



**INSTALLATION / OPERATION
MANUAL**

**E311 / E311MS
CONVECTION OVEN**

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Date Purchased.....	Serial No
Dealer	
Service Agent	

Introduction

We are confident that you will be delighted with your TURBOFAN OVEN, and it will become a most valued appliance in your commercial kitchen.

A new oven can seem very complex and confusing at first glance. To ensure you receive the utmost benefit from your new Turbofan, there are two important things you can do.

Firstly

Please read the instruction book carefully and follow the directions given. The time taken will be well spent.

Secondly

If you are unsure of any aspect of the installation, instructions or performance of your oven, contact your E311 dealer promptly. In many cases a phone call could answer your question.

Model Options

This manual covers models E311 and E311MS.

The E311 models feature a vitreous enamel front exterior finish and full glass door.

The E311MS models feature a stainless steel front exterior finish and a stainless steel exterior door with full viewing window.

The functionality of both model series are identical.

Note: Both model series are marked with the control panel coding "31", however the full and specific model option is found on the appliance rating plate.

Installation Requirements



It is most important that this oven is installed correctly and that operation is correct before use.

Installation shall comply with local electrical, health and safety requirements.

Before Connection to Power Supply

- Remove all packing.
- Check equipment and parts for damage. Report any damage immediately to the carrier and distributor.
- Remove protective plastic coating from the side panels.
- Check that the following parts have been supplied with your oven:
 - 4 x 4" Legs (Canada only)
 - 4 x Oven racks
- Report any deficiencies to the distributor who supplied the oven.
- Fit the feet to the oven.
- Fit door handle to oven door.
- Check that the available power supply is correct to that shown on the rating plate located on the right-hand side panel.

208V AC 60Hz, 14.0A, 2.9kW @ 208V
220-240V AC 60Hz, 13.0A, 3.1kW @ 240V

208-220V AC 50Hz, 14.6A, 3.2kW @ 220V
230-240V AC 50Hz, 13.0A, 3.1kW @ 240V

Location

- To ensure correct ventilation for the motor and controls the following minimum installation clearances are to be adhered to:

Top	8" / 200mm
Rear	1" / 25mm
Left-hand side	1" / 25mm
Right-hand side	1" / 25mm

- Position the oven in its working position.
- Use a spirit level to ensure oven is level from side to side and front to back. (If this is not carried out, uneven cooking could occur). The feet/legs used with bench/floor mounting or provided with stands are adjustable and will require adjusting in levelling the unit.
- The unit should be positioned such that the operating panel and oven shelves are easily reachable for loading and unloading.

Important:

THE VENT LOCATED ON THE OVEN TOP MUST NEVER BE OBSTRUCTED.

Double Units

- When it is desired to mount one unit on top of another the 31mm (1¼") high spacer feet must be used. These short feet should be screwed on, and the unit lifted on top of the bottom unit, where it locates safely under its own weight, for normal applications.

Installation

Electrical Connection

- Ensure unit is fitted with appropriate cord and plug.
- To access the electrical connection terminal block, grounding lug (marked with green), and strain relief, remove the back panel (4 screws).

WARNING - THIS APPLIANCE MUST BE GROUNDED

Water Connection (Canada only)

- A cold water supply should be fitted to the water inlet which is located on the rear of the left hand side of the unit.
- A connection elbow and sealing washer is supplied with this unit for direct connection of a 1/2" ID hose, and is recommended for easy installation and service.
- Connect water supply - Max inlet pressure 80psi / 550kPa.
- Turn on water supply to check for leaks.

Important:

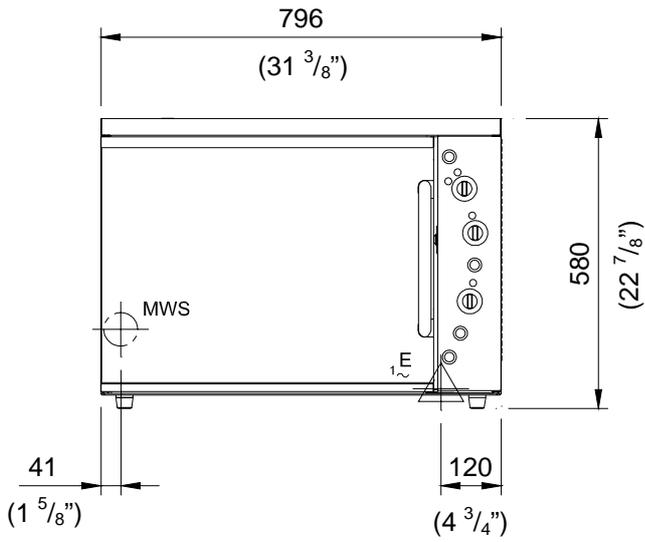
MAXIMUM INLET WATER PRESSURE IS 80 psi / 550 kPa.

Before Use

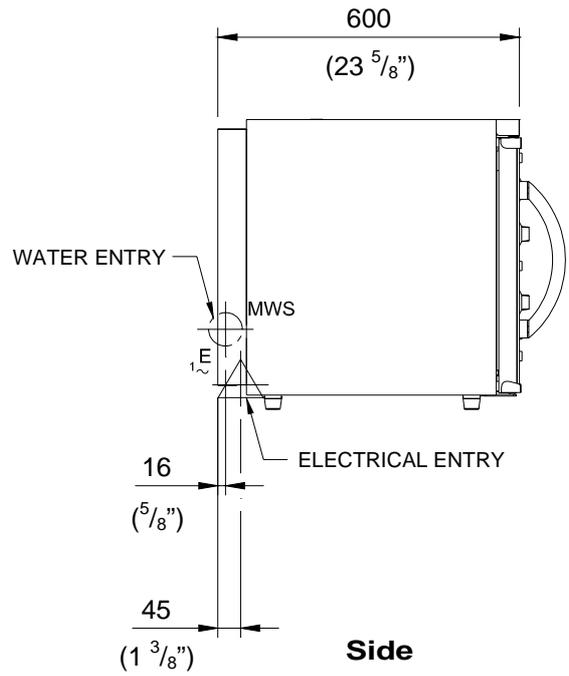
- Operate the oven for about 1 hour at 200°C (400°F) to remove any fumes or odours which may be present.

Specifications

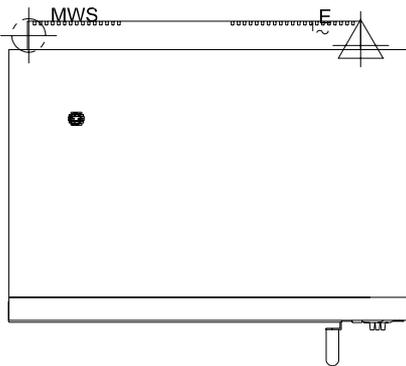
E311



Front



Side

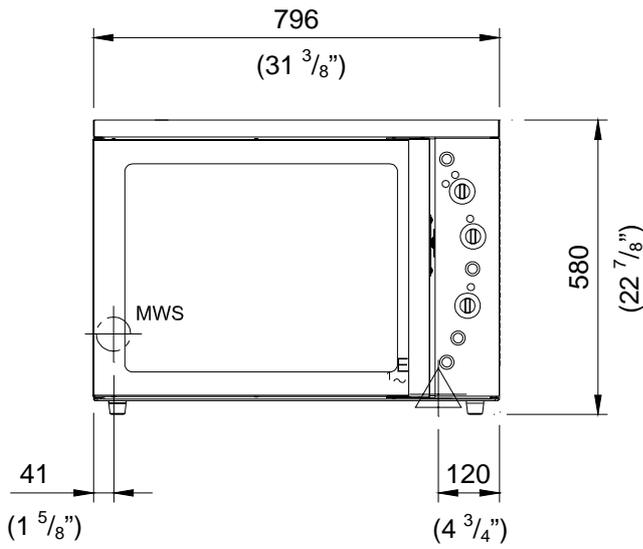


Plan

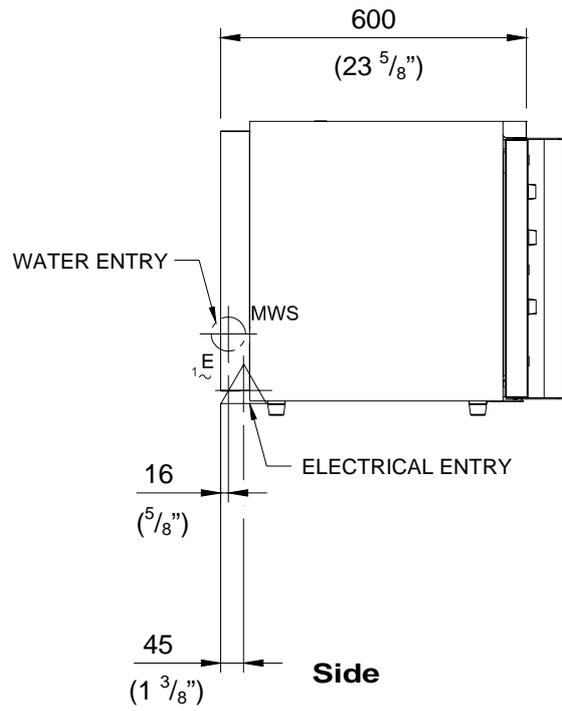
Electrical Connection	208V AC 60Hz, 14.0A, 2.9kW @ 208V 220-240V AC 60Hz, 13.0A, 3.1kW @ 240V 208-220V AC 50Hz, 14.6A, 3.2kW @ 220V 230-240V AC 50Hz, 13.0A, 3.1kW @ 240V
Cold Water Connection (Canada only)	1/2" I.D Hose (80psi maximum pressure)

Specifications

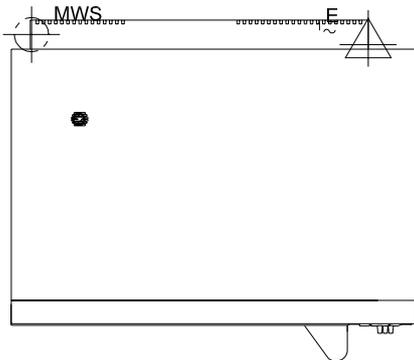
E311MS



Front



Side



Plan

Electrical Connection	208V AC 60Hz, 14.0A, 2.9kW @ 208V 220-240V AC 60Hz, 13.0A, 3.1kW @ 240V 208-220V AC 50Hz, 14.6A, 3.2kW @ 220V 230-240V AC 50Hz, 13.0A, 3.1kW @ 240V
Cold Water Connection (Canada only)	1/2" I.D Hose (80psi maximum pressure)

Operation Guide

Description of Controls



Power

Depress to switch power on or off (switch illuminates when power is on).



Thermostat

Temperature range 50 - 250°C (120 - 550°F).
Indicator illuminates when the elements are cycling ON to maintain set temperature.
Grill/Broil position - The grill/broil indicator will illuminate indicating that the grill/broil function has been set. The heating indicator will also illuminate whenever the elements are on.



Bake Timer

1 Hour bake timer.
(Indicator illuminates when "time up" (0) reached, and buzzer sounds).



Roast 'n' Hold

Depress switch to activate 'Roast 'n' Hold' function.
(Switch illuminates when ON).



Roast Timer

3 Hour roast timer.
(Indicator illuminates when "time up" (0) reached).
Product is held at 75°C (167°F).



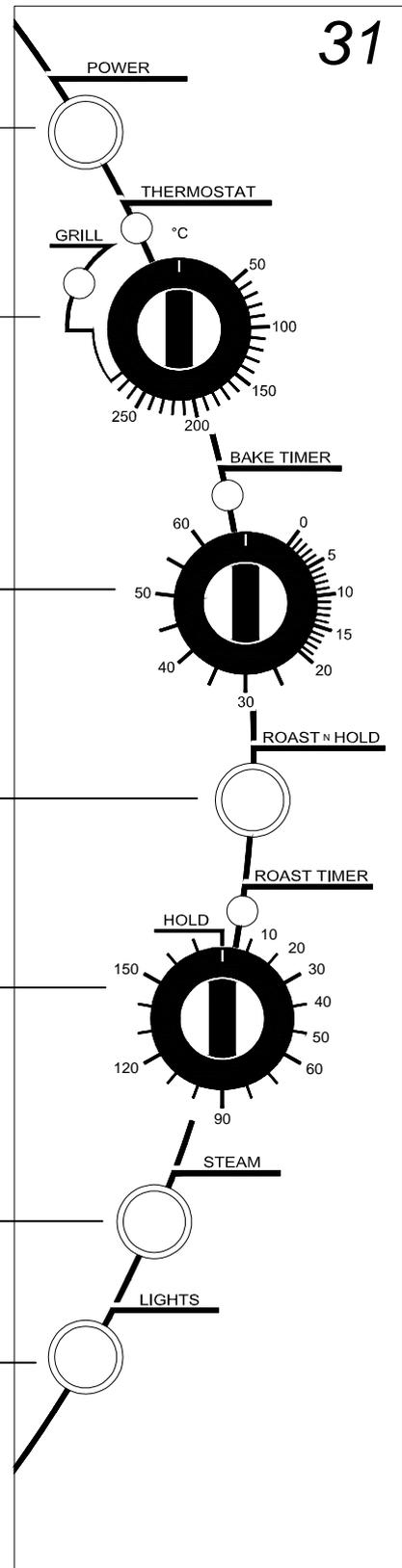
Steam Switch (Canada only)

Push switch to activate water injection. (Water injects into oven while button is depressed).



Light Switch

Push switch to activate light.
(Light illuminates while button is latched in the down position).



Operation

Baking



1. Turn power on

Power switch illuminates when it is depressed and latched in the down position.



2. Set thermostat to desired temperature

The heating indicator light will illuminate whenever the elements are cycling on to maintain the set temperature.



3. Load oven

Once the oven is up to temperature, open the door and load the oven with product. Avoid delays in loading the oven with the door open as this will delay the oven's temperature recovery.

Note:

The oven's fan will switch off and the oven lights will illuminate when the door is opened.



4. Set bake timer to desired time

To set timer, turn knob clockwise to the required time. At any stage, the time can be adjusted in either direction.

For settings less than 10 minutes, first set to greater setting, then turn down to the required time period.

Note:

This 60 minute timer is completely independent of the oven control.



5. Water injection (Canada only)

To steam the oven while baking, push the steam switch on the control panel. We recommend a 2-15 second injection period, according to product need, for this oven.

Keep switch depressed for required steam period.



6. Light

To view the product while baking, depress the light switch on the control panel. The light will stay on while the switch is latched in the down position.



7. Time up.

When the timer reaches 0 minutes the buzzer sounds and indicator illuminates.

To cancel the buzzer turn the timer to the off position.



8. Unload oven

Open the door and unload the oven .

Note:

The oven's fan will switch off and the oven light will illuminate when the door is opened.

Roast 'n' Hold



1. Turn power on

Power switch illuminates when it is depressed and latched in the down position.



2. Set thermostat to desired temperature

The heating indicator light will illuminate whenever the elements are cycling on to maintain the set temperature.



3. Load oven

Once the oven is up the temperature, open the door and load the oven with product. Avoid delays in loading the oven with the door open as this will delay oven temperature recovery.

Note:

The oven elements and fan will switch off and the oven lights will illuminate when the door is opened.



4. Set roast timer to desired time

This 3 hour timer is electrically driven and is set by turning the timer knob in either direction to the required time. The timer can be set when convenient, but will not start working until the oven control is set and the Roast 'n Hold switch is depressed (switch illuminated).



5. Depress roast switch

Depress the Roast 'n Hold switch. The switch will illuminate and the timer will begin to count down.



6. Water injection (Canada only)

To steam the oven while roasting, push the steam switch on the control panel. We recommend a 2-15 second injection period, according to product need, for this oven.

Keep switch depressed for required steam period.



7. Light

To view the product while roasting, depress the light switch on the control panel. The light will stay on while the switch is latched in the down position.



8. Hold

When the timer reaches the hold position, the main oven thermostat is turned off and a pre-set hold thermostat located behind the control panel will control the oven to keep the food warm at serving temperature as long as required until the Roast 'n Hold switch is turned off.

Note:

The hold light will illuminate when the timer reaches hold until the Roast 'n Hold switch is turned off. The hold light may come on briefly when the Roast 'n Hold control is first switched on until the oven heats up beyond the pre-set holding temperature.

Grilling / Broiling



1. Grilling / Broiling

Turn thermostat fully clockwise until the GRILL/BROIL position is reached. The GRILL/BROIL indicator will illuminate indicating that the GRILL/BROIL function has been set. The heating indicator will also illuminate whenever the element is on.

It is recommended that the GRILL/BROIL mode is only used with the oven door open as the oven fan is then automatically off. If however the GRILL/BROIL mode is used with the door closed, the elements will cycle on/off when oven temperature rises above 300°C (570°F) to prevent damage to the oven.



2. Load oven

Place an oven rack normally on the top position. When the element has reached bright red (5 minutes), position the dish under the GRILL/BROIL element. Heat food on one side, then turn on the other side.

It is not recommended to close the door when grilling/broiling.



3. Set bake timer to desired time

To set timer, turn knob clockwise to the required time. At any stage, the time can be adjusted in either direction.

For settings less than 10 minutes, first set to greater setting, then turn down to the required time period.

Note:

This 60 minute timer is completely independent of the oven control.



4. Time up.

When the timer reaches 0 minutes the buzzer sounds and indicator illuminates.

To cancel the buzzer turn the timer to the off position.



5. Unload oven

Open the door and unload the oven .

This TURBOFAN oven will cook a greater quantity of food faster, at a lower temperature and more evenly than an ordinary oven. As many excellent recipe books are published, it is not our intention to list recipes, but to provide a temperature and time chart as a guide.

When the door is opened the fan will switch off but elements will remain on to provide quick heat recovery. A high powered top element is fitted for toasting or broiling.

Baking

Select a temperature up to 20°C (35°F) lower than used in a conventional oven and preheat until HEATING indicator goes out. When the HEATING indicator goes out, the oven has reached the desired temperature and food may be placed in the oven allowing air space between cooking utensils and around the oven walls.

The following are only approximate guides - use your judgement.

FOOD	TEMP °C	TEMP °F	TIME
Sponges	165	330	10-12 mins
Small Cakes	165	330	8-12 mins
Butter Cakes	160	320	35 mins
Fruit Loaf	150	300	40-50 mins
Macaroons	160	320	15-20 mins
Biscuits	140	285	12-20 mins
Shortbread	130	265	15-20 mins
Scones	200	390	10-12 mins
Madeira	165	330	35-50 mins
Bread	175	350	25-35 mins
Plain Fruit Cake	165	330	1-1½ hrs
Rich Fruit Cake	130	265	2-3 hrs
Gingerbread	140	285	35-50 mins
Baked Custard	130	265	50 mins
Souffle	165	330	25 mins
Rice Pudding	130	265	2-3 hrs
Pastry			
Puff	220	430	8-12 mins
Short	175	350	8-12 mins
Flakey	205	400	8-12 mins
Jam	185	365	12-20 mins
Fruit	185	365	35 mins

Cooking guide

Roasting

Set the oven temperature to 150-170°C (300°F-340°F). The hot air circulating in the oven reduces moisture loss and shrinkage. Roasting times are reduced by approximately 10 minutes per kg.

MEAT	TIME per kg
Beef - Rare	30-40 min
Beef - Medium	40-50 min
Beef - Well Done	50-60 min
Veal	50-70 min
Lamb	30-40 min
Duck	50 min
Goose	50 min
Turkey	30-40 min
Chicken	
- under 1kg	50-60 min
- over 1kg	40 min

Roast-'n'-Hold

This system will automatically cook food for a set time, then hold the oven at a preset temperature indefinitely to maintain food at a serving temperature after cooking has been completed.

When the oven has reached the set temperature, place food in the oven, set roast cooking time and depress the Roast 'n' Hold button. The hold indicator will come on when cooking is complete.

To return to normal operation, push the Roast 'n' Hold switch again (switch will cease illuminating).

Browning

Different foods may be cooked together, eg baking and roasting may be carried out at the same time. Food which requires a slightly higher temperature or more browning should be placed at the top of the oven, so that the broil element may be selected (with the door shut) during the last few minutes of cooking. As the top element is quite powerful, keep a close watch on browning progress.

Grilling/Broiling

Turn the oven thermostat right around to GRILL/BROIL. Place an oven rack normally on the second position from the top. Place the food on a grill tray. This allows fat to drain, to prevent smoking. When the element has reached a bright red (5 minutes) position the dish under the GRILL/BROIL element. Heat food on one side, then turn on the other side.

Toast, sandwiches etc., on a scone tray on the top rack position.

FOOD	MINUTES per SIDE
Steak - 25mm thick	
- Rare	6-8
- Medium	9-11
Chops	
- 25mm thick	12-15
Bacon	3-4
Ham 15mm thick	8-10
Tomatoes - halved	10-12
Mushrooms	10-12
Onions - raw sliced	10-15

It is not recommended to close the door when grilling/broiling.

Cleaning Guidelines



Caution:

ALWAYS TURN OFF THE POWER SUPPLY BEFORE CLEANING.

THIS UNIT IS NOT WATER PROOF.

DO NOT USE WATER JET SPRAY TO CLEAN INTERIOR OR EXTERIOR OF THIS UNIT.

Exterior

Clean with a good quality stainless steel cleaning compound. Harsh abrasive cleaners may damage the surface.

Interior

Ensure that the oven chamber is cool. Do not use wire brushes, steel wool or other abrasive materials. Clean the oven regularly with a good quality oven cleaner. Take care not to damage the fan or the tube at the right side of the oven which controls the thermostat.

Oven Racks

To remove, slide out to the stop position, raise the front edge up, and lift out.

Side Racks

Undo the thumbscrew (anti-clockwise rotation) securing rack to oven wall, swing rack towards centre of oven to disengage location pin at front of side, and pull rack forward to remove. To replace, engage rack in rear holes, swing towards side of oven to engage in front hole, and replace thumbscrew.

Bottom Element Cover

Lift out vitreous enamelled element cover and thoroughly clean on a routine basis (minimum once per week).

Fan Baffle

To remove, unscrew the oven lamp glass and lift the baffle out. To replace, locate the bottom edge of the baffle over the bottom element terminal plate and secure in place with the oven lamp glass.

Do not over tighten lamp glass.

Oven Seals

To remove, hold at their centre point and pull forward until they unclip. Remove side seals first, then top and bottom. The seals may be washed in the sink, but take care not to cut or damage them.

To replace, have the lip facing the oven opening. Fit the top and bottom seals first, then the side seals.

Oven Door Glass

Clean with conventional glass cleaners

Trouble-shooting

Oven trouble-shooting

Fault	Possible Cause	Remedy
The oven does not operate / start.	The mains isolating switch on the wall, circuit breaker or fuses are "off" at the power board. The power switch on the oven is off.	Turn on. Depress switch. Switch will illuminate.
Bake timer does not time down.	Bake timer not set correctly.	For settings less than 10 minutes, first set to greater setting then turn back to desired setting.
Roast timer does not time down	Roast 'n' Hold button not depressed.	Depress Roast 'n' Hold button. (Roast timer only operates when Roast function is selected).
Oven light not illuminating.	Blown bulb.	Replace bulb.
No water injection / steam. (Canada only)	Water not turned on.	Turn water on at water supply.

Baking trouble-shooting

Moist sticky crust	Too much sugar.
Hump or cracks on top	Too much flour. Oven too hot.
Heavy compact textures	Too much shortening. Too much sugar. Oven not hot enough. Over beating.
Undersized cake	Too large a pan. Oven too hot. Not enough baking powder.
Uncooked streak at bottom	Under mixing of ingredients. Oven not hot enough. Too much liquid.
Cake falling	Too much baking powder. Too much shortening. Too much sugar. Oven not hot enough. Insufficient baking. Moving cake during baking.
Mixture running over pan	Pan too small. Oven not hot enough. Too much sugar or shortening. Too much baking powder.
Dry cake	Too much flour. Not enough sugar or shortening. Too much baking powder. Over beaten egg white. Over baking at too low a temperature.
Coarse Texture	Too much baking powder. Not enough liquid. Oven not hot enough. Insufficient creaming of shortening and sugar.
Uneven cooking	Too high a temperature selected. Oven or racks not level. Insufficient air space around trays or baking tins. Opening oven door unnecessarily. Faulty thermostat, oven door seal or restricted oven venting.
Smoking or discoloration around door	Oven too hot. Food spillovers not cleaned up. Faulty oven door seal.
Oven steaming	Overcrowding oven and not increasing initial temperature for this extra food. Frozen or chilled food will increase moisture in the oven. Adding water with meat while roasting. Opening oven door frequently. Obstructing oven vent or air circulation.

Spare parts

Replacement Part List

Controls

021473	Switch - power
017121	Thermostat
020823	Knob - thermostat / bake timer
020849	Neon indicator
011760	Bake timer
011794	Buzzer
021476	Switch - 'roast n hold'
011419	'Roast n hold' timer
021472	'Roast n hold' timer knob
021474	Steam switch
024773	Light switch
024562	Relay - hold
018223	Hold thermostat
002990	Microswitch
003002	Oven lamp glass
003434	Silk gasket
013521	Oven lamp - 40W miniature Edison screw (E311)
014218	Oven lamp - 25W miniature Edison screw (E311MS)

Motor & Elements

003113	Oven top element 208 volts
003114	Oven bottom element 208 volts
011604	Oven top element 240 volts
003074	Oven bottom element 240 volts
013431	Fan motor
013432	Oven fan
024562	Relay - power

Steam System (Canada only)

020851	Water solenoid
021526	Water inlet elbow
021527	Washer

Door

014225	Oven door seal strip (Side)
023257	Oven door seal strip (Top / Bottom)
021469	Handle assembly (E311)
021468	Handle (E311)
021465	Handle bracket (E311)
025499	Handle (E311MS)
023264	Door outer glass (E311)
023263	Door outer glass (E311MS)
023263	Door inner glass
011005	Door catch
025501	Door catch plate (E311MS)
025502	Door bush

Racks

023255	Oven side rack LH
023256	Oven side rack RH
023254	Oven rack
004874	Element front support
004993	Bottom element cover
004595	Fan baffle

