



# TPS ESP-400 Series Mechanical Convection Ovens User Manual

[Home](#) » [TPS](#) » TPS ESP-400 Series Mechanical Convection Ovens User Manual

## Contents [ [hide](#) ]

- [1 TPS ESP-400 Series Mechanical Convection Ovens](#)
- [2 Instructions](#)
- [3 Exclusive Two-Year Warranty](#)
- [4 Oven Features](#)
- [5 Available Oven Options](#)
- [6 Documents / Resources](#)
  - [6.1 References](#)
- [7 Related Posts](#)



**TPS ESP-400 Series Mechanical Convection Ovens**



## Instructions

This small, cost-effective industrial oven provides reliable performance with horizontal air flow which offers excellent temperature uniformity, and is an ideal selection for applications where there are multiple tiers of product arranged to allow air to flow horizontally from side-to-side. This economy oven features Blue M's one-pass air flow system which allows incoming air to pass over the heaters and through the work chamber only once, if desired, enabling fast cool down or quickly venting non-hazardous fumes.

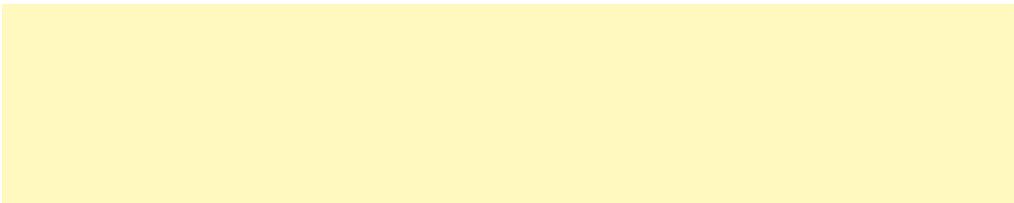
## General Mechanical Convection Industrial Oven Specifications

- Temperature range: 15°C (27°F) above ambient to 260°C (500°F)
- Control Accuracy: +/- 1.0°C (+/- 1.8°F)
- Resolution: +/-0.1°C (+/- 0.1°F)
- Workspace capacity: 2.8 cubic feet
- Heat-up time to 260°C (empty chamber with dampers closed):
  - 20 Minutes (approximate) at 240 VAC
  - 30 Minutes (approximate) at 208 VAC
  - 60 Minutes (approximate) at 120 VAC
- Uniformity: Blue M can provide varying levels of uniformity; if you have a specific tolerance or specification which must be met, please contact us with your requirements so we can ensure the equipment is designed, tested, and adjusted to meet those requirements

## Uniform, Accurate and Reliable Temperature Control

- Available with profiling or single set point temperature controls

- Horizontal airflow assures uniform thermal performance under most loading conditions
- Exclusive Blue M Eterna™ heating elements – the most reliable available, with heavy-gauge high temperature nickel chrome wire and low-watt density for longer service life
- Adjustable one-pass air flow system – tempered air passes over heater and through chamber only once if necessary – readily adjusted to suit a broad range of product loads and operating requirements
- Direct drive, multi-blade, centrifugal blower with high-volume air delivery and dynamically balanced for noise reduction

Condensed Specifications				
Model	Electrical (Full Load Amps)	Cabinet Finish	Interior Dim.	Exterior Dim.
ESP 400	120V 1Ph 60Hz 1.5kW, 16.5 Amps	Painted	19 x 15 x 18 in. 480 x 380 x 450 mm	32 x 24 x 37 in. 800 x 610 x 940 mm
	208V 1Ph 60Hz 2.5kW, 13.5 Amps	Painted	19 x 15 x 18 in. 480 x 380 x 450 mm	32 x 24 x 37 in. 800 x 610 x 940 mm
	240V 1Ph 60Hz 3.4kW, 15.5 Amps	Painted	19 x 15 x 18 in. 480 x 380 x 450 mm	32 x 24 x 37 in. 800 x 610 x 940 mm
Indication Resolution	1°C			
Run-up Time to 260°C (no load/no exhaust)	20 min. at 240V* 30 min. at 208V* 60 min. at 120V*  *Empty chamber performance with intake and exhaust closed at rated voltage			

All specifications are subject to change without notice.

### Exclusive Two-Year Warranty

Blue M warrants the equipment will be free from defects in material and workmanship for a period of two (2) years from the date of shipment (or from the installation date if this service is provided by TPS or a TPS approved partner and the date is approved by TPS). If a TPS Preventive Maintenance Plan is purchased before the end of

the standard warranty period, these limited warranties shall be extended by one (1) additional year. If within the warranty period the original purchaser notifies Blue M in writing of an alleged non-conformity, and Blue M determines to its reasonable satisfaction that the product or service is in fact non-conforming, then Blue M shall, at its option and expense, repair or replace the non-conforming product or correct the non-conforming service, either at the original purchaser's facility, or Blue M's. Labor is only included for domestically installed units. Equipment installed outside of the United States (USA) will be one year parts only from date of shipment. For full details, exclusions, and other information on our warranty please go to:

<https://www.thermalproductsolutions.com/support/blue-m>

## **Oven Features**

- RKC RF100 Temperature Controller
- Centrifugal blower wheel
- Adjustable air intake and exhaust dampers
- Adjustable shelves – nickel-plated wire type with 7 shelf positions
- Fiberglass insulation to ensure safe cabinet skin temperature
- Heavy-duty door – double-wall, insulated construction
- Corrosion resistant, stainless steel (type 304) interior
- All-welded, heavy-duty exterior with heavy-gauge, reinforced cold-rolled steel
- Baked on white powder-coated enamel finish on exterior
- Every oven is fully assembled and individually factory tested
- Circuit breaker provided for ground fault protection as standard
- Easy to read digital LCD display
- Enhanced PID control
- Single set point
- Autotuning algorithm to calculate optimum set points and ramps
- Helps eliminate over and under shoot of temperature
- Overtemperature protection standard using CB100L or CB900L FM-approved controller with independent sensor and power

## **Available Oven Options**

- Nickel-plated wire rod shelves
- Glass observation panel
- Floorstand
- Circular chart recorder
- Ability to stack two units vertically (stacking frame)
- Eagle Signal Model B856 Digital Process Timer
- 24 Hour / 7 Day Digital Timer Grasslin FM1D
- Chart Recorder
- Alternate Temperature Controllers -Partlow 1166 & 1160 or Watlow F4T
- Alternate Overtemperature Protection-Partlow 1161+ High Limit Controller

Baker Furnace, Blue M, Gruenberg, Lindberg/MPH,  
Lunaire, Tenney, Wisconsin Oven  
Address: 2821 Old Route 15  
New Columbia, PA 17856-9396

USA Phone: (570) 538-7200

Fax: (570) 538-7380

[info@thermalproductsolutions.com](mailto:info@thermalproductsolutions.com)

Specifications and Product Information are subject to change without notice.

## Documents / Resources



[TPS ESP-400 Series Mechanical Convection Ovens](#) [pdf] User Manual

ESP-400 Series, Mechanical Convection Ovens, ESP-400, Convection Ovens, ESP-400 Series Mechanical Convection Ovens, Ovens

## References

-  [Blue M | TPS](#)