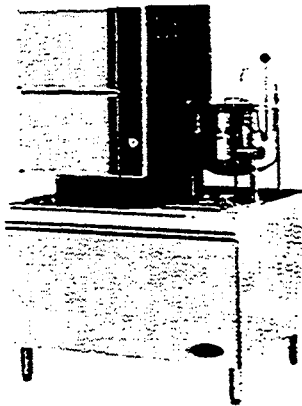


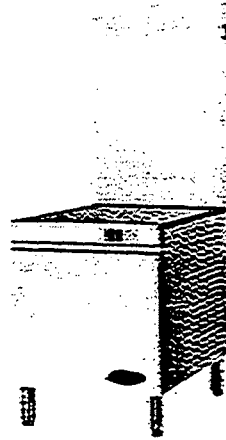
# INSTALLATION INSTRUCTIONS

for

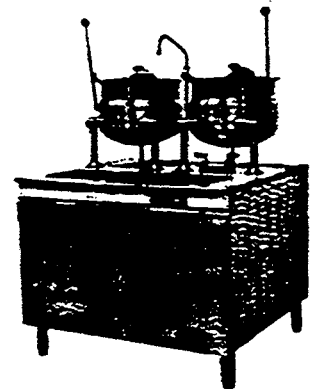
## **STEAMERS, STEAMER/KETTLES, MODULAR BOILER BASES, and KETTLES ON BOILER BASES**



**CONVECTION  
STEAMER  
with KETTLE**



**MODULAR  
BOILER  
BASE**



**KETTLES ON  
BOILER BASE**

**Cleveland Range, Inc.**

**UNITED STATES**

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Phone: (216) 481-4900 • Telex: 98-0546 • FAX: (216) 481-3782  
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# INSTALLATION INSTRUCTIONS FOR STEAMERS, STEAMER/KETTLES, MODULAR BOILER BASES, and KETTLES ON BOILER BASES

## FOR YOUR SAFETY

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

## WARNING

Installation of this equipment must be accomplished by qualified installation personnel, working to all applicable local and national codes. Improper installation of this product could cause injury or damage.

Cleveland Range equipment is designed and built to comply with applicable standards for manufacturers. Included among those certification agencies which have approved the safety of the equipment design and construction are: UL, A.G.A., NSF, ASME, CSA, CGA, and others.

Cleveland Range equipment is designed and certified for safe operation only when permanently installed in accordance with local and/or national codes. Many local codes exist, and it is the responsibility of the owner and installer to comply with these codes.

In no event shall Cleveland Range assume any liability for consequential damage or injury resulting from installations which are not in strict compliance with our installation instructions. Specifically, Cleveland Range will not assume any liability for damage or injury resulting from improper installation of equipment, including, but not limited to, temporary or mobile installations.

## INSTALLATION INSTRUCTIONS FOR ALL MODELS

1. These instructions must be retained by the owner/user for future reference. Gas-fired boilers are only to be installed in noncombustible areas that have provisions for adequate air supply. The term "boiler" will be used synonymously with "steam generator."

## WARNING

The flooring that will be directly under the boiler, must also be made of a noncombustible material.

2. Position: For proper operation and drainage, the equipment must be level. It should be placed next to an open floor drain. **DO NOT POSITION THE UNIT DIRECTLY ABOVE THE FLOOR DRAIN.** Observe all clearance requirements to provide air supply for proper operation, as well as sufficient clearance for servicing. The surrounding area must be free and clear of combustibles. Dimensions and clearance specifications are shown on the specification sheet.
3. Install in accordance with local codes and/or the National Electric Code ANSI/NFPA No. 70-1987. Installation in Canada must be in accordance with the Canadian Electrical Code CSA Standard C22.1. Equipment that is connected to electricity must be grounded by the installer. A wiring diagram is provided inside the base cabinet.
4. The drain line outlet discharges exhaust steam and hot condensate. Connect 1½" IPS piping (or larger) to extend the drain line to a nearby open floor drain. Up to two elbows and six feet of 1½" IPS (or larger) extension pipe should be connected to the drain termination. Drain piping extended six to twelve feet, or using three elbows, should be increased to 2" IPS. No more than two pieces of Cleveland Range equipment should be connected to one common drain line. The maximum length of extension from the drain termination should not exceed six feet and use no more than two elbows. The extension piping must have a gravity flow and vent freely to the air. This drain outlet must be free-vented to avoid the creation of back pressure in the steamer cooking compartments. To ensure a vented drain line, **DO NOT, UNDER ANY CIRCUMSTANCES, CONNECT THE DRAIN OUTLET DIRECTLY TO THE FLOOR DRAIN OR SEWER LINE.** Do not run the drain line discharge into PVC drain piping or any other drain piping material not capable of sustaining 180°F operation.

**FAILURE TO OBSERVE THESE REQUIREMENTS CAN RESULT IN DAMAGE TO EQUIPMENT AND/OR THE POSSIBILITY OF INJURY.**

*(Continued on next page)*

- Direct-steam connected pressure steamers do not require a cold water connection, and therefore steps #5 and #6 do not apply. Refer directly to step #7. A kettle fill faucet, if so equipped, requires a hot and/or cold water connection. The data contained in step #5 for cold water also applies to hot water.
- 5. Connect COLD water supply plumbing to the line strainer. (Never connect hot water to the boiler's water fill line strainer). Constant flow pressure must be maintained between 35 and 60 psi, and not experience a pressure drop below 35 psi when other appliances are used. If the water pressure exceeds 60 psi, a pressure reducing valve must be installed in the water supply plumbing to reduce the water pressure to less than 60 psi. Locations and pressure data are shown on the specification sheet. ¼" IPS plumbing is sufficient for water supply lines up to 20 feet in length, but water supply lines longer than 20 feet should be at least ⅜" IPS. Flush water supply lines thoroughly before connecting them to the unit. Use water which is low in total dissolved solids content and low in gas content to prevent internal scaling, pitting and corrosion of the steam generator, and carry-over of minerals into the steam. Water which is fit to drink can still contain highly detrimental impurities.

**NOTE:** If equipped with a kettle and kettle water fill swing spout, ⅜" (10mm) hot and/or cold water connection(s) will be required at the swing spout's valve.
- 6. Turn on the cold water supply to the unit. Ensure that the manual water valve, inside the base cabinet, is open.
- 7. Connect the primary fuel supply in accordance with the following instructions. Location and other data are shown on the specification sheet.

#### **For Gas-Fired Steam Generators:**

Post, in a prominent location, instructions to be followed in the event the user smells gas. This information shall be obtained by consulting the local gas supplier. Install a sediment trap (drip leg) in the gas supply line, then connect gas supply piping to the boiler's gas valve piping. **GAS-FIRED EQUIPMENT IS DESIGNED FOR INSTALLATION ONLY IN NON-COMBUSTIBLE LOCATIONS. THIS INCLUDES THE FLOORING THAT WILL BE DIRECTLY UNDER THE EQUIPMENT.** Location, plumbing size, and pressure data are shown on the specification sheet. Boilers rated at less than 225,000 BTU require ¾" IPS gas supply piping, and boilers rated at 225,000 BTU or more require 1" IPS gas supply piping. Natural gas supply pressure must be between 4" - 14" water column, and L.P. gas supply pressure must be between 12" - 14" water column. **NEVER EXCEED 14" WATER COLUMN (½ psi) GAS PRESSURE.** If the gas supply pressure exceeds 14" water column, a pressure regulating valve must be installed in the gas supply plumbing to reduce the gas pressure to less than 14" water column. Installation must be in accordance with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-1984. Installation in Canada must be in accordance with Installation Codes for Gas Burning Appliances and Equipment B149.1 and B149.2. Use a gas pipe joint compound which is resistant to LP gas. Turn the gas valve's control knob to "on" (the word "on" on the knob will be opposite the index on the valve's body). Test all pipe joints for leaks with soap and water solution. Never obstruct the flow of combustion and ventilation air. Observe all clearance requirements to provide adequate air openings into the combustion chamber. The appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ psi (14" water column or 3.45 kPa). The appliance must be isolated from the gas supply piping system at test pressures equal to or less than ½ psi (14" water column or 3.45 kPa). A permanent 115 volt electrical connection is required at the junction box. The junction box location is shown on the specification sheet. The unit must be electrically grounded by the installer.

#### **For Electric-Powered Steam Generators:**

Connect electric power: location and data are shown on the specification sheet. Provide connection as required by your unit; either directly to the single contactor, or to the terminal block (when equipped with multiple contactors). Electric supply must match power requirements specified on the data plate inside the base cabinet. The copper wiring must be adequate to carry the required current at the rated voltage. A separate fused disconnect switch must be supplied and installed. The unit must be electrically grounded by the installer.

#### **For Steam Coil Steam Generators:**

Connect steam supply piping to the input side of the steam coil. Location and pressure data are shown on the specification sheet. Incoming steam pressure must be regulated between 35 and 45 psi. A ¾" strainer, equipped with a 20 mesh stainless steel screen, must be supplied and installed at the incoming steam connection point. Flush the steam line thoroughly before connecting it to the boiler. To ensure an adequate volume of steam, the branch steam supply line must be ¾" IPS minimum. Connect the inverted bucket trap to the outlet end of the steam coil. Fill the trap with water before installing it. A permanent 115 volt electrical connection is required at the junction box. The junction box location is shown on the specification sheet. The unit must be electrically grounded by the installer.

#### **For Direct-Steam-Connected Steamers/Kettles:**

Connect steam supply piping to the input side of the line strainer. Location and pressure data are shown on the specification sheet. Flush the steam line thoroughly before connecting it to the steamer. To ensure an adequate volume of steam, the branch steam supply line must be ¾" IPS minimum. (Direct-steam-connected kettles require ½" IPS pipe if the kettle's total capacity is 20 gallons or less, and ¾" IPS pipe if the total capacity exceeds 20 gallons.) A permanent 115 volt electrical connection is required at the junction box. The junction box location is shown on the specification sheet. The unit must be electrically grounded by the installer. (Note: pressure steamers equipped with strictly manual steam and drain valves do not require an electrical connection.)

*(Continued on reverse side)*

(Continued)

8. Press the top of the power on-off rocker switch. The red indicator light in the switch will come on and the boiler will begin to fill with water.
  - Direct-steam-connected steamers are not equipped with self-generating boilers or "steam" switches. Therefore, these models do not require the 5-minute boiler water fill time, nor is it necessary to push a "steam" switch to produce steam, as indicated in step #9. As soon as the pressure gauge on the control panel registers 10 psi (5 psi for pressure steamers), preheating may begin. If you are operating a direct-steam-connected steamer, steps #9 and #10 do not apply. Refer directly to step #11.
  
9. After about five minutes, the amber light in the "steam" switch will glow, indicating the water has reached a safe operating level in the boiler. The "steam" switch can now be pressed (momentarily) in order to produce steam in the boiler. This will activate the energy source (electric heaters, gas burners, or steam solenoid valve), and the amber light will go out. The energy source cannot be activated until the boiler contains sufficient water, indicated by the amber light. The "steam" switch must be pushed to re-start the steamer after it is shut off for any reason (including a momentary power interruption). Do not attempt to start or operate this appliance during a power failure. Whenever the amber light is illuminated, the heater, steam supply, or burners are off, and no steam is being generated. (Note: for units containing gas-fired boilers only: if the burners fail to ignite in four seconds, a safety circuit will de-energize the system. In this event, momentarily press the power switch to the "off" position, then back to the "on" position. The "steam" switch amber light should be on. Wait 5 minutes, then press the "steam" switch to start the burner ignition cycle once again.)
  
10. Check to ensure that the water in the boiler's sight gauge glass automatically stays about 1/3 full when the boiler is started up and operated.
  
11. Check to ensure that the steam pressure gauge registers 10 psi (5 psi for pressure steamers).
 

The steam pressure is factory-adjusted to provide the proper pressure. In some cases, however, the factory setting may shift due to shaking in transit, and resetting will be required after installation. Proper adjustments and maintenance procedures are detailed on a separate data sheet entitled "Steam Pressure Adjustments." Adjustments should be made only by qualified service personnel. The factory pressure settings shown in the accompanying chart should never be exceeded.
  
12. When the installation is complete and free of leaks, refer to the Operating Procedures page, in order to check for proper operation of the unit.

Equipment	GAUGE PRESSURE READING WITH NO STEAM FLOW (STATIC PRESSURE)							
	Self-Contained Steam Generator Gas or Electric			Self-Contained Steam Coil Generator			Direct-Connect (To "House" Steam Supply)	
	Steamer's Pressure Reducing Valve	Operating Pressure Switch	High Limit Safety Pressure Switch	Operating Pressure Switch	High Limit Safety Pressure Switch	Steam Supply Pressure Range	Steamer's Pressure Reducing Valve	Steam Supply Pressure Range
Steam Generator Only 5 psi	N/A	5 psi	10 psi	5 psi	10 psi	30-45 psi	N/A	N/A
Pressure Steamer	N/A	5 psi	10 psi	5 psi	10 psi	30-45 psi	5 psi	12-45 psi
Pressure Steamer With Any Kettle(s)	5 psi	10 psi	15 psi	5 psi	10 psi	*30-45 psi	5 psi	12-45 psi
Steam Generator Only 10 psi	N/A	10 psi	15 psi	10 psi	15 psi	30-45 psi	N/A	N/A
Kettle Only — All	N/A	10 psi	15 psi	N/A	N/A	N/A	N/A	5-45 psi
Convection Steamer With or Without Kettles	N/A	10 psi	15 psi	10 psi	15 psi	*35-45 psi	10 psi	15-45 psi

\*Kettles are to be connected to the "house" steam supply.

## CLEVELAND CONVECTION STEAMER (MODEL C) OPERATING INSTRUCTIONS

Operation of the Cleveland Convection Steamer is very easy. Each operator should read and understand the following procedures to effectively start, operate, and shutdown the steamer each day.

### Start-up and Preheat:

1. Check the cooking compartments to ensure that the steam tubes and drain screens are in place and secure. Check inside the steamer's base cabinet to ensure that the manual drain valve is closed and the manual water supply valve is open.
2. Press the top of the power on-off rocker switch located at the lower left of the control panel, under the steam pressure gauge. The red indicator light in the switch will come on and the boiler will begin to fill with water.
  - Direct-steam-connected steamers are not equipped with self-generating boilers or "steam" switches. Therefore, these models do not require the 5 minute boiler water fill time, nor is it necessary to push a "steam" switch to produce steam, as indicated in step #3 below. As soon as the pressure gauge on the control panel registers 10 psi, preheating may begin. If you are operating a direct-steam-connected steamer, "skip" step #3, and refer directly to step #4.
3. After about five minutes, the amber light in the "STEAM" switch will glow, indicating the water has reached a safe operating level in the boiler. The "STEAM" switch can now be pressed (momentarily) in order to produce steam in the boiler. This will activate the energy source (electric heaters, gas burners, or steam solenoid valve), and the amber light will go out. The energy source cannot be activated until the boiler contains sufficient water, indicated by the amber light. The "STEAM" switch must be pressed to re-start the steamer after it is shut off for any reason (including a momentary power interruption). No attempt should be made to operate the equipment during a power failure. Whenever the amber light is illuminated, the heaters, steam supply, or burners are off, and no steam is being generated. (Note for steamers containing gas-fired boilers only: If the burners fail to ignite in four seconds, a safety circuit will de-energize the system. In this event, momentarily press the power switch to the "off" position, then back to the "on" position. The "STEAM" switch's amber light should be on. Wait 5 minutes, then press the "STEAM" switch to start the burner ignition cycle once again.) In about 20 minutes the steam pressure gauge on the control panel should register 10 psi.
4. You can now preheat the cooking compartment(s). Cooking compartments should always be preheated before cooking.
 

NOTE: With a steamer/kettle combination, if both must be used at the same time, always heat the kettle first. When kettle contents begin to simmer, and steam pressure returns, the steamer compartments may be preheated.
5. To preheat, close the compartment door by gently swinging it shut. Set the electronic digital timer for one minute, in accordance with the following timer setting instructions. It will be several minutes before the time display begins to count down. When the preheating is completed, the steam will automatically shut off and a four second alarm will sound.

### Timer Setting:

Each Convection Steamer compartment is equipped with an independent electronic digital timer, which has a maximum setting of 99 minutes. Each timer is connected to a temperature sensing device in the cooking compartment. THIS SENSOR WILL ALLOW THE TIMER TO COUNT DOWN ONLY WHEN THE INTERNAL COMPARTMENT REACHES PROPER COOKING TEMPERATURE. This assures uniformity in the cooking times the operator will use, as the timer automatically compensates for food product defrosting and/or heat-up time.

The timer can be set when the "COOKING TIME" display shows "00" (double zeros) which are illuminated continuously (not flashing). The two small, square pads below the timer display are pressed to set the timer. Press  to set one to nine (and zero) minutes for units digits (single minutes). Press  to set ten to ninety minutes for ten's digit (multiples of ten minutes). Pressing continuously on either pad causes the digits to change at a rate of 2 digits per second. If you pass the correct digit, continue pressing the pad. The display will cycle from "9" back to "0," then continue upward again.

The timer is activated (and steam enters the cooking compartment) when the "START/cancel" pad is pressed. Red L.E.D. lights glow in the upper-left corner of the pad and the lower-right corner of the time display when the timer is activated. REMEMBER, THE TIMER WILL BEGIN TO COUNT DOWN ONLY AFTER THE COMPARTMENT REACHES PROPER COOKING TEMPERATURE. When the timer is counting down, the red L.E.D. light continuously flashes on and off at the lower-right corner of the display. Once the pre-set time has counted down to zero, an alarm will sound for four seconds, and the timer display will continuously flash "00" until the "start/CANCEL" pad is pressed.

Once the timer is activated, the time cannot be changed unless the "start/CANCEL" pad is pressed. Once pressed, the pad's L.E.D. will go out, any remaining time in the timer will be cancelled, and the display will show "00" — not flashing. A new time setting can now be entered into the timer display.

EXAMPLE: To cook for 14 minutes: Press the "start/CANCEL" pad to be sure the timer display shows "00" and is not flashing. Press the  pad, then release it when the "1" appears in the display. Press the  pad, and release it when the "4" appears in the display. Press the "START/cancel" pad to start the timer (note the illuminated red L.E.D.'s in the pad and the time display). When the display counts down to zero, a four second alarm will sound, and the display will flash "00" (the L.E.D.'s will go out). Press the "start/CANCEL" pad to reset the timer, shown by continuously illuminated "00" in the display (not flashing).

### Automatic Cooking Operation:

To cook, place a pan of food in the compartment, set the desired cooking time, and press the "START/cancel" pad. The timer will delay, automatically compensating for defrosting and/or food product heat-up time. If you have set the timer at 10 minutes, it may in fact take 11 or 12 minutes for the set time to expire and the alarm to sound. This is normal; the additional time was used to heat the compartment and food product to cooking temperature. When the display counts down to zero, the four second alarm will sound, and the display will flash "00" (the L.E.D.'s will go out). Press the "start/CANCEL" pad to reset the timer, shown by continuously illuminated "00" in the display.

### Manual Cooking Operation:

If a cooking cycle longer than 99 minutes is desired, do not use the timer. Just press the "MANUAL OPERATION" pad, located below the timer, to start the flow of steam. You must press the pad again to shut off the steam. A red L.E.D. light in the upper-left corner of the pad illuminates when the manual mode is activated, and steam is flowing into the cooking compartment. THE TIMER CAN BE USED DURING THIS TIME. IT WILL OPERATE AS STATED, EXCEPT IT WILL NOT TURN OFF THE STEAM AFTER THE ALARM SOUNDS.

The door may be opened for food inspection anytime during the cooking cycle, but KEEP HANDS OUT OF THE COOKING COMPARTMENT TO PREVENT BURNS. Optimum steam heat transfer, and therefore a higher quality food product, is achieved when shallow, perforated, uncovered pans are used.

### Boiler Shutdown:

The red-lighted power switch must be shut off for 3 minutes a minimum of once every 8 hours to automatically drain highly mineralized water from the boiler, which reduces the formation of scale.

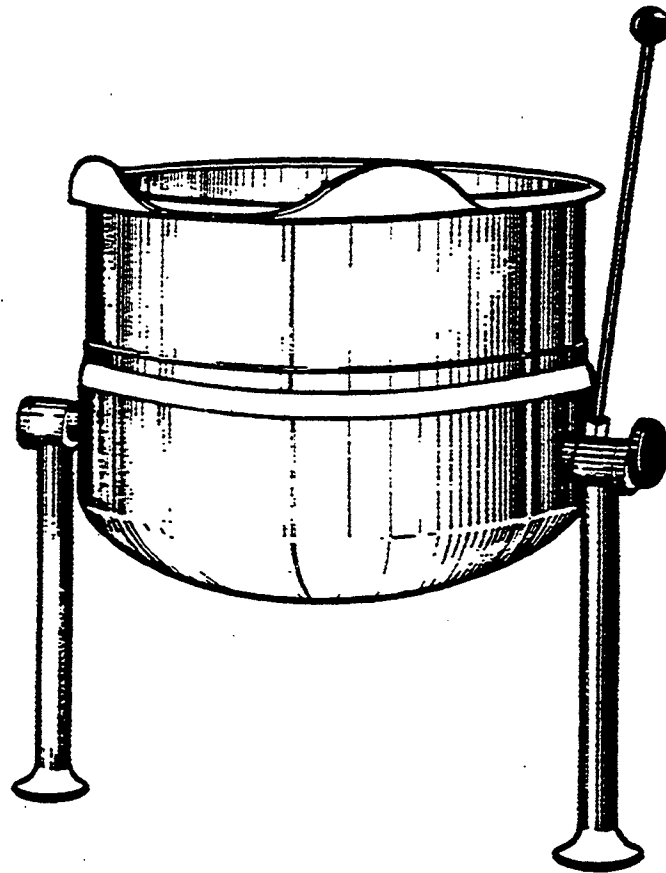


# CLEVELAND

## INSTALLATION, OPERATION AND REPAIR MANUAL

### TABLE - TOP DIRECT STEAM KETTLE

MODEL # KDT - T



SE95008 - 1

CLEVELAND RANGE INC.  
1333 East 179th St.  
Cleveland, Ohio  
U.S.A. 44110

(216)481-4900

## 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 ever 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, TIGHTEN LOOSE FITTINGS, MINOR ADJUSTMENTS, MAINTENANCE, CLEANING OR DESCALING.

The standard labor warranty allows factory payments of reasonable labor required or replace such defective parts. Cleveland Range will not reimburse the expense of labor required to repair or replacement of parts after the standard warranty period, unless a 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 manufactures, including UL, A.G.A., NSF, ASME/Ntl. Bd., CSA, CGA, ETL, 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 Requirements below). THE USE OF POOR QUALITY FEED WATER WILL VOID EQUIPMENT WARRANTIES. Boiler maintenance supplies, including boiler hand 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 every 90-120 days for Boiler Proration Program consideration.

### WATER QUALITY REQUIREMENTS

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 DESIGNED 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.

## INSTALLATION INSTRUCTIONS FOR DIRECT STEAM KETTLES

**WARNING:** Installation of kettle must be accomplished by qualified installation personnel, working to all applicable local and national codes. Improper installation of product could cause injury or damage.

This equipment is built to comply with applicable standards for manufacturers. Included among those approval agencies are: UL, NSF, ASME/NtLBd, CSA, ETL, and others. Many local codes exist, and it is the responsibility of the owner and installer to comply with these codes.

### INSPECTION

Before unpacking visually inspect the unit for evidence of damage during shipping. If damage is noticed, do not unpack the unit, follow shipping damage instructions.

### SHIPPING DAMAGE INSTRUCTIONS

If shipping damage to the unit is discovered or suspected, observe the following guidelines in preparing a shipping damage claim.

1. Write down a description of the damage or the reason for suspecting damage as soon as it is discovered. This will help in filling out the claim forms later.
2. As soon as damage is discovered or suspected, notify the carrier that delivered the shipment.

3. Arrange for the carrier's representative to examine the damage.
4. Fill out all carrier claims forms and have the examining carrier sign and date each form.

### INSTALLATION

The first installation step is to refer to the specification sheet for clearance requirements, in order to determine the location of the kettle. Next, carefully cut open the shipping carton for easy removal of the kettle.

### ASSEMBLY

#### KDT-T SERIES (Table-Top Models)

Table-top models must be positioned on a firm stand or existing counter top, and secured in place. An optional modular cabinet base, with level-adjustable legs, is available. Make two 3/4" holes, for the kettle legs, in a cabinet or countertop. Remove the leg mounting locknuts from the kettle's legs and install the legs into the two 3/4" holes. Secure the kettle to its base by refastening the locknuts from underneath the cabinet or countertop. Place a carpenter's level on the kettle rim and level the cabinet. Once the kettle is secure, screw the tilt handle into the mounting block welded to the side of the kettle.

## INSTALLATION

### OF SERVICE CONNECTIONS

Install service connections as required. Locations and other data are shown on the specification sheet.

#### STEAM

All steam plumbing to and from the kettle and steam boiler should be thoroughly cleaned and inspected for dirt and debris before final connections to the kettle are made.

Refer to the specification sheet for the minimum allowable size of the branch steam supply plumbing (from the steam "main" plumbing or a nearby boiler). Generally, kettles require 1/2" i.p.s. pipe. Kettles require 5-50 psi steam pressure. If the steam supply pressure exceeds 50 psi, a pressure reducing valve is required. The steam inlet is at the right side of the kettle, as seen from the front.

(Note: Table-top kettles are available, through special order ONLY, with the steam supply valve on the left side of the kettle. In this rare instance, the steam inlet would be on the left side of the kettle, as seen from the front. The steam condensate trap would then be on the right side.)

#### CONDENSATE

The steam condensate trap must be plumbed to a drain, using minimum 1/2" NPT plumbing. The condensate line is limited to a maximum rise of 10 feet in order for the steam pressure to adequately force the condensate through the plumbing. Any higher rise requires a pump.

If the steam boiler to which this kettle is installed has a condensate return, a 1/2" (13mm) steam strainer, a 1/2" (13mm) steam trap, and a 1/2" (13mm) check valve must be installed on the output (condensate) side of the kettle.

#### WATER

The water faucet, with swing spout, requires 1/2 inch O.D. copper tube plumbing for hot/or cold water supplies to the faucet (if so equipped).

#### FINAL INSTALLATION CHECK

1. Partially fill the kettle with water.
2. Slowly turn the steam supply valve's knob to the open position.
3. Release the safety valve, ensuring that the steam escapes freely. Stay clear of steam exhaust when releasing the safety valve.
4. Observe that the water in the kettle comes to a boil.
5. Close the steam supply valve.
6. Drain off the water by tilting the kettle.

## OPERATION

Ensure that there is an adequate steam supply to the kettle.

Turn the steam control valve to the full open position by turning the knob counter-clockwise, then allow the kettle to pre-heat.

**NOTE:** When cooking egg and milk products, the kettle should NOT be pre-heated, as products of this nature adhere to hot cooking surfaces. These types of foods should be placed in the kettle before heating is begun.

Fill kettle with product to desired level.

When the product has reached the desired temperature, regulate the heat, as required, by turning the steam control valve for less steam, and therefore, a lower temperature.

When cooking is complete, close the steam control valve by turning the knob.

For kettle/steamer combinations: If the boiler in a steamer is supplying steam to a kettle, always heat the kettle first. After the kettle contents are heated, and the boiler's steam pressure returns to normal, the steamer may be used. Pressure steamer compartments should be sequentially started, and preheated before cooking.

**NOTE:** As with cleaning food soil from any cookware, an important part of kettle cleaning is to prevent foods from drying on. For this reason, cleaning should be completed immediately after cooked foods are removed. Please refer to the "Care and Cleaning" instructions for detailed kettle washing procedures.

## CARE AND CLEANING

Your kettle must be cleaned regularly to maintain its fast, efficient cooking performance, and to ensure its continued safe, reliable operation.

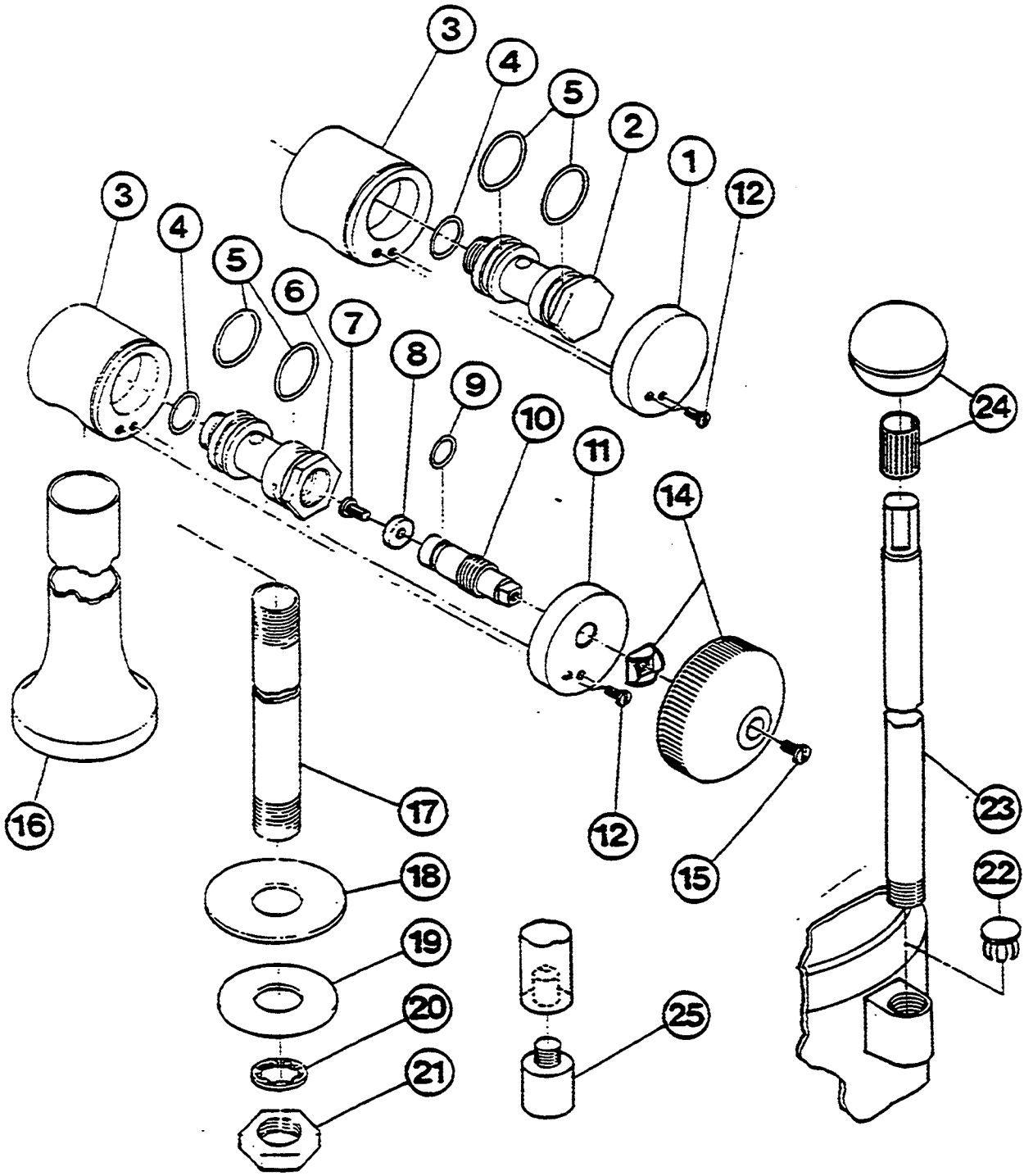
**WARNING:** Do not use chlorine base detergent.

1. Prepare a warm water and mild detergent solution in the kettle.
2. Remove food soil inside the kettle using a nylon brush. Do not use a metal bristle brush, as this may permanently damage the kettle's stainless steel surface.
3. Loosen food which is stuck to the kettle by allowing it to soak at a low temperature (simmer or low boil).
4. Tilt kettle forward to drain the wash water.
5. Rinse the kettle interior thoroughly, then drain rinse water.
6. Leave the cover and draw-off valve open when the kettle is not in use.
7. Using mild soapy water and a damp sponge, wash the exterior of the kettle, rinse, and dry.

**NOTE:** For more difficult cleaning applications, one of the following can be used: alcohol, baking soda, vinegar, or a solution of ammonia in water. Avoid the use of chloride cleansers, which may damage the kettle's stainless steel surface.

**WARNING:** Steel wool should never be used for cleaning the cooking chamber of the kettle. Particles of steel wool become embedded in the cooking surface and rust, and may corrode the stainless steel.

# STEAM CONTROL



## PARTS LIST - STEAM CONTROL

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1.	KE50458	End cap, condensate return	1
2.	KE50455-1	Trunnion, condensate return	1
3.	KE50456	Trunnion housing	2
4-10.	SE00011	Steam inlet trunnion assy.	1
4.	FA00017	"O" Ring	2
5.	FA00117	"O" Ring	4
6.	KE50460-1	Trunnion, steam inlet	1
7-10.	SE00029	Operating stem assy. stainless steel	1
7.	FA11089	Screw, 8-32 x 1/4"	1
8.	KE51713	Washer, operating stem	1
9.	FA00110	"O" Ring	1
10.	KE50459	Operating stem, stainless steel	1
11.	KE50457	End cap, steam inlet	1
12.	FA11054	Screw, 6-32 x 3/8"	2
14.	SE00028	Steam inlet knob assy.	1
15.	FA11092	Screw, 8-32 x 1/2"	1
16.	KE00200	Leg weldment ( 1 gal. model)	2
	KE00197	Leg weldment ( 6 gal. model)	2
	KE00198	Leg weldment (12 gal. model)	2
	KE00199	Leg weldment (20 gal. model)	2
17.	KE50465	Service pipe ( 1 gal. model)	2
	KE52030	Service pipe ( 6 gal. model)	2
	KE50463	Service pipe (12 gal. model)	2
	KE50464	Service pipe (20 gal. model)	2
18.	KE50467	Washer, foot	2
19.	FA30502	Washer, satin coat	2
20.	KE51898	Washer, lock	2
21.	FI00222	Lock nut, 1/2 NPS	2
22.	KE50475	Plug button	1
23.	KE50886	Handle ( 1 gal. model)	1
	SK50051	Handle ( 6,12 gal. model)	1
	KE50803	Handle (20 gal. model)	1
24.	KE50151	Knob	1
25.	KE50474	Foot	1

## OPERATING CONTROLS

For your better understanding and confidence, the following explanation of the control system on this kettle is offered.

ITEM NO.	DESCRIPTION	FUNCTION
14	Steam Inlet Knob	Turns the steam on or off to the kettle.
23-24	Tilting Handle	Used for tilting the kettle.

## SERVICING GUIDE

This section contains information intended for use by Authorized Service Personnel only.

### A/ PROBLEM : Kettle heats too slowly or does not come to a boil.

Probable Cause	Remedy
1. Inadequate steam flow.	Check for correct steam using chart below. If kettle is connected to a steamer and powered by a generator the units should be operated sequentially (kettle boiling first, then start steamer).
2. Steam trap not operating properly.	The trap should open periodically to dump condensate, then close. If it does not open or close it should be cleaned or replaced.
3. Food batches are not always the same.	When checking make certain that the original state (ie. fresh or frozen) and quantity of food product is the same.

### B/ PROBLEM : The trunnion housing leaks steam.

Probable Cause	Remedy
1. Trunnion "O" rings are worn.	Replace "O" rings.

**STEAM FLOW RATING  
OF STEAM GENERATORS**

GAS INPUT BTU/HOUR	STEAM OUTPUT LBS./HOUR	BOILER H.P.
100,000	60	1.7
160,000	95	2.8
200,000	125	3.6
250,000	150	4.4
300,000	180	5.2
<hr/>		
ELECTRIC KW INPUT		
18 KW	60	1.7
24 KW	70	2.0
27 KW	90	2.6
36 KW	120	3.5
48 KW	150	4.3

**STEAM FLOW RATE  
REQUIREMENTS FOR KETTLES**

Capacity Gal./Lit.	Fast Cooking	Medium Speed Cooking	Stock Kettle
5/ 17	11	9	6
10/ 42	22	18	11
25/ 95	55	44	28
40/151	88	70	44
60/227	132	105	66

Note: Above shows lbs. per hour with 10-15 psig steam at the kettle. The use of higher steam pressures (20-25 psig) will reduce heat-up time 5 to 20 %.

