VULCAN

INSTALLATION & OPERATION MANUAL

C24GA SERIES GAS CONVECTION STEAMERS

MODELS

C24GA6	*ML-136021*
C24GA10	*ML-136022*

For additional information on Vulcan-Hart or to locate an authorized parts and service provider in your area, visit our website at www.vulcanhart.com

VULCAN-HART
DIVISION OF ITW FOOD EQUIPMENT GROUP, LLC
WWW.VULCANHART.COM

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BALTIMORE, MD 21222

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IMPORTANT FOR YOUR SAFETY

THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.

POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER. IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.

IMPORTANT

IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNITS AT MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

WARNING

IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.

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INTRODUCTION

GENERAL

Vulcan convection steamers are produced with quality workmanship and material. Proper installation, usage and maintenance will result in many years of satisfactory performance.

It is suggested that you thoroughly read this entire manual and carefully follow all of the instructions provided.

Model C24GA6 can accommodate three 2 1/2" deep (64 mm) steam pans per compartment. Model C24GA10 can accommodate five 2 1/2" deep (64 mm) steam pans per compartment.

The C24GA6 and C24GA10 gas-fired convection steamers are designed for cooking vegetables, eggs, and other foods, in commercial kitchens. Each compartment has a 0 to 60 minute timer. (The buzzer requires manual shutoff.) The steamers are equipped with a cabinet base for floor installation.

	C24GA6	C24GA10
Compartments	2	2
Total Number of 2 1/2" (64 mm) Deep Pans	6	10
Gas Rating	125,000 BTU/hr.	125,000 BTU/hr.

UNPACKING

This steamer was inspected and tested before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the shipment.

Immediately after unpacking, check for possible shipping damage. If steamer damage is found, save the packaging material and contact the carrier within 15 days of delivery.

INSTALLATION

INSTALLER: A manometer (digital or incline tube) capable of reading pressure in 0.01" W.C. is required to install this steamer. Failure to set blower air and gas pressure correctly will result in burner and lighting failure.

Before installing, verify that the type of gas (natural or propane) and the electrical supply required agree with the specifications on the data plate located on the left edge of the tabletop. If the supply and equipment requirements do not agree, do not proceed with the installation. Contact your dealer or Vulcan-Hart immediately.

INSTALLATION CODES AND STANDARDS

In the United States, the Vulcan steamer must be installed in accordance with:

1. State and local codes.
2. National Fuel Gas Code, ANSI-Z223.1/ NFPA #54 (latest edition). This shall include but not be limited to: NFPA #54 Section 10.3.5.2 for Venting.

   Copies may be obtained from The American Gas Association Accredited Standards Committee Z 223, @ 400 N. Capital St. NW, Washington, DC 20001 or the Secretary Standards Council, NFPA, 1 Batterymarch Park Quincy, MA 02169-7471.
3. National Electrical Code, ANSI/NFPA No. 70 (latest edition) available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.
4. *Vapor Removal from Cooking Equipment,* NFPA-96 (latest edition) available from NFPA.

In Canada, the steamer must be installed in accordance with:

1. Local codes.
2. National Fuel Gas Code, CAN/CSA-B149.1 (latest edition) available from the Canadian Standards Association, 5060 Spectrum Way, Mississauga, Ontario, Canada L4W 5N6.
3. Canadian Electrical Code, CSA C22.2 (latest edition) available from the Canadian Standards Association, 5060 Spectrum Way, Mississauga, Ontario, Canada L4W 5N6.

LOCATION - GAS STEAMERS

The equipment area must be kept free and clear of combustible substances.

The recommended clearance for proper operation is 36" (914 mm) at the front. The required clearance from combustible or non-combustible construction is 0" at the sides and back. The recommended clearance for service access is 18" (457 mm) at the sides and 6" (152 mm) from the back.

Make sure there is an adequate supply of air in the room to replace air taken out by the ventilating system. If you have any questions, contact the ventilation system installer.

An exhaust system should be located directly above the steamer to exhaust steam, flue exhaust and heat generated by the steamer.

Do not locate the steamer directly over a drain.

LEVELING AND ANCHORING

Position the steamer in its final installed location. Place a level on the horizontal area of the cabinet. Adjust the feet to level the steamer in both the left-to-right and front-to-rear directions.

Steamers should be elevated in the front just enough, about 1/16" to 1/8" (2 to 3mm) to give proper draining. Do this by rotating the adjustable feet in the proper direction 1 to 1 1/2 turns after leveling. Check drainage in the steamer compartments by pouring a small amount of water in the compartment. All the water should drain.

The rear feet have holes in the flanges for anchor bolts.

PLUMBING CONNECTIONS

WARNING: PLUMBING CONNECTIONS MUST COMPLY WITH APPLICABLE SANITARY, SAFETY AND PLUMBING CODES.

Water Requirements

Proper water quality can improve the taste of the food prepared in the steamer, reduce liming in the steam generator and extend equipment life. Local water conditions vary from one location to another. Ask your municipal water supplier for details about your local water supply prior to installation.

Presence of sediment, silica, excess chlorides or other dissolved solids may lead to a recommendation for alternate form(s) of water treatment. Test the water with a TDS meter or the test strip included with the steamer. Other factors affecting steam generation are iron content, amount of chloridation and dissolved gases.

Water Treatment

A local water treatment specialist should be consulted before installation of steam generating equipment.

Supply Pressure	20 - 60 psig
Hardness*	less than 3 grains
Silica	less than 13 ppm
Total Chlorine	less than 4.0 ppm
PH range	7 - 8
Undissolved Solids	less than 5 microns
*17.1 ppm = 1 grain of hardness	

If the water supply fails to meet these standards, it will be necessary to install a water conditioner on the generator water feed.

The use of strainers or filters will not remove minerals from the water.

Water Supply Connection

Connect the treated cold water supply line to the $^{3}/_{8}$" NPT inlet at the rear of the steamer. Connect the untreated cold water supply line to the $^{1}/_{8}$" NPT, also at the rear of the steamer.

NOTE: Models manufactured after June 2006 may have $^{3}/_{4}$" hose connections.

A water filter system is recommended for the water supply line going to the treated water inlet of your steamer. Follow the recommendations for use and installation instructions shipped with the water filter. If a water filter is not installed, the steamer or steam generator warranty will be limited.

Filter System

If you decide to not install a scale reducing filter system designed for steam equipment or use another manufacturer's system other than recommended by Vulcan Hart, please use these guide lines.

- If you are going to delime the unit with a deliming agent recommended for a pressure steam boiler and stainless steel generators and you are on city or treated well water, you still must have a carbon block filter installed and maintained. Carbon block filters remove the chlorine and chloramines disinfectants from the water. Chlorine and chloramines will erode the boiler or steam generator and will result in a vessel failure which is not covered under warranty.
- Water feed lines to the steamer must be flushed before final connection. Particles in the water could build up in the water and steam valves or clog tubing and components that maintain the water level and pressure in the boiler or steam generator. If the water supply is not free of sediment or cloudy after several minutes of flushing, a sediment filter must be installed before use.
- If you have purchased water filter system from Vulcan Hart, please follow the

instructions provided with the filter system. At the time of installation you must register your steamer at www.vulcanhart.com/filterreg or use the reply card supplied with your unit. You will need to register your steamer at each filter change to insure your standard and extended warranty is maintained.

Drain Connection

The 1 1/2" NPT threaded fitting on the condenser box must be extended a minimum of 12" (305 mm) - maximum of 72" (1829 mm) away from steamer base, to an open air gap type drain. Do not reduce the 1 1/2" NPT drain piping throughout its length. Provide a suitable floor sink with a minimum depth of 12" (305 mm). The floor sink is NOT to be directly under the steamer and should be at a distance so that steam vapors will not enter the steamer from underneath. The drain should slope down away from the steamer 1/4" for every foot of drain pipe length. The drain pipe should be either iron or copper. DO NOT use PVC pipe; PVC pipe may lose its rigidity or glue may fail.

In order to avoid any back pressure in the steamer, do not connect solidly to any drain connection.

Temperatures in the generator can briefly reach as high as 212°F (l00°C). Local codes may require that the temperature of drain water be no greater than 140°F (60°C). At the end of the day, when purging the generators, some provision for lowering the water temperature must be provided by the user or installer to meet this code requirement.

GAS SUPPLY CONNECTION

All gas supply connections and any pipe joint compound used must be resistant to the action of propane gas. A 3/4" NPT minimum inside diameter gas supply line is required. If quick disconnect devices are used, make sure it is sized properly for data plate BTU/hr. rating. Refer to quick connect supplier's data sheet.

Codes require that a manual gas shutoff valve be installed in the gas line ahead of the steamer.

The gas line must be capable of delivering gas to the generator without excessive pressure drop at the minimum rate specified on the rating plate.

Check blower air pressure at gas manifold pressure tap by shutting off the gas valve. Air pressure at cold start-up should be 0.35" W.C. (0.09 kPa) (cold condition). After 15 minutes, air pressure should be between 0.40" W.C. (0.1 kPa) and 0.50" W.C. (0.13 kPa) (hot condition). Turn the air pressure adjust screw clockwise to increase pressure and counterclockwise to reduce pressure.

Gas Input:	3/4" NPT
Natural:	5" – 10.5" W.C.
Propane:	11" – 13" W.C.

Inadequate gas supply could result in burner noise and poor burner performance.

Refer to the instruction manual supplied with the machine for INSTALLATION CODES AND STANDARDS and GAS CONNECTION information.

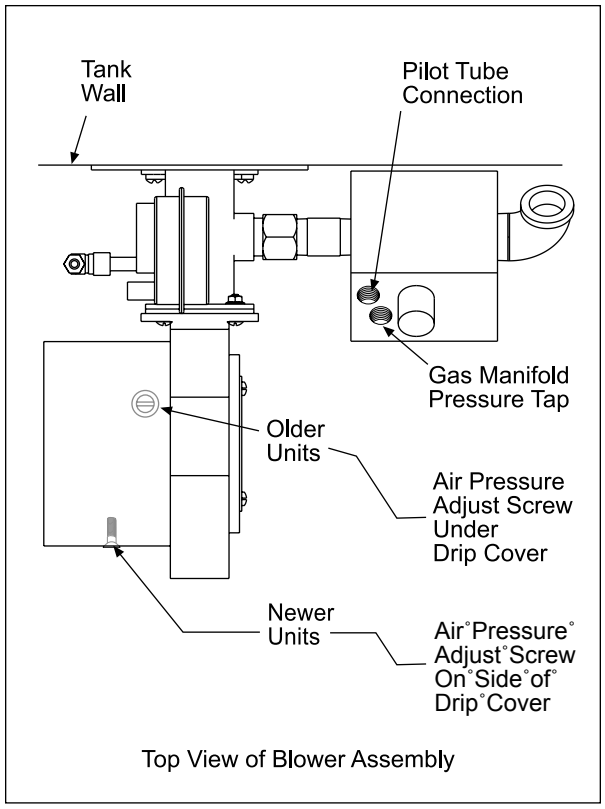


Figure 1

The proper sizing and installation of the gas connection is important for the machine to operate within its design specifications. In some installations, the gas supply may not be sufficient enough to allow all the gas equipment to operate properly at peak loads; or when other equipment with a high BTU/hr. input requirement is operating. The connection to the machine becomes even more important in this type of location.

Flexible gas connectors with quick disconnect or swivel fittings (when used) and gas connectors beyond the length necessary will reduce the BTU/hr. flow capacity to the machine.

NOTE: Do not use corrugated stainless steel tubing for commercial gas equipment supply connections.

NOTE: A straight gas connection is the ideal condition for the rated BTU/hr. flow capacity of the connector. If a straight connection is not possible and a flexible gas connector is used, do not twist, kink or excessively flex the connector beyond a U shape. Flexing the gas connector as described will restrict gas flow or may damage the connector.

Changing a flexible gas connector may raise the BTU/hr. flow capacity enough to allow the machine to operate within its design specifications. (i.e. Removing the quick disconnect fitting, installing a shorter gas connector or installing a larger diameter gas connector.)

An alternative may be to move the equipment to a different gas supply location in the kitchen. (i.e. Closer to the main supply into the kitchen or away from other equipment with high BTU/hr. input requirements.)

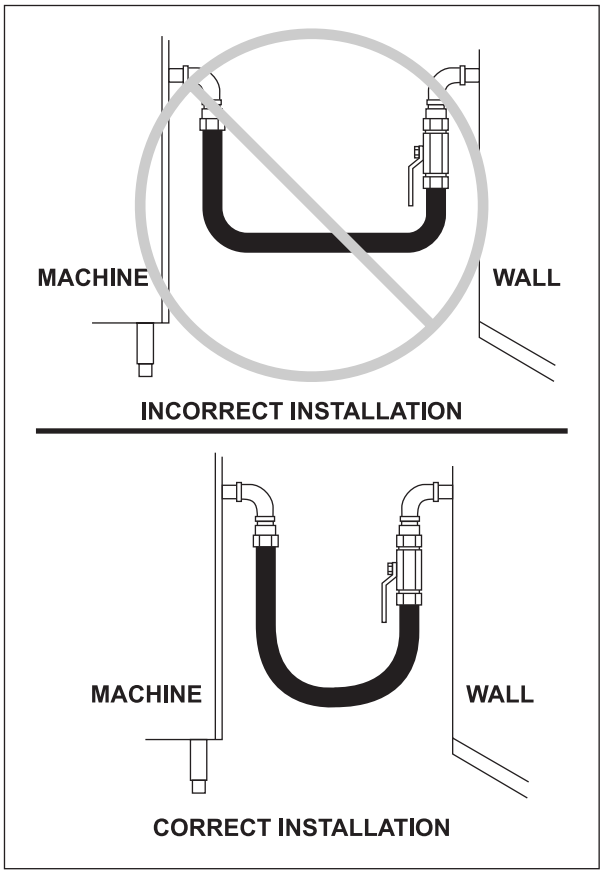


Figure 3

Gas Connection Data

FLEXIBLE GAS CONNECTORS BTU/hr. FLOW CAPACITY [1, 2]								
	LENGTH [3]				LENGTH [3]			
	End Fittings - (1) Quick Disconnect & (1) Threaded				End Fittings - Both Threaded			
ID	36"	48"	60"	72"	36"	48"	60"	72"
1/2"	77,000	68,000	60,000	55,000	120,000	106,000	93,000	86,000
3/4"	218,000	180,000	158,000	139,000	256,000	225,000	198,000	175,000
1"	379,000	334,000	294,000	279,000	512,000	451,000	397,000	350,000
1 1/4"	615,000	541,000	476,000	419,000	946,000	833,000	733,000	645,000

1. Flow rating BTU/hr. 0.64 SP. GR @ 0.5 inch W.C. pressure drop.
2. BTU/hr. flow capacities are based on Dormont Mfg. Co. Supr-Safe gas line connectors and are provided for reference. Additional quick disconnect fittings, swivels, or manual shut off valves will reduce the BTU/hr. flow capacities listed in this table. If other flexible gas connectors are used, check the manufacturer's specifications for BTU/hr. flow capacities. Supr-Safe is a registered trademark of the Dormont Manufacturing Company.
3. The maximum length for a flexible gas connector is 72" per National Fuel Code standards.

BLACK IRON PIPE BTU/hr. FLOW CAPACITY [1, 2, 3]						
Natural Gas	Nominal Inside Diameter of Pipe					
Pipe Length	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
15'	76,000	172,000	345,000	750,000	1,220,000	2,480,000
30'	52,000	120,000	241,000	535,000	850,000	1,780,000
45'	43,000	99,000	199,000	435,000	700,000	1,475,000
60'	38,000	86,000	173,000	380,000	610,000	1,290,000
75'		77,000	155,000	345,000	545,000	1,120,000
90'		70,000	141,000	310,000	490,000	1,000,000

1. Flow rating BTU/hr. 0.64 SP. GR @ 0.3 inch W.C. pressure drop.
2. BTU/hr. flow capacities are based on Schedule 40 pipe, include a tolerance for pressure losses in gas piping systems are provided for reference.
3. Count each 90° elbow as 3' of gas pipe for the purpose of calculating total pipe length.

The generator is equipped with a factory-preset pressure regulator. Natural gas pressure regulators are preset for 2.5" W.C. (0.62 kPa). Propane gas pressure regulators are preset for 10" W.C. (2.46 kPa). No further adjustment should be required. Check gas pressures with a manometer at time of installation to verify that they agree with the pressures specified.

WARNING: PRIOR TO LIGHTING, CHECK ALL JOINTS IN THE GAS SUPPLY LINE FOR LEAKS. USE SOAP AND WATER SOLUTION. DO NOT USE AN OPEN FLAME.

After piping has been checked for leaks, all piping receiving gas should be fully purged to remove air.

Testing the Gas Supply System

When the gas supply pressure exceeds 1/2 psig (3.45 kPa), the steamer and its individual manual gas shutoff valve must be disconnected from the gas supply piping system.

When the gas supply pressure is 1/2 psig (3.45 kPa) or less, the steamer should be isolated from the gas supply system by closing its individual manual gas shutoff valve.

FLUE GAS EXHAUST

DO NOT obstruct the flow of flue gases from the flue located on the rear of the steamer.

It is recommended that the flue gases be vented to the outside of the building through a ventilation system installed by qualified personnel.

Information on the construction and installation of ventilating hoods may be obtained from *Vapor Removal from Cooking Equipment,* NFPA-96 (latest edition) available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

ELECTRICAL CONNECTION

WARNING: THE STEAMER IS EQUIPPED WITH A THREE-PRONG GROUNDING PLUG. THE OUTLET TO WHICH THIS PLUG IS CONNECTED MUST BE PROPERLY GROUNDED. IF THE RECEPTACLE IS NOT THE PROPER GROUNDING TYPE, CONTACT AN ELECTRICIAN. DO NOT REMOVE THE GROUNDING PRONG FROM THE PLUG.

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

Refer to the data plate located on the left edge of the tabletop and the electrical diagram located behind the front panel on the base.

ELECTRICAL DATA

Volts	120
Hertz (Hz)	60
Phase	1
Machine Amps	3
Minimum Circuit Ampacity, Maximum Protective Device AMPS	15

START UP

WARNING: THE STEAMER AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, CLEANING OR SERVICING THE STEAMER. THE COOKING COMPARTMENT CONTAINS LIVE STEAM. STAY CLEAR WHILE OPENING THE DOOR.

Once the steamer is installed and all mechanical connections have been made, thoroughly test the steamer before operation.

1. Check that proper water, drain, electrical and gas connections have been made.
2. Turn on manual gas valve.
3. Press power switch to the on position. After approximately 20 minutes the ready light should come on, indicating that generator has reached operating pressure.
4. With the door closed the ready light comes on. Set the timer to the 5-minute position. Open the door and observe that no steam is entering the compartment and the ready and cooking lights are off.
5. Close the compartment door. The cooking light should now be lit and steam should be heard entering the compartment.
6. Check the drain line to be sure that water from the cold water condenser is flowing through the drain line.
7. Open the compartment door and observe that steam supply to the compartment stops, and that the ready light and cooking light turn off.
8. Close the compartment door and let the cooking cycle finish. When the timer returns to the 0 position, a buzzer will sound, signaling the end of the cooking cycle and the cooking light goes off. To silence the buzzer, turn the dial timer to the OFF position.
9. Complete the above steps for each cooking compartment.
10. To shutdown the steamer, press the power switch to the off position and close the manual gas shutoff valve. Leave the compartment doors slightly open to allow the inside to dry out.

OPERATION

WARNING: THE STEAMER AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, CLEANING OR SERVICING THE STEAMER.

WARNING: THE COOKING COMPARTMENTS CONTAIN LIVE STEAM. STAY CLEAR WHILE OPENING EACH DOOR.

LIGHTING AND SHUTDOWN INSTRUCTIONS

Lighting

1. Turn manual gas shutoff valve to on position.
2. Press power switch on. Steam will generate in 20 minutes.
3. Ready light will light when compartment is ready for cooking.
4. Load food and set timer to proper cook time. Door must be closed.

Shutdown

1. Press power switch off.
2. Wait 5 minutes before relighting the appliance (if required).
3. Turn manual gas shutoff valve to off position.
4. Do not unplug or turn off power supply for at least 20 minutes after power switch is turned off.
5. Leave compartment door sightly open.

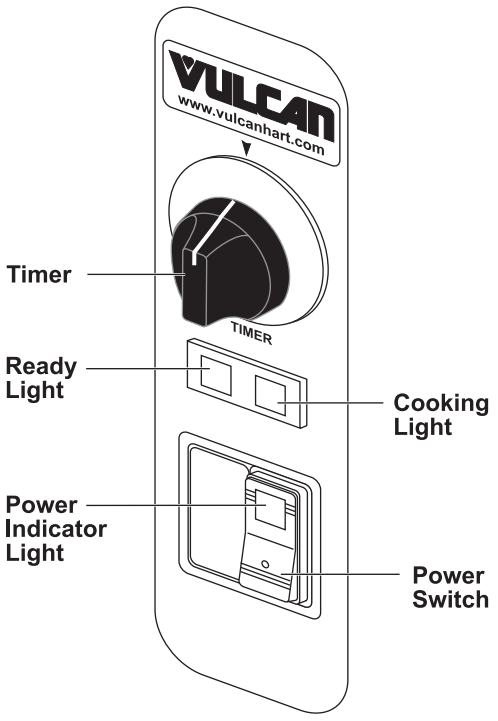
COMPARTMENT CONTROLS

The upper section of the steamer consists of two cooking compartments. Each compartment functions independently with its own controls (See Figure 4) and is a separate, sealed steam chamber during the cooking operation.

WARNING: THE STEAMER AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, CLEANING OR SERVICING THE STEAMER.

Compartment Controls and Indicators

ITEM	FUNCTION
Ready Light (Green)	Indicates the steamer is ready for the cooking cycle
Cooking Light (Red)	Indicates the steamer is in the cooking phase
Timer	Set the desired cooking time. Timer range is 0-60 minutes or constant. Turn to the OFF position to silence buzzer.



Note: Upper Compartment Control Panel does not contain a Power Switch or Power Indicator Light.

Figure 4. Cabinet Controls

Refer to *Steam Cooking with Vulcan Kettles and Steamers* for suggested cooking times. Also refer to the Suggested Cooking Guideline in this manual. Size, weight, pan loading and product quality will affect cooking times and should be adjusted to your own requirements.

STARTUP PROCEDURE

1. Open manual gas shutoff valve and ensure the steamer doors are closed.
2. Press power switch to the on position.
3. If Ready light fails to turn on in 20 minutes, press power switch off and back on to reset ignition system.

PREHEATING

Preheat the cooking cavity when the steamer is first used for the day or whenever the compartment is cold. Keep the door closed during the preheat cycle.

- When the green ready light comes on, set the timer to 10 minutes to preheat the compartment.
- The red cooking light is lit.
- When the buzzer sounds, turn the timer to the OFF position. The steamer is ready to cook.

OPERATING

1. With the compartment(s) preheated and the green ready light on, place pans of food into the cooking compartment(s) and shut the door(s).
2. Turn the timer(s) to the desired cooking time.
    - The cooking cycle will begin.
    - The cooking cycle and time may be interrupted at any time by opening the door. Close the door to resume cooking.
3. The buzzer will sound when the cooking cycle ends and steam has stopped entering the cooking compartment(s).
    - Turn the timer(s) to the OFF position to silence the buzzer(s); remove the cooked food.
    - The red cooking light will go off and the green ready light will come on to indicate the steamer is ready for the next cooking cycle.

STEAMING

Each steaming compartment has its own controls.

With the Ready light lit, the steamer is ready for use.

- Place pans of food to be cooked into the compartment and shut the door.
- Set the timer to the desired cooking time. Steaming begins.
- The cooking cycle may be interrupted at any time by opening the compartment door. Resume cooking by closing the door.
- When the buzzer sounds, the timed steaming cycle has finished. Steaming stops, the cooking light goes off. To silence the buzzer, turn the timer OFF.

EXTENDED SHUTDOWN

To shut down for an extended period:

1. Press power switch off.
2. Turn manual gas shutoff valve to off.
3. Clean the compartment(s).
4. After 20 minutes unplug steamer.

CLEANING

WARNING: DISCONNECT ELECTRICAL POWER TO THE MACHINE AND FOLLOW LOCKOUT / TAGOUT PROCEDURES BEFORE CLEANING.

Cooking Compartment Drains

Keep compartment drains running freely. Inspect compartment drains daily for blockage. Remove any particles or debris from the perforated strainer daily (or more often if needed).

After cooking greasy foods or seafood, close the doors and operate each compartment for 25 to 30 minutes to flush any residual grease and oils down the compartment drain. Make a solution of warm water and non-chloride detergent and pour 1/2 gallon (1.9 liters) of it down each compartment drain. Rinse by pouring 1/2 gallon (1.9 liters) of hot water down each compartment drain.

Draining Generator

To prevent malfunction of controls and clogging, it is essential to drain the generator every day. This will flush out any accumulated minerals from the feed water. It will also aid in preventing internal scale buildup which would interfere with proper generator operation. Failure to drain the generator every day will void the steamer warranty. The presence of minerals in suspension is indicated by a murky or milky condition in the first portion of the water drained.

WARNING: THE WATER BEING DRAINED IS HOT AND UNDER PRESSURE. USE CARE WHEN CLEANING OR SERVICING THE GENERATOR.

After the generator has been in operation, turn the unit off with the power switch located on bottom cooking cavity to drain the generator. The generator will drain for approximately 15 minutes, removing sediment, scale and lime buildup in the generator.

Compartments

Wash the inside of the compartment with a solution of warm water and non-chloride detergent. Rinse with warm water.

Once a week, thoroughly clean the exposed surfaces (sides, front, door and top) with a damp cloth and polish with a clean cloth. To remove discolorations, use a nonabrasive cleaner.

Door Gaskets

Clean the gasket sealing surface of the compartment doors to remove food acids for maximum gasket life. Do not use any solvents or sharp instruments. Wash with a cloth moistened in a solution of mild detergent and warm water. Rinse with a fresh cloth moistened with warm water to remove all traces of detergent.

Wipe dry with a clean cloth. Never apply food oils or petroleum lubricants directly to the door gasket. Petroleum-based solvents and lubricants will reduce gasket life.

LEAVE COMPARTMENT DOORS OPEN

Leave the compartment doors slightly open when the steamer is not in use. When the compartment is idle, never latch the door and apply pressure to the door gasket. Leaving the gasket under pressure can cause permanent deformation and reduce gasket life.

GUIDELINES FOR MAINTAINING STAINLESS STEEL SURFACES

There are four things that will break down stainless steel and allow corrosion to develop: 1) abrasion, 2) deposits, 3) water and 4) chlorides.

Avoid rubbing with steel pads, wire brushes or scrapers that can leave iron deposits on stainless steel. Instead, use plastic scouring pads or soft cloths. For stubborn stains, use products such as Cameo, Talc or Zud First Impression. Always rub parallel to the polish lines or with the grain.

Hard water will leave deposits that promote rust on stainless steel. Treated water from softeners or certain filters can eliminate these mineral deposits. Other deposits from food or lubrication must be properly removed by cleaning. Use mild detergent and non-chloride cleaners. Rinse thoroughly. Wipe dry. Where appropriate, apply a polish recommended for stainless steel (such as Benefit or Super Sheen) for extra protection and luster.

MAINTENANCE

WARNING: THE STEAMER AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, OR SERVICING THE STEAMER.

Water Treatment System

A water treatment system is recommended for steamers. Refer to your supplier's manual for normal maintenance procedures for proper scale-free operation recommendations.

Scale Related Maintenance

Periodic maintenance is necessary to keep your generator clean and efficient. Initially, after three months of steamer usage, it is recommended that you have your Vulcan-Hart authorized servicer inspect the generator. Local water conditions and steamer usage will determine the frequency that this service must be repeated; however, a minimum recommendation is once a year. This maintenance is not covered by warranty.

Draining Generator

At least once daily, turn the unit off with the power switch located on bottom cooking cavity, to drain the generator.

NOTE: DO NOT remove the electric supply or the unit will not drain.

Door Gaskets

If the door gasket is leaking due to a nick or cut, it must be replaced. Damage to the gasket sealing surface will cause steam leakage.

Flue

Annually (at minimum), when the steamer is cool, check the flue and clear any obstructions.

COOKING CHART

The following table lists suggested cooking times and weights. These times, which will vary depending on initial product temperature, size, shape, etc., are approximate and should be adjusted to suit your operation.

PRODUCTS TO BE COOKED IN SOLID PANS

PRODUCT	TIMER SETTING IN MINUTES	WEIGHT PER PAN
Eggs, Scrambled	12	8 Dozen
Rice, Long Grain (Cover with 4 cups water/lb.)	25	2 lbs.
Pasta (Place perforated pan inside solid pan, cover pasta with cold water		
Spaghetti – Regular/Vermicelli	12-15	4 lbs.
Macaroni - Shells/Elbows	15-18	4 lbs.
Noodles - 1/2" Wide	12-15	4 lbs.
Lasagna Noodles	15-18	4 lbs.
Frozen Casseroles, Lasagna	35	Full Pan
Meat Loaf, 3-5 Lb. Each	40	15 lbs.
Beef		
Ground Chuck	20-25	10 lbs.
Sliced as Purchased	35-40	10 lbs.
Shrimp, Frozen, 10 Shrimp per Lb.	5	4 lbs.
Beans		
Baked	9	10 lb. Can
Refried	9	10 lb. Can
Canned Vegetables	6	10 lb. Can
Prunes, Dried	15	

PRODUCTS TO BE COOKED IN PERFORATED PANS

PRODUCT	TIMER SETTING IN MINUTES	WEIGHT PER PAN
Clams		
Frozen	10-12	3 Dozen
Fresh	10-12	3 Dozen
King Crab Frozen		
Claws	4	2-1/2 Lbs.
Legs	4-6	2-1/2 Lbs.
Lobster Tail Frozen	6	10 lbs.
Lobster, Live, 10" – 12"	5	4 per pan
Salmon Fillets, Frozen, 8 Oz. Ea	5	7-1/2 lbs.
Scallops, Fresh	4	3 lbs.
Scrod Fillets, Fresh	3.5	4 lbs.
Eggs		
Hard Cooked	15	4 Dozen
Soft Cooked	9-10	4 Dozen
Soft Yoke for Caesar Salad	6-8	4 Dozen
Chicken Breasts, Legs, Thighs	20	15 lbs.
Turkey		
Frozen Breasts (2)	90	6-7 lbs. ea.
Cut Lengthwise	95	20-25 lbs. ea.
Corned Beef	40-75	6-8 lbs.
Hot Dogs or Wieners	3	80-100 Count
Asparagus Spears		
Frozen	10-12	3 Dozen
Fresh	5	5 lbs.
Beans		
Green, 2" Cut, Frozen/Fresh	6	5 lbs.
Lima, Frozen	8	5 lbs.
Baby Lima, Frozen	5	5 lbs.
Broccoli		
Spears, Frozen	8	4 lbs.
Spears, Fresh	6	5 lbs.
Flowerettes, Frozen	6	5 lbs.
Brussel Sprouts, Frozen	6	5 lbs.
Cabbage, Fresh, 1/6 Cut	8	5 lbs.

PRODUCTS TO BE COOKED IN PERFORATED PANS

PRODUCT	TIMER SETTING IN MINUTES	WEIGHT PER PAN
Carrots		
Baby Whole, Frozen	8	7 lbs.
Crinkle Cut, Frozen	7-8	4 lbs.
Sliced, Fresh	11	9 lbs.
Cauliflower, Flowerettes		
Frozen	6	4 lbs.
Fresh	7-8	5 lbs.
Celery, 1" Diagonal Cut	7	5 lbs.
Corn		
Yellow Whole Kernel, Frozen	5	5 lbs.
Cobbettes, Frozen	8	27 Ears
Corn On Cob, Fresh	16-18	80 Ears
	10-12	18 Ears
	16-18	54 Ears
Peas, Green	6	5 lbs.
Potatoes, “Whole Russet”	55	10 lbs.
Spinach		
Chopped, Frozen	17	6 lbs.
Defrosted	5	6 lbs.
Fresh Cut	3	2 lbs.
Squash, Acorn, Halves	25	10 Halves
Zucchini, Slices	8	10 lbs.
Frozen Mixed Vegetables	6-7	5 lbs.
Fruit, Blanch for Peeling		
Grapefruit	3	
Oranges	3	
Pineapple, Whole for Cutting	4	

COOKING HINTS

Where possible, spread food out evenly in pans. Do not allow food to protrude above pans, since this will interfere with steam circulation between pans in the compartment.

Always preheat compartments for satisfactory results.

When time does not allow for defrosting of frozen vegetables, such as loose-pack peas, corn, diced carrots, etc., they may be cooked at once provided just half of the suggested portions in the cooking chart are used.

TROUBLESHOOTING

SYMPTOMS	POSSIBLE CAUSES	REMEDY
Unit not steaming	Gas supply is off	Turn on gas supply.
	Power cord is unplugged	Plug in power cord.
	Power switch is off	Press power switch on.
	Water supply is off	Turn on water supply.
	Burner control goes into 100% lockout	Shut off the power, wait 5 minutes, then turn power back on to restart ignition. If symptom persists, contact your Authorized Vulcan-Hart Servicer.
Door leaks	Damaged door gasket	Check door gasket for damage. If adjustment is needed, contact your Authorized Vulcan-Hart Servicer.
	Plugged drain or screen	Clear compartment cavity screen. If symptom persists, contact your Authorized Vulcan-Hart Servicer.
Water accumulates in compartment	Drain clogged	Unclog drain.
	Not leveled properly	Level per instructions in this manual.
Water not being supplied to generator	Water supply valve is off	Turn valve on.
	Water pressure low	Check water supply pressure.
	Water filter is plugged	Refer to water filter manual. If symptom persists, contact your Authorized Vulcan-Hart Servicer.
Steam is exiting from under unit	Generator pressure is too high	Contact your Authorized Vulcan-Hart Servicer.

SERVICE AND PARTS INFORMATION

To obtain service and parts information concerning this model, contact the Vulcan-Hart Service Agency in your area (refer to our website, www.vulcanhart.com for a complete listing of Authorized Service and Parts depots).

When calling for service, the following information must be available: model number, serial number, manufacture date (MD) and voltage.