

Inert Gas Ovens 146 Series

Processing materials in a controlled atmosphere environment * Dry packaging of electronic components

Blue M ovens have earned a long-standing reputation for exceptional performance, long service life and ease of operation over a broad range of applications.

The Blue M mechanical convection inert gas oven, which we pressure-test at normal operating levels, is ideal for applications that involve processing materials in a controlled atmosphere environment, as well as dry packaging of electronic components.

Oven Features

- ◆ **Heavy gauge steel exterior and stainless steel interior**
 - all exterior panels are at least 16 gauge.
 - interior features reinforced 304 stainless steel.
- ◆ **All welded and sealed inner chamber construction**
 - assures trace oxygen levels and eliminates gas migration into insulation.
- ◆ **Fiberglass insulation**
 - 4 full inches minimizes heat loss.
- ◆ **Baked-on powder-coated blue enamel finish**
 - for long-lasting corrosion protection.
- ◆ **Blue M silicone door seal design**
 - for positive sealing of door.
- ◆ **Suitable for all inert gases and non-flammable forming gas**
 - offers complete process flexibility (maximum 5% H₂, balance N₂).
- ◆ **Standard safety door switch**
 - recycles purge after door is opened to maintain atmosphere integrity.
 - shuts down heaters and blowers when door is opened.

General Specifications

Temperature range: 15°C above ambient to 350°C (662°F)

Uniformity: ±1% of setpoint

Control accuracy: ±0.5°C

Indication resolution: ±0.1°C

Performance data (typical): Run-up to 300°C 60 min. (or less)

- Empty chamber performance at rated voltage -

See opposite for recommended gas flow rates.



Unit shown with optional digital timer

- Model DCI-256 -

Uniform, Accurate and Reliable Temperature Control

- ◆ **Available with profiling or single setpoint temperature controls**
- ◆ **Horizontal air flow**
 - assures uniform thermal performance under all loading conditions.
- ◆ **All stainless steel cooling coil**
 - speeds cool down without risk of contamination.
 - allows near ambient operation dependent on cooling water temperature.
- ◆ **Exclusive Blue M inert gas controls**
 - purge timer to assure full chamber inerting.
 - pressure gauge and pressure relief valve.
 - adjustable flowmeter and purge bypass valve.
- ◆ **Exclusive Blue M gas delivery system**
 - gas introduced at the blower shaft ensures proper mixing and eliminates the possibility of air being drawn into the chamber.
 - stainless steel blower wheel to minimize contamination.
 - maintains positive chamber pressure at all times.
- ◆ **Direct drive blower**
 - multi-blade centrifugal blower.
 - high-volume air delivery.
 - dynamically balanced for minimum vibration and noise.

Blue M 146 Series Inert Gas Ovens

Inert Gas Oven Options

- ◆ Stainless slotted shelves
- ◆ 24-hour, 7-day digital process timer
- ◆ 10" Circular chart recorder
- ◆ Reverse door hinge
- ◆ Floorstand
- ◆ Casters
- ◆ Comm-Link RS-485 to RS-232 converter

Engineered Oven Options

- ◆ Lead-in pipes and ports
- ◆ Redundant overtemperature protection
- ◆ All stainless steel exterior construction
- ◆ Special control systems
- ◆ Space-saving stack oven design
- ◆ Paperless recorder
- ◆ Oxygen analyzer

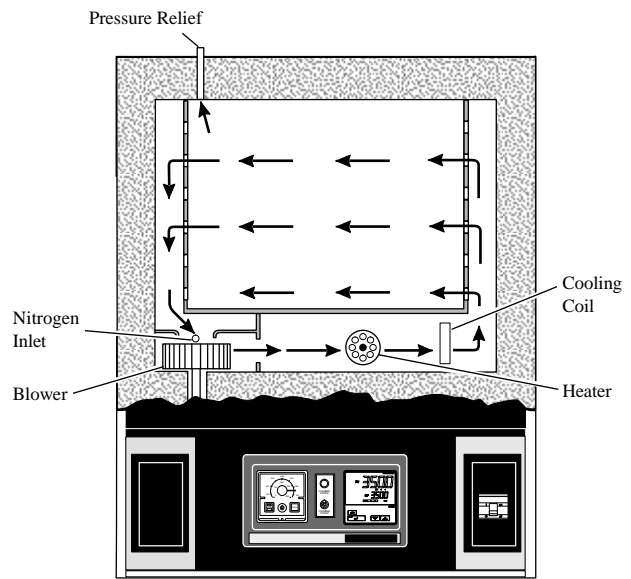
Note: Operation at or below 100°C requires the oven to be connected to a water facility for use of the cooling coil.

Tap water specifications:

Flow rate: 3–4 GPM
 Temperature: 75°F or lower
 Pressure: 30–40 PSI

Recommended Air Flows

Model	Purge (SCFH)	Run (SCFH)
146	100 SCFH for 11 minutes	20
206	120 SCFH for 27 minutes	25
256	200 SCFH for 18 minutes	30
136	200 SCFH for 30 minutes	60
336	200 SCFH for 30 minutes	60
1406	600 SCFH for 24 minutes	120



– Atmosphere Flow –

Condensed Specifications

Model	146 (Bench model)	206 (Bench model)	256 (Bench model)	136 (Floor model)	336 (Floor model)	1406 (Floor model)
Interior Volume ft ³ (l)	1.6 (45.3)	4.2 (119)	5.8 (164)	11.0 (311)	11.0 (311)	24.0 (679)
Interior Dimensions WxDxH in. (mm)	14 x 14 x 14 (356 x 356 x 356)	20 x 18 x 20 (508 x 457 x 508)	25 x 20 x 20 (635 x 508 x 508)	38 x 20 x 25 (965 x 508 x 635)	25 x 20 x 38 (635 x 508 x 965)	48 x 24 x 36 (1219 x 607 x 914)
Exterior Dimensions WxDxH in. (mm)	34 x 30 x 51 (864 x 762 x 1295)	40 x 34 x 57 (1016 x 864 x 1448)	45 x 36 x 57 (1143 x 914 x 1448)	58 x 36 x 71 (1473 x 914 x 1803)	45 x 36 x 84 (1143 x 914 x 2134)	68 x 40 x 82 (1727 x 1016 x 2083)
Machine Footprint ft ² (m ²)	7.1 (.66)	9.4 (.88)	11.25 (1.02)	14.5 (1.35)	11.25 (1.05)	19.0 (1.77)
Electrical Service						
208 VAC 1 Ph 50/60 Hz Line current (per ph)	2.2 kW 14 Amps	3.0 kW 17 Amps	4.2 kW 25 Amps	6.0 kW 33 Amps	6.0 kW 33 Amps	6.8 kW 38 Amps
240 VAC 1 Ph 50/60 Hz Line current (per ph)	3.0 kW 16 Amps	4.0 kW 20 Amps	6.0 kW 29 Amps	8.0 kW 35 Amps	8.0 kW 35 Amps	9.0 kW 44 Amps
208 VAC 3 Ph 50/60 Hz Line current (per ph)	N/A	6.8 kW 20 Amps	9.0 kW 27 Amps	13.5 kW 40 Amps	13.5 kW 40 Amps	18.0 kW 53 Amps
240 VAC 3 Ph 50/60 Hz Line current (per ph)	N/A	9.0 kW 23 Amps	12.0 kW 31 Amps	18.0 kW 46 Amps	18.0 kW 46 Amps	24.0 kW 61 Amps
480 VAC 3 Ph 60 Hz Line current (per ph)	N/A	9.0 kW 12 Amps	12.0 kW 16 Amps	18.0 kW 23 Amps	18.0 kW 23 Amps	24.0 kW 31 Amps

- International voltages available. All specifications are subject to change without notice. -