



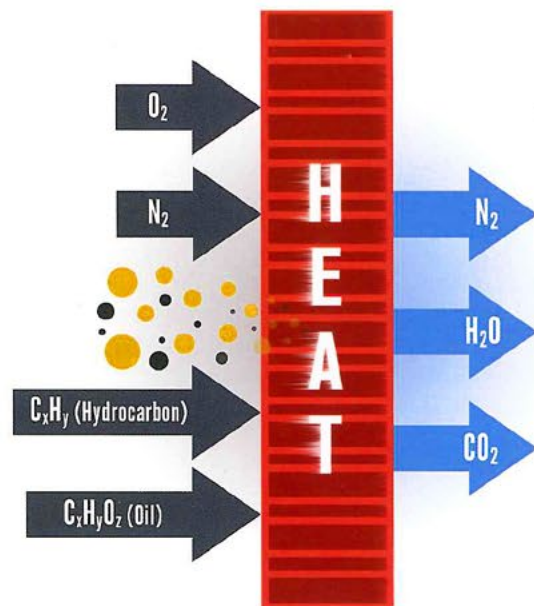
# Quick guide to UL-Ventless Advantages Saving Money, Adding Flexibility



## How Ovention® technology works for you

Ventless cooking is growing in popularity, largely because it delivers improved profitability to the operator. Commercial hood systems can double or triple your capital outlay and will have an ongoing impact on operating costs, cleaning, and maintenance. Ventless cooking also frees the operator to install cooking appliances in a wider variety of spaces, including locations where ventilation may not be feasible.

All Ovention ovens—Matchbox® 1718, Matchbox 1313, Shuttle® 2000 and Conveyor 2000—are UL-certified for ventless operation. That means Underwriters Laboratories, under its UL 710B standard, has tested and verified the ovens meet or surpass the stringent grease-laden emissions limits set forth in the EPA 202 test standard. The air recirculation and catalyst technology used to convert grease and VOCs into harmless CO<sub>2</sub> and H<sub>2</sub>O has been used in rapid cook ovens for several years and is familiar to most inspectors.



### *What does a catalyst do?*

*Consider a catalyst as nothing more than a chemical machine. It takes apart molecules that are fed to it and puts the atoms back together in a different arrangement to form new molecules.*

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## A Word on the Test Standards

To be approved for ventless installation and operation, there are two standards that your local authority will consult as it relates to the oven's installation.

## EPA 202 Requirements

The EPA 202 standard limits emissions to no more than 5.0 mg/m<sup>3</sup> of grease-laden air.

During the EPA 202 test, the oven is placed under a large hood which is designed to capture and measure the grease-laden air escaping from the oven. The standard EPA 202 test uses pepperoni pizza as the food product because it's a "worst case" or most demanding example, emitting the most grease per hour due to its short cook time. If a system passes with pepperoni pizza, it should do even better with anything else. ALL Ovention ovens passed well below the 5.0 mg/m<sup>3</sup> limit.

## Ovention Emissions Test Results



\* The M1313 Matchbox has a higher cavity volume to catalyst ratio than the M1718 and therefore an EPA 202 test was not required by UL since the M1718 test value was well below the 5.0 mg/m<sup>3</sup> limit.

† The S2000 Shuttle was tested in conveyor mode because it was determined to be the most demanding condition. If the EPA 202 test were run in Shuttle mode, the results would be similar to the Matchbox results because both doors would be closed during each cook.

## IMC Requirements

The International Mechanical Code requires the use of either a Type I (with fire suppression) or Type II (exhaust only) hood above commercial cooking appliances.

A Type I hood is typically required for appliances that have not passed the EPA 202 test. A Type II hood is typically required if the building's HVAC system isn't sufficient to handle the heat load within the space. The addition of an Ovention oven may or may not push the heat load in the space to a limit of concern to the inspector.

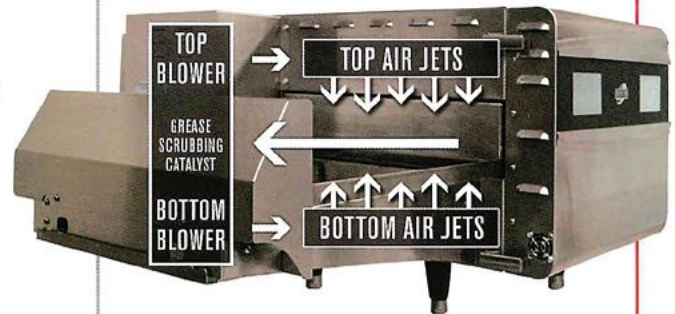
To help with explaining the heat load of the oven, the table below lists the estimated HVAC load per Ovention oven model type:

## Estimated<sup>§</sup> Ovention Oven Heat-Load Ratings in Tons

Oven	M1718	M1313
HVAC load in ton of A/C	0.98	0.61

<sup>§</sup> Based on the oven operating 12 hours/day with 25% peak capacity cooking.

## Technical Air Flow Inside the Oven



## When You File for Ventless Installation

When you decide to go ventless, you'll need to file the suitable paperwork with your health department or building department, depending on the agency that has jurisdiction in your area.

You'll need copies of the UL ventless certification letter as well as documentation of your HVAC analysis of capacity and load. Ovention's ventless certification documentation can be downloaded at [www.OventionOvens.com/ventlesscertification](http://www.OventionOvens.com/ventlesscertification). You'll also need to provide information regarding how the appliance will be used, intended menu, etc.

Your local agency may require additional documentation. You should find out directly from the local agency what documents will be needed. Also, we invite you to consult with your Ovention rep. We're here to help.



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