OWNER'S MANUAL

ELECTRIC CONVECTION STEAMER

MODEL: ☐ **MPS-3E**

INSTALLATION, OPERATION, MAINTEANCE, TROUBLE-SHOOTING, PARTS, WIRING

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IMPORTANT NOTES FOR INSTALLATION AND OPERATION

	**This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**

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

This manual should be retained for future reference.

Intended for commercial use only. Not for household use.

Adequate clearances must be maintained for safe and proper operation.

TABLE OF CONTENTS

1.0 SERVICE CONNECTIONS

SERVICE CONNECTIONS

Electrically Operated

EC	Electrical Connection - 1-1/8" (*29mm*) electric connection to controls.
GW	Generator Water - 3/8" (*10mm*) OD tubing at 25-50 PSI.
CW	Cold Water - 3/8" (*10mm*) OD tubing at 25-50 PSI.
D	Drain - 1" (*25mm*) IPS piped to open floor drain. **NO SOLID CONNECTION TO FLOOR DRAIN. NO BENDS OR ELBOWS.**

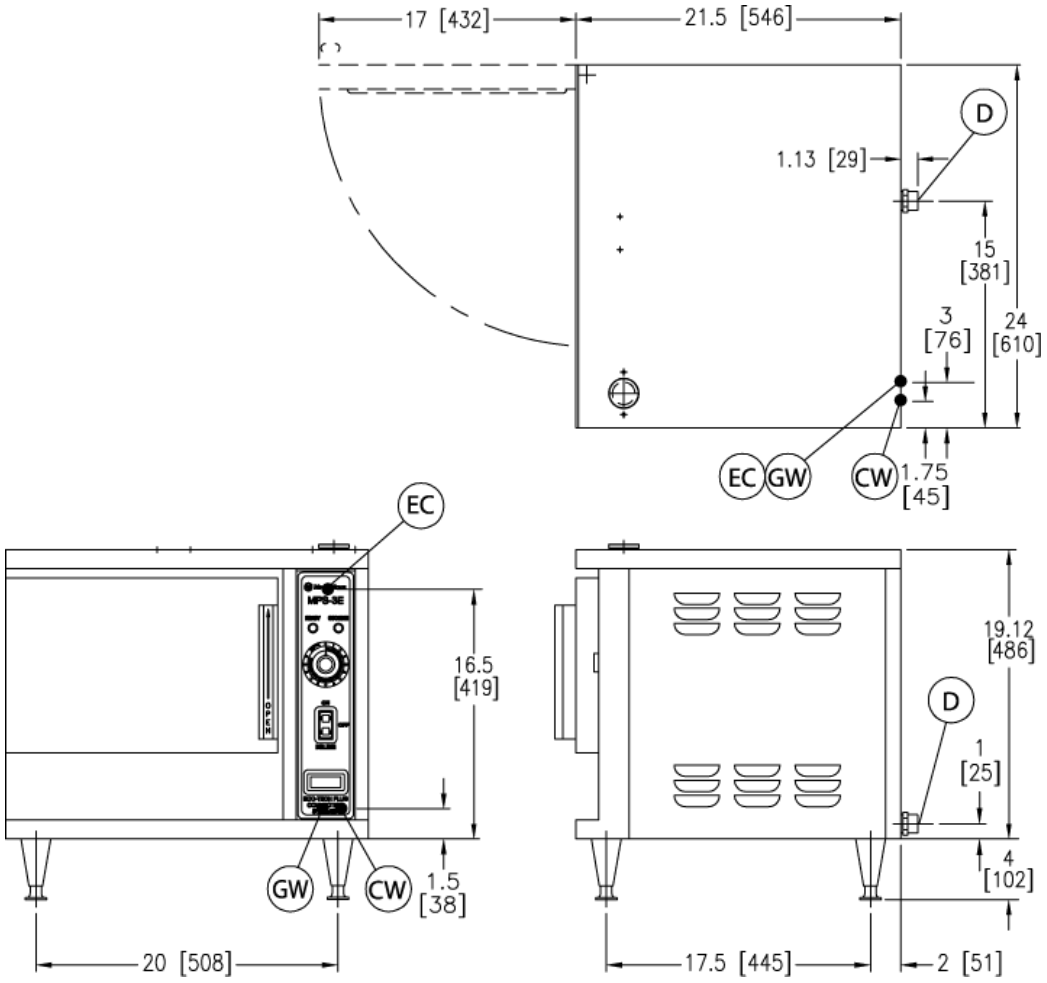
Pan Capacity (*Half Size Pans*)

Size – Deep	1"	2-1/2"	4"	6"
MPS-3E	6	3	2	1

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. ***EQUIPMENT FAILURE CAUSED BY INADEQUATE WATER QUALITY IS NOT COVERED UNDER WARRANTY.***

AMP/PHASE

MODEL	kW	SINGLE PHASE			THREE PHASE				
		208V	220V	240V	208V	240V	380V	415V	480V
MPS-3E	7.5	36	34	31.3	20.8	18.8	11.4	10.4	9



2.0 INSTALLATION INSTRUCTIONS

GENERAL

The MPS-E steamers are single compartment electric pressureless steam cookers with an internal electric steam generator that maintains standby water temperature at approximately 205^{o}F. MPS-3E is rated 7.5 kW. MPS-6E is rated 12 kW.

At high altitude locations a lower temperature is required to achieve atmospheric steaming. Contact your authorized service office to have the thermostat adjusted if the steamer will be operated at high altitudes.

UNPACKING

This steamer was inspected before leaving the factory. The transportation company assumes full responsibility for safe delivery. Immediately after unpacking the steamer, check for possible damage. If the steamer is found to be damaged after unpacking, save the packaging material and contact the carrier within 15 days of delivery.

Prior to installation, verify that the electrical service agrees with the specifications on the machine data plate which is located on the left side panel.

LOCATION

Allow space for plumbing and electrical connections. Minimum clearances are 0" on the sides and 6" (152mm) on the back for proper air circulation. Allow adequate access for operating and servicing the steamer, 36" (915mm) at the front of the steamer and 15" (381mm) above the steamer.

LEVELLING

Using a spirit level or pan of water in the bottom of the steamer, adjust the leveling feet or the feet on the adjustable legs to level the steamer front-to-back and side-to-side. After the drain is connected, check for level by pouring water onto the floor of the compartment. All water should drain through the opening at the back of the compartment cavity.

ANCHORING STEAMER (Without Legs)

1. Place steamer in the desired location on the leveled counter top and mark four corners. Remove the steamer and drill 5/8" holes as indicated in Figure 1.

2. Apply a bead of RTV or other equivalent sealant around bottom perimeter edge of the steamer. If anchoring the steamer, this bottom seal is necessary to meet NSF requirements.

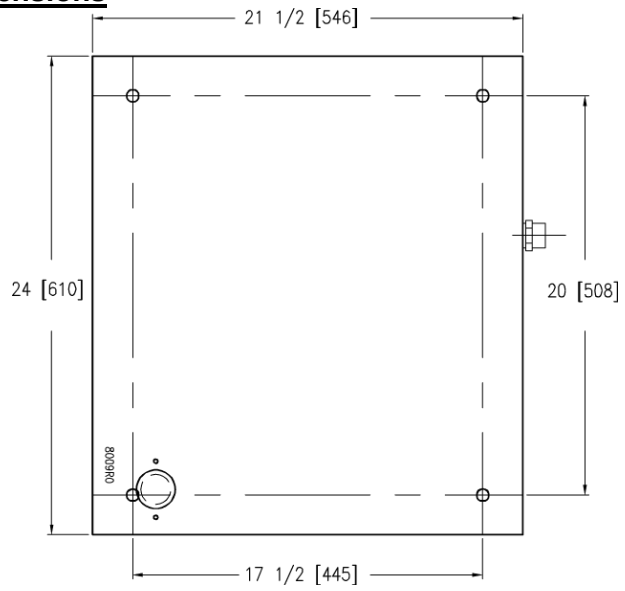
3. Set steamer on counter and bolt down securely with 1/2 - 13 bolts (not supplied).

STACKING KIT

Follow instructions in the stacking kit when installing stacked convection steamers.

2.0 INSTALLATION INSTRUCTIONS (Continued)

FIGURE 1 / Stand Dimensions



	**WARNING: Disconnect the power supply to the appliance before cleaning or servicing.**

Make electrical connection through the 1-1/8" (29mm) diameter hole provided using 3/4" (19mm) trade size conduit. Refer to the wiring diagram located inside the right side panel. Use 90°C minimum insulated wire.

PLUMBING CONNECTIONS

	**WARNING: Plumbing connections must comply with applicable sanitary, safety, and plumbing codes.**

The water supply inlets are provided with 3/8" (10mm) compression fittings for 3/8" O.D. copper tubing. The water supply line pressure should be 25 - 50 PSI (170 - 345 kPa) for each line. The water supply to the generator tank is separate from the water supply to the cooling system where steam is condensed before entering the drain line.

Install line strainers (not provided). A manual shutoff valve for each supply line must be provided convenient to the steamer.

We recommend treated water feeding the boiler inlet supply, and untreated water feeding the cooling system inlet. Hook-ups are labeled on the back of the steamer.

2.0 INSTALLATION INSTRUCTIONS (Continued)

ADJUSTMENT FOR HIGH ALTITUDE LOCATIONS

The steamer has been factory set so that when it is ON, and during the READY phase, it will maintain water temperature in the steam generator tank at approximately 205°F (96°C) (just below water boiling point). However, for high altitude locations, an authorized service agency must adjust the steamer to achieve this temperature.

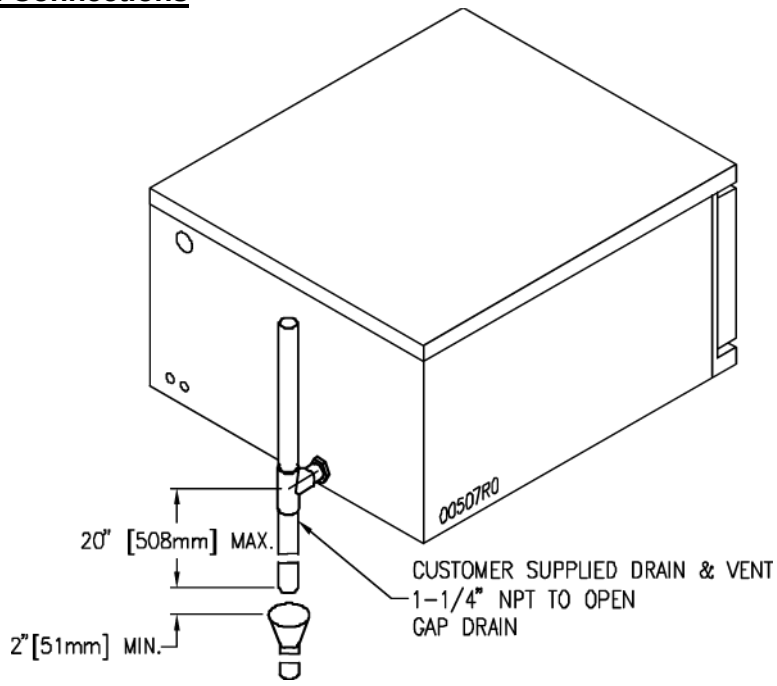
ADJUSTMENT FOR DRAIN WATER TEMPERATURE

Cooling solenoid valves have been adjusted to yield drain temperatures of 140°F. This will vary depending on install location water supply temperature and pressure. A qualified service person should adjust the cooling solenoid valves should the drain temperature be other than desired. Refer to section 7.0 Adjustments on page 23 for adjustment instructions.

DRAIN CONNECTIONS (FIGURE 2)

The drain connection (Fig. 2) must be 1" IPS down, preferably with one elbow only, maximum length of 6 feet and piped to an open air gap type drain. Use copper only.

FIGURE 2 / Drain Connections



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

2.0 INSTALLATION INSTRUCTIONS (Continued)

WATER QUALITY

The water supply connected to this steamer should contain no more than 2.0 grains of hardness per gallon with pH from 6.5 to 8.0. This degree of hardness and pH can easily be obtained with the use of a properly maintained water softener.

Water supplies vary from one location to another. A local water treatment specialist should be consulted before installing any steam generating equipment.

Untreated water contains scale producing minerals which can precipitate onto the surfaces in the boiler. Due to the temperatures in the boiler, the minerals can bake onto the surfaces and components. This can result in early component failure and reduced product life.

Mineral scale on components causes several problems:

1. The surfaces of the heating devices become coated with scale, reducing the heat transfer efficiency. This can produce hot spots on the heating elements and result in premature failure.

2. The water level probes become coated with scale. Scale will bridge across the probe insulator from the metal extension which senses the water level in the boiler. Once this scale becomes wet, the water level control is unable to maintain the proper water level in the boiler. This situation may cause an electric heating element to fail if the element is not adequately covered by water.

Strainers and filters will NOT remove minerals from the water.

Refer to **REMOVAL OF LIME SCALE DEPOSITS**, page 14.

VENT HOOD

Some local codes may require the steamer to be located under an exhaust hood. Information on the construction and installation of ventilating hoods may be obtained from Vapor Removal from Cooking Equipment, NFPA standard No. 96 (latest edition).

ELECTRICAL CONNECTIONS

WARNING: Disconnect electrical power supply and place a tag at the disconnect switch to indicate that you are working on the circuit.

Electrical grounding must be provided in accordance with local codes or in the absence of local codes, with the National Electrical Code, ANS/NFPA70, or the Canadian Electrical Code, CSA C22-2, as applicable.

Use copper wire suitable for at least 200^{o}F (90^{o}C). The steamer must be grounded. The wiring diagram is located on the right side panel as you face the steamer.

2.0 INSTALLATION INSTRUCTIONS (Continued)

TESTING PROCEDURES

CAUTION: Live steam and accumulated hot water in the compartment may be released when the door is opened.

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

1. Check that proper water, drain and electrical connections have been made.

2. Turn main power switch ON. After approximately 15 minutes, the READY light should come on, indicating that the water temperature is 205 degrees Fahrenheit.

3. When the READY light comes on, set timer to the “5 minute” position. With door open, observe that no steam is entering the compartment and that the COOKING light is OFF.

4. Close compartment door. The COOKING light should now be illuminated and steam should be heard entering the compartment after about 45 seconds.

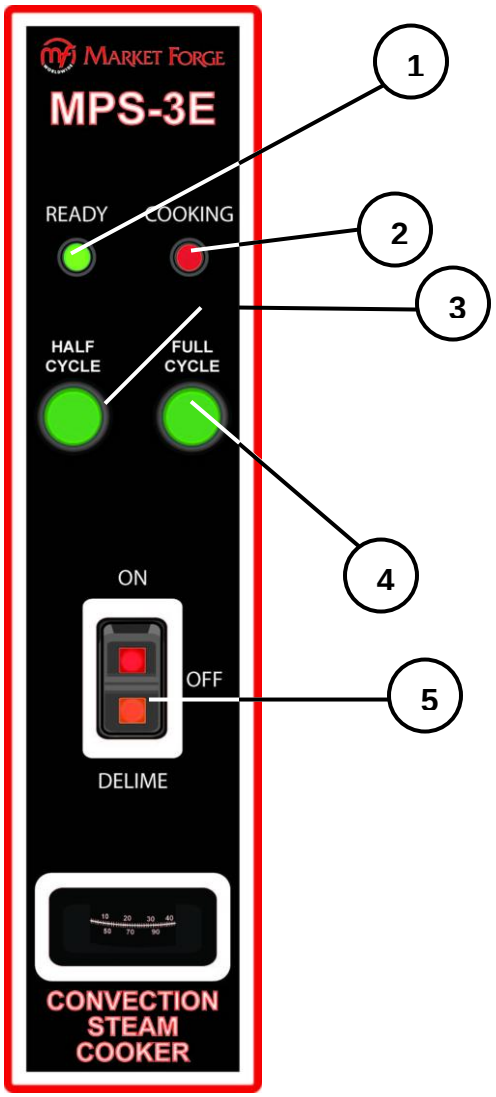
5. Check drain line to ensure that water from cold water condenser is flowing through the drain line.

6. Open compartment door and observe that steam supply to chamber is cut off. (READY light should again come on as COOKING light goes off.)

7. Close compartment door and let cooking cycle finish. When the timer returns to “0" position, a buzzer will sound signaling the end of the cooking cycle. Buzzer must be manually turned off by setting the timer to its OFF position.

8. To shut down steamer, turn main power switch OFF and leave compartment door slightly open.

3.0 OPERATION INSTRUCTIONS



CONTROLS		
1	**READY LIGHT**	When lit, indicates steam generator has reached 200° F (93°C) and is ready for the cooking cycle.
2	**COOKING PILOT LIGHT**	When lit, indicates that a cooking cycle is in progress.
3	**HALF CYCLE TIMER**	The Half Cycle button is pre-programmed to run for 1-1/2 minutes (90 seconds).
4	**4. FULL CYCLE TIMER**	The Full Cycle button is pre-programmed to run for 2-1/2 minutes or (150 seconds).
5	**MAIN POWER SWITCH**	
	ON	The steam generator will automatically fill and begin heating to the pre-set READY temperature for standby. Red light on switch will be illuminated
	OFF	The steam generator will automatically drain. No indicator lights will be on.
	DELIME	Closes the DRAIN VALVE while “Total Concept” is being poured into the steam generator during the delime procedure. Amber light will illuminate

	**CAUTION: Live steam and accumulated hot water in the compartment may be released when the door is opened.**

	**CAUTION: An obstructed drain can cause personal injury or property damage.**

3.0 OPERATION INSTRUCTIONS (Continued)

BEFORE FIRST USE

Clean the protective oils from all surfaces of the steamer. Use a non-corrosive, grease dissolving commercial cleaner, following manufacturer's directions. Rinse thoroughly and wipe dry with a soft clean cloth.

PREHEAT

Turn the main power switch ON. When the READY light comes on, set the timer to 1 minute to preheat the compartment. This should be done when the steamer is first used for the day or whenever the chamber is cold. The door should be closed during the preheat cycle. The COOKING light will be lit. When the buzzer sounds, set the timer to the OFF position. The steamer is now ready to cook.

COOK

With compartment preheated and READY light ON, place pans of food into the compartment and close the door.

Set timer to desired cooking time. (The cooking cycle may be interrupted at any time by opening the door. To resume operation, close the door.) Steam will flow into the compartment and the COOKING light will be lit.

At the end of the cooking cycle, the buzzer will sound, the COOKING light will go off and steam supply to the compartment will cease. Turn the timer to the OFF position to silence the buzzer.

SHUTDOWN

Turn main power switch OFF. The boiler will automatically blow down. Leave the compartment door open to allow the inside to dry out. For an extended shutdown, turn the main power switch OFF; turn power and water supply OFF.

DRAINING THE BOILER

Drain the boiler after each day's use to flush out minerals and minimize scale build-up. The boiler drains automatically for approximately 4 - 6 minutes after the main power switch is turned off.

Each compartment is equipped with a removable drain screen. Frequently check the drain screen for accumulation of food particles. Should food particles accumulate against, or clog the drain screen, remove it, clean it thoroughly and then replace it in its original position

Frequently check that the compartment drain and plumbing is free of all obstructions. Never place food containers, food or food portion bags in the cooking compartment in such a way that the compartment drain becomes obstructed.

3.0 OPERATION INSTRUCTIONS (Continued)

STEAM COOKING

Your steamer efficiently cooks vegetables or other foods for immediate serving. Steam cooking should be carefully time controlled. Keep hot-food-holding-time to a minimum to produce the most appetizing results. Prepare small batches, cook only enough to start serving, then cook additional amounts to meet demand. Separate frozen foods into smaller pieces to allow more efficient cooking.

Use a pan cover for precooked frozen dishes that cannot be cooked in the covered containers in which they are packed if they require more than 15 minutes of cooking time. When a cover is used, approximately one-third additional cooking time is necessary.

Cooking time for frozen foods depends on amount of defrosting required. If time permits, allow frozen foods to partially thaw overnight in a refrigerator. This will reduce their cooking time.

PREPARATION

Prepare vegetables, fruits, meats, seafood and poultry normally by cleaning, separating, cutting, removing stems, etc. Cook root vegetables in a perforated pan unless juices are being saved. Liquids may be collected in a solid 12 inch by 10 inch pan placed under a perforated pan. Perforated pans are used for frankfurters, wieners and similar items when juices do not need to be preserved. Solid pans are good for cooking puddings, rice and hot breakfast cereals. Vegetables and fruits are cooked in solid pans to preserve their own juices. Meats and poultry are cooked in solid pans to preserve their own juices or to retain broth. Canned foods may be heated in their opened cans (cans placed in 12 inch by 10 inch solid pans) or the contents may be poured into solid pans.

ACCEPTABLE PAN SIZES

The steamer accommodates combinations of 12" x 10" pans, solid or perforated.

Model	Number of Pans Accommodated			
	Depth of Pan			
	1"	2.5"	4"	6"
MPS-3E	6	3	2	1

4.0 SUGGESTED COOKING GUIDELINES

COOKING HINTS

Your steamer efficiently cooks vegetables or other foods for immediate serving. Steam cooking should be carefully time controlled. Keep hot food holding-time to a minimum to produce the most appetizing results. Prepare small batches, cook only enough to start serving, then cook additional amounts to meet demand.

PREPARATION

Prepare vegetables, fruits, meats, seafood, and poultry normally by cleaning, separating, cutting, removing stems, etc. Cook root vegetables in a perforated pan. Other vegetables may be cooked in a perforated pan unless juices are being saved. Liquids can be collected in a solid pan placed under a perforated pan.

Perforated pans are used for frankfurters, wieners, and similar items when juices do not need to be preserved. Solid pans are good for cooking puddings, rice and hot breakfast cereals. Vegetables and fruits are cooked in solid pans in their own juice. Meats and poultry are cooked in solid pans to preserve their juice or return broth.

Canned foods can be heated in their opened cans (cans placed in solid pans), or the contents may be poured into solid pans. DO NOT place unopened cans in the steamer.

FROZEN FOOD ITEMS

Separate frozen foods into smaller pieces to allow more efficient cooking.

Use a pan cover for precooked frozen dishes that cannot be cooked in the covered containers in which they are packed if they require more than 15 minutes of cooking time. When a cover is used, approximately one-third additional cooking time is necessary. Cooking time for frozen foods depends on the amount of defrosting required. If time permits, allow frozen foods to partially thaw overnight in a refrigerator. This will reduce their cooking time.

4.0 SUGGESTED COOKING GUIDELINES

Cooking Guide PRODUCT	TIMER SETTING (Minutes)	WEIGHT PER PAN
Eggs	10 - 12	4 dozen
Scrambled	15	2 dozen
Hard Cooked	25	1 lb
Rice, Long Grain (Cover with 4 cups water/lb.)	25	1 lb
Pasta (Place perforated pan inside solid pan, cover with cold water.)		
Spaghetti, Regular/Vermicelli	12 -15	
Macaroni, Shells/Elbows	15 - 18	
Lasagna Noodles	15 - 18	
Frozen Casseroles, Lasagna	35	Full Pan
Meat Loaf, 3 - 5 lb each	40	7 lb
Beef		
Ground Chuck	20 - 25	5 lb
Beans		
Baked/Refried	9	5 lb
Chicken - Breasts, Legs, Thighs	20	7 lb
Turkey, Frozen		
Breasts (1)	90	6 - 7 lb each
Hot Dogs	3	40 - 50
SEAFOOD		
Clams		
Frozen	10 - 12	18
Fresh, Cherrystone	5 - 6	18
King Crab, Frozen		
Claws	4	1 lb
Legs	4 - 6	2 lb
Shrimp, Frozen, 10 per lb.	5	2 lb
Lobster Tail, Frozen	6	5 lb
Lobster, Live, 10" - 12"	5	2

Cooking Guide PRODUCT	TIMER SETTING (Minutes)	WEIGHT PER PAN
Scallops, Fresh	4	1.5 lb
Scrod Fillets, Fresh	3 - 5	2 lb
VEGETABLES		
Asparagus Spears		
Frozen	10 - 12	18
Fresh	5	2 lb
Beans		
Green, 2" Cut, Frozen/Fresh	6	2 lb
Lima, Frozen	8	2 lb
Broccoli		
Spears, Frozen	8	2 lb
Spears, Fresh	6	2 lb
Florets, Frozen	6	2 lb
Carrots		
Baby Whole, Frozen	8	3 lb
Crinkle Cut, Frozen	7 - 8	2 lb
Sliced, Fresh	11	4 lb
Cauliflower, Florets		
Frozen	6	2 lb
Fresh	7 - 8	2 lb
Corn		
Yellow Whole Kernel, Frozen	5	2 lb
Cobbettes, Frozen	8	12 ears
Corn-on-Cob, Fresh	10 - 12	8 ears
Peas, Green	6	2 lb
Potatoes, Whole Russet	55	4 lb
Zucchini, Slices	8	5 lb
Canned Vegetables	6	5 lb
Frozen Mixed Vegetables	6 - 7	2 lb

5.0 PREVENTIVE MAINTENANCE

INTRODUCTION

A good preventive maintenance program with the daily cleaning procedure. Additional preventive maintenance operations are presented in this section. In establishments that employ full-time maintenance personnel, the tasks described can be assigned to them. For other installations, tasks requiring mechanical or electrical experience should be performed by an authorized service agency.

The following paragraphs are set for minimum preventive maintenance procedures that must be completed periodically to assure continued trouble-free operation of the cooker.

	**CAUTION: Under no circumstances should hardware (or parts) be replaced with a different length, size, or type other than as specified in the parts list. The hardware used in the cooker has been selected or designed specifically for its application, and the use of other hardware may damage the equipment and will void the warranty.**

	**WARNING: Disconnect the power supply to the appliance before cleaning or servicing.**

	**CAUTION: The steamer and its parts are hot. Use care when operating, cleaning and servicing the steamer. The cooking compartment contains live steam. Stay clear when opening door.**

CLEANING (DAILY)

At the end of each day, or between cooking cycles if necessary:

1. Turn main power switch OFF.

2. Remove pans and racks from compartment and wash in sink.

3. Wash compartment interior with clean water.

4. Use warm soapy water with a cloth or sponge to clean exposed bead of door gasket, rinse with warm clear water and wipe with a dry cloth.

5. Wipe surfaces which touch door gasket with a cloth or sponge and warm soapy water, rinse with warm clear water and wipe with a dry cloth. Do not apply food oils or petroleum solvents or lubricants directly to door gasket or surfaces which touch door gasket.

6. Remove drain screen from inside compartment drain. Using a plastic bottle brush and mild detergent, clean inside the drain opening ensuring there is no food residue or blockage. Clean the drain screen and replace in its original position.

5.0 PREVENTIVE MAINTENANCE (Continued)

7. Leave door slightly open when steamer is not in use.

	**CAUTION: Do not use cleaning agents that are corrosive.**

NOTICE:	**Contact the factory, the factory representative or a local service company to perform maintenance and repairs should the appliance malfunction. Refer to warranty terms.**

CLEANING (WEEKLY)

Weekly, or more often if necessary:

1. Clean exterior with a damp cloth and polish with a soft dry cloth.

2. Use a non-abrasive cleaner to remove discolorations.

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

It is **NOT RECOMMENDED** to use cleaning agents that are corrosive.

Use of cleaning agents that contain chloride, acids or salts which are corrosive may cause pitting and corrosion when used over a period of time; this will reduce the life of the appliance.

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

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

	**NEVER SPRAY WATER INTO ELECTRIC CONTROLS OR LOUVERS.**

DELIMING PROCEDURE: Delime once every other month.

REMOVAL OF SCALE DEPOSITS

It is recommended that your steamer be delimed once a month, or more often if necessary.

Should your steamer develop a heavy build-up of lime scale deposits, use the TOTAL CONCEPT TREATMENT KIT available from your authorized service agent.

5.0 PREVENTIVE MAINTENANCE (Continued)

Before beginning deliming procedures, ensure that water is not overflowing into the cooking compartment.

	**WARNING: Read and follow instructions on the TOTAL CONCEPT bottle. Use plastic or rubber gloves to avoid skin contact. If TOTAL CONCEPT comes in contact with skin, rinse with clean water.**

	**CAUTION: Do not open deliming caps when unit is in operation. Do not open or close compartment doors when deliming caps are not in place.**

Should your steamer develop a heavy build-up of lime scale deposits, use the Total Concept available from your authorized service agent.

Before beginning deliming procedures, ensure that water is not overflowing into the cooking compartment.

GENERATOR DELIMING INSTRUCTIONS

	**CAUTION: Do not open or close compartment doors or operate unit when deliming caps are not in place.**

1. Turn the power switch “OFF” for three minutes, allowing the generator to completely empty.
2. Turn the power switch to the “DELIME” position.
3. Remove cap located on top right of steamer. Using a funnel and pouring slowly to avoid spilling, pour one quart (1 liter) of Market Forge’s Total Concept deliming solution into the generator.
4. Replace the deliming cap and tighten. Turn power switch to “ON” for five minutes allowing the generator to completely fill.
5. Turn the power switch to the “DELIME” position. Unscrew the deliming cap and add a ½ quart (0.5 liters) of clean water.
6. Replace the deliming cap and tighten. Turn the power switch “ON” for 30 minutes.
7. Flush the generators three times. Turn power switch to “OFF” for three minutes and the “ON” for five minutes.

5.0 PREVENTIVE MAINTENANCE (Continued)

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 corrosive cleaner.

To remove grease and food splatters or condensed vapors 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 on the metal. 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 burnt 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 the stainless steel surface 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 are 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.

6.0 TROUBLE-SHOOTING

GENERAL TROUBLESHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	REMEDY
Cooking indicator light fails to light with Timer set.	a. Main power circuit breaker tripped. b. Door interlock switch contacts not closed. c. Door interlock switch faulty. d. Indicator light burned out. e. Faulty timer contacts. f. Faulty wiring.	a. Locate external circuit breaker for incoming power and place in ON position. b. Shut cooker door to close switch contacts. Check alignment of door with switch. c. Replace switch. d. Replace light. e. Replace timer. f. Inspect condition of wire and tightness of all connections. Correct as needed.
Steam fails to enter cooking compartment with cooking indicator light on.	a. Faulty wiring.	a. Inspect condition of wire and tightness of all connections. Correct as needed.
	a. Standby thermostat not set correctly. b. Faulty thermostatic switch. c. HOLD set on timer.	a. Adjust the thermostat lower. b. Replace thermostat. c. Rotate timer knob to 'OFF' position.

PROBLEM	PROBABLE CAUSE	REMEDY
Timer dial not turning.	a. Faulty timer motor. b. Faulty wiring.	a. Replace timer. b. Inspect condition of wire and tightness of all connections. Correct as needed.
Buzzer fails to sound at end of timer setting.	a. Timer contacts faulty. b. Buzzer faulty. c. Faulty wiring.	a. Replace timer. b. Replace buzzer. c. Inspect condition of wire and tightness of all connections. Correct as needed.
Steam flows continuously from drain line with cooker in operation.	a. Cold water not connected. b. Faulty cooling valve. c. Faulty wiring. d. Faulty or misadjusted operating.	a. Turn on external shutoff valve. b. Replace cooling valve. c. Inspect condition of wire and tightness of all connections. Correct as needed. d. Inspect operation of pressure switch and setting and operation of time delay relay.

PROBLEM	PROBABLE CAUSE	REMEDY
	a. Damaged door gasket. b. Clogged compartment drain or plumbing.	a. Check gasket for cuts and replace if necessary. b. Remove screen and clean drain line or plumbing.
Water flows into cooking compartment.	a. Level control has failed. b. Water has very high resistance. (i.e. low mineral content or Reverse Osmosis Water). c. Scale build-up on probe. d. Water fill solenoid valve.	a. Replace. b. Replace level control with high sensitivity control. c. Clean all probes in steam generator. d. Plugged, defective, clean or replace.
Water accumulates in compartment.	a. Plugged compartment drain.	a. Remove screen and clean drain line.
Water flows into drain during shutdown.	a. Cooling valve does not close.	a. Check valve for foreign material or damage.

PROBLEM	PROBABLE CAUSE	REMEDY
Water not being supplied to Generator.	a. Water supply off. b. Supply water pressure too low. c. Defective water solenoid valve. d. Level Probe shorted. e. Defective water level control. f. Drain valve is open. g. Water supply off.	a. Check incoming water valve is on. b. Call supply agency. c. Replace or clean. d. Check and correct. e. Replace. f. Check valve, clean or replace. g. Check incoming water valve is on.

NOTE: THESE PROBLEMS ARE AN INDICATION OF SEVERE WATER CONDITIONS WHICH SHOULD BE CORRECTED IMMEDIATELY TO AVOID DAMAGE TO THE COMPONENTS AND PERFORMANCE OF THE STEAMER. CALL YOUR SERVICE AGENCY FOR ASSISTANCE.

6.0 TROUBLE-SHOOTING (Continued)

ELECTRICAL FAULT ISOLATION GUIDE

FAILURE	FAULT LOCATION
1. Will not operate in either HOLD or 60-MINUTE TIMER positions.	a. Incoming power.
	b. Timer.
	c. Door interlock switch.
	d. Wiriing.
2. Operating in HOLD position but not in 60-MINUTE TIMER position.	a. 60-Minute timer.
	b. Wiring.
3. Operates in 60-MINUTE TIMER position but not in HOLD position.	a. Timer.
	b. Wiring.
	c. Hold thermostat.
4. With COOK indicator light on and steam entering the cavity, timer dial fails to turn.	a. Hold position set on timer.
	b. Timer motor.
	c. Wiring.
5. Buzzer fails to sound at end of 60-MINUTE TIMER mode.	a. 60-Minute timer contacts.
	b. Buzzer.
	c. Wiring.
6. Steam flows continuously from boiler drain line.	a. Cooling valve needs replacing.
	b. Wiring.

Timer Motor

A defective timer motor will cause continuous operation in the TIME mode, with the timer dial failing to return to the “0 - Minute” position.

To confirm timer motor condition, proceed as follows:

1. Carefully check motor wire leads and tighten loose connections.

2. Turn on power to the steamer.

3. Set timer dial (any setting beyond “0 - Minute”). If operation is correct, the motor will turn the dial toward “0 - Minute”. If the motor fails to operate, it is defective and the entire timer must be replaced.

4. Shut off power to the cooker.

6.0 TROUBLE-SHOOTING (Continued)

Door Interlock Switch

Malfunction of the cooker door interlock switch prevents timer indicator lights from turning on and steam generator from operating when the timer dial is set. If steam does not enter the compartment and the cooking indicator light fails to turn on with the door latch securely engaged, the fault may be in the door interlock switch. Proceed as follows:

1. Turn off power to the cooker.

2. Disconnect wires to the door switch terminals.

3. Connect an ohmmeter between the terminals of the switch. The switch is marked “C” for common, ‘NC’ for normally closed and “NO” for normally open.

4. Actuate the switch by closing the cooking compartment door. If a zero reading cannot be obtained between the C and NO terminals, the switch is defective and must be replaced.

5. Remove the ohmmeter and replace the leads on switch terminals.

Indicator Lights

If the cooker compartment functions correctly, with the single exception that the indicator light fails to light during operation, the fault is a defective indicator light. A “burned out” or defective light is verified by using an AC volt-meter at the leads, with input power on the selector switch in the correct position for that timer, the timer set, and the door latches closed. If 240 volts is present, the fault is in the indicator light and requires replacement. If 240 volts is not present, the fault is in the wiring or control components (selector switch, timer or door switch).

Buzzer

If the buzzer does not sound at the termination of the operator-selected timer setting (timer dial returned to “0 - Minute” position), the fault may be a defective buzzer. Buzzer operation is verified using an AC volt-meter at buzzer coil connections with input power on and selector switch and coinciding timer dial set at the “0 - Minute” position. If voltage is 240 volts, the fault is in the buzzer, which must be replaced. If 240 volts is not present, the fault is in the wiring or control components (timer or selector switch).

Wiring

Using an ohmmeter, wiring continuity between the connections shown on the wiring diagram is readily verified. This is best done in stages, removing only those wires required for each continuity check. As each lead is replaced, it should be checked for evidence of corrosion, and cleaned if necessary. All leads must be tightly attached so as to provide a good electrical connection.

7.0 ADJUSTMENTS

	**WARNING: At least twice a year, have an authorized service person clean and adjust the unit for maximum performance.**

ADJUSTMENT FOR HIGH ALTITUDE LOCATIONS

The steamer has been factory set so that when it is ON, and during the READY phase, it will maintain water temperature in the steam generator tank at approximately 200□F (93□C) (just below water boiling point). However, for high altitude locations, an authorized service agency must adjust the steamer to achieve this temperature.

	**CAUTION: Shut off main electrical power to unit.**

Door Gasket Replacement

The cooking compartment door gaskets are made of a silicone-type rubber material that is very durable but subject to wear during normal operation. Should the gasket leak replace it.

1. Open the cooking compartment door.
2. Remove the four screws on the outside of the door frame, and remove the door panel assembly.
3. Remove the six screws from the gasket plate in the door panel assembly.
4. Remove the gasket plate and the door gasket from door panel.
5. Install the new door gasket to the door panel. Replace the gasket plate and six screws.
6. Reassemble the door panel assembly in the door frame using the four screws.
7. Gasket replacement is now complete.

Door may be difficult to close until gasket has compressed to conform to opening. Leaving door closed overnight will compress gasket.

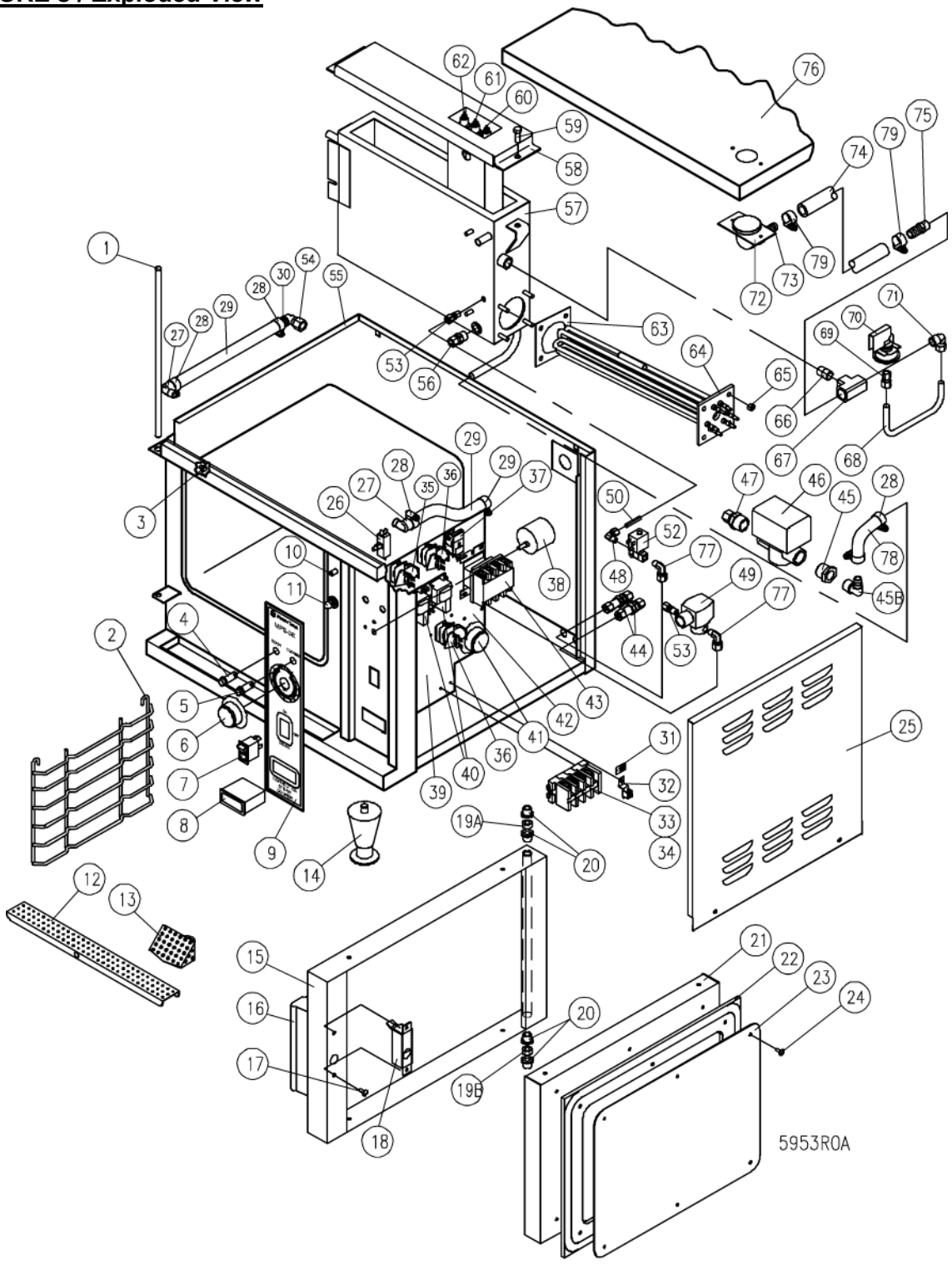
Exterior Panel Removal

	**WARNING: To prevent hazard in servicing the cooker, be certain that the steam supply boiler is shut down, the cold water shut-off valve is closed, and the electrical disconnect circuit breaker for the Cooker/Boiler unit is OFF before removing side panels.**

Access to all internal plumbing and electrical assemblies is from the right side. The right-side panel is removed by removing the bottom screws from panel.

8.0 PARTS

FIGURE 3 / Exploded View



ITEM	PART NO.	DESCRIPTION	QTY.
1.	97-6299	Hinge Rod	1
2.	97-7223	Pan Rack	2
3.	97-6340	Hanger Pin Assembly	4
4.	97-6270	Pilot Light, Round, Green 250V	1
5.	97-6271	Pilot Light, Round, Red 250V	1
6.	08-3826	Knob	1
7.	97-6272	Switch, Rocker 250V	1
8.	08-7521	Temperature Indicator	1
9.	97-7224	Decal, Control Panel	1
10.	97-6301	Push Rod c/w Retaining Rings	1
11.	97-6178	Striker Pin	1
*	97-6302	Front Spacer	1
*	97-7200	Split Lock Washer, 1/2	1
*	97-5601	Hex Nut, 1/2 - 20 UNF	1
12.	97-6177	Drip Trough Strainer	1
13.	97-6334	Compartment Strainer	1
14.	08-7520	Adjustable Leg	4
15.	97-7225	Door Assembly	1
15A.	97-6295	Outer Door Shell	1
16.	97-6432	Door Handle Assembly	1
*	97-6771	Decal, Door Handle	1
	97-7226	Door Handle	1
*	97-7227	Door Handle Plate	1
*	97-7228	Hex Socket Cap Screw 1/4-20 UNC x 1 3/4 Lg.	2
*	97-7229	Hex Socket Head Screw1/4 - 20 UNC x 3/4 Lg.	1
*	97-6260	Spacer, Door Handle	2
*	97-7230	Split Lock Washer, 1/4	2
*	97-6298	Hex Nut, 1/4 - 20 UNC	2
17.	97-7231	Truss Head Screw, 10 - 32 UNF x 1/2	6

ITEM	PART NO.	DESCRIPTION	QTY.
18.	97-6232	Latch Assembly (3900)	1
19A.	97-7146	Spacer, Door Upper	1
19B.	97-6735	Spacer, Door Lower	1
20.	97-6261	Door Bushing	4
21.	97-6262	Door Panel	1
22.	97-6264	Door Gasket	1
23.	97-6266	Door Gasket Plate	1
24.	97-6233	Binding Head Screw with Special Dimple #10 - 32 UNF x 1/2 LG.	6
25.	97-7232	Right Hand Panel	1
26.	97-6191	Door Switch	1
27.	97-7157	Hose Barb Elbow, Brass 1/2 x 1/4 MPT	2
*	97-7233	Steam Diverter Replacement Kit	2
28.	97-7103	Hose Clamp, 3/8" - 7/8"	8
29.	97-7234	Silicone Hose, 1/2 I.D. x 6 1/2 Lg.	2
30.	97-7104	Hose Barb, Brass, 1/2 x 1/4 MPT	1
31.	97-6738	Earth I.D. Tag	1
32.	97-5052	Ground Lug	1
33.**	10-6963	Terminal Block, Black	3, 4
34.**	10-6962	Terminal Block, White 208-240V, 15 kW	
		Terminal End Section, Black	1
34.	98-6186	Terminal End Section, White 208 - 240V, 15 kW	
35.	97-6279	Relay, Single Pole, 240V	2
36.	97-6280	Relay, Double Pole, 240V	1
37.	97-6307	Buzzer, 240V	1
38.**	08-6621	Timer, 60 Minutes, 240V	1
*	98-6047	Rotary Shaft Seal	1
39.	97-7235	Component Mounting Board	1
40.**	97-6276	Liquid Level Control Board, 10K OHM	1

ITEM	PART NO.	DESCRIPTION	QTY.
	97-6277	Liquid Level Control Board, 1M, OHM	2
41.	97-6179	Calibrated Dial Assembly	1
*	97-5048	Thermostat, Operating	1
42.	97-6278	Thermostat, High Limit	1
43.**	98-6189	Contactor, 4 Pole, 208, 220, 240V	1
	97-5609	Contactor, 380, 415, 480, 600V	1
44.	97-6226	Bulkhead Union, Brass, 3/8 C	2
45.	97-7236	Brass Bushing, 3/4 MPT x 1/2 FPT	1
45B.	97-7237	Brass Hose Barb, 1/2 ID x 1/2 MPT	1
46.	97-6283	Blowdown Solenoid Valve, 3/4 NPT 240V	1
47.	97-6328	Connector, Brass, 1/2 C x 3/4 MPT	1
48.	98-6089	Elbow, Brass, 1/4 C x 1/8 MPT	1
49.	97-6285	Cooling Solenoid Valve, 1/8 NPT, 240V	1
50.	--	Tube, 1/4 x 1-3/8	1
51.	97-6344	Connector, Brass, 3/8 C x 1/8 MPT	1
52.	97-6308	Fill Solenoid Valve, 240V	1
53.	98-6123	Connector, Brass, 1/4 C x 1/8 MPT	2
54.	97-7238	Elbow 90E, Brass, 1/2 C x 1/4 FPT	1
55.	97-7239	Left/Rear Panel	1
*	97-6662	Nut Retainer, 1/4 - 20 UNC	2
56.	97-5619	Connector, Brass, 3/8 C x 3/8 MPT	1
57.	97-6321	Generator Tank	1
58.	97-6322	Tank Cover	1
*	97-6323	Gasket, Tank Cover	1
59.	97-6594	Hex Head Screw, 5/16 - 18 UNC x 1 Lg.	2
60.	97-6324	Probe, 5", Low Level Cut-Off	1
61.	97-6325	Probe, 4.25", Low Level	1
62.	97-6326	Probe, 3.688" High Level	1

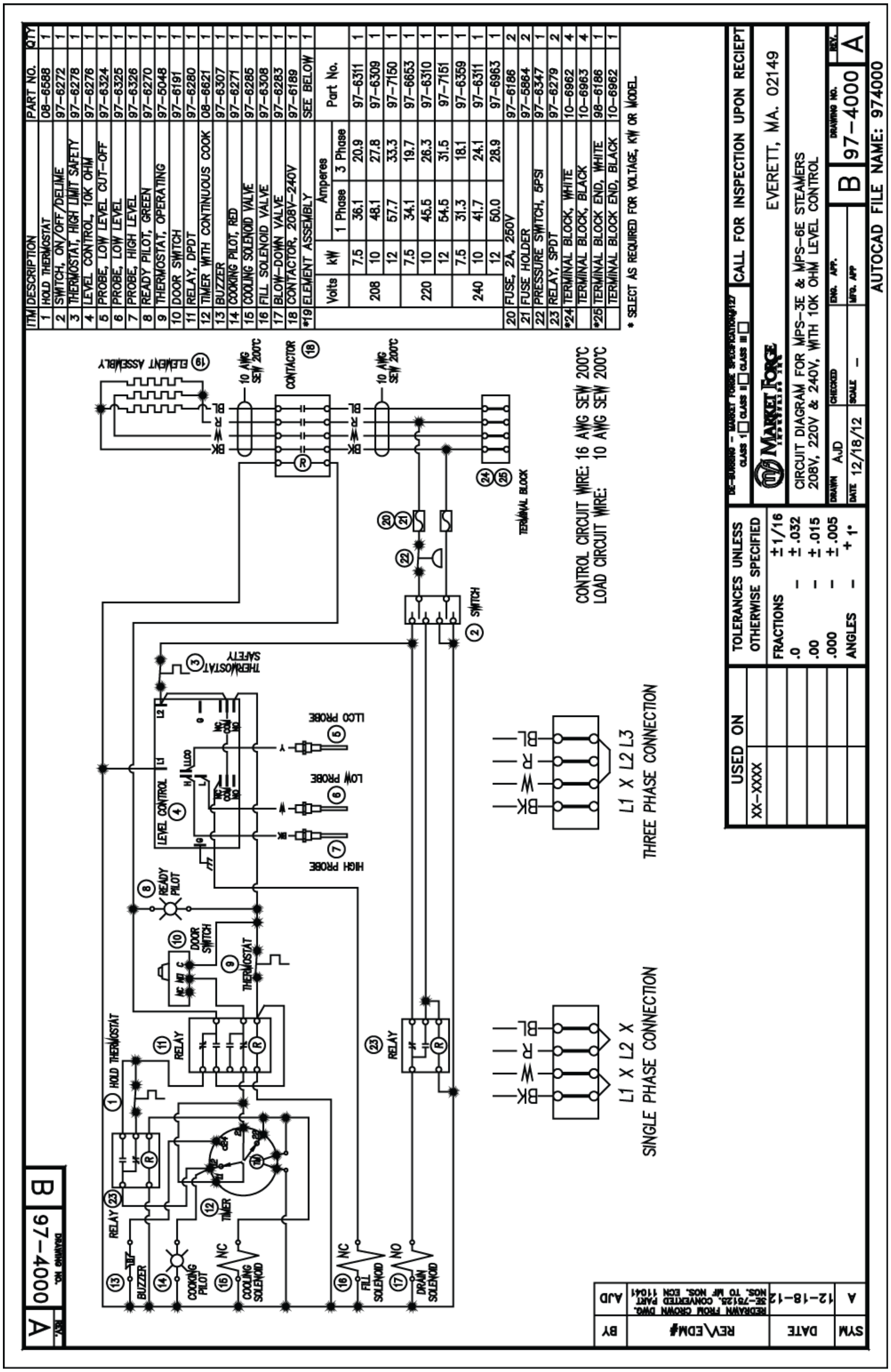
ITEM	PART NO.	DESCRIPTION	QTY.
63.	97-6319	Element Gasket	1
64.**	97-6565	Element Assembly, 7.5 kW, 208V	1
	97-6353	Element Assembly, 7.5 kW, 380/220V	1
	97-6659	Element Assembly, 7.5 kW, 415/240V	1
	97-6654	Element Assembly, 7.5 kW, 480V (277)	1
	97-6655	Element Assembly, 7.5 kW, 600V (347)	1
65.	97-6298	Hex Nut, 1/4 - 20 UNC	4
66.	97-6593	Close Nipple, Brass, 3/8"	1
67.	97-6592	Extruded Street Tee, Brass, 3/8" FPT	1
68.	97-6351	Pressure Switch Tube	1
69.	97-7191	Connector, Brass, 3/8"C x 1/8" FPT	1
70.	97-6347	Pressure Switch, Safety, 5 psi	1
71.	97-6346	Elbow 90E, Brass, 3/8"C x 3/8" MPT	1
72.	91-7594	Delime Port	1
	91-7765	Clean Port Plug	1
	08-7511	“O” Ring	1
73.	97-6587	Hose Barb, Brass, 5/8" x 1/2" MPT	1
74.**	97-6424	Hose, 5/8" ID x 21" LG.	1
75.	97-6421	Hose Coupler, Brass, 5/8" x 3/8" MPT	1
76.	97-7241	Top Cover	1
77.*	97-6188	Brass Elbow, 3/8C x 1/8 MPT	2
78.	97-7242	Silicone Hose, 1/2 I.D. x ? Lg	1
79.*	97-7243	Hose Clamp, 56” to 1.06	2
80.	97-6030	Label, Service Connections De-Lime (Rear Unit)	1
81.	97-6186	Fuse, 2 Amp, 250V (208, 220, 240V)	2
	97-6186	Fuse, 2 Amp, 250V (380/220, 415V/240V)	1
	97-5864	Fuse Holder (208, 220, 240V)	2
	97-5864	Fuse Holder (380/220, 415/240V)	1
	98-6188	Fuse, 600V, 1/2 Amp (380-600V)	2

ITEM	PART NO.	DESCRIPTION	QTY.
	98-6187	Fuse Holder (380, 415, 480, 600V)	2
82.*	97-5616	Transformer, 380/220V, 50/60 Hz 100VA	1
	97-5616	Transformer, 415/240V, 50/60 Hz. 100VA	1
	97-5613	Transformer, 480/240V, 60 Hz. 100VA	1
	98-6191	Transformer, 600/240V, 60 Hz 100VA	1

* NOT SHOWN

** SELECT AS REQUIRED

9.0 WIRING



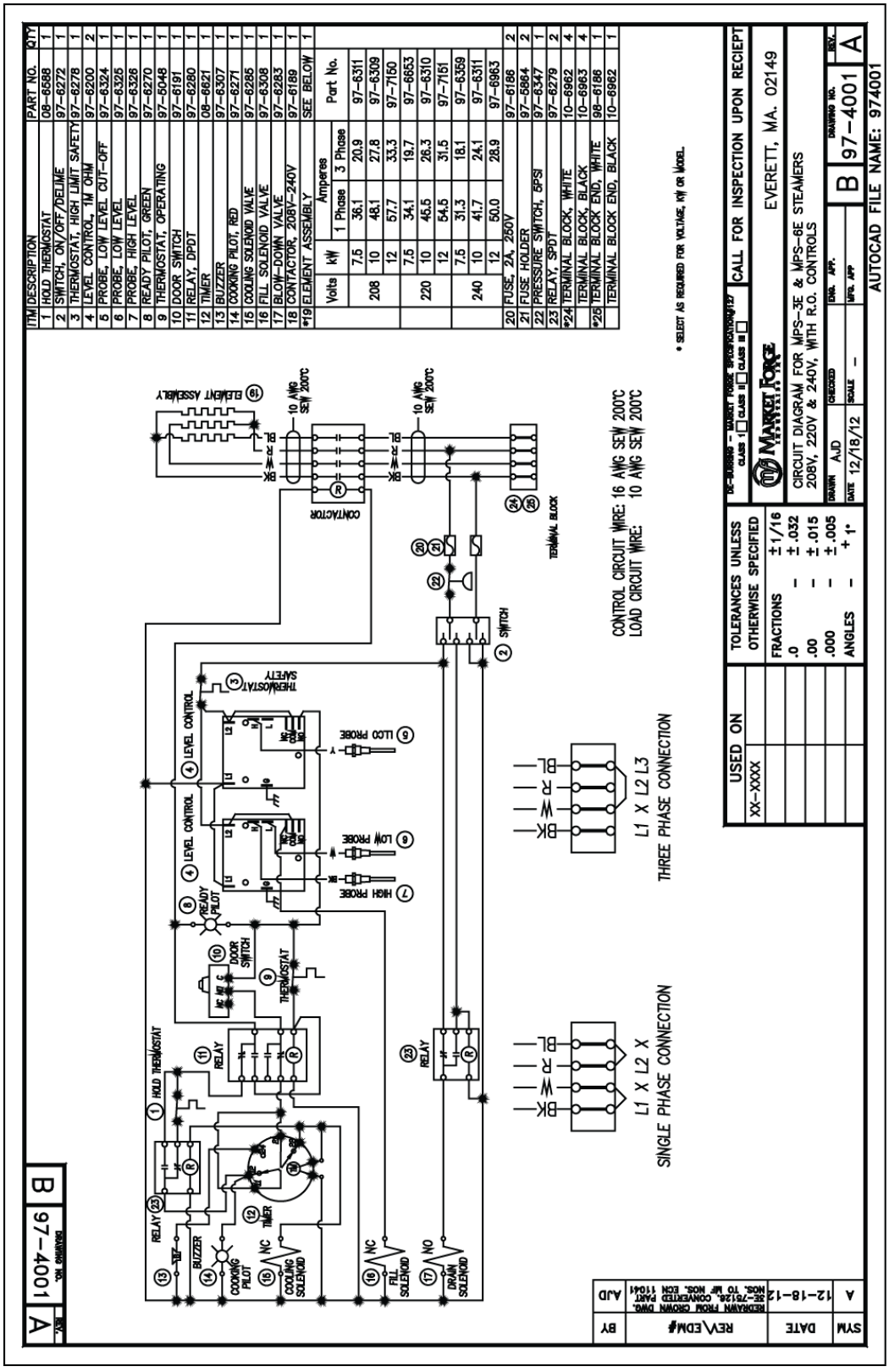
ITM	DESCRIPTION	PART NO.	QTY
1	HOLD THERMOSTAT	08-6588	1
2	SWITCH, ON/OFF/DELIME	97-6272	1
3	THERMOSTAT, HIGH LIMIT SAFETY	97-6278	1
4	LEVEL CONTROL, 10K OHM	97-6276	1
5	PROBE, LOW LEVEL CUT-OFF	97-6324	1
6	PROBE, LOW LEVEL	97-6325	1
7	PROBE, HIGH LEVEL	97-6326	1
8	READY PILOT, GREEN	97-6270	1
9	THERMOSTAT, OPERATING	97-5048	1
10	DOOR SWITCH	97-6191	1
11	RELAY, DPDT	97-6280	1
12	TIMER WITH CONTINUOUS COOK	08-6621	1
13	BUZZER	97-6307	1
14	COOKING PILOT, RED	97-6271	1
15	COOLING SOLENOID VALVE	97-6285	1
16	FILL SOLENOID VALVE	97-6308	1
17	BLOW-DOWN VALVE	97-6283	1
18	CONTACTOR, 208V-240V	97-6189	1
*19	ELEMENT ASSEMBLY	SEE BELOW	1

Volts	kW	Amperes 1 Phase	Amperes 3 Phase	Part No.	QTY
208	7.5	36.1	20.9	97-6311	1
	10	48.1	27.8	97-6309	1
	12	57.7	33.3	97-7150	1
220	7.5	34.1	19.7	97-6653	1
	10	45.5	26.3	97-6310	1
	12	54.5	31.5	97-7151	1
240	7.5	31.3	18.1	97-6359	1
	10	41.7	24.1	97-6311	1
	12	50.0	28.9	97-6963	1

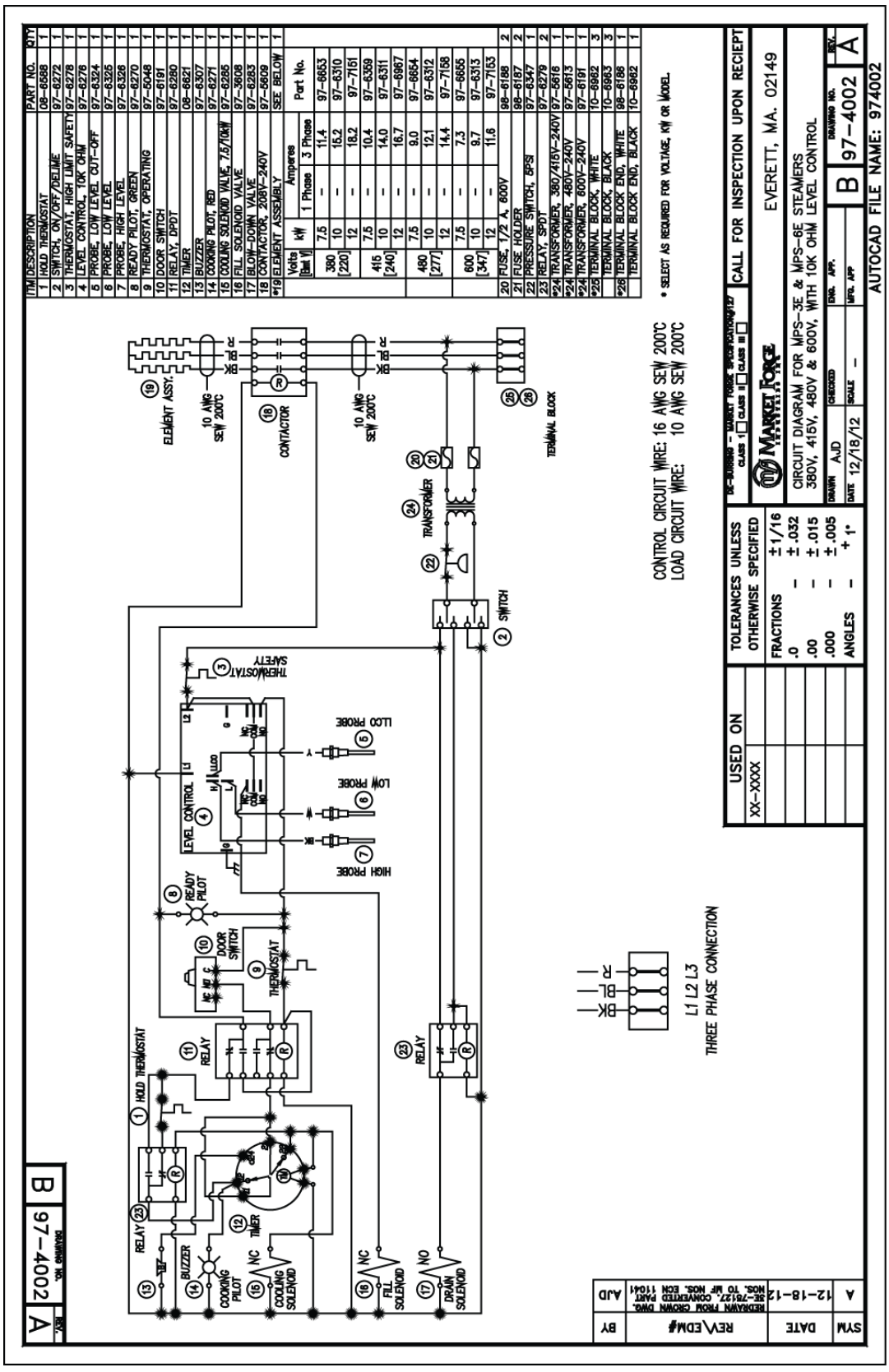
ITM	DESCRIPTION	PART NO.	QTY
20	FUSE, 2A, 250V	97-6186	2
21	FUSE HOLDER	97-5864	2
22	PRESSURE SWITCH, 5PSI	97-6347	1
23	RELAY, SPDT	97-6279	2
*24	TERMINAL BLOCK, WHITE	10-6962	4
	TERMINAL BLOCK, BLACK	10-6963	4
*25	TERMINAL BLOCK END, WHITE	98-6186	1
	TERMINAL BLOCK END, BLACK	10-6962	1

* SELECT AS REQUIRED FOR VOLTAGE, KW OR MODEL.

9.0 WIRING (Continued)



9.0 WIRING (Continued)



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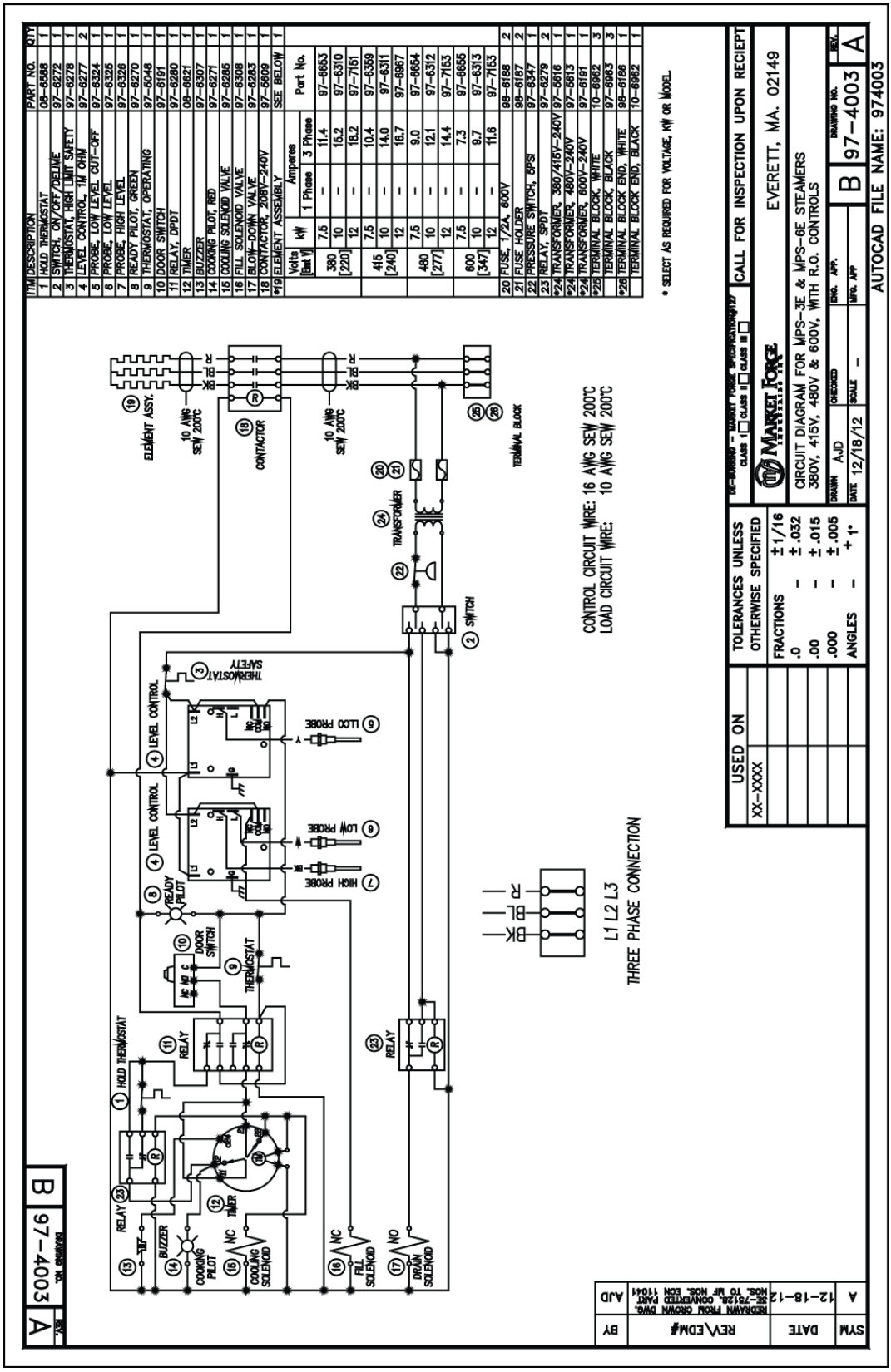
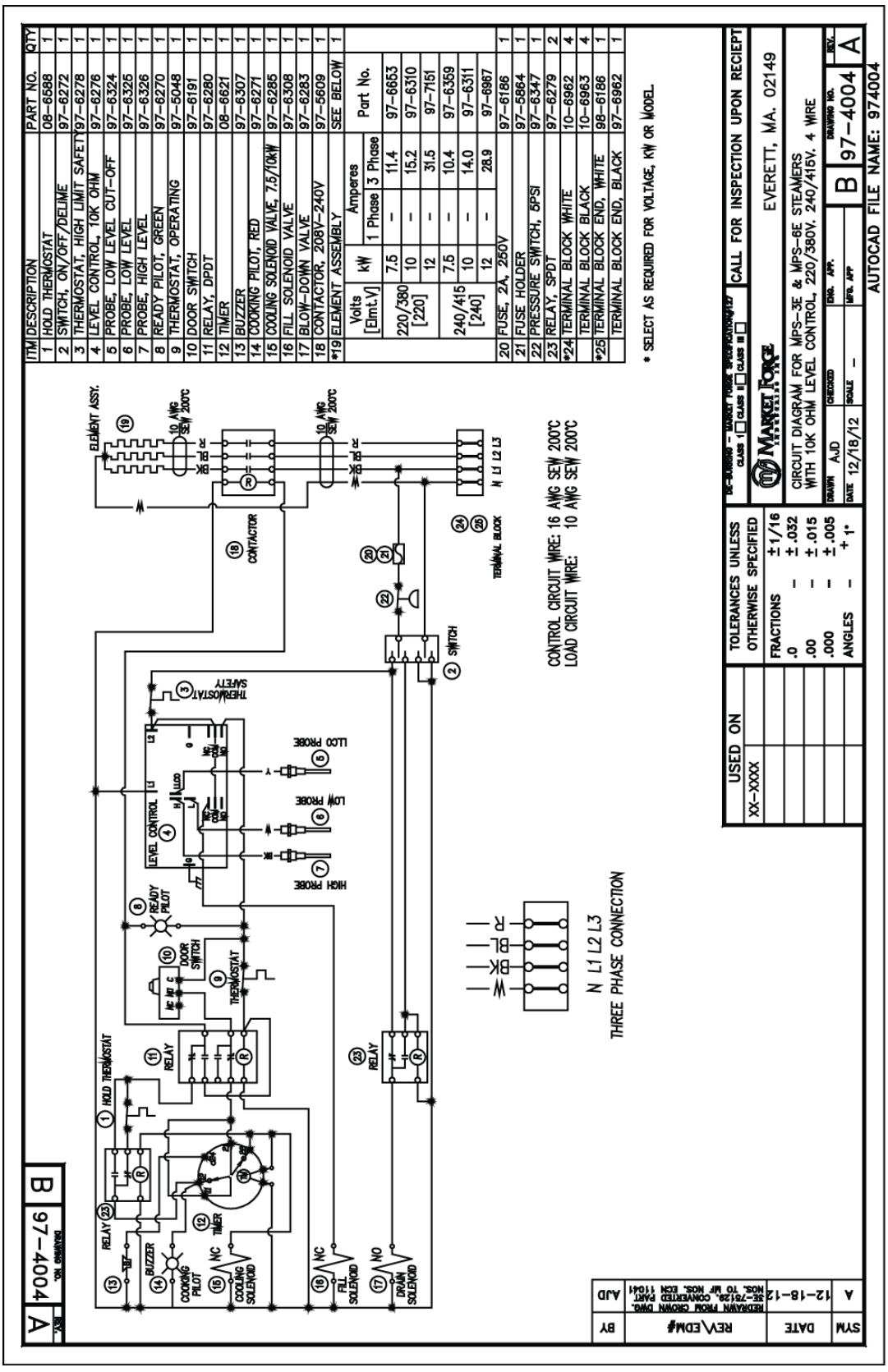


ITM	DESCRIPTION	PART NO.	QTY
1	HOLD THERMOSTAT	08-6588	1
2	SWITCH, ON/OFF/DELIME	97-6272	1
3	THERMOSTAT, HIGH LIMIT SAFETY	97-6278	1
4	LEVEL CONTROL, 1W OHW	97-6277	2
5	PROBE, LOW LEVEL CUT-OFF	97-6324	1
6	PROBE, LOW LEVEL	97-6325	1
7	PROBE, HIGH LEVEL	97-6328	1
8	READY PILOT, GREEN	97-6270	1
9	THERMOSTAT, OPERATING	97-5048	1
10	DOOR SWITCH	97-6191	1
11	RELAY, DPDT	97-6280	1
12	TIMER	08-6621	1
13	BUZZER	97-6307	1
14	COOKING PILOT, RED	97-6271	1
15	COOLING SOLENOID VALVE	97-6285	1
16	FILL SOLENOID VALVE	97-6308	1
17	BLOW-DOWN VALVE	97-6283	1
18	CONTACTOR, 208V-240V	97-5609	1
*19	ELEMENT ASSEMBLY	SEE BELOW	1

Volts [Ext V]	kW	Amperes 1 Phase	Amperes 3 Phase	Part No.
380 [220]	7.5	–	11.4	97-6653
	10	–	15.2	97-6310
	12	–	18.2	97-7161
415 [240]	7.5	–	10.4	97-6359
	10	–	14.0	97-6311
	12	–	16.7	97-6987
480 [277]	7.5	–	9.0	97-6654
	10	–	12.1	97-6312
	12	–	14.4	97-7163
600 [347]	7.5	–	7.3	97-6655
	10	–	9.7	97-6313
	12	–	11.8	97-7153

ITM	DESCRIPTION	PART NO.	QTY
20	FUSE, 1/2A, 600V	98-6188	2
21	FUSE HOLDER	98-6187	2
22	PRESSURE SWITCH, 0PSI	97-6347	1
23	RELAY, SPDT	97-6279	2
*24	TRANSFORMER, 380/415V-240V	97-5616	1
*24	TRANSFORMER, 480V-240V	97-5613	1
*24	TRANSFORMER, 600V-240V	97-6191	1
*25	TERMINAL BLOCK, WHITE	10-6962	3
	TERMINAL BLOCK, BLACK	97-6983	3
*26	TERMINAL BLOCK END, WHITE	98-6186	1
	TERMINAL BLOCK END, BLACK	10-6962	1

9.0 WIRING (Continued)



9.0 WIRING (Continued)