INSTRUCTIONS

MODEL SCVX20E
COMBINATION ATMOSPHERIC STEAMER/CONVECTION OVEN

SCVX20E ML-46142

HOBART
CORPORATION

WORLD HEADQUARTERS
TROY, OHIO 45374

FORM 16269 (4-86)

Installation, Operation and Care of MODEL SCVX20E COMBINATION ATMOSPHERIC STEAMER/CONVECTION OVEN

SAVE THESE INSTRUCTIONS

GENERAL

The model SCVX20E electric convection oven with atmospheric steamer is designed to cook uniformly, and to save product moisture content and time. This oven combines two different cooking techniques in the same unit — convection cooking and steam cooking. You can even mix convection and steam cooking for additional flexibility.

With the capacity available in this oven, you can eliminate lengthy preheating. Your oven will reach a cooking temperature of 350°F in minutes and you may quickly raise the temperature by several tens of degrees.

The uniform convection oven temperature allows cooking at lower temperatures than with a conventional oven eliminating burned fat while the atmospheric steamer saves moisture content and improves product weight.

Steam cooking promotes high speed turnaround for foods like vegetables and fish. Salt and mineral losses are reduced and there is no flavor exchange when different foods are cooked in the oven at the same time.

Mixing steam and convection cooking lets you cook in a moist environment at temperatures above the boiling point but at atmospheric pressures.

The inspection window permits observation of your food without disturbing the cooking process.

UNPACKING

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

INSTALLATION

Place the oven on adjustable feet in its permanent location allowing clearances of at least 2″ on the sides and 6″ on the back for air circulation.

LEVELING

Adjust the legs to assure that the oven racks are level in the final installed position.

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PLUMBING CONNECTIONS

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

Connect the potable water supply line to the appropriate water connection on the oven. Supply pressure should be 10-30 psi. To keep from liming the boiler you must have a softened water supply with less than 2 grains of hardness per gallon. Water supply should be clear and free of sediment or suspended mater. The water should have a pH range of 7.0 to 7.5. Failure to comply with the specifications for water clarity, softness and pH will void the warranty.

See MAINTENANCE for specifics on cleaning the boiler.

Connect the drain to a sewer pipe with a funnel and without siphon, elbow or excessive lengths of pipe. Drain must be constructed to provide for water draining from boiler at 212°F with an escape of steam.

ELECTRICAL CONNECTIONS

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

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE CIRCUIT.

Prior to installation, test the electrical service to be sure that it agrees with the specifications on the oven data plate. Comply with the appropriate wiring diagram attached to the oven when making connections to the electrical supply lines.

ELECTRICAL DATA

Model SCVX20E	TOTAL KW	208-240V 3-PHASE LOADING KW PER PHASE			NOMINAL AMPERES PER LINE WIRE 208V			240V		
		L1L2	L2L3	L1L3	L1	L2	L3	L1	L2	L3
Conv+Steam	21.6	7.2	7.2	7.2	62	62	62	54	54	53
Steam	18.0	6.0	6.0	6.0	52	52	51	45	45	45
Convection	15.6	5.2	5.2	5.2	45	45	45	39	39	39

BRANCH CIRCUIT SIZE AND PROTECTION

VOLTS	HZ	PHASE	MINIMUM CIRCUIT AMPACITY	MAXIMUM TIME DELAY FUSE	90°C COPPER WIRE SIZE
208	60	3	80	80	#4 AWG
240	60	3	70	70	#6 AWG

If the fan does not rotate counterclockwise as you look inside the oven chamber with the filter removed, correct the rotation using the following instructions:

1. **WARNING:** DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE CIRCUIT.
2. Then interchange any two of the incoming power supply leads.
3. Reenergize and verify correct fan rotation.

OPERATION

BEFORE FIRST USE

Before using the SCVX20E steam and convection oven for the first time, it must be "burned in" to release any odors that might result from heating the new surfaces in the chamber.

- Using a clean damp cloth, wipe the inside of the oven including the racks.
- Wipe the outer surfaces to remove any dirt or film that may have accumulated during shipment.
- Close the oven door, turn on the oven and set the thermostat to 300°F for 6-8 hours. Smoke with an unpleasant odor will normally be given off.

CONTROLS

BOILER DRAIN lever — controls the drain to the steam boiler.

VENT lever — controls the oven vent opening.

OFF/AUTO/MANUAL switch — controls the oven thermostat and timer:

- OFF — the oven heaters, fan and control circuits are not energized. To operate the oven use either AUTO or MANUAL.
- AUTO — automatically operates the oven at the thermostat setting for the amount of time on the timer; when the timer finishes its countdown, the oven heaters will shut off.
- MANUAL — eliminates use of the timer but maintains the temperature in the oven at the thermostat setting.

FAN lamp — is lit when the oven is operating in either AUTO or MANUAL mode.

OVEN ELEMENTS lamp — is lit in either CONVECTION + STEAM or CONVECTION mode when the OVEN ELEMENTS are energized and heat is being produced in the oven.

BOILER ELEMENTS lamp — is lit when the oven is in either CONVECTION + STEAM or STEAM mode and the boiler requires heat to maintain the required temperature.

STEAM PRODUCTION lamp — is energized when in CONVECTION + STEAM or STEAM mode as steam is being sent to the oven.

DRAIN CLOSED lamp — must be lit for the unit to function in either of the three cooking modes. The BOILER DRAIN lever must be in closed position for this lamp to light.

CONVECTION/CONVECTION+STEAM/STEAM mode switch — selects the mode of operation of the oven:

- CONVECTION — for pastries and roasting. The 15.6 KW electric heaters in the rear of the oven cavity are controlled by the oven thermostat (and timer if in AUTO mode).
- STEAM — for vegetables and fish at atmospheric pressure and 125°F to 212°F. The steam boiler operates with 18 KW heaters to generate steam at 190°F for injection into the oven cavity.
- CONVECTION + STEAM — when extra moisture and cooking temperatures above 212°F are required. The 15.6 KW oven heaters provide heat to the oven while 6 KW of heating capacity in the boiler generates steam.

THERMOSTAT — controls the temperature of the oven chamber when the OFF/AUTO/MANUAL switch is on MANUAL or when there is time on the timer and the OFF/AUTO/MANUAL switch is on AUTO.

TIMER — controls the thermostat and heaters on the oven when the OFF/AUTO/MANUAL switch is on AUTO and the TIMER is set with a specific amount of time. At the end of the preset time, the oven, thermostat and heaters will be deenergized and a buzzer will sound until the TIMER is reset or the mode switch is turned to MANUAL.

MOTOR RESET button — resets the fan motor overload relay in the event that it has tripped.

DOOR INTERLOCK switch — prevents the oven HEATER ELEMENTS, steam BOILER ELEMENTS or FAN from being energized if the door is ajar or open.

FUSES — replace when necessary with size and type indicated on the control panel.

MANUAL OPERATION

1. With the thermostat dial in the OFF position, (fully counterclockwise), turn the switch to MANUAL. The FAN light and fan are energized. Select the mode of cooking desired (CONVECTION, CONVECTION + STEAM or STEAM).
2. In CONVECTION mode:

   Set the THERMOSTAT to the desired temperature. The OVEN ELEMENTS light comes ON, the heaters will be producing heat in the oven until the THERMOSTAT temperature is reached and the OVEN ELEMENTS light goes off.

   In CONVECTION + STEAM mode:

   Set the THERMOSTAT to the desired temperature. The STEAM PRODUCTION light will be lit as steam is sent to the oven. The OVEN ELEMENTS light is lit until the temperature is reached. The BOILER ELEMENTS light will be lit when the boiler requires heat.

   In STEAM mode:

   Set the THERMOSTAT below 212°F to steam at lower than boiling temperatures. The STEAM PRODUCTION light will be lit as steam is sent to the oven. The BOILER ELEMENTS light will be lit when the boiler requires heat. At temperature settings above 212°F the boiler provides continuous steaming.
3. You may load the oven with food to be cooked at this point or before step 1 depending on whether you need to preheat the oven or not. Remember the SCVX20E oven heats up fast and will attain the temperature of the thermostat within minutes of loading.

AUTOMATIC OPERATION

1. Set the desired cooking time on the TIMER dial and select the mode of cooking desired.
2. Set the THERMOSTAT to the desired temperature and set the switch to AUTO.
3. At the end of the preset cooking period, the OVEN ELEMENTS and BOILER ELEMENTS and their lights will go off and a buzzer will sound to alert you until the timer is reset or the mode switch is turned to MANUAL. The FAN will remain on providing a uniform temperature until you open the door to remove the food from the oven.

TO SHUT-OFF THE OVEN

1. Turn the OFF/AUTO/MANUAL switch to the OFF position.
2. Turn the THERMOSTAT to the OFF position.
3. Turn the TIMER to the OFF position.

CLEANING THE OVEN

Clean the outside of the oven daily with a clean damp cloth.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE CIRCUIT.

Clean the inside of the oven as follows:

- Allow the oven to cool.
- Remove the tray guides and filter from the inside of the oven.
- Clean the tray guides and filter by allowing them to soak in a sink with mild detergent and water for a few hours, then brush or clean in a dishwasher. Dry the filter and tray guides with a soft cloth.
- Clean the walls with a product suitable for cleaning stainless steel food containers. Care must be used to prevent damage to the thermostat bulb and capillary tube located at the top right side as you face the oven. Clean around the drain hole on the oven floor and use a small diameter brush to swob out the drain if clogging is suspected.
- Reassemble in reverse order of disassembly.

NOTE: If the filter becomes clogged with grease, the operation of the oven and the uniformity of cooking can be seriously affected. Clean when necessary.

The STEAM BOILER must be drained every day as follows:

- Put the BOILER DRAIN lever in the Open position to drain the boiler.
- Drain for three minutes after a steam cycle when the oven is hot.
- Set the oven thermostat to OFF to save energy during drainage and rinse.
- Remove ¼" plug from top of oven.
- Rinse using a small funnel by pouring 7 quarts of water down the orifice on top of the oven.
- Switch oven to STEAM and drain for 2-3 minutes for a thorough cleaning.
- Replace ¼" plug on top of oven.

Clean boiler when COLD once each month with oven turned off:

- Drain boiler by putting BOILER DRAIN lever in Open position for 3 minutes.
- Remove ¼" plug on top of oven.
- Put BOILER DRAIN lever in Closed position.
- Using a small funnel, pour 7 quarts of vinegar down the orifice on the top of the oven. Allow vinegar to set in boiler for 5 minutes.
- Drain boiler by putting BOILER DRAIN lever in Open position for 3 minutes.
- Then return BOILER DRAIN lever to Closed position.
- Rinse by pouring 7 quarts of water down the orifice, using small funnel and let it set for 3 minutes.
- Drain boiler again by putting BOILER DRAIN lever in the Open position.
- Replace ¼" plug on top of oven.

COOKING HINTS

This oven operates with very uniform heat distribution and it is best to select temperatures 20 to 30°F lower than you would use with a conventional oven. Food need not be coated with oil or fat. Arrange the food in the oven to allow free circulation of air and not to be too close to the side walls.

ROASTING — food may be placed on racks in the oven or on broiler pans. Cooking with steam in the convection oven reduces char while increasing product moisture content (weight). You may increase the temperature at the start or end of the cooking cycle and produce the roast to your customer's taste.

GRATINS OR CASSEROLES — obtain an even, well-browned appearance by filling the dishes completely so the entire surface is exposed to the hot air circulating in the oven.

PASTRY — use appropriate baking pans. Although the oven heats up quickly, when cooking some kinds of pastries, such as pies, cheese tarts, etc., it is best to preheat the oven to 425°F for five to six minutes, then place the food in the oven and reduce the temperature if appropriate. Fruit pies (from scratch) are baked at 425°F until done. With custard pies, reduce heat after 10 minutes to 325°F to avoid overcooking or curdling.

FLAT DISHES — for best results when cooking flat dishes like cheese tarts, pizza, or sheet cakes, leave an empty space between racks to allow plently of room for air circulation.

Since recipes and foods are subject to many variations and tastes, the guidelines regarding temperature settings and cooking times contained in this manual are *SUGGESTED ONLY.* You should experiment with your food products to determine the cooking temperatures and times that give you the best results.

SUGGESTED COOK TIMES AND TEMPERATURES — MODEL SCVX20E OVEN

PRODUCT	TEMP. °F	COOK TIME (min.)			NO. OF RACKS
		STM	CONV+STM	CONV	
Meats					
Hamburger Patties (5 per lb.)	400		8-10		10
Meat Loaf	325		40-45		3
Rolled Beef Roast (12-15 lbs.)	275		150-180		3
Bacon	400		5-7		10
Hot Dogs (10 - 1 lb.)	325		10-15		5
Baked Stuffed Pork Chop	375		25-30		5
Boned Veal Roast (15 lbs.)	300		190		2
Poultry					
Chicken Breast & Thigh	350		40		5
Chicken Back & Wing	350		35		5
Chicken (2½ lb. Quartered)	350		30		5
Turkey Rolled (18 lbs. Rolls)	310		225		3
Eggs — Hard boiled 3 doz.	160		20		3
Fish & Seafood					
Fish Sticks	335			16-18	10
*Halibut Steaks, Cod Fish (Frozen 5 oz.)	350	5	15		5
Baked Stuffed Shrimp	400		6-7		5
Baked Stuffed Lobster (1½ lb.)	400		10		3
Cheese					
Macaroni & Cheese	350			30	5
Lasagna	260			90	3
Pies					
Frozen Fruit Pies (30-20 oz.)	350			30	6
Fruit Tarts (30-20 oz.)	355			30	5
Fruit Crisp	300			30	6
Breads					
Yeast Bread (40 - 1 lb. loaves)	350		30		6
Biscuits	350			7	10
*French Bread (1½ lb. loaves)	400	10 sec.		15	5
Yeast Rolls	325		25		5
Brown & Serve Rolls	350		15		5
Cakes & Cookies					
Sheet Cakes (6 lbs. Mixed Batter per pan)	320			20-25	5
Chocolate Cake	325			20	5
Brownies	350			15	5
Danish	325			20	5
Sugar Cookies	300			15	10
Chocolate Chip Cookies	350			12	10
Peanut Butter Cookies	325			10	10
Vegetables Fresh * (10 lb.s)					
Broccoli	160	5	10		2
Carrots	160	5	10		2
Corn	160	5	10		2
Cauliflower	160	5	10		2
Green Beans	160	5	10		2
Idaho Potatoes	400			45	5
Vegetables Frozen *(5 lbs.)					
Peas	160	2	10		1
Green Beans	160	2	10		1
Cauliflower	160	2	10		1

* First STEAM for prescribed time, then continue cooking as suggested.

MAINTENANCE

- The fan motor has sealed bearings and requires no additional lubrication.
- Clean the filter on the fan in the oven at least twice per month.
- The door hinges and mechanism require occasional lubrication with mineral oil.

TROUBLESHOOTING

OVEN WILL NOT SWITCH ON

- Check to see that the switch is in MANUAL position.
- Check the power supply.
- Check whether door is closed.
- Motor overload relay may have tripped - press MOTOR RESET button.

HEATER ELEMENTS WILL NOT HEAT UP

- Check thermostat and timer.

FAN DOES NOT ROTATE

- Press the MOTOR RESET button.

OVEN DOES NOT HEAT UP SUFFICIENTLY

- Check the direction of rotation of the fan motor. It should rotate in the counterclockwise direction as you look inside the oven with the filter removed.