CADDY CORPORATION

Food Service Equipment Air Systems

Utility Distribution System

Operation and Maintenance Manual

509 Sharptown Road P.O. Box 345 Bridgeport, NJ 08014
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Inspect all equipment for damage immediately upon delivery or within the time specified by the carrier.

In the unusual case that a claim for shipping damage is required, you must file the claim with the carrier. Caddy can provide assistance in supplying information to support your claim.

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Introduction

This manual will acquaint you with the operation and proper maintenance of your Caddy Utility Distribution System. It is important that you read this manual thoroughly and follow its recommendations.

In certain instances, the manual makes references to features, which may or may not be part of your equipment. To determine whether such references apply to you, please consult your submission and electrical drawings, which have been prepared for you as part of this manual.

Thank you for selecting Caddy Corporation's equipment. Your continued interest and satisfaction are always our primary concern.

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Utility Distribution System Model ID

Installation

1. Read the entire manual and study drawings before starting installation.

2. Check that all electrical and plumbing rough-ins are as specified and agree with the drawing.

3. The **ID** system consists of the following parts:
   a. Riser
   b. Raceway
   c. Pedestal

4. Remove all access panels on raceway, riser and pedestal to reveal internal plumbing, electrical systems, and internal flanges.

5. Place ID sections according to the drawing to determine the proper mounting position beneath the hood.

6. Once sections are in position, join field joints (if any) by bolting internal flanges together and applying silicone sealant over seams.

7. Secure risers to floor with appropriate bolts.

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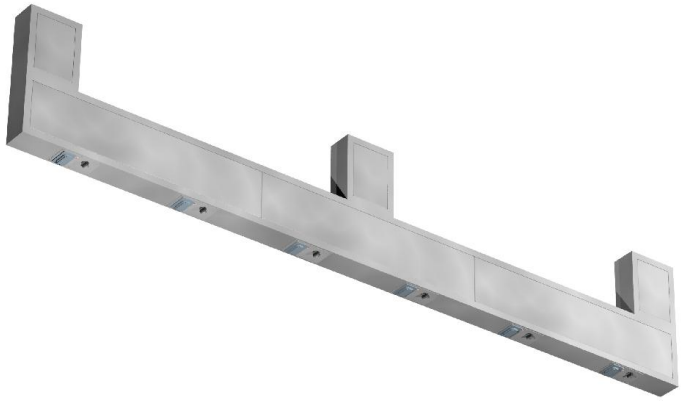
Utility Distribution System Model OD



Installation

1. Read entire manual and study drawings before starting installation.

2. Check that all electrical and plumbing rough-ins are as specified and agree with the drawing.

3. The OD system consists of the following parts:

   a. Riser
   b. Raceway

4. Remove all access panels on raceway and riser to reveal internal plumbing, electrical systems, and internal flanges.

5. Place OD sections according to the drawing to determine the proper mounting position.

6. Once sections are in position, join field joints (if any) by bolting internal flanges together and apply silicone sealant over seams.

7. OD mounting procedure:

   a. Position unit flush with finished ceiling (see submission drawing).
   b. Bolt 3/8" mounting rod into holes provided in each riser.
   c. Stabilize each 3/8” rod to cross member of ceiling.

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Utility Distribution System Model WL

Installation

1. Read entire manual and study drawings before starting installation.

2. Check that all electrical and plumbing rough-ins are as specified and agree with the drawing.

3. The WL system consists of the following parts:

   a. Riser
   b. Raceway
   c. Pedestal

4. Remove all access panels on raceway, riser and pedestal to reveal internal plumbing, electrical systems and internal flanges.

5. Place WL sections according to the drawing to determine proper mounting positions.

6. Once sections are in position, join field joints (if any) by bolting internal flanges together and apply silicone sealant over seams.

7. Secure pedestals to floor with appropriate bolts.

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Electrical Connections

Installation

1. If system has field joint(s), wiring must be interconnected at the joint(s) before attaching main service.

   a. Connect corresponding busbars together with the brass bolts and nuts that are provided.

   b. Connect control wiring (if supplied) to corresponding terminals or quick disconnect device.

2. Connect the electrical service(s) to the system as follows:

   a. Secure service conduit to the electrical housing. A service entrance knockout must be provided.

   b. Attach main service wires to the corresponding terminals.

   c. If fire fuel shut-off is provided, which is indicated by a red terminal block, proceed with the instructions on Page 10.

   d. Check and tighten all connections.

   e. Connect all cord assemblies to the appropriate equipment as shown on submission drawing. Cut cord assemblies if necessary to make neat appearance.

   f. Wire conduit from vent light switch (if provided) to vent lights. See electrical drawing.

   g. Wire to exhaust fan motor starter or control (if provided). See electrical drawing.

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Electrical Fire Fuel Connections

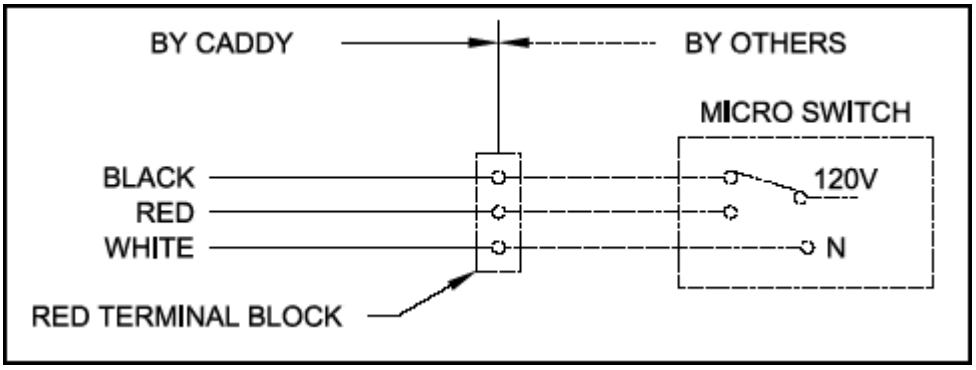
Installation

Route three wires in ½" conduit (as shown on drawing) from the micro-switch in the fire control system (by others) to the equipment shut-off terminal block (red) in the Utility Distribution System. **DO NOT** remove any existing wires from terminals. Connect wires to the UNUSED posts of the Red terminal block as follows:

a. Connect the neutral wire to the terminal with the White wire.

b. Locate wire which supplies 120 volts during normal operating conditions (and is switched OFF when fire control system is activated), and connect this to the terminal with the Black wire.

c. Locate wire which supplies 120 volts when fire control system is activated, and connect this to the terminal with the Red wire.



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Fire Fuel Shut-Off
(optional feature)

Operating Instructions

Electric

Actuation of the fire control system per the submission drawing will trip all circuit breakers and controls equipped with the fire-fuel shut-off feature and de-energize the corresponding outlets. After the fire control system is returned to normal operation conditions, these circuit breakers will be de-energized until the circuit breakers are reset.

Gas

Actuation of the fire control system per the submission drawing will stop the gas flow to all gas operated equipment. After the fire control system is returned to normal operating condition, the button marked gas reset must be depressed. This will reopen the gas solenoid valve(s) and allow gas to flow to all gas operated equipment.

IMPORTANT NOTE After the gas system has been reset, all pilot lights must be re-lit.

Remote Status Indicator Lights

These lights are located remotely from each connection plate; however, they are interconnected to each connection plate and show circuit breaker ON or OFF status.

Ventilator Light Switch (Optional)

The ventilator light switch is located on the control panel. Be sure that the ventilator light switch circuit breaker, which is located next to the light switch, is in the ON position.

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Electrical Connection Plate

Operating and Installation

1. Turn all individual equipment controls to the OFF position before attempting to connect or disconnect any cord and plug assembly. After the cord and plug assembly is connected, equipment may be turned ON.

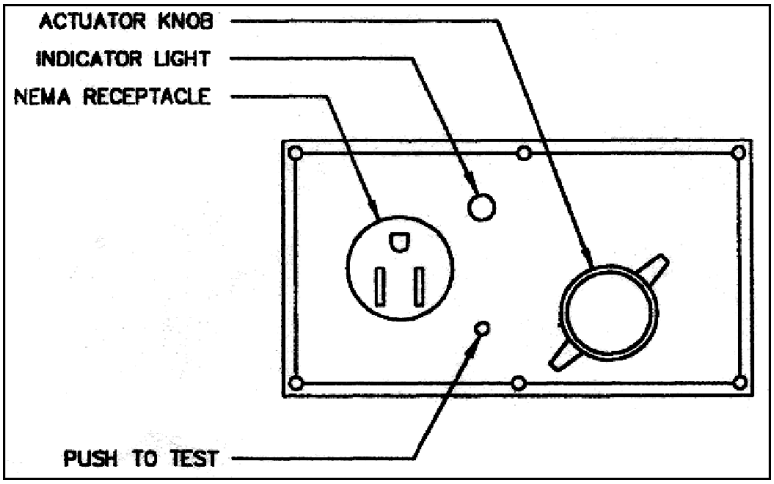
2. The connection plate consists of the following:

   a. Point-of-use circuit breaker
   b. Outlet
   c. Indicator Light

3. To energize the outlet, turn the circuit breaker to the ON position.

NOTE Upon initial start-up, the circuit breakers may occasionally require a “break in” procedure. Turn the circuit breakers OFF and ON several times.

4. The equipment is now ready for operation.



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Plumbing Connections

Installation

1. If system has field joint(s), plumbing must be connected at the joint(s) before attaching main service.

   a. Connect corresponding pipes by aligning unions and tightening securely.

2. Connect all plumbing stub-ins to the main lines. Provide all necessary nipples, couplers, unions etc. to make neat and proper connection.

3. Connect all hose assemblies to the appropriate equipment as shown on drawing. Provide all necessary ells and nipples to make neat and proper appearance. (See hose installation instructions Page 9).

4. Check all plumbing for leaks and tighten as required.

5. Connect hood wash system (if provided) to spray nozzles in hood.

5. Replace all access panels.

Gas Valve Operation

Normally Closed: Valve is closed when solenoid is de-energized; open when energized

Maintenance

WARNING:
To prevent the possibility of death, serious injury or property damage, turn off electrical power, depressurize valve, extinguish all open flames and avoid any type of sparking or ignition. Vent hazardous or combustible fluid to a safe area before servicing the valve.

NOTE: It is not necessary to remove the valve from the pipeline for repairs.

Cleaning

All solenoid valves should be cleaned periodically. The time between cleanings will vary depending on the medium and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive noise or leakage will indicate that the cleaning is required. In the extreme case, faulty valve operation will occur and the valve may fail to open or close.

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Hose Assemblies

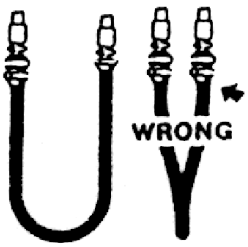
Installation

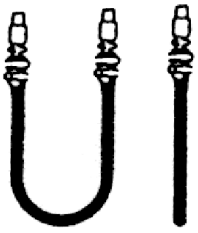
1. Check sizes and quantity of hose assemblies as shown on submission drawing.

2. Connect all hose assemblies to the appropriate equipment as shown on submission drawing. Provide and install necessary plumbing fittings to present a neat appearance and to insure that hose assemblies do not come in contact with the floor.

3. To insure proper installation and minimal wear of hoses, follow the examples shown below.

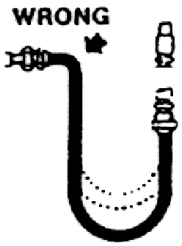
Do not offset couplings, this creates torsional twisting and undue strain causing premature failure.

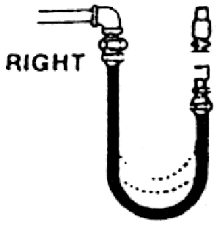




Couplings and hose should be installed in the same plane as shown.

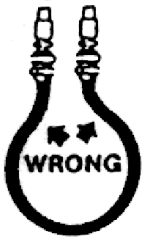
Allowing a sharp bend strains and twists the metal hose to a point of early failure at the coupling.

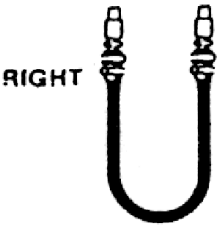




This is the correct way to install metal hose for vertical traverse. Note the single natural loop.

Closing in the diameter at the coupling creates double bends causing work fatigue failure of the fittings.





Maintain the minimum or larger bending diameter between the couplings for longest life.

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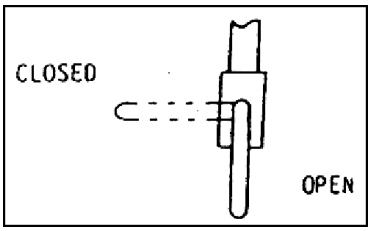
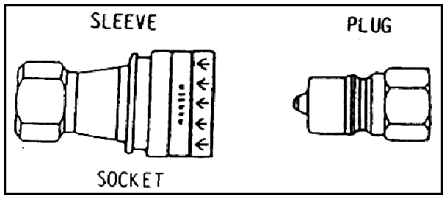
General Plumbing

Operating and Installation

1. Open and close position of quarter turn ball valve.



2. To operate quick disconnects:



To connect, merely pull back sleeve, and push plug into socket.
To disconnect, pull back sleeve, unlocking coupling.

3. Do not place hands on or near steam piping without proper protection.

4. To clean behind equipment:
   a. Pull out all equipment to be cleaned.
   b. Disconnect all hose and cord assemblies.

NOTE All branch connections that have quarter turn ball valves should be turned off before disengaging hoses.

   c. Wipe down top of raceway to prevent dust build-up.
   d. Wipe off condensation from water and steam hoses, if any.
   e. Reconnect all hose and cord assemblies.
   f. Turn on all quarter turn ball valves slowly to the open position.
   g. Set equipment back in place.

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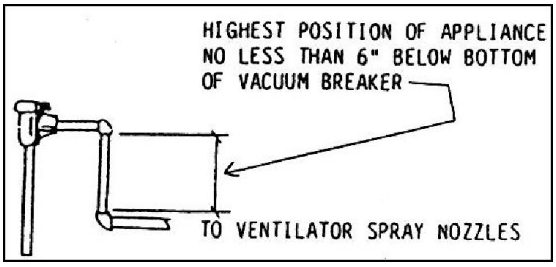
Ventilator Water Wash
(optional feature)

Operating and Installation

1. Install piping (by others) and vacuum breaker from raceway to ventilator spray nozzles.

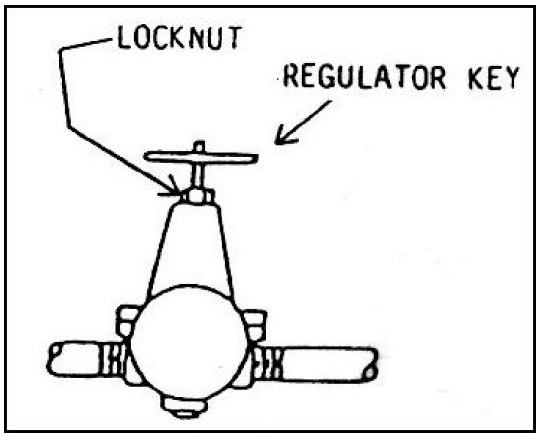
2. Vacuum breaker must be installed at least six inches above ventilator spray nozzles.



3. Turn hood wash system on. System should now be operating.

4. Adjust pressure regulator to thirty pounds of pressure by following these steps:

   a. Loosen pressure regulator locknut.
   b. Turn regulator key until pressure gauge reads thirty pounds.
   c. Tighten pressure regulator locknut.



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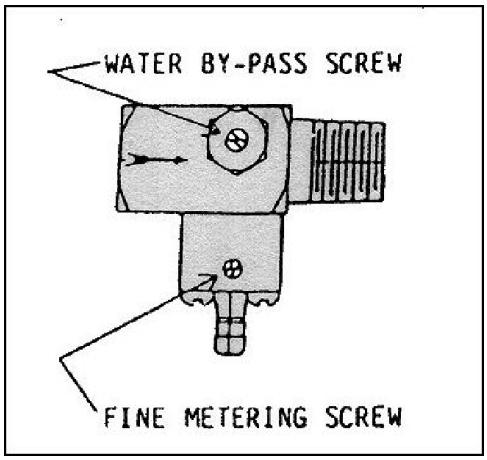
5. Once pressure is set, the detergent injector may be operated by following these steps:



Detergent Injector

a. Fill detergent container located behind access door.
b. Drop tubing from injector into container.
c. Cover containers by slipping metal disc over opening.
d. Locate water bypass screw and find metering adjusting screw.
e. To activate injector, turn the bypass screw clockwise until fluid begins to be drawn up from the container.
f. After fluid reaches the injector, the feed rate may be adjusted by turning the bypass screw. Clockwise for more fluid and counter clockwise for less fluid.

6. Servicing Detergent Injector

a. The check valve parts (which are in the metering knob), can be cleaned by removing the four screws.
b. If the ventilator spray nozzles become clogged or restricted the injector may not operate. If it is temporarily inconvenient to remove the restriction, the injector may be put back into operation by turning the water bypass screw clockwise. Once the restriction is removed, reset bypass screw.

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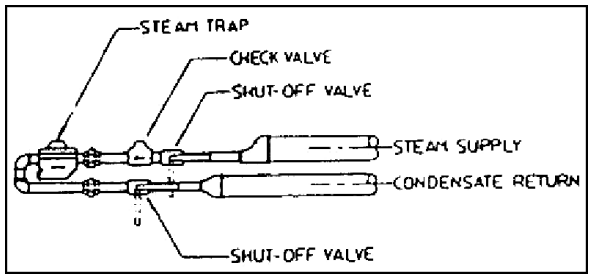
Steam Trap Maintenance
(optional feature)

Operating and Installation

1. Steam trap works automatically while system is operating.
2. Steam trap must be blown down every six months.
3. Steam trap must be dismantled and checked every year.
4. Blow down procedure:

    a. Shutoff steam purging system. (Valves located in raceway).

NOTE Shutting down steam supply and steam return line is not necessary, cooking operation may continue.



    b. Unbolt screen holder, Part #12, located on bottom of steam trap. (See steam trap diagram on Page 23)
    c. Remove screen, Part #10, check for deformation, blockage and damage.
    d. Open shut-off value located on steam supply manifold for approximately ten seconds. This will allow sediment trapped inside screen and manifold to be discharged.
    e. Replace screen and screen holder.
    f. Open both steam purging system shut-off valves.

5. How to dismantle and check steam trap.

    a. Shut-off steam purging system (valves located in raceway).

NOTE: Shutting down steam lines is not necessary, cooking operation may continue.

    b. Unbolt the four bolts, Part #13, and remove the Cover #2 from the case, Part #1, check the gasket, Part #8, for deformation and damage.

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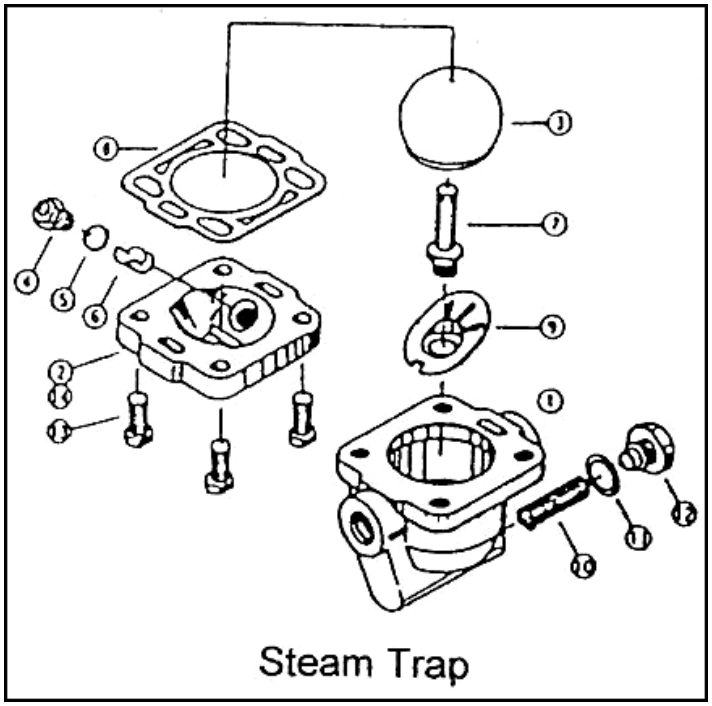
c. Remove the drain jet, Part #4, from the cover. Check the seating surface of the drain jet for damage and wear. Check the gasket, Part #5, for deformation and damage.
d. Remove the ball bucket, Part #3, from the case. Check the ball bucket for deformation and blockage of the vent hole.
e. Unscrew and remove the screen holder, Part #12 and screen, Part #10. Check screen for deformation, blockage and damage.
f. After checking all parts, assemble them in the reverse order to the above.
g. Open both steam purging system shut-off valves.

1. Case
2. Cover
3. Ball Bucket
4. Drain Jet
5. Gasket
6. Protection Brush
7. Blast-Off Pipe
8. Gasket
9. Launching Pad
10. Screen
11. Gasket
12. Screen Holder
13. Bolt



Steam Trap

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Care and Cleaning of Stainless Steel Equipment

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

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 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.

Chromium provides an invisible passive film that 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 stainless. If the passive film of stainless steel has been broken, equipment starts to corrode. At its end, it rusts.

The 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** - Steel pads, wire brushes and scrapers are prime examples of things that will scratch a steel surface.
2. **Water and Deposits** - Water has varying degrees of hardness. Depending on the area you live in, you may have hard or soft water. Hard water may leave spots, and when heated, leave deposits that will break down the passive layer and rust stainless steel. Other deposits from food preparation and service must be properly removed.
3. **Chlorides** - Chlorides are found nearly everywhere. They are in water, food and table salt. Some of the worst chloride perpetrators come from household and industrial cleaners.

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

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; they 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.

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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. **Wash by hand only with a dry rag. No power washing**

Review

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

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WARRANTY

Products manufactured by Caddy Corporation are warranted to the original purchaser as follows:

Mechanical components are warranted to be free from defects in material and workmanship under normal use, storage and service for a period of one year from the date of installation or eighteen months from factory shipment, whichever occurs first.

Electrical components are warranted to the original purchaser to be free from defects in material and workmanship under normal use, storage and service for a period of ninety days from the date of shipment.

Caddy Corporation shall repair or replace, at our discretion, any part or product which we determine to be defective during the warranty period.

Under no circumstances will Caddy Corporation honor any repair or back charges by any party regardless of whether such equipment is within the warranty period, unless the Service Department of Caddy Corporation has authorized such work in writing.

If the equipment is repaired or altered in any way whatsoever by any person without prior written consent by Caddy Corporation, this warranty shall not apply.

The following are ***NOT*** covered under this warranty:
- Normal wear on parts, such as bulbs, gaskets, etc.
- Defects or damages resulting from accidents, alterations, abuse or misuse of equipment and/or any of its components.
- Damage of electrical components resulting from connecting the equipment to any power supply other than specified on the nameplate, or resulting from unauthorized altering of the equipment.
- Damage from water conditions causing malfunction of electric components and/or control equipment.

There is no other express warranty.

Any and all implied warranties are excluded to the extent permitted by law. Implied warranties, when included by law, including those merchantability and fitness for a particular purpose, are limited to one year from the date of shipment.

Liability for consequential damages under any and all warranties is excluded. This warranty is the buyer's exclusive remedy.

It is Caddy's policy to constantly improve the design and manufacture of our products. Accordingly, all equipment is subject to change consistent with such policy without prior notice and some items may be discontinued without obligation.

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