

Statement of Responsibilities

This document is for use by experienced and trained Qualified Cleveland Range, LLC Authorized Service Representatives who are familiar with both the safety procedures, and equipment they service.

Cleveland Range, LLC assumes no liability for any death, injury, equipment damage, or property damage resulting from use of, improper use of, or failure to use the information contained in this document.

Cleveland Range, LLC has made every effort to provide accurate information in this document, but cannot guarantee that this document does not contain unintentional errors and omissions.

The information in this document may be subject to technical and technological changes, revisions, or updates.

Cleveland Range, LLC assumes no liability or responsibility regarding errata, changes, revisions, or updates.

Qualified Cleveland Range, LLC Authorized Service Representatives are obligated to follow industry standard safety procedures, including, but not limited to, OSHA regulations, and disconnect / lock out / tag out procedures for all utilities including steam, and disconnect / lock out / tag out procedures for gas, electric, and steam powered equipment and / or appliances

All utilities (gas, electric, water and steam) should be turned OFF to the equipment and locked out of operation according to OSHA approved practices during any servicing of Cleveland Range equipment

Qualified Cleveland Range, LLC Authorized Service Representatives are obligated to maintain up-to-date knowledge, skills, materials and equipment.



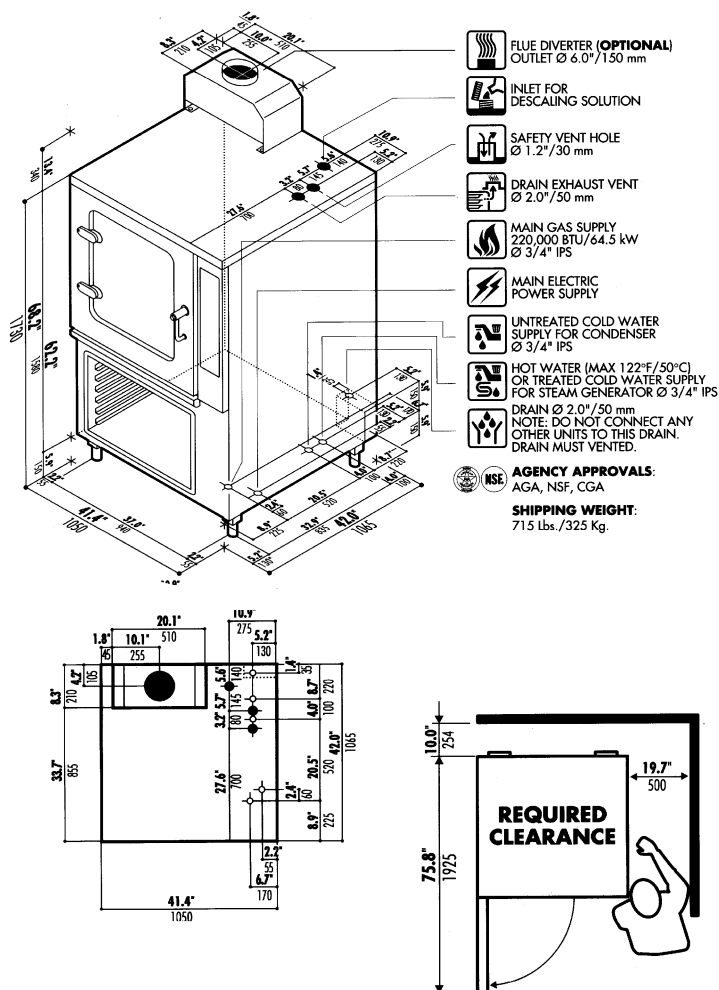
Combi Oven/Steamers

CombiCraft® ONE COMPARTMENT-FULL SIZE FLOOR MODEL TYPE-GAS FIRED “SPLASH PROOF SERIES”

MODEL: ☐ CCG-210X

ITEM NUMBER _____

JOB NAME / NUMBER _____



SHORT FORM SPECIFICATION

Shall be CLEVELAND, CombiCraft®, Floor Type Multi-Purpose Oven, Model CCG-210X for ___ gas operation. 115 volts, ___ Hz, ___ phase. Cooking modes for: Hot Air Convection; Low and High Temperature Convection Steam; combination of Hot Air and Steam; variable Steam Exhaust Condensation Control; and Butterfly Valve to regulate humidity exhaust; and Mechanical Controls.

ELECTRIC CONSUMPTION  (1 PH)	GAS 	WATER  
MODEL CCG-210X 1 kW	HOT AIR - 95,000 BTU/28 kW STEAM GENERATOR - 85,000 BTU/25.1 kW MAX. LOAD IN COMBI MODE - 145,000/42.5 kW	35 PSI MIN., 60 PSI MAX.
ELECTRICAL DATA 115/80/1	SUPPLY PRESSURE	WATER CONSUMPTION
MIN. WIRE AMPACITY 15 AMPS	NATURAL	MAX. FOR STEAM PRODUCTION = 6.3 Gal./Hr.
MAX TIME DELAY FUSE 15 AMPS	4.5"/114.3 mm W.C. MIN.	AVERAGE FOR STEAM CONDENSER = 6.9 Gal./Hr.
MACHINE LOAD AMPS 12 AMPS	14"/355.6 mm W.C. MAX.	TOTAL = 13.2 Gal./Hr.
	Manufacturer must be notified if unit will be used above 2,000 ft. altitude.	

Cleveland Range reserves right of design improvement or modification, as warranted.

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CLEVELAND RANGE COMBI CCG X

SEQUENCE OF OPERATIONS

HOT AIR MODE

When using these instructions refer to the CCGX wiring schematic for appropriate model.

1. To turn the unit on, place the selector switch (B1) in hot air mode.
 - Selector switch (B1) contacts A and 1 and contacts B and 2 are closed. Power is at the contacts of the clockwise contactor (CD) and counter clockwise (CS) contactor.
 - 110 VAC is supplied to the primary of the autotransformer (AT) and approximately 220 VAC is produced on the secondary side.
 - From the transformer (AT), power is sent through both of the motor thermal-protection contacts (A1 and A2), the chamber high limit (F2), and boiler high limit (F3).
 - The relay board (SC) is then energized as well as the power pilot light (H1).
 - The cooling fan (M2) is energized and the system waits until the door switch is closed.
2. When the door is closed, the door-switch (B3) closes.
 - The coil to the door switch relay (RM) is energized closing the contacts and sending power to the meat probe switch (IS).
3. When the meat probe (IS) is not selected the power is sent to the timer (B8).
4. With time on the timer the heat circuit is energized.
 - Power is sent to the timer indicator light (H1) and through the selector switch (B1) closed contacts D and 6 to the reversing switch (I).
5. The reversing switch (I) will energize either the clockwise contactor coil (CD) or the counter clockwise coil (CS).
 - In approximately 3 minutes it will energize the other coil, reversing the direction of the fan. The fan speed relay (RV) is energized at the same time the reversing switch (IS) has power.
6. With the fan speed switch set on high the high-speed contactor coil (CA) is energized and the (CA) contacts close, sending power to the fan motor (M) through the thermal protection (A1).
 - With the contactor (CA) closed, power is sent to both the damper system relay (RS) and the chamber thermostat (F1).
 - The heat circuit will remain at the chamber thermostat (F1) until no time is left on the timer and the buzzer (N) is energized.

7. If the meat probe (SS) is selected the heat circuit is controlled by the temperature set at the core temperature thermostat (indicated by the dotted lines).
 - When the temperature of the product is the same as entered the buzzer (N) is energized shutting off the heat circuit.
8. While the heat circuit is energized through the timer (B8) or meat probe (SS) the chamber thermostat (F1) controls the circuit.
9. Until the chamber thermostat (F1) is satisfied, power will be sent to the heat indicator light (H1).
 - From the chamber thermostat (F1) power is also sent through contact E and 7 on the selector switch (B1) to the coil of the chamber relay (RC1) as well as through the power reducing relay (RP) normally closed contacts to the coil of the chamber relay (RC2).
10. When the coil of the chamber relay (RC1) is energized the contacts close and power is sent to the ignition module (Z1).
 - At this time the igniter, located above the burner in the hot air combustion chamber is energized for 4.5 seconds. Then the timer (TE) and MV coil of the gas valve (S3) is energized.
 - When the ignition module (Z1) receives 1 micro-amp DC the flame is proven and the valve coil will stay energized as long as the circuit is intact.
 - If the ignition module (Z1) does not receive 1 micro amp on the sensor wire (FP on the module) within 3 seconds the ignition module (Z1) will purge for 1 minute and try again. This will happen for a total of 3 times before the module locks out.
 - When the timer (TE) times out (after 8 seconds) the HI coil of the gas valve (S3) is energized and will remain so until the unit stops calling for heat.

CLEVELAND RANGE COMBI CCG X

SEQUENCE OF OPERATIONS

STEAM MODE

When using these instructions refer to the CCGX wiring schematic for the appropriate model

1. To turn the unit on, place the selector switch (B1) in the steam mode.
 - Selector switch (B1) contacts A and 1 and contacts B and 2 close. Power is at the contacts of the clockwise contactor (CD) and counter clockwise contactor (CS).
 - 110 VAC is supplied to the primary side of the step-up autotransformer (AT) and approximately 220 VAC is produced on the secondary side.
 - From the transformer (AT), power is sent through both of the motor thermal-protection contacts (A1 and A2), the chamber high limit (F2), and the boiler high limit (F3).
 - The relay board (SC) is then energized as well as the power pilot light (H1).
 - The cooling fan (M2) is energized and the system waits until either the door switch or the drain valve is closed.
2. Pressing the drain switch located on the front control panel closes the drain valve.
 - When the drain valve (V1) is closed, power is sent to the water level control (PL). At this time if the probes, located in the top of the generator, are not grounded, the fill solenoid valve (S2) is energized and the unit fills with water until the high probe is grounded.
 - While in use, the water level control (PL) will energize the fill solenoid valve (S2) whenever the water level drops below the high probe.
3. When the door is closed, the door-switch (B3) closes.
 - The coil to the door switch relay (RM) is energized closing the contacts (21 and 24) sending power to the meat probe switch (IS).
4. When the meat probe (IS) is not selected the power is sent to the timer (B8).
5. With time on the timer (B8), the fan circuit is energized.
 - Power is sent to the timer indicator light (H1) and through the selector switch (B1) closed contacts D and 6 to the reversing switch (I).
6. The reversing switch (I) will energize either the clockwise contactor coil (CD) or the counter clockwise coil (CS).
 - In approximately 3 minutes it will energize the other coil, reversing the direction of the fan. The fan speed relay (RV) is energized at the same time the reversing switch (IS) has power.
7. With the fan speed switch set on high the high-speed contactor coil (CA) is energized and the contacts (CA) close, sending power to the fan motor (M) through the thermal protection (A1).

- With the contactor (CA) closed, power is sent to both the damper system relay (RS) and the heat circuit through the chamber thermostat (F1).
 - The power will remain at the chamber thermostat (F1) until no time is left on the timer and the buzzer (N) is energized.
8. If the meat probe (SS) is selected the heat circuit is controlled by the temperature set at the core temperature thermostat (indicated by the dotted lines).
- When the temperature of the product is the same as entered, the buzzer (N) is energized shutting off the heat circuit.
9. While the heat circuit is energized through the timer (B8) or core temperature thermostat the chamber thermostat (F1) controls it.
10. With the chamber thermostat (F1) set, power is sent to the heat indicator light (H1) and the water level control (PL).
- When water reaches the low probe and it is grounded, the water level control (PL) will send power to the steam thermostat (F4).
 - Until the steam thermostat (F4) is satisfied (149 degrees Fahrenheit at the vent pipe) power will be sent to the Boiler relays (RB1 and RB2), closing the RB1 and RB2 contacts.
 - This will energize the boiler ignition module (Z2). After the surface igniter, located above the burner in the boiler burner chamber, has been energized for 4.5 seconds the ignition module (Z2) energizes the main valve coil of the gas valve (S4).
 - The timer (TE) is energized and after 8 seconds the HI coil of the gas valve is energized from the timer (TE).
 - The burner circuit will remain energized until the unit cycles.
11. The condensate solenoid (S5) is controlled by the condensate thermostat (F5).
- When the temperature in the drain exceeds 158 degrees Fahrenheit it closes and the condensate solenoid (S5) is energized.

CLEVELAND RANGE COMBI CCG X

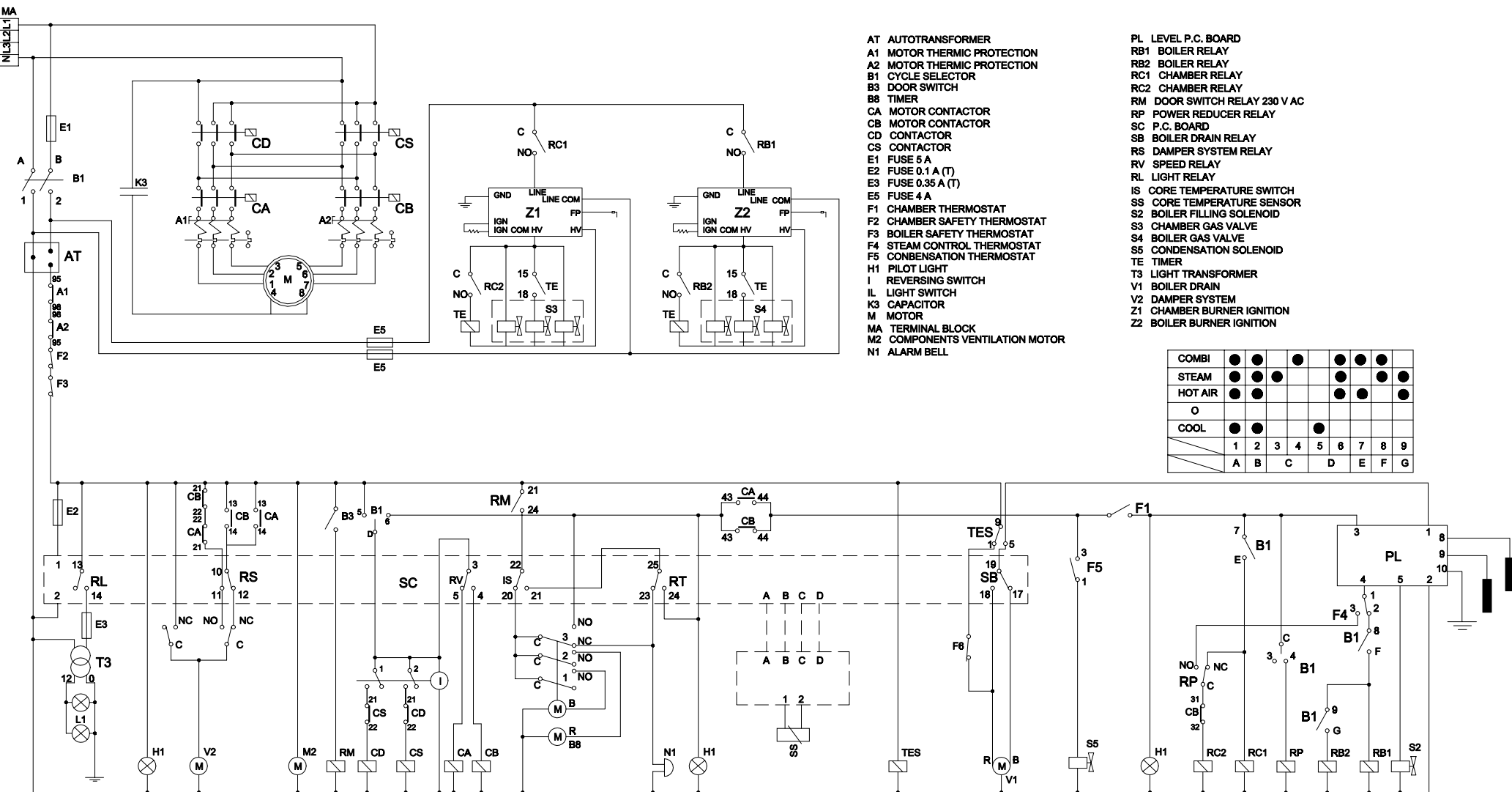
SEQUENCE OF OPERATIONS

COMBI MODE

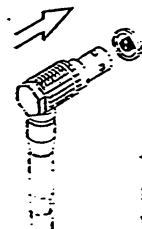
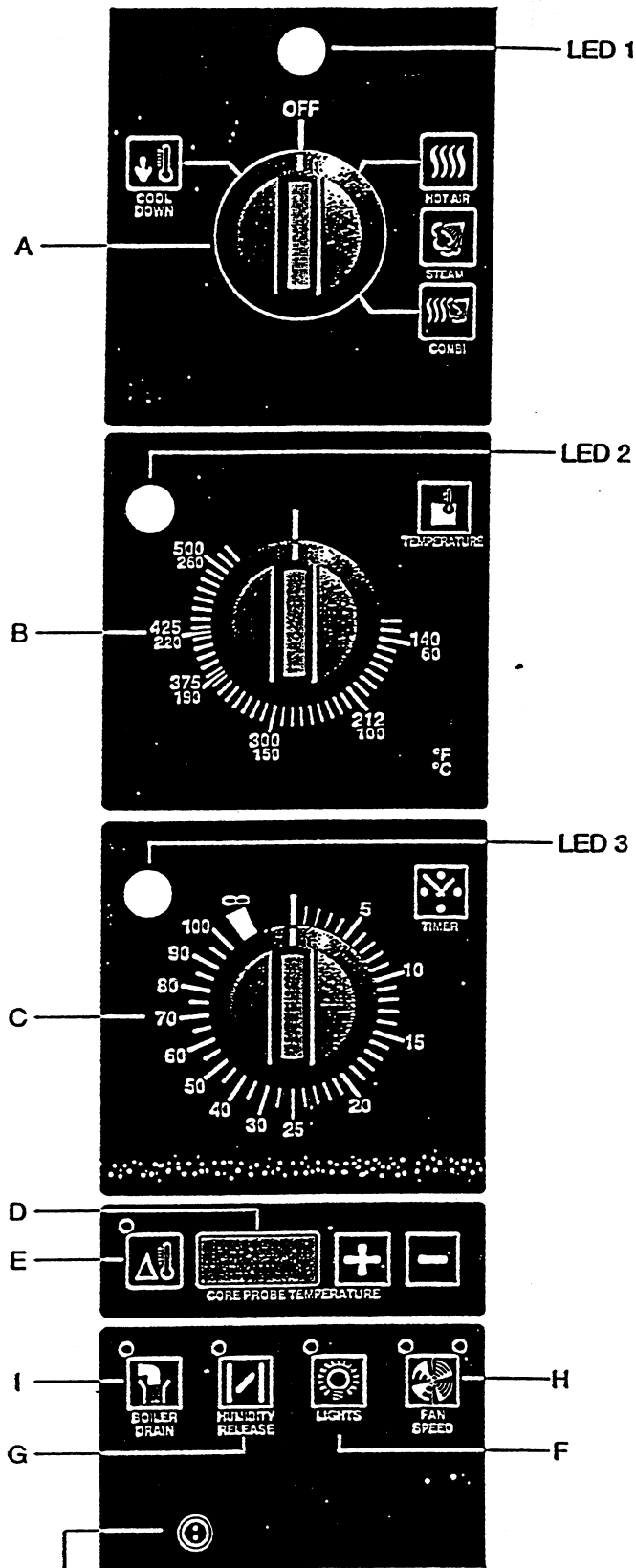
When using these instructions refer to the CCGX wiring schematic for the appropriate model.

1. To turn the unit on, place the selector switch (B1) in the steam mode.
 - Selector switch (B1) contacts A and 1 and contacts B and 2 close. Power is at the contacts of the clockwise contactor (CD) and counter clockwise contactor (CS).
 - 110 VAC is supplied to the primary side of the step-up autotransformer (AT) and approximately 220 VAC is produced on the secondary side.
 - From the transformer (AT), power is sent through both of the motor thermal-protection contacts (A1 and A2), the chamber high limit (F2), and the boiler high limit (F3).
 - The relay board (SC) is then energized as well as the power pilot light (H1).
 - The cooling fan (M2) is energized and the system waits until either the door switch or the drain valve is closed.
2. Pressing the drain switch located on the front control panel closes the drain valve.
 - When the drain valve (V1) is closed, power is sent to the water level control (PL). At this time if the probes, located in the top of the generator, are not grounded, the fill solenoid valve (S2) is energized and the unit fills with water until the high probe is grounded.
 - While in use, the water level control (PL) will energize the fill solenoid valve (S2) whenever the water level drops below the high probe.
3. When the door is closed, the door-switch (B3) closes.
 - The coil to the door switch relay (RM) is energized closing the contacts (21 and 24) sending power to the meat probe switch (IS).
4. When the meat probe (IS) is not selected the power is sent to the timer (B8).
5. With time on the timer (B8), the fan circuit is energized.
 - Power is sent to the timer indicator light (H1) and through the selector switch (B1) closed contacts D and 6 to the reversing switch (I).
6. The reversing switch (I) will energize either the clockwise contactor coil (CD) or the counter clockwise coil (CS).
 - In approximately 3 minutes it will energize the other coil, reversing the direction of the fan. The fan speed relay (RV) is energized at the same time the reversing switch (IS) has power.
7. With the fan speed switch set on high the high-speed contactor coil (CA) is energized and the contacts (CA) close, sending power to the fan motor (M) through the thermal protection (A1).

- With the contactor (CA) closed, power is sent to both the damper system relay (RS) and the heat circuit through the chamber thermostat (F1).
 - The power will remain at the chamber thermostat (F1) until no time is left on the timer and the buzzer (N) is energized.
8. If the meat probe (SS) is selected the heat circuit is controlled by the temperature set at the core temperature thermostat (indicated by the dotted lines).
- When the temperature of the product is the same as entered, the buzzer (N) is energized shutting off the heat circuit.
9. While the heat circuit is energized through the timer (B8) or core temperature thermostat the chamber thermostat (F1) controls it.
- Until the chamber thermostat (F1) is satisfied, power will be sent to the heat indicator light (H1) and through the closed contacts C and 4 on the selector switch (B1) to the coil of the power-reducing relay (RP). This prevents the HI coil of the chamber gas valve (S3) from energizing while the steam control thermostat (F4) is energizing the coil of the boiler relay (RB1).
 - From the chamber thermostat (F1) power is sent through closed contacts E and 7 on the selector switch (B1) to the coil of the chamber relay (RC1).
 - When the coil of the chamber relay (RC1) is energized the contacts close and power is sent to the ignition module (Z1). At this time the igniter, located above the burner in the hot air combustion chamber is energized for 4.5 seconds. Then the timer (TE) and MV coil of the gas valve (S3) is energized.
 - When the ignition module receives 1 micro-amp DC, the flame is proven and the gas valve will stay energized as long as the circuit is intact. If the ignition module (Z1) does not receive the 1 micro-amp on the sensor wire (FP on the module) within 3 seconds the ignition module (Z1) will purge for 1 minute and try again.
 - This will happen for a total of 3 times before the module locks out.
10. With the chamber thermostat (F1) set, power is also sent to the heat indicator light (H1) and the water level control (PL).
- When water reaches the low probe and it is grounded, the water level control (PL) will send power to the steam thermostat (F4).
 - Until the steam control thermostat (F4) is satisfied (149 degrees Fahrenheit at the vent pipe) power will be sent to the Boiler relay (RB1), closing the RB1 contacts.
 - This will energize the boiler ignition module (Z2). After the surface igniter, located above the burner in the boiler burner chamber, has been energized for 4.5 seconds the ignition module (Z2) energizes the main valve coil of the gas valve (S4).
 - The burner circuit will remain energized until the unit cycles.
11. The condensate solenoid (S5) is controlled by the condensate thermostat (F5).
- When the temperature in the drain exceeds 158 degrees Fahrenheit it closes and the condensate solenoid (S5) is energized.



DESCRIPTION OF CONTROLS AND OPERATION / 1 - MODELS M, X

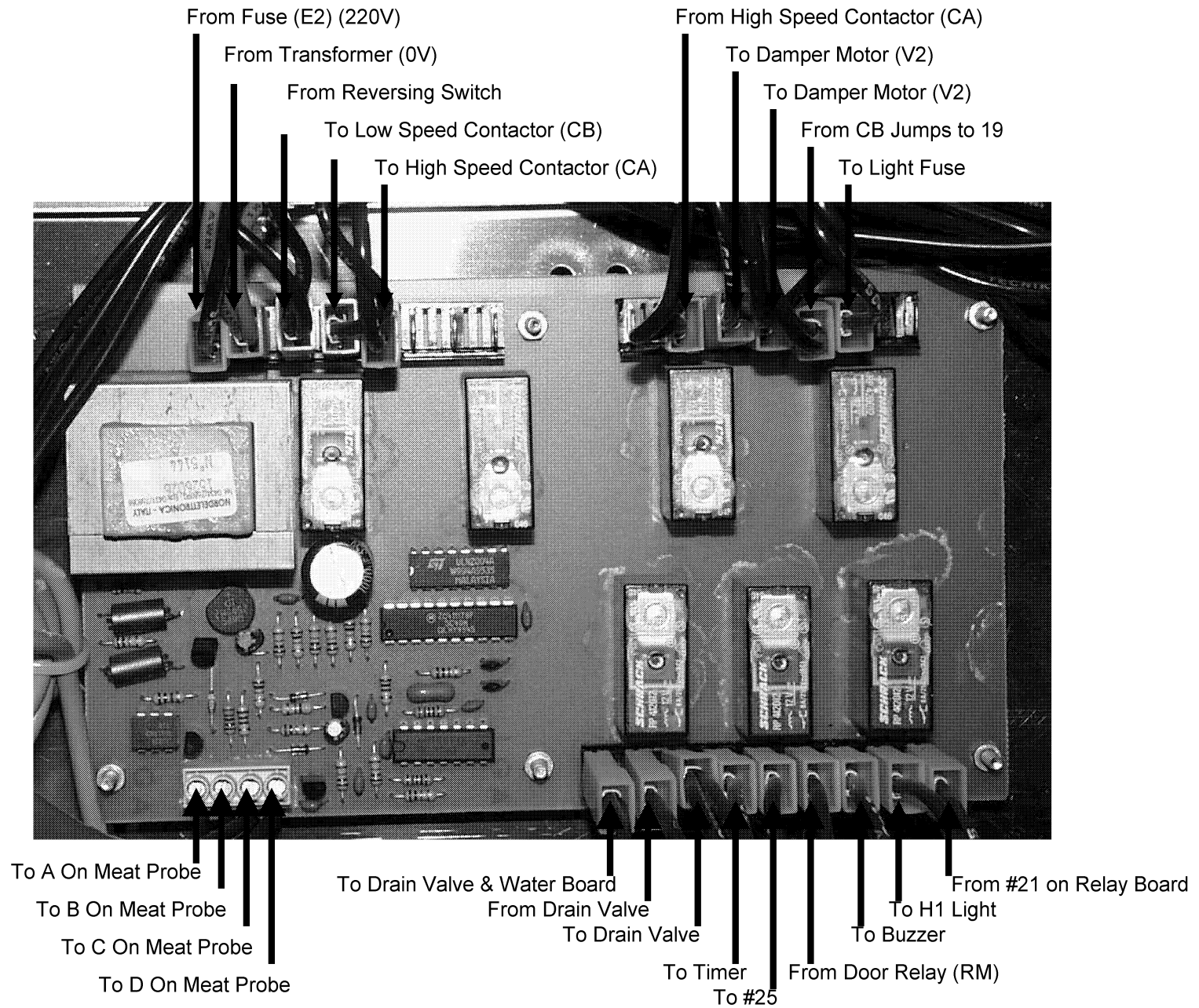


TEMPERATURE MEAT PROBE CONNECTION

Fit the temperature meat probe as shown.

Wrong connection will damage the temperature meat probe joints.

Figure 3-2



OPERATION

HEAT MODE

In a typical system, a call for heat is initiated by closing the thermostat contacts. This signals the 50A72 control. Power is then applied to the 768G last warm-up silicon nitride ignitor.

The ignitor is allowed to warm up for 4.5 seconds. The White-Rodgers (W-R) Model 788G fast warm-up ignitor must be used.

At the end of the ignitor warm-up time, the gas valve is opened. Flame must be detected within 3 seconds. When the thermostat is satisfied, the gas valve is de-energized. If flame is not detected, the gas valve is de-energized, the ignitor is turned off, and the 50A72 control goes into the "retry" sequence.

The "retry" sequence provides a 60-second delay time following an unsuccessful ignition attempt (flame not detected during the safety time). After this delay, the ignition sequence is restarted. If this ignition attempt is unsuccessful the control goes into system lockout.

If flame is detected, then lost, the 50A72 control will repeat the initial ignition sequence for one "recycle". The 60-second delay time is not performed in this case. After one unsuccessful "recycle" attempt, the control will go into system lockout.

During burner operation, a momentary loss of power of 50 milliseconds or longer will de-energize the main gas valve. When power is restored, the gas valve will remain de-energized and a restart of the ignition sequence will begin immediately.

A momentary loss of gas supply, flame blowout, or a short or open condition in the flame probe circuit will be sensed within the flame failure response time (FFRT). The gas valve will de-energize and the control will restart the ignition sequence. Recycle will begin and the burner will operate normally if the gas supply returns, or the fault condition is corrected before the last ignition attempt. Otherwise, the control will go into system lockout.

If the control has gone into system lockout, it may be reset by pressing and releasing the reset switch. Refer to PRECAUTIONARY, SYSTEM LOCKOUT, AND DIAGNOSTIC FEATURES.

PRECAUTIONARY, SYSTEM LOCKOUT, AND DIAGNOSTIC FEATURES

PRECAUTIONARY FEATURES

During a call for heat, if flame is sensed when the gas valve is de-energized, the system is locked out.

SYSTEM LOCKOUT FEATURES

When system lockout occurs, the gas valve is de-energized. The diagnostic indicator light will flash or glow continuously to indicate system status.

To reset the control after system lockout, press and release the reset switch.

DIAGNOSTIC FEATURES

The 50A72 control continuously monitors its own operation and the operation of the system. If a failure occurs, the LED light on the control will flash a failure code. If the failure is internal to the control, the light will stay on continuously. In this case, the entire control should be replaced, as the control is not field-repairable.

If the sensed failure is in the system (external to the control), the LED will flash in the following flash-pause sequences to indicate failure status (each flash will last approximately 0.25 seconds, and each pause will last approximately 2 seconds).

1 flash, then pause	System lockout
4 flashes, then pause	Open ignitor circuit
5 flashes, then pause	Flame has been sensed when no flame should be present
6 flashes, then pause	Line and line common wiring is reversed
7 flashes, then pause	Check flame sensor and/or appliance ground

The LED will also flash once at power-up.