

KLS-G SERIES

GAS STATIONARY STEAM JACKETED KETTLE

INSTALLATION - OPERATION - MAINTENANCE



MODELS

- KLS-20G
- KLS-30G
- KLS-40G
- KLS-60G
- KLS-80G
- KLS-100G



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PN S00064 Rev C (10/15)

Your Service Agency's Address:

Model

Serial number

Kettle installed by

Installation checked by

IMPORTANT

WARNING: Improper installation, adjustment, alternation, service or maintenance can cause property damage, injury or death. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.

INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS MUST BE POSTED IN A PROMINENT LOCATION. This information may be obtained by contacting your local gas supplier.

FOR YOUR SAFETY

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

The information contained in this manual is important for the proper installation, use, and maintenance of this kettle. Adherence to these procedures and instructions will result in satisfactory baking results and long, trouble free service. Please read this manual carefully and retain it for future reference.

ERRORS: Descriptive, typographic or pictorial errors are subject to correction. Specifications are subject to change without notice.

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Service Connections

MODELS KLS-20G, KLS-30G, KLS-40G & KLS-60G

GAS SPECIFICATIONS

MODEL	SUPPLY PRESSURE (W.C.)		BTU/Hr.	kW/Hr.	MINIMUM CLEARANCE*	
	Natural	Propane			Sides	Back
KLS-20G, KLS-30G, KLS-40G	6"-14" (152-355)	11"-14" (279-355)	100,000	29.3	6" (152)	2" (51)
KLS-60G			130,000	38.1		

SERVICE CONNECTIONS

EC	Electrical Connection - 120 Volt, 60Hz, 1pH, furnished with 6 ft. cord with 3 pronged plug. Total Max. Amps 2.0.
G	Gas Connection - 1" (25mm) N.P.T.

* Use on non-combustible floors only.

DIMENSIONS

MODEL	A	B	C	D	E	F	G	H	J	K	L
KLS-20G	20 [508]	31.25 [794]	40 [1016]	32 [813]	3 [76]	19 [483]	64 [1626]	24 [610]	30.5 [775]	6 [152]	18.25 [464]
KLS-30G	26 [660]	35.5 [902]	39.75 [1010]	-	-	19.25 [489]	73 [1854]	-	34.5 [876]	6.25 [159]	17.88 [454]
KLS-40G	26 [660]	35.5 [902]	44 [1118]	38.5 [978]	2 [51]	19 [483]	72 [1829]	29 [737]	35 [889]	6 [152]	22 [559]
KLS-60G	30 [762]	40 [1016]	49.5 [1257]	42 [1067]	2.5 [63]	21.5 [546]	85 [2159]	35 [889]	39 [991]	8 [203]	24.62 [625]

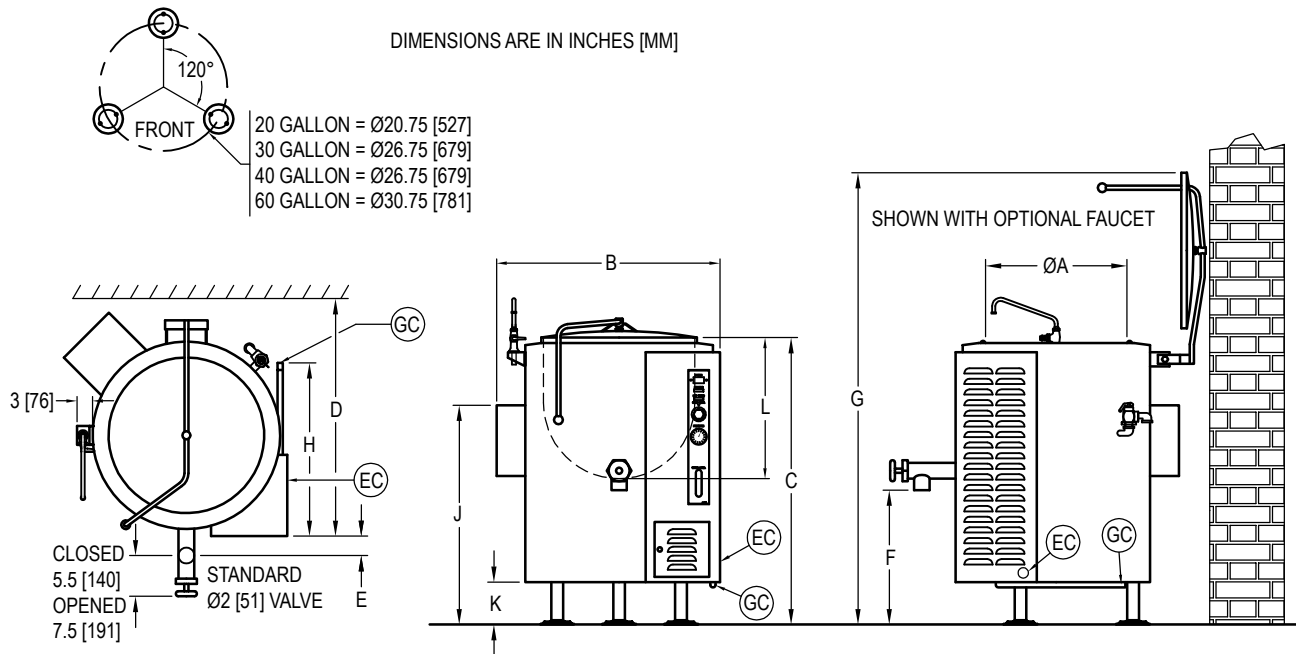


Figure 1

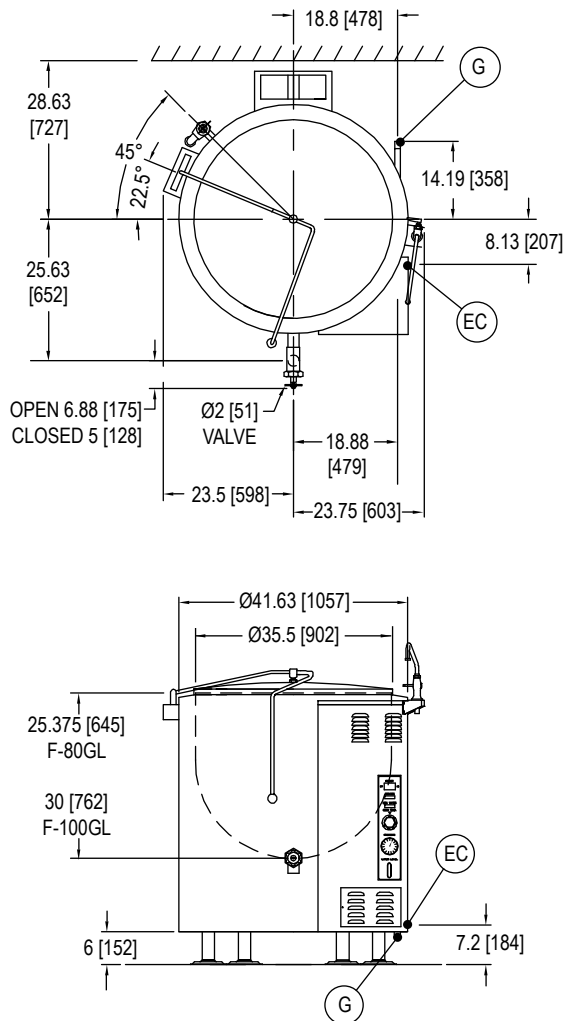
MODELS KLS-80G & KLS-100G

MODEL	SUPPLY PRESSURE (W.C.)		BTU/Hr.	kW/Hr.	MINIMUM CLEARANCE*	
	Natural	Propane			Sides	Back
KLS-80G	6"-14" (152-355)	11"-14" (279-355)	150,000	44	6" (152)	2" (51)
KLS-100G	6"-14" (152-355)	11"-14" (279-355)	150,000	44	6" (152)	2" (51)

* Use on non-combustible floors only.

SERVICE CONNECTIONS

EC	Electrical Connection - 120 Volt, 60Hz, 1Ph, furnished with 6 ft. cord with 3 pronged plug. Total Max. Amps 2.0.
G	Gas Connection - 3/4" (19mm) N.P.T. A gas shut-off valve must be installed in supply piping convenient and adjacent to unit.



DIMENSIONS ARE IN INCHES [MM]

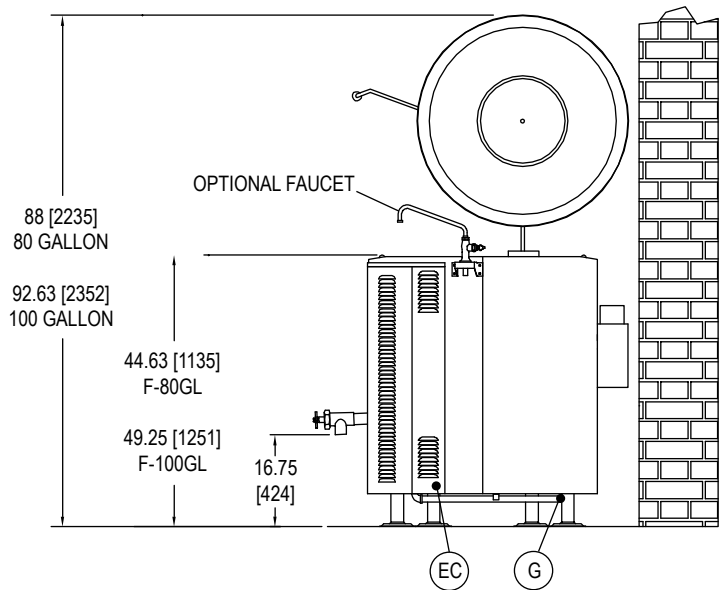
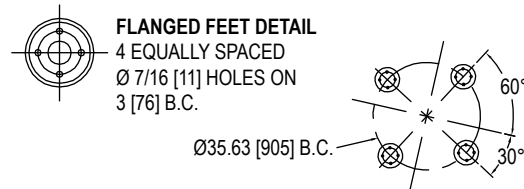


Figure 2

Installation Instructions

INSTALLATION CODES AND STANDARDS

Installation must conform with local codes, or in the absence of local codes, with the National

Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1, as applicable.

1. 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 pressures in excess of 1/2 PSI (0.03 kg/cm²)(3.5 kPa).
2. The appliance must be isolated from the gas supply piping system by closing its individual manual shut off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSI (0.03 kg/cm²)(3.5 kPa). Electrical grounding must be provided in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2, as applicable.

The electrical diagram is located on the inside of the console control cover.

EXHAUST FANS AND CANOPIES

Canopies are set over ranges, ovens and kettles for ventilation purposes. It is recommended that a canopy extend 6" past appliance and be located 7.5 feet from the floor. Filters should be installed at an angle of 45 degrees or more with the horizontal. This position prevents dripping of grease and facilitates collecting the run-off grease in a drip pan, usually installed with the filter. A strong exhaust fan tends to create a vacuum in the room and may interfere with burner performance or may extinguish pilot flames. Makeup air openings approximately equal to the fan area will relieve such vacuum. In case of unsatisfactory performance on any appliance, check operation with exhaust fan in the "OFF" position.

WALL EXHAUST FAN

The exhaust fan should be installed at least 2 feet above the vent opening at the top of the unit.

CLEARANCES

Adequate clearance must be provided in aisle and at the side and back.

Adequate clearances for air openings into the combustion chamber must be provided, as well as for serviceability.

SIDES - 6 INCHES

BACK - 2 INCHES AT FLUE BOX

FLOORS - 6 INCH LEGS OR 8 INCH LEGS

All units must be installed in such a manner that the flow of combustion and ventilation air are not obstructed. Provisions for an adequate air supply must also be provided. Do not obstruct the lower front or right side of the unit, as combustion air enters through these areas. The bottom of the control area must also remain unobstructed.

TO INSTALL

1. Uncrate carefully. Report any hidden freight damage to the freight company immediately.
2. Set the unit in place. Be certain to maintain minimum clearances as stated above.
3. To level the unit use a spirit level in all directions on the top of the kettle (lid up).
 - a. Units with legs - adjust the bottom foot on each leg to overcome an uneven floor.
 - b. Units with casters - loosen the locking nuts, turn casters in or out as required and tighten locking nuts.
4. Be certain to leave adequate clearances for cleaning, maintenance and service.
5. The pressure relief valve is located at the left rear of the unit. This area should be kept clear and should not be in an area where operators will normally stand. The elbow on the relief valve should be turned toward the floor. A maximum 3 foot, 3/4" diameter pipe may be used to extend to the floor, but must not be piped directly to a drain. It must vent to the atmosphere.
6. Check the pressure gauge on the front panel before operating. If the pressure gauge does not indicate green vacuum zone (below 0 PSI), see "Re-establishing Vacuum" section under SERVICE, after completing installation instructions.

WARNING

All connections must be checked for leaks, after the unit has been put in operation. Use soapy water only for testing on all gases. Never use an open flame to check for gas leaks.

NOTICE

If applicable, the vent line from the gas appliance pressure regulator shall be installed to the outdoors in accordance with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code CSA B149.1, as applicable.

NOTICE

If this equipment is being installed at over 2,000 feet altitude and was not so specified on order, contact service department. Failure to install with proper orifice sizing may void the warranty.

WATER CONNECTION

On units equipped with an optional water fill valve connect a water line (minimum 1/4") to the valve with a 1/4" NPT female fitting. Units with dual (hot and cold) valves must have the hot water line connected to side with the hot water valve (red) and cold water line to the cold water valve (blue). Plastic or rubber hose is not recommended, as it may melt against the hot kettle side.

CAUTION

Before connecting water to this unit, water supply should be analyzed to make sure hardness is no greater than 2.0 grains and pH level is within the range of 7.0-8.5. Water which fails to meet these standards should be treated by installation of water conditioner or filter system. **EQUIPMENT FAILURE CAUSED BY INADEQUATE WATER QUALITY IS NOT COVERED UNDER WARRANTY.**

ELECTRICAL GROUNDING INSTRUCTIONS

This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug. (120V units only).

1. 208/240 VAC - 60 Hz - Single and Three Phase.

Units with this electrical rating are factory equipped with a transformer. To connect supply wires remove cover from transformer box at right rear of unit. Route supply wires and ground wire through the hole in the cover with a strain relief fitting. Connect wires to the primary transformer terminals as required by your power supply voltage. Connect ground wire to ground lug. Replace cover. Three-phase units are wired as above, using only two supply wires. The third supply wire is not connected and must be properly terminated.

2. 220 VAC - 50 Hz - Single Phase.

Units equipped with this voltage rating should be wired exactly as in (2) above.

Performance Check

The following items should be checked before or within the first 30 days of operation by a qualified service technician.

1. Verify correct gas type.
2. Verify correct voltage, cycle and phase.
3. Gas pressure.
4. Internal gas connections.
5. Internal electrical connections.
6. Pilots - adjustment and ignition.
7. Burners - adjustment and ignition.
8. Thermostat - cycle for operation check.
9. Supply valve - check for operation.
10. Check hinge and lid assembly.
11. Draw-off valve - check operation.
12. Advise user on cleaning procedures.



WARNING

In the event of main burner ignition failure, a 5 minute purge period must be observed prior to re-establishing ignition source.



WARNING

In the event you smell gas, shut down equipment at the main shut off valve and contact the local gas company or gas supplier for service.



CAUTION

If you smell gas during the lighting procedure, immediately shut off the gas supply until the leak has been corrected.

GAS CONTROL INSTRUCTIONS

Appliance does not require "Lighting" the pilot with a flame.

START-UP

1. Turn thermostat to "OFF" position and power switch to "OFF" position.
2. Open control panel access door located on right side at bottom.
3. Turn dial on combination control to "ON" position by rotating control knob counterclockwise.

NOTE: Any gas service valves exterior to the unit should be open.

4. Turn "POWER" switch to "ON" position.
5. Set "COOK TEMP" to desired setting. The red "COOKING" pilot will be on until desired setting has been reached.
6. At this time the spark igniter will begin sparking at the pilot until the pilot is ignited, or for ninety seconds (an audible clicking sound will be evident).
7. When the pilot is ignited the spark igniter will automatically stop and within 15 seconds main burner gas will come on. If ignition does not occur, after a total of ninety seconds, the unit will lockout, shutting off all gas although the spark igniter will continue to spark. New installations (where there may be a considerable amount of air in the gas line) may require the unit to be turned off and immediately back on numerous times after each lockout period until the air is purged from the gas line.

SHUTDOWN

Standby

1. Place power on switch and thermostat to "OFF" position.

Complete

1. Place power on switch and thermostat to "OFF" position.
2. Turn dial on combination control from "ON" position to "OFF" position.
3. Turn any main gas service valves supplying gas to "OFF" position.

Relighting

1. Turn power switch to "ON" position.

It should be noted that the pilot and electronic ignition do not cycle with the thermostat. A standing pilot is automatically established and monitored each time the power switch is turned ON. If the pilot is ever extinguished by a momentary external interruption, the spark igniter will automatically relight it without disturbing the cooking cycle, unless lockout occurs.

SPARK IGNITER FAILURE

In the event the spark igniter module fails the unit may still be operated by carefully following these instructions.

1. Turn thermostat to OFF position; completely counterclockwise.
2. Turn power switch to OFF position.
3. WAIT A MINIMUM OF 5 MINUTES BEFORE PROCEEDING.
4. Turn dial on combination control to ON position (if not already on).
5. Turn power switch to ON position.
6. Wait two minutes and ten seconds and then immediately light pilot with long match or taper.
7. After 10 - 15 seconds gas valve will allow main burner gas to flow when thermostat is turned on.
8. The pilot will now stay ignited as long as the power switch remains ON. If power switch is turned OFF, repeat the above instructions. It is intended that the unit be operated in this manner only in emergency situations and only while it is attended (do not leave pilot lit overnight; shut off power switch). A qualified serviceman must be called promptly.

Front Panel Controls & Operating Tips

Power Switch

This switch turns the main power to the unit on and off. It must be turned on to heat the kettle. It should be turned off when the kettle will not be in use for long periods.

(Red) Cooking Light

This light is on whenever the main burner gas is on. On units with standing pilots this light may be on without the burners being on if the pilot is extinguished. See lighting instructions.

(Amber) Low Water Light

All kettles are supplied with sufficient distilled water in the pressurized jacket. If at any time the water level falls below that required for proper operation, the kettle will not heat and this light will come on. See "Adding Water" section of service instructions.

Thermostat

The thermostat selects the desired internal kettle operating temperature.

Pressure Gauge

The pressure gauge indicates the internal operating pressure of the kettle. When cold, the gauge should be in the green vacuum zone. If it is not, refer to "Re-establishing Vacuum" section of service instructions. Under normal operation with the kettle empty (thermostat set at 275 degrees Fahrenheit) the pressure shall reach 30 psi. When loaded the pressure may be considerably less.

Sight Glass

The sight glass indicates the minimum and maximum water level within the kettle. If water level falls below minimum level more distilled water should be added. See "Adding Water" section of service instructions.

Pressure Relief Valve

The pressure relief valve is a safety device which prevents the internal kettle pressure from ever exceeding 50 psi. It should never be tampered with.

DAILY OPERATION

Daily operation should consist of turning on the power switch and setting the thermostat for the desired temperature.

It is recommended the kettle be preheated prior to use. Milk or egg based products should be placed in the kettle before heating, however, to prevent sticking. The kettle is preheated when the cooking light goes off the first time.

At the end of each day, or if the kettle will not be used for some time, shut the unit down by turning the power switch to OFF.

Clean as required or on a daily basis. See "Cleaning" section under MAINTENANCE.

Appliances equipped with casters have been installed with a restraint to limit their movement to prevent damage to the gas supply connecting system. If disconnection of this restraint is necessary to move the appliance for cleaning, etc., reconnect it when the appliance is moved to its originally installed position.

Turning on the power switch initiates a pilot lighting sequence. The spark igniter will begin sparking. The spark igniter will spark until the pilot is ignited. After ninety seconds lockout will occur. Lockout shuts down all pilot (and main burner) gas flow although the spark igniter will continue to spark. The power switch must be turned off and back on to restart the pilot lighting sequence once lockout has occurred.

If the pilot blows out during operation, the unit will go through the same sequence to re-ignite itself.

Once the pilot is ignited, main burner gas will flow if the thermostat is turned on.

END USER TIPS

For easier cleaning add cold water to the kettle immediately after removing contents.

When preparing foods containing vinegar or tomatoes, or those which have a high salt content, clean the kettle immediately after using to prevent pitting.

Do not use salt to clean the kettle. This will scratch the surface.

If using saltwater to cook shellfish, be sure to rinse and wash the kettle thoroughly.

Bring milk and egg products slowly up to temperature in a cold kettle to prevent product adhering to the sides.

When planning actual cooking capacity, allow room at top for stirring without spilling.

When preparing puddings from a mix, place the powder in a cold kettle, add a small amount of the liquid, and stir to form a thin paste. Turn on the kettle and add the remainder of the liquid. Continue as per recipe instructions.

When browning meat bring the kettle up to temperature before adding. This seals in the juices in the meat.

GAS SAVING TIPS

Use these reminders to help develop energy-saving procedures and habits. Using less natural or propane gas saves energy as well as money.

1. Turn off when not in use.
2. Limit preheat times.
3. Use lid when possible.
4. Maintain equipment.



WARNING

Disconnect the power supply to the appliance before cleaning or servicing.



WARNING

Never spray water into electric controls or components!



WARNING

The equipment and its parts are hot. Use care when operating, cleaning and servicing.



WARNING

Do not use cleaning agents that are corrosive. Use of cleaning agents that contain chloride, acids or salts are corrosive and may cause pitting and corrosion when used over a period of time; this will reduce life of the appliance.

Should pitting or corrosion occur this is not covered by warranty.

CLEANING

Follow the recommended cleaning instructions. Use a mild detergent, warm water and rinse thoroughly.

Daily

Your kettle should be cleaned immediately after each use or when cooking a different product. Before cleaning, check that the kettle has cooled enough to touch it.

1. Rinse the inside of the kettle thoroughly and drain to remove any food particles.
2. Using a nylon brush, clean the kettle with a mild detergent and water. Never use steel wool or scouring powder as it will scratch stainless steel. Plain steel wool can leave small pieces of steel which can rust.
3. Rinse the inside of the kettle thoroughly with clean water. Drain the kettle by tilting or through the tangent draw-off valve, depending on model, to allow the detergent and water solution to drain.
4. Wipe the exterior of the kettle with a clean, damp cloth.

Monthly

1. Clean around burner air mixers, louvered panels and pilots if grease or lint have accumulated.

Twice a year (minimum)

Have an authorized service person clean and adjust the unit for maximum performance. At least twice a year the unit venting system should be examined and cleaned.

DRAW-OFF VALVE CLEANING



NOTICE

Draw-off valve has a vulcanized rubber coated stem for better sealing. Do not over tighten. This may cause the rubber to pull away from stem and permanently damage it. This is not covered under warranty.



WARNING

If you are cleaning a valve that is assembled to a kettle, be sure the kettle is completely empty of any product.

If equipped with a tangent draw-off valve, turn the large hex nut on the draw-off valve counterclockwise until it is completely disengaged from the threads. Grasp the valve knob and slowly pull out the valve stem and disk. Do not allow the disk to come in contact with hard surfaces as it can be damaged and cause valve leakage. Wash the valve stem, disk and handle. Insert a nylon brush, wet with detergent and water, into the valve body and tangent draw-off tube. Brush vigorously.

1. Replace the valve stem assembly and turn the hex nut until snug. Rinse the kettle with clean warm water.
2. Leave the draw-off valve open when the kettle is not in use.

Cleaning

DAIRY DRAW-OFF VALVE CLEANING

1. Remove the plug by first removing the handle, then turn the plug to line up with the pin and pull with both hands. It is important to use both hands because the plug is heavy.
2. Put the plug in a plastic pail that contains a mild soap solution. A plastic pail works best, as it reduces the possibility of nicking or scratching the plug. If the plug gets scratched it may not seal correctly and could leak.
3. Use a soft cloth or soft brush and clean all surfaces.
4. Using both hands remove the valve from the soap and rinse well in another plastic pail that contains fresh water.
5. Wash out the kettle as normal.
6. Once the kettle is washed out, return the plug into the body. Be sure the plug is inserted into the notch and turned. Ensure the plug is tight and secure before letting go of it.

If you are cleaning a body and plug assembly, remove the plug and follow the above procedures. When finished with the plug, follow the same instructions for washing the body. Always use both hands when handling the plugs. Reassemble the plug into the body and use as normal.

WHAT TO DO IF SURFACE RUST APPEARS

Metal utensils should never be used as they will scratch the surface of the equipment and rust may begin to form. To remove surface accumulation of rust from the inadvertent use of such utensils, the following procedure may be used.



CAUTION

Improper use of this procedure may damage your appliance!

1. Use undiluted white vinegar with a non-abrasive scouring pad (plastic) or cloth on the affected area to remove the rust stain. The appliance should not be heated and remain at room temperature during the entire cleaning process.
2. If the stain resists removal, additional exposure time with vinegar may be required, to a maximum of one hour.
3. Thoroughly wash all of the vinegar away with fresh clear water. Dry the surface completely and allow one hour before using the appliance to cook.

Following daily and period maintenance procedures will prolong the life for your equipment. Climatic conditions - salt air - may require more thorough and frequent cleaning or the life of the equipment could be adversely affected.

STAINLESS STEEL

To remove normal dirt, grease or product residue from stainless steel, use ordinary soap and water (with or without detergent) applied with a sponge or cloth. Dry thoroughly with a clean cloth. Never use vinegar or any other corrosive cleaner.

To remove grease and food splatters or condensed vapours that have baked on the equipment, apply cleanser to a damp cloth or sponge and rub cleanser on the metal in the direction of the polishing lines. Rubbing cleanser as gently as possible in the direction of the polished lines will not mar the finish of the stainless steel. NEVER RUB WITH A CIRCULAR MOTION.

Soil and burn deposits which do not respond to the above procedure can usually be removed by rubbing the surface with SCOTCH-BRITE™ scouring pads or STAINLESS scouring pads. DO NOT USE ORDINARY STEEL WOOL as any particles left on the surface will rust and further spoil the appearance of the finish. NEVER USE A WIRE BRUSH, STEEL SCOURING PADS (EXCEPT STAINLESS), SCRAPER, FILE OR OTHER STEEL TOOLS. Surfaces which are marred collect dirt more rapidly and become more difficult to clean. Marring also increases the possibility of corrosive attack. Refinishing may then be required.

TO REMOVE HEAT TINT

Darkened areas sometimes appear on stainless steel surfaces where the area has been subjected to excessive heat. These darkened areas are caused by thickening of the protective surface of the stainless steel and is not harmful. Heat tint can normally be removed by the foregoing, but tint which does not respond to this procedure calls for a vigorous scouring in the direction of the polish lines using SCOTCH-BRITE™ scouring pads or a STAINLESS scouring pad in combination with a powdered cleanser. Heat tint action may be lessened by not applying or by reducing heat to equipment during slack periods.

All food contact surfaces must be thoroughly drained and flushed prior to cooking in the kettle.

CONTROL PANEL

The textured control panel should be cleaned with warm water and mild soap. Never use an abrasive cloth or steel wool. Never use cleaning solvents with a hydrocarbon base.