



10 Tray Heavy-Duty Convection Oven

IMS #108271

INSTRUCTION MANUAL



August, 2009
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SAFETY SUMMARY

Do not install, operate or service this oven without reading and understanding the following warnings:

WARNING

This oven uses voltages that could cause death or severe electrical shock. Disconnect and lock out power before servicing this oven. Only qualified, licensed electricians may do any electrical connections or service to this oven.

WARNING

There is a danger of explosion if this oven contacts solvent vapors. Do not use oven to dry solvent-laden or painted plastics. Do not use oven if there are solvents stored or used in the area.

There is a danger of fire if this oven is used with combustible material. Do not use combustible containers or material in this oven.

WARNING

This oven maintains high temperatures long after it is turned off. Always give the oven time to cool before servicing. Make sure all parts have cooled down before doing any service work on the oven.

The outside of this oven could get hot enough to cause burns to skin or damage to equipment. Be careful when touching the oven. Do not lay anything on top of, underneath or near the oven.

DESCRIPTION

1. General.

The DG-0410 is an oven for drying thermoplastic material. It uses thermostatically controlled, sheathed strip heaters to heat an oven compartment that is insulated by mineral wool.

2. Safety Equipment.

The excess temperature controller, safety contactor and thermostat are in series. If any one is open, no power can get to the heaters.

- a. The excess temperature controller is normally closed. It opens if the temperature in the oven goes above the preset 340°F limit (15°F above 325°F maximum temperature of oven).
- b. The safety contactor has a coil that operates two normally open contacts. The contacts control power to the thermostat. When the oven is on and the excess temperature controller is not tripped, the coil is energized and closes the contacts. This sends power to the thermostat.
- c. The thermostat directly controls power to the heaters, based on where the temperature is set.

SPECIFICATIONS

Top Heat:	325°F
Number of Trays:	10
Oven Dimensions:	
External, : (with stand)	48-3/4" wide x 30" long x 44" high
Internal: (each section)	16" wide x 25" long x 20" long
Weight:	600 lbs
Heaters:	4 kW sheathed strip
Power Requirements:	208 to 240 volts, 50 or 60 Hz, single phase
Amperage:	19 @ 208V, 60 Hz 18 @ 230V, 60 Hz 17 @ 240V, 60 Hz
Tray Size (inside):	15" wide x 24" long x 2-1/2" deep
Tray Capacity:	11 to 12 lbs each

INSTALLATION

1. Uncrating.
 - a. Inspect packaging for signs of damage. Save packaging until you are sure oven is not damaged.
 - b. Inspect oven carefully; look for concealed damage.
 - c. If there is no damage, go to Placement below.
 - d. If there is damage, report it to carrier within 15 days. Save packaging to show carrier.

INSTALLATION (continued)

2. Oven Placement.

a. Select location based on the following:

- (1) Locate oven where heat from oven will not harm building or other equipment when operated at maximum temperature rating.
- (2) Consider effects of oven heat on nearby stock areas, power stations, sprinkler systems, and flammable liquids and gases.
- (3) No combustible vapors or materials in area.
- (4) Grounded, 208, 230 or 240 volt, 50 or 60 hz, single-phase electrical source nearby -- avoid extension cords or long wiring runs.
- (5) Personnel and material will not come into incidental contact with oven.
- (6) Solid, non-flammable surface.

Determine proper floor load before setting up oven. To do this, consider weight of oven, and of trays and materials used inside oven.

- (7) Low humidity area to allow for faster drying.
- (8) Unrestricted air circulation around fresh-air inlets. Do not place oven against a wall. Provide a minimum air space of 3" on all sides to allow for air circulation.
- (9) Stack can be run safely and easily to oven.

INSTALLATION (continued)

- b. If necessary to level oven, use non-combustible shims.
- c. Bolt oven securely to floor. This is to keep oven aligned with stack at all times.
- d. Install stack according to Stack Installation instructions in this manual.

3. Electrical Connections.

WARNING

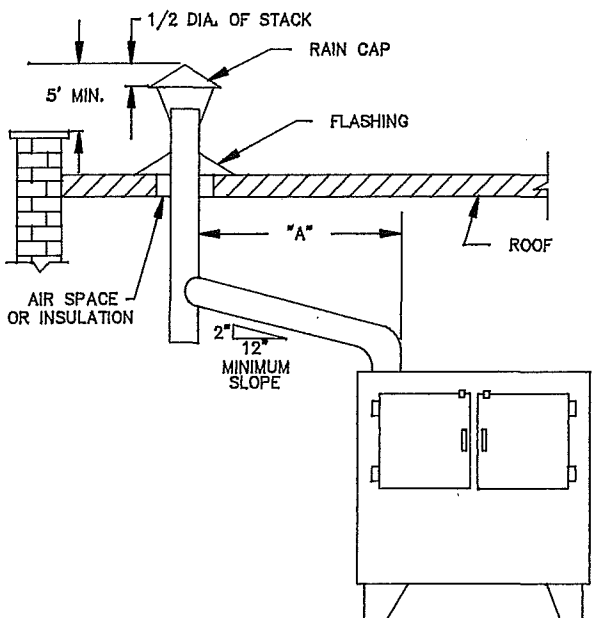
There is a danger of electrocution or extreme shock if wiring is done incorrectly. All wiring must be done by licensed, qualified electricians and must be done in accordance with all applicable local and national codes.

- a. Connect oven to grounded 208, 230 or 240 volt, 50 or 60 Hz, single phase power supply with a fused disconnect. Fusing should be 20 amps or to local code.
- b. Oven is shipped with an unfinished end on power cord. Install a plug that matches your power receptacle. Plug and receptacle MUST be grounded.
- c. Check tightness on all terminals, especially on power connections.

STACK INSTALLATION

These stack installation instructions are recommendations only. If local building codes differ from these instructions, follow local building codes.

1. Keep stack as far as possible from combustibile building materials. Insulate stacks passing through combustibile walls or allow enough clearance to keep area adjacent to stack below 160°F.
2. Stacks must be made out of sheet steel, stove pipe, or other approved stacking material.
3. Support stack, using approved bracing.
4. Use shortest and most direct path for all stacks.
5. Run all stack piping with male end pointing away from oven. Make joints tight; secure with sheet metal screws.
6. Avoid running stack through fire walls.
7. Don't install dampers or restrictions that can impede exhaust flow.
8. Insulate all stacks within 7' of factory floor and guard them to protect personnel.



If "A" is 5' or less, use same pipe size as oven connection. If "A" is over 5' use next larger standard stove pipe.

Top of stack must be 5' above any projection (walls, roof, peaks, etc.) within 50' measured horizontally from stack, to prevent down drafts.

Cabinet model illustrated. Use same stack construction for all ovens -- with or without powered, forced exhaust blower.

Consult local fire safety codes in your location.

OPERATION

WARNING

There is a danger of explosion if this oven contacts solvent vapors. Do not use oven to dry plastics that have solvent or paint on them. Do not use oven if there are solvents stored or used in the area.

WARNING

There is a danger of fire if this oven is used with combustible materials. Do not use combustible containers or material in this oven.

Do not leave oven unattended in operation.

1. Oven must be placed and electrically connected according to the INSTALLATION instructions in this manual.
2. Adjust air intake (oven bottom) and air exhaust stack (oven top) to a 30% open position. This should be best adjustment for most applications.
3. Throw your main line electrical disconnect switch to ON position.
4. Set thermostat to desired temperature. See instructions packed with thermostat.
5. Turn HEAT ON/OFF switch ON.

Red HEATER ON indicator light should come on and oven should start to heat.

If oven heats but indicator light does not come on; turn heater OFF, and shut off and lock out power to oven. It is dangerous and against OSHA regulations to operate an industrial oven like this with a malfunctioning HEATER ON indicator light.

OPERATION (continued)

CAUTION

Do not cover vents on bottom or back of oven. This is a convection-type oven, and good air flow is needed to maintain uniform temperature throughout the oven. Poor air flow could cause melted material on bottom layer, and could wear out heater elements too fast.

6. Fill material trays and put trays in oven.
7. Turn ON/OFF switch OFF when you are done with oven.

Do NOT turn off oven simply by turning thermostat down.

MAINTENANCE

1. Always remove any material that spills onto top of heater cover inside oven.
2. Avoid tearing door sealing gasket. A torn gasket can cause air leaks.
3. Lightly oil door latches and hinges regularly.

TROUBLESHOOTING

There is an electrical diagram shipped with the oven. The following description of the safety contactor (LCR) should help in any troubleshooting.

1. Terminals 2 through 6 receive power whenever the ON/OFF switch is on.
2. Terminal 1 is wired in series with the excess temperature controller. It receives power only when the excess temperature controller is closed and power is on.
3. There is a contact from terminals 4 to 6. When closed, it connects power lead L2 to the thermostat.
4. There is another contact from 3 to 5. When closed, it connects L1 to the thermostat.
5. There is a coil across terminals 1 and 2, which controls those contacts.
6. When there is power to terminal 1, the coil is energized, closing the two relays and giving power to the thermostat.
7. Terminals 7 and 8 are not used.

REPLACEMENT PARTS

Refer to the electrical diagram for replacement part numbers. IMS carries all parts for this oven.

**MAINTENANCE RECORD
AND NOTES**