

Clean Room Ovens 146 Series

Moisture drying * Baking photo resist coating * Parts bakeout

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 clean room oven is suitable for Class 100 or Class 10 areas and designed for a number of applications, including moisture drying, baking photo resist coating and, various parts bakeout processes.

Oven Features

- ◆ **Heavy gauge steel exterior and stainless steel interior**
 - all exterior panels are at least 16 gauge.
 - interior features reinforced 304 stainless steel.
- ◆ **Removable one-piece stainless steel interior**
 - interior features reinforced 304 stainless steel.
- ◆ **All welded and sealed inner chamber construction**
 - assures continuous low particle counts.
- ◆ **Fiberglass insulation**
 - 4 full inches minimizes heat loss.
- ◆ **Baked-on powder-coated clean room white enamel finish**
 - for long-lasting corrosion protection.
- ◆ **Blue M silicone door seal design**
 - for positive sealing of door.
- ◆ **Chamber vent port**
 - for exhausting process by-products.
- ◆ **Inert gas purge**
 - to eliminate moisture and vent out contaminants.
 - adjustable flowmeter.
- ◆ **Exclusive Blue M recirculating HEPA filtered air system**
 - easily removable Class 100 (M3.5) HEPA filter.
 - all recirculated air continuously refiltered; no use of clean room air.
 - sealed from the environment to eliminate risk of facility contamination.

General Specifications

Temperature range: 15°C above ambient to 250°C (482°F)

Uniformity: ±1% of setpoint

Control accuracy: ±0.5°C

Resolution: ±0.1°C

- Empty chamber performance at rated voltage -



- Model DCC-146 -

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.
- ◆ **Double plenum design**
 - removable for thorough inner chamber cleaning.
- ◆ **All stainless steel cooling coil**
 - speeds cool down without risk of contamination.
 - allows near ambient operation dependent on cooling water temperature.
- ◆ **Exclusive Blue M Eterna™ heating elements**
 - most reliable available
 - low-watt density for longer service life.
 - premium alumina ceramic element insulators minimize contamination.
 - standard air flow switch on three-phase models to protect oven and product.
 - loss of airflow safety switch.
- ◆ **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.

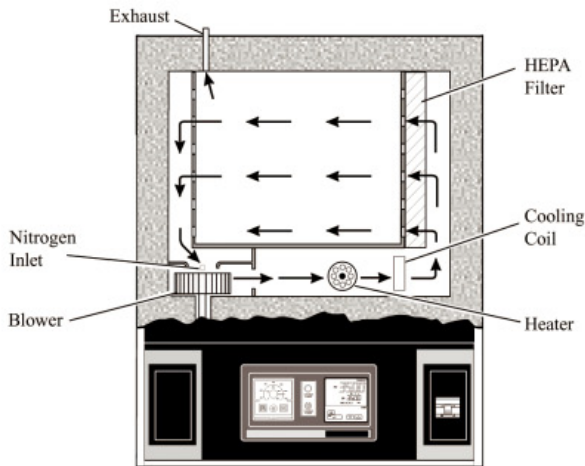
Blue M 146 Series Clean Room Ovens

Clean Room Oven Options

- ◆ Electropolished stainless steel slotted shelves
- ◆ 24-hour, 7-day digital process timer
- ◆ 10" Circular chart recorder
- ◆ Reverse door hinge
- ◆ Floorstand
- ◆ ULPA filter
- ◆ Comm-Link RS-485 to RS-232 converter (available for PRO-550 & PRO-750 controllers only)

Engineered Oven Options

- ◆ Lead-in pipes and ports
- ◆ Redundant overtemperature protection
- ◆ All stainless steel exterior construction
- ◆ Special control systems
- ◆ Space-saving stack oven design
- ◆ Door interlocks
- ◆ Flanged for through-the-wall mounting
- ◆ Class 1000 clean room assembly and packaging
- ◆ High temperature HEPA filter
- ◆ Certified ULPA filter
- ◆ Silicon-free design (limited to 205°C on faceplate)



- Atmosphere Flow

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

Condensed Specifications

Model	146 (Bench model)	206 (Bench model)	256 (Bench model)	336 (Floor model)	1406 (Floor model)
Interior Volume ft ³ (l)	1.2 (34)	3.4 (96)	4.9 (139)	9.4 (266)	21.6 (611)
Interior Dimensions WxDxH in. (mm)	10.5 x 14.0 x 13.7 (267 x 356 x 348)	16.5 x 18 x 19.7 (419 x 457 x 500)	21.5 x 20.0 x 19.7 (546 x 508 x 500)	21.5 x 20.0 x 37.7 (546 x 508 x 957)	43.8 x 23.7 x 35.7 (1112 x 602 x 907)
Exterior Dimensions WxDxH in. (mm)	29.0 x 29.2 x 45.0 (737 x 742 x 1143)	35.0 x 33.2 x 51.0 (889 x 843 x 1295)	40.0 x 33.2 x 51.0 (1016 x 843 x 1295)	40.0 x 34.6 x 77.2 (1016 x 879 x 1961)	63.0 x 38.6 x 74.5 (1600 x 980 x 1892)
Machine Footprint ft ² (m ²)	5.9 (.167)	8.1 (.229)	9.8 (.277)	9.6 (.271)	16.9 (.479)
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	6.8 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	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	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	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	24.0 kW 31 Amps

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