

# 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.



– Model DCC-146 –

## 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 -

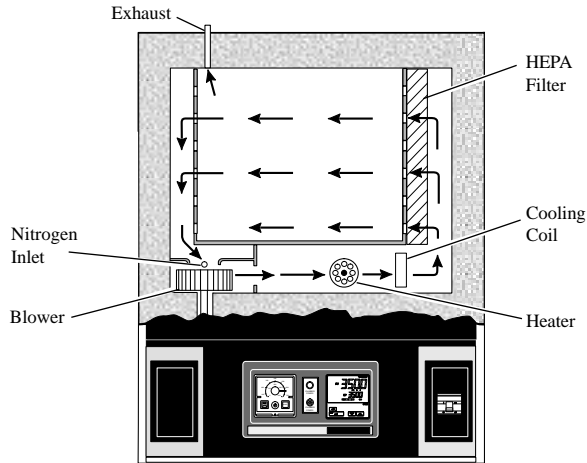
## Uniform, Accurate and Reliable Temperature Control

- ◆ **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)



- Atmosphere Flow

## 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)

**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 <sup>3</sup> (l)                 | 1.2 (34)                                 | 3.4 (96)                                 | 4.9 (139)                                 | 9.4 (266)                                 | 21.6 (611)                                |
| Interior Dimensions<br>WxDxH in. (mm)               | 10.5 x 14.0 x 13.7<br>(267 x 356 x 348)  | 16.5 x 18 x 19.7<br>(419 x 457 x 500)    | 21.5 x 20.0 x 19.7<br>(546 x 508 x 500)   | 21.5 x 20.0 x 37.7<br>(546 x 508 x 957)   | 43.8 x 23.7 x 35.7<br>(1112 x 602 x 907)  |
| Exterior Dimensions<br>WxDxH in. (mm)               | 29.0 x 29.2 x 45.0<br>(737 x 742 x 1143) | 35.0 x 33.2 x 51.0<br>(889 x 843 x 1295) | 40.0 x 33.2 x 51.0<br>(1016 x 843 x 1295) | 40.0 x 34.6 x 77.2<br>(1016 x 879 x 1961) | 63.0 x 38.6 x 74.5<br>(1600 x 980 x 1892) |
| Machine Footprint ft <sup>2</sup> (m <sup>2</sup> ) | 5.9 (.167)                               | 8.1 (.229)                               | 9.8 (.277)                                | 9.6 (.271)                                | 16.9 (.479)                               |
| <b>Electrical Service</b>                           |  |  |   |   |   |
| 208 VAC 1 Ph 50/60 Hz<br>Line current (per ph)      | 2.2 kW<br>14 Amps                        | 3.0 kW<br>17 Amps                        | 4.2 kW<br>25 Amps                         | 6.0 kW<br>33 Amps                         | 6.8 kW<br>38 Amps                         |
| 240 VAC 1 Ph 50/60 Hz<br>Line current (per ph)      | 3.0 kW<br>16 Amps                        | 4.0 kW<br>20 Amps                        | 6.0 kW<br>29 Amps                         | 8.0 kW<br>35 Amps                         | 9.0 kW<br>44 Amps                         |
| 208 VAC 3 Ph 50/60 Hz<br>Line current (per ph)      | N/A                                      | 6.8 kW<br>20 Amps                        | 9.0 kW<br>27 Amps                         | 13.5 kW<br>40 Amps                        | 18.0 kW<br>53 Amps                        |
| 240 VAC 3 Ph 50/60 Hz<br>Line current (per ph)      | N/A                                      | 9.0 kW<br>23 Amps                        | 12.0 kW<br>31 Amps                        | 18.0 kW<br>46 Amps                        | 24.0 kW<br>61 Amps                        |
| 480 VAC 3 Ph 60 Hz<br>Line current (per ph)         | N/A                                      | 9.0 kW<br>12 Amps                        | 12.0 kW<br>16 Amps                        | 18.0 kW<br>23 Amps                        | 24.0 kW<br>31 Amps                        |

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