Operators Manual

Installation & Operation

Floor Model Direct Steam Kettles

MODEL: KDW



For a complete Service Manual
refer to www.clevelandrange.com

Cleveland

Enodis

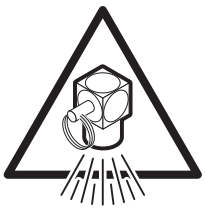
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For your safety

DANGER

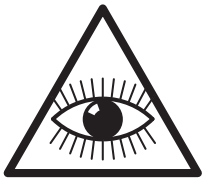


Keep clear of pressure relief discharge.

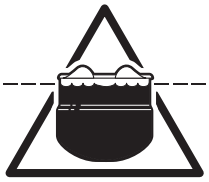


Keep hands away from moving parts and pinch points.

IMPORTANT



Inspect unit daily for proper operation.



Do not fill kettle above recommended level marked on outside of kettle.

CAUTION



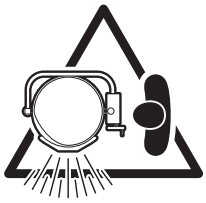
Surfaces may be extremely hot! Use protective equipment.



Wear protective equipment when discharging hot product.

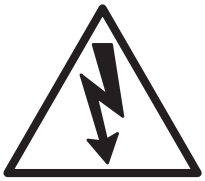


Do not lean on or place objects on kettle lip.



Stand clear of product discharge path when discharging hot product.

SERVICING



Shut off power at main fuse disconnect prior to servicing.



Ensure kettle is at room temperature and pressure gauge is showing zero or less prior to removing any fittings.

GAS APPLIANCES



Do not attempt to operate this appliance during a power failure.



Keep appliance and area free and clear of combustibles.

INSTALLATION

GENERAL

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

INSPECTION

Before uncrating, 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. If possible, take a polaroid picture.
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 detailed clearance requirements, suggested drain locations and bolting requirements. Next, carefully cut open and remove the shipping carton. Remove all supports and fasteners holding unit to the skid.

KDL SERIES

Position the kettle in its permanent location, and level the kettle by turning the adjustable flanged feet. Once positioned and levelled, permanently secure the kettle's flanged feet to the floor using lag bolts and floor anchors (to be supplied by the installer).

KDP SERIES

1. Position the kettle in its permanent location, and mark the floor around the circumference of the base collar or the base plate. Locate the centre of this circle and mark the floor at this centre point. This is the point at which the kettle's base plate will be secured to the floor.
2. Lay kettle on its side (on a cushioned surface to prevent scratching), and slide the base collar up the pedestal, exposing the plate for removal.
3. Remove the four cap screws securing the base plate and slide it off the kettle.
4. Prepare the floor location, for mounting the kettle, by installing a 3/4" (19mm) stud, cast into the floor, at the base plate's centre point. Note: a 3/4" (19mm) lag bolt and floor anchor may be substituted for a cast-in stud. The anchor is installed in the floor, and the lag bolt is threaded down through the base plate, into the anchor, after completion of step 6.
5. Thread the four 3/8" (10mm) levelling bolts into plate from the top, and insert the plate over stud.
6. Adjust bolts until the plate is level.
7. Install a nut on the 3/4" (19mm) bolt (or insert a lag bolt if the alternate fastener method is used) and secure base plate to the floor.
8. Check for level "set" of the kettle by placing the kettle on the base plate with the screw holes aligned and applying a carpenter's level at the kettle rim. If the kettle is level, it may be fastened in place with the four cap screws. If the kettle is not level, the kettle must be removed from the base, the plate loosened, and the levelling bolts re-adjusted until a level installation is attained.
9. Slide the base collar down to the floor, and draw a line around the circumference of the pedestal at the top of the collar, using the top of the collar as a guide. Slide the collar back up the pedestal.
10. Apply a bead of silicone sealer to the circumference of the pedestal, at the line, and also to the bottom rim of the collar. Slide the collar down the pedestal and press it tightly to the floor. The silicone sealer will create a seal where the collar meets the pedestal, and where the collar meets the floor.

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 connection to the kettle are made.

Check the rating plate for the maximum steam pressure that your kettle is rated for. If the steam supply pressure exceeds the rated pressure, a pressure reducing valve is required. The steam inlet is at the right side of the kettle, as seen from the front.

CONDENSATE

A 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 (closed loop system), a 1/2" steam strainer, a 1/2" steam trap, and a 1/2" check valve must be installed on the output (condensate) side of the kettle.

FOR POWER TILT UNITS ONLY

NOTE: Ensure the electrical supply matches the kettle's requirements as stated on the rating label.

This kettle is built to comply with CE standards. Many local codes exist, and it is the responsibility of the owner and installer to comply with these codes.

NOTE: Maximum voltage for LVD is 440 volts for CE marked appliances.

POTABLE WATER

The water faucet (optional) with swing spout, requires 1/2 inch O.D. copper tube plumbing for hot or cold water supplies to the faucet (SPK - cold water connection only, DPK - hot and cold water connection).

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 in the kettle.

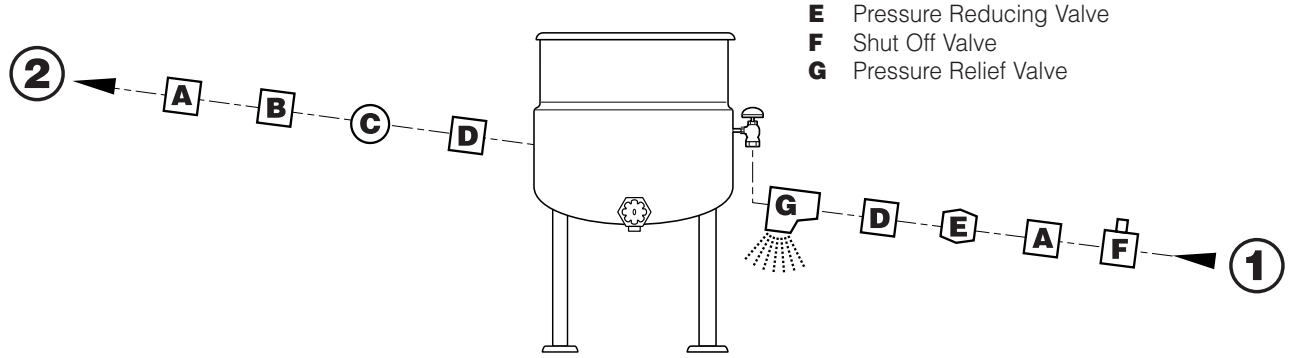
CLEANING

After installation the kettle must be thoroughly cleaned and sanitized prior to cooking. See CLEANING INSTRUCTIONS for detailed information and suggested cleaners.

RECOMMENDED PIPING SCHEMATICS

(all service connections shown supplied by others)

1 Steam In
2 To Drain or Boiler Condensate Line
A Union
B Check Valve
C Steam Trap
D Strainer
E Pressure Reducing Valve
F Shut Off Valve
G Pressure Relief Valve



STEAM REQUIREMENTS FOR KETTLES

Kettle Cap. U.S. Gal.	Kettle Dia.	25 psi Steam 265°F Lbs./Hr.	Hp./Hr.	40 psi Steam 287°F Lbs./Hr.	Hp./Hr.	80 psi Steam 302°F Lbs./Hr.	Hp./Hr.
40	26"	100	3	120	4	150	4.5
60	29.5"	150	4.5	190	5.5	230	7.0
80	33"	210	6.0	260	7.5	300	9.0
100	36"	260	7.5	320	9.5	390	11.0
125	40"	320	9.5	400	11.5	470	14.0
150	40"	390	11.0	480	14.0	570	17.0

- Steam requirements are maximum per hour.
- If more than one unit is on the same line then add the steam usage for each one to reach a total.

STEAM PIPE SIZING

Steam Required Lbs./Kg. per hour	Required pipe length in feet/meters 200 Ft. 60 Meters	400 Ft. 125 Meters	600 Ft. 185 Meters
100/45 Kg.	3/4"	1"	1 1/4"
200/91 Kg.	1"	1 1/4"	1 1/2"
300/136 Kg.	1"	1 1/4"	1 1/2"
400/182 Kg.	1"	1 1/2"	1 3/4"
500/227 Kg.	1 1/4"	1 1/2"	1 3/4"
700/318 Kg.	1 1/2"	1 3/4"	2"
900/409 Kg.	1 1/2"	1 3/4"	2"

NOTES:

- Pipe size in inches.
- Less than 50 PSI (3.4 BAR) pressure, increase pipe size by 1/4".
- 80 to 100 PSI (5.5 to 6.8 BAR), Decrease pipe size by 1/4".

OPERATING INSTRUCTIONS

CLEVELAND STEAM COOKING EQUIPMENT IS INTENDED FOR COMMERCIAL USE ONLY BY PROFESSIONALLY TRAINED PERSONNEL.

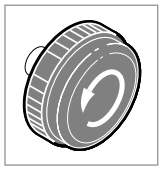


General Parts Drawing

ITEM #	DESCRIPTION	
1.	Steam Inlet Valve	Opens and closes the steam supply to the kettle.
2.	Hand Wheel	Used for tilting the kettle up or down. Some units have an optional Power Tilt Control Switch located in the same position.
3.	Power Tilt Switch (not shown)	Used for tilting the kettle up or down.
4.	Drain Cock	Used to drain condensate from the bottom of tilting units only.
5.	Tangent Draw-Off Valve	Used for draining product or wash water from kettle. It is supplied as standard equipment on stationary kettles and is optional on tilting kettles.
6.	Pressure Relief Valve (not shown)	In the unlikely event that there is an excess steam build-up in the jacket, this valve automatically opens to relieve this pressure.

OPERATION

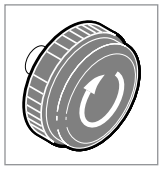
1. Ensure that there is an adequate steam supply to the kettle.
2. For optimum performance on free-standing floor model tilting kettles, open drain cock to drain condensate from the kettle's jacket, then close drain cock before applying steam to a cold kettle.
3. If the kettle is equipped with a tangent draw-off valve, ensure that it is closed before filling the kettle. To keep solid food particles out of the draw-off valve, place either a solid or a perforated strainer in the bottom of the kettle.



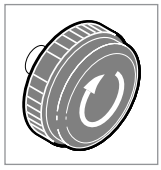
4. Turn the steam control valve to the open position by turning the knob counter-clockwise, then allow the kettle to preheat.

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

5. Fill kettle with product to desired level.



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



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

8. Power tilt kettles are provided with a rocker-type center-off switch for raising and lowering the kettle. To raise the kettle, press the top of the switch. To lower the kettle, press the bottom of the switch. Release the switch, allowing it to return to the center "off" position when the desired degree of tilt has been reached. Limit switches are provided that automatically stop the tilt motion at the maximum limit of movement in either direction.

   To raise and lower a manual tilt kettle, turn the handwheel counter-clockwise to lower and clockwise to raise.

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, art important part of kettle cleaning is to prevent food from drying on. For this reason, cleaning should be completed immediately after cooked foods are removed. Please read the "Care and Cleaning" instructions for detailed kettle washing procedures.

CLEANING INSTRUCTIONS



CARE AND CLEANING

Cooking equipment must be cleaned regularly to maintain its fast, efficient cooking performance and to ensure its continued safe, reliable operation. The best time to clean is shortly after each use (allow unit to cool to a safe temperature).

WARNINGS

⇨ 

Chloride Cleaners

Do not use detergents or cleansers that are chloride based or contain quaternary salt.

⇨ 
Wire Brush &

Do not use a metal bristle brush or scraper.

⇨ 
Steel Pads

Steel wool should never be used for cleaning the stainless steel.

⇨ 
High Pressure Spray Hose

Unit should never be cleaned with a high pressure spray hose.

⇨ 
Stagnant Water

Do not leave water sitting in unit when not in use.

CLEANING INSTRUCTIONS

1. Turn unit off.
2. Remove drain screen (if applicable). Thoroughly wash and rinse the screen either in a sink or a dishwasher.
3. Prepare a warm water and mild detergent solution in the unit.
4. Remove food soil using a nylon brush.
5. Loosen food which is stuck by allowing it to soak at a low temperature setting.
6. Drain unit.
7. Rinse interior thoroughly.
8. If the unit is equipped with a Tangent Draw-Off Valve, clean as follows:
   - **a)** Disassemble the draw-off valve first by turning the valve knob counter-clockwise, then turning the large hex nut counter-clockwise until the valve stem is free of the valve body.
   - **b)** In a sink, wash and rinse the inside of the valve body using a nylon brush.
   - **c)** Use a nylon brush to clean tangent draw-off tube.
   - **d)** Rinse with fresh water.
   - **e)** Reassemble the draw-off valve by reversing the procedure for disassembly. The valve's hex nut should be hand tight only.
9. If the unit is equipped with a Butterfly Valve, clean as follows:
   - **a)** Place valve in open position.
   - **b)** Wash using a warm water and mild detergent solution.
   - **c)** Remove food deposits using a nylon brush.
   - **d)** Rinse with fresh water.
   - **e)** Leave valve open when unit is not in use.
10. Using mild soapy water and a damp sponge, wash the exterior, rinse, and dry.

NOTES

⇨ For more difficult cleaning applications one of the following can be used: alcohol, baking soda, vinegar, or a solution of ammonia in water.

⇨ Leave the cover off when the kettle is not in use.

⇨ For more detailed instructions refer to the Nafem Stainless Steel Equipment Care and Cleaning manual (supplied with unit).

STAINLESS STEEL EQUIPMENT CARE AND CLEANING

(Suppied courtesy of Nafem. For more information visit their web site at www.nafem.org)

Contrary to popular belief, stainless steels ARE susceptible to rusting.

Corrosion on metals is everywhere. It is recognized quickly on iron and steel as unsightly yellow/orange rust. Such metals are called "active" because they actively corrode in a natural environment when their atoms combine with oxygen to form rust.

Stainless steels are passive metals because they contain other metals, like chromium, nickel and manganese that stabilize the atoms. 400 series stainless steels are called ferritic, contain chromium, and are magnetic; 300 series stainless steels are called austenitic, contain chromium and nickel; and 200 series stainless, also austenitic, contains manganese, nitrogen and carbon. Austenitic types of stainless are not magnetic, and generally provide greater resistance to corrosion than ferritic types.

With 12-30 percent chromium, an invisible passive film covers the steel's surface acting as a shield against corrosion. As long as the film is intact and not broken or contaminated, the metal is passive and stain-less. If the passive film of stainless steel has been broken, equipment starts to corrode. At its end, it rusts.

Enemies of Stainless Steel

There are three basic things which can break down stainless steel's passivity layer and allow corrosion to occur.

1. Mechanical abrasion
2. Deposits and water
3. Chlorides

Mechanical abrasion means those things that will scratch a steel surface. Steel pads, wire brushes and scrapers are prime examples.

Water comes out of the faucet in varying degrees of hardness. Depending on what part of the country you live in, you may have hard or soft water. Hard water may leave spots, and when heated leave deposits behind that if left to sit, will break down the passive layer and rust stainless steel. Other deposits from food preparation and service must be properly removed.

Chlorides are found nearly everywhere. They are in water, food and table salt. One of the worst chloride perpetrators can come from household and industrial cleaners.

So what does all this mean? Don't Despair!

Here are a few steps that can help prevent stainless steel rust.

1. *Use the proper tools.*

   When cleaning stainless steel products, use non-abrasive tools. Soft cloths and plastic scouring pads will not harm steel's passive layer. Stainless steel pads also can be used but the scrubbing motion must be in the direction of the manufacturers' polishing marks.

2. *Clean with the polish lines.*

   Some stainless steel comes with visible polishing lines or "grain." When visible lines are present, always scrub in a motion parallel to the lines. When the grain cannot be seen, play it safe and use a soft cloth or plastic scouring pad.

3. *Use alkaline, alkaline chlorinated or non-chloride containing cleaners.*

   While many traditional cleaners are loaded with chlorides, the industry is providing an ever-increasing choice of non-chloride cleaners. If you are not sure of chloride content in the cleaner used, contact your cleaner supplier. If your present cleaner contains chlorides, ask your supplier if they have an alternative. Avoid cleaners containing quaternary salts; it also can attack stainless steel and cause pitting and rusting.

4. *Treat your water.*

   Though this is not always practical, softening hard water can do much to reduce deposits. There are certain filters that can be installed to remove distasteful and corrosive elements. To insure proper water treatment, call a treatment specialist.

5. *Keep your food equipment clean.*

   Use alkaline, alkaline chlorinated or non-chloride cleaners at recommended strength. Clean frequently to avoid build-up of hard, stubborn stains. If you boil water in stainless steel equipment, remember the single most likely cause of damage is chlorides in the water. Heating cleaners that contain chlorides have a similar effect.

6. *Rinse, rinse, rinse.*

   If chlorinated cleaners are used, rinse and wipe equipment and supplies dry immediately. The sooner you wipe off standing water, especially when it contains cleaning agents, the better. After wiping equipment down, allow it to air dry; oxygen helps maintain the stainless steel's passivity film.

7. *Never use hydrochloric acid (muriatic acid) on stainless steel.*
8. *Regularly restore/passivate stainless steel.*

Recommended cleaners for specific situations

Job	Cleaning Agent	Comments
Routine cleaning	Soap, ammonia, detergent, Medallion	Apply with cloth or sponge
Fingerprints & smears	Arcal 20, Lac-O-Nu Ecoshine	Provides barrier film
Stubborn stains & discoloration	Cameo, Talc, Zud, First Impression	Rub in direction of polish lines
Grease & fatty acids, blood, burnt-on-foods	Easy-off, De-Grease It Oven Aid	Excellent removal on all finishes
Grease & oil	Any good commercial detergent	Apply with sponge or cloth
Restoration/Passivation	Benefit, Super Sheen	

Review

1. Stainless steels rust when passivity (film-shield) breaks down as a result of scrapes, scratches, deposits and chlorides.
2. Stainless steel rust starts with pits and cracks.
3. Use the proper tools. Do not use steel pads, wire brushes or scrapers to clean stainless steel.
4. Use non-chlorinated cleaners at recommended concentrations. Use only chloride- free cleaners.
5. Soften your water. Use filters and softeners whenever possible.
6. Wipe off cleaning agent(s) and standing water as soon as possible. Prolonged contact causes eventual problems.

To learn more about chloride-stress corrosion and how to prevent it, contact the equipment manufacturer or cleaning materials supplier.

Developed by Packer Engineering, Naperville, Ill., an independent testing laboratory.