



ESP-400 Series Mechanical Convection Ovens

The Blue M ESP-400 Mechanical Convection Horizontal Air Flow Oven provides reliable performance, making it ideal for constant temperature work and for applications where fast run-up and cool-down rates are required. A one-pass air flow system 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 or moisture.

The ESP-400 series is designed 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. The setpoint and process variables appear on a bright, easy-to-read LED display and are adjustable to 0.1°C resolution. The temperature instrument regulates temperature by controlling the heater power through a solid state relay circuit. An FM-approved independent over-temperature protection system is provided. During a high limit condition, this instrument disconnects the power to the heater and motor.

► Benefits

- Horizontal airflow is ideal for thermal constancy and fast run-up and cool down rates
- Quick, quality product results are enabled by the One-Pass Airflow System
- LED display makes it easy to read setpoint and process variables
- Alert system protects overheating from occurring and automatically disconnects heater

► Performance

- Temperature range: 15°C above ambient to 260°C (500°F)
- Resolution: ±0.1°C
- 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

Uniform, Accurate and Reliable Temperature Control

- Available with profiling or single setpoint temperature controls
- 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
- Air circulation - quality ball bearing motor and balanced multi-blade blower
- Exclusive Blue M Eterna™ heating elements with nichrome and ceramic heater bank provides quick response - low-watt density assures long life

Condensed Specifications				
Model	Electrical (Full Load Amps)	Cabinet Finish	Interior Dim.	Exterior Dim.
ESP 400	120V 60Hz (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 60Hz (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 60Hz (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.

Warranty Information

Blue M warrants that from the date it ships and, if applicable, installs a product, or finishes performing a service, the product Blue M manufactured shall conform to written specifications that Blue M approved, and the product shall be free from defects in material and workmanship for twenty-four (24) months (with the exceptions of the Ultra Temp and LO/GO series, which have a 12 month warranty). Blue M further warrants that any service it performs shall conform to written specifications that Blue M approved and be free from defects in workmanship for twenty-four (24) months (with the exceptions of the Ultra Temp series, which are covered for 12 months. No service warranty for LO/GO series). If a purchaser purchases a TPS Preventive Maintenance & Calibration plan at the end of the warranty period, these limited warranties shall each be extended by twelve (12) months (with the exceptions of the LO/GO series), subject to the exclusions below. If, within that time period, the original purchaser notifies Blue M in writing of an alleged non-conformity, and Blue M determines, to its reasonable satisfaction, that a 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 or Blue M's factory.

► Oven Features

- RKC RF100 Temperature Controller
- Open-air nichrome wire heater elements
- Centrifugal blower wheel
- Adjustable air intake and exhaust dampers
- Adjustable shelves - nickel-plated wire type with 7 shelf positions
- Fiberglass insulation to ensure moderate cabinet skin temperature
- Heavy-duty door - double-wall, insulated construction
- Profiling or single setpoint temperature controls
- Stainless steel interior corrosion resistant, including inner face of door
- All-welded, heavy-duty exterior with heavy-gauge, reinforced cold-rolled steel
- Baked on powder-coated enamel finish on exterior for long-lasting corrosion protection

► Oven Options

- Nickel-plated wire rod shelves
- Glass observation panel
- Floorstand
- Circular chart recorder
- Ability to stack two units vertically (stacking frame)

► Controller Features

- Easy to read digital LCD display
- Enhanced PID control
- Single Setpoint
- Autotuning algorithm to calculate optimum setpoints 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

Controller Options

- Alternate Temperature Controller - Partlow 1166 & 1160
- Alternate Overtemperature Protection- Partlow 1161+ High Limit Controller
- Eagle Signal Model B856 Digital Process Timer
- 24 Hour / 7 Day Digital Timer - Grasslin FM1D
- Chart Recorder



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