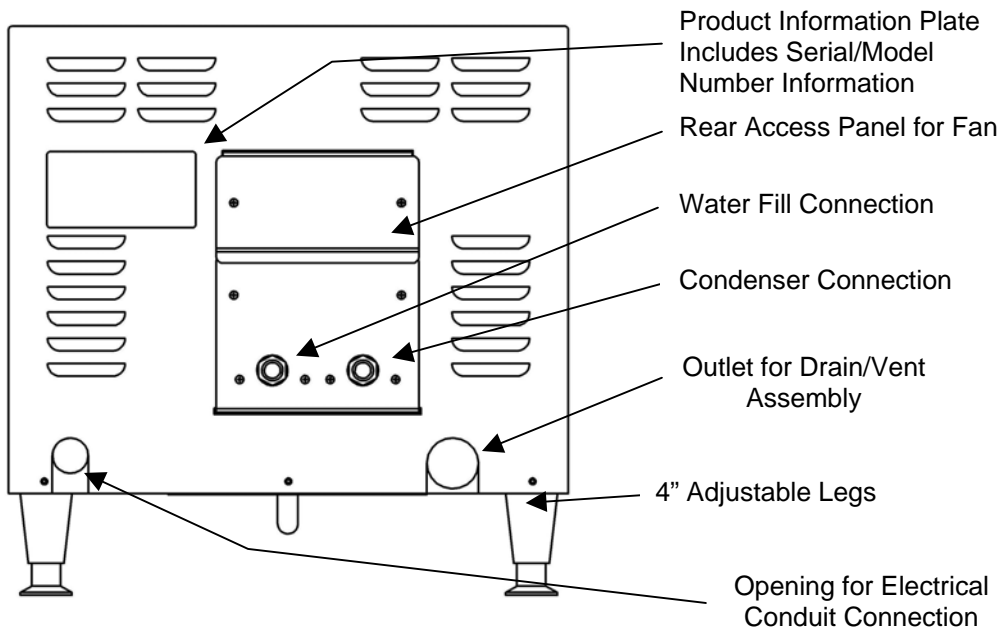


Figure 1-3 SteamChef™ Steam Cooker Rear View (Model 22CET3 Shown)

## CHAPTER 2. OPERATION

### A. GENERAL OPERATION

#### 1. Main External Power Switch

Usually the steamers main external power switch is left ON. If the main power switch was left in the OFF position, turn it ON as follows.

- a. Turn the ON/OFF lever/switch to the OFF position.
- b. The control settings are not important in this procedure. The control panel circuits are not powered while the ON/OFF lever/switch is set to OFF.
- c. Refer to the main external power switch in Figure 2-1, and turn on electric power to the steamer.

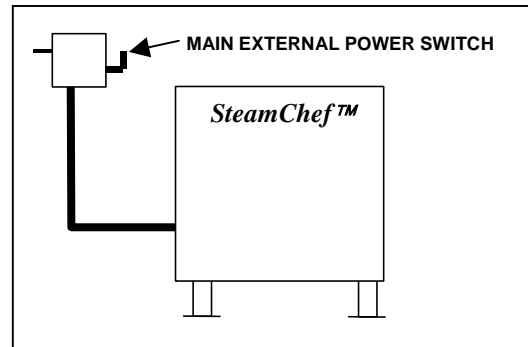


Figure 2-1 Main External Power Switch

#### 2. Door Interlock Switch

The steamer compartment of the SteamChef™ Steamer is equipped with an automatic door interlock switch, which turns OFF the production of steam (by interrupting power to the heating elements) and shuts down the convection fan and condenser whenever the door to the compartment is opened.

**⚠ DANGER**

Even though the heating elements are de-energized as soon as a door is opened, it may take up to a minute for production of steam to end and residual steam in the system to clear from the cooking compartment. To avoid possible injury always wait until this residual steam has cleared before reaching into the cooking compartment.

Never operate a SteamChef™ Steamer without the KleanShield™ properly installed in the bottom of the water reservoir or the fan guard installed over the fan.

**NOTE:** That even though the continued production of additional heat ends as soon as the door is opened, it may take up to a minute for residual heat in the system to stop producing steam in the cooking compartment and for the fan to stop rotating. To avoid possible injury always wait until this residual steam has cleared and the convection fan has stopped rotating before reaching into the cooking compartment. **Remember a SteamChef™ Steamer is always heating in either the standby heat mode, the Hold Mode or steam cooking mode, whenever the main power switch is in the ON position and the steamer door is closed.**

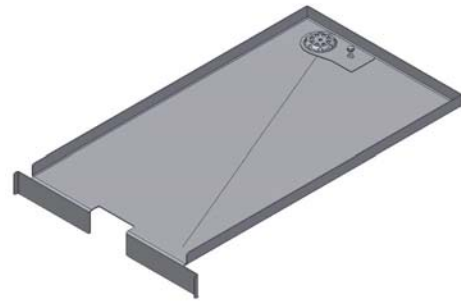
#### 3. KleanShield™

This unit is equipped with the KleanShield™ for easy maintenance, better cooking and safer operation. The KleanShield™ (See Figure 2-2) is located in the bottom of the water reservoir of Cleveland Range SteamChef™ Cookers

The KleanShield™ provides the following benefits to the owner/operator:

- a. collecting all of the drippings of food being cooked and preventing them from contaminating the reservoir water by directing them down the drain.

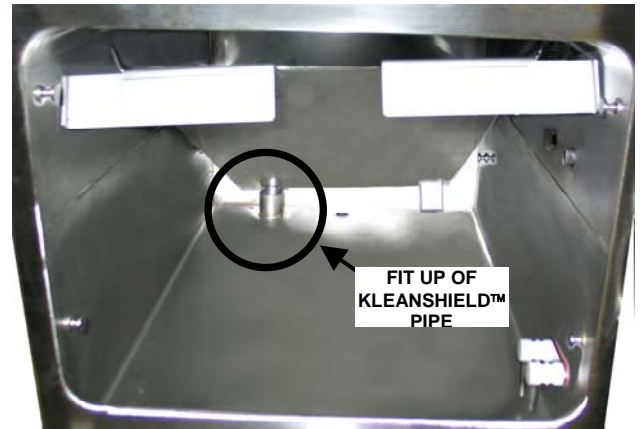
- b. keeping the water cleaner so less maintenance is needed in the daily operating and cleaning of the interior of the steamer.
- c. directing the steam around the sides of the pans insuring more even distribution of the steam.
- d. helping prevent the operator from accidentally coming in contact with the reservoir water while placing food into or removing food from the cooking compartment.
- e. helping prevent spilled food from pans from falling directly into the reservoir and splashing out scalding water.
- f. it is removable and dishwasher safe for easy cleaning.



**Figure 2-2 KleanShield™**

These Use and care Instructions for the KleanShield™ must be followed:

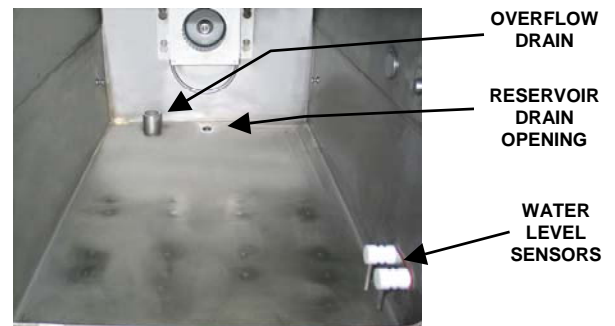
- a. Never operate a SteamChef™ Steamer without a properly installed KleanShield™.
- b. To install the KleanShield™:
  - 1) Remove the side pan racks
  - 2) Place the KleanShield™ into the steamer with pipe extension towards the back and facing down.
  - 3) Set the KleanShield™ in place over the corresponding pipe extending out of the bottom of the steamer reservoir. See Figure 2-3.
  - 4) Fit the pipe from the KleanShield™ into the corresponding pipe in the bottom of the steamer
  - 5) KleanShield™ legs must be flush against the bottom of the steamer. See Figure 2-6.



**Figure 2-3 KleanShield™ Installation (SteamChef 3 shown)**

#### 4. Inspecting The Cooking Compartment

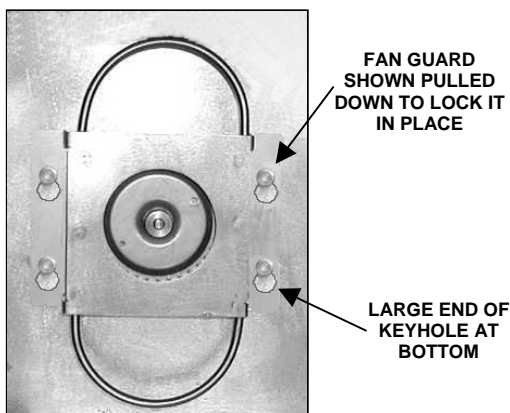
- a. Before turning ON the power switch/lever to the SteamChef™ steamer, the entire inside of the steamer must be thoroughly cleaned. See Chapter 2, Part D SHUTDOWN AND CLEANING PROCEDURE for complete cleaning instructions.
- b. All food debris must be wiped away and the drain openings and the water level sensors must be inspected and cleaned of any residue or debris (See Figure 2-4).
- c. The door gasket assembly, KleanShield™, fan guard and slide racks must be inspected for proper installation and cleanliness. See Chapter 2, Section A, Part 3 for proper installation of the KleanShield™.



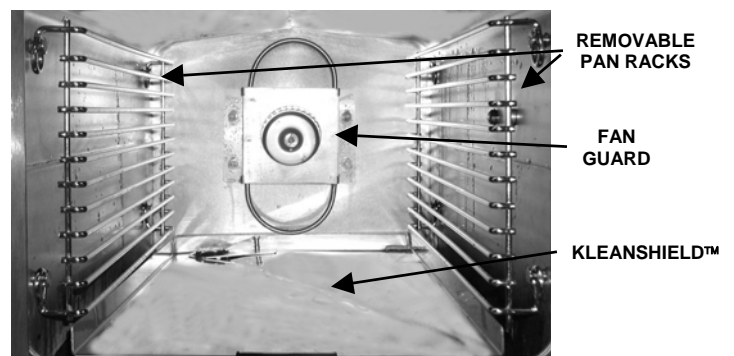
**Figure 2-4 Inspecting Compartment drains (Model 22CET3 Shown)**

To properly install the fan guard:

- 1) Hold the fan guard so that the large ends of the keyholes are towards the bottom of the steamer.
  - 2) Place all four openings over the mounts located on the rear wall of the steamer
  - 3) Pull it down so that the narrow ends of the slots are pulled tight over the mounts. See Figure 2-5.
- d. Make sure that the KleanShield™ drain is clear. See Figure 2-6.
  - e. Pour about a quart of water through the KleanShield™ drain.
  - f. Check that water flows out the drain.



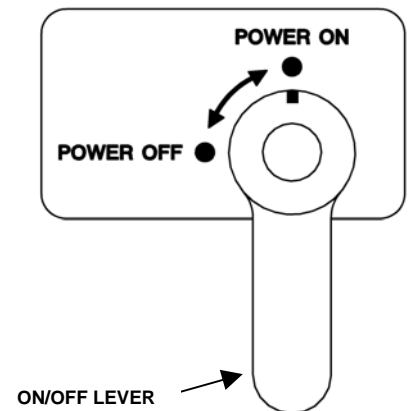
**Figure 2-5 Fan Guard Shown in Installed Position**



**Figure 2-6 Inspecting Compartment Interior Accessories (Model 22CET3 shown)**

### 5. Power ON (Auto Water Fill/Automatic Preheat)

- a. Open the water supply valves to the steamer.
- b. Set the TIMED/MANUAL switch to timed (dial timer steamers) or set the selector switch to OFF (ON/OFF control steamers).
- c. Turn ON power to the steamer by turning the drain valve lever clockwise (down) to close the drain (see Figure 2-7). The power ON indicator will light and the unit will begin to fill automatically.
- d. Close the door. Once the unit has filled to the minimal operating level the heater will come ON, and the steamer will begin to automatically heat the water supply to the standby cooking temperature.
- e. Dial timer steamers: When the “SureCook” indicator light goes OFF, the steamer has completed its Preheat
- f. ON/OFF control steamers will take 10 to 15 minutes to reach the standby heating temperature.



**Figure 2-7 ON/OFF Lever (Shown in ON Position)**

## 6. Preheating The Steamer

Preheating the steamer helps ensure productivity and consistency.

**BEFORE PREHEATING**, inspect and clean the compartment. After preheating, the compartment will be too hot to inspect and clean safely.

To preheat the SteamChef™ Steamer:

- a. For steamers equipped with optional Hold mode, make sure the unit is NOT in “HOLD” mode
- b. “HOLD” mode will heat to the lower holding temperature setting
- c. Close the steamer door and turn the steamer ON 15 minutes before cooking
- d. Steamer will automatically go to the standby heat mode and prepare the steamer for cooking

## 7. High Limit Reset

This steamer has a high limit lockout to protect the unit from overheating.

If the steamer reaches the high limit lockout temperature:

- a. The RESET light will turn ON
- b. A buzzer will sound continuously
- c. The heater will shut OFF
- d. The steamer must be reset before cooking can continue

### To reset the high limit

- a. Turn OFF power to the steamer with the ON/OFF lever.
- b. Wait 15 minutes for the unit to cool, check that the probes are clean, (see Chapter 2, Section A, Part 4c “Inspecting the Cooking Compartment” and refill the unit with water according to the Power ON instructions found in Chapter 2, Section A, Part 5.
- c. If the condition should repeat itself see the Operators Troubleshooting section of this manual, Chapter 3, Section B for further instructions.

## 8. Energy/Water Saver Feature

This unit is equipped with an internal timer system, which automatically switches the unit to the Standby Heat Temperature if the steamer is left in the Manual Mode (timer models) or is left ON (ON/OFF Control Models) for more than 60 minutes without opening the door. Also, the condenser water does not begin flowing until the minimum cooking temperature has been reached inside the steamer.

This feature has the following benefits:

- a. Saving water by reducing steam loss and condenser water use
- b. Reducing energy use
- c. Increasing the steamer life
- d. No effect on operation of the equipment because the steamer resets when the door is opened

## B. CONTROL PANELS

### WARNING

This steamer is constantly in a hot mode whenever the main power lever is ON, the door is closed and the unit is filled with water. When the selector switch of this unit is turned to the OFF position, this unit will remain hot by maintaining the Standby Heat temperature in the compartment.

- The standard Dial Timer Control Panel (Figure 2-8) has a mechanical timer that uses the “SureCook” temperature compensation circuit, which allows the timer to count down only while the cooking compartment is at cooking temperature.
- An optional version of the mechanical timer with a “Holding Temperature mode” (Figure 2-9) as well as an ON/OFF Control Panel (Figure 2-10) are also available.
- The Holding Option Mechanical Timer Control Panel, operates like the dial timer control model, except that the selector switch can be turned to select the “hold mode” in addition to the timed and manual modes.
- The ON/OFF Control Panel, operates like the Dial Timer Control Panel in Manual Mode, except a selector switch is used to change the steamer from the Standby Heat Mode to the Cooking Mode.

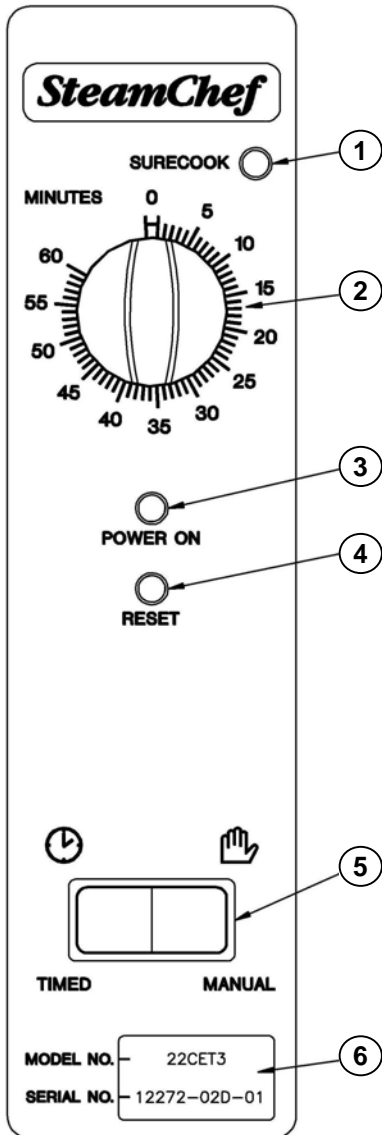
#### 1. Dial Timer Control Panels

##### a. Cooking Operations – Dial Timer Control Panel

For safe, efficient operation of the steamer, the operator must, at a minimum, comply with all cautions, warnings and instructions in the detailed operating procedures and be familiar with the control panel shown in Figure 2-8 or 2-9, as applicable. The operator must be familiar with all the operating features explained in this manual before attempting to operate the steamer.

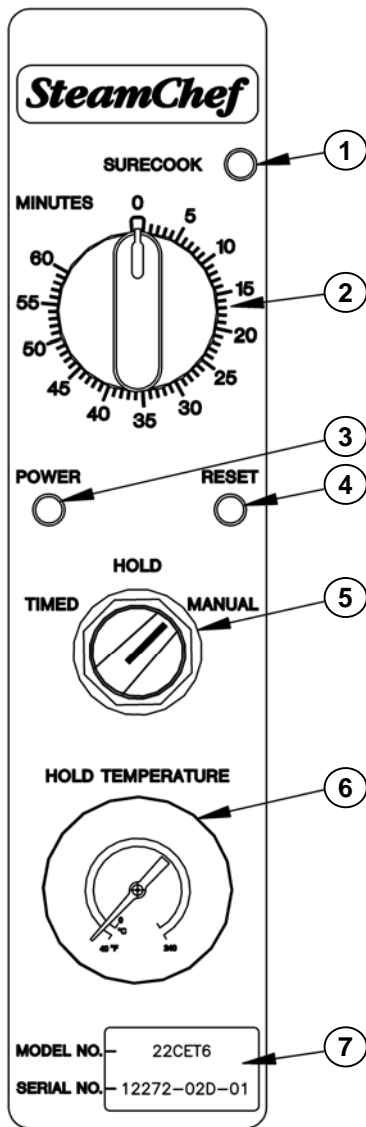
##### b. Manual, Timed and optional Hold Modes

The steamer has either two or three operating modes, depending on whether or not the unit is equipped with the optional Holding Control Mode: manual, timed and holding (optional). For standard Mechanical timer models the TIMED/MANUAL rocker switch selects the operating mode. Pressing the MANUAL end of the switch selects the manual operating mode. Pressing the TIMED end of the switch selects the timed operating mode. For units equipped with the optional Mechanical timer/holding model, the rotary selector switch is used to select between the Timed, Manual or Holding mode, by turning the selector switch to point at the operating mode desired. Cooking procedures are slightly different for each mode.



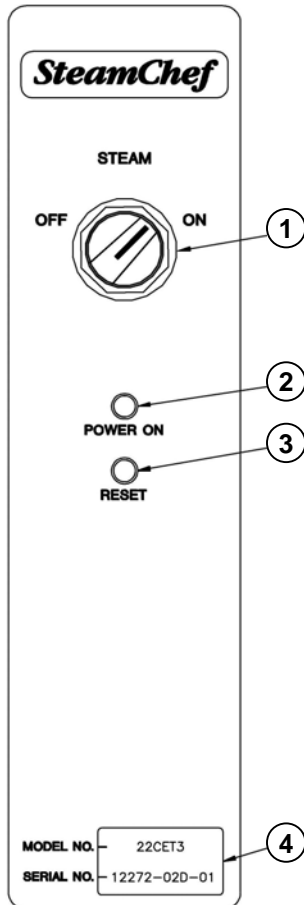
1. "SureCook" Indicator Light  
This Amber light is lit whenever the cooking compartment has not reached the optimum cooking temperature, or falls below it. Note: when in the timed mode the timer will not count down as long as this light is ON.
2. TIMER  
Dial sets the operating time from 0 to 60 minutes. Turn the dial clockwise until it points to the required number of minutes. When it counts down to 0, a buzzer sounds for 3 seconds.
3. POWER ON Indicator Light  
When the Green indicator light is ON, power is ON to the operating controls.
4. RESET Indicator Light  
When this light is lit, it indicates that the High Limit circuit of the steamer has opened. This light will remain ON, and a buzzer will sound until power to the unit has been reset. See High Limit Reset in Chapter 2, Section A, Part 7 for additional details.
5. TIMED/MANUAL Switch  
The TIMED/MANUAL switch selects the manual or timed operating mode.
  - Pressing the MANUAL end of the switch selects the manual mode.
  - Pressing the TIMED end of the switch selects the timed mode.
6. Serial Number/Model Number Insert

**Figure 2-8**  
**Dial Timer**  
**Control Panel**



**Figure 2-9  
Dial Timer  
Control Panel  
with Hold Feature**

1. "SureCook" Indicator Light  
This Amber light is lit whenever the cooking compartment has not reached the optimum cooking temperature, or falls below it.  
Note: when in the timed mode the timer will not count down as long as this light is ON.
2. TIMER  
This dial timer sets the operating time from 0 to 60 minutes. Turn the dial clockwise until it points to the required number of minutes. When it reaches 0, a buzzer sounds for 3 seconds.
3. POWER ON Indicator Light  
When the Green indicator light is ON, power is ON to the operating controls.
4. RESET Indicator Light  
When this light is lit, it indicates that the High Limit circuit of the steamer has opened. This light will remain ON, and a buzzer will sound until power to the unit has been reset. See High Limit Reset in Chapter 2, Section A, Part 7 for additional details.
5. Mode Selector Switch  
The Mode selector switch selects between the manual, hold and timed operating modes.
  - Turning the selector to the MANUAL position of the switch selects the manual mode.
  - Turning the selector to the HOLD position of the switch selects the hold mode
  - Turning the selector to the TIMED position of the switch selects the timed mode.
6. HOLD TEMPERATURE Gauge  
This gauge indicates the current temperature within the cooking cavity.
7. Serial Number/Model Number Insert



**Figure 2-10**  
**On/Off Control Panel**

1. ON/OFF Selector Switch

When turned to the ON position:

- a. Steamer will go into the Constant Steam Mode
- b. Maintain the compartment temperature at the cooking level for 1 hour unless the door is opened.
- c. When turned to the OFF position the steamer will be maintained at the standby heating temperature.

2. POWER ON Indicator Light

When the Green indicator light is ON, power is ON to the operating controls.

3. RESET Indicator Light

When this light is lit, it indicates that the High Limit circuit of the steamer has opened. This light will remain ON, and a buzzer will sound until power to the unit has been reset. See High Limit Reset in Chapter 2, Section A, Part 7 for details.

4. Serial Number/Model Number Plate

## 1) Manual Mode

The manual mode provides continuous steaming operation. The operator starts and stops steaming operations. See the Operating and Cooking Procedure – Manual mode in Chapter 2, Section C, Part 2 for more information. A thermostat controlled “SureCook” indicator light located on the control panel indicates that the cooking compartment has not yet reached optimum cooking temperature. The amber light goes out when the cooking compartment reaches optimum cooking temperature.

## 2) Timed Mode

- a) The Timer provides timed control of steaming operations. The Timer starts and stops steaming operations.
- b) The Mechanical Timer control uses the “SureCook” temperature compensation circuit that effects only the Timer. When operating; the Timer ONLY COUNTS DOWN WHILE THE COOKING COMPARTMENT IS AT AN EFFICIENT COOKING TEMPERATURE. This provides automatic control of the steaming operation and assures uniform cooking as the Timer automatically compensates for food product defrosting and/or compartment heat up time. Whenever the steamer is not at an efficient cooking temperature, the temperature compensation circuit interrupts the countdown of the timer and the “SureCook” light is illuminated.
- c) To use the Timer: set the Timer to the desired time. The steamer will begin cooking as soon as the Timer is set. When the Timer reaches zero the steaming functions will automatically end and a buzzer will sound for 3 seconds to alert the operator that cooking is complete. The cooking compartment switches to Standby Heat Mode until the next timed cycle is started.
- d) The Mechanical Timer will not function when the Selector switch is set to MANUAL or HOLD, although the “SureCook” light will still go out when the cooking compartment has reached optimum cooking temperature.

## 3) Hold Mode (Optional)

The Hold Mode is similar to the Manual Mode except that the controls warm and maintain the cooking compartment at a “Holding Temperature” (155°F minimum), to keep food at serving temperature without loss of food quality or taste. See the Operating and Cooking Procedure – Holding Mode in Chapter 2, Section C, Part 3 for more information. A thermostat controlled “SureCook” indicator light located on the control panel indicates that the cooking compartment has not yet reached optimum holding temperature, while the unit is in the Holding Mode.

## 2. ON/OFF Control Panel

- a. Cooking Operations ON/OFF Control Panel: For safe, efficient operation of the steamer, the operator must, at a minimum, comply with all cautions, warnings and instructions in the detailed operating procedures and be familiar with the control panel shown in Figure 2-10. The operator must be familiar with all the operating features explained in this manual before attempting to operate the steamer.
- b. Operating the ON/OFF Control: This unit leaves all control of the cooking up to the operator. When turned ON, cooking with this steamer is the same as cooking with a dial timer control unit in the Manual Steam Mode.

### C. COOKING WITH THE STEAMCHEF™

#### CAUTION

The SteamChef™ Steamer is a continuously operating appliance and is constantly HOT, standing by, and ready to cook, or cooking whenever the ON/OFF lever of the power control panel is in the ON position.

#### WARNING

When checking inside the steamer always open the door slowly and stand to the hinge side and back from the steamer. Water leaking from the door gasket can be a sign of a blocked drain. If the drain is blocked, hot water can accumulate inside the compartment and spill out when the door is opened.

#### WARNING

Even though the heating elements are de-energized as soon as a door is opened, it may take up to a minute for production of steam to end and residual steam in the system to clear from the cooking compartment. To avoid possible injury always wait until this residual steam has cleared before reaching into the cooking compartment.

Never operate a SteamChef™ Steamer without the KleanShield™ properly installed in the bottom of the water reservoir or the fan guard installed over the fan.

#### CAUTION

Some foods drip juices and food debris. Use a solid catch pan under perforated pans when steaming food that will drip excessive juices and debris. Failure to use a catch pan can cause a clogged drain or KleanShield™.

#### DANGER

**SEVERE BURNS may result from exposure to steam.**

**Do not open the steamer door before steam flow stops. Stand to the hinge side and back when opening the compartment door. Open the door slightly to allow steam to vent before looking or reaching into cooking compartment. Do not reach into cooking compartment until the steam has cleared, and the convection fan has stopped rotating.**

**Do not reach into steamer or handle hot items without wearing DRY heatproof gloves. Wet or damp gloves conduct heat, and may cause burns when touching hot items.**

## 1. Operating and Cooking Procedure – Timed Cook Mode

In timed mode, the timer starts and stops the cooking operation. When in the timed mode and the compartment door is closed, the unit will maintain the compartment at the standby heat temperature whenever the unit is not performing a timed cook operation.

- a. Refer to Inspecting the Cooking Compartment in Chapter 2, Section A Part 4. Inspect and clean the drain, KleanShield™ and cooking compartment as required.
- b. Refer to the Power ON instructions in Chapter 2, Section A, Part 5 and turn ON and fill the unit.
- c. If necessary, refer to Preheating the Steamer, in Chapter 2, Section A Part 6, and preheat the cooking compartment.
- d. Slide the pans of food into the slide racks inside the steamer. Do not place pans or anything else on the bottom of the compartment or on the KleanShield™.
- e. For best cooking results, use shallow, 2-1/2 inch deep, perforated pans without covers. These give the best heat transfer and shortest cooking time.
- f. Close the steamer door.
- g. Check the control panel settings. At this point the settings should be:
  - h. The ON/OFF Lever is in the ON (down) position and the Power indicator light is lit.
  - i. The TIMED/MANUAL or TIMED/HOLD/MANUAL selector switch is in the TIMED (left) position.
  - j. Set the required cooking time. The timer will start counting down as soon as the compartment reaches the minimum cooking temperature.
- k. When the timer reaches zero, a buzzer will sound for 3 seconds; the cooking circuit will turn OFF and the unit will revert to the standby heat mode. The cooking cycle is complete.
- l. Carefully open the cooking compartment door, and remove the pans from the slide racks.
  - If the steamer will be used again shut the door to maintain the cooking compartment temperature.
  - If the steamer is not being used again during this shift, perform the Shut Down and Cleaning Procedures, found in Chapter 2, Section D.

## 2. Operating Procedure – Manual Mode

Manual mode allows the operator to personally control the cooking functions. The operator starts and stops the steaming operations, and sets the cooking time including time for cooking compartment and food heat-up time. Use the manual-cooking mode for:

- a. A continuous supply of steam.
- b. Maintaining the compartment temperature between cooking batches.
- c. Remember that this unit is equipped with an energy saving feature. This automatically drops the compartment into the standby heat mode, after an hour of operating in the manual mode without interruption (such as opening the door). If Cooking times longer than the 60 minutes are desired, it will be necessary to reset this timer circuit.
- d. To reset the timer without interrupting the continuous cooking of the unit; either quickly open and close the cooking compartment door, or switch the TIMED/MANUAL selector switch to timed and back to manual.

### **3. Manual Cooking Procedure**

Follow this procedure when cooking with the steamer in manual mode.

- a. Inspect and clean the drain and cooking compartment as required. Refer to Inspecting the Cooking Compartment in Chapter 2, Section A, Part 4.
- b. Refer to the Power ON instructions in Chapter 2, Section A, Part 5 and turn ON and fill the unit.
- c. In manual mode, the operator can bring the compartment to cooking temperature by either preheating or increasing the cooking time. If the operator chooses to preheat the cooking compartment manually, refer to Chapter 3, Section A, Part 6, Preheating The Steamer.
- d. Slide the pans of food into the slide racks inside the steamer. Do not place pans or anything else on the bottom of the compartment or on the KleanShield™.
- e. For best cooking results, use 2-1/2 inch deep, perforated pans without covers. These give the best heat transfer and shortest cooking time.
- f. Close the steamer door. Select the manual mode by setting the TIMED/MANUAL or TIMED/HOLD/MANUAL selector switch to in the MANUAL position. The steaming cycle starts as soon as the switch is moved to the MANUAL position. Shortly after the door is closed, steam fills the cooking compartment.
- g. To stop manual mode steaming: set the selector switch to the TIMED position and verify that the timer is at zero. The cooking circuit is de-energized, and steam flow to the cooking compartment gradually stops.
- h. Carefully open the cooking compartment door, and remove the pans from the slide racks.
- i. If the steamer will be used again shut the door to maintain the cooking compartment temperature.
- j. If the steamer is not being used again during this shift, perform the Shut Down and Cleaning Procedures, found in Chapter 2, Section D.

### **4. Using the SteamChef™ Steamer as a Holding Oven**

The HOLD mode allows the operator to keep food warm, fresh and safe for long periods of time without reducing its quality. When in the HOLD mode the SteamChef™ steamer automatically maintains the inside of the cooking compartment at a minimum temperature of 150°F. Use the Hold Mode for:

- a. Keeping foods warm after it has been cooked in either the TIMED or MANUAL modes.
- b. Keeping foods warm and fresh, which have been previously cooked in other kitchen equipment until it needs to be served.

### **5. Procedure for Using the SteamChef™ Steamer as a Holding Oven**

Follow this procedure when using the SteamChef™ steamer as a holding cabinet to keep food warm.

- a. Inspect and clean the drain and cooking compartment as required. Refer to Inspecting the Cooking Compartment in Chapter 2, Section A, Part 4.
- b. If the unit is not already ON refer to the Power ON instructions in Chapter 2, Section A, Part 5 and turn ON and fill the unit.
- c. If the steamer is not already preheated the operator can bring the compartment to the holding temperature by either operating the unit in the Standby Heat Mode until the SureCook indicator turns OFF, or if a faster warm up is desired the unit can be preheated manually. If the operator

chooses to preheat the cooking compartment manually, refer to Chapter 3, Section A, Part 6, Preheating The Steamer.

- d. Slide the pans of food into the slide racks inside the steamer. Do not place pans or anything else on the bottom of the compartment or on the KleanShield™.
  - 1) For best results, use shallow, 2-1/2 inch deep, perforated pans without covers. These give the best heat transfer and maintain the most even temperature of the food being held.
- e. Select the HOLD mode by turning the selector switch to center HOLD position end of the TIMED/HOLD/MANUAL selector switch.
- f. Close the steamer door. The steamer will begin to maintain the cooking compartment at the holding temperature as soon as the door is closed.
  - 1) Although food will remain safe in the holding mode for long periods of time, holding foods too long can reduce quality.
  - 2) The maximum recommended time food can be held without a reduction in food quality is about two hours, but this may vary depending on food type.
- g. When the food is needed for serving, carefully open the cooking compartment door, and remove the pans from the slide racks.
  - 1) If the steamer will be used again in a few minutes for holding, shut the door to maintain the cooking compartment temperature.
  - 2) If the steamer will be used again in a few minutes for cooking, turn the selector switch to Timed position to bring the cooking compartment up to the Standby temperature for cooking.
  - 3) If the steamer is not being used again during this shift, perform the Shut Down and Cleaning Procedures, found in Chapter 2, Section D.

## **6. Using the SteamChef™ Steamer to Rethermalize Food**

The SteamChef™ may also be used to reheat/rethermalize previously cooked and/or refrigerated foods to serving temperature in minutes. To use the SteamChef™ Steamer to rethermalize food, use the following procedure:

- a. Use the SteamChef™ in the Manual Cooking Mode as outlined in Chapter 2, Part C, Section 2, and cook the food to a safe serving temperature, 170 °F for most foods.
- b. Depending on initial food temperature and density, most foods should be rethermalized to their safe serving temperature in 10 to 40 minutes.
- c. Always check internal temperature of food with a thermometer to determine when it has been rethermalized to its safe serving temperature.
- d. Remember that this unit is equipped with an energy saving feature. This automatically drops the compartment into the standby heat mode, after an hour of operating in the manual mode without interruption (such as opening the door).
- e. If cooking times longer than the 60 minutes are required to rethermalize a particular load of food, it will be necessary to reset the timer circuit.
- f. To reset the timer without interrupting the continuous cooking of the unit either quickly open and close the cooking compartment door, or switch the TIMED/MANUAL switch to TIMED and back to MANUAL.
- g. Cooking times may be longer for some foods and/or larger loads, especially when using the low wattage SteamChef™ models.

#### D. SHUTDOWN AND CLEANING PROCEDURE

This procedure should be performed at the end of each day or shift, or more frequently if the water supply does not meet the Minimum Water Quality Requirements described here:

##### Minimum Water Quality Requirements

Total Dissolved Solids	less than 60 parts per million
Silica	less than 13 parts per million
Alkalinity	less than 20 parts per million
Free Chlorine	less than 0.5 parts per million
Chloride	less than 30 parts per million
pH factor	greater than 7.5

#### WARNING

Inside of steamer stays hot for a long time.  
Allow to cool before cleaning or servicing.

#### WARNING

Do not use a hose or water jet to clean this appliance.

#### WARNING

Never operate a SteamChef™ Steamer without the KleanShield™ properly installed in the bottom of the water reservoir or the fan guard installed over the fan.

#### WARNING

Never push food debris or scale down the steamer drain, or through the KleanShield™ opening. Always remove any solid matter from the inside of the steamer with a rag or spatula before rinsing cleaning water down the drain.

Such residue can accumulate in the drain system and pose a flooding hazard as well as lead to additional maintenance and service problems.

 **CAUTION**

When cleaning do not pick up or tilt the SteamChef™ Steamer. If it is absolutely necessary to move a SteamChef™ Steamer for cleaning, turn OFF power at the main external power supply switch and at the ON/OFF Lever (which drains unit).

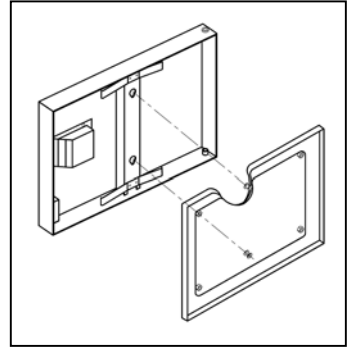
Catastrophic damage can result from shifting the SteamChef™ Steamer out of level while power is turned on at the main external power supply switch.

The steamer **MUST BE LEVEL BOTH FRONT TO BACK AND SIDE TO SIDE** in all mounting arrangements.

1. Turn the ON/OFF lever counter-clockwise (up) so that the white reference marker on the lever is pointing directly left to turn the power OFF, de-energize all controls and drain the steamer. The steamer will begin a 3-minute drain rinse cycle to clean the drain system
2. Open the steamer door and allow steamer to cool.
3. Remove any spilled food from the surface of the KleanShield™.
4. Never push food scraps down the KleanShield™ opening or the reservoir drain opening.
5. Remove the slide racks, fan guard and KleanShield™. Wash and rinse slide racks, fan guard and KleanShield™ separately or clean them in a dishwasher according to health requirements.
6. Remove any spilled food from inside compartment and clear any residue from the drain valve and the KleanShield™ drain opening.
7. Clean the interior of the compartment thoroughly, removing all food particles and scale from the steamer.
8. Do not push food debris or scale down the steamer drain, or through the KleanShield™ drain.
9. Wipe down the interior of the cooking compartment with a half water and half white household vinegar solution.
10. Use a spray bottle of the same vinegar solution to rinse down the convection fan blade located at the back of the cooking compartment.
11. Use a soft bristle brush to clean the water sensor, temperature probe, and fan and to remove stubborn food particles.
12. Do not use abrasive cleaning compounds or steel wool.
13. When done daily this will help prevent the buildup of calcium and other mineral deposits left over from the boiling of water, and prevent scale buildup in the steamer, helping prevent more costly maintenance and service on the steamer.
14. Rinse the inside of steamer compartment and drain valve thoroughly with clean water.
15. Inspect the probe assembly and clean it with a soft bristle brush or similar non-abrasive cleaning means.
16. Cleveland Range does not recommend the use of detergent, but if detergent has been used to clean the inside of the steamer, be sure to rinse off the probe assembly with the vinegar solution. If detergent residue is not completely rinsed from the probe assembly then the residue can prevent the water level control from operating.

17. Clean the door assembly.

- a. Remove the door gasket assembly (see Figure 2-11).
- b. Note the keyhole slots on the door and the retaining pins on the gasket assembly. Grasp the gasket assembly at the sides and lift up and towards you to remove the assembly.
- c. Clean all surfaces of the gasket assembly, as well as the inside of the door, by wiping with a damp cloth.
- d. Rotate the liner assembly 180° and replace the gasket assembly by sliding the retaining pins into the keyhole slots. Either long edge of the gasket assembly can be positioned at the top. Periodic rotating of the door assembly will increase the door gasket life.



**Figure 2-11 Door Gasket Assembly**

18. Replace the cleaned KleanShield™ (See Chapter 2, Section A, Part 3), slide racks and fan guard.

19. Wipe the exterior with a damp cloth only.

20. NEVER HOSE DOWN THE STEAMER. Electrical components inside the unit will not function correctly if wet or damp and may cause a shock hazard.

21. After cleaning, leave the steamer door open until the next steamer operation. This prevents compartment odor buildup and increases gasket life.

# CHAPTER 3. PREVENTATIVE MAINTENANCE AND TROUBLESHOOTING

## A. MAINTENANCE

Maintenance on the steamer must be performed on a regular basis to keep the unit running properly and efficiently. By following the simple maintenance instructions in this chapter and cleaning the equipment regularly as outlined in Chapter 2, Part D, problems with the steamer will be kept to a minimum. As with any preventative maintenance schedule, the frequency of steamer maintenance may need to be increased, depending on equipment usage and water quality. If problems do occur, refer to the Troubleshooting Guide in this chapter. For more information on product and services, contact your sales representative.

### 1. Maintenance Records

Make a file solely for maintenance and repair records. Keep a written record of daily, weekly, monthly, and yearly maintenance. These records will protect warranty coverage, help personnel to know when to perform various maintenance procedures, help keep the SteamChef™ Steamer cooking properly, and assist service personnel.

### 2. Daily Maintenance

#### a. Checking and Changing the Water

When using the SteamChef™ Steamer frequently check the water, especially if cooking with perforated pans. Although, most food drippings will be caught by the KleanShield™, the water may still become dirty from spilled food falling over the edge of pans when loading, cooking, and emptying the steamer. Replace the water as outlined below whenever the water becomes cloudy or contaminated with food particles.

**CHANGE THE WATER IN THE STEAMCHEF™ STEAMER AT LEAST EVERY DAY IN ORDER TO MAINTAIN FOOD QUALITY AND KEEP THE STEAMER SANITARY.**

**Note:** It may be necessary to change the water several times a shift, especially if cooking strong flavored foods or using perforated pans.

- 1) Turn the ON/OFF lever counter-clockwise (up) so that the white reference marker on the lever is pointing directly left to turn the power OFF, de-energize all controls, and drain the steamer.
- 2) Open the steamer door and allow steamer to cool.
- 3) Remove the KleanShield™. Remove any food particles and rinse the KleanShield™ with clean water.
- 4) Remove any spilled food from inside compartment and rinse any residue from the drain valve and the KleanShield™ drain.
- 5) Replace the KleanShield™ (see Chapter 2, Section A, Part 3).
- 6) Turn ON power to the steamer by turning the drain valve lever clockwise (down) to close the drain (see Figure 2-7). The power ON indicator will light. The steamer will automatically begin filling with water to the normal operating level.
- 7) Close the door. The “SureCook” indicator will light (timer models only), and the steamer will begin to automatically heat the water supply to the standby cooking temperature.
- 8) When the “SureCook” indicator light turns OFF (timer models only) the Steamer is ready to begin cooking.

#### b. Cleaning the Steamer

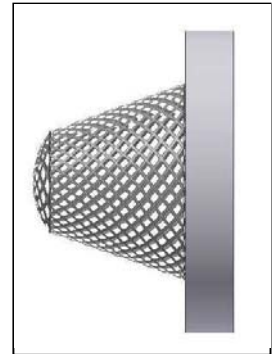
Clean interior and exterior of the steamer according to the Shutdown and Cleaning Instructions in Chapter 2, Part D at least once per day or at the end of each shift.

### 3. Yearly Maintenance – Cleaning the Water Strainers (Filter Washers)

Clean the water line strainers at least once a year as follows:

NOTE: When the steamer is first installed, check the strainer more frequently to find out how often the strainer must be cleaned.

- a. Turn OFF power to the steamer at the main external electrical disconnect switch/breaker.
- b. Close the valves in the steamer water supply lines.
- c. Unscrew the hoses from the inlet fittings located on the rear of the steamer.
- d. Remove the filter washers (Figure 3-1) from the outlet of the hoses and wash them with clean water.
- e. Check the filter washer for wear and replace it if necessary.
- f. Put the filter washers into each of the water inlets and reconnect the hoses to the back of the steamer.
- g. If treated water is used to supply water to the reservoir, make sure that it is connected to the left inlet at the rear of the steamer (See Figure 4-1 or 4-2 as applicable), which provides feed water for the production of steam.
- h. Open water supply valve(s) and check for water leaks.
- i. Turn power back on to the steamer at the main electrical shutoff/breaker.



**Figure 3-1 Filter Washer Assembly (P/N 110987)**

### 4. Other Maintenance – Periodic Descaling of Water Reservoir

#### a. Is Descaling Necessary?

Although, a SteamChef™ Steamer should not normally require this procedure, the use of extremely “hard” water or failure to consistently follow the vinegar cleaning procedures outlined in the Shutdown and Cleaning Instructions in Chapter 2, Part D may cause the accumulation of scale in the steamer. Such scale can deposit in the bottom of the steamer reservoir and/or in its drain in the form of chips, which have broken loose during operation of the steamer. In either case descaling the reservoir can prevent the need for a potentially costly service call in the event scale buildup has reached the point that it has begun to impair the steamers operation.

This maintenance is not normally required on a SteamChef™ Steamer. Frequency will depend on the local water quality, and the frequency of shutdown and cleaning of the Steamer reservoir in accordance with the instructions found in Chapter 2 Section D. The frequency of this maintenance will need to be determined by the owner and scheduled with qualified Cleveland Range authorized technicians, or trained onsite maintenance personnel.

Should descaling become necessary, Cleveland Range recommends the use of **DISSOLVE® Descaler Solution, Cleveland Range Part No. 106174**. No other system of steamer descaling should be used.

**NOTE:** Part No. 106174 is the Part No. for a case (6 1-gallon containers) of **DISSOLVE®** descaler. It is also available in 5-gallon containers as Part No. 1061741.

THESE INSTRUCTIONS ARE FOR USE WITH **DISSOLVE®** DESCALER SOLUTION Cleveland Range Part Nos. 106174 or 1061741 ONLY.

## b. Descale Procedure

### DANGER!

The liquid solution in Cleveland Range Descaler Solution Part No. 106174 or 1061741 can be harmful if not handled properly. Follow these basic safety rules for handling and using this product. Instructions and warnings on container labels supercede all other warnings and instructions.

Wear protective clothing when mixing or applying chemical cleaners

Wear rubber gloves, and OSHA approved eye protection when descaling

Avoid breathing fumes

If liquid contacts skin: wash with soap and water

If chemical contacts eyes: flush with water and seek medical attention

If chemical is swallowed or ingested: drink 1 or 2 glasses of water and seek medical attention

### WARNING

**Descaling procedure is slightly different depending on model. This entire procedure should be read and fully understood as it applies to the model being descaled, before beginning descaling operations.**

### CAUTION

Do not use any other product or method of descaling other than the *DISSOLVE*<sup>®</sup> Descaler method using Part Nos. 106174 or 1061741.

Cleveland Range recommends DISSOLVE<sup>®</sup> Descaler Solution, Part No. 106174 or 1061741

#### **Use no other system of steamer descaling**

Appropriate warnings and safe handling procedures must be provided to handlers and users

#### **Instructions and warnings on Dissolve<sup>®</sup> containers and Material Safety Data Sheets supercede and replace instructions and warnings in this manual**

General precautions: wear rubber gloves, splash goggles and other protective clothing and equipment as necessary. Refer to Dissolve<sup>®</sup> container labels and Material Safety Data Sheets for information regarding eyewash, first aid, medical treatment, and spill control.

**MODEL 22CET3A and 22CET6A, BOILERLESS STEAMER DESCALING PROCEDURE (For *DISSOLVE*<sup>®</sup> Descaler Solution Part No. 106174 or 1061741)**

- 1) This procedure will take approximately 1 hour 30 minutes to complete. The entire procedure must be read and fully understood before beginning the descaling operation.
- 2) Open the door to the cooking compartment.
- 3) Set the TIMED/MANUAL switches to TIMED.
- 4) Set the ON/OFF levers/switches to the OFF position. (The unit will undergo a normal drain cycle, which should take approximately 3 minutes to complete).
- 5) Remove the Pan Racks and KleanShield™ from inside the steamer. Heavily scaled pan racks and KleanShield™ may be descaled by soaking them in a solution of 1 part Dissolve<sup>®</sup> and 4 parts water, rinsing thoroughly with cold water, and then running them through a dishwasher.
- 6) Remove any loose scale from the bottom of the steamer, to optimize the effect of the descaler used to clean the steamer.
- 7) When the unit has completed draining, turn the ON/OFF lever to ON to refill the unit.
- 8) Do not start the timer.
- 9) Leave the door open.

**NOTE: DO NOT HEAT THE UNIT DURING DESCALING.**

- 10) While the unit is filling with water, add 1 to 1 ½ quarts (about a third of a 1 gallon bottle) of *DISSOLVE*<sup>®</sup> descaler solution into the reservoir.

- While adding liquid to the unit, pour it in slowly to avoid splashing the liquid and overflowing the reservoir.

- 11) After automatic fill has ended, turn OFF power at the main external power switch. See Figure 3-2.

- 12) Leave the door open and let the unit stand for 1 hour.

- 13) At the end of 1 hour, set the ON/OFF lever to the OFF position.

- 14) Turn the power ON at the main external power switch.

- 15) After the 3-minute drain cycle, completes turn the ON/OFF lever back ON. (NOTE: If the unit fails to fill, it may be necessary to first dry off the probe assembly, before the unit will fill).

- 16) After the filling has stopped, add a ½ gallon of water into the reservoir being careful not to overflow the front edge of the reservoir.

- 17) Turn the ON/OFF lever OFF. This will start a drain cycle and drain any residue from the water level control assembly.

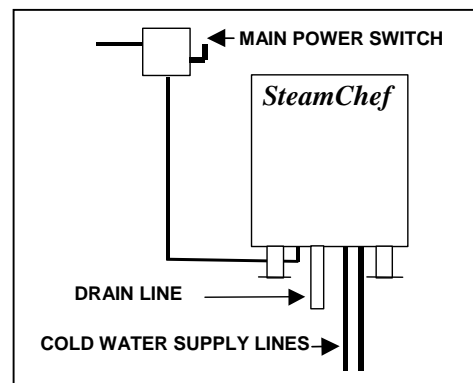
- 18) After the unit has drained completely, close the steamer doors and set the ON/OFF lever to the ON position. The unit will fill with water.

- 19) Set the timers for 20 minutes(or for ON/OFF Control Models set the steamer Control to the ON position). The steamer will come up to normal operating temperature.

- 20) At the end of 20 minutes of cooking, turn off the steaming cycle (non-timer models) and set the ON/OFF levers/switches to the OFF position.

- 21) The steamer will begin a 3-minute drain cycle.

- 22) This is the final draining of the steamer to rinse the reservoir.



**Figure 3-2 Main External Power Switch**

23) If the steamer drains slowly even after being descaled, turn OFF the steamer and call a qualified Cleveland Range authorized technician for further assistance.

24) Once the scale is removed and the drain flows normally, the steamer is ready for normal operation.

NOTE: Depending on the degree of scaling, this procedure may have to be repeated.

NOTE: Additional cleaning of the steamer with vinegar per the instructions found in the Shutdown and Cleaning Instructions in Chapter 2, Part D, may help reduce need for descaling.

NOTE: Sides, back, and top of steam compartments may be descaled with a vinegar solution and a soft brush. See Chapter 2, Part D.

## B. OPERATORS TROUBLESHOOTING GUIDE

The Troubleshooting Guide includes a list of symptoms of problems that may be encountered during operation.

- “Problem” (left column) lists common operating problems.
- “Possible Cause” (center column) lists causes of problems in order they should be checked.
- “Remedy / Reference” (right column) lists fixes for problems from easiest to hardest.
- “Notes” in “Remedy / Reference column are at end of Table 3-1 Troubleshooting Guide.

### ATTEMPTING TO REPAIR OR CORRECT PROBLEMS REQUIRING AN AUTHORIZED SERVICE REPRESENTATIVE VOIDS WARRANTY

**Table 3-1 Trouble Shooting Guide**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY/REFERENCE</b>
Power indicator light does not turn ON when ON/OFF lever is in the ON position.	Power turned OFF at main external power switch.	Turn ON power at main external power switch.
	ON/OFF lever not fully turned to the ON position.	Turn lever to the full ON position.
	Inoperative controls or indicators.	See note #1
Power ON and steamer does not fill	Water supply to steamer shut OFF	Open water supply lines.
	Water line strainer and/or external filter system clogged.	Clean water supply strainer and/or filter system. See yearly maintenance on Chapter 3, Section A, Item 3.
	Water sensor is grounded by detergent film, or scale.	Rinse water sensor assembly thoroughly with vinegar solution, as described in Chapter 2, Section D, Items 10 and 11
	Inoperative controls or solenoids.	See notes #1 and #5
Control panel Power indicator is on, buzzer is buzzing continuously and Reset indicator is lit.	High limit has been tripped.	Reset steamer according to instructions found in Chapter 2, Section A, Part 7. If problem repeats itself, see Note #1.
	Inoperative controls.	See Note #1.

**Continued on next page**

**Table 3-1 Trouble Shooting Guide**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY/REFERENCE</b>
Compartment bottom dirty with food drippings.	KleanShield™ not installed	Install KleanShield™ to catch food drippings
	Juices and/or food leaking from pans during loading and unloading of steamer.	Put a solid pan under perforated pans to catch drippings Put less food in pan.
Control panel power indicator light ON, and steamer does not come up to cooking temperature or produce steam.	Door interlock switch not engaged.	Close door completely.
	Water supply to steamer shut OFF	Open water supply lines.
	Water line strainer and/or external filter system clogged.	Clean water supply strainer and/or filter system. See yearly maintenance on page 20.
	Unit is in the timed mode and timer is not set (Dial timer control models only)	Change to manual mode or set the timer.
	High limit switch has tripped.	Reset steamer according to instructions found in Chapter 2, Section A, Part 7. If condition repeats itself see note #1.
	Unit in Hold Mode (Models with Hold feature only)	Put steamer selector switch in either the timed or manual mode for cooking.
	Bottom of reservoir is heavily scaled	See note #1 or #9
	Inoperative controls.	See note #1.
Abnormal amount of steam coming from drain during draining of steamer	ON/OFF lever/switch is not turned fully to the OFF position	Turn lever/switch to the fully OFF position to activate drain cooling feature.
	Water line strainer and/or external filter system clogged.	Clean water supply strainer and/or filter system.
	Hot water instead of cold water connected to reservoir fill line	See note #2 and #3.
	Inoperative controls.	See note #1.
Steam and/or water draining around the compartment door.  <b>See Warning under note #7.</b>	Either the vent, the drain to the vent or the KleanShield™ opening is clogged or covered.	Clear vent or collector opening (Figure 4-20) and/or clean the drain with USDA approved drain cleaner and flush drain thoroughly with fresh water If condition persists see note #1.
	Sensor is dirty and won't sense water level	Clean sensor thoroughly, to remove dirt and build-up.
	Door gasket or door parts worn.	See note #1.
	Hot water instead of cold water connected to the condenser water line	See note #2 and #3.
	External drain or vent not properly sized, installed, free air vented, and/or pitched down.	Verify drain sized and installed properly in accordance with Chapter 4. See notes #2 and #3.
	Steamer not level.	See note #2.
	Drain is blocked.	Clean drain with USDA approved drain cleaner. If condition persists see note #1
	Inoperative controls	See note #1.

**Continued on next page**


**Table 3-1 Trouble Shooting Guide**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY/REFERENCE</b>
Steam coming out of the exhaust.	A small amount of steam may issue from the exhaust whenever the unit is in the cooking mode.	This is normal operation of the steamer <b>NO</b> action is necessary.
	Condenser water supply is turned OFF	Turn ON Condenser water supply
	Water line strainer and/or external filter system clogged.	Clean water supply strainer and/or filter system.
	Hot water instead of cold water connected to condenser supply line	See note #2 and #3.
	Inoperative controls.	See note #1.
Abnormal amount of steam coming from drain or vent.	Condenser water supply is turned OFF	Turn ON condenser water supply
	Hot water instead of cold water connected to the condenser water line	See note #2 and #3.
	Condenser water line strainer clogged.	Clean water supply strainer. See Yearly Maintenance in Chapter 3, Section A , Item 3.
	External vent is not installed in drain tee	See notes #2 and #3.
	Inoperative controls	See note #1
Food takes too long to cook.  <b>To verify the steamers proper operation see note #8.</b>	Pans too close to the bottom of cabinet.	Put pans in racks near top of cabinet.
	Compartment overloaded with too much food.	Put less food into pan. Use fewer pans.
	Suggested cooking times are usually listed for cooking at sea level.	Extend cooking times for altitudes above 2500 feet.
	Convection fan inoperative	See note #1.
	Bottom of steamer is scaled.	See note #9
	Voltage too low for unit.	See note #4.
	Inoperative controls.	See note #1.

**TROUBLESHOOTING NOTES**

1. A qualified Cleveland Range authorized service technician must repair the problem or do the appropriate maintenance
2. Proper installation of the steamer is the responsibility of the owner or installer. A qualified Cleveland Range authorized installer or technician must be contacted to correct the installation
3. Repairs to external plumbing must be done by a Licensed Plumber.
4. Repairs to external wiring must be done by a Licensed Electrician.
5. If the automatic fill system fails for any reason, the steamer will stop heating when the water level drops below the minimum operating level. Should this happen, the unit can continue to be operated by manually filling the water reservoir with about a gallon of water approximately every half-hour, until service can be performed.
6. For more information on products and services, contact your nearest Authorized Sales Representative. Call factory for a preventative maintenance program and water treatment systems: USA: (800) 338-2204, Canada: (800) 427-6668.

7. Whenever opening door, especially when water or steam is leaking around gasket heed the warning below.

 **WARNING**

When checking inside the steamer always open the door slowly and stand to the hinge side and back from the steamer. Water leaking from the door gasket can be a sign of a blocked drain. If the drain is blocked, hot water can accumulate inside the compartment and spill out when the door is opened.

8. To evaluate whether a SteamChef™ steamer is at normal performance: conduct the Egg Test. (NOTE: this test is not valid for pressure steamers). A properly operating steamer will produce cooked eggs as follows:

Turn on the steamer, and set the selector switch to the manual mode (or for ON/OFF models set the selector to the ON position) so that steam is being produced. When wisps of steam has begun to exit the steam vent, preheat the steamer by leaving it ON for ten minutes. After the compartment is preheated follow the instructions as listed below.

- Place a fresh egg on a perforated steamtable pan in the middle of the cavity.
- Close the door and set the timer as directed by the size chart below

Egg Size	SteamChef™
Medium	12 minutes
Large	14 minutes
Extra Large	14 minutes

- Carefully remove the egg and place in a container with cold water running over it.
- Let cool under cold running water for 5 minutes.
- After cooling, crack egg shell and peel.

The result will be a perfect hard boiled egg.

9. Although, a SteamChef™ Steamer should not normally require descaling, the use of extremely “hard” water or failure to follow consistently the cleaning procedures outlined in the Shutdown and Cleaning Instructions in Chapter 2, Part D may cause the accumulation of scale in the steamer. Should this occur the supplementary descaling procedure outline in Chapter 3, Part A, Section 4 Other Maintenance – Periodic Descaling of Water Reservoir may be necessary. Note: only qualified Cleveland Range authorized technicians or trained onsite maintenance personnel may perform this service.

## CHAPTER 4. INSTALLATION INSTRUCTIONS

### DANGER

**Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. The Installation, Operating and Maintenance instructions should be read thoroughly before installing or servicing this equipment**

DO NOT INSTALL a SteamChef™ steamer if it is damaged or if damage is suspected.

Install the SteamChef™ steamer according to the policies and procedures outlined in this manual.

### DANGER

INJURY AND EQUIPMENT DAMAGE could result from improper lifting. A Model 22CET3 weighs 250 pounds, and a Model 22CET6 weighs 300 lbs. Use enough workers with experience lifting heavy equipment to place the steamer on the supporting surface.

### CAUTION

Malfunctions and equipment damage may result from improper mounting.

The steamer **MUST BE LEVEL BOTH FRONT TO BACK AND SIDE TO SIDE** in all mounting arrangements.

Catastrophic damage can result from shifting the SteamChef™ Steamer out of level while power is turned on at the main external power supply switch.

### WARNING

DEATH, INJURY, AND EQUIPMENT DAMAGE could result from improper installation of the drain outlet lines.

Improper installation of these lines could void the SteamChef™ Steamers warranty. The following restrictions are critical to the safety of personnel and equipment, and must not be violated under any circumstances.

Do not connect the drain line into PVC or any drain material that cannot sustain 180° F.

Do not connect drains from any other equipment to the drain line of the SteamChef™ Steamer.

Do not connect the drain outlet extension line directly to a floor drain or sewer line.

The drain line must be free air vented, have gravity flow from the steamer, and terminate outside the perimeter of the unit.

 **DANGER**

Do not turn on the main power supply to this unit until the installation has been completed and the steamer has been properly grounded.

 **DANGER**

Death, severe electrical shock, or equipment damage can result from touching any component inside unit when main external power switch is in the ON position. Use extreme caution during testing with the access cover removed.

**A. GENERAL**

This equipment should only be installed by qualified, professional plumbers, pipe fitters and electricians.

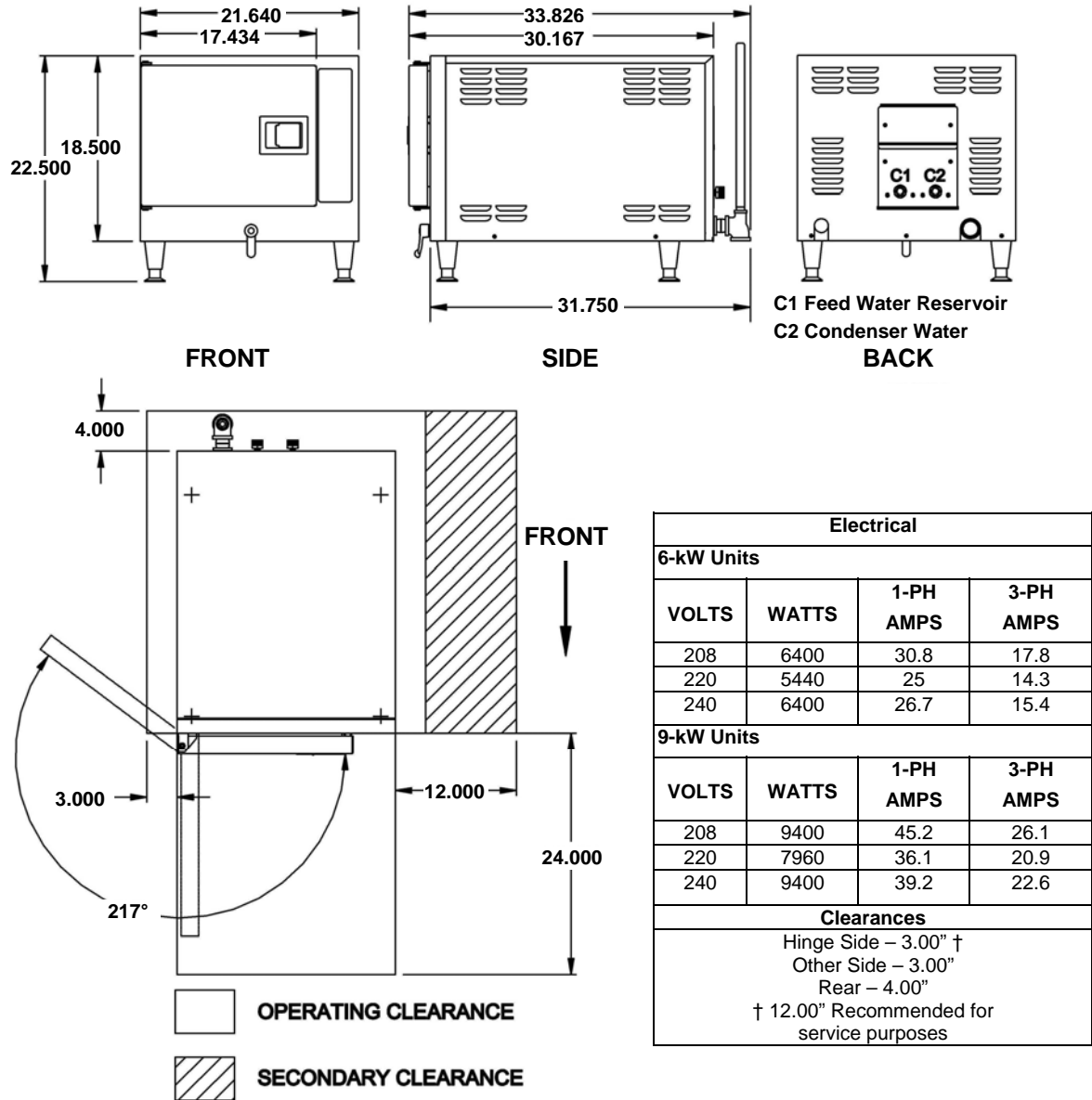
The installation of this steamer must conform with the Basic Plumbing Code of the Building Officials and Code Administrators International, Inc. (BOCA), the International Mechanical Code, The National Electrical Code, ANSI/NFPA No. 70-(latest edition), or the Canadian Electrical Code, CSA C22.2 as applicable, the Food Service Sanitation Manual of the Food and Drug Administration (FDA) and all applicable state and local codes and regulations.

The installation instructions must be read in their entirety before starting the installation of this steamer.

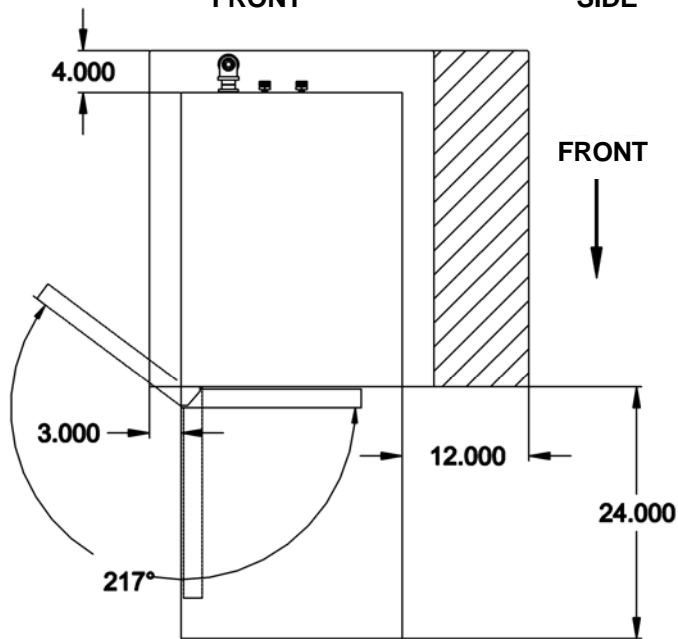
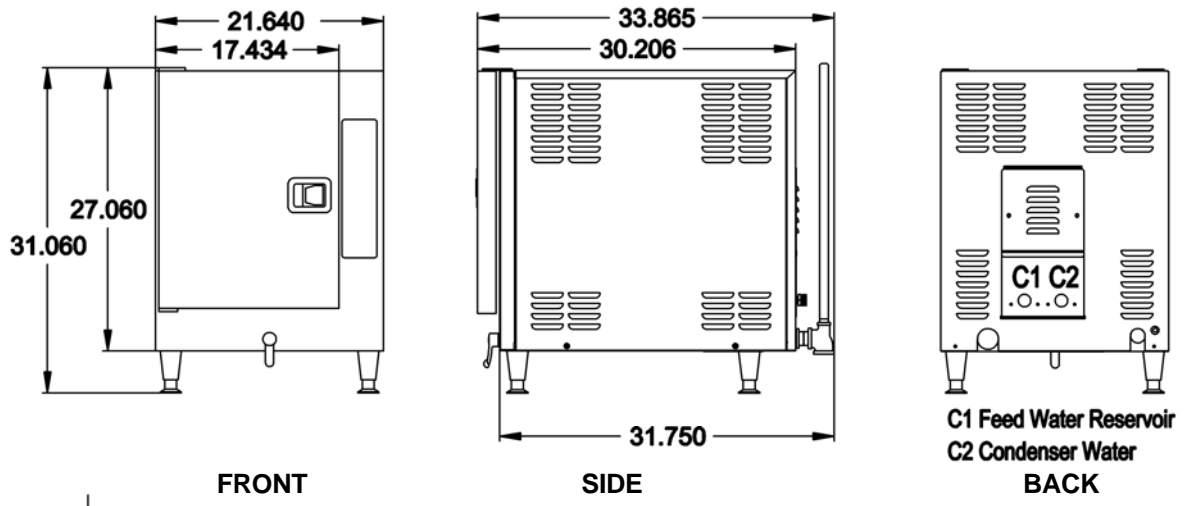
In order to properly install this steamer, the following requirements must be considered when selecting a location.

- a. Electrical supply matching the power requirements found on the rating plate must be available.
- b. The location must meet the clearance requirements of the steamer as outlined in Chapter 4, Section B, Part 1, "Locating the Steamer", and shown in Figures 4-1 and 4-2.
- c. A potable cold water supply meeting the requirements outlined in Chapter 4, Section B, Part 11 "Water Supply Requirements and Installation" must be available.
- d. A suitable drain must be available within 12 ft. of the steamer.

**B. Location and Clearance Requirements of the Steamer**



**Figure 4-1 SteamChef™ 3 Dimensions and Clearances**



Electrical		
<b>9-kW Units</b>		
VOLTS	WATTS	3-PH AMPS
208	9400	26.1
220	7960	20.9
240	9400	22.6
<b>13.5-kW Units</b>		
VOLTS	WATTS	3-PH AMPS
208	13500	37.5
220	11300	29.7
240	13500	32.5
Clearances		
Hinge Side – 3.00"†		
Other Side – 3.00"		
Rear – 4.00"		
†12.00" Recommended for service purposes		

- OPERATING CLEARANCE
- SECONDARY CLEARANCE

**Figure 4-2 SteamChef™ 6 Dimensions and Clearances**

### C. INSTALLATION OF A STEAMCHEF™ STEAMER

After selecting the steamer's operating location the steamer can be positioned, and installed. After Startup and Checkout, the SteamChef™ steamer will provide years of reliable operation.

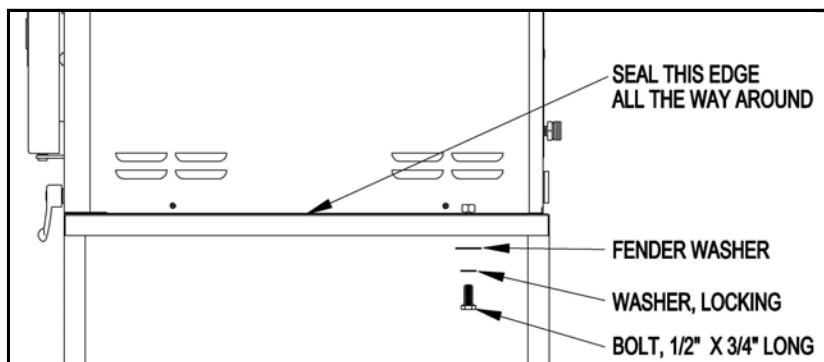
1. Do not locate the steamer directly over a floor drain.
2. Observe the following criteria when selecting an operating location for a SteamChef™ steamer.
  - a. Maintain a 3-inch operating clearance at the sides of the unit, and at least a 4-inch clearance at the back.
  - b. A 12 in clearance is recommended on the right side for servicing the steamer.
  - c. Approximately 24 inches of clearance is recommended in front of the unit for opening the door and standard pan clearance.
3. Figures 4-1 and 4-2 illustrate the clearance and space requirements of a SteamChef™ 3 and a SteamChef™ 6, respectively as well as their power requirements.
4. The steamer is typically installed with four adjustable mounting legs, as shown in the dimension drawing.
5. The steamer must be level both front to back and side to side.
6. Select an operating surface that is level enough to allow leveling the unit without extreme adjustment of the legs or shimming of surface mounts.
7. The counter area selected must be capable of supporting an operating weight of approximately 260 pounds for a SteamChef™ 3 and 340 pounds for a SteamChef™ 6 to include the weight of water and food.
8. Do not block the vents on the side or rear of the unit.
9. Do not store articles on top of the unit.
10. If a satisfactory counter location is not available, consider using a Model ES222834 Equipment Stand. This stand, illustrated in Figure 4-3, is designed to support a SteamChef™ Steamer, and meets all necessary support and safety criteria. Two stacking stands, Model No. ES222824S and Model No. ES263044 are also available. The Model ES222824S stacking stand allows the installation of two SteamChef™ 3 Steamers one on top of the other. The Model No. ES263044 Stand allows the installation of two SteamChef 6 Steamers on a single stand with an area just 4 inches wider than the units themselves. See Sections E and F for the installation instructions for installing SteamChef™ steamers on the various Cleveland Range Stands.



**Figure 4-3 ES222834  
Equipment Stand**

#### D. Installation Using Cleveland Range Stand Model No. ES222834

1. Move the stand (Figure 4-3) to the selected location. The feet with round mounting pads are at the rear of the stand.
2. Set the steamer on the stand with the front of the unit flush with the front edge of the stand. Mount the unit to the stand from below using the 1/2 x 3/4 lg. Bolts, fender washers and lock washers provided with the Stand Kit (Figure 4-4, on following page) installed into the rear leg mounts of the steamer.
3. Seal the unit to the stand around the edge as shown in Figure 4-4, with a suitable food-grade RTV Silicone sealant, (not provided), rated for continuous use at 250° F or higher, and Listed or Classified to NSF 51 or 61 standards
4. Be careful not to seal the side panels to the steamer.



**Figure 4-4 Mounting the Steamer on the Equipment Stand**

5. Complete the installation of the steamer in accordance with the remaining instructions of this manual. Once the unit has been leveled using the adjustable feet provided on the stand, it is recommended that the unit be secured to the floor using the two Anchorable legs.

#### E. Installation of SteamChef™ 3 Steamers on the Model No. ES222824S Stacking Stand

The Cleveland Range Model ES222824S Stacking Stand includes the stand and all the necessary hardware to connect the two units plumbing and water connections into a common drain outlet and a common set of water inlets.

##### 1. Beginning Installation of the Cleveland Range Model No. ES222824S Stacking Stand

- a. Move the stacking stand base (Item 1, Figure 4-5) to the selected location. We require that the feet with round mounting pads be at the rear of the steamer.

## 2. Mount the lower unit to the stand base

- a. Remove the side panels of the lower steamer and set it into place on the Stacking Stand base (Item 1, Figure 4-5).
- b. Mount the lower unit to the stand from below using the 1/2 x 0.750 lg. bolts and the fender and locking washers provided installed into both rear leg mounts as shown (See Figure 4-5).
- c. Seal any gaps between the stand and the steamer with suitable RTV Silicone sealant, (not provided), rated for continuous use at 250° F or higher, and Listed or Classified to NSF 51 or 61 standards

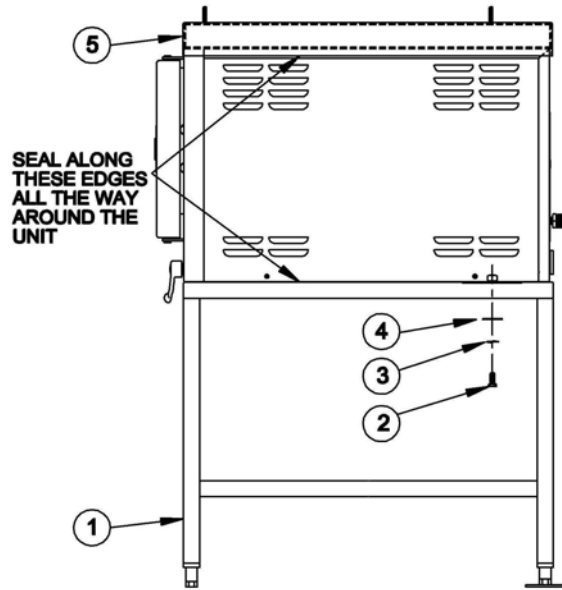


Figure 4-5 Installing Lower Unit

## 3. Install the stand spacer

- a. Set the studded spacers (Figure 4-6 Item 2) on top of the lower unit lengthwise with the nearer stud on the end towards the front of the steamer. Next set the spacer retainer (Figure 4-6 Item 1) over the studded spacer and the steamer (see Figures 4-5 and 4-6). The studs from the spacer will go through the corresponding openings in the retainer, and the lower edges of the retainer will extend over the top of the lower unit (See Figures 4-5 and 4-6).
- b. Seal between the lower steamer and the spacer retainer with suitable RTV Silicone sealant, (not provided), rated for continuous use at 250° F or higher, and Listed or Classified to NSF 51 or 61 standards sealant (not provided) as shown in Figure 4-5.

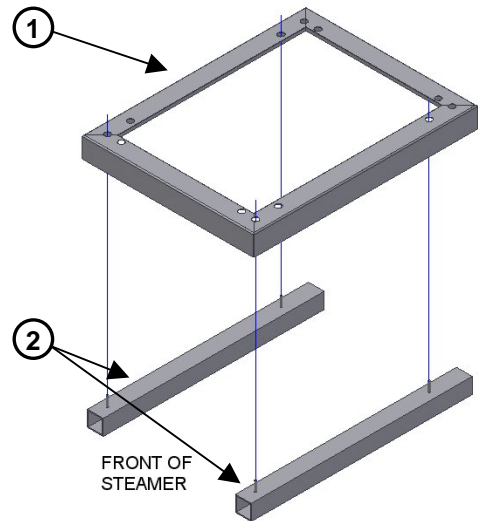


Figure 4-6 Positioning the Studded Spacer

## 4. Mounting the Upper Unit

- a. Before setting the upper steamer into place over the spacer studs, place a bead of RTV around the edge of the entire spacer outline.
- b. Remove the side panels from the upper unit and set it onto the spacer. The 1/4-20 studs of the spacer pass through the 1/2" welded nuts normally used to secure the legs to the steamer.
- c. Secure the upper unit to the stand at the front pair of studs using the 1/4-20 Lock Nut and Washer provided (Figure 4-7).

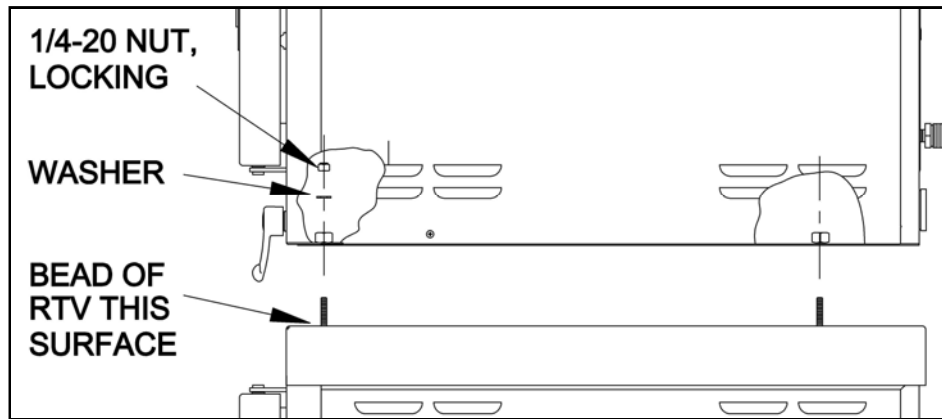
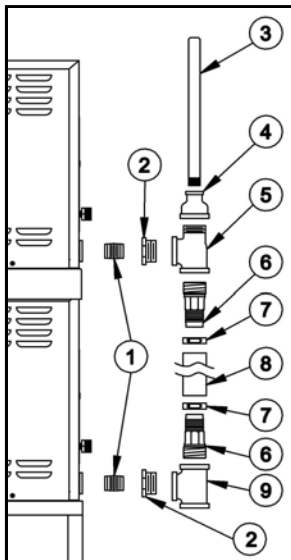


Figure 4-7 Mounting the Upper Unit

**5. Installing the Drain Between the Two Steamers**

- a. Assemble the drain fittings onto the steamers as shown in the schematic. Be sure to use a suitable pipe dope compound or Teflon tape at all threaded pipe connections **except the National Hose Thread or Garden Hose Thread connections.**
- b. Lay the Drain hose (Figure 4-8 Item 8) out between the upper and lower hose fittings as it may be necessary to shorten the length slightly depending on the fit-up of pipe
- c. Put the Worm drive clamps over the hose and then install the hose between the two hose fittings.
- d. Tighten the hose onto the hose fittings with the worm drive clamps.

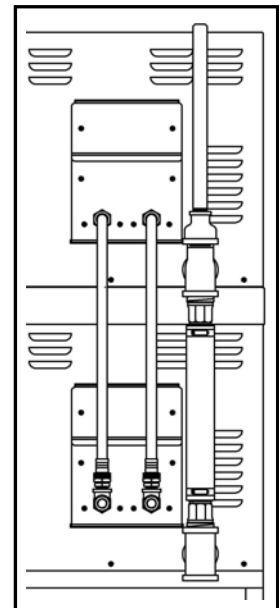
NOTE: It may be easier to install the hose over the upper fitting first, and then loosen the lower fitting (by turning the lower drain plumbing assembly counter clockwise) to get the hose started over the lower hose fitting. Once started in this manner the hose will then slide over the hose fitting when the pipe assembly is turned back into its final position as shown in Figure 4-8.

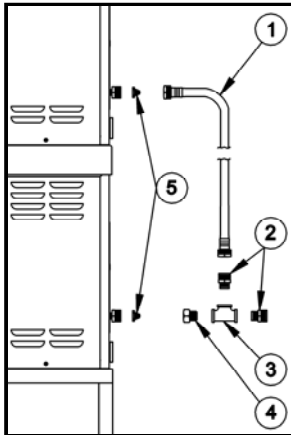


Drain Parts			
Item No.	Part No.	Description	Qty
1*	14369	Nipple, 1" NPT, Close, Black Iron	2
2	02573	Bushing, Hex, 1 1/2" NPT x 1" NPT	2
3	111008	Nipple, 3/4" NPT x 1/4", Toe	1
4	03616	Coupling, Reducing, 1 1/2" NPT x 3/4" NPT, Black Iron	1
5	20220	Tee, 1 1/2" NPT, Male Run, Black Iron	1
6	110985	Fitting, 1 1/2" Hose x 1 1/2" NPT(M), Plated	2
7	102018	Clamp, Hose, Worm Drive	2
8	110984 1300	Hose, Black EPDM, 1 1/2" ID x 13" long	1
9	20221	Tee, 1 1/2" NPT, Black Iron	1

\* Supplied with the steamer not part of the kit

Figure 4-8 Drain Assembly





Drain Parts			
Item No.	Part No.	Description	Qty
1	110998	Hose Assembly, GHT(F) x GHT(F), 2 Ft. Long	2
2	110977	Fitting, ½" NPT (M) x ¾"GHT (F), Brass	2
3	20229	Tee, ½" NPT, Brass	2
4	110986	Fitting, ½" NPT (M) x ¾" GHT(M), Brass	4
5*	110987	Strainer, Filter Washer, Garden Hose Inlet	4

\* These parts are installed in the steamer, and should be left in the units as part of the final installation.

**Figure 4-9 Plumbing Assembly**

## 6. Install the Plumbing

- a. Assemble the water trains for the condenser and feed water as shown in Figure 4-9.
  - 1) DO NOT USE PIPE DOPE ON NATIONAL HOSE THREAD CONNECTIONS
  - 2) The National Hose Thread (also known as NHT, garden hose thread, or GHT) inlets of the SteamChef™ 3 steamers water connections come with strainer washers (not shown).
  - 3) Strainer washers must be used at the steamer water inlet connections. Use a suitable washer or strainer washer at each NHT connection.
  - 4) Use pipe dope on all other threaded pipe connections.

## 7. Complete the Installation of the Steamer

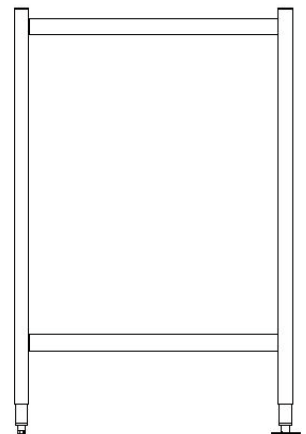
- a. Complete the installation of the steamer in accordance with the remaining instructions of this manual.
  - 1) After the unit has been leveled using the adjustable feet provided on the stand, the stand must be secured to the floor using the two Anchorable Legs.
  - 2) Use minimum 2" drain from the 1 ½" common drain outlet when steamers are stacked.
  - 3) Never use drain piping smaller than the steamer(s) outlet.
  - 4) Drain must be free air vented per Figure 4-20

## F. Installation of SteamChef™ 6 Steamers on the ES263044 Stacking Stand

The Cleveland Range Model ES263044 Stacking Stand includes the stand and all the necessary hardware to connect the two units plumbing into a common drain outlet and a common set of water inlets.

### 1. Beginning Installation of the Model No. ES263044 Stacking Stand

- a. Move the stacking stand (Figure 4-10) to the selected location.
- b. The feet with the round mounting pads are at the rear of the stand.



**Figure 4-10 ES263044 Equipment Stand**

## 2. Mount the units to the stand

- a. Remove the side panels of the steamers and set the steamers into place on the Stacking Stand as shown in Figure 4-11.
- b. Mount the units to the stand from below using the 1/2 x 3/4 bolts and the fender and locking washers provided installed into the opposite corner leg mounts (4 places total) as shown in Figure 4-11.
- c. Seal any gaps between the stand and the steamers with a suitable RTV sealant (not provided).

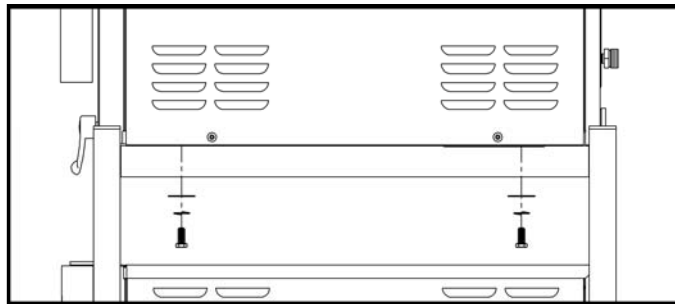


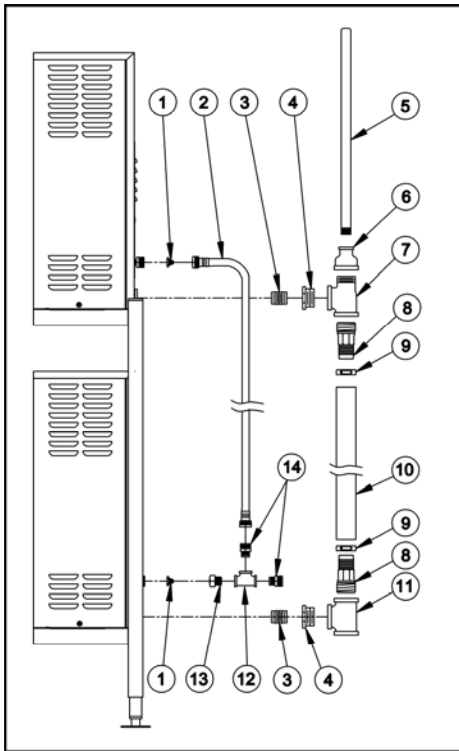
Figure 4-11 Mounting of Steamers to the Stand

## 3. Installing the Drain and Water Connections Between the Two Steamers

- a. Assemble the drain fittings onto the steamers as shown in the schematic. Be sure to use a suitable pipe dope compound or Teflon tape at all threaded pipe connections **except the National Hose Thread or Garden Hose Thread connections.**
- b. Lay the Drain hose (Item 10 of Figure 4-12) out between the upper and lower hose fittings as it may be necessary to shorten the length slightly depending on the fit-up of pipe
- c. Put the Worm drive clamps over the hose and then install the hose between the two hose fittings.
- d. Tighten the hose onto the hose fittings with the worm drive clamps (Item 9 of Figure 12.)

NOTE: It may be easier to install the hose over the upper fitting first, and then loosen the lower fitting by turning the lower drain plumbing assembly counter clockwise to start the hose over the lower hose fitting. Once started, the hose will slide over the hose fitting when the pipe assembly is turned back into its final position. See Figure 4-13.

- e. Assemble the water trains for the condenser and feed water as shown in Figure 4-12.
  - 1) DO NOT USE PIPE DOPE ON NATIONAL HOSE THREAD CONNECTIONS
  - 2) The National Hose Thread (also known as NHT, garden hose thread, or GHT) inlets of the SteamChef™ 3 steamers water connections come with strainer washers (not shown).
  - 3) Strainer washers must be used at the steamer water inlet connections. Use a suitable washer or strainer washer at each National Hose Thread connection.
  - 4) Use pipe dope on all other threaded pipe connections.



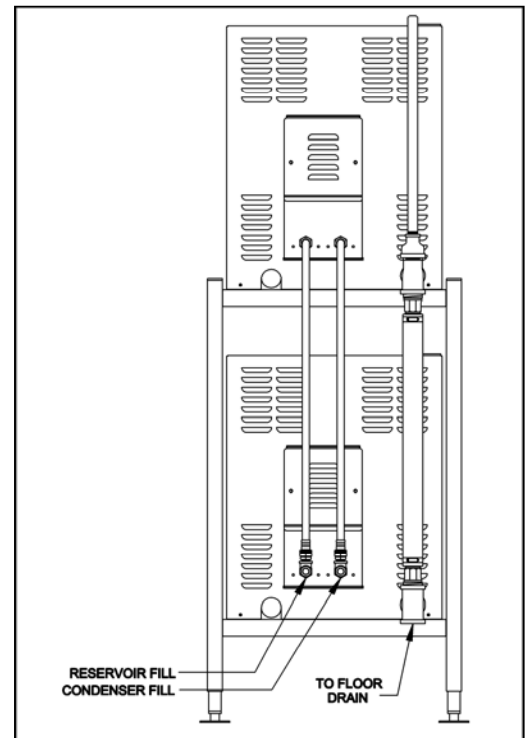
Drain Parts			
Item No.	Part No.	Description	Qty
1*	110987	Strainer, Filter Washer, Garden Hose Inlet	4
2	111160	Hose Assembly, GHT(F) X 3 Ft. Long	2
3*	14370	Nipple, 1" NPT X Close, Brass	2
4	02573	Bushing, Hex, 1 1/2" NPT X 1" NPT	2
5	111168	Nipple, 3/4" NPT x 22.5", TOE, Brass	1
6	03616	Coupling, Reducing, 1 1/2" NPT x 3/4" NPT	1
7	20220	Tee, 1 1/2" NPT, Male Run, Black Iron	1
8	110985	Fitting 1 1/2" Hose X 1 1/2" NPT (M)	2
9	102018	Clamp, Hose, Worm, Drive	2
10	110984	Hose, Black EPDM, 1 1/2" ID	26"
11	20221	Tee, 1 1/2" NPT, Black Iron	1
12	20229	Tee, 1/2" NPT, Brass	2
13	110977	Fitting, 1/2" NPT (M) x 3/4" GHT (F), Brass	2
14	110986	Fitting, 1/2" NPT (M) x 3/4" GHT(M), Brass	4

\* These parts are supplied with the steamer, and should be installed as shown in the final assembly.

**Figure 4-12 Drain and Water Train Assembly**

**4. Complete the Installation of the Steamer**

- a. Assemble the water trains for the condenser and feed water as shown in Figure 4-9.
  1. DO NOT USE PIPE DOPE ON NATIONAL HOSE THREAD CONNECTIONS
  2. The National Hose Thread (also known as NHT, garden hose thread, or GHT) inlets of the SteamChef™ 3 steamers water connections come with strainer washers (not shown).
  3. Strainer washers must be used at the steamer water inlet connections. Use a suitable washer or strainer washer at each NHT connection.
  4. Use pipe dope on all other threaded pipe connections.
- b. After the unit has been leveled using the adjustable feet provided on the stand.
- c. Secure the stand to the floor using the two Anchorable Legs.

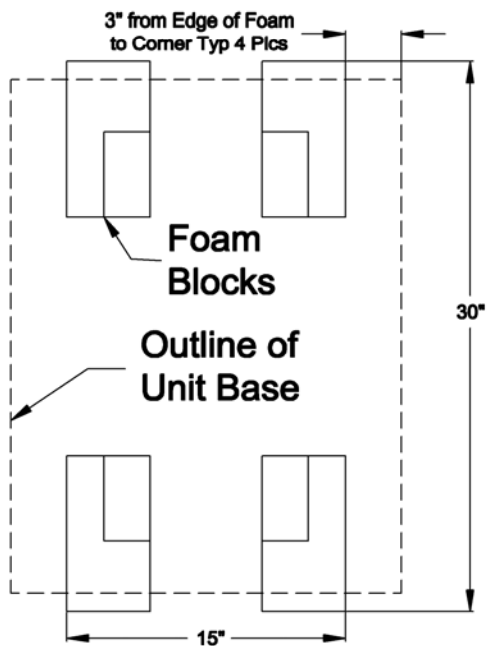


**Figure 4-13**

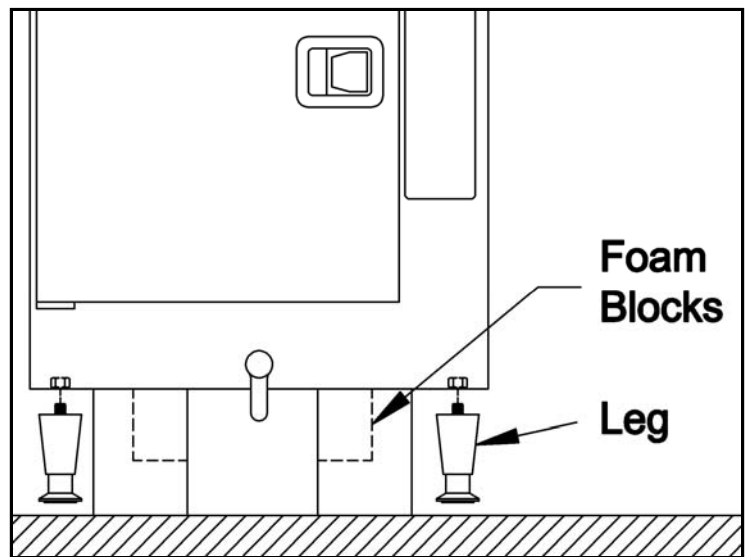
- d. Use minimum 2" drain from the 1 ½" common drain outlet when steamers are stacked.
- e. Never use drain piping smaller than the steamer(s) outlet.
- f. Drain must be free air vented per Figure 4-20
- g. Complete the installation of the steamer in accordance with the remaining instructions of this manual.

**G. Installing the Legs**

1. The legs on the SteamChef™ Steamer must be used for installing the steamer, unless it is installed with any of the Cleveland Range stands, as noted in Chapter 4, Section D, E, and F.
2. In order to safely assemble the legs onto the steamer without damaging the unit, the following assembly procedure should be used.
  - a. Check that the feet are fully retracted into the legs. Do not over tighten. The feet should easily screw in and out using fingers only.
  - b. Remove the four foam packing blocks from the upper packing assembly, and position them on a flat surface (such as the floor) in the pattern shown in Figure 4-14.
  - c. Center the SteamChef™ Steamer on the blocks as shown in Figure 4-14 and 4-15.
  - d. Screw the four legs into the weldnut mounting holes. All four legs must be installed for proper mounting of a SteamChef™ Steamer.
  - e. The steamer is now ready to be moved to its final location. Pick the steamer off of the blocks, and move it its final location. Discard the foam packing blocks.



**Figure 4-14 Top View  
Steamer on Foam Packing  
Blocks**



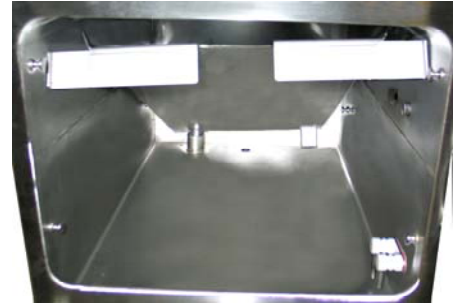
**Figure 4-15 Front View  
Steamer on Foam Blocks**

## H. Positioning and Leveling the Steamer

1. Move the steamer into position.
2. Using a level, adjust the legs of the unit or the legs of the Cleveland Range stand until the unit is level front-to-back and side-to-side.

## I. Installing the KleanShield™

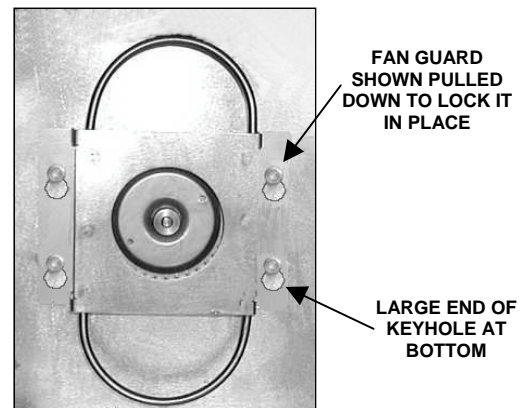
1. Never operate a SteamChef™ Steamer without a properly installed KleanShield™.
2. Note the KleanShield™ must be installed before the side pan racks.
3. Place the KleanShield™ into the steamer with the pipe extension towards the back and facing down. Set the KleanShield™ in place over the corresponding pipe extending out of the bottom of the steamer reservoir. See Figure 4-16.
4. The KleanShield™ is installed properly when the pipe from the KleanShield™ is fitted into the corresponding pipe in the bottom of the steamer and its legs are flush against the bottom of the steamer.
5. See Figure 2-6 in Chapter 2 showing an installed KleanShield™.



**Figure 4-16 KleanShield™ Installation  
(SteamChef™ 3 Shown)**

## J. Installing the Fan Guard

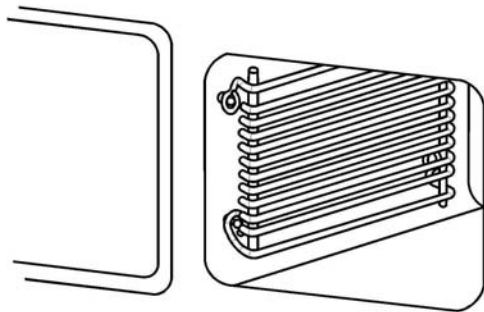
1. Hold the fan guard so that the large ends of the keyhole slots are towards the bottom of the steamer.
2. Place all four large end openings of the keyholes over the mounts located on the rear wall of the steamer.
3. Pull it down so that the narrow ends of the slots are pulled tight over the mounts.
4. See Figure 4-17.



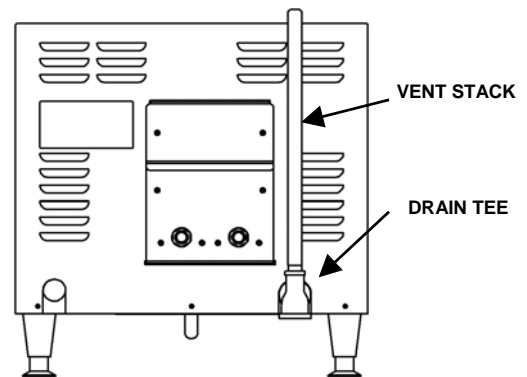
**Figure 4-17  
Fan Guard Shown Installed  
(SteamChef™ 3 Shown)**

## K. Installing Slide Racks and Rear Vent

1. Refer to Figure 4-18. Each rack has four loops: two at the top and two at the bottom. Hold the slide rack so the ends of the hanger loops are towards the cavity wall, as shown in the figure.
2. Slide one rack into the compartment with loops toward one side.
3. Hook the loops over the top and bottom pins.
4. Repeat steps a. through c. for the other racks.
5. Using suitable pipe dope or teflon tape (not provided), install the drain tee into the rear of the steamer using the close nipple provided, as shown in Figure 4-19. (Note: For Steamers installed on a Cleveland Range Model ES222824S or Model ES263044 Stacking Stands refer to the instructions found in Chapter 4, Section C and D, for proper vent installation).
6. Install the threaded end of the Vent stack into the  $\frac{1}{2}$ " outlet of the drain tee using suitable pipe dope or teflon tape (not provided).
7. The unit is now ready for connection to a drain, see Chapter 4, Section L.



**Figure 4-18 Slide Rack Installation**



**Figure 4-19 Steam Vent Assembly Installation (SteamChef™ 3 Shown)**

## L. Install the Free Air Vented Drain Lines

Furnishing and installing the drain line is the responsibility of the owner and/or installer. Figure 4-20 illustrates a drain layout recommended by Cleveland Range.

1. The drain lines must be installed in compliance with the Basic Plumbing Code of the Building Officials and Code Administrators International, Inc. (BOCA), and the Food Service Sanitation Manual of the Food and Drug Administration (FDA) and any state, provincial or local codes.
2. Do not install the steamer directly over a drain. Steam rising up out of the floor drain will adversely affect operation, cooling air ventilation and may damage electrical components. (See Figure 4-20)
3. The total length of pipe and number of bend fittings required to reach the open drain determines the pipe size used to extend the drain line to an open drain.
4. If the drain outlet extension requires 6 feet or less of pipe, and no more than two elbows are required, 1-inch (or larger) pipe and fittings are acceptable.
5. If the drain outlet extension requires 6 to 12 feet of pipe, or requires three or more elbows, or is installed on a Cleveland Range Model ES222824S or ES263044 stacking stand, 2-inch (or larger) pipe and fittings are required.
6. The maximum length of drain piping from the steamer to the drain should not exceed 12 feet.

7. The drain piping from the steamer should not use more than three elbows.
8. Under no circumstances should the drain piping ever be sized smaller than the steamer(s) outlet.
9. The drain line must have a gravity flow from the steamer drain outlet to the floor drain.

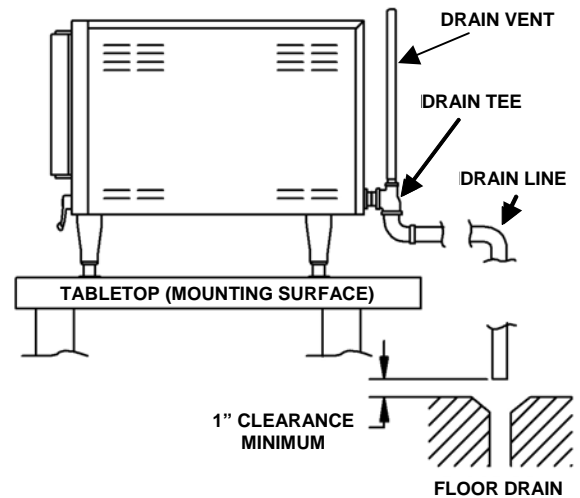
**10. DO NOT INSTALL A TRAP IN THE DRAIN LINE.**

11. Free air venting requires a minimum of 1 inch of clearance between the end of the drain line and the top of the floor drain.

12. Do not connect the steamer drain directly to drains or plumbing of any other equipment. (Except when using a Cleveland Range designed application such as is used with the Model ES222824S or ES263044 Stacking Stands)

13. Refer to Figure 4-20 and connect the drain to the steamer as described below:

- a. The steamer is supplied with a 1-inch pipe connection at the bottom of the drain tee.
- b. Size the drain in accordance with the requirements of Sections 4 and 5 (above).
- c. When assembling the pipes and fittings of the drain outlet extension, apply suitable pipe dope or teflon tape the threads, and thread them together FINGER TIGHT ONLY. DO NOT USE A WRENCH.



**Figure 4-20 Typical Drain Connection SteamChef™ (SteamChef™ 3 Shown)**

**M. Water Supply Requirements and Installation**

**1. Water Supply Requirements**

- a. Water Quality

Unlike most steam utilizing equipment, the water quality can vary significantly without major loss of performance of a SteamChef™ steamer. Even exceedingly hard, mineral laden water will not affect the operation of a SteamChef™ Steamer as long as it is cleaned with vinegar daily as outlined in Chapter 2, Section D.

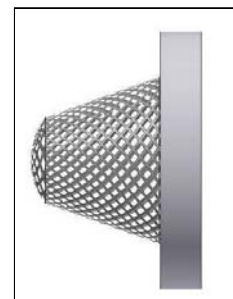
- b. Water Supply System

A potable water supply system must be available providing a minimum dynamic pressure of 35 psi (2.4 kg/cm<sup>2</sup>) and a maximum static pressure of 60 psi (4.1 kg/cm<sup>2</sup>).

**2. Install Water Supply Lines**

The installer/owner is responsible for the correct water connection of the unit. When connecting the water supply lines observe the following instructions and all national and local codes and regulations:

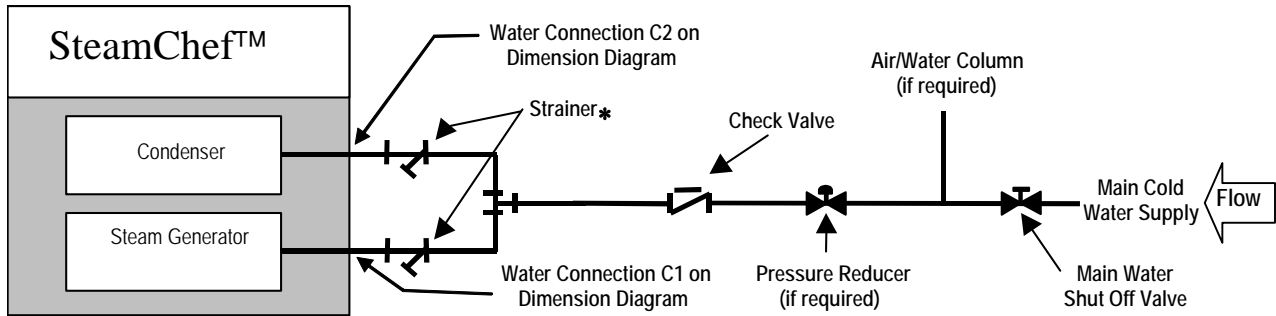
- a. Never connect the unit to HOT WATER. The condenser system of the steamer will not work properly if it is connected to HOT or WARM water.
- b. The water supply should have a minimum flow pressure of 35-psi (2.4 kg/cm<sup>2</sup>) and a maximum static pressure of 60-psi (4.1 kg/cm<sup>2</sup>). If the static pressure is above 60 psi, a pressure regulator must be used and set at approximately 50 psi. Pressure above 60 psi can damage the solenoid valves.
- c. The SteamChef™ steamers are supplied with two connection points for incoming water: one feeds the condensers and the other feeds the reservoir. Although, SteamChef™ Steamers are very tolerant of water conditions a customer may want to use conditioned water to supply the feed water to the reservoir. In the case of using a separate conditioned water supply, use the layout shown in Figure 4-22.
- d. Pay attention to the following requirements and recommendations when connecting the steamer to the water supply:
  1. Cleveland Range recommends the plumbing layout illustrated in either Figure 4-21, for installations using a single water supply or Figure 4-22 if a separate conditioned water supply is being used for the steam reservoir feed.
  2. If using a single water feed to the system the supply piping to the tee fitting should be of at least the next largest size of pipe to the connection provided at the steamer.
  3. The steamer has two 3/4-inch NHT fittings (National Hose Thread or Garden Hose Thread) for the water connections to the water reservoir and to the condenser. These fittings are detailed as **C1** and **C2** in Figure 4-1 or 4-2 as applicable. **NOTE:** The hose connector used must be NSF or FDA rated for food grade service.
  4. Install a manual water valve between the main cold water supply line(s) and the steamer supply lines.
  5. The National Sanitation Foundation (NSF) requires installation of a check-valve in all supply lines to prevent backflow in accordance with and as required by local plumbing codes.
  6. The water supply line(s) should be designed so that the unit can be moved for service.
  7. A Filter Washer (dirt filter) is supplied installed in each of the water inlets of this steamer (See Figure 4-23), Cleveland Range part number 110987.
  8. Construct all supply lines up to the point of installing the strainer.
  9. Flush the water supply lines before connecting the strainer.
  10. Apply pipe dope or Teflon tape to all threaded pipe connections EXCEPT National Hose Thread Connections.



**Figure 3-1 Filter Washer Assembly (P/N 110987)**

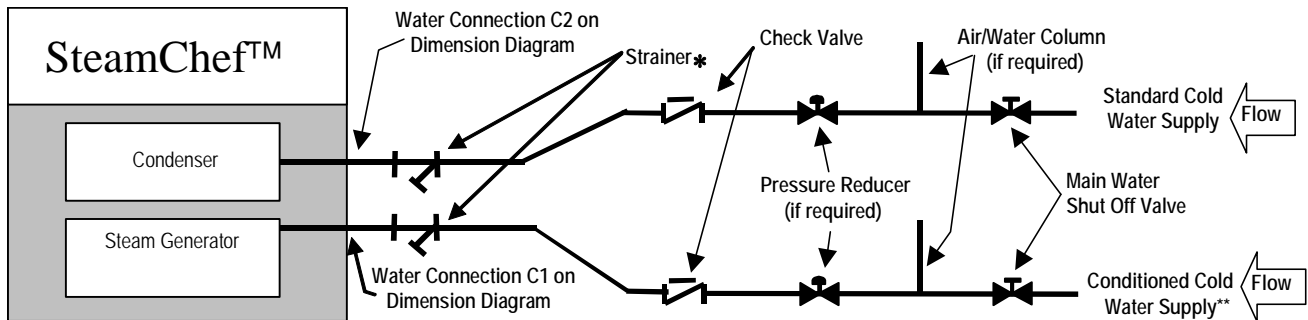
### 3. Testing Water Supply Lines

- a. Check all connections for proper tightness.
- b. Remove the control side panel to inspect water connections inside the steamer.
- c. Open the water supply valves.
- d. Check all lines and connections for leakage, both inside and outside the steamer.
- e. If Startup and Checkout will be performed next, leave the control side panel off; otherwise, replace the side panel.



**Figure 4-21 Cleveland Range Single Water Supply Arrangement**

\*The strainers for this unit are preinstalled in the water inlet



**Figure 4-22 Cleveland Range Separate Water Supply Arrangement when Using Separate Conditioned Feed Water Supply**

\*The strainers for this unit are preinstalled in the water inlet

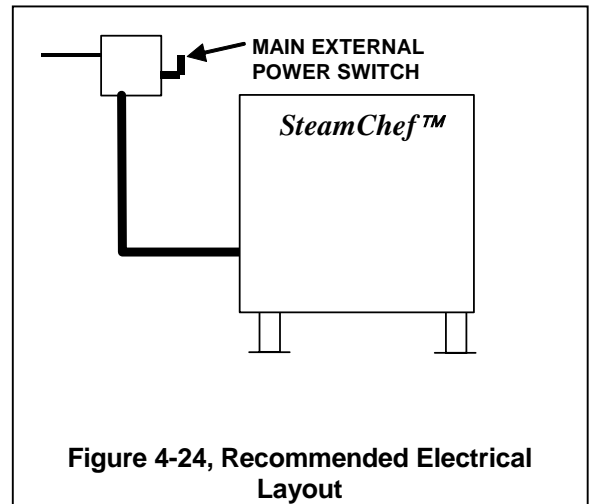
\*\* "Conditioned" indicates water that has been filtered or treated by a Cleveland Range approved method to meet or exceed the water quality standards listed in Chapter 2, Section D

## N. Install Electric Power Lines

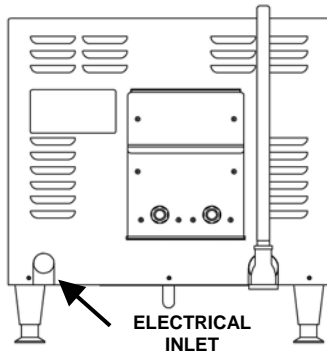
The electrical supply must match the power requirements specified on the steamers rating plate and be made in accordance with the following requirements:

1. The steamer must be grounded and have the electrical power lines installed in accordance with local codes and/or the National Electric Code, ANSI/NFPA No. 70-LATEST EDITION (USA) or the Canadian Electrical Code, CSA Standard C22.1 (Canada).
2. The wiring diagram is located on the back of the control-side removable side panel.
3. A main external disconnect switch should be installed near the unit as shown in Figure 4-24. See Table 4-1 for electrical wire size.
4. A separate fuse or breaker sized to meet the line amps required by the steamer (see Table 4-1) should be installed either as part of the main external power switch or in a separate fuse box.

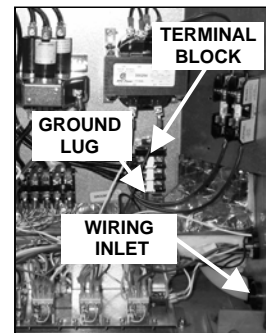
5. Throughout the remainder of this manual the fused disconnect switch is referred to as the main external power switch.
6. There should be a sufficient length of flexible conduit or Power Cord (if local codes permit it) between the steamer and the wall so the unit can be serviced. Mechanically secure the flexible conduit or power cord to the electrical access hole found at the rear of the steamer (Figure 4-25).
7. Refer to the wiring diagrams and Figure 4-26, and connect the wires to the terminal block and ground connector accordingly.
8. The steamer must be electrically grounded by the installer.



**Figure 4-24, Recommended Electrical Layout**



**Figure 4-25, Customer Electrical Connection Inlet**



**Figure 4-26, Electrical Connections**

**Table 4-1 Minimum Wire Requirements**

**3-Phase Units**

WATTS	VOLTS	PHASE	WIRES	CYCLE HERTZ	AMPS	SUPPLY CONNECTION WIRE SIZE (COPPER) *
6400	208	3	3	60	17.8	12
5440	220	3	3	60	14.3	14 (12 recommended)
6400	240	3	3	60	15.4	14 (12 recommended)
9400	208	3	3	60	26.1	10
7960	220	3	3	60	20.9	10
9400	240	3	3	60	22.6	10
13500	208	3	3	60	37.5	8
11300	220	3	3	60	29.7	8
13500	240	3	3	60	32.5	8

HEATER RATED VOLTAGE
208
240
240
208
240
240
208
240
240

**1-Phase Units**

WATTS	VOLTS	PHASE	WIRES	CYCLE HERTZ	AMPS	SUPPLY CONNECTION WIRE SIZE (COPPER) *
6400	208	1	2	60	30.8	8
5440	220	1	2	60	25	10
6400	240	1	2	60	26.7	10
9400	208	1	2	60	45.2	6
7960	220	1	2	60	36.1	8
9400	240	1	2	60	39.2	8

HEATER RATED VOLTAGE
208
240
240
208
240
240

\* For supply connection use only copper wire suitable for at least 75° C (167° F).

## O. STARTUP AND CHECKOUT

The Startup and Checkout procedure prepares a recently installed or repaired steamer for operation. The procedures check proper installation and electrical connection of the steamer, and verify basic steamer operation.

### 1. Installation Checkout

Use the Installation Checklist Table 4-2, to check the overall installation.

**Table 4-2. Installation Check List**

TASK	REFERENCE	COMPLETED
Preparation	Page No.	
Verify electric power requirements	45	
Check operating location clearances	31	
Verify Field Assembly of Unit	29	
Verify Field Assembly of Stand (if applicable)	34	
Installation		
Verify Steamer is Level	41	
Check drain line connection	42	
Check water supply connection	43	
Check electrical line connection	48	
Perform Startup and checkout	49	

### 2. Notes on installation:

## P. Operating Test and Final Checkout Procedure

- **This procedure should be performed only by a service technician or installer**
- Complete the Startup Procedure before starting the actual operating tests.
- Read and understand all steps of this procedure before starting
- This procedure will evaluate the function of all the major operating controls of a SteamChef™

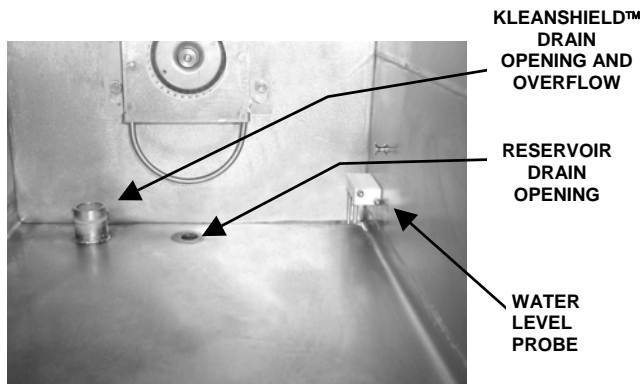
Please note that:

The Cleveland Range SteamChef™ steamer may be equipped with a manual dial timer control panel, a manual dial timer control with a hold feature, or an ON/OFF control panel. The Manual Dial Timer with hold is almost the same as the standard timer model with the addition of the hold mode.

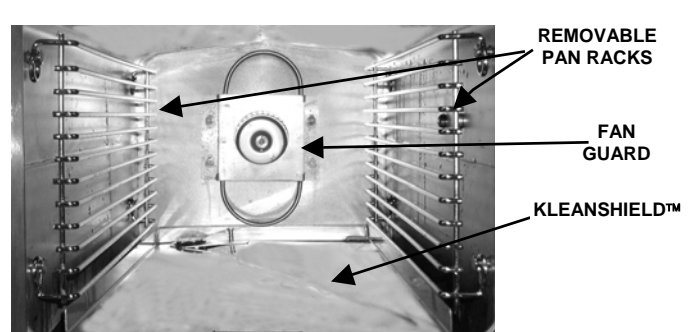
The ON/OFF works like the manual operation of the timer models except that a selector switch is used to turn the cooking function from the standby heat mode (OFF) to the cooking mode (ON).

### 1. Startup Procedure

- a. Set the ON/OFF Lever/switch to the OFF position and open the steamer door. There should be no water in the steamer.
- b. Remove the slide racks and KleanShield™ and check that neither the KleanShield™ nor reservoir drains are blocked (See Figure 4-27). Replace the KleanShield™ and pan racks™ (see Figures 4-16 and 4-18) and check for proper installation of the KleanShield™, fan guard, slide racks (See Figure 4-28), and door gasket assembly.



**Figure 4-27 Inspecting Compartment drains (SteamChef™ 3 Shown)**



**Figure 4-28 Inspecting Compartment Interior Accessories (SteamChef™ 3 Shown)**

- c. Refer to electrical layout, Figure 4-24, and Table 4-1. Be sure the main external power switch is in the OFF position. Verify installation of the proper size fuses or breakers.
- d. Remove the control side access cover.
- e. Check the internal wiring and make sure there are no loose or disconnected wires.
- f. Verify that the supply wiring is of adequate size and that the unit is properly grounded.
- g. Correct any deficiencies.

## **2. Drain Rinse Inspection (continue from Startup Procedure)**

- a. Turn ON the water supply to the steamer.
- b. Turn ON electric power to the steamer at the main external power switch. The steamer will immediately start a 3-minute drain rinse cycle. During the drain rinse cycle, the fill and drain valves are fully open while the steam generator drains are flushed with fresh water.
- c. Stop the drain rinse cycle before it is complete by setting the ON/OFF lever/switch to the ON position. This energizes the operating control circuits, the green Power ON and amber "SureCook" (Timer Models only) indicators on the control panel light, drain rinse stops, and the steam reservoir begins to fill with water.
- d. Restart the drain rinse cycle by setting the ON/OFF switches to the OFF position. During the automatic drain rinse cycle, make the following checks.
  - 1) The ON/OFF lever must be turned fully to the OFF position to START the proper drain rinse sequence.
  - 2) Look at the one-inch vent gap between the steamer drainpipe and the floor drain. A steady stream of water should be draining from the steamer.
  - 3) Check for plumbing leaks.
  - 4) After about 3 minutes, the cycle is complete. Check the gap at the steam drain; there should be no more water flow at this point.

## **3. Operating Tests and Final Checkout Procedure (Continue from drain rinse Inspection) (Sequence of Operation)**

- a. At the start of this test the controls should be set as follows:
  - 1) The main external power switch is ON.
  - 2) The ON/OFF lever/switch is OFF (The green and amber [timer models only] indicators on the control panels are not lit).
  - 3) The TIMED/MANUAL switch is in the TIMED position, or for ON/OFF models the ON/OFF compartment selector switch is in the OFF position.
  - 4) Set the compartment timer to zero, by turning the dial counter clockwise until it points to the 0 mark.
- b. Set the ON/OFF lever/switch to the ON position. As the steam reservoir fills with water, check the following functions.
  - 1) The green Power ON and amber "SureCook" indicator lights turn ON. The fill valve opens and water begins to fill the compartment reservoir.
  - 2) Immediately, water should begin appearing in the bottom of the compartment reservoir. Close the compartment door to close the door interlock circuit. As the water level in the compartment reservoir rises:
    - Check that no water flows from the drain opening.
    - Check for plumbing leaks in the control compartment.
- c. When the water in the steam generator reaches a safe operating level (which is the level of the lower probe), heating elements and the convection fan will come ON and the unit will begin warming up to the standby heat temperature. Open the door; the heating elements and convection fan will turn OFF.

- 1) Water continues to fill the generator and the water level in the reservoir continues to rise.
- 2) The water in the reservoir stops rising when water reaches the upper probe.
  - If the water level continues to rise above the tip of the higher probe, see the Operators Troubleshooting Guide in Chapter 3, Section B.
  - If the problem persists have a qualified service representative check the probe circuit.
- d. Close the compartment door to close the door interlock circuit.
  - 1) The heating elements and the convection fan will come back ON and the unit will begin heating to the standby heat temperature.
  - 2) The unit will continue to heating until the standby temperature is reached.
  - 3) When the standby heat temperature is reached, the “SureCook” indicator light and the convection fan will turn OFF, and the heating elements will be de-energized.
  - 4) If the unit is left in this mode the “SureCook” indicator, heating elements and convection fan will intermittently cycle ON and OFF as the controls maintain the standby heating temperature in the compartment.
- e. Set the TIMED/MANUAL switch to MANUAL or for ON/OFF Models set the switch to ON
  - 1) Steaming cycle starts.
  - 2) Check the following functions:
    - a) The heating elements, the condenser water and convection fan will turn ON and the water will begin to heat to steam. After a few seconds, a stream of water flows from the drainpipe.
    - b) After a few more minutes the compartment will reach the steaming temperature. The heating elements, condenser water and convection fan will continue to be ON for as long as the unit remains in manual (or ON for ON/OFF Control Models).
    - c) With the unit in manual cooking mode (or for ON/OFF Models, when the unit is ON) the unit will continue to operate at the cooking temperature for up to 60 minutes, or it is set to the timed cooking mode. After several minutes of steaming, check for steam leaks around the door gasket.

**NOTE:** That after 60 minutes of uninterrupted operation in the manual mode or for an ON/OFF unit left “ON” (continued operation without opening the doors, or switching the unit to the timed mode), the unit will automatically drop back down to the standby heating temperature. This is done to save energy and water, and maximize equipment-operating life. To return the unit to the cooking temperature, simply open and close the compartment door.
- f. As the unit continues to steam in Manual Cooking Mode, test the no-water/low water safety circuit.
  - 1) Close the manual water supply valves to the steamer.
  - 2) When the water level drops below the lower water safety cutoff point (the lower probe). The heating system (including the condenser water and convection fan) will automatically shutoff, and the production of steam will cease.
  - 3) Re-open the manual water supply valve to the steamer. The steamer’s controls automatically refill the steam reservoir with water to the safety level and the steamer resumes steaming.

- g. When the TIMED/MANUAL switch is set to TIMED (and the timer is zeroed), the steam generating cycle stops. Press the TIMED end of the TIMED/MANUAL switch.
    - 1) The heating elements and the condenser and convection fan will stop. The buzzer will sound for 3 seconds.
    - 2) Steam will stop being produced and the compartment will return to the Standby Heating Mode.
  - h. Open the cooking compartment door to vent the steam and allow the compartment to cool slightly. After 2 or 3 minutes, close the door and continue testing.
  - i. With the TIMED/MANUAL switch set to TIMED, set the timer for 10 minutes.
  - j. As soon as the dial is set, the steam generating cycle starts. This is the same sequence observed in step 15, except:
    - 1) The timer controls the cycle.
    - 2) The elapsed time to produce steam is shorter because the water in the steam generator and the cooking compartment were preheated during step 15.
    - 3) The timer automatically returns the unit to the standby heating temperature (as described in step 17) after counting down to zero.
  - k. After the timed operation has been started, observe the following steam generating functions.
    - 1) The heating elements and convection fan come on immediately.
    - 2) The “SureCook” indicator light may turn ON depending on compartment temperature.
    - 3) The “SureCook” indicator remains ON until the compartment reaches the minimum cooking/standby temperature, at which time the timer begins counting down to zero, and the “SureCook” indicator light turns OFF and the condenser will come ON.
    - 4) A small stream of water will flow from the drainpipe.
    - 5) As the unit generates steam, the water level fluctuates and a clicking sound is heard as the solenoid opens and closes the fill valve.
    - 6) Check for steam leaks around the door.
      - When the timer counts down to zero, the heating elements, the condenser flow and convection blower turn OFF, and the buzzer sounds for 3 seconds.
      - After about 30 seconds steam stops being produced.
  - l. For units equipped with the Holding feature, continue with step 4, for all other models go to step 5 and continue with the checkout procedure.
- 4. Holding Operation – Optional (Continue from Operating Tests and Final Checkout Procedure)**
- a. Open the door to the steamer to let it cool (approximately 5 minutes), and set the selector switch to the HOLD position.
  - b. Close the door to the steamer:
    - 1) The SURECOOK Indicator light will come on.
    - 2) The heating elements will come on, and begin heating the unit to the holding temperature.

- 3) The reading on the dial temperature indicator will begin to rise.
  - c. The temperature indicator will continue to rise, until the cabinet holding temperature is reached, at which time the following will occur:
    - 1) As soon as the holding temperature is reached, the heating elements will go off. The temperature shown on the dial indicator at this time is approximately 160°F.
    - 2) The temperature indicator will continue to rise after each heating cycle as residual energy from the heaters is absorbed into the system.
    - 3) As long as the unit remains in the Hold Mode the heating elements will continue to cycle ON and OFF and the dial temperature indicator will vary between 155°F and 170°F.
    - 4) Observe the heating and cooling cycle for one more cycle of heating and cooling. The temperature as measured by the indicator should remain within the green marking on the dial indicator.
      - This process will continue as long as the unit is left in the HOLD position of the selector switch.
      - Once proper temperature control is verified, proceed to step 5 - Shutdown of the Steamer.
- 5. Shutdown of Steamer (Continue from Operating Tests and Final Checkout Procedure or from Holding Operation depending on Model)**
- a. Turn the steamer OFF by turning the ON/OFF lever/switch counterclockwise to the OFF position. The green Power ON indicator light turns OFF immediately and the automatic drain rinse cycle starts. DO NOT turn OFF the power at the main power switch until the drain rinse is complete. The cycle takes about 3 minutes.
  - b. When the drain rinse is complete, turn the steamer OFF at the main external power switch.
  - c. Install the side panels and secure them in place
  - d. After completing the Startup and drain rinse Inspection procedure, and the Operating Test procedure; the steamer is ready for service.
  - e. Refer to Chapters 1 and 2 for complete operating and safety instructions.

## CHAPTER 5. STEAM COOKING GUIDE

### A. Introduction:

Steam cooking is an excellent way to prepare food. Steam provides an even, intense and penetrating heat so steam cooking is fast and convenient for large or small quantities. Food never burns, pans never boil over, and there is no lifting of water in pots or waiting for water to boil. Steam cooking saves money and time while maintaining high quality and consistency.

### **Seafood:**

Steamed fish is tender, succulent, flaky and table ready in minutes. Shellfish is cooked to perfection. Steam cooking gives you, the operator, precise portion control of expensive seafood products.

### **Vegetables:**

Steam cooking vegetables – fresh or frozen – on perforated pans provides colorful, flavorful, and vitamin packed servings in minutes. Just follow the recommended timer settings.

### **Meat:**

Steam cooked meat is tender, moist and flavorful and shrinkage is minimal. Stew meat, pot roasts, ham, and corned beef are wonderful when steam cooked. Meat steam cooked for sandwiches is moist, savory, and sliceable. Steam tenderizes poultry for stewing, barbecuing, frying, and other cooking methods.

### **Desserts:**

Prepare pudding and custard without scalding or scorching by steam cooking. Steam “baked” apples are ready in minutes, as are applesauce, and stewed fruit. Dried fruits rehydrate quickly and consistently.

Steam “Baked” Apples: Core apples and arrange in a shallow pan. Fill the apples with your favorite mixture of cinnamon, sugar, raisins, butter, brandy, etc. Steam for 3 minutes. If desired, brown slightly under a broiler to “finish.” Serve with cream or ice cream.

### **Additional Ideas:**

There are many applications for steam cooking besides vegetables and seafood:

- Eggs can be soft cooked, coddled, hard cooked, poached, scrambled, and made into custard or pudding. 25 dozen eggs can be hard cooked in 12 minutes using three 12” x 20” x 2½” perforated pans in one compartment of the steamer.
- Momentary steam blanching of fruits simplifies skin removal.
- Dumplings, steamed breads, muffins, hot cereal, pasta, noodle and rice can be prepared or rethermalized in the steamer.
- Beef and other meat, cooked by steaming, is moist, tender and flavorful. The meat drippings from the catch pan can be used to make gravy soups or clear stock, or as a salt free broth.
- Turkey, chicken and other poultry are tender, juicy when steamed then combined into a casserole, added to BBQ sauce, or browned under the broiler. Chicken wings can be breaded, steamed, then finished in the deep fryer. They are crisp, delicious, and juicy.
- Hot Dogs, sausages and other variety meats remain plump and juicy when steamed.
- Entrees such as lasagna, macaroni and cheese, or beef stew can be prepared from scratch. Frozen institutional packs can be reheated in the steamer. It is not necessary to cover them.

**B. SIZING UP PAN CAPACITY:**

**1. Serving Sizes – How Much? How Many?**

How to estimate portion size and number of servings from a standard steam table pan.

- A 12" x 20" x 2½" solid pan will hold 7½ quarts or 240 fluid ounces.

**Table 7-1 Serving Size**

240 Fluid Ounces Produces

<u>Portion Size</u>	<u>Number of Servings</u>	<u>Type of Product</u>
10 oz	24	Stew, Casserole, Lasagna
8 oz	30	Soup, Bisque
6 oz	40	Soup, Bisque
4 oz	60	Mashed Potatoes
2 oz	120	Sauce
1 oz	240	Sauce

- Number of servings of cooked vegetables from one 12" x 20" x 2½" perforated pan.

Frozen Vegetable Yields:

10.0 lbs	Approx. 50-3 oz servings
7.5 lbs.	Approx. 35-3 oz servings
5.0 lbs.	Approx. 25-3 oz servings

**2. Reference Chart for Typical Pan Capacities**

Size in Inches	Quarts	Fluid Ounces	Pounds
12 x 20 x 1 ¼	3 ½	112	2
12 x 20 x 2 ½	7 ½	240	8
12 x 20 x 4	14 ½	464	10

### C. CONVECTION STEAMER – SUGGESTED TIMER SETTING GUIDELINES FOR TIMER CONTROLS WITH THE COMPENSATING THERMOSTAT (see Note)

Timer settings are approximate due to the differences in food quality, age, shape and the degree of doneness desired. Perforated pans are recommended. Starred items (\*) must be cooked in solid pans. Items marked with two stars (\*\*) require handling in two steps: 1) steam for approximately ½ the time shown, 2) remove from steamer, separate thawed portion, or stir, and return to steamer for the time remaining. The compensating feature of the timer allows the cooking compartment to reach temperature before the preset time starts to count down. **Note:** Times may need to be increased slightly when using external timers to track cooking times.

VEGETABLES:	Fresh	Frozen		Fresh	Frozen
Artichoke	12				
Asparagus, spears	6	6			
Beans, green, 2" cut	6	5			
French cut	4	5**			
Whole	6	4			
Broccoli, spears	4-6	3-4			
Florettes	3	1-2			
Chopped		6-8			
Brussels sprouts	4-5	4			
Cabbage,	4				
whole to remove					
leaves for cabbage rolls					
Carrots-baby whole	7	6			
Sliced,	4	3			
Cauliflower,					
Florettes	5	3-4			
Whole	10				
Corn, yellow, whole		2			
On cob,	5	12**			
Cobbettes	6	12**			
Mixed Vegetables	3-6	3-4			
Mushrooms,					
Whole 1½"	3				
Sliced	1				
Onions, diced, sliced	2-3	1			
Whole	4	2			
Peas, green		3			
Potatoes, whole 8 oz.	20-25				
Peeled, quartered,	15-19				
Fresh peeled, diced	8-10				
Potatoes, sweet, whole	20-30				
Spinach leaf, whole	2	15**			
Chopped		15**			
Squash, acorn halves	6				
Butternut, quartered	6				
Spaghetti squash, halves		15-18			
Tomatoes, whole, sliced*		1			
Turnips, whole	20-25				
Zucchini, sliced	2-4				
			<b>SEAFOODS:</b> Steam all seafood on a perforated pan with catch pan		
			Clams in shell	3-5	
			Cod fillets, 6 oz. Portions	6	8
			Crab legs, king		6-8
			Snow crab		4-6
			Crab, live, 4 oz. 3/4 - 1 lb.	12	
			Halibut, 6-8 oz.	4-6	6-8
			Lobster, whole, 1 lb.	6	
			Lobster tails, frozen, 8 oz. Defrosted, butterflied	4-6	12
			Mussels in shell	5	
			Oysters in shell	2-4	
			Red snapper, 8 oz.	4-5	4-5
			Salmon steak, 8 oz.	6	7
			Shrimp, 10 ct. per lb.	3	4-6
			<b>EGGS (Medium Sized):</b>		
			Hard cooked for egg		
			Salad, potato salad	11	
			Soft cooked	3	
			Coddled	6	
			Scrambled*	7-10**	
			<b>FRUITS:</b>		
			Blanch for peeling		
			Fresh: Avocado	1	
			Grapefruit	1	
			Orange	1	
			Apricot	1	
			Dried: add water to re-hydrate		
			Apple	10	
			Apricot	10	
			Peach	10	
			Pear	10	
			Prune	10	

**MEATS & POULTRY:**

Cook meats and poultry in nested pans. Juices can be used for gravy, sauces, beef stock and soups. Portion size, thickness, and grade should be considered when selecting a timer setting for doneness.

POULTRY:	Fresh	Frozen
Turkey, whole	6-8 min./lb.	6-8 min./lb.
Chicken halves, 1¼ -1½lb. per half	20-24 min.	
Breast, boneless, skinless	10-12 min.	

PORK, SAUSAGE, HOT DOGS:	Fresh	Frozen
Pork, Chop, 4 count/lb.	10 min.	
Italian sausage, 4 oz.	10 min.	
Ribs, 3lb. and down	30 min.	
Hot-dogs, 8 count/lb.	5 min.	10

BEEF:	Fresh	Frozen
Cubes, 1 1/2"	6-7 min./lb.**	6 min./lb.**
Ground chuck for chili	6 min./lb.**	4-6 min./lb.**
Pot-roast, choice	8-12 min./lb.	
Rump roast, choice		
Boned, rolled, tied	12 min./lb.	
Meat loaf, 4lb. Loaf	5 min./lb.	
Corned beef, 6-8lb. cut, add 1/2" water to pan	20-23 min./lb.*	

**STEAKS: :**                      Fresh                      Frozen

Using a 3/4" to 1" steak, the steaming time listed below produces a "rare" steak. A "well done" steak is first steamed to the "rare" stage, then broiled or grilled for 1 1/2 minutes on each side. This "well done" steak shrinks less, is more tender and juicy; and, when served, is the same size as the "rare" steak.

STEAKS: :	Fresh
Sirloin Chopped 8 oz	4 min.
Ribeye, 8 oz.	4 min.
Sirloin steak 6 oz.	4 min
8 oz.	6 min.
Filet Mignon	
4 oz.	3 min.
6 oz.	3-4 min.
8 oz.	4 min.
10 oz. butterflied	5 min.
16 oz. butterflied	8.min

Strip steak -	10-oz.	5 min.
	12 oz.	7 min.
T-bone	12 oz.	5 min.
	16 oz.	8 min.
	18 oz.	8 min.
	22 oz.	10 min.

PREPARED ENTREES:	Fresh	Frozen
Full Size Pans		
Cabbage rolls, stuffed*	30 min.	30 min.
Cover with tomato Sauce & serve		
Casserole dishes*		
Beef Stew	30min.	60 min.
Stroganoff	30 min.	60 min.
Lasagna* fresh	30 min.	60 min.
Reheat serving	6-8 min.	12 min.

RICE & BEANS:	
Rice, long grain	
4 cups cold water/lb.	17 min.
Beans, pre-soaked overnight,	
1 lb. Beans = 1 ¼ qt. Water	45 min.
Beans* unsoaked,	
1 lb. Beans x 1 ½ qt. water	2 ½ Hours
Refried beans, 2-#10 cans	15-17 min.

**PASTA:**  
 Steam in nested pans. Place pasta on 2 ½" perforated pan inside a solid 2 ½" pan. Cover pasta with cold water.

Egg noodles, 1 ½" wide	4-6 min. **
Lasagna noodles	10-12 min.**
Macaroni, shells, elbow	10-12 min.**
Penne	10 min**
Rigatoni	10 min. **
Spaghetti, vermicelli	8 min.**
Spaghetti, regular	8 min.**

## **D. STEAMING TIPS - LOBSTER - CRAB**

### **1. Live Lobster and Crabs**

- a. Live lobsters and crabs are steamed according to the time on the Suggested Timer Setting Guide.
- b. Steam them on a perforated pan with a catch pan (a solid pan) on a lower pan slide. Discard the juices and non-edible matter collected during steaming.

### **2. Lobster Tail 8 oz.**

- a. To serve in a shell, cut the frozen lobster tail in half, lengthwise. Place the cut side up on a perforated pan. Steam 5-6 minutes or until the meat turns opaque white. Season and garnish to serve.
- b. To serve a butterfly lobster tail, thaw tail, cut top shell length-wise all the way to the tail fins. Spread shells apart and pull meat out. Close empty shell and lay meat on top of shell. Steam according to Suggested Timer Setting Guide.

### **3. King Crab Legs**

- a. Pre-cooked, frozen: steam just long enough to heat through.
- b. Serve either whole or cut into 3 sections.

## **E. USING THE HOLD MODE (OPTIONAL):**

The HOLD mode allows the operator to keep food warm, fresh and safe for long periods without reducing its quality. When in the HOLD mode, the SteamChef™ steamer automatically maintains the inside of the cooking compartment at a minimum temperature of 155° F without a loss in food quality or taste. Use the Hold Mode for:

- Keeping foods warm after it has been cooked in either the TIMED or MANUAL modes.
- Keeping foods cooked in other equipment warm and fresh.

NOTE: Although food will remain safe in the holding mode for long periods, holding foods too long can reduce its quality. The maximum recommended time food can be held without a reduction in food quality is about one hour, but this may vary depending on food type. Use your suppliers' recommendations and industry standards to determine safe and appropriate hold temperatures and times.



