Industrial Ovens
Engineered to deliver precision temperature performance and long service live.

The ovens in this brochure meet the highest performance standards and cover a broad range of application requirements.

Blue M
Blue M
INDUSTRIAL OVENS

- Designed to satisfy the most challenging applications
- Our engineered-to-order skills can accommodate your unique requirements

Other fine Blue M products:
Over a period of five decades Blue M has evolved into a world class facility for the design, engineering, and manufacture of temperature controlled equipment. The people of Blue M have the technical expertise, skill, and experience that create a product, which delivers a greater return on investment time-and-time again.

The pages of this brochure are filled with photos and descriptions of the finest chambers of their kind on the market. They have been designed to help those who know the value of quality...those whom quality test/production facilities mean quality end-products.

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<td>Inert Gas High Temp</td>
<td>Ultra</td>
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<tr>
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</tbody>
</table>
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.

Today, the Blue M standard mechanical convection oven is ideal for a number of applications, including ASTM testing, epoxy curing, moisture drying, UL testing, aging of electronic components and devices, and other processes and testing requirements.

**Oven Features**

- **Heavy gauge steel exterior and stainless steel interior**
  - all exterior panels are at least 16 gauge.
  - interior features reinforced 304 stainless steel.

- **Welded construction**
  - contributes to Blue M’s legendary strength & reliability.

- **Fiberglass insulation**
  - 4 full inches minimizes heat loss.

- **Baked-on powder-coated white enamel finish**
  - for long-lasting corrosion protection.

- **Blue M silicone door seal design**
  - for positive sealing of door.

- **3-inch diameter lead-in port**
  - in the center of the right side wall for customer test connections.

**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.

- **Exclusive Blue M Etorna™ heating elements**
  - the most reliable available.
  - heavy-gauge high temperature nickel chromium wire.
  - low-watt density for longer service life.
  - standard air flow safety switch on three-phase models to protect oven and product.
  - premium alumina ceramic element insulators.
  - loss of airflow safety switch.

- **Blue M one-pass air flow**
  - controls your profile, including cool down.
  - infinitely variable control from full recirculation to full one pass.
  - optional motorized damper for automatic operation.

- **Direct drive blower**
  - multi-blade centrifugal blower.
  - high-volume air delivery.
  - dynamically balanced for minimum vibration and noise.
Blue M 146 Series Mechanical Convection Ovens

Standard Oven Options

- Nickel plated wire rod or stainless steel slotted shelves
- Door switch
- Motorized intake damper (two-position or proportional)
- Welded and sealed inner chamber
- 24-hour, 7-day digital process timer
- 10" Circular chart recorder
- Reverse door hinge
- Glass observation panel(s)
- Floorstand
- Comm-Link RS-485 to RS-232 converter (available for PRO-550 & PRO-750 controllers only)

Condensed Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>146 (Bench model)</th>
<th>206 (Bench model)</th>
<th>256 (Bench model)</th>
<th>326 (Floor model)</th>
<th>1406 (Floor model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Volume ft³</td>
<td>1.6 (45)</td>
<td>4.2 (119)</td>
<td>5.8 (164)</td>
<td>11.0 (311)</td>
<td>24.0 (680)</td>
</tr>
<tr>
<td>Interior Dimensions WxDxH in. (mm)</td>
<td>14 x 14 x 14 (356 x 356 x 356)</td>
<td>20 x 18 x 20 (508 x 457 x 508)</td>
<td>25 x 20 x 20 (635 x 508 x 508)</td>
<td>25 x 20 x 36 (635 x 508 x 965)</td>
<td>48 x 24 x 36 (1219 x 609 x 914)</td>
</tr>
<tr>
<td>Exterior Dimensions WxDxH in. (mm)</td>
<td>34 x 30 x 43 (854 x 762 x 1092)</td>
<td>40 x 34 x 49 (1016 x 864 x 1245)</td>
<td>45 x 36 x 49 (1143 x 914 x 1245)</td>
<td>45 x 36 x 75 (1143 x 914 x 1905)</td>
<td>68 x 40 x 73 (1727 x 1016 x 1854)</td>
</tr>
<tr>
<td>Footprint ft² (m²)</td>
<td>7.1 (0.66)</td>
<td>9.4 (0.87)</td>
<td>11.0 (1.02)</td>
<td>11.0 (1.02)</td>
<td>19.0 (1.80)</td>
</tr>
</tbody>
</table>

Electrical Service

| 208 VAC 1 Ph 50/60 Hz Line current (per ph) | 2.2 kW 14 Amps | 3.0 kW 20 Amps | 4.2 kW 29 Amps | 6.0 kW 33 Amps | 6.8 kW 36 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 20 Amps | N/A 27 Amps | N/A 27 Amps | N/A 40 Amps | N/A 53 Amps |
| 240 VAC 3 Ph 50/60 Hz Line current (per ph) | N/A 23 Amps | N/A 31 Amps | N/A 31 Amps | N/A 46 Amps | N/A 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. -
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 white 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.

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.

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.
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

<table>
<thead>
<tr>
<th>Model</th>
<th>Purge (SCFH)</th>
<th>Run (SCFH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>146</td>
<td>100 SCFH for 11 minutes</td>
<td>20</td>
</tr>
<tr>
<td>206</td>
<td>120 SCFH for 27 minutes</td>
<td>25</td>
</tr>
<tr>
<td>256</td>
<td>200 SCFH for 18 minutes</td>
<td>30</td>
</tr>
<tr>
<td>336</td>
<td>200 SCFH for 30 minutes</td>
<td>60</td>
</tr>
<tr>
<td>1406</td>
<td>600 SCFH for 24 minutes</td>
<td>120</td>
</tr>
</tbody>
</table>

Condensed Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>146 (Bench model)</th>
<th>206 (Bench model)</th>
<th>256 (Bench model)</th>
<th>336 (Floor model)</th>
<th>1406 (Floor model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Volume ft³ (l)</td>
<td>1.6 (45.3)</td>
<td>4.2 (119)</td>
<td>5.6 (164)</td>
<td>11.0 (311)</td>
<td>24.0 (679)</td>
</tr>
<tr>
<td>Interior Dimensions W x D x H in. (mm)</td>
<td>14 x 14 x 14 (356 x 356 x 356)</td>
<td>20 x 18 x 20 (508 x 467 x 508)</td>
<td>25 x 20 x 20 (635 x 508 x 508)</td>
<td>25 x 20 x 38 (635 x 508 x 965)</td>
<td>45 x 24 x 38 (1143 x 607 x 914)</td>
</tr>
<tr>
<td>Exterior Dimensions W x D x H in. (mm)</td>
<td>34 x 30 x 51 (864 x 762 x 1295)</td>
<td>40 x 34 x 57 (1016 x 864 x 1446)</td>
<td>45 x 35 x 57 (1143 x 894 x 1486)</td>
<td>45 x 36 x 64 (1143 x 914 x 2134)</td>
<td>65 x 40 x 82 (1727 x 1016 x 2032)</td>
</tr>
<tr>
<td>Machine Footprint ft² (m²)</td>
<td>7.1 (0.66)</td>
<td>9.4 (0.88)</td>
<td>11.25 (1.02)</td>
<td>11.25 (1.05)</td>
<td>19.0 (1.77)</td>
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</tbody>
</table>

Electrical Service

<table>
<thead>
<tr>
<th>Model</th>
<th>208 VAC 1 Ph 50/60 Hz</th>
<th>240 VAC 1 Ph 50/60 Hz</th>
<th>208 VAC 3 Ph 50/60 Hz</th>
<th>240 VAC 3 Ph 50/60 Hz</th>
<th>480 VAC 3 Ph 60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line current (per ph)</td>
<td>2.2 kW</td>
<td>3.0 kW</td>
<td>3.0 kW</td>
<td>4.0 kW</td>
<td>9.0 kW</td>
</tr>
<tr>
<td>14 Amps</td>
<td>17 Amps</td>
<td>25 Amps</td>
<td>29 Amps</td>
<td>27 Amps</td>
<td>31 Amps</td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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

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.

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 -
**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)

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

**Condensed Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>148 (Bench model)</th>
<th>206 (Bench model)</th>
<th>296 (Bench model)</th>
<th>338 (Floor model)</th>
<th>1400 (Floor model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Volume ft³ (l)</td>
<td>1.2 (34)</td>
<td>3.4 (96)</td>
<td>4.9 (139)</td>
<td>9.4 (266)</td>
<td>21.5 (611)</td>
</tr>
<tr>
<td>Interior Dimensions Wd×Dh×H (in. (mm))</td>
<td>16.5 x 14.0 x 13.7 (419 x 367 x 348)</td>
<td>21.5 x 20.0 x 19.7 (546 x 508 x 500)</td>
<td>21.5 x 20.0 x 19.7 (546 x 508 x 500)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior Dimensions Wd×Dh×H (in. (mm))</td>
<td>20.0 x 29.2 x 45.0 (508 x 742 x 1143)</td>
<td>40.0 x 33.2 x 51.0 (1016 x 843 x 1295)</td>
<td>40.0 x 33.2 x 51.0 (1016 x 843 x 1295)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Footprint ft² (m²)</td>
<td>5.9 (167)</td>
<td>8.1 (229)</td>
<td>9.8 (287)</td>
<td>9.8 (287)</td>
<td>14.0 (419)</td>
</tr>
</tbody>
</table>

**Electrical Service**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current (per ph)</th>
<th>Power (kw)</th>
<th>Amps</th>
</tr>
</thead>
<tbody>
<tr>
<td>208 VAC 1 Ph 6060 Hz</td>
<td>2.2 kW</td>
<td>4.2 kW</td>
<td>14 Amps</td>
</tr>
<tr>
<td>240 VAC 1 Ph 6060 Hz</td>
<td>3.0 kW</td>
<td>6.0 kW</td>
<td>16 Amps</td>
</tr>
<tr>
<td>208 VAC 3 Ph 5060 Hz</td>
<td>9.8 kW</td>
<td>13.5 kW</td>
<td>30 Amps</td>
</tr>
<tr>
<td>240 VAC 3 Ph 5060 Hz</td>
<td>9.0 kW</td>
<td>16.0 kW</td>
<td>20 Amps</td>
</tr>
<tr>
<td>460 VAC 3 Ph 60 Hz</td>
<td>9.0 kW</td>
<td>16.0 kW</td>
<td>20 Amps</td>
</tr>
</tbody>
</table>

*International voltages available. All specifications are subject to change without notice.*
Industrial Batch Ovens and Batch Truck Ovens

Epoxy curing * Annealing plastics * Preheating * PC board drying * Post mold curing

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 industrial batch ovens have for years been meeting a variety of test and production applications. Their reliability and fine performance have made them the preferred choice of many industries.

**Oven Features**

- **Heavy gauge steel exterior and interior**
  - Interior features reinforced 304 stainless steel.

- **All welded construction**
  - Contributes to Blue M's legendary reliability and strength.

- **Fiberglass insulation**
  - 4 full inches minimizes heat loss.

- **Baked-on powder-coated white enamel finish**
  - For long-lasting corrosion protection.

- **Double-wall, insulated doors**
  - With Blue M silicone rubber seal.
  - Double doors on 48-inch wide models.

- **Side-mounted control compartment**
  - For ergonomic control access (60, 75, 90, and 96 cu. ft. models only).

- **Manually-adjustable intake/exhaust system**
  - Offers rapid cool down or operation close to ambient.

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**General Specifications**

**Temperature range:** 15°C above ambient to 316°C (600°F)

**Extended range:** Available to 399°C (750°F)

**Uniformity:** ± 1.5% of setpoint (up to 36 cu. ft.); ± 2% of setpoint (larger than 36 cu. ft.)

**Control accuracy:** ± 0.5°C

**Indication resolution:** ± 0.1°C

**Performance data (typical):** Run-up to 300°C 45 min.

(60 cu. ft. or less) or 60 min. (larger than 60 cu. ft.)

- Empty chamber performance with intake & exhaust closed at rated voltage.

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**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.

- **Exclusive Blue M Eterna™ heating elements**
  - The most reliable available.
  - Low watt density for longer service life.
  - Premium alumina ceramic element insulators minimize contamination.
  - Cylinder type to assure years of reliable service.

- **Blue M one-pass air flow**
  - Controls your profile, including cool down.
  - Infinitely variable control from full recirculation to full one pass.
  - Optional two-position motorized damper for automatic operation.

- **Direct drive blower**
  - Designed especially for these models.
  - No bearings, pulleys or belts.
  - Motor overload protection.
  - Multi-blade centrifugal blower.
  - High-volume air delivery.
  - Dynamically balanced for minimum vibration and noise.
Blue M Industrial Batch & Truck Ovens

**Standard Oven Options**
- Cold rolled or stainless steel slotted shelves
- High-temperature option capability to 750°F
- High-power for fast heatup, high exhaust or large loads
- Door switch
- Motorized intake damper
  - two-position or proportional
- Welded and sealed inner chamber
- 24-hour, 7-day program timer
- 10" Circular chart recorder
- Reverse door hinge
- Comm-Link RS-485 to RS-232 converter
  (available for PRO-550 & PRO-750 controllers only)

**Engineered Oven Options**
- Additional lead-in ports
- Interior light
- Glass observation panel(s)
- Oversized one-pass airflow system for faster cool down, process control, or process by-product removal
- Redundant overtemperature protection
- Rear access door(s)
- All stainless steel exterior construction
- Special control systems
- Multi-door configurations for process flexibility
- Vertical air flow
- Paperless recorders
- Special shelf locations

**Roll-In-Rack Options**
- Cold-rolled or stainless steel roll-in-racks
- Roll-in-rack shelves
- Special truck channel or flat uninsulated floor for customer designed racks
- Custom designed roll-in-racks for product fixtureing
- Pass-through "tunnel" design with front and rear doors

### Condensed Specifications o Top Mounted Controls

<table>
<thead>
<tr>
<th>Model</th>
<th>246</th>
<th>326</th>
<th>366</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interior Volume</strong> ft³ (l)</td>
<td>24.0 (680)</td>
<td>32.0 (880)</td>
<td>36.0 (992)</td>
</tr>
<tr>
<td><strong>Interior Dimensions</strong> in (mm)</td>
<td>30x24x48 (762x610x1219)</td>
<td>48x24x48 (1219x610x1219)</td>
<td>30x36x48 (762x914x1219)</td>
</tr>
<tr>
<td><strong>Exterior Dimensions</strong> in (mm)</td>
<td>60x39x65 (1524x991x1651)</td>
<td>75x36x65 (1905x914x1651)</td>
<td>60x45x65 (1524x1143x1651)</td>
</tr>
<tr>
<td><strong>Machine Footprint</strong> ft² (m²)</td>
<td>17.1 (1.59)</td>
<td>20.3 (1.88)</td>
<td>22.3 (2.07)</td>
</tr>
<tr>
<td><strong>Electrical Service</strong></td>
<td>Standard</td>
<td>High Power</td>
<td>Standard</td>
</tr>
<tr>
<td>208 VAC 3 Ph 50/60 Hz, Line current (per phase)</td>
<td>11 kW 33</td>
<td>16 kW 51</td>
<td>14 kW 42</td>
</tr>
<tr>
<td>240 VAC 3 Ph 50/60 Hz, Line current (per phase)</td>
<td>14 kW 38</td>
<td>21 kW 58</td>
<td>18 kW 47</td>
</tr>
<tr>
<td>480 VAC 3 Ph 60 Hz, Line current (per phase)</td>
<td>14 kW 19</td>
<td>21 kW 29</td>
<td>18 kW 24</td>
</tr>
</tbody>
</table>

**Condensed Specifications o Side Mounted Controls**

<table>
<thead>
<tr>
<th>Model</th>
<th>606</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interior Volume</strong> ft³ (l)</td>
<td>60.0 (1700)</td>
</tr>
<tr>
<td><strong>Interior Dimensions</strong> in (mm)</td>
<td>36x24x48 (914x610x1219)</td>
</tr>
<tr>
<td><strong>Exterior Dimensions</strong> in (mm)</td>
<td>82x39x65 (2083x991x1651)</td>
</tr>
<tr>
<td><strong>Machine Footprint</strong> ft² (m²)</td>
<td>35.0 (3.25)</td>
</tr>
<tr>
<td><strong>Electrical Service</strong></td>
<td>Standard</td>
</tr>
<tr>
<td>208 VAC 3 Ph 50/60 Hz, Line current (per phase)</td>
<td>19 kW 69</td>
</tr>
<tr>
<td>240 VAC 3 Ph 50/60 Hz, Line current (per phase)</td>
<td>24 kW 68</td>
</tr>
<tr>
<td>480 VAC 3 Ph 60 Hz, Line current (per phase)</td>
<td>24 kW 34</td>
</tr>
</tbody>
</table>

*Left column aligns with optional circular chart recorder*
High-Temperature Ovens
Standard Ultra-Temp®

Annealing * Heat treating * Stress Relieving * Binder burn-out * Ceramic firing

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 standard Ultra-Temp® high-temperature oven is ideal for annealing, heat treating, stress relieving, binder burn-out, ceramic firing and a number of other high-temperature processes. It is industries finest high-temp forced convection oven available.

Oven Features

- Heavy gauge steel exterior
  - all exterior panels are at least 16 gauge.
- All welded and sealed inner chamber construction
  - eliminates fume migration into insulation.
  - interior constructed of type 304 stainless steel.
- Full 1/2-inch steel front chamber mounting plate
  - for strength and dimensional stability.
- All welded construction
  - contributes to Blue M's legendary reliability and strength.
- Baked-on powder-coated white enamel finish
  - for long-lasting corrosion protection.
- Heat shielded door
  - for low skin temperature.
- Mineral wool insulation
  - 6 full inches to minimize heat loss.
- Blue M fiberglass tadpole door gasket design
  - for positive sealing of door.
- Exclusive Blue M Pivot-Lock™ door latch
  - assures optimal sealing of door gaskets at highest operating temperatures.
- Exclusive Blue M dual-gasket door seal design
  - maintains seal integrity at temperatures to 704°C.
- Standard safety door switch
  - shuts down heaters and blowers when door is opened.

General Specifications

- Temperature range: 15°C above ambient to 704°C (1300°F)
- Uniformity: ±2% 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 with intake & exhaust closed 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 various loading conditions.
- Double plenum design
  - tuned for optimal uniformity.
  - removable for cleaning.
- Exclusive Blue M Eterna™ heating elements
  - most reliable available.
  - low-watt density for longer service life.
  - premium alumina ceramic element insulators minimize contamination.
  - air-flow switch for extra protection from burnout.
- Blue M one-pass airflow
  - controls your profile, including cool down.
  - infinitely variable control from full recirculation to full one pass.
  - optional two-position motorized damper for automatic operation.
- High-temperature blower system
  - optimized for reliable high-temperature performance
  - multi-blade centrifugal blower with matched helical scroll.
  - high-volume air delivery for uniform control at extreme temperatures.
  - dynamically balanced for minimum noise and maximum reliability.
  - lifetime lubricated motor.
Blue M Standard Ultra-Temp® Ovens

**Ultra-Temp® Options**
- Stainless steel shelves
- 24-hour, 7-day digital timer
- 10" Circular chart recorder
- Reverse door hinge
- Motorized exhaust damper
- Comm-Link RS-485 to RS-232 converter (available for PRO-550 & PRO-750 controllers only)

**Engineered Oven Options**
- Vycor® glass observation panel
- Redundant overtemperature protection
- Lead-in pipes and ports
- Special control systems

---

### Condensed Specifications — Bottom-Mounted Controls

<table>
<thead>
<tr>
<th>Model</th>
<th>5580</th>
<th>6680</th>
<th>7780</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Volume ft³ (l)</td>
<td>16 (45)</td>
<td>42 (119)</td>
<td>56 (164)</td>
</tr>
<tr>
<td>Interior Dimensions WxDxH in (mm)</td>
<td>14 x 14 x 14 (356 x 356 x 356)</td>
<td>20 x 18 x 20 (508 x 457 x 508)</td>
<td>25 x 20 x 20 (635 x 508 x 508)</td>
</tr>
<tr>
<td>Exterior Dimensions WxDxH in (mm)</td>
<td>44 x 32 x 61 (1117 x 813 x 1560)</td>
<td>50 x 36 x 67 (1270 x 914 x 1702)</td>
<td>56 x 38 x 67 (1427 x 965 x 1702)</td>
</tr>
<tr>
<td>Machine Footprint ft² (m²)</td>
<td>9.7 (0.9)</td>
<td>12.5 (1.16)</td>
<td>14.5 (1.34)</td>
</tr>
</tbody>
</table>

**Electrical Service**
- 208 VAC 3Ph 50/60 Hz Line current (per ph) 9.0 kW 30 12.0 kW 36 15.7 kW 47
- 240 VAC 3 Ph 50/60 Hz Line current (per ph) 12.0 kW 34 16.0 kW 43 21.0 kW 54
- 480 VAC 3 Ph 50 Hz Line current (per ph) N/A 16.0 kW 21 21.0 kW 27

---

### Condensed Specifications — Side-Mounted Controls

<table>
<thead>
<tr>
<th>Model</th>
<th>9910</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Volume ft³ (l)</td>
<td>24.0 (680)</td>
</tr>
<tr>
<td>Interior Dimensions WxDxH in (mm)</td>
<td>48 x 24 x 36 (1219 x 609 x 914)</td>
</tr>
<tr>
<td>Exterior Dimensions WxDxH in (mm)</td>
<td>91 x 45 x 77 (2312 x 1143 x 1955)</td>
</tr>
<tr>
<td>Machine Footprint ft² (m²)</td>
<td>32.2 (2.98)</td>
</tr>
</tbody>
</table>

**Electrical Service**
- 208 VAC 3Ph 50/60 Hz Line current (per ph) 22.6 kW 72
- 240 VAC 3 Ph 50/60 Hz Line current (per ph) 30.0 kW 82
- 480 VAC 3 Ph 60 Hz Line current (per ph) 30.0 kW 41

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*International voltages available. All specifications are subject to change without notice.*
High-Temperature Ovens
Inert Gas Ultra-Temp®

Annealing * Stress relieving * Curing * Aging composite materials * Aging aluminum

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 inert gas Ultra-Temp® high-temperature oven, pressure tested at operating temperatures, is suitable for inert gases and non-flammable forming gas (maximum 5% hydrogen, balance nitrogen).

### Oven Features

- **Heavy gauge steel exterior**
  - all exterior panels are at least 16 gauge.

- **All welded and sealed inner chamber construction**
  - eliminates fume migration into insulation.
  - interior constructed of type 304 stainless steel.

- **Full 1/2-inch steel front chamber mounting plate**
  - for strength and dimensional stability.

- **All welded construction**
  - contributes to Blue M's legendary reliability and strength.

- **Baked-on powder-coated white enamel finish**
  - for long-lasting corrosion protection.

- **Heat shielded doors**
  - for low skin temperature.

- **Mineral wool insulation**
  - 6 full inches to minimize heat loss.

- **Blue M silicone door seal design**
  - for positive sealing of door.

- **Exclusive Blue M Pivot-Lock™ door latch**
  - assures optimal sealing of door gaskets at highest operating temperatures.

- **Standard safety door switch**
  - shuts down heaters and blowers when door is opened.

- **Exceptional atmosphere integrity**
  - down to low parts per million O₂ achievable.

### Uniform, Accurate and Reliable Temperature Control

- **Available with profiling or single setpoint temperature controls**
- **Horizontal air flow**
  - assures uniform thermal performance under various loading conditions.

- **Exclusive Blue M inert gas controls**
  - purge timer to assure full chamber inerting.
  - chamber pressure gauge and pressure relief valve.
  - adjustable flowmeter and purge bypass valve.

- **Exclusive Blue M air-cooled chamber design**
  - forced air cooling surrounds sealed inner chamber to control cool down.
  - prevents oxidation and contamination of product from outside air.

- **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.
  - maintains positive chamber pressure during operation.

- **High-temperature blower system**
  - optimized for reliable high-temperature performance.
  - multi-blade centrifugal blower with matched helical scroll.
  - high-volume air delivery for uniform control at extreme temperatures.
  - dynamically balanced for minimum noise and maximum reliability.
  - lifetime lubricated motor.

### General Specifications

Temperature range: 50°C above ambient to 593°C (1100°F)
Uniformity: ±2% of setpoint
Control Accuracy: ±0.5°C
Resolution: ±0.1°C
Performance Data (typical):
- Run time: 60 min. (6680, 7780, 8880); 90 min. (9980)
- Cool down time: 90 min. (6680, 7780); 120 min. (8880, 9980)

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- Unit shown with optional circular chart recorder.
- Model IGF-7780
Blue M Inert Gas Ultra-Temp® Ovens

Ultra-Temp® Oven Options

- Stainless steel shelves
- 24-hour, 7-day digital timer
- 10" Circular chart recorder
- Reverse door hinge
- Motorized exhaust damper for cooling system
- Comm-Link RS-485 to RS-232 converter (available for PRO-550 & PRO-750 controllers only)

Recommended Gas Flow Rates

<table>
<thead>
<tr>
<th>Model</th>
<th>Purge (SCFH)</th>
<th>Run (SCFH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6680</td>
<td>100 SCFH for 27 minutes</td>
<td>30</td>
</tr>
<tr>
<td>7780</td>
<td>200 SCFH for 18 minutes</td>
<td>33</td>
</tr>
<tr>
<td>8880</td>
<td>200 SCFH for 33 minutes</td>
<td>65</td>
</tr>
<tr>
<td>9980</td>
<td>200 SCFH for 24 minutes</td>
<td>120</td>
</tr>
</tbody>
</table>

Engineered Oven Options

- Redundant overtemperature protection
- Lead-in pipes and ports
- Special control systems
- Water-cooled door jacket
- O₂ Analyzer
- Paperless recorder

Condensed Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>6680</th>
<th>7780</th>
<th>9980</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Volume ft³ (l)</td>
<td>4.2 (119)</td>
<td>5.8 (164)</td>
<td>24.0 (680)</td>
</tr>
<tr>
<td>Interior Dimensions in (mm)</td>
<td>20 x 18 x 20 (508 x 457 x 508)</td>
<td>25 x 20 x 20 (635 x 508 x 508)</td>
<td>48 x 24 x 26 (1219 x 610 x 610)</td>
</tr>
<tr>
<td>Exterior Dimensions in (mm)</td>
<td>35 x 35 x 76 (900 x 899 x 1900)</td>
<td>62 x 37 x 76 (1570 x 940 x 1930)</td>
<td>92 x 43 x 84 (2335 x 1092 x 2130)</td>
</tr>
<tr>
<td>Machine Footprint ft² (m²)</td>
<td>13.4 (1.24)</td>
<td>15.93 (1.48)</td>
<td>31.9 (2.96)</td>
</tr>
</tbody>
</table>

Electrical Service

<table>
<thead>
<tr>
<th>Voltage</th>
<th>208 VAC 3 Ph 50/60 Hz</th>
<th>240 VAC 3 Ph 50/60 Hz</th>
<th>480 VAC 3 Ph 60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Current (per ph)</td>
<td>12.5, 15.7, 22.5 kW</td>
<td>16.0, 21.0, 30.0 kW</td>
<td>16.0, 21.0, 30.0 kW</td>
</tr>
<tr>
<td>Line Current (per ph)</td>
<td>38, 47, 72 A</td>
<td>43, 54, 82 A</td>
<td>21, 27, 41 A</td>
</tr>
</tbody>
</table>

- International voltages available. All specifications are subject to change without notice.
Processing Oven
ESP-400 Series

Electronic component processing * Plastic heat treating * Annealing * Aging * Curing

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 ESP-400 mechanical convection horizontal airflow 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 airflow 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 horizontal airflow offers excellent temperature uniformity.

Oven Features

- **All-welded, heavy-duty exterior**
  - heavy-gauge, reinforced cold-rolled steel.
- **Stainless steel interior**
  - corrosion resistant, including inner face of door.
- **Adjustable shelves**
  - nickel-plated wire type.
  - 7 shelf positions.
- **Baked-on powder-coated white enamel finish**
  - for long-lasting corrosion protection.
- **Fiberglass insulation**
  - to ensure moderate cabinet skin temperature.
- **Heavy-duty door**
  - double-wall, insulated construction.

Uniform, Accurate and Reliable Temperature Control

- **Available with profiling or single setpoint temperature controls**
- **Adjustable one-pass airflow 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**
  - the most reliable available.
  - heavy-gauge high temperature nickel chromium wire.
  - low-watt density of longer service life.
  - premium alumina ceramic element insulators.
- **UL-listed standard models ESP-400B/C-UL and ESP-400A-UL**

Please note:
The Blue M ESP-400 Processing Oven is not designed or intended for use with volatile, flammable, or hazardous materials.

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General Specifications

Temperature range: 15°C above ambient to 260°C
Uniformity: ±1% of setpoint
Control Accuracy: ±0.5°C
Indication Resolution: 1°C

Run-up Time to 260°C (no load/no exhaust):
- 20 minutes at 240V
- 30 minutes at 208V
- 60 minutes at 120V

- Empty chamber performance with intake & exhaust closed at rated voltage -
Blue M ESP-400 Processing Ovens

The setpoint and process variables appear on a bright, easy-to-read LED display. Setpoints are adjustable to 1°C resolution.

The main control regulates temperature by switching heater power through a solid state relay circuit.

An FM-approved independent overtemperature protection system is provided. This control disconnects heater and motor power and alarms an audible buzzer until manually reset by the user.

Oven Options

- Welded and sealed inner chamber (vapor tight)
- Nickel-plated wire rod shelves
- Glass observation panel
- Floorstand
- 10" Circular chart recorder
- Stacking frame

ESP-400 Condensed Specifications

<table>
<thead>
<tr>
<th>Capacity ft³</th>
<th>Inside Dimensions WxDxH in./mm</th>
<th>Overall Dimensions WxDxH in./mm</th>
<th>Heater kW</th>
<th>Full Load Amps</th>
<th>Voltage 1 Phase 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8</td>
<td>19 x 15 x 18 (480 x 380 x 450)</td>
<td>32 x 24 x 37 (800 x 610 x 940)</td>
<td>1.5 @ 120V</td>
<td>16.5 @ 120V</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.6 @ 208V</td>
<td>13.5 @ 208V</td>
<td>208</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.4 @ 240V</td>
<td>15.5 @ 240V</td>
<td>240</td>
</tr>
</tbody>
</table>

- All specifications are subject to change without notice.
STL-05
Stacked Oven

Curing polyimide coatings * Moisture drying * Baking photo resist coating

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 STL series integrally-stacked Blue M mechanical convection oven is suitable for curing, drying, and baking in semiconductor, electronic, and many other industrial applications.

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 stainless steel interior
  - permits easy access for periodic cleaning.
  - interior features reinforced 304 stainless steel.

◆ All welded and sealed construction
  - assures chamber integrity.

◆ Fiberglass insulation
  - 4 full inches minimizes heat loss.

◆ Baked-on powder-coated 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.

◆ Suitable for inert gas purge
  - to eliminate moisture and vent out contaminants.
  - adjustable inert gas flowmeter.

General Specifications

Temperature range: 15°C above ambient to 316°C (650°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

◆ All stainless steel cooling coil
  - speeds cool down without risk of contamination.
  - allows near ambient operation depending on cooling water temperature.

◆ Exclusive Blue M Eterna™ heating element
  - most reliable available.
  - low-watt density for longer service life.
  - premium alumina ceramic element insulators minimize contamination.
  - standard air flow switch to protect oven and product.

◆ Direct drive blower
  - multi-blade centrifugal blower.
  - high-volume air delivery.
  - dynamically balanced for minimum noise.
### STL-05 Stacked Oven

#### STL-05 Oven Options
- 24-hour, 7-day digital process timer
- Circular or strip chart recorder
- RS-232/RS-485 communications converter
- Light tower
- Emergency Power Off switch (EMO)
- Spec View® data acquisition software
- NIST traceable certificate of calibration
- Dry box oven with N₂ gas system

#### Engineered Oven Options
- Lead-in ports
- Redundant overtemperature protection
- All stainless steel exterior construction
- Special control systems
- Door interlocks
- Class 1000 clean room assembly and packaging
- Standard air model
- Customer specified options as factory proposed and authorized
- Reverse door hinge
- 5-point thermocouple survey
- Temperature deviation alarms
- Filtered process air/atmosphere intake
- N₂ low flow switch alarm
- N₂ low pressure switch alarm

### Condensed Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>STL-05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Volume ft³ (per oven)</td>
<td>5.8 (164)</td>
</tr>
<tr>
<td>Interior Dimensions (per oven)</td>
<td>25.5x20.2x20.0 (650x500x500)</td>
</tr>
<tr>
<td>Exterior Dimensions (per set)</td>
<td>52.3x49.0x71.0 (1329x1245x1800)</td>
</tr>
<tr>
<td>Machine Footprint ft² (sq ft)</td>
<td>17.75 (1.65)</td>
</tr>
</tbody>
</table>

#### Electrical Service

<table>
<thead>
<tr>
<th>Voltage</th>
<th>208 VAC 1 Ph 50/60 Hz</th>
<th>240 VAC 1 Ph 50/60 Hz</th>
<th>208 VAC 3 Ph 50/60 Hz</th>
<th>240 VAC 3 Ph 50/60 Hz</th>
<th>480 VAC 3 Ph 60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line current (per ph)</td>
<td>25 Amps</td>
<td>29 Amps</td>
<td>27 Amps</td>
<td>31 Amps</td>
<td>16 Amps</td>
</tr>
<tr>
<td>Line current (per ph)</td>
<td>4.2 kW</td>
<td>6.0 kW</td>
<td>9.0 kW</td>
<td>12.0 kW</td>
<td>12.0 kW</td>
</tr>
</tbody>
</table>

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

Today, the CC-09 series Mechanical Convection Oven is better than ever. It has been redesigned with care to maintain all of Blue M’s superior qualities, along with improvements to provide greater performance in a number of areas.

### Oven Features

- Door skin temperature is under 40°C at all times, even at a 350°C chamber temperature.
- Blower placement ensures excellent airflow over heaters for optimum efficiency.
- All service connections are accessible from the top and side of the oven.
- Easy-to-operate latch.
- Inert gas model.
- Clean room model.
- Dry box model.

### General Specifications

- **Temperature range:** 15°C above ambient to 350°C (682°F)
- **Uniformity:** ±0.75% 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 with exhaust closed and 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.
- **Quality heater**
  - low-watt density for longer service life.
  - standard air flow switch to protect oven and product.
- **Blue M one-pass air flow**
  - controls your profile, including cool down.
  - infinitely variable control from full recirculation to full one pass.
  - optional motorized damper for automatic operation.
- **Direct drive blower**
  - multi-blade centrifugal blower.
  - high-volume air delivery.
  - dynamically balanced for minimum noise.
CC-09 Ovens

Standard Features

- **Type 304 stainless steel interior**
  - 18 gauge construction for excellent corrosion resistance.

- **Heavy gauge steel exterior**
  - all cabinet panels are at least 16 gauge.

- **Welded construction**
  - contributes to Blue M's legendary strength & reliability.

- **Fiberglass insulation**
  - minimizes heat loss.

- **Baked-on powder-coated blue enamel finish**
  - for long-lasting corrosion protection.

- **EXCLUSIVE Blue M silicone door seal**
  - for positive sealing of the door.

**Note:** For inert gas and clean room models 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: 30–60 PSI

**Condensed Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>CC-09 Standard &amp; Inert Gas</th>
<th>CC-09 Clean Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Volume ft³</td>
<td>9.0 (255)</td>
<td>7.85 (222)</td>
</tr>
<tr>
<td>Interior Dimensions</td>
<td>25 x 25 x 25 (635 x 635 x 635)</td>
<td>21.7 x 25 x 25 (551 x 635 x 635)</td>
</tr>
<tr>
<td>Exterior Dimensions</td>
<td>43.25 x 37.5 x 66.5 (1099 x 953 x 1689)</td>
<td>45.5 x 37.5 x 66.5 (1099 x 953 x 1689)</td>
</tr>
<tr>
<td>Electrical Service</td>
<td>standard high power</td>
<td>standard high power</td>
</tr>
<tr>
<td>208 VAC 1 Ph 50/60 Hz Line current (per ph)</td>
<td>5.5 kW 31 Amps</td>
<td>5.5 kW 31 Amps</td>
</tr>
<tr>
<td>240 VAC 1 Ph 50/60 Hz Line current (per ph)</td>
<td>7.2 kW 34 Amps</td>
<td>7.2 kW 34 Amps</td>
</tr>
<tr>
<td>208 VAC 3 Ph 50/60 Hz Line current (per ph)</td>
<td>5.5 kW 19 Amps</td>
<td>12.3 kW 37 Amps</td>
</tr>
<tr>
<td>240 VAC 3 Ph 50/60 Hz Line current (per ph)</td>
<td>7.2 kW 21 Amps</td>
<td>16.2 kW 42 Amps</td>
</tr>
<tr>
<td>480 VAC 3 Ph 60 Hz Line current (per ph)</td>
<td>7.2 kW 10 Amps</td>
<td>7.2 kW 10 Amps</td>
</tr>
</tbody>
</table>

- All specifications are subject to change without notice.

**Oven Options**

- Nickel-plated wire rod or stainless steel slotted shelves
- Glass observation panel(s)
- Digital program process timer
- Motorized intake damper
- Side-mounted control
- Interior light(s)
- Redundant overtemperature protection
- Lockable fused disconnect
- Status indicator (audible totem pole type)
- N₂ purge
- Welded and sealed inner chamber (vapor tight)
- 10” Circular chart recorder
- Loss of airflow safety switch on single phase models
- Process door interlock
- Door switch
- Reverse hinged door
- Certificate of calibration
Blue M Control System Packages

The Blue M Pro-750 and Pro-550 are designed for reliability and ease of operation, and include a full range of standard features.

◆ Double-size 5 digit LED display for easy viewing from a distance.

◆ Built-in autotuning allows optimal setting of PID parameters at the touch of a button.

◆ Eight sets of PID settings for each output enable the system to have custom PIDs for various portions of your profile.

◆ “Super” function improves performance by “learning” about a system's responses to process changes. Signal interference and energy efficiency are factored into the temperature controller's operation.

◆ Manual mode enables control of output for troubleshooting.

◆ LCD display can be configured to display thermal profiles, setpoint temperature, process specific text, or other parameters.

◆ Storage capacity of up to 300 programs containing up to 99 segments per program, or 3,000 segments total (Pro-750), or 30 programs containing up to 99 segments per program, or 300 total (Pro-550).

◆ Can be used to control cooling features such as proportional dampers or a cooling coil.

◆ Password protection can be used to prevent unauthorized users from changing programs or accessing critical settings.

◆ RS-485 communications port.

◆ Optical communications interface offers quick connection to a PC.

◆ Local mode enables operation as a single setpoint control, enabling operation without creating a program.

◆ FM approved overtemperature protection is provided by an independent control device.

Blue M Pro-750 Offers Cascade Control

A Cascade control can reduce thermal response time by 50% or more. This system offers an advantage over "traditional" controls by conditioning air temperature, based on input from both the part temperature and the air temperature. The controller raises the air temperature (with preset limits) to above setpoint, driving your product toward the desired temperature as fast as possible. As the product approaches setpoint, the air temperature will drop to provide near zero product temperature overshoot.
Standard Blue M Control System Features

The Blue M control system packages are designed for reliability, ease of operation, and include a full range of standard features.

- Double-size 4 digit LED display for easy viewing from a distance.
- Built-in autotuning allows optimal setting of PID parameters at the touch of a button.
- Four sets of PID settings for each output enable the system to have custom PIDs for various portions of your profile.
- "Super" function improves performance by "learning" about a system's responses to process changes. Signal interference and energy efficiency are factored into the temperature controller's operation.
- Manual mode enables control of output for troubleshooting.

Stat-350 Single Setpoint Control System

- Simultaneously displays process temperature and setpoint temperature.
- Simple operation—just press the up arrow to raise temperature; down arrow to lower temperature.
- Optional timers can be used in conjunction with this control, offering an economical and easy-to-use solution to timed processes.

Pro-350 Programmable Control System

- Simultaneously displays process temperature and setpoint temperature.
- Storage capacity of up to 2 programs containing up to 10 segments per program.
- Password protection can be used to prevent unauthorized users from changing the programs or accessing critical settings.
- Local mode enables operation as a single setpoint control, enabling operation without creating a program.

Overtemperature Protection

Blue M Temp Limit

The standard Temp Limit Control for the Blue M Pro-750, Pro-550, Pro-350, or Stat-350 offers overtemperature protection to protect oven and product. Heaters are latched off, requiring manual reset to restore normal operation. Audible and visual alarms alert operator of fault conditions. The device is UL recognized and FM approved.
Optional Analog and Digital Timers

Analog Process Timer
The analog timer enables the oven to be used for simple timed thermal processes. The Stat-350 controller will establish the temperature setpoint. When the oven is at setpoint and the product is loaded, the operator depresses the "Timer" push-button. The oven will remain at setpoint until the timer expires, at which time, an alarm will sound and the oven will shut off. Pressing the "Timer" button again will silence the alarm and bring the oven back to setpoint. The timer is adjustable up to 10 hours.

Digital Process Timer
The digital timer enables the oven to be used for simple timed processes which require more precise settings or longer cycle settings. The Stat-350 controller will establish the temperature setpoint. The operator presses "Start" when the oven is at setpoint and the product is loaded. The "Timing" light will illuminate and the oven will maintain this setting for the duration of the time established by the timer. When the timer expires, the oven will shut off. A "Reset" button is provided to reset the system for the next cycle. When reset is pressed, the oven will ramp back to setpoint in preparation for the next load. The timer is adjustable up to 9,999 hours.

Digital 7-Day/24-Hour Timer
The 7-Day/24-Hour timer enables the oven to automatically shut off at night and turn on and ramp back to setpoint before your work day starts in the morning. The timer can be programmed to have different hours of operation for any day of the week (enabling the oven to remain off over the weekend). The timer can be programmed with up to 10 on/off cycles which can be assigned to any combination of days (enabling the oven to turn on and off multiple times per day as desired). The Stat-350 controller is used to control the temperature setpoint when the oven is on.

Optional Data Recorders

SR-1000 Recorder
- Single-pen strip chart recorder.
- 3.9-inch (100mm) recording area.
- Measures, displays, and records temperature.
- Compact size allows mounting along side of the control console, preserving equipment footprint.
- Annotator pen logs date, time, alarms and configuration messages on chart paper.

MRC-5000 Recorder
- Single-pen strip chart recorder.
- Measures, displays, and records temperature.
- Easy configuration.
- Setup parameters are stored in a memory type (non-volatile) that does not require battery backup. There are no batteries to wear out or replace.
- Labels are provided that can be affixed over the MODE switch, providing a dated "calibration seal" and protecting the instrument from unauthorized changes.
Pro Series Control System
Communications Hardware/Software

Options
◆ LL100 programming software
◆ Spec View data acquisition software
◆ Light loader for loading programs
◆ Multi-point data acquisition system
◆ Remote service/support package

LL 100 programming software
Provides simplified programming. Easy to install.

Spec View® data acquisition software
Provides data logging of chamber temperature(s). Data can be displayed and printed in tables or graphs. A Windows® interface is user-friendly.

Light loader for loading programs
Provides quick connection to PC for transferring programs.

Multi-point data acquisition system
Device reads multiple thermocouples and can retransmit reading to Spec View software.

Remote service/support package
Modem in equipment provides link from factory directly to controller.

Spec View is a registered trademark of Spec View, LLC
Windows is a registered trademark of Microsoft Corporation
When it comes to replacement parts for your Blue M equipment, why accept anything but the real thing?

No one gives you the parts, service, and on-time delivery you’ll receive from our factory-direct parts team.

• On-time shipments
• Emergency service/shipments
• 24-hour shipment on in-stock parts
• Technical engineering support
• Guaranteed replacement fit
• Regional service contractors
Blue M Warranty

All Blue M ovens are warranted, from date of shipment, for one-year parts and labor; three-year exchange warranty on standard controls.

Fulfilling your parts and service expectations to keep you up-and-running.
OUTSTANDING CUSTOMER SUPPORT

- Highly qualified, factory trained technical support staff to assist you in identifying your equipment problems and parts needs.
- Customized maintenance agreements available to meet your equipment’s preventive maintenance needs.

This brochure outlines a number of products available for the applications described. If you have any questions or need assistance on any aspect of what is presented here, please contact us.