



## UL Guide for Shuttle® 1600



For additional information, please visit [OventionOvens.com](http://OventionOvens.com)

*"The Ovention oven not only kept up but it also saved me \$80,000 because I didn't need to invest in a hood system and other fire-suppression equipment."  
- Happy Ovention Customer*

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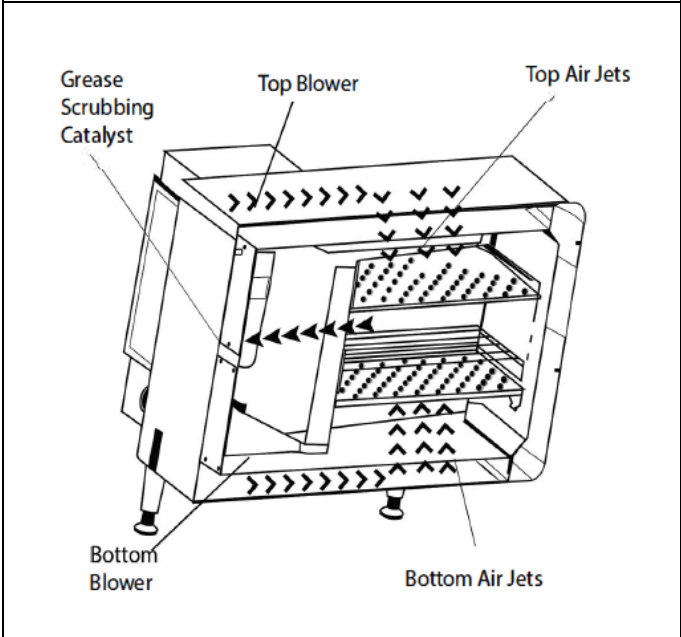
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## The Shuttle® 1600



**MORE AIR= BETTER QUALITY, FASTER**  
 Patented air flow technology means 3x more air than traditional impingement.



### STANDARD FEATURES

- ✓ Two ovens in one at the press of a button (see performance: conveyor mode and shuttle mode)
- ✓ Independently controlled top and bottom blowers w/ speeds up to 741 CFM (ft<sup>3</sup>/min)
- ✓ Quiet work environment - maximum (dB) of 69
- ✓ Reduced energy consumption (documentation available)
- ✓ Less impact on HV AC costs (documentation available)
- ✓ Precision Impingement™ utilizes hot air for a fast, high-quality cook without microwaves
- ✓ Load and unload food automatically
- ✓ Warranty - 1 year parts and labor
- ✓ Includes (2) 1.38" end stops.

### OPERATION

- ✓ Dual touch screen display with security passcode
- ✓ Holds up to 1,000 multistage recipes
- ✓ USB port - upload and download recipes, view cook logs, diagnostic mode

### PERFORMANCE

- ✓ Cook 74 pizzas per hour in conveyor mode (10" pie, product dependent)
- ✓ Conveyor mode: fits up to 16" pizza, half size sheet pan vertically and full-size sheet pan horizontally
- ✓ Doors stay open - same throughput as a high-performance conveyor during peak periods
- ✓ Shuttle mode: fits up to 16" pizza/ half size sheet pan
- ✓ FlexTemp technology changes cavity temperature by up to +/- 20°F between cook cycles
- ✓ Grill, roast, bake, steam, broil, and air fry
- ✓ Use any oven-safe pans. Specialty pans available

### CONSTRUCTION

- ✓ 304 stainless steel interior
- ✓ 430 stainless steel exterior
- ✓ Easy to clean design (filters and jet plates are dishwasher safe)

### VENTILATION

- ✓ No hood system required\*
  - ✓ UL listed for multiple stacking configurations
  - ✓ Performs 2.5X better than the required UL standard
- \*Type 2 hood necessary if HVAC cannot accommodate thermal load

**PROUDLY MADE IN THE USA**



**Short Form Specification:** Provide Ovention Shuttle® 1600 Dual Operational Precision Impingement™ Oven with patented triple-layer impingement jet plates made of 304 stainless steel to maximize heat transfer, energy-efficient shuttle mode with (Gull/Eagle Wing Doors), Autoload and Auto unload with built in queuing ability to virtually eliminate lag time between cooks, high-throughput conveyor mode, certified ventless, stackable, 16" X 20" cavity, 56.75" Belt, FlexTemp almost instantly changes +/- 20F between cooks, (2) intuitive digital display interfaces, two 2/3HP variable-speed motors, built-in self-diagnostics, 430 stainless steel front, top, sides and back, cool touch exterior, 304 stainless steel interior, USB menu upload capability, internal catalytic filtration, 4" adjustable height legs, 23.7/26 amps, 208-240v/60hz/3-ph, 12 kW, NEMA L15-30P UL listed, ANSI/NSF 4, Made in USA.

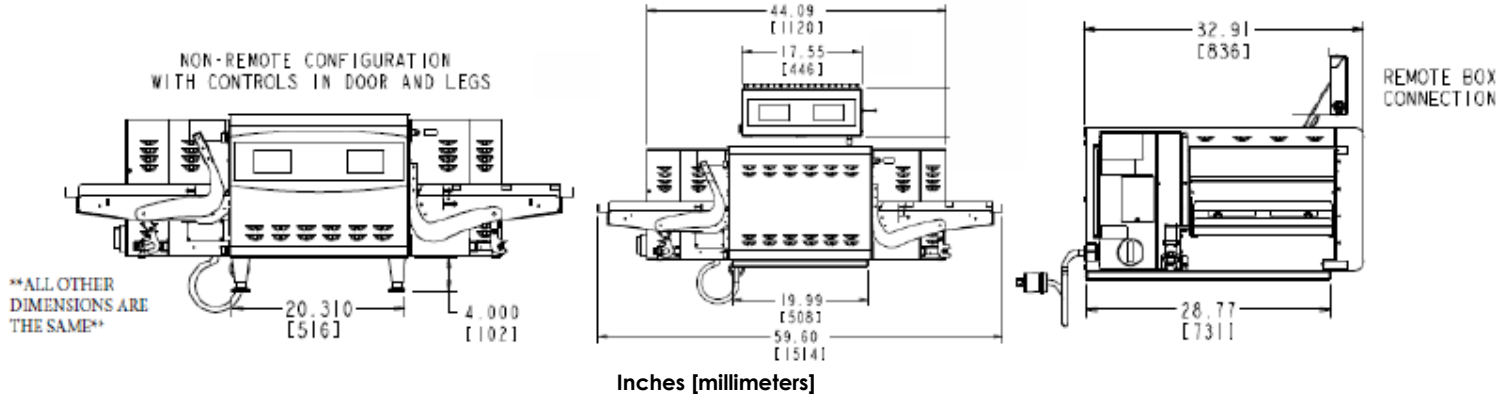


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# The Shuttle® 1600 Oven



## ELECTRICAL SPECIFICATIONS

<b>Height</b>	17.62"	448 mm	<b>Model Number</b>	S1600	
<b>With Legs</b>	20.24"	514 mm	<b>Temperature</b>	82-550 °F	28-288° C
<b>Width</b>	59.60"	1514 mm	<b>Voltage</b>	208-240 VAC	
<b>Depth</b>	32.91"	836 mm	<b>Watts</b>	12.1 kW	
<b>Weight</b>	240 lbs.	109 kg	<b>Amperage</b>	23.7/26 Amp	
<b>Minimum Clearance</b>	1" Top	25 mm Top	<b>Phase</b>	3 ph	
	1" Back	25 mm Back*	<b>Frequency</b>	50/60 Hz	
	1" Side	25 mm Side	<b>Cord Length</b>	72"	1829 mm



NEMA L15-30

## CAVITY DIMENSIONS\*\*

<b>Height</b>	3.5"	89 mm
<b>Width</b>	20"	508 mm
<b>Depth</b>	17" [16"]	431 mm [406 mm]

## SHIPPING INFORMATION

<b>Cube (LxWxH)</b>	68x41x31"	1727x1041x787 mm
<b>Shipping Weight</b>	318 lbs.	144 kg
<b>Freight Class</b>	175	
<b>Point of Origin</b>	Sturgeon Bay, Wisconsin, USA	

\*If units are stacked, 6" (152 mm) back clearance needed

\*\* Measurements: actual [useable] dimensions

Ovention, Inc. reserves the right to make technical improvements



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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20180706-E351658  
**Report Reference** E351658-20130725  
**Issue Date** 2018-JULY-06

**Issued to:** OVENTION INC  
SUITE 128, 10500 METRIC DR  
DALLAS TX 75243

**This is to certify that  
representative samples of**

COMMERCIAL COOKING APPLIANCES WITH INTEGRAL  
SYSTEMS FOR LIMITING THE EMISSION OF GREASE  
LADEN AIR

See Addendum

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** UL 197, Commercial Electric Cooking Appliances  
CSA/CAN C22.2 No. 109, Commercial Cooking Appliances,

**Additional Information:** See the UL Online Certifications Directory at  
[www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's  
Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20180706-E351658  
**Report Reference** E351658-20130725  
**Issue Date** 2018-JULY-06

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

USL - Convection Oven, Conveyor Type, with Integral System for Limiting the Emission of Grease-Laden Air, Model C1200+, C2000.

USL - Convection Oven, "Shuttle" Conveyor Type, with Integral System for Limiting the Emission of Grease-Laden Air, Model S1200+, S2000.

USL, CNL - Convection Oven, Conveyor Type, with Integral System for Limiting the Emission of Grease-Laden Air, Model C1200+, C1200CSA, C2000CSA, C12003PH, C20003PH, C2600.

USL, CNL - Convection Oven, "Shuttle" Conveyor Type, with Integral System for Limiting the Emission of Grease-Laden Air, Model S1200+, S1200CSA, S12003PH, S1600, S2000CSA, and S20003PH.

+ Models C1200 and S1200 with 30A plug are USL only. Models C1200 and S1200 with 50A plug are USL/CNL.



Bruce Mahrenholz, Director North American Certification Program

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20180503-E352231  
**Report Reference** E352231-20130716  
**Issue Date** 2018-May-03

**Issued to:** OVENTION INC  
SUITE 128  
10500 METRIC DR  
DALLAS TX 75243

**This is to certify that  
representative samples of**

COMMERCIAL COOKING, RETHERMALIZATION AND  
POWERED HOT-FOOD-HOLDING AND-TRANSPORT  
EQUIPMENT

See Addendum Page

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** NSF 4, Commercial Cooking, Rethermalization, and  
Powered Hot Food Holding and Transport Equipment

**Additional Information:** See the UL Online Certifications Directory at  
[www.ul.com/database](http://www.ul.com/database) for additional information

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Bruce Mahrenholz, Director North American Certification Program

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20180503-E352231  
**Report Reference** E352231-20130716  
**Issue Date** 2018-May-03

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

**PRODUCT COVERED:** Commercial Cooking, Rethermalization, and Powered Hot Food Holding and Transport Equipment

**SPECIFIC PRODUCT DESCRIPTION (Type and Model):**

\*Convection Ovens, Conveyor Types, Models C1200NC, C1200NC3PH, C1200NCCSA, C2000NC, C2000NC3PH, C2000NCCSA, and C2600V.

\*Convection Ovens, "Shuttle" Conveyor Type, Models S1200NC, S1200NC3PH, S1200NCCSA, S2000NC, S2000NC3PH, and S2000NCCSA.

\*Convection Ovens, Conveyor Type, with Integral System for Limiting the Emission of Grease-Laden Air, Models C1200, C12003PH, C1200CSA, C2000, C20003PH, C2000CSA, and C2600.

\*Convection Ovens, "Shuttle" Conveyor Type, with Integral System for Limiting the Emission of Grease-Laden Air, Models S1200, S12003PH, S1200CSA, S1600, S2000, S20003PH, and S2000CSA.



Bruce Mahrenholz, Director North American Certification Program

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# KNLZ.E351658 - COMMERCIAL COOKING APPLIANCES WITH INTEGRAL SYSTEMS FOR LIMITING THE EMISSION OF GREASE-LADEN AIR

## Commercial Cooking Appliances with Integral Systems for Limiting the Emission of Grease-laden Air

See General Information for Commercial Cooking Appliances with Integral Systems for Limiting the Emission of Grease-laden Air

### **OVENTION INC**

E351658

635 S 28Th St

Milwaukee, WI 53215 USA

**Convection Ovens with Integral Systems for Limiting the Emission of Grease-laden Air**, Model(s) Elixir(a), M360-14, -14-3PH, -12, -12-3PH

**Convection ovens, conveyor type, with integral system for limiting the emission of grease-laden air**, Model(s) C1200\*a, C12003PH\*a, C1200CSA\*a, C2000\*a, C20003PH\*a, C2000CSA\*a, C2600\*a

**Convection ovens, matchbox type, with integral system for limiting the emission of grease-laden air**, Model(s) M1313\*a, M1313-3PH\*a, M1313CSA\*a, M1718\*a, M1718-3PH\*a, M1718CSA\*a

**Convection ovens, shuttle conveyor type, with integral system for limiting the emission of grease-laden air**, Model(s) S1200\*a, S12003PH\*a, S1200CSA\*a, S1600\*a, S2000\*a, S20003PH\*a, S2000CSA\*a

**Infra-Red/Convection Ovens with Integral Systems for Limiting the Emission of Grease-laden Air**, Model(s) MiLO-14(!), MiLO-16 (!), MiLO2-16(!)

(!) - may be f/b "-", may be f/b up to ten alphanumeric suffixes.

(a) - May be followed by prefixes or suffixes Oven with Integral Systems for Limiting the Emission of Grease-laden Air.

\*a - May be stacked up to 2 high using stacking kit.

Last Updated on 2019-04-02

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# KNLZ.GuidelInfo - COMMERCIAL COOKING APPLIANCES WITH INTEGRAL SYSTEMS FOR LIMITING THE EMISSION OF GREASE-LADEN AIR

## [Heaters and Heating Equipment] (Heaters, Cooking Appliances) Commercial Cooking Appliances with Integral Systems for Limiting the Emission of Grease-laden Air

See General Information for Heaters, Cooking Appliances

### USE AND INSTALLATION

This category covers cooking equipment intended for commercial use, such as pressurized deep fat fryers and other appliances for use in commercial kitchens, restaurants or other business establishments where food is prepared. Each appliance covered under this category is manufactured with an integral system feature to limit the emission of grease-laden air from the cooking process to the room ambient.

These appliances have been investigated for the limit of 5 mg/m<sup>3</sup> for the emission of grease-laden air to the room ambient in accordance with the recommendations of ANSI/NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations," using the EPA-202 test method prescribed for cooking appliances provided with integral recirculating air systems.

These products are not intended for connection to a ducted exhaust system.

Appliances in this category are not provided with an integral fire extinguishing system. Authorities having jurisdiction should be consulted as to the requirements for this equipment with respect to fire extinguishing systems, such as the need for field installed systems in accordance with ANSI/NFPA 96.

In cases where the nature or construction of equipment is such that special precautions beyond the requirements of ANSI/NFPA 70, "National Electrical Code," must be observed in installations or use, suitable warning or special instructions are marked on the equipment.

Appliances covered under this category are suitable for wiring with either copper or aluminum power-supply conductors unless marked "Use Copper Wire Only For Power Supply Connections."

Commercial cooking appliances of certain types are designed for permanent connections to water supply and sewer lines at the point of installation. Authorities having jurisdiction should be consulted as to the requirements for this equipment with respect to sanitation and connection to water supply and waste disposal lines.

### FACTORS NOT INVESTIGATED

Neither the toxicity of coatings nor the physiological effects on persons consuming food products prepared by use of these appliances has been investigated.

### PRODUCT IDENTITY

One of the following product identities appears on the product:

Commercial Cooking Appliance with Integral System for Limiting the Emission of Grease-laden Air

Cooking Appliance with Integral System for Limiting the Emission of Grease-laden Air

Other product identities may be used as shown in the individual certifications, followed by the words "with Integral System for Limiting the Emission of Grease-laden Air."

### RELATED PRODUCTS

For products with integral recirculating systems including fire extinguishing systems, see Commercial, with Integral Recirculating Systems (KNKG).

For cooking oil filters that are not an integral part of another appliance, see Commercial Filters for Cooking Oil (KNRF).

## ADDITIONAL INFORMATION

For additional information, see Electrical Equipment for Use in Ordinary Locations (AALZ) and Heating, Cooling, Ventilating and Cooking Equipment (AAHC).

## REQUIREMENTS

The basic standard used to investigate products in this category is ANSI/UL 197, "Commercial Electric Cooking Appliances."

Appliances covered under this category with an integral cooking oil filter have been additionally investigated to ANSI/UL 1889, "Commercial Filters for Cooking Oil."

## UL MARK

The Certification Mark of UL on the product is the only method provided by UL to identify products manufactured under its Certification and Follow-Up Service. The Certification Mark for these products includes the UL symbol, the words "CERTIFIED" and "SAFETY," the geographic identifier(s), and a file number.

## Alternate UL Mark

The Listing Mark of UL on the product is the only method provided by UL to identify products manufactured under its Listing and Follow-Up Service. The Listing Mark for these products includes the UL symbol (as illustrated in the Introduction of this Directory) together with the word "LISTED," a control number, and the product name "Commercial Cooking Appliance" or "Cooking Appliance," or other appropriate product name as shown in the individual Listings, together with the words "with integral system for limiting the emission of grease-laden air."

\* \* \* \* \*

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Last Updated on 2013-05-16

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2020-06-04

Mr. Casey Reilley  
Ovention Inc.  
635 S. 28<sup>th</sup> St.  
Milwaukee, WI 53215  
United States

E-mail: creilley@ventionovens.com

Our Reference: File E351658, Project 13NK05202

Subject: E351658 – EPA 202 EVALUATION OF CONVECTION OVEN MODELS S1200, S1600, and S2000

Mr. Reilley:

Per your request, Project 13NK05202 was opened for the evaluation of grease-laden vapors produced by the Models S1200, S1600, and S2000 (shuttle only mode). The conveyor oven model C2000 was used for test purposes and the results were used to also represent the shuttle only models S1200, S1600, and S2000. Models S1200, S1600, and S2000 are currently UL Listed.

The scope of the project was to conduct the EPA202 (Emissions) Test on the conveyor model C2000 in accordance with EPA Method 202 test guidelines to demonstrate compliance with NFPA96, the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, paragraph 4.1.1.2 conducted in accordance with UL710B, the Standard for Recirculating Systems, Sec. 17 for Complimentary Listing under UL's KNLZ category. The test was conducted at our facility in Northbrook, IL on May 14th, 2012. This letter will supplement our letter dated September 13, 2013 of the results for testing of this model.

For the record, the test was conducted on the Model C2000 conveyor oven cooking 12 in. pepperoni pizzas (Tombstone, with 19 pepperonis per pizza) as specified in Appendix A of our previous letter dated September 13, 2013. Please see that page (Appendix A) for the test method and results of the tests. The results are considered to comply with UL710B, Section 17 and NFPA96, paragraph 4.1.1.2 since the measured values were less than the 5-mg/m<sup>3</sup> limit.

There was no visible smoke emitted from the exhaust of the hood during the normal cooking operation of the Model C2000. There was no noticeable amount of smoke accumulated in the test room after 8 hours of continuous cooking.

The total amount of grease-laden effluents collected by the sampling equipment for the Model C2000 was found to be 2.01 mg/m<sup>3</sup>, which is less than 5 mg/m<sup>3</sup> limit. Note that this test was conducted cooking 426 pizzas.





The shuttle only models S1200, S1600, and S2000 can only cook 160 pizzas maximum in the same 8 hour test period. Based on these results and throughput difference (C2000 – 426 total pizzas for test vs S2000 shuttle mode – 160 total pizzas for test) it was calculated that the emissions result would be 0.75 mg/m<sup>3</sup> for model S1200, S1600, and S2000 in shuttle mode only.

Should you have any questions or comments concerning the above, please feel free to contact the undersigned.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC or any authorized licensee of UL.

Sincerely,

Reviewed by:

*William Morler*

*Fred Zaplatosch*

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Sr. Project Engineer  
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APPENDIX: A

TEST FOR EVOLUTION OF SMOKE OR GREASE-LADEN AIR:

The Appliance Innovation Inc. Model C2000 conveyor oven was tested using the method derived from EPA Method 202.

A 12 in. by 6 in. rectangular, 108 in. tall sheet metal stack was constructed on top of a sheet metal hood and mounted above the exhaust vent of the induction cooker. A sampling port was located approximately 80 in. downstream from the hood exhaust, at which point it was determined there was laminar flow. The hood exhaust was maintained at 500 CFM throughout the duration of testing. The sampler was assembled and an out of stack filter was used. A pre-leak check was conducted and determined to be < 0.02 ft/min. Sampling was done at 8 traverse points.

The oven with integral system was operated normally by cooking the following foods:

12 in. pepperoni pizza (Tombstone, with 19 pepperonis per pizza), each cooked for 3 minutes with 0 seconds between loads for 8 hours (total of 426 pizzas). Oven was set to maintain 525 °F

Temp	Event #	% Time.	% Top Fan	% Bottom Fan	% Microwave Energy
525°F	1	3:00	85	85	n/a

During the cooking operation, it was noted whether or not visible effluents evolved from the air exhaust of the hood. Gauge, meter and temperature readings were taken and recorded every 10 min. After cooking, the condition of the duct was noted and a post-leak check was conducted and determined to be < 0.02 ft<sup>3</sup>/min.

After being allowed to cool, the sampling equipment was disassembled; the filter was removed, and placed into a sample container labeled No. 1. The liquid in impingers Nos. 1, 2, and 3 were volumetrically measured and transferred to sample container No. 3. The silica gel and impinger No. 4 was transferred to sample container No. 5. The nozzle, probe and impingers were rinsed three times with water and the rinse was added to container No. 3. These parts were also rinsed three times with acetone and transferred to container No. 4. All additional inter surfaces of the sampling terrain glassware were rinsed with methylene chloride three times; the rinse was transferred to container No. 6. A blank of acetone approximately equivalent to the amount used for rinses was aliquoted into container No. 2, the same was done for the distilled de-ionized water and methylene chloride except that these were aliquoted into their own individual containers labeled No. 7 and 8 respectively. All containers were properly labeled and sealed, then the liquid levels in all the containers were marked.

The analysis phase was done in accordance with EPA Method 202, using the out of stack filter.



## RESULTS:

There was no visible smoke emitted from the exhaust of the hood during the normal cooking operation of the Model C2000. There was no noticeable amount of smoke accumulated in the test room after 8 hours of continuous cooking.

The total amount of grease-laden effluents collected by the sampling equipment for the Model C2000 was found to be 2.01 mg/m<sup>3</sup>, which is less than 5 mg/m<sup>3</sup> limit.



2020-06-04

Mr. Casey Reilley  
Ovention Inc.  
635 S. 28<sup>th</sup> St.  
Milwaukee, WI 53215  
United States

E-mail: creilley@oventionovens.com

Our Reference: File E351658, Project 13NK05202

Subject: E351658 – EPA 202 EVALUATION OF CONVECTION OVEN MODELS S1200, S1600, and S2000

Mr. Reilley:

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The scope of the project was to conduct the EPA202 (Emissions) Test on the conveyor model C2000 in accordance with EPA Method 202 test guidelines to demonstrate compliance with NFPA96, the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, paragraph 4.1.1.2 conducted in accordance with UL710B, the Standard for Recirculating Systems, Sec. 17 for Complimentary Listing under UL's KNLZ category. The test was conducted at our facility in Northbrook, IL on May 14th, 2012. This letter will supplement our letter dated September 13, 2013 of the results for testing of this model.

For the record, the test was conducted on the Model C2000 conveyor oven cooking 12 in. pepperoni pizzas (Tombstone, with 19 pepperonis per pizza) as specified in Appendix A of our previous letter dated September 13, 2013. Please see that page (Appendix A) for the test method and results of the tests. The results are considered to comply with UL710B, Section 17 and NFPA96, paragraph 4.1.1.2 since the measured values were less than the 5-mg/m<sup>3</sup> limit.

There was no visible smoke emitted from the exhaust of the hood during the normal cooking operation of the Model C2000. There was no noticeable amount of smoke accumulated in the test room after 8 hours of continuous cooking.

The total amount of grease-laden effluents collected by the sampling equipment for the Model C2000 was found to be 2.01 mg/m<sup>3</sup>, which is less than 5 mg/m<sup>3</sup> limit. Note that this test was conducted cooking 426 pizzas.





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Should you have any questions or comments concerning the above, please feel free to contact the undersigned.

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Sincerely,

Reviewed by:

*William Morler*

*Fred Zaplatosch*

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11/14/2017

Mr. Scott Smith  
Appliance Innovation Inc.  
10500 Metric Dr, Suite 128  
Dallas, TX 75243

Subject: Questions Concerning EPA202 Testing

Dear Scott,

This will follow up on conversation about the EPA202 Testing and applicable cooking procedures.

Clause 59.1.4 of UL710B states that the grease laden effluent at the exhaust outlet of the system shall not exceed an average of 5.0mg/m<sup>3</sup> of exhausted air sampled at a maximum product capacity over a continuous 8 hour test cooking period.

The EPA202 Test was conducted on representative samples of your ovens. During this 8 hour test, the stack sampling nozzle was moved within the duct to obtain values over the face of the duct in 8 traverse points as dictated by clause 59.3.2. Each of these points was maintained for one hour during cooking.

Cooking for 8 hours at full oven capacity (as fast as possible) is done to represent and determine what the ovens grease production average output would be. Eight hours was done with each nozzle location representing one full hour to provide the best overall average per hour of effluent. It is not meant to indicate that the oven can only be used to cook for 8 hours in a commercial kitchen.

Should you have any questions or comments concerning the above, please feel free to contact the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "Fred Zaplatosch".

Fred Zaplatosch  
Sr. Staff Engineer  
Department: 3015GNBK  
Tel: 847-664-2853  
E-mail: [fred.zaplatosch@ul.com](mailto:fred.zaplatosch@ul.com)

S1600 Shuttle oven

Ovention

Operating Time	12 Hours / day
Energy Cost	\$0.11 per kWhr
% Day in E Save Mode	75%
% Idle -Open Oven	0%
% Day Cooking - Shuttle mode	25%
% Day Cooking - Conveyor mode	0%

Percent

Mode	Time (min)	Power (Watts)	Cost/Day
Warm up	21	6000	\$ 0.23
Cooking - Shuttle mode	174.75	5900	\$ 1.89
Cooking - Conveyor mode	0	6800	\$ -
E Save Mode	524	2200	\$ 2.11
Idle - Doors open	0	4000	\$ -

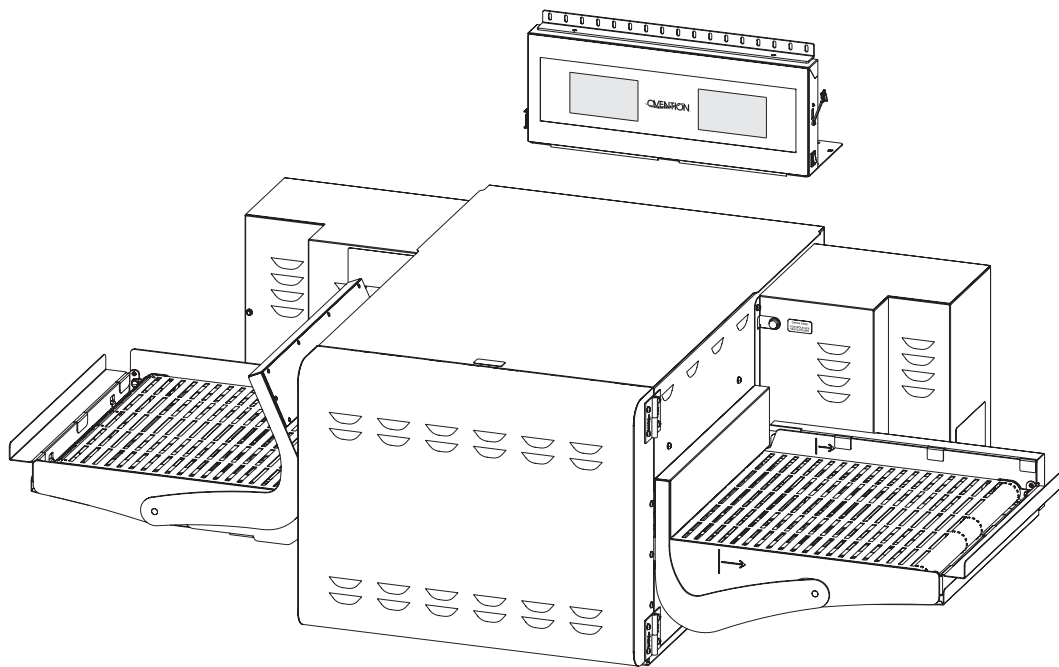
Total/Day	\$	4.24
Total/Month	\$	127.07
Total/Year	\$	1,524.85

Average Energy Cooking,Idle,Esave(J)	Warmup Energy (J)	Total Energy (J/Day)	Total average power (W)	Thermal load (kBTU/hr)	Average cooling requirement (ton of AC)
131,062,500	7,560,000	138,622,500	3,209	10.96	0.91



# Shuttle® Oven

## Model S1600



## Installation and Operating Manual

### ⚠ WARNING

Do not operate this equipment unless you have read and understood the contents of this manual! Failure to follow the instructions contained in this manual may result in serious injury or death. This manual contains important safety information concerning the maintenance, use, and operation of this product. If you're unable to understand the contents of this manual, please bring it to the attention of your supervisor. Keep this manual in a safe location for future reference.

### ⚠ ADVERTENCIA

No opere este equipo al menos que haya leído y comprendido el contenido de este manual! Cualquier falla en el seguimiento de las instrucciones contenidas en este manual puede resultar en un serio lesión o muerte. Este manual contiene importante información sobre seguridad concerniente al mantenimiento, uso y operación de este producto. Si usted no puede entender el contenido de este manual por favor pregunte a su supervisor. Almacenar este manual en una localización segura para la referencia futura.

### ⚠ AVERTISSEMENT

Ne pas utiliser cet équipement sans avoir lu et compris le contenu de ce manuel ! Le non-respect des instructions contenues dans ce manuel peut entraîner de graves blessures ou la mort. Ce manuel contient des informations importantes concernant l'entretien, l'utilisation et le fonctionnement de ce produit. Si vous ne comprenez pas le contenu de ce manuel, veuillez le signaler à votre supérieur. Conservez ce manuel dans un endroit sûr pour pouvoir vous y référer plus tard.



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## IMPORTANT OWNER INFORMATION

Record the model number, serial number, voltage, and purchase date of the unit in the spaces below (specification label located on the left side of the unit). Please have this information available when calling Ovention® for service assistance.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Voltage \_\_\_\_\_

Date of Purchase \_\_\_\_\_

### Business

Hours: 7:00 AM to 5:00 PM  
Central Time (CT)

(Summer Hours: June to September –  
7:00 AM to 5:00 PM Monday through Thursday  
7:00 AM to 4:00 PM Friday)

Telephone: 855-298-6836 (Ovention Hotline)

E-mail: [partsandservice@oventionovens.com](mailto:partsandservice@oventionovens.com)

Additional information can be found by visiting our web site at [www.oventionovens.com](http://www.oventionovens.com).



**Need help?**  
Call our 24 hour, toll-free  
**Ovention Hotline**  
**855-298-OVEN(6836)**

## INTRODUCTION

Ovention Shuttle® Ovens set a new standard in cooking quality, speed, flexibility, and efficiency. A new discovery in air handling not only speeds the cooking process, but “scrubs” and recirculates the air through the oven—eliminating the need for a hood system in most installations. Using icon-driven touchscreens, operators can use, edit, and develop over 1000 custom menu items. Menu items can be developed to include up to three cooking stages, each with varying heat profiles, upper and lower air velocity settings, and timing.

Ovention Shuttle Ovens are designed with multi-function touchscreen controllers and a conveyor belt that enable individual cooking sequences as well as non-stop operation of the oven. Shuttle doors on each side of the oven chamber maintain control and efficiency when cooking items with specific settings.

Ovention Shuttle Ovens are products of extensive research and field testing. The materials used were selected for maximum durability, attractive appearance, and optimum performance. Every unit is inspected and tested thoroughly prior to shipment.

This manual provides the installation, safety, and operating instructions for Ovention Shuttle Ovens. Ovention recommends all installation, operating, and safety instructions appearing in this manual be read prior to installation or operation of the oven.

Safety information that appears in this manual is identified by the following signal word panels:



**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



**NOTICE** is used to address practices not related to personal injury.

# IMPORTANT SAFETY INFORMATION



Read the following important safety information before using this equipment to avoid serious injury or death and to avoid damage to equipment or property.

## WARNING

### ELECTRIC SHOCK HAZARD:

- Plug unit into a properly grounded electrical receptacle of the correct voltage, size, and plug configuration. If plug and receptacle do not match, contact a qualified electrician to determine and install proper voltage and size electrical receptacle.
- Unit must be grounded properly. Failure to ground unit properly could result in serious personal injury or death.
- Turn off Standby switch, allow unit to cool, and unplug unit before performing any cleaning, adjustments, or maintenance.
- DO NOT submerge or saturate with water. Unit is not waterproof. Do not operate if unit has been submerged or saturated with water.
- Unit is not weatherproof. Locate unit indoors where ambient air temperature is a minimum of 70°F (21°C) and a maximum of 100°F (38°C).
- Do not steam clean or use excessive water on unit.
- This unit is not “jet-proof” construction. Do not use jet-clean spray to clean this unit.
- Do not clean unit when it is energized or hot.
- Do not clean unit with metal scouring pads. Metal pieces can break off pad and touch electrical components, creating risk of electric shock.
- Do not pull unit by power cord.
- Keep power cord away from heated surfaces.
- Do not allow power cord to hang over edge of counter.
- Discontinue use if power cord is frayed or worn.
- Do not attempt to repair or replace a damaged power cord. Cord must be replaced by an Authorized Ovention Service Agent or a person with similar qualifications.
- This unit must be serviced by qualified personnel only. Service by unqualified personnel may lead to electric shock or burn.
- Use only Genuine Ovention Replacement Parts when service is required. Failure to use Genuine Ovention Replacement Parts will void all warranties and may subject operators of the equipment to hazardous electrical voltage, resulting in electrical shock or burn. Genuine Ovention Replacement Parts are specified to operate safely in the environments in which they are used. Some aftermarket or generic replacement parts do not have the characteristics that will allow them to operate safely in Ovention equipment.

### FIRE HAZARD:

- Do not install unit on or around combustible surfaces. Discoloration or combustion could occur. Unit must be installed in non-combustible surroundings only.
- Do not use an extension cord. If power cord is too short, contact a qualified electrician to determine and install proper voltage and size electrical receptacle near unit.

## WARNING

**EXPLOSION HAZARD:** Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

Install unit in accordance with installation instructions in this manual.

This oven is designed specifically to heat or cook—NOT for industrial or laboratory use.

In the event of emergency, unplug unit.

Make sure all operators have been instructed on the safe and proper use of the unit.

This unit is not intended for use by children or persons with reduced physical, sensory, or mental capabilities. Ensure proper supervision of children and keep them away from the unit.

Unit may be located adjacent to a slippery floor.

This unit has no “user-serviceable” parts. If service is required on this unit, contact an Authorized Ovention Service Agent or contact the Ovention Hotline at 855-298-6836.

## CAUTION

### BURN HAZARD:

- Some exterior surfaces on unit will get hot. Avoid unnecessary contact with unit.
- Pan/tray will be very hot upon removal—use oven mitt, pan gripper, or other utensil to remove.

Do not unplug unit immediately after use. Internal fans must cool oven to avoid damage to electrical components.

Locate unit at proper counter height in an area that is convenient for use. Location should be level to prevent unit or its contents from falling accidentally and strong enough to support the weight of the unit and contents.

DO NOT lift unit by front door or the conveyor frame on each side of oven chamber. Front door and conveyor are not designed to support weight of unit. Lift from underneath oven chamber only.

Do not move or relocate unit for cleaning. Unit is bulky and heavy.

Do not place anything on top of unit or stand on unit; doing so may subject personnel to injury or could damage unit.

Do not heat sealed containers or products such as whole eggs in oven. These items may explode.

Do not store any materials or items inside oven chamber when not in use.

Improper cleaning of oven could damage catalyst and will void unit warranty.

# IMPORTANT SAFETY INFORMATION

## NOTICE

Do not install unit in locations with ambient air temperature that exceeds 100°F (38°C). Improper installation will damage unit and void unit warranty.

Allow a minimum clearance of 1" (25 mm) along the sides and rear of unit for proper ventilation. Do not block or cover any cabinet venting.

Do not cover racks or any other part of oven with metal foil. Airflow restriction will cause oven to overheat.

## NOTICE

Do not lay unit on front or back side. Damage to unit could occur.

Use non-abrasive cleaners and cloths only. Abrasive cleaners and cloths could scratch finish of unit, marring its appearance and making it susceptible to soil accumulation.

Clean unit daily to avoid malfunctions and maintain sanitary operation.

## MODEL DESCRIPTION

### All Models

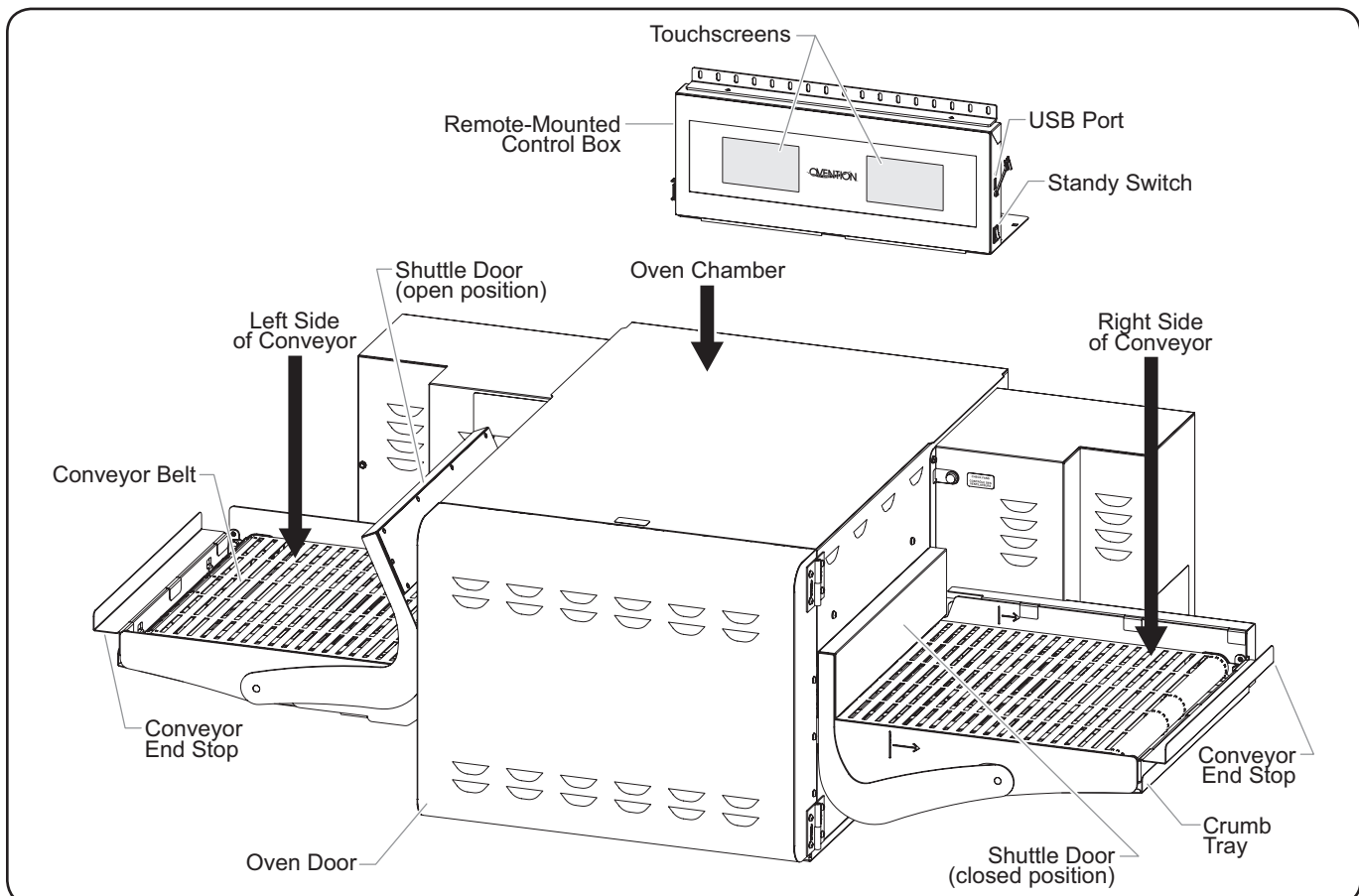
Ovention® Shuttle® Ovens are designed to provide unequalled flexibility in both kitchen and front-of-the-house installations. The variety of menu options, small footprint, low heat escape, and the option for hood-less installation make the Shuttle Oven a single solution alternative to multiple pieces of cooking equipment.

Each Shuttle Oven is equipped with dedicated upper and lower heating elements and air blowers. The air blowers direct heated air through upper and lower jet plates inside the oven chamber, above and below the food. A conveyor belt moves product from one side of the conveyor, through the oven chamber, to the opposite side of the conveyor. The operation of the Shuttle Oven allows the cooking of single items with specific heat/time settings.

Operator controls are housed in a remote-mounted control box and consist of two touchscreens and a Standby switch. A USB port allows the uploading of pre-programmed menu items, installation of software updates, and opportunity for service diagnostics.

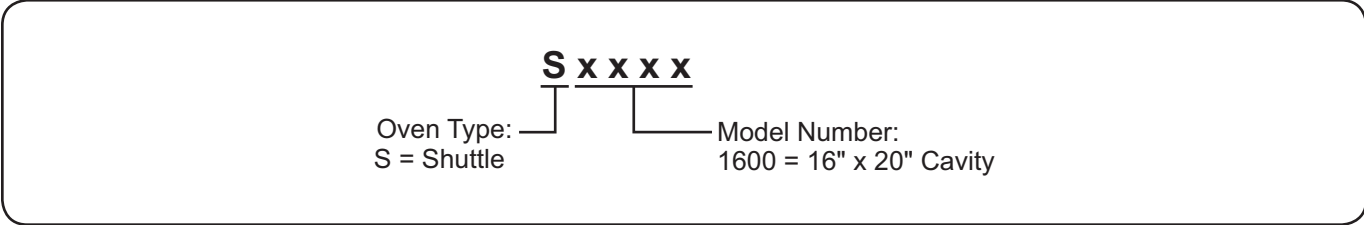
Two removable crumb trays, one below each side of the conveyor, allow for easy cleanup. A 6' (1829 mm) cord and plug set is standard.

*NOTE: To prevent delay in obtaining warranty coverage, complete online warranty registration. See the IMPORTANT OWNER INFORMATION section for details.*



Model Description (Model S1600 shown)

# MODEL DESIGNATION



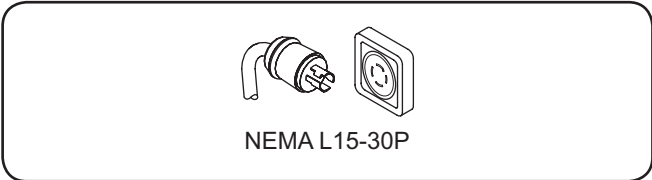
# SPECIFICATIONS

## Plug Configuration

Units are equipped with an electrical cord and plug appropriate for the electrical rating of the unit. Unit must be connected to a dedicated circuit.



**ELECTRIC SHOCK HAZARD:** Plug unit into a properly grounded electrical receptacle of the correct voltage, size, and plug configuration. If plug and receptacle do not match, contact a qualified electrician to determine and install proper voltage and size electrical receptacle.



NEMA L15-30P

Plug Configuration

*NOTE: Receptacle not supplied by Ovention.*

## Electrical Rating Chart

Model	Voltage	Watts	Amps	Phase	Hertz	Plug Configuration	Unit Weight
S1600	208–240	3952–5040	19–21	3	50/60	NEMA L15-30P	200 lbs. (91 kg)

*NOTE: Ovention ovens are designed to accept 208 VAC through 240 VAC. The oven will adjust automatically to the input voltage.*

*NOTE: The specification label is located on the left side of the unit. See the label for the serial number and verification of unit electrical information.*

## Temperature Range

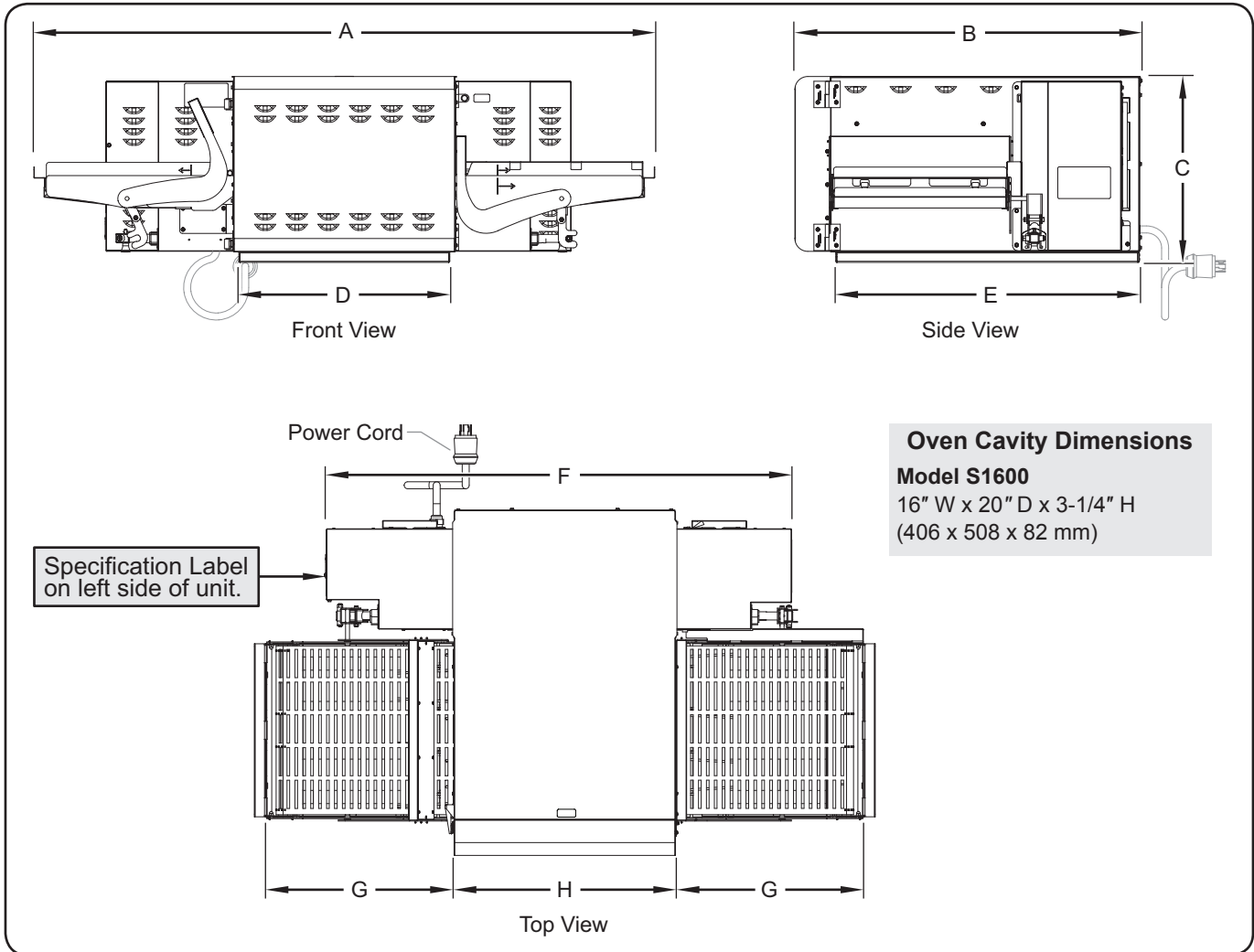
The operating temperature range of the Shuttle Ovens is 300°–550°F (149°–288°C).



# SPECIFICATIONS

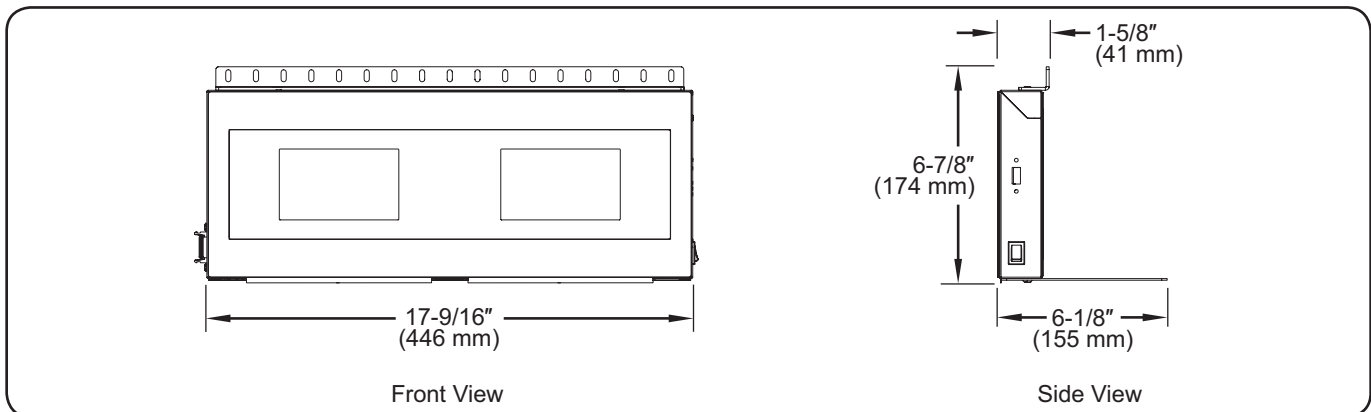
## Dimensions—Oven

Model	Overall Width (A)	Depth (B)*	Height (C)	Footprint Width (D)	Footprint Depth (E)	Rear Width (F)	Platform Width (G)	Body Width (H)
S1600	58-7/8" (1495 mm)	36-1/2" (927 mm)	17-5/8" (448 mm)	20" (508 mm)	28-13/16" (731 mm)	44-1/8" (1120 mm)	19" (481 mm)	21" (533 mm)



\* Measurement includes ventilation fan assembly that mounts onto the back of the unit, which is not shown.

## Dimensions—Control Box



## General

Ovention® Shuttle® Ovens are shipped with most components pre-assembled. Care should be taken when unpacking shipping carton to avoid damage to the unit and components enclosed.

### ⚠ WARNING

**ELECTRIC SHOCK HAZARD: Unit is not weatherproof. Locate unit indoors where ambient air temperature is a minimum of 70°F (21°C) and a maximum of 100°F (38°C).**

**FIRE HAZARD: Locate unit a minimum of 1" (25 mm) from combustible walls and materials. If safe distances are not maintained, discoloration or combustion could occur.**

### ⚠ CAUTION

Locate unit at proper counter height in an area that is convenient for use. Location should be level to prevent unit or its contents from falling accidentally and strong enough to support the weight of the unit and contents.

### NOTICE

**Do not install unit in locations with ambient air temperature that exceeds 100°F (38°C). Improper installation will damage unit and void unit warranty.**

**Do not lay unit on front or back side. Damage to unit could occur.**

*NOTE: Due to the size and weight of the Shuttle Oven, use the proper number of people for installation based on the weight of the oven.*

1. Inspect the shipping container for obvious signs of transit damage. If damaged, inform the freight company immediately. **CAUTION! Stop! Do not attempt to use oven if damaged. Contact Ovention for assistance.**
2. Cut and remove the shipping bands from around the oven packaging.
3. Remove tape and protective packaging from all surfaces of the unit.
4. Remove remote-mounted control box, crumb trays, and conveyor end stops from packaging.
5. Inspect the oven for freight damage such as dents in the end caps or inside the oven chamber. If damaged, inform the freight company immediately.

### ⚠ CAUTION

**DO NOT lift unit by front door or the conveyor frame on each side of oven chamber. Front door and conveyor are not designed to support weight of unit. Lift from underneath oven chamber only.**

6. Install the unit in the designated location—either on the Bread Station cart or on the lower shelf of the 6' table. Make sure to lift from underneath the front and rear of the oven chamber only.
  - If installing oven on a Bread Station cart, refer to the "Installing the Oven on a Cart" procedure in this section, then continue with this procedure.
  - Locate the unit in an area where the ambient air temperature is constant, a minimum of 70°F (21°C), and a maximum of 100°F (38°C).
  - Position the unit with a minimum 1" (25 mm) clearance at the back and on either side for proper venting.

- Make sure the cart/table is level and strong enough to support the weight of the unit and food product.
- Make sure the unit is positioned securely on the cart/table.

7. Install the ventilation assembly to the back of the heat shield/oven, depending on whether the oven is installed on a cart or table.

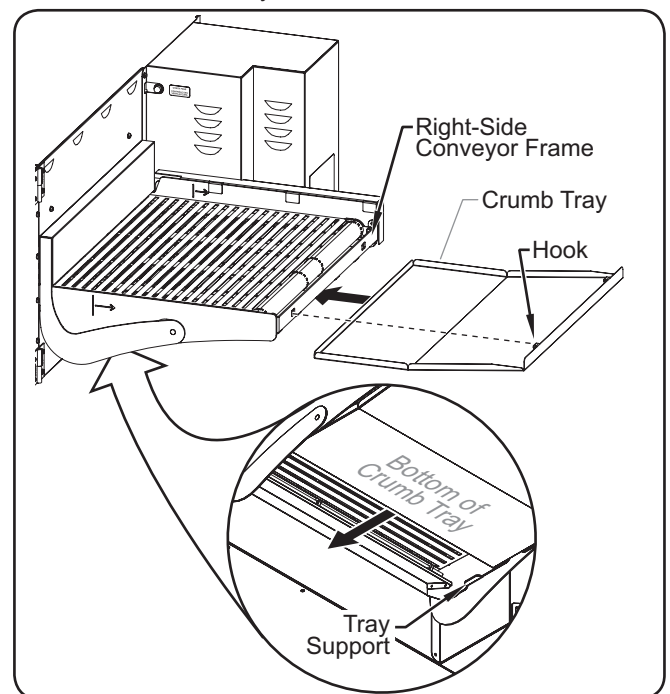
#### If the oven is installed on a cart:

- a. Connect the switch wires from the heat shield to the lever nuts inside the top of the ventilation assembly.
  - The white switch wire should be connected to the 3-position lever nut. The black switch wire should be connected to the 2-position lever nut.
- b. Slide the top flange on the ventilation assembly behind the rear edge of the countertop. While positioning the ventilation assembly, carefully tuck the wires into the heat shield.
- c. Align the mounting tabs on the ventilation assembly with the screw holes on the heat shield, install screws, and tighten securely.

#### If the oven is installed on a table:

- a. Using the existing screws on the top, rear of the oven, install the mounting bracket to the rear of the oven.
- b. Align the mounting tabs on the ventilation assembly with the screw holes on the mounting bracket, install screws, and tighten securely.

8. Install a crumb tray underneath each side of the conveyor.
  - Slide the tray underneath the conveyor and into the tray supports on each side of the conveyor frame.
  - Position the two hooks on the tray into the holes at the end of the conveyor frame.

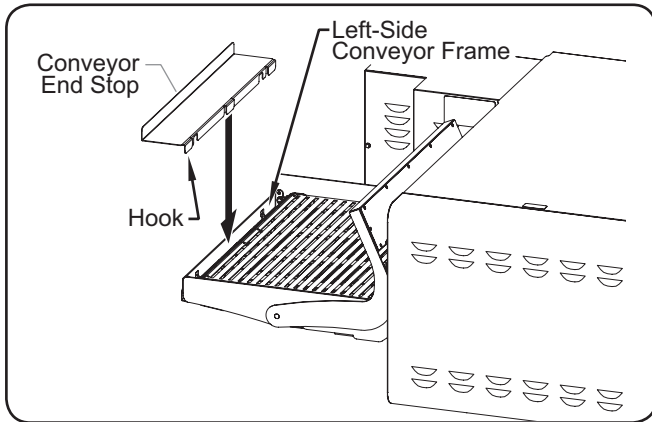


Installing a Crumb Tray

continued...

# INSTALLATION

9. Install a conveyor end stop at each end of the conveyor frame.
  - Position the three hooks on the end stop over the conveyor frame directly above crumb tray hooks.



Installing a Conveyor End Stop

10. Secure the control box to a vertical wall or onto the Bread Station shelf system using the appropriate fasteners. Make sure the distance from the oven is not greater than the length of the 10' (304 cm) control cable.
  - Both a wall mounting bracket and a Bread Station mounting bracket are included with the oven.
11. Connect the control cable from the control box to the communication port on the rear, right side of the oven.
12. Plug the oven and the ventilation assembly into properly grounded electrical receptacles of the correct voltage, size, and plug configuration. See the SPECIFICATIONS section for details.

**NOTE:** The oven is suitable for either 208 VAC or 240 VAC and will adjust automatically to the voltage being supplied.

## Installing the Oven on a Cart

Use the following procedure to install the oven on either an existing or a new Bread Station cart. This procedure will require several people.

### Tools Required

- |                      |                      |
|----------------------|----------------------|
| 1" Steel Tube Cutter | Hammer/Rubber Mallet |
| 1/4" Hex Head Driver | Tape Measure         |

**NOTE:** Refer to the Bread Station cart assembly instructions for details regarding assembly/disassembly of the cart.

1. Prepare the cart for installation of the oven.

### Existing Cart:

**NOTE:** Make sure the cart countertop and shelves are completely clear before beginning this procedure.

- a. Position the second shelf on the cart so that the top of the shelf is 16-1/2" (503 mm, or groove #12) from the floor at all four posts. This is the shelf on which the oven will be installed.
- b. Release the countertop and the hanger rail from their mounting sleeves on each of the rear posts. This will ease installation of the oven and heat shield.

### New Cart:

- a. Assemble the cart up to the point where the second shelf is attached. The measurement from the floor to the top of the shelf should be 16-1/2" [503 mm, or groove #12] at all four posts. This is the shelf on which the oven will be installed.

**NOTE:** The bottom shelf should be in the lowest position, which is 8-1/2" (216 mm, or groove #4) measured from the floor to the top of the bottom shelf.

2. Using a 1" steel tube cutter, cut off each front post so that the top of the cut posts is 18" (549 mm, or groove #14) from the floor.
  - Remove the black, plastic caps from the cut pieces, and place them into the tops of the cutoff front posts on the cart.

**NOTE:** Make sure to lift oven from underneath the front and rear of the oven chamber only.

3. Using the appropriate number of people, carefully place the oven onto the second shelf of the cart.
  - Make sure the base of the oven is centered left-to-right on the cart.
  - Make sure the oven is placed all the way to the back of the cart. The front door will overhang the front of the cart.
4. Place the heat shield directly on top of the oven.

### Existing Cart:

- a. While lifting up on the countertop, slide the heat shield into position on top of the oven. Make sure it is centered on the oven.

### New Cart:

- a. Set the heat shield on top of the oven. Make sure it is centered on the oven.
6. Position/install the countertop so that the top of the countertop is 36-1/2" (927 mm, or groove #31) from the floor at all four posts.
    - The countertop should be flat and will be resting directly on top of the heat shield. Make sure all heat shield flanges are tucked inside the countertop edges.
  6. Complete reassembly/assembly of the cart.
  7. Return to the "General" installation procedure, and continue with step 7.

## General

Use the following information and procedures to operate an Ovention® Shuttle® Oven.



**Read all safety messages in the IMPORTANT SAFETY INFORMATION section before operating this equipment.**

**In the event of emergency, unplug unit.**



**BURN HAZARD: Some exterior surfaces on unit will get hot. Avoid unnecessary contact with unit.**

**Use caution and be aware of pinch points when slider assembly is moving.**

## Menu Item Information

Shuttle Ovens are designed to provide unequalled flexibility and efficiency. Each oven has the capability of storing 1024 custom menu items. Menu items can be organized into Categories that group together similar items, such as different varieties of pizza. A total of 128 Categories can be created, with each Category able to contain 128 specific menu items. All Categories and/or menu items appear on the Menu screen.

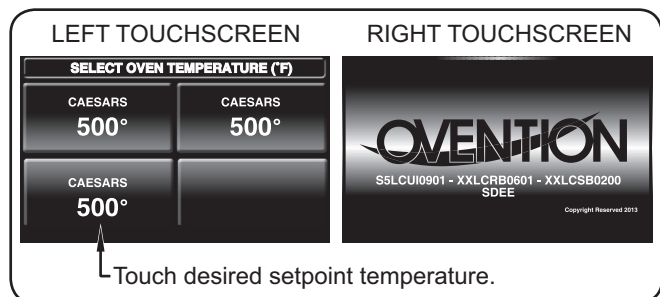
*NOTE: It is not necessary to use Categories. The oven can be set up using specific menu items only.*

At initial startup, the Menu screen will show either sample menu items or customer-specific, preloaded menu items. If the Menu screen shows sample menu items, these menu items can be used to help develop specific menu items appropriate for the installation. Refer to the “Programming Menu Items” procedure in this section for instructions on creating menu items.

## Startup

*NOTE: The Shuttle Oven can be set up to cook from left-to-right or right-to-left. This manual is written to reflect an oven set to cook from left-to-right.*

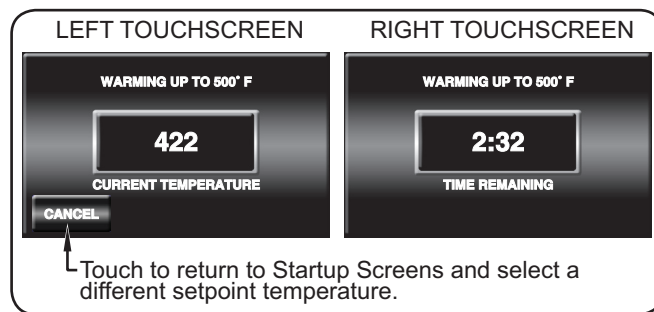
1. Move the Power switch for the ventilation assembly to the “On” position. It is located on the left side of the heat shield, near the front.
2. Move the Standby switch on the control box up to the “On” position.
  - The touchscreens will energize. One touchscreen shows the name of the oven and current software version (Logo screen). The other touchscreen shows the available setpoint temperatures.



Startup Screens

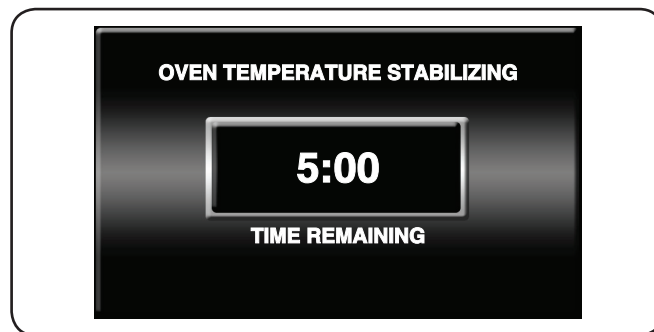
3. Touch the desired setpoint temperature.

- The oven heaters, air blowers, and cooling fans will start up. Allow 10–15 minutes for the oven to reach setpoint temperature.
- The left touchscreen shows the selected setpoint temperature and the current cavity temperature.
- The right touchscreen shows the selected setpoint temperature and the estimated time remaining to reach setpoint temperature.



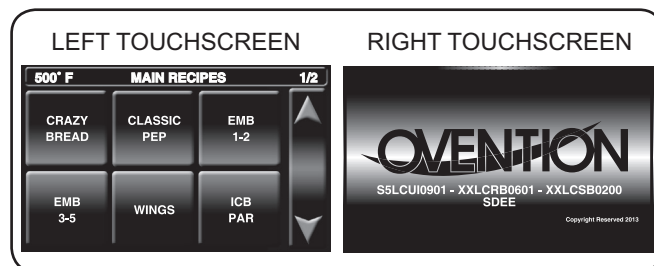
Preheat Screens

When the oven reaches setpoint temperature, the oven begins a temperature stabilizing period (a countdown screen appears).



Oven Stabilizing Screen

After the oven temperature stabilizes, the Main Recipes screen appears on one of the touchscreens. The oven is now ready for cooking.



Main Recipes Screen

*NOTE: The Menu items shown are for example only. Depending on the configuration of the oven, the Main Recipes screen will show either sample menu items or customer-specific, preloaded menu items.*

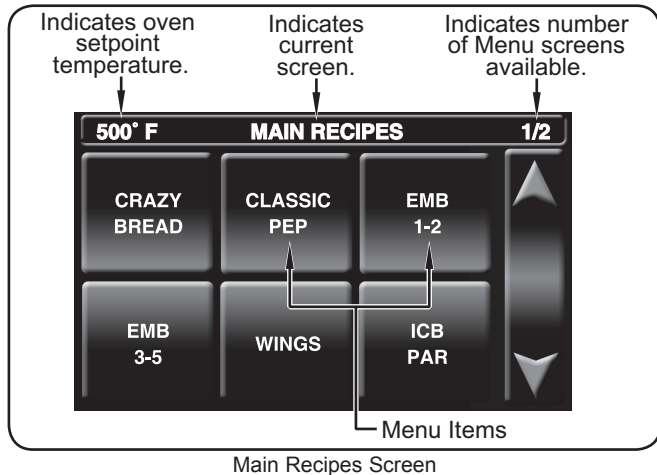
# OPERATION

## Cooking

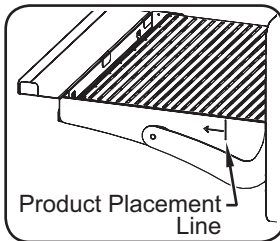
Use the following procedures to operate the oven in *Shuttle Mode*. *Shuttle Mode* provides the options of cooking single items with specific settings as needed or cooking multiple items with specific settings continuously (queued items).

### Single Item Cooking

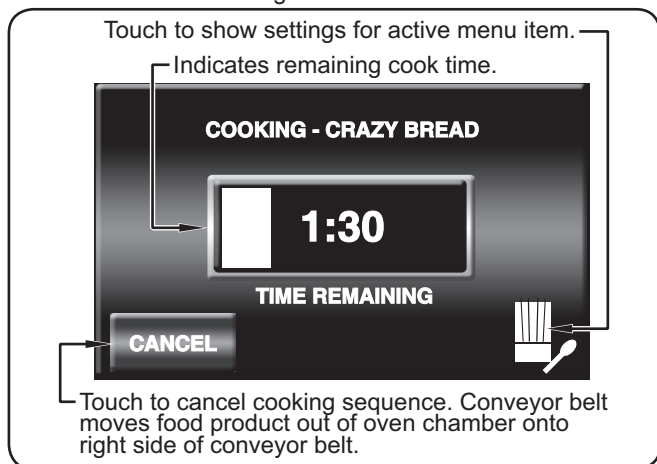
1. Make sure the oven has reached setpoint temperature. The Main Recipes screen will appear on one of the touchscreens.



2. Using a paddle, pan gripper, or other utensil, place the food product onto the left side of the conveyor belt. Make sure food product is placed behind the product placement line (on the arrow side).
3. Touch the desired menu item on the touchscreen.



- The shuttle door opens, the conveyor belt moves the food product into the oven chamber, the shuttle door closes, and the cooking sequence begins.
- The touchscreen changes to the Cooking screen and shows the remaining cook time for the selected menu item.



- When the cooking sequence is finished, the touchscreen flashes "DONE", an audible alert sounds, the opposite side shuttle door opens, and the conveyor belt moves the food product out of the oven chamber onto the right side of the conveyor belt.

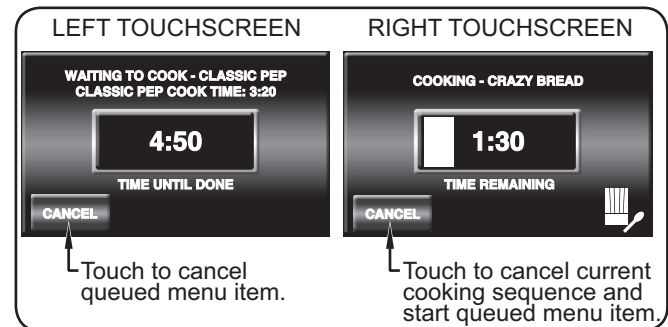
## CAUTION

**BURN HAZARD: Pan/tray will be very hot upon removal—use oven mitt, pan gripper, or other utensil to remove.**

4. Using a paddle, pan gripper, or other utensil, remove the cooked food product.

### Queued Item Cooking (Continuous Cooking)

1. Perform steps 1–3 of the "Single Item Cooking" procedure in this section.
  - The shuttle door opens, the conveyor belt moves the food product into the oven chamber, the shuttle door closes, and the cooking sequence begins.
2. Using a paddle, pan gripper, or other utensil, place the next food product onto the left side of the conveyor belt. Make sure food product is placed behind the product placement line (on the arrow side).
3. Touch the desired menu item on the Main Recipes screen.
  - The touchscreen changes to the In Queue screen and shows the queued menu item, the queued item cook time, and the total time remaining until the queued item is done.



Touchscreens During Queued Item Cooking

- When the first cooking sequence has 10 seconds remaining, the In Queue screen flashes yellow to indicate that the conveyor belt is about to move.
  - When the first cooking sequence is complete, the corresponding touchscreen flashes "DONE", an audible alert sounds, both shuttle doors open, and the conveyor belt moves the food product out of the oven chamber onto the right side of the conveyor while moving the queued food product into the oven chamber.
4. Using a paddle, pan gripper, or other utensil, remove the cooked food product from the right side of the conveyor belt.
  5. Repeat steps 2–4 of this procedure for continuous, queued item cooking.

### Shutdown

1. Move the Standby switch on the control box down to the "Off" position.
  - The oven heaters and touchscreens will shut off.
  - The air blowers and cooling fans will continue to operate until the oven chamber temperature drops below 140°F (60°C).

## CAUTION

**Do not unplug unit immediately after use. Internal fans must cool oven to avoid damage to electrical components.**

2. Move the Power switch for the ventilation assembly to the "Off" position.

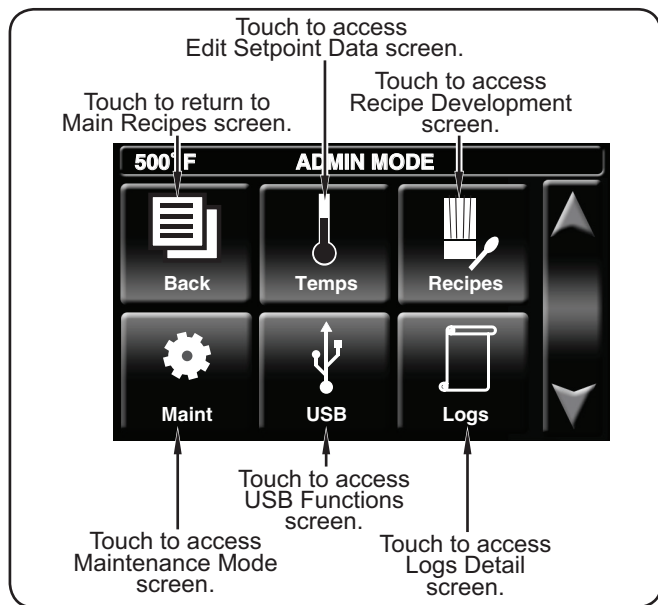


## Programming Menu Items

Use the following procedures to edit, create, or delete menu items and categories. These procedures require access to password-protected screens and should be performed by authorized personnel only.

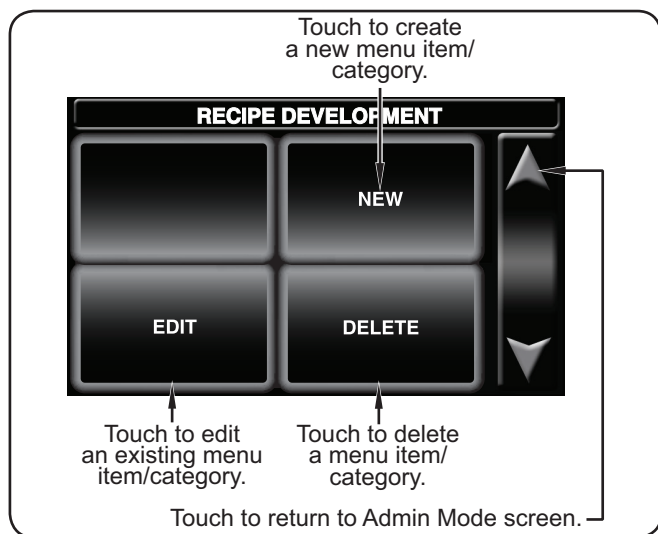
**NOTE:** The USB port allows the uploading of pre-programmed menu items from an external USB drive. Refer to the "Uploading from a USB Drive" procedure in this section for details.

- From the Main Recipes screen, touch the "up" arrow.
  - A password keypad will appear on the touchscreen.
- Input the password "12345", and touch ENTER.
  - The Admin Mode screen will appear on the touchscreen.



Admin Mode Screen

- Touch RECIPES to access the Recipe Development screen.



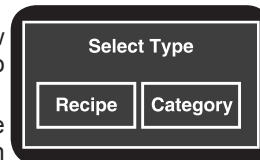
Recipe Development Screen

- Touch NEW, EDIT, or DELETE on the Recipe Development screen, depending on the desired function. Then, refer to the appropriate procedure in this section.

## Creating New Menu Items/Categories

- After touching NEW on the Recipe Development screen, the New Recipe/Category screen will appear. This screen will look like the Main Recipes Screen.

- Touch an empty box. The "Select Type" window will appear. If no empty boxes are available, touch the "down" arrow to scroll to the next screen.



- Touch RECIPE to create a new menu item or CATEGORY to create a new category.

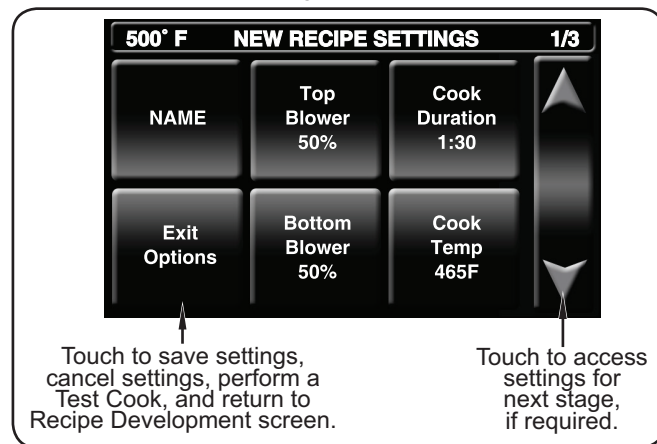
- For new menu items, the New Recipe Settings Screen will appear.
- For new categories, a keypad appears. Type the name of the new category, then touch ENTER. The Recipe Development screen reappears. To add menu items to the new category:
  - Touch NEW on the Recipe Development screen.
  - Touch the new category that is now available on the New Recipe/Category screen.
  - Touch an empty box in the new category and continue with the next step in this procedure.

- Touch each "setting" box on the New Recipe Settings screen to edit the corresponding setting. Settings include item name, top blower percentage, bottom blower percentage, cook duration, and cook temperature.

- Touching a "setting" box will bring up a keypad specific to the setting. Enter the desired value using the keypad, then touch ENTER to return to the New Recipe Settings screen.

- Menu item names can have up to 16 characters.

- Touch the "down" arrow to access the settings for stages 2 and 3. Each menu item can be programmed to have up to three stages, depending on the food product. Stages are programmed with unique settings to create a customized cooking sequence for the menu item.



New Recipe Settings Screen

**NOTE:** It is not necessary to create stages for a menu item if it is not required by the food product. If unique stages are not required, leave the cook time setting for stages 2 and 3 at zero.

continued...

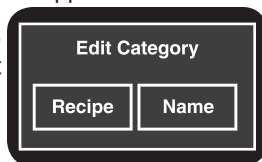


# OPERATION

5. When programming is complete, touch EXIT OPTIONS on the New Recipe Settings screen.
  - a. The Recipe Dev Exit Options screen will appear.
  - b. Touch the desired option: EXIT AND SAVE, EXIT (without saving), CONTINUE EDITING, or TEST COOK.
    - If one of the “EXIT” options was touched, the Recipe Development screen appears. If all programming is complete, touch the “up” arrow to return to the Admin Mode screen.
    - To program additional menu items, repeat the appropriate steps of this procedure.

## Editing Menu Items/Categories

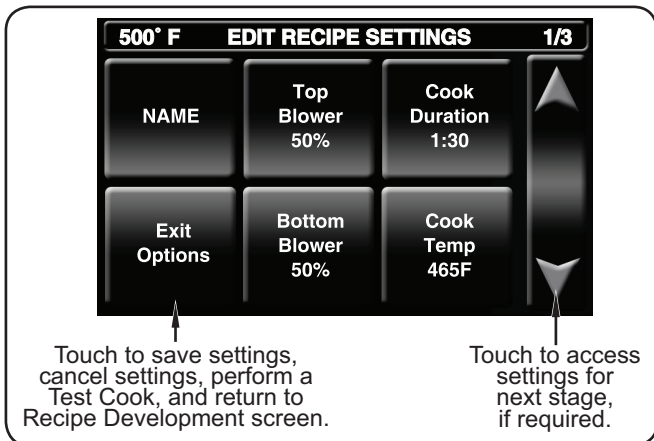
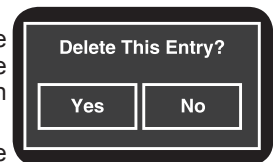
1. After touching EDIT on the Recipe Development screen, the Edit Recipe/Category screen will appear. This screen will look like the Main Recipes screen.
2. **To edit a menu item**, touch the desired menu item, and the Edit Recipe Settings screen will appear.
3. **To edit a category**, touch the desired category. The “Edit Category” window will appear.
  - Touch RECIPE to edit a menu item in the selected category. Touch the desired menu item, and the Edit Recipe Settings screen will appear. Continue with the next step in this procedure.
  - Touch NAME to rename the selected category using the keypad that appears, then touch ENTER. The Recipe Development screen reappears. Renaming is complete.



5. When editing is complete, touch EXIT OPTIONS on the corresponding Edit Recipe/Category screen.
  - a. The Recipe Dev Exit Options screen will appear.
  - b. Touch the desired option: EXIT AND SAVE, EXIT (without saving), CONTINUE EDITING, or TEST COOK.
    - If one of the “EXIT” options was touched, the Recipe Development screen appears. If all editing is complete, touch the “up” arrow to return the Admin Mode screen.
    - To edit additional menu items, repeat the appropriate steps of this procedure.

## Deleting Menu Items/Categories

1. After touching DELETE on the Recipe Development screen, the Delete Recipe/Category screen will appear. This screen will look like the Main Recipes screen.
2. Touch the desired menu item or category to delete. The “Delete This Entry?” window will appear.
  - Touch YES to delete the menu item or category. The Recipe Development screen reappears.
  - Touch NO to return to the Recipe Development screen without deleting.
3. When deleting is complete, touch the “up” arrow to return the Admin Mode screen



Edit Recipe Settings Screen

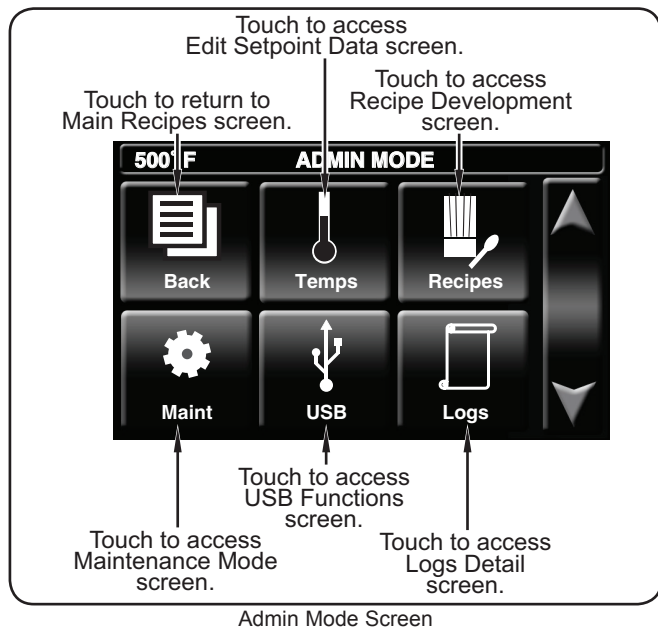
4. Touch each “setting” box on the Edit Recipe Settings screen to edit the corresponding setting. Settings include item name, top blower percentage, bottom blower percentage, cook duration, and cook temperature.
  - Touching a “setting” box will bring up a keypad specific to the setting. Enter the desired value using the keypad, then touch ENTER to return to the Edit Recipe Settings screen.
  - Menu item names can have up to 16 characters.
  - Touch the “down” arrow to access the settings for stages 2 and 3, if necessary.

*NOTE: It is not necessary to create stages for a menu item if it is not required by the food product. If unique stages are not required, leave the cook time setting for stages 2 and 3 at zero.*

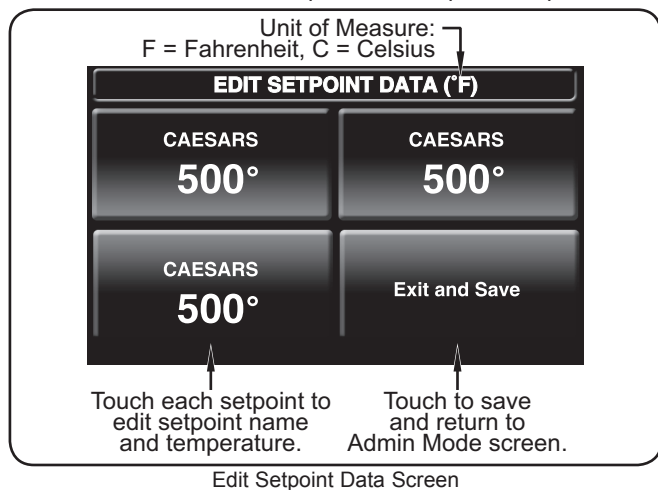
## Editing Setpoint Temperatures

Use the following procedure to edit or create the setpoint temperature(s) available at oven startup. This procedure requires access to password-protected screens and should be performed by authorized personnel only.

- From the Main Recipes screen, touch the “up” arrow.
  - A password keypad will appear on the touchscreen.
- Input the password “12345”, and touch ENTER.
  - The Admin Mode screen will appear on the touchscreen.

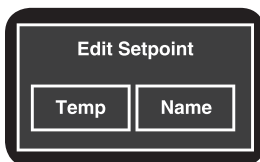


- Touch TEMPS to access the Edit Setpoint Data screen.
  - The oven can store up to three setpoint temperatures.



- Touch the desired setpoint to edit. The “Edit Setpoint” window will appear.

- Touch TEMP to edit the setpoint temperature using the keypad that appears, then touch ENTER. The Edit Setpoint Data screen reappears.
- Touch NAME to edit the setpoint name using the keypad that appears, then touch ENTER. The Edit Setpoint Data screen reappears.

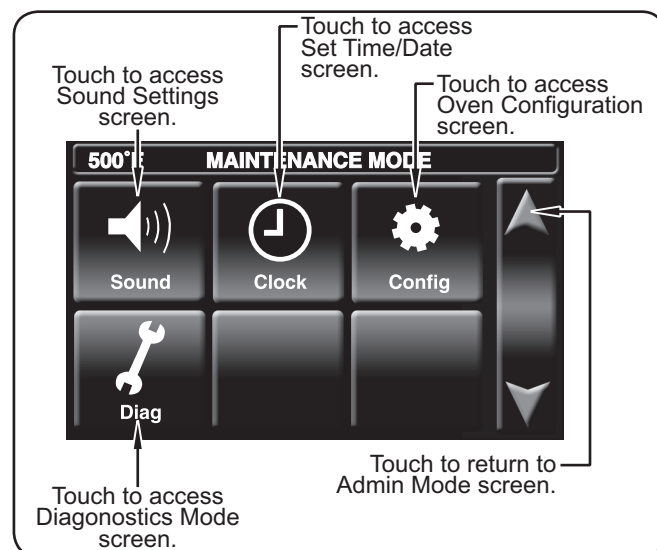


- Repeat step 4 to edit another setpoint name/temperature.
- When the setpoint temperature changes are complete, touch EXIT AND SAVE to return to the Admin Mode screen.
  - If programming is complete, touch BACK to return to the Main Recipes screen.

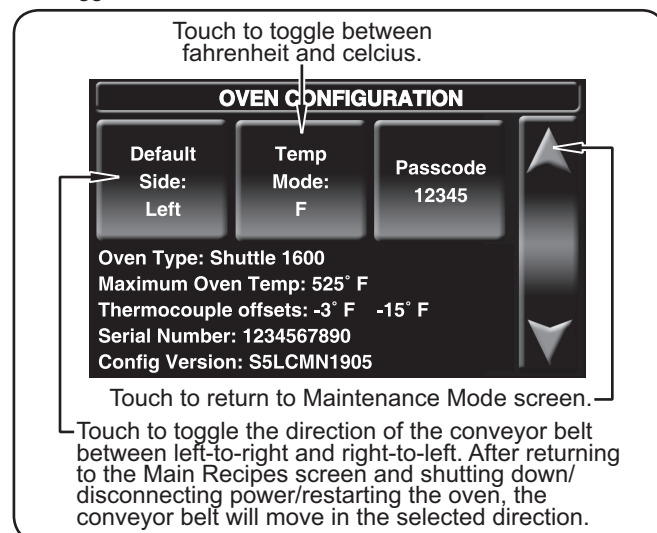
## Changing Temperature Unit of Measure

Use the following procedure to change the temperature unit of measure between Fahrenheit and Celsius. This procedure requires access to password-protected screens and should be performed by authorized personnel only.

- From the Main Recipes screen, touch the “up” arrow.
  - A password keypad will appear on the touchscreen.
- Input the password “12345”, and touch ENTER.
  - The Admin Mode screen will appear on the touchscreen.
- Touch MAINT to access the Maintenance Mode screen.



- Touch CONFIG on the Maintenance Mode screen. The Oven Configuration screen appears.
- Touch TEMP MODE on the Oven Configuration screen to toggle the unit of measure between Fahrenheit and Celsius



Oven Configuration Screen

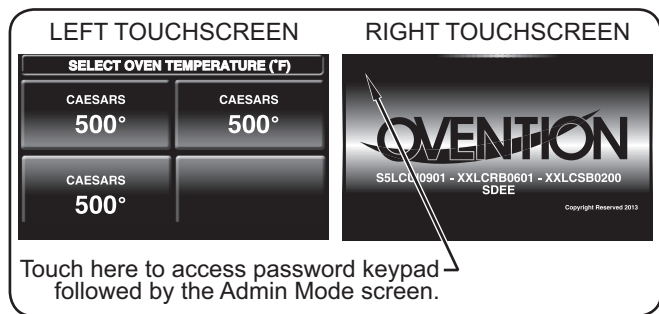
# OPERATION

## Uploading from a USB Drive

Use the following procedure to upload pre-programmed menu items or firmware updates from an external USB drive. This procedure requires access to password-protected screens and should be performed at oven startup by authorized personnel only.

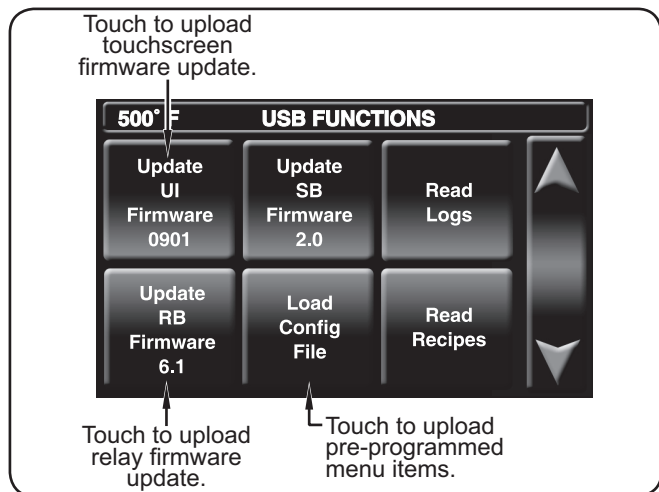
**NOTE:** USB drive must have a capacity of 4 GB or less.

1. Move the Standby switch up to the "On" position.
  - The touchscreens will energize. One touchscreen shows the available setpoint temperatures. The other touchscreen shows the name of the oven and current software version.
2. Remove the cover from the USB port above the Standby switch, and insert the USB drive into the port.
3. Touch the upper left-hand corner on the right touchscreen.
  - A password keypad will appear on the touchscreen.



Startup Screens

2. Input the password "12345", and touch ENTER.
  - The Admin Mode screen will appear.
5. Touch USB to access the USB Functions screen.



USB Functions Screen

6. Touch the desired function to begin the corresponding upload.
  - Select the upload file from the list that appears.
  - A screen will appear to indicate that the upload is in progress.
  - When the upload is complete, the oven will restart.
7. When the startup screens reappear (Ovention logo screen), remove the USB drive from the USB port, and replace the port cover.
8. Perform the normal "Startup" procedure at the beginning of this section to use the oven.

## General

Ovention® Shuttle® Ovens are designed for maximum durability and performance with minimum maintenance.

### ⚠ WARNING

#### ELECTRIC SHOCK HAZARD:

- Turn off Standby switch, allow unit to cool, and unplug unit before performing any cleaning, adjustments, or maintenance.
- DO NOT submerge or saturate with water. Unit is not waterproof. Do not operate if unit has been submerged or saturated with water.
- Do not steam clean or use excessive water on unit.
- This unit is not “jet-proof” construction. Do not use jet-clean spray to clean this unit.
- Do not clean unit when it is energized or hot.
- Do not clean unit with metal scouring pads. Metal pieces can break off pad and touch electrical components, creating risk of electric shock.
- This unit must be serviced by qualified personnel only. Service by unqualified personnel may lead to electric shock or burn.
- Use only Genuine Ovention Replacement Parts when service is required. Failure to use Genuine Ovention Replacement Parts will void all warranties and may subject operators of the equipment to hazardous electrical voltage, resulting in electrical shock or burn. Genuine Ovention Replacement Parts are specified to operate safely in the environments in which they are used. Some aftermarket or generic replacement parts do not have the characteristics that will allow them to operate safely in Ovention equipment.

This unit has no “user-serviceable” parts. If service is required on this unit, contact an Authorized Ovention Service Agent or contact the Ovention Hotline at 855-298-6836.

### ⚠ CAUTION

Do not move or relocate unit for cleaning. Unit is bulky and heavy.

Never use steel pads, wire brushes, or scrapers to clean unit.

Wear protective rubber gloves and protective eyewear when cleaning unit.

Improper cleaning of oven could damage catalyst and will void unit warranty.

#### IMPORTANT NOTE:

Use of cleaning chemicals not approved by Ovention when cleaning the oven chamber will void the warranty.

## Daily Cleaning

To maintain performance and preserve the finish of the Ovention Shuttle Oven, clean the unit daily.

### ⚠ CAUTION

Do not unplug unit immediately after use. Internal fans must cool oven to avoid damage to electrical components.

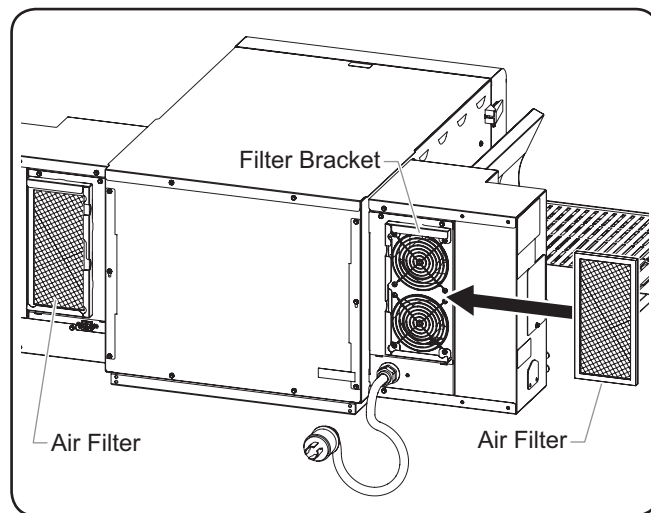
### NOTICE

Use non-abrasive cleaners and cloths only. Abrasive cleaners and cloths could scratch finish of unit, marring its appearance and making it susceptible to soil accumulation.

1. Perform the “Shutdown” procedure in the OPERATION section of this manual. Cooling fans will operate until the oven chamber temperature drops below 140°F (60°C).
2. After the cooling fans shut off, unplug the oven and the ventilation assembly.
3. Remove and discard any remaining food product.
4. Remove any spillages using damp paper towel or a non-abrasive cloth.
5. Remove and clean each conveyor end stop using a damp paper towel.
6. Remove and clean each crumb tray.
  - Brush crumbs into a waste container.
  - Clean the tray using damp paper towel.
7. Reinstall the crumb trays and conveyor end stops (see OPERATION section for details).
8. Wipe down all exterior surfaces using a non-abrasive, damp cloth (a non-abrasive cleaner may be used for difficult stains).
9. Wipe dry all surfaces using a non-abrasive, dry cloth.
10. Polish the exterior surfaces of the oven using a good quality stainless steel cleaner.

## Monthly Cleaning

1. Perform the “Shutdown” procedure in the OPERATION section of this manual. Cooling fans will operate until the oven chamber temperature drops below 140°F (60°C).
2. After the cooling fans shut off, unplug the oven and the ventilation assembly.



Cleaning the Air Filters

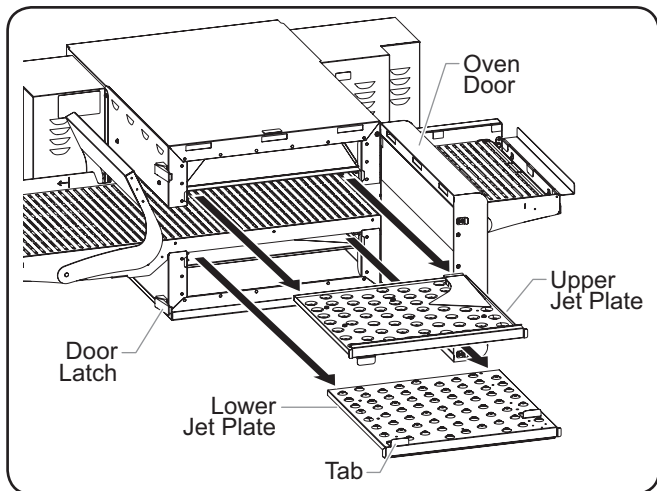
# MAINTENANCE

3. Remove and clean the two air filters on the back of the oven. To clean each filter:
  - a. Slide the filter straight out the side of the filter bracket.
  - b. Spray the filter with water and/or soak in mild soap and water.
  - c. Rinse clean and allow the filter to air dry.
  - d. When the filter is dry, reinstall the filter into the filter bracket.
4. Using a soft bristle brush or compressed air, carefully clean dust/debris buildup on each front door cooling fan and fan guard.

## IMPORTANT NOTE:

Use of cleaning chemicals not approved by Ovention when cleaning the oven chamber will void the warranty.

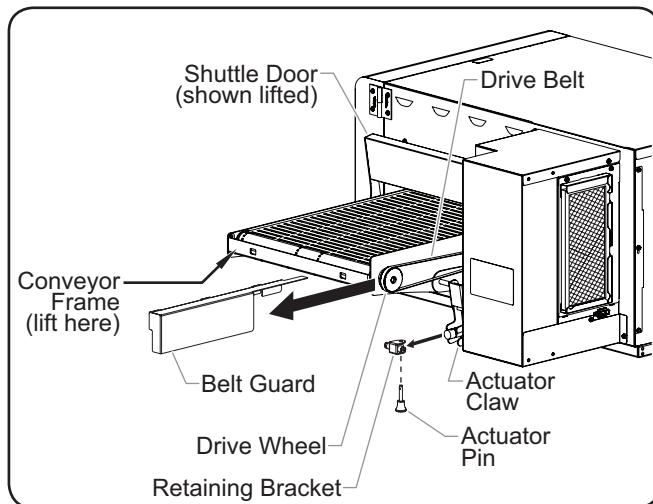
5. Remove and clean the upper and lower jet plates inside the oven chamber. To clean the jet plates:
  - a. Unlatch and open the oven door so that the inside of the oven chamber is exposed.
  - b. Remove each plate by gripping the two tabs on each plate and pulling straight out of the oven.
  - c. Spray Chemco Dirt Buster III Oven Cleaner onto both sides of each jet plate. Allow the cleaner to sit for 3–5 minutes.
  - d. Using a non-abrasive nylon scouring pad, apply pressure to wipe away grease residue.
  - e. Wipe the jet plates clean using a damp, non-abrasive cloth and allow to air dry. Do not reinstall at this time.



Cleaning the Jet Plates

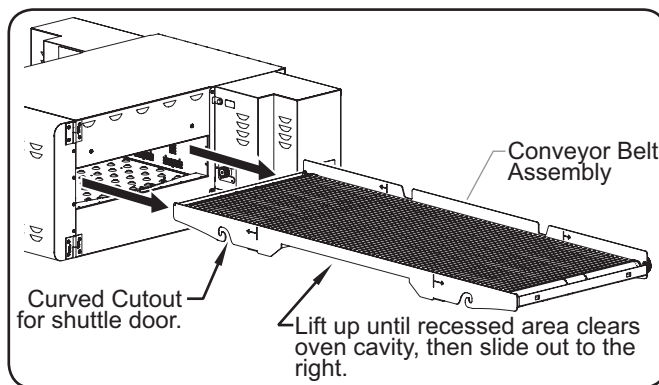
6. Clean the visible areas of the oven chamber using the same procedure as the jet plates (steps “c” through “e” above).
7. Reinstall the upper and lower jet plates into the oven chamber.
8. Close the oven door and secure both door latches.
9. Remove and clean each conveyor end stop and crumb tray as described in the “Daily Cleaning” procedure.
10. Remove both shuttle doors. To remove:
  - a. Slide the belt guard off the drive belt located behind the right-side conveyor frame.
  - b. Remove the drive belt from the drive wheel by slightly lifting the right-side shuttle door and conveyor frame.

- c. For each shuttle door; lift the door, remove the actuator pin and retaining bracket to disengage the actuator claw from the actuator, and slide the door out of the curved cutout on the conveyor frame.



Removing the Shuttle Doors

11. Clean the belt guard and shuttle doors using mild soap and water. Rinse clean and dry using a non-abrasive cloth.
12. Remove the conveyor belt assembly. This step requires two people.
  - a. With one person on each side of the oven cavity, lift up the left side of the conveyor belt assembly and slide the entire assembly to the right.
  - b. When most of the conveyor belt assembly is through the oven cavity, the person on the left should move to the right side of the oven cavity and continue sliding the assembly out of the cavity.



Removing the Conveyor Belt Assembly

13. Clean the conveyor belt assembly.
  - a. Spray Chemco Dirt Buster III Oven Cleaner onto both sides of the conveyor belt assembly. Allow the cleaner to sit for 3–5 minutes.
  - b. Using a non-abrasive nylon scouring pad, apply pressure to wipe away grease residue on the conveyor belt and frame.
  - c. Spray clean with water and dry using a non-abrasive cloth. Additional air dry time may be necessary before re-installation.
14. Reinstall the conveyor belt assembly, shuttle doors, belt guard, crumb trays, and conveyor end stops by reversing the above procedure.



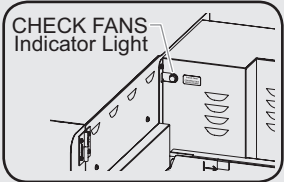
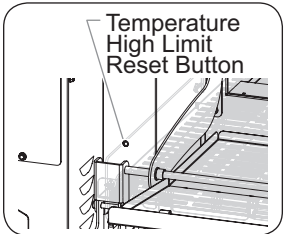
# TROUBLESHOOTING GUIDE



This unit must be serviced by qualified personnel only. Service by unqualified personnel may lead to electric shock or burn.



**ELECTRIC SHOCK HAZARD:** Turn off Standby switch, allow unit to cool, and unplug unit before performing any cleaning, adjustments, or maintenance.

Symptom	Probable Cause	Corrective Action
Oven does not operate (blank touchscreens).	Standby switch turned off or unit unplugged.	Make sure unit is plugged in and Standby switch is moved up to the "On" position.
	Unit connected to incorrect power supply.	Refer to SPECIFICATIONS section for unit electrical specifications. Contact a qualified electrician to determine and install proper voltage and size electrical receptacle.
Irregular belt movement.	Loose screw and/or bracket.	Check all screws on conveyor belt assembly. Tighten screws, if necessary.
	Malfunction of gear and/or drive belt.	Contact Authorized Service Agent or Ovention® Hotline for assistance.
	Incorrect software installed on oven operating system.	
Improper cooking of food.	Incorrect setpoint temperature or menu item selection.	Verify desired setpoint temperature and menu item selection. Change to proper settings, if necessary (refer to OPERATION section).
	Jet plate or air flow malfunction.	Contact Authorized Service Agent or Ovention Hotline for assistance.
CHECK FANS indicator light is on (located on front, right side of oven chamber). 	Ambient air temperature is over 100°F (38°C).	Light will illuminate in ambient temperatures over 120°F (49°C). Verify light shuts off after ambient temperature drops below 120°F (49°C) consistently. If not, see "Probable Causes" listed below.
	Air filters are dirty.	Check air filters and clean, if necessary. Refer to "Monthly Cleaning" procedure in MAINTENANCE section.
	Cooling fan(s) malfunction.	Contact Authorized Service Agent or Ovention Hotline for assistance.
Oven not heating. 	Temperature High Limit switch has tripped.	Press the Temperature High Limit Reset Button located on the rear, left side of the oven chamber behind the conveyor belt assembly. If switch continues to trip, contact Authorized Service Agent or Ovention Hotline for assistance.

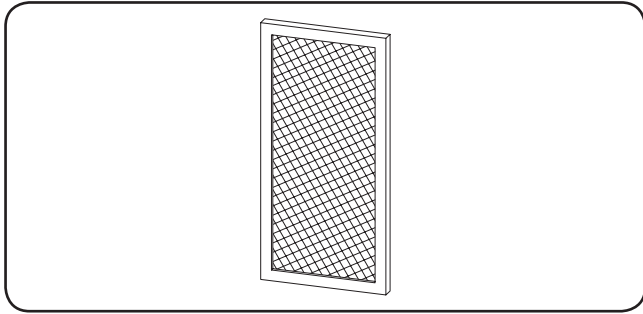
**NOTE:** To locate an Authorized Ovention Service Agent, access the Ovention website at [www.oventionovens.com](http://www.oventionovens.com) and select the Service & Support tab, or call the Ovention Hotline at 855-298-OVEN(6836).

# OPTIONS AND ACCESSORIES

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## Miscellaneous

OVNTN-FIL ..... Replacement Air Filter



OVNTN-CLNR.... Oven Cleaner, case of six bottles

*NOTE: Use Oven Cleaner to clean cooking grease and residue safely from the jet plates, oven chamber, and conveyor belt assembly.*

### IMPORTANT NOTE

Additional accessories are available for Ovention Ovens. Contact Ovention at 414-615-1227 for information.



## 1. PRODUCT WARRANTY

Ovention®, Inc. (“Ovention”) warrants the products that it manufactures (the “Products”) to be free from defects in materials and workmanship, under normal use and service, for a period of one (1) year from the date of purchase when installed and maintained in accordance with Ovention’s written instructions or 18 months from the date of shipment from Ovention. Buyer must establish the product’s purchase date with Ovention sales representative or by other means satisfactory to Ovention in its sole discretion.

Ovention warrants the following Product components to be free from defects in materials and workmanship from the date of purchase (subject to the foregoing conditions) for the period(s) of time and on the conditions listed below:

- **Ninety (90) Day Parts-Only Warranty:**

Replacement Parts

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT INFRINGEMENT. Without limiting the generality of the foregoing, SUCH WARRANTIES DO NOT COVER: Damage to touchscreens from abuse or impact; Wear items such as air filters and conveyor belts; Damage to catalyst from use of non-approved cleaning products; Product misuse, tampering or misapplication; improper installation; lack of or improper cleaning; or application of improper voltage.

## 2. LIMITATION OF REMEDIES AND DAMAGES

Ovention’s liability and Buyer’s exclusive remedy hereunder will be limited solely, at Ovention’s option, to repair or replacement by an Ovention-authorized service agency (other than where Buyer is located outside of the United States, Canada, United Kingdom or Australia, in which case Ovention’s liability and Buyer’s exclusive remedy hereunder will be limited solely to replacement of part under warranty) with respect to any claim made within the applicable warranty period referred to above. Ovention reserves the right to accept or reject any such claim in whole or part. Ovention will not accept the return of any Product without prior written approval from Ovention, and all approved returns shall be made at Buyer’s sole expense. OVENTION WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCES, FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR COSTS OR LOST PROFITS RESULTING FROM THE USE OF OR INABILITY TO USE THE PRODUCTS OR FROM THE PRODUCTS BEING INCORPORATED IN OR BECOMING A COMPONENT OF ANY OTHER PRODUCT OR GOODS.

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**Need help?**  
Call our 24 hour, toll-free  
**Ovention Hotline**  
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