thermo scientific

# Thermo Scientific Laboratory Products

## Every Lab, Every Day

ThermoFisher SCIENTIFIC

# **optimize** your productivity

**Welcome to the Thermo Scientific Laboratory Products Every Lab, Every Day catalog** featuring a wide range of essential solutions ideal for maximizing your daily work.

From heating, stirring and shaking to water purification and fluid handling products, we hope you find this catalog an invaluable resource for selecting the laboratory solutions required to produce consistent, optimal work...in every lab, every day—all backed by the quality, value and expertise you've come to expect from us.

**Please visit our web site, www.thermofisher.com/everylab for additional information and resources.**

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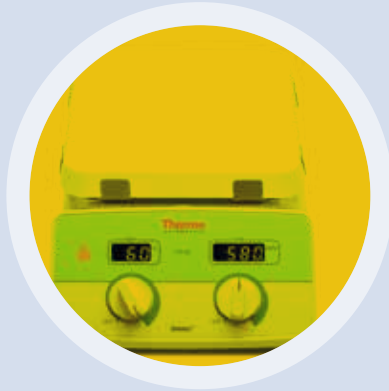

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# dry baths/ block heaters

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# Thermo Scientific Digital Dry Bath / Block Heater

**Increase lab versatility with the Thermo Scientific digital dry baths / block heaters, which offer a range of configurations with interchangeable modular blocks for a variety application needs.**

- Digital controls and display of time and temperature
- Built-in temperature sensing probe for outstanding temperature accuracy and control
- 1, 2 and 4 block sizes
- Precise temperature control with PID circuit
- Temperature calibration enables to offset the temperature to desired value
- Timer allows the user to accurately monitor the heating time
- Interchangeable aluminum alloy sample blocks provide versatility and allow for easy cleaning and disinfecting
- Powder-coated steel body construction ensures durability

## Applications

Sample preparation

Enzyme preservation

Enzyme-substrate reactions

DNA amplification

Electrophoresis gel degeneration

Serum coagulation

| Cat No. | 88870001 | 88870004 | 88870002 | 88870005 | 88870003 | 88870006 |
|---|---|---|---|---|---|---|
| Voltage/Hz | 100-120V 50/60Hz | 200-240V 50/60Hz | 100-120V 50/60Hz | 200-240V 50/60Hz | 100-120V 50/60Hz | 200-240V 50/60Hz |
| Plugs | | | | | | |
| Block Capacity | 1 | | 2 | | 4 | |
| Controller Type | PID digital | | | | | |
| Temperature Range | Ambient + 5°C – 130°C (Ambient at 25°C) | | | | | |
| Temperature Control Accuracy at 37°C | ≤ ± 0.5°C | | | | | |
| Temperature Uniformity at 37°C | ≤ ± 1°C | | | | | |
| Timer Range | 0-99:59 min or continuous | | | | | |
| Heating Up Time | ≤ 20 min 30°C to 130°C | | | | ≤ 25 min 30°C to 130°C | |
| Relative Humidity Tolerance | ≤ 80% | | | | | |
| Dimensions L x W x H | 288 × 200 × 100 mm 11.3 x 7.9 x 3.9 in | | 318 × 200 × 100 mm 12.5 x 7.9 x 3.9 in | | 450 × 200 × 100 mm 17.7 x 7.9 x 3.9 in | |
| Weight | 2.9 kg 6.39 lbs. | | 3.3 kg 7.28 lbs. | | 4.7 kg 10.36 lbs. | |
| Fuse Protector ø5×20 | 250V 2.5A | | 250V 5A | 250V 2.5A | 250V 8A | 250V 3.15A |
| Shipment Includes: | Dry bath, US style plug, block lifter* | Dry bath, CN, EU & UK plugs, block lifter* | Dry bath, US style plug, block lifter* | Dry bath, CN, EU & UK plugs, block lifter* | Dry bath, US style plug, block lifter* | Dry bath, CN, EU & UK plugs, block lifter* |
| Required Accessories | 1 block | | 2 blocks | | 4 blocks | |
| Certification | CE cULus RoHS | | | | | |
| Warranty | 2 years | | | | | |

**Unit must be ordered with a block. *Block lifter secured in back of unit.**

# Thermo Scientific Touch Screen Dry Bath/Block Heater

**Designed to achieve precise temperature stability and uniformity with an easy-to-use touch screen.**

- Built-in temperature sensing probe designed for outstanding temperature accuracy and control
- Temperature deviation adjustment
- Precise temperature control with PID circuit
- Temperature calibration enables to offset the temperature to desired value
- Timer enables the user to accurately monitor the heating time
- Easy-to-use touch screen control
- Programmable: Up to 10 programs with 5 steps per program
- Interchangeable aluminum alloy sample blocks designed to provide versatility, easy cleaning and disinfecting
- Range of configuration to hold 1, 2 and 4 interchangeable modular blocks to accommodate a variety of vessels and applications
- Powder-coated steel body construction ensures durability
- When the external temperature sensor is connected, the internal temperature sensor will disconnect automatically, allowing the temperature control and display to rely on the external temperature sensor

## Applications

- Sample preparation
- Enzyme preservation
- Enzyme-substrate reactions
- DNA amplification
- Electrophoresis gel degeneration
- Serum coagulation

| Cat No. | 88870007 | 88870010 | 88870008 | 88870011 | 88870009 | 88870012 |
|---|---|---|---|---|---|---|
| **Voltage/Hz** | 100-120V 50/60Hz | 200-240V 50/60Hz | 100-120V 50/60Hz | 200-240V 50/60Hz | 100-120V 50/60Hz | 200-240V 50/60Hz |
| **Plugs** | | | | | | |
| **Block Capacity** | 1 | | 2 | | 4 | |
| **Controller Type** | PID Digital | | | | | |
| **Temperature Range** | Ambient + 5°C – 130°C (Ambient at 25°C) | | | | | |
| **Temperature Control Accuracy at 37°C** | ≤ ± 0.5°C | | | | | |
| **Temperature Uniformity at 37°C** | ≤ ± 1°C | | | | | |
| **Timer Range** | 0-99:59 min or continuous | | | | | |
| **Heating Up Time** | ≤ 20 min 30°C to 130°C | | | | ≤ 25 min 30°C to 130°C | |
| **Relative Humidity Tolerance** | ≤ 80% | | | | | |
| **Dimensions L x W x H** | 373 × 200 × 100 mm 14.7 x 7.9 x 3.9 in | | 403 × 200 × 100 mm 15.9 x 7.9 x 3.9 in | | 535 × 200 × 100 mm 21.1 x 7.9 x 3.9 in | |
| **Weight** | 3.4 kg 7.5 lbs. | | 3.7 kg 8.16 lbs. | | 5.1 kg 11.24 lbs. | |
| **Fuse Protector ø5×20** | 250V 2.5A | | 250V 5A | 250V 2.5A | 250V 8A | 250V 3.15A |
| **Shipment Includes:** | Dry bath, US style plug, block lifter* | Dry bath, CN, EU & UK plugs, block lifter* | Dry bath, US style plug, block lifter* | Dry bath, CN, EU & UK plugs, block lifter* | Dry bath, US style plug, block lifter* | Dry bath, CN, EU & UK plugs, block lifter* |
| **Required Accessories** | 1 block | | 2 blocks | | 4 blocks | |
| **Certification** | CE cULus RoHS | | | | | |
| **Warranty** | 2 years | | | | | |

***Block lifter secured in back of unit**

# Thermo Scientific Compact Dry Bath / Block Heater

**Maximize valuable bench space with our compact, light weight dry bath / block heater, available with multiple combinations of block sizes for tube size versatility.**

Compact Dry Bath S

Compact Dry Bath D

- Digital temperature controls and display
- Small footprint and lightweight
- Built-in temperature-sensing probe assists with outstanding temperature accuracy and control
- Designed for precise temperature control
- Fast heating rate
- Multiple combination of different size of blocks allows for maximum tube size versatility during experimental procedure
- 12V low voltage power input

## Applications

- Sample preparation
- Enzyme preservation
- Enzyme-substrate reactions
- DNA amplification

| Cat No. | 88871001 | 88871003 | 88871002 | 88871004 |
|---|---|---|---|---|
| Plugs | | | | |
| Name | Compact Dry Bath S | | Compact Dry Bath D | |
| Voltage | 100 - 240V | | | |
| Temperature Range | Ambient + 2°C – 100°C (Ambient at 25°C) | | | |
| Temperature Control Accuracy at 37°C | ≤ ± 0.5°C | | | |
| Temperature Uniformity at 37°C | ≤ ± 0.5°C | | | |
| Average Heating Rate (30°C to 100°C, Ambient at 25°C, with one 0.2 ml block) | 16 minutes | | 20 minutes | |
| Dimensions L x W x H | 185 x 185 x 25 mm 7.3 x 7.3 x 1 in | | 200 x 200 x 25 mm 7.9 x 7.9 x 1 in | |
| Weight | <1 kg 2.2 lbs. (without blocks) | | <1.5 kg 3.3 lbs. (without blocks) | |
| Power | 12V DC, 5A | | 12V DC, 7A | |
| Shipment Includes: | Dry bath, US style plug, block lifter, plastic lid | Dry bath, CN, EU & UK style plugs, block lifter, plastic lid | Dry bath, US style plug, block lifter, plastic lid | Dry bath, CN, EU & UK style plugs, block lifter, plastic lid |
| Required Accessories | Full, half or quarter blocks (see Page 134) | | | |
| Certification | CE cTUVus RoHs | | | |
| Warranty | 2 years | | | |

***Unit must be ordered with a tube block; see next page.**

# Thermo Scientific Digital and Touch Screen Dry Baths/Block Heaters

| | Cat. No. | Block Description | Max Tubes | Block Dimensions WxDxH (mm / in) |
|---|---|---|---|---|
| | **88870101** | Flat bottom<br>46 x 6 mm dia<br>31mm depth | 46 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870102** | Flat bottom<br>28 x 10 mm dia<br>31mm depth | 28 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870103** | Conical bottom<br>28 x 1.5 mL<br>10.8 mm dia<br>31mm depth | 28 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870104** | Conical bottom<br>28 x 2.0 mL<br>10.8 mm dia<br>31mm depth | 28 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870105** | Flat bottom<br>28 x 13 mm dia<br>31mm depth | 24 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870106** | Flat bottom<br>15 x 16 mm dia<br>31mm depth | 15 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870107** | Flat bottom<br>12 x 18 mm dia<br>31mm depth | 12 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870108** | Flat bottom<br>8 x 20 mm dia<br>31mm depth | 8 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870109** | Flat bottom<br>6 x 25 mm dia<br>31mm depth | 6 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870110** | Conical bottom<br>40 x 0.5 mL<br>8 mm dia<br>21mm depth | 40 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870111** | 1 x 96-well ELISA | 96 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |

| | Cat. No. | Block Description | Max Tubes | Block Dimensions WxDxH (mm / in) |
|---|---|---|---|---|
| | **88870112** | 32 x 6 mm dia &<br>21 x 10 mm dia<br>31 mm depth | 32 + 21 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870113** | 32 x 6 mm dia &<br>21 x 10 mm dia<br>31 mm depth | 18 + 10 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870114** | 3 x 25 mm dia & 12 x<br>12–13 mm dia &<br>6 x 6 mm dia<br>31 mm depth | 3 + 12<br>+ 6 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870115** | Mixed block<br>30 x 0.5 mL &<br>20 x 0.2 mL<br>31mm depth | 30 + 20 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870116** | Flat bottom<br>15 x 15 mL<br>17mm dia<br>115mm depth | 15 | 124 x 76 x 113 /<br>4.9 x 3.0 x 4.55 |
| | **88870117** | Flat bottom<br>5 x 50 mL<br>29.8mm dia<br>115mm depth | 4 | 124 x 76 x 113 /<br>4.9 x 3.0 x 4.55 |
| | **88870118** | Conical bottom<br>15 x 15 mL<br>17mm dia<br>115mm depth | 15 | 124 x 76 x 113 /<br>4.9 x 3.0 x 4.55 |
| | **88870119** | Conical bottom<br>4 x 50 mL<br>29.8mm dia<br>115mm depth | 4 | 124 x 76 x 113 /<br>4.9 x 3.0 x 4.55 |
| | **88870120** | Conical bottom<br>1 x 96-well 0.2 mL<br>non-skirted PCR Plate<br>11mm depth | 96 | 124 x 76 x 39 /<br>4.9 x 3.0 x 1.5 |
| | **88870121** | Conical bottom<br>1 x 96-well 0.2 mL<br>for half- or full-skirted<br>PCR Plate; 11mm depth | 96 | 124 x 76 x 55 /<br>4.9 x 3.0 x 2.17 |
| | **88870122** | Temperature probe,<br>PT1000, stainless steel for<br>Advanced Dry Bath only | N/A | N/A |

## Thermo Scientific Compact Dry Bath/Block Heater

| Cat. No. | Description | Max Tubes | Dimensions WxDxH (mm / in) |
|---|---|---|---|
| **88871101** | 0.2 ml 1/4 block | 24 | 54 x 36 x 15 / 2.1 x 1.4 x 0.6 |
| **88871102** | 0.5 ml 1/4 block | 12 | 54 x 36 x 30 / 2.1 x 1.4 x 1.2 |
| **88871103** | 1.5 ml 1/4 block | 6 | 54 x 36 x 30 / 2.1 x 1.4 x 1.2 |
| **88871104** | 2.0 ml 1/4 block | 6 | 54 x 36 x 30 / 2.1 x 1.4 x 1.2 |
| **88871105** | 15 ml 1/2 block | 6 | 108 x 36 x 72 / 4.3 x 1.4 x 2.8 |
| **88871106** | 50 ml 1/2 block | 3 | 108 x 36 x 72 / 4.3 x 1.4 x 2.8 |
| **88871107** | 96-well/flat bottom full block | 96 | 108 x 72 x 18 / 4.3 x 2.8 x 0.7 |
| **88871108** | Heat insulator for Compact S | N/A | 143 x 107 x 80 / 5.6 x 4.2 x 3.2 |
| **88871109** | Heat insulator for Compact D | N/A | 179 x 143 x 80 / 7.0 x 5.6 x 3.2 |
| **88871110** | Plastic lid for Compact S | N/A | 122 x 86 x 40 / 4.8 x 3.4 x 1.6 |
| **88871111** | Plastic lid for Compact D | N/A | 158 x 122 x 30 / 6.2 x 4.8 x 1.2 |

**NOTE: All blocks are made from aluminum alloy**

# Thermo Scientific Digital Heating Cooling Drybath

**Maximize lab space and flexiblity with our compact programmable heating/cooling dry bath with digital display**

- PID control ensures precise temperature control
- Temperature Range from 4°C to 95°C
- Programmable:
  - > 10 programs, up to 10 steps per program
- Two types of timing modes:
  - > Start only after temperature reaches desired set point
  - > Start immediately after the timer is set
- Low profile design
- Blocks easily interchanged

## Common Applications

- DNA extractions
- Enzymatic reactions
- Reactions that need to processed at or near room temperature
- Reagent warming/cooling

**Required Accessory:** must purchase a block with this unit

| Cat. No. | 88880029* | 88880030* |
|---|---|---|
| **Plug Configurations** | | |
| **Control** | Feedback Control PID | |
| **Display** | Digital | |
| **Temperature** | Range (°C / °F): 4 to 95 / 39.2 to 203<br>Variation at 37°C (°C / °F): 0.55 / 0.99 | |
| **Dimensions W x D x H** | **Internal:** 99 x 77.5 x 36mm / 3.9 x 3.1 x 1.4in<br>**External:** 276 x 334 x 165mm / 10.9 x 13.1 x 6.5in | |
| **Weight** | 5kg / 11lbs | |
| **Power** | 120V, 60Hz | 230V, 50/60Hz |
| **Certification** | CE | |
| **Warranty** | 2 years | |

***NOTE: Unit must be ordered with a block**

| Accessories for Digital Cooling Drybath | Max. Tubes | Block Dimensions W x D x H | Cat. No. |
|---|---|---|---|
| Block for microtube 0.5ml | 48 | 98 x 76.5 x 41mm<br>3.9 x 3 x 1.6in | **88880129** |
| Block for microtube 1.5ml | 30 | 98 x 76.5 x 41mm<br>3.9 x 3 x 1.6in | **88880130** |
| Block for centrifuge tube 15ml | 15 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880131** |

All blocks are made of Aluminum Alloy

| Accessories for Digital Cooling Drybath (continued) | Max. Tubes | Block Dimensions W x D x H | Cat. No. |
|---|---|---|---|
| Block for centrifuge tube 50ml (small) | 6 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880132** |
| Block for centrifuge tube 50ml (large) | 6 | 98 x 76.5 x 87mm<br>3.9 x 3 x 3.4in | **88880133** |
| Block for Φ10mm tube | 35 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880134** |
| Block for Φ12mm tube | 24 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880135** |
| Block for Φ13mm tube | 24 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880136** |
| Block for Φ15mm tube | 20 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880137** |
| Block for Φ16mm tube | 16 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880138** |
| Block for Φ18mm tube | 12 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880139** |
| Block for Φ20mm tube | 12 | 98 x 76.5 x 51mm<br>3.9 x 3 x 2in | **88880140** |

# Thermo Scientific Digital Heating Shaking Drybath

**Increase lab versatility with the Digital Shaking Drybath, which can be used as a drybath, shaker, or both**

## Features

- PID control ensures consistent shaking results and precise temperature control
- Speed range from 150 to 1500rpm (block dependent)
- Programmable:
  - > 10 programs, up to 10 steps per program
  - > Interval shaking function allows shaking and non-shaking in same program
- Two types of timing modes
  - > Start only after temperature reaches desired set point
  - > Start immediately after the timer is set
- Low-profile design
- Easily changed blocks in multiple sizes allow for maximum flexibility in vessel choice

## Common Applications

- DNA extractions
- Enzymatic reactions

**Required Accessory:** must purchase a block with this unit

| Cat. No. | 88880027* | 88880028* |
|---|---|---|
| **Plug configurations** | | |
| **Control** | Feedback Control PID | |
| **Display** | Digital | |
| **Temperature** | Range (°C / °F): Amb +5 to 100 / 41 to 212<br>Fluctuation at 80°C (°C / °F): 0.5 / 0.9 | |
| **Speed Range rpm*** | **#88880125:** 96 well block 150 - 1500rpm | |
| | **#88880126:** 0.5ml Tube Block 150 - 1000rpm | |
| | **#88880127:** 1.5 and 2ml Tube Block 150 - 1000rpm | |
| | **#88880128:** 50ml Tube Block 150 - 800rpm | |
| | **#88880151:** 15ml Tube Block 150 - 900rpm | |
| | **#88880152:** ø12 Tube Block 150 - 850rpm | |
| | **#88880153:** ø13 Tube Block 150 - 850rpm | |
| **Orbit Size Diameter** | 2mm / 0.8in | |
| **Dimensions W x D x H** | 276 x 334 x 170mm / 10.9 x 13.1 x 6.7in | |
| **Weight** | 8.3kg / 18.3lbs | |
| **Power** | 120V, 60Hz | 230V, 50/60Hz |
| **Certification** | CE | |
| **Warranty** | 2 years | |

| Accessories for Digital Shaking Drybath | Max. Mountable Tubes | Cat. No. |
|---|---|---|
| 0.2ml Microplate Block Set with Cover* | 96 | **88880125** |
| 0.5ml Tube Block Set with Cover* | 48 | **88880126** |
| 1.5/2.0ml Tube Block Set with Cover* | 24 | **88880127** |
| 50ml Tube Block Set with Cover* | 6 | **88880128** |
| 15ml Tube Block Set with Cover* | 15 | **88880151** |
| 12mm dia Tube Block Set with Cover* | 24 | **88880152** |
| 13mm Tube Block Set with Cover* | 24 | **88880153** |

*Cover is a plastic piece that simply sits on top of the aluminum block to protect user from burns and hold block in place; it's not a lid to cover tubes.

Tube Block Sets

# Thermo Scientific Thermal Mixer

**A versatile mixer offers variable speed and temperature control with a choice of blocks for microtubes and microplates.**

- Heating and cooling capability to cover a wide range of applications
- Compact size with quiet operation
- Convenient packages that include Thermal Mixer with a block

## Features

- Fast heat-up and cooling times and quick to reach specified mixing speed
- Temperature range : +4°C to 100°C
- Temperature control range : 15°C below ambient to 100°C
- Shaking speed : 250 to 1400 rpm
- Temperature stability : ±0.1°C
- Even mixing across the thermoshaker block
- Excellent uniformity across the block
- Digital timer with sound alarm : 1 min to 96 hours
- Temperature calibration function – Compensate for differences in the thermal behavior of different tubes and samples
- Choice of 5 interchangeable blocks
- LCD Display indicates the set and actual time of operation, mixing speed, and temperature
- Heating/Cooling and mixing functions can be run each other

## Common Applications

- Genetic analysis
- DNA and RNA extraction
- Sample preparation
- Biochemical studies of enzymatic reactions and processes
- Extraction of metabolites from cellular material
- Incubation
- Agitation
- Digestion
- Samples/standards for peptide mapping

| | |
|---|---|
| **Dimensions (H x D x W)** | **130mm x 230mm x 205mm** |
| **Weight** | 4 kg |
| **Temperature Setting Range** | 4°C to 100°C |
| **Temperature Control Range** | 15°C below ambient to +100°C |
| **Temperature Uniformity Over Block** | At 4°C ±0.6°C/ at 37°C ±0.1°C/ at 100°C ±0.3°C |
| **Temperature Display** | LCD |
| **Average Heat Up Speed** | 5°C/min from +25°C to +100°C |
| **Average Cooling Speed from 100°C to 25°C<br>at 25°C to 4°C** | 5°C/min (approx. 15 mins)<br>1.8°C/min (approx. 8 mins) |
| **Shaking Speed** | 250 to 1400 rpm |
| **Orbit Diameter** | 2 mm |
| **Timer (with auto-off and audible alarm)** | 1 min to 96 hours (1 min increment) |
| **Heating/Cooling Power** | 60 W |
| **Input Voltage** | 12V DC |
| **Input Current** | 4.16 A |
| **External Power Supply** | 120-240V |
| **Maximum Noise** | 53.8 dB |
| **Plug Types** | US, EU, UK, China, AUS/NZ plug |
| **Certification** | CE |
| **Warranty** | 2 years, see representative for details. |

**Convenient Package Ordering - With one part number you receive a Thermal Mixer and a block.**
See block sizes below. Order using corresponding package part number.

| Description | Part No. |
|---|---|
| 20 X 0.5 ml microtubes and 12 x 1.5 ml microtubes | 13687720 |
| 24 X 1.5 ml microtubes | 13687717 |
| 24 x 2.0 ml microtubes | 13687718 |
| 20 X 0.2 ml microtubes and 12 x 1.5 ml microtubes | 13687719 |
| 96-well microplates* or tube strips (0.2 ml) | 13687721 |

Package ordering valid in NA and EU.

**Order Separately**
Order components individually by selecting the part number below.

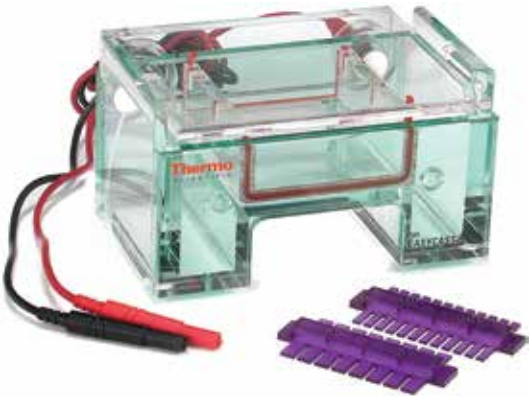
| Description | Part No. |
|---|---|
| Thermo Scientific Thermal Mixer, US, EU, UK (blocks not included) | 13687711 |
| Thermo Scientific Thermal Mixer, AUS/NZ/China, (Blocks not included) | 13687722 |
| Block, 20 X 0.5 ml microtubes and 12 x 1.5 ml microtubes | 13687715 |
| Block, 24 X 1.5 ml microtubes | 13687712 |
| Block, 24 x 2.0 ml microtubes | 13687713 |
| Block, 20 X 0.2 ml microtubes and 12 x 1.5 ml microtubes | 13687714 |
| Block, 96-well microplates* or tube strips (0.2 ml) | 13687716 |
| *Block will accept non-skirted and semi-skirted round bottom plates. | |

# electrophoresis

pages 13-57

# Thermo Scientific Owl EasyCast B1A Mini Gel Electrophoresis Systems

**Ideal size for every lab to provide flat, even banding patterns and consistent results with less hassle**



- Perfect size to determine molecular weight ranges of PCR fragments or larger sized DNA molecules
- All in one design allows the option of casting and running a gel in the buffer chamber, eliminating the need for additional equipment. Two comb slots on gel tray double sample capacity by doubling number of sample wells
- UVT gel trays are silk screened with a fluorescent ruler for easy measurement of bands
- Feature leakproof casting that allows a gel to be cast and run in the same chamber with no tape or additional parts required
- Run from 5 to 24 samples in 15 minutes

**Ordering Information:** Available with optional buffer exchange ports (B1A-BP) for use with an external recirculation pump.
**Includes:** Main buffer chamber, SuperSafe* lid with attached power supply leads, EasyCast gasketed UVT gel tray, two double-sided combs: 6 & 10 well, 1.0/1.5mm thick
**Warranty¥:** Three years
**Certifications:** CE marked

| Cat. No. | Description | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|---|
| **B1A** | EasyCast | Mini | 8 × 7cm | 16 × 10.5 × 9.5cm (6.31 × 4.13 × 3.75in.) | 400mL | 5 to 24 |
| **B1A-BP** | EasyCast w/Buffer exchange ports | Mini | 8 × 7cm | 16 × 10.5 × 9.5cm (6.31 × 4.13 × 3.75in.) | 400mL | 5 to 24 |

## Thermo Scientific Owl EasyCast B1A Mini Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (includes One black and one red lead) |
| **B1A-UVT** | EasyCast gasketed rapid load UVT gel tray with 12 slots and 12 rapid load combs (B2-RL-9D) |
| **B1A-GK** | Replacement gaskets (1 pair) |
| **B1A-CST** | External caster (trays & combs not included) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface Includes bubble level

| Cat. No. | Description | Dimensions |
|---|---|---|
| **BBL-1** | Bubble Level | N/A |
| **B-LP** | Leveling Platform | 36 x 46cm |

## Thermo Scientific Owl EasyCast B1A Mini Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness /Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **B1A-5C** | Standard comb; 5 teeth | 1.0mm / 11.3mm | 8µL | 30µL | 51µL | 72µL |
| **B1A-5D** | Standard comb; 5 teeth | 1.5mm / 11.3mm | 13µL | 44µL | 76µL | 108µL |
| **B1A-6** | Double-sided comb; 6 teeth | 1.0 / 1.5mm / 9.1 / 9.1mm | 7 / 10µL | 24 / 36µL | 41 / 61µL | 58 / 87µL |
| **B1A-8** | Double-sided comb; 8 teeth | 1.0 / 1.5mm / 6.4 / 6.4mm | 5 / 7µL | 17 / 25µL | 29 / 43µL | 41 / 61µL |
| **B1A-10** | Double-sided comb; 10 teeth | 1.0 / 1.5mm / 4.8 / 4.8mm | 4 / 5 µL | 13 / 19µL | 21 / 32µL | 30 / 46µL |
| **B1A-12** | Double-sided comb; 12 teeth | 1.0 / 1.5mm / 3.7 / 3.7mm | 3 / 4µL | 10 / 14µL | 16 / 25µL | 23 / 35µL |
| **B1A-PREP** | Prep comb; 2 teeth | 1.5mm / 57 / 5 mm | 64 / 6µL | 225 / 19µL | 385 / 32µL | 550 / 46µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl EasyCast B1 Mini Gel Electrophoresis Systems

**Durability and ease of use makes this the perfect choice for students and high volume researchers**

- Economical enough for every researcher to have one at their workstation
- Leakproof casting that allows a gel to be cast and run in the same chamber with no tape or additional parts required
- Offers a wide range of combs
- Two comb slots on gel tray double sample capacity by doubling number of sample wells
- UVT gel trays are silk screened with a fluorescent ruler for easy measurement of bands

**Ordering Information:** Available with optional buffer exchange ports, (B1-BP), for use with an external recirculation pump. Please order using Cat. No. B1 when ordering the EasyCast system without buffer exchange ports.
**Includes:** Main buffer chamber, SuperSafe* lid with attached power supply leads, EasyCast Gasketed UVT gel tray, two Combs: 10 & 14 Well, Double-sided, 1.0/1.5mm thick
**Warranty**[¥]: Three years
**Certifications:** CE marked

| Cat. No. | Description | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|---|
| **B1** | EasyCast | Mini | 11 × 9cm | 22 × 15 × 9.5cm (8.63 × 5.88 × 3.75in.) | 600mL | 5 to 34 |
| **B1-BP** | EasyCast w/buffer exchange ports | Mini | 11 × 9cm | 22 × 15 × 9.5cm (8.63 × 5.88 × 3.75in.) | 600mL | 5 to 34 |

## Thermo Scientific Owl EasyCast B1 Mini Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (includes one black and one red lead) |
| **B1-UVT** | Gasketed UVT Gel Tray |
| **B1-GK** | GK Replacement Gaskets (1 pair) |
| **B1-CST** | CST External Caster (trays and combs not included) |

## Thermo Scientific Owl Leveling Platform

Three-point leveling platform ensures flat casting and running surface. Includes bubble level.

| Cat. No. | Type | Dimensions |
|---|---|---|
| **BBL-1** | Bubble Level | N/A |
| **B-LP** | Leveling Platform | 36 x 46cm |

## Thermo Scientific Owl EasyCast B1 Mini Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness /Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **B1-5C** | Standard 5-tooth comb | 1.0mm / 15.4mm | 12µL | 40µL | 69µL | 98µL |
| **B1-5D** | Standard 5-tooth comb | 1.5mm / 15.4mm | 17µL | 61µL | 104µL | 147µL |
| **B1-8C** | Standard 8-tooth comb | 1.0mm / 9.0mm | 7µL | 24µL | 40µL | 57µL |
| **B1-8D** | Standard 8-tooth comb | 1.5mm / 9.0mm | 10µL | 35µL | 61µL | 86µL |
| **B1-10** | Double-sided 10 tooth comb | 1.0 / 1.5mm/ 6.8 / 6.8mm | 5 / 8µL | 18 / 27µL | 31 / 46µL | 43 / 65µL |
| **B1-12C** | Standard 12 tooth comb | 1.0mm / 5.4mm | 4µL | 14µL | 24µL | 34µL |
| **B1-12D** | Standard 12 tooth comb | 1.5mm / 5.4mm | 6µL | 21µL | 36µL | 51µL |
| **B1-14** | Double-sided 14 tooth comb | 1.0 / 1.5mm / 4.4 / 4.4mm | 3 / 5µL | 11 / 17µL | 20 / 29µL | 28 / 42µL |
| **B1-RL-9C‡** | Rapid-load 9 tooth (1X) comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **B1-RL-9D‡** | Rapid-load 9 tooth (1X) comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **B1-RL-17C‡** | Rapid-load 17 tooth (2X) comb | 1.0mm / 2.5mm | 2µL | 7µL | 12µL | 17µL |
| **B1-RL-17D‡** | Rapid-load 17 tooth (2X) comb | 1.5mm / 2.5mm | 3µL | 11µL | 18µL | 26µL |
| **B1-PREP** | Prep comb | 1.5mm / 78 / 5mm | 90 / 6µL | 310 / 19µL | 525 / 32µL | 750 / 46µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl EasyCast B2 Mini Gel Electrophoresis Systems

**Outstanding flexibility in a small footprint**

- Our most popular system with simple to use casting method, and multiple comb and tray options
- Leakproof casting allows a gel to be cast and run in the same chamber with no tape or additional parts required.
- Longer gel length and the 2 comb slots provide the flexibility of running 8 to 48 samples on 1 gel
- Optional rapid load tray can increase the maximum number of samples to 108 in an 8 or 12 multichannel pipette format.
- 2 comb slots on the U.V. Transmissible (UVT) gel tray double sample capacity by doubling the number of sample wells
- UVT gel trays are silk screened with a fluorescent ruler for easy measurement of bands

**Ordering Information:** Available with optional buffer exchange ports (B2-BP) for use with an external recirculation pump.
**Includes:** Buffer chamber, SuperSafe* lid with attached power supply leads, EasyCast gasketed U.V. Transmissible (UVT) gel tray,
2 combs: 12 & 20 well, double-sided, 1.0/1.5 mm thick.
**Warranty**[¥]: Three years
**Certifications:** CE marked

| Cat. No. | Description | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|---|
| **B2** | EasyCast | Mini | 14 × 12cm | 24.5 × 18 × 9.5cm (9.63 × 7.06 × 3.75in.) | 800mL | 8 to 48 |
| **B2-BP** | EasyCast w/buffer exchange ports | Mini | 14 × 12cm | 24.5 × 18 × 9.5cm (9.63 × 7.06 × 3.75in.) | 800mL | 8 to 48 |

## Thermo Scientific Owl EasyCast Mini Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (includes one black and one red lead) |
| **B2-UVT** | EasyCast gasketed UVT gel tray |
| **B2-GK** | Replacement gaskets (1 pair) |

## Thermo Scientific Owl EasyCast B2 Mini Gel System Accessories

| Cat. No. | Description |
|---|---|
| **B2-RL-UVT** | EasyCast gasketed rapid load UVT gel tray with 12 slots |
| **B2-RL** | EasyCast gasketed rapid load UVT gel tray with 12 slots and 12 rapid load combs, B2-RL-9D |
| **B2-CST** | External caster for casting up to 3 gels at once (trays & combs not included) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type | Dimensions |
|---|---|---|
| **BBL-1** | Bubble Level | N/A |
| **B-LP** | Leveling Platform | 36 x 46cm |

## Thermo Scientific Owl EasyCast B2 Mini Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **B2-8C** | Standard 8-tooth comb | 1.0mm / 12.5mm | 9µL | 33µL | 56µL | 80µL |
| **B2-8D** | Standard 8-tooth comb | 1.5mm / 12.5mm | 14µL | 49µL | 84µL | 120µL |
| **B2-12** | Double-sided 12 tooth comb | 1.0 & 1.5mm / 7.2mm | 5 / 8 µL | 18 / 28µL | 32 / 49µL | 46 / 69µL |
| **B2-16** | Double-sided 16 tooth comb | 1.0 & 1.5mm / 5.4mm | 4 / 6µL | 14 / 21µL | 24 / 36µL | 34 / 52µL |
| **B2-20** | Double-sided 20 tooth comb | 1.0 & 1.5mm / 3.9mm | 3 / 4µL | 10 / 15µL | 18 / 26µL | 25 / 37µL |
| **B2-24** | Double-sided 24 tooth comb | 1.0 & 1.5mm / 3.0mm | 2 / 3µL | 8 / 12µL | 14 / 20µL | 19 / 29µL |
| **B2-RL-9C‡** | Rapid-load 9 tooth (1X) comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **B2-RL-9D‡** | Rapid-load 9 tooth (1X) comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **B2-RL-25C‡** | Rapid-load 25 tooth (2X) comb | 1.0mm / 2.5mm | 2µL | 7µL | 12µL | 17µL |
| **B2-RL-25D‡** | Rapid-load 25 tooth (2X) comb | 1.5mm / 2.5mm | 3µL | 11µL | 18µL | 26µL |
| **B2-PREP** | Prep comb w/2 teeth | 1.5mm / 106 / 5 | 120 / 5.5µL | 415 / 20µL | 710 / 34µL | 1000 / 48µL |
| **B2-WALL** | Wall comb w/1 tooth | 1.5mm / 120 | — | — | — | — |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl EasyCast B3 Gel System with Built-In Recirculation

**Built-in Recirculation is ideal for long runs, multiple sample sets or RNA gels**

- Prevent the formation of pH and ionic gradients
- Provide high resolution and uniform, reproducible results
- Deliver clear results for samples run over long time periods
- Does not require external pumps, tubing or stir bars, because recirculation system is built into buffer chamber
- Eliminate uneven migration, band distortion or disassociation of pH-dependent glyoxylated RNA molecules that can result when ionic depletion occurs

**Includes:** Mini gel system that consists of buffer chamber, SuperSafe* lid with attached power supply leads, EasyCast* gasketed UVT gel tray, as well as 12- and 20-well, double-sided 1.0/1.5mm thick combs.
**Warranty**[¥]: Three years
**Certifications:** CE marked

| Cat. No. | Description | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|---|
| **B3** | EasyCast | Mini | 14 × 12cm | 25 × 18 × 12cm (9.75 × 7 × 4.72in.) | 1000mL | 8 to 50 |

## Thermo Scientific Owl EasyCast Mini Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (includes one black and one red lead) |
| **B2-UVT** | EasyCast gasketed UVT gel tray |
| **B2-GK** | Replacement gaskets (1 pair) |

## Thermo Scientific Owl EasyCast Mini Gel System Accessories

| Cat. No. | Description |
|---|---|
| **B2-RL-UVT** | EasyCast gasketed rapid load UVT gel tray with 12 slots |
| **B2-RL** | EasyCast gasketed rapid load UVT gel tray with 12 slots and 12 rapid load combs |
| **B2-CST** | External caster (trays & combs not included) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type | Dimensions |
|---|---|---|
| **BBL-1** | Bubble Level | N/A |
| **B-LP** | Leveling Platform | 36 x 46cm |

## Thermo Scientific Owl EasyCast B3 Mini Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **B2-8C** | Standard 8-tooth comb | 1.0mm / 12.5mm | 9µL | 33µL | 56µL | 80µL |
| **B2-8D** | Standard 8-tooth comb | 1.5mm / 12.5mm | 14µL | 49µL | 84µL | 120µL |
| **B2-12** | Double-sided 12 tooth comb | 1.0 & 1.5mm / 7.2mm | 5 / 8 µL | 18 / 28µL | 32 / 49µL | 46 / 69µL |
| **B2-16** | Double-sided 16 tooth comb | 1.0 & 1.5mm / 5.4mm | 4 / 6µL | 14 / 21µL | 24 / 36µL | 34 / 52µL |
| **B2-20** | Double-sided 20 tooth comb | 1.0 & 1.5mm / 3.9mm | 3 / 4µL | 10 / 15µL | 18 / 26µL | 25 / 37µL |
| **B2-24** | Double-sided 24 tooth comb | 1.0 & 1.5mm / 3.0mm | 2 / 3µL | 8 / 12µL | 14 / 20µL | 19 / 29µL |
| **B2-RL-9C‡** | Rapid-load 9 tooth (1X) comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **B2-RL-9D‡** | Rapid-load 9 tooth (1X) comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **B2-RL-25C‡** | Rapid-load 25 tooth (2X) comb | 1.0mm / 2.5mm | 2µL | 7µL | 12µL | 17µL |
| **B2-RL-25D‡** | Rapid-load 25 tooth (2X) comb | 1.5mm / 2.5mm | 3µL | 11µL | 18µL | 26µL |
| **B2-PREP** | Prep comb w/2 teeth | 1.5mm / 106 / 5 | 120 / 5.5µL | 415 / 20µL | 710 / 34µL | 1000 / 48µL |
| **B2-WALL** | Wall comb w/1 tooth | 1.5mm / 120 | — | — | — | — |
| **B2-WALL** | Wall comb w/1 tooth | 1.5mm / 120 | — | — | — | — |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl D2 Wide-Gel Electrophoresis Systems

**Run from 10 to 80 samples on one gel**

- Wide gel size allows 15 or 30 samples to be loaded per row with a micro well comb
- Using special combs and a multichannel pipetter, samples may be loaded directly from a 96-well plate, 8 or 12 at a time
- Excellent for screening PCR samples or routine DNA fragment analysis
- Small footprint saves space on lab bench
- Incorporates EasyCast* casting design with external caster — gel tray is fitted with gasket, allowing it to fit snugly into caster and providing a leakproof seal without tape
- Electrode placement allows gel to be run quickly without compromising resolution

**Includes:** Buffer chamber, SuperSafe* lid with attached power supply leads, EasyCast gasketed UVT gel tray, external multiple gel caster, four combs (two 30-well and two 40-well, 1.5mm thick).
**Warranty**[¥]: Three years
**Certifications:** CE marked

| Cat. No. | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **D2** | Wide | 14.4 × 10.2cm | 19 × 20 × 10cm (7.38 × 7.75 × 4in.) | 600mL | 10 to 80 |
| **D2-BP** | Wide w/buffer exchange ports | 14.4 × 10.2cm | 19 × 20 × 10cm (7.38 × 7.75 × 4in.) | 600mL | 10 to 80 |

## Thermo Scientific Owl D2 Wide-Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage
- UVT gel tray incorporates gasketed end gates which provide a leakproof seal without tape
- Comb slots are positioned so you can arrange up to 12 sample sets on the same gel

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) |
| **D2-UVT** | EasyCast gasketed UVT gel tray |
| **D2-GK** | Replacement gaskets (1 pair) |
| **D2-CST** | External caster (no trays/combs) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type | Dimensions |
|---|---|---|
| **BBL-1** | Bubble Level | N/A |
| **B-LP** | Leveling Platform | 36 x 46cm |

## Thermo Scientific Owl D2 Wide-Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **D1-10C** | Standard 10-tooth comb | 1.0mm / 12.2mm | 9µL | 32µL | 55µL | 78µL |
| **D1-10D** | Standard 10-tooth comb | 1.5mm / 12.2mm | 14µL | 48µL | 82µL | 117µL |
| **D1-20C** | Standard 20-tooth comb | 1.0mm / 5.2mm | 4µL | 14µL | 23µL | 33µL |
| **D1-20D** | Standard 20-tooth comb | 1.5mm / 5.2mm | 6µL | 20µL | 35µL | 50µL |
| **D1-30C‡** | Micro well 30-tooth (2X) comb | 1.0mm / 2.7mm | 5µL | 19µL | 32µL | 46µL |
| **D1-30D‡** | Micro well 30-tooth (2X) comb | 1.5mm / 2.7mm | 8µL | 28µL | 49µL | 69µL |
| **D1-40C** | Standard 40-tooth comb | 1.0mm / 1.7mm | 1µL | 4µL | 8µL | 11µL |
| **D1-40D** | Standard 40-tooth comb | 1.5mm / 1.7mm | 2µL | 7µL | 11µL | 16µL |
| **D1-MTC‡** | Micro well 15-tooth (1X) comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **D1-MTD‡** | Micro well 15-tooth (1X) comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **D2-RL-9C‡** | Rapid load 9-tooth (1X) comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **D2-RL-9D‡** | Rapid load 9-tooth (1X) comb | 1.5mm / 7.2mm | 8µL | 28µL | 48µL | 69µL |
| **D2-RL-25C‡** | Rapid load 25-tooth (2X) comb | 1.0mm / 2.5mm | 2µL | 7µL | 12µL | 17µL |
| **D2-RL-25D‡** | Rapid load 25-tooth (2X) comb | 1.5mm / 2.5mm | 3µL | 11µL | 18µL | 26µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and 2X) combs.

# Thermo Scientific Owl D3-14 Horizontal Electrophoresis System

**Ideal for screening PCR products, plasmid preps, restriction mapping and cloning**

- System screens 25 to 200 samples on a single agarose gel in less than 30 minutes, producing clear, tight banding patterns with no “smiling”
- With special combs and a multichannel pipetter, samples are loaded directly from a 96-well plate, 8 or 12 at a time
- Incorporates our Owl™ EasyCast* casting design with external caster — gel tray is fitted with gasket, allowing it to fit snugly into caster and providing a leakproof seal without tape
- Sample loading with multichannel pipetter speeds up transfer
- Electrode placement allows gel to be run quickly without compromising resolution
- Bubble level ensures casting of flat, uniformly thick gels

**Includes:** Buffer chamber, SuperSafe* lid with attached power cords, EasyCast* gasketed UVT gel tray, external caster, four combs (50 micro well, 1.5mm thick).
**Warranty**[¥]: Three years
**Certifications:** CE marked

| Cat. No. | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **D3-14** | Wide | 14 × 23cm | 30 × 27 × 11cm (11.8 × 10.6 × 4.3in.) | 800mL | 25 to 200 |

## Thermo Scientific Owl D3-14 System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage
- UVT gel tray incorporates gasketed end gates which provide a leakproof seal without tape
- Comb slots are positioned so you can arrange up to 12 sample sets on the same gel

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) |
| **D3-UVT-14** | EasyCast* gasketed UVT Gel Tray |
| **D3-GK** | Replacement gaskets (1 pair) |
| **D3-CST-14** | External caster (no trays/combs) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type | Dimensions |
|---|---|---|
| **BBL-1** | Bubble Level | N/A |
| **B-LP** | Leveling Platform | 36 x 46cm |

## Thermo Scientific Owl Casting Dams

- Seal agarose on contact, eliminating the need for tape
- Do not attach to gel tray, enabling gels of any length to be poured
- Easily handled and maneuvered using knob or finger depressions
- High-quality aluminum dam blocks off a portion of UVT gel tray, allowing shorter gels to be cast and run in one device

| Cat. No. | Description |
|---|---|
| **DAM-23** | Chameleon casting dam; 23cmW |

## Thermo Scientific Owl D3-14 Horizontal Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **D3-MTC‡** | Micro well 25 (1X)-tooth comb | 1.0mm / 7.5mm | 6µL | 20µL | 34µL | 48µL |
| **D3-MTD‡** | Micro well 25 (1X)-tooth comb | 1.5mm / 7.5mm | 8µL | 30µL | 51µL | 72µL |
| **D3-MT2C‡** | Micro well 50 (2X)-tooth comb | 1.0mm / 3mm | 2µL | 8µL | 14µL | 19µL |
| **D3-MT2D‡** | Micro well 50 (2X)-tooth comb | 1.5mm / 3mm | 3µL | 12µL | 20µL | 29µL |
| **D3-WALL** | Wall comb, 1 tooth | 1.5mm / 230mm | — | — | — | — |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl A6 Horizontal Electrophoresis System

**Ideal for high-throughput laboratories**

- System screens 25 to 500 samples on a single agarose gel, producing clear, tight banding patterns with no “smiling”
- Gel tray’s unique comb-slot design allows use of up to 10 evenly spaced combs
- With special combs and a multichannel pipetter, samples are loaded directly from a 96-well plate, 8 or 12 at a time
- Incorporates unique end-gate casting design — gel tray is fitted with gasketed end gates which provide a leakproof seal without tape
- Sample loading with multichannel pipetter speeds up transfer
- Bubble level ensures casting of flat, uniformly thick gels

**Includes:** Buffer chamber with three-point leveling base, SuperSafe* lid with attached power supply leads, UVT gel tray with gasketed end gates, four combs (two 25-well and two 50-well, 1.5mm thick)
**Warranty**¥: Three years

| Cat. No. | Horizontal System Description | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **A6** | Wide | 25 × 23cm | 35 × 38 × 11cm (13.75× 14.94 × 4.38in.) | 3.0L | 25 to 500 |

## Thermo Scientific Owl A6 Wide Gel Electrophoresis System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage
- UVT gel tray incorporates gasketed end gates which provide a leakproof seal without tape

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) |
| **A6-UVT** | UVT gel tray with gasketed end gates |
| **A3-GK-1** | Replacement gaskets (1 pair) |
| **A3-1-EG** | Replacement end gates (1 pair) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type |
|---|---|
| **BBL-1** | Bubble Level |

## Thermo Scientific Owl Casting Dams

- Seal agarose on contact, eliminating the need for tape
- Do not attach to gel tray, enabling gels of any length to be poured
- Easily handled and maneuvered using knob or finger depressions
- High-quality aluminum dam blocks off a portion of UVT gel tray, allowing shorter gels to be cast and run in one device

| Cat. No. | Description |
|---|---|
| **DAM-23** | Chameleon casting dam; 23cmW |

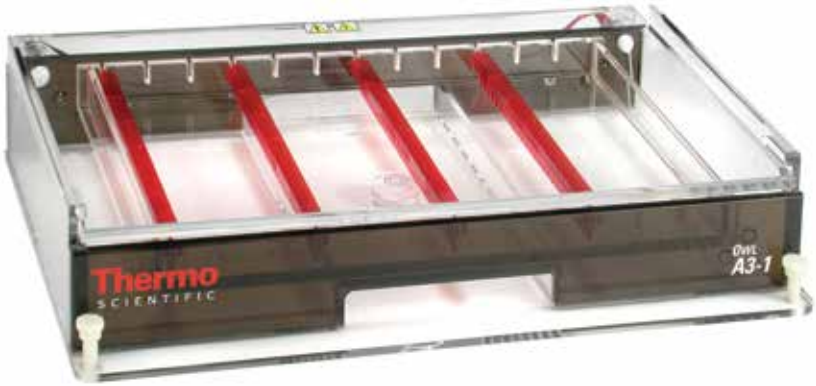
## Thermo Scientific Owl A6 Horizontal Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **D3-MTC‡** | Microwell 25 (1X)-tooth comb | 1.0mm / 7.5mm | 6µL | 20µL | 34µL | 48µL |
| **D3-MTD‡** | Microwell 25 (1X)-tooth comb | 1.5mm / 7.5mm | 8µL | 30µL | 51µL | 72µL |
| **D3-MT2C‡** | Microwell 50 (2X)-tooth comb | 1.0mm / 3mm | 2µL | 8µL | 14µL | 19µL |
| **D3-MT2D‡** | Microwell 50 (2X)-tooth comb | 1.5mm / 3mm | 3µL | 12µL | 20µL | 29µL |
| **D3-WALL** | Wall comb, 1 tooth | 1.5mm / 230mm | — | — | — | — |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl A3-1 Large-Gel Electrophoresis System

**Well-suited for plant genomics studies**




- Horizontal system can run from 25 to 600 samples on one gel
- Gel can be cast in varying lengths to help conserve agarose when fewer samples need to be run
- Built-in buffer exchange ports allow for buffer recirculation on extended runs
- UVT gel tray has gasketed end gates for leakproof seal without tape
- Built-in leveling ensures flat, uniformly thick gels
- Large number of comb slots provides sample number and resolving distance flexibility
- Microwell-format combs provide fast, error-free sample loading with a multichannel pipetter
- Samples may be loaded directly from a 96-well plate, 8 or 12 at a time

**Includes:** Buffer chamber with three-point leveling base, SuperSafe* lid with attached power supply leads, UVT gel tray, four combs
(two 25- and two 50-well), built-in buffer exchange ports and bubble level
**Warranty**¥: Three years
**Certifications:** CE marked

| Cat. No. | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **A3-1** | Large | 40 × 23cm | 53 × 32 × 11cm<br>(20.63 × 12.5 × 4.25in.) | 4.5L | 25 to 600 |

## Thermo Scientific Owl A3-1 Large Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includs one black and one red lead) |
| **A3-UVT-1** | UVT gel tray with gasketed end gates |
| **A3-1-EG** | Replacement end gates (1 pair) |
| **A3-GK-1** | Replacement gaskets (1 pair) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type |
|---|---|
| **BBL-1** | Bubble Level |

## Thermo Scientific Owl Casting Dams

- Seal agarose on contact, eliminating the need for tape
- Do not attach to gel tray, enabling gels of any length to be poured
- Easily handled and maneuvered using knob or finger depressions
- High-quality aluminum dam blocks off a portion of UVT gel tray, allowing shorter gels to be cast and run in one device

| Cat. No. | Description |
|---|---|
| **DAM-23** | Chameleon casting dam; 23cmW |

## Thermo Scientific Owl A3-1 Horizontal Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **D3-MTC‡** | Microwell 25 (1X)-tooth comb | 1.0mm / 7.5mm | 6µL | 20µL | 34µL | 48µL |
| **D3-MTD‡** | Microwell 25 (1X)-tooth comb | 1.5mm / 7.5mm | 8µL | 30µL | 51µL | 72µL |
| **D3-MT2C‡** | Microwell 50 (2X)-tooth comb | 1.0mm / 3mm | 2µL | 8µL | 14µL | 19µL |
| **D3-MT2D‡** | Microwell 50 (2X)-tooth comb | 1.5mm / 3mm | 3µL | 12µL | 20µL | 29µL |
| **D3-WALL** | Wall comb, 1 tooth | 1.5mm / 230mm | — | — | — | — |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl A1 Large Gel Systems

**Smallest footprint of a large format device, and is ideal for detailed RNA/DNA analysis**

- Gel can be cast in varying lengths to help conserve agarose when fewer samples need to be run
- Optional built-in buffer exchange ports allow for buffer recirculation on extended runs
- Programmable power inverter may be used for field reversal electrophoresis
- UVT gel tray has gasketed end gates for leakproof seal without tape
- Built-in leveling ensures flat, uniformly thick gels
- Comb slots allow two, three or four sample sets of equal lengths to be run on the same gel
- Microwell-format combs provide fast, error-free sample loading with a multichannel pipetter
- Samples may be loaded directly from a 96-well plate, 8 or 12 at a time

**Includes:** Buffer chamber with three-point leveling base, SuperSafe* lid with attached power supply leads, UVT gel tray, gasketed end gates, three combs (12, 16 and 20-well), 1.5mm thick
**Warranty**¥: Three years
**Certifications:** CE marked

| Cat. No. | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **A1** | Large | 25 × 13cm | 37.5 × 21.5 × 11cm (14.8 × 8.5 × 4.3in.) | 1.6L | 8 to 150 |
| **A1-BP** | Large, w/buffer exchange ports | 25 × 13cm | 37.5 × 21.5 × 11cm (14.8 × 8.5 × 4.3in.) | 1.6L | 8 to 150 |

## Thermo Scientific Owl A1 Large Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage
- Unique electrode placement allows this gel to be run quickly without compromising the resolution
- UVT gel tray incorporates gasketed end gates which provide a leakproof seal without tape

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) |
| **A1-UVT** | UVT gel tray with gasketed end gates |
| **A1-GK** | Replacement gaskets (1 pair) |
| **A1-EG** | Replacement end gates (1 pair) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type |
|---|---|
| **BBL-1** | Bubble Level |

## Thermo Scientific Owl Casting Dams

- Seal agarose on contact, eliminating the need for tape
- Do not attach to gel tray, enabling gels of any length to be poured
- Easily handled and maneuvered using knob or finger depressions
- High-quality aluminum dam blocks off a portion of UVT gel tray, allowing shorter gels to be cast and run in one device

| Cat. No. | Description |
|---|---|
| **DAM-13** | Chameleon casting dam; 13cmW |

## Thermo Scientific Owl A1 Large Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **A1-8C** | Standard 8-tooth comb | 1.0mm / 13.9mm | 10µL | 36µL | 63µL | 89µL |
| **A1-8D** | Standard 8-tooth comb | 1.5mm / 13.9mm | 16µL | 55µL | 95µL | 133µL |
| **A1-12C** | Standard 12-tooth comb | 1.0mm / 8.7mm | 7µL | 23µL | 39µL | 55µL |
| **A1-12D** | Standard 12-tooth comb | 1.5mm / 8.7mm | 10µL | 34µL | 59µL | 83µL |
| **A1-16C** | Standard 16-tooth comb | 1.0mm / 6.1mm | 5µL | 16µL | 27µL | 39µL |
| **A1-16D** | Standard 16-tooth comb | 1.5mm / 6.1mm | 7µL | 24µL | 41µL | 58µL |
| **A1-20C** | Standard 20-tooth comb | 1.0mm / 4.5mm | 3µL | 12µL | 20µL | 29µL |
| **A1-20D** | Standard 20-tooth comb | 1.5mm / 4.5mm | 5µL | 18µL | 30µL | 43µL |
| **A1-24C** | Standard 24-tooth comb | 1.0mm / 3.5mm | 3µL | 9µL | 16µL | 22µL |
| **A1-24D** | Standard 24-tooth comb | 1.5mm / 3.5mm | 4µL | 14µL | 24µL | 33µL |
| **A1-MTC‡** | Micro well 14 (1X) tooth comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **A1-MTD‡** | Micro well 14 (1X) tooth comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **A1-RL-9C‡** | Rapid load 9 (1X) tooth comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **A1-RL-9D‡** | Rapid load 9 (1X) tooth comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **A1-RL-25C‡** | Rapid load 25 (2X) tooth comb | 1.0mm / 2.5mm | 2µL | 7µL | 12µL | 17µL |
| **A1-RL-25D‡** | Rapid load 25 (2X) tooth comb | 1.5mm / 2.5mm | 3µL | 11µL | 18µL | 26µL |
| **A1-PREP** | Prep 2-tooth comb | 1.5mm / 117 / 5mm | 130 / 6µL | 455 / 20µL | 775 / 34µL | 1100 / 48µL |
| **A1-WALL** | Wall 1-tooth comb | 1.5mm / 130mm | — | — | — | — |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl A2 Large Gel Systems

**Ideal for detailed RNA/DNA analysis and handle high throughput with consistent, reliable results**

- Gel can be cast in varying lengths to help conserve agarose when fewer samples need to be run
- Optional built-in buffer exchange ports allow for buffer recirculation on extended runs
- UVT gel tray has gasketed end gates for leakproof seal without tape
- Built-in leveling ensures flat, uniformly thick gels
- Comb slots allow two, three or four sample sets of equal lengths to be run on the same gel
- Microwell-format combs provide fast, error-free sample loading with a multichannel pipetter
- Samples may be loaded directly from a 96-well plate, 8 or 12 at a time
- Offers the greatest variety of comb options

**Includes:** Buffer chamber with three-point leveling base, SuperSafe* lid with attached power supply leads, UVT gel tray, gasketed end gates, three combs (16, 24 and 36-well), 1.5mm thick
**Warranty**¥: Three years
**Certifications:** CE marked

| Cat. No. | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **A2** | Large | 25 × 20cm | 37.5 × 32.5 × 10.5cm (14.8 × 12.8 × 4.1in.) | 2.3L | 8 to 432 |
| **A2-BP** | Large, w/buffer exchange ports | 25 × 20cm | 37.5 × 32.5 × 10.5cm (14.8 × 12.8 × 4.1in.) | 2.3L | 8 to 432 |

## Thermo Scientific Owl A2 Large Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (includes one black and one red lead) |
| **A2-UVT** | UVT gel tray with gasketed end gates |
| **A2-GK** | Replacement gaskets (1 pair) |
| **A2-EG** | Replacement end gates (1 pair) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type |
|---|---|
| **BBL-1** | Bubble Level |

## Thermo Scientific Owl Casting Dams

- Seal agarose on contact, eliminating the need for tape
- Do not attach to gel tray, enabling gels of any length to be poured
- Easily handled and maneuvered using knob or finger depressions
- High-quality aluminum dam blocks off a portion of UVT gel tray, allowing shorter gels to be cast and run in one device

| Cat. No. | Description |
|---|---|
| **DAM-20** | Chameleon casting dam; 20cmW |

## Thermo Scientific Owl 24-slot Rapid Load UVT Gel Trays

- Enable multiple sample loading

| Cat. No. | Description |
|---|---|
| **A2-RL-UVT** | 24-slot rapid load UVT gel tray with gasketed end gates |
| **A2-RL-12** | 24-slot rapid load UVT gel tray with (12) 18-well combs |
| **A2-RL-24** | 24-slot rapid load UVT gel tray with (24) 18-well combs |

## Thermo Scientific Owl A2 Large Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **A2-8C** | Standard 8-tooth comb | 1.0mm / 22.7mm | 17µL | 59µL | 102µL | 144µL |
| **A2-8D** | Standard 8-tooth comb | 1.5mm / 22.7mm | 25µL | 89µL | 153µL | 217µL |
| **A2-12C** | Standard 12-tooth comb | 1.0mm / 14.5mm | 11µL | 38µL | 65µL | 92µL |
| **A2-12D** | Standard 12-tooth comb | 1.5mm / 14.5mm | 16µL | 57µL | 98µL | 138µL |
| **A2-16C** | Standard 16-tooth comb | 1.0mm / 10.5mm | 8µL | 27µL | 47µL | 67µL |
| **A2-16D** | Standard 16-tooth comb | 1.5mm / 10.5mm | 12µL | 41µL | 70µL | 100µL |
| **A2-20C** | Standard 20-tooth comb | 1.0mm / 8.0mm | 6µL | 21µL | 36µL | 51µL |
| **A2-20D** | Standard 20-tooth comb | 1.5mm / 8.0mm | 9µL | 32µL | 54µL | 77µL |
| **A2-24C** | Standard 24-tooth comb | 1.0mm / 6.5mm | 5µL | 17µL | 29µL | 41µL |
| **A2-24D** | Standard 24-tooth comb | 1.5mm / 6.5mm | 7µL | 25µL | 43µL | 61µL |
| **A2-28C** | Standard 28-tooth comb | 1.0mm / 5.0mm | 4µL | 14µL | 23µL | 33µL |
| **A2-28D** | Standard 28-tooth comb | 1.5mm / 5.0mm | 6µL | 20µL | 35µL | 50µL |
| **A2-32C** | Standard 32-tooth comb | 1.0mm / 4.0mm | 3µL | 11µL | 19µL | 27µL |
| **A2-32D** | Standard 32-tooth comb | 1.5mm / 4.0mm | 5µL | 17µL | 29µL | 41µL |
| **A2-36C** | Standard 36-tooth comb | 1.0mm / 3.5mm | 3µL | 10µL | 17µL | 24µL |
| **A2-36D** | Standard 36-tooth comb | 1.5mm / 3.5mm | 4µL | 15µL | 25µL | 35µL |
| **A2-MTC‡** | Micro well 21 (1X)-tooth comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **A2-MTD‡** | Micro well 21 (1X)-tooth comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **A2-MT2C‡** | Micro well 42 (2X)-tooth comb | 1.0mm / 2.7mm | 2µL | 7µL | 12µL | 17µL |
| **A2-MT2D‡** | Micro well 42 (2X)-tooth comb | 1.5mm / 2.7mm | 3µL | 11µL | 18µL | 26µL |
| **A2-RL-18D‡** | Rapid Load 18 (1X)-tooth comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **A2-PREP** | Prep comb with 2 teeth | 1.5mm / 187 / 5mm | 211 / 5.5µL | 736 / 20µL | 1263 / 34µL | 1789 / 48µL |
| **A2-WALL** | Wall comb with 1 tooth | 1.5mm / 130mm | — | — | — | — |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl A5 Large Gel System

**Features built-in recirculation, and are ideal for long runs, multiple sample sets or RNA gels**

- Prevent the formation of pH and ionic gradients
- Provide high resolution and uniform, reproducible results
- Deliver clear results for samples run over long time periods
- Do not require external pumps, tubing or stir bars, because recirculation system is built into buffer chamber
- Eliminate uneven migration, band distortion or disassociation of pH-dependent glyoxylated RNA molecules that can result when ionic depletion occurs

**Includes:** Large gel system that consists of buffer chamber with three-point leveling base, Supersafe lid with attached power supply leads, UVT gel tray with gasketed end gates, as well as 16-, 24-, and 36-well, 1.5m thick combs.
**Warranty[¥]:** Three years

| Cat. No. | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **A5** | Large | 25 × 20cm | 37.5 × 32.5 × 15cm (14.8 × 12.8 × 5.9in.) | 2.0L | 8 to 432 |

## Thermo Scientific Owl A5 Large Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage
- UVT gel tray  incorporates gasketed end gates which provide a leakproof seal without tape

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (includes one black and one red lead) |
| **A2-UVT** | UVT gel tray with gasketed end gates |
| **A2-GK** | Replacement gaskets (1 pair) |
| **A2-EG** | Replacement end gates (1 pair) |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type |
|---|---|
| **BBL-1** | Bubble Level |

## Thermo Scientific Owl Casting Dams

- Seal agarose on contact, eliminating the need for tape
- Do not attach to gel tray, enabling gels of any length to be poured
- Easily handled and maneuvered using knob or finger depressions
- High-quality aluminum dam blocks off a portion of UVT gel tray, allowing shorter gels to be cast and run in one device

| Cat. No. | Description |
|---|---|
| **DAM-20** | Chameleon casting dam; 20cmW |

## Thermo Scientific Owl 24-slot Rapid Load UVT Gel Trays

- Enable multiple sample loading

| Cat. No. | Description |
|---|---|
| **A2-RL-UVT** | 24-slot rapid load UVT gel tray with gasketed end gates |
| **A2-RL-12** | 24-slot rapid load UVT gel tray with (12) 18-well combs |
| **A2-RL-24** | 24-slot rapid load UVT gel tray with (24) 18-well combs |

## Thermo Scientific Owl A5 Large Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **A2-8C** | Standard 8-tooth comb | 1.0mm / 22.7mm | 17µL | 59µL | 102µL | 144µL |
| **A2-8D** | Standard 8-tooth comb | 1.5mm / 22.7mm | 25µL | 89µL | 153µL | 217µL |
| **A2-12C** | Standard 12-tooth comb | 1.0mm / 14.5mm | 11µL | 38µL | 65µL | 92µL |
| **A2-12D** | Standard 12-tooth comb | 1.5mm / 14.5mm | 16µL | 57µL | 98µL | 138µL |
| **A2-16C** | Standard 16-tooth comb | 1.0mm / 10.5mm | 8µL | 27µL | 47µL | 67µL |
| **A2-16D** | Standard 16-tooth comb | 1.5mm / 10.5mm | 12µL | 41µL | 70µL | 100µL |
| **A2-20C** | Standard 20-tooth comb | 1.0mm / 8.0mm | 6µL | 21µL | 36µL | 51µL |
| **A2-20D** | Standard 20-tooth comb | 1.5mm / 8.0mm | 9µL | 32µL | 54µL | 77µL |
| **A2-24C** | Standard 24-tooth comb | 1.0mm / 6.5mm | 5µL | 17µL | 29µL | 41µL |
| **A2-24D** | Standard 24-tooth comb | 1.5mm / 6.5mm | 7µL | 25µL | 43µL | 61µL |
| **A2-28C** | Standard 28-tooth comb | 1.0mm / 5.0mm | 4µL | 14µL | 23µL | 33µL |
| **A2-28D** | Standard 28-tooth comb | 1.5mm / 5.0mm | 6µL | 20µL | 35µL | 50µL |
| **A2-32C** | Standard 32-tooth comb | 1.0mm / 4.0mm | 3µL | 11µL | 19µL | 27µL |
| **A2-32D** | Standard 32-tooth comb | 1.5mm / 4.0mm | 5µL | 17µL | 29µL | 41µL |
| **A2-36C** | Standard 36-tooth comb | 1.0mm / 3.5mm | 3µL | 10µL | 17µL | 24µL |
| **A2-36D** | Standard 36-tooth comb | 1.5mm / 3.5mm | 4µL | 15µL | 25µL | 35µL |
| **A2-MTC‡** | Micro well 21 (1X)-tooth comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **A2-MTD‡** | Micro well 21 (1X)-tooth comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **A2-MT2C‡** | Micro well 42 (2X)-tooth comb | 1.0mm / 2.7mm | 2µL | 7µL | 12µL | 17µL |
| **A2-MT2D‡** | Micro well 42 (2X)-tooth comb | 1.5mm / 2.7mm | 3µL | 11µL | 18µL | 26µL |
| **A2-RL-18D‡** | Rapid Load 18 (1X)-tooth comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |
| **A2-PREP** | Prep comb with 2 teeth | 1.5mm / 187 / 5mm | 211 / 5.5µL | 736 / 20µL | 1263 / 34µL | 1789 / 48µL |
| **A2-WALL** | Wall comb with 1 tooth | 1.5mm / 130mm | — | — | — | — |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl A2-OK Multiple Gel Electrophoresis System

**Ideal for teaching labs or labs that need to run multiple gels simultaneously**

- Up to six 7 x 8cm minigels can be run on one system
- Screen up to 120 samples at once with supplied combs
- EasyCast* casting design permits casting without tape or plugs
- UV-transmissible (UVT) gel trays may be placed directly on the transilluminator for easy photodocumentation
- Teacher can instruct up to 12 students using one system and one power supply

**Includes:** Buffer chamber with three-point leveling base; SuperSafe* lid with attached power supply leads; Six EasyCast UVT gasketed gel trays; Twelve 10-well, double-sided combs, 1.0/1.5mm thick; Two external multiple gel casters; Gel tray holder
**Warranty¥:** Three years
**Certifications:** CE marked

| Cat. No. | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **A2-OK** | Teaching | 8 × 7cm | 37.5 × 32.5 × 10.5cm (14.8 × 12.8 × 4.1in.) | 2.3L | 5 to 144 |

## Thermo Scientific Owl A2-OK Multi Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage
- UVT gel tray incorporates gasketed end gates which provide a leakproof seal without tape

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) |
| **B1A-UVT** | EasyCast gasketed UVT gel tray |
| **B1A-GK** | Replacement gaskets (1 pair) |
| **B1A-CST** | External caster (trays & combs not included) |
| **A2-OT** | Gel tray holder for A2-OK large gel system |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type |
|---|---|
| BBL-1 | Bubble Level |

## Thermo Scientific Owl A2-OK Multi Gel Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **B1A-5C** | Standard comb; 5 teeth | 1.0mm / 11.3mm | 8µL | 30µL | 51µL | 72µL |
| **B1A-5D** | Standard comb; 5 teeth | 1.5mm / 11.3mm | 13µL | 44µL | 76µL | 108µL |
| **B1A-6** | Double-sided comb; 6 teeth | 1.0 / 1.5mm / 9.1 / 9.1mm | 7 / 10µL | 24 / 36µL | 41 / 61µL | 58 / 87µL |
| **B1A-8** | Double-sided comb; 8 teeth | 1.0 / 1.5mm / 6.4 / 6.4mm | 5 / 7µL | 17 / 25µL | 29 / 43µL | 41 / 61µL |
| **B1A-10** | Double-sided comb; 10 teeth | 1.0 / 1.5mm / 4.8 / 4.8mm | 4 / 5 µL | 13 / 19µL | 21 / 32µL | 30 / 46µL |
| **B1A-12** | Double-sided comb; 12 teeth | 1.0 / 1.5mm / 3.7 / 3.7mm | 3 / 4µL | 10 / 14µL | 16 / 25µL | 23 / 35µL |
| **B1A-PREP** | Prep comb; 2 teeth | 1.5mm / 57 / 5 mm | 64 / 6µL | 225 / 19µL | 385 / 32µL | 550 / 46µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl D4 Horizontal Electrophoresis System

**Optimal flexibility while conserving valuable bench space**

- Designed to provide flat, even banding patterns and consistent results with hassle-free gel casting — no tape, grease, agarose seals, or other accessories are required
- Run one gel tray (51 samples) in the buffer chamber, or to save bench space, two stacked trays (102 samples)
- Two 16 x 17cm UV Transmissible (UVT) gel trays accommodate up to three combs each, allowing the user to run up to three series of samples equal distances
- Stand-alone casting platform included for casting two gels simultaneously
- A single gel can be cast right in the buffer chamber or in the external caster

**Includes:** Buffer chamber (buffer volume, 1.8L); three-point leveling base; SuperSafe* lid with attached power supply leads; two UVT gel trays; six 1.5mm thick combs; external gel caster; bubble level
**Warranty**¥: Three years

| Cat. No. | Horizontal System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | Sample Range |
|---|---|---|---|---|---|
| **D4** | Space saving | 17 × 16cm | 23 × 27 × 14cm (9.1 × 10.6 × 5.5in.) | 1.8L | 17 to 102 |

## Thermo Scientific Owl D4 Horizontal Electrophoresis System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage
- UVT gel tray incorporates gasketed end gates which provide a leakproof seal without tape

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) |
| **D4-UVT** | EasyCast* gasketed UVT gel tray |
| **D4-GK** | Replacement gaskets (1 pair) |
| **D4-CST** | External caster |

## Thermo Scientific Owl Leveling Platform

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Type | Dimensions |
|---|---|---|
| **BBL-1** | Bubble Level | N/A |
| **B-LP** | Leveling Platform | 36 x 46cm |

## Thermo Scientific Owl D4 Horizontal Electrophoresis System Combs

| Cat. No.† | Description | Thickness / Width of Teeth | RECOMMENDED LOADING VOLUMES Calculated at 75% of total well volume | | | |
|---|---|---|---|---|---|---|
| | | | 0.25cm gel thickness | 0.5cm gel thickness | 0.75cm gel thickness | 1.0cm gel thickness |
| **D4-17C‡** | Micro well 17-tooth comb | 1.0mm / 7.2mm | 5µL | 19µL | 32µL | 46µL |
| **D4-17D‡** | Micro well 17-tooth comb | 1.5mm / 7.2mm | 8µL | 28µL | 49µL | 69µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.
‡ 8 and 12-channel pipette format (1X) and (2X) combs.

# Thermo Scientific Owl P81 Single-Sided Vertical Electrophoresis System

**Economical system for quick protein runs**

- Simple, rugged system provides excellent results
- Upper buffer chamber extends the length of the gel to distribute heat evenly across the entire gel surface
- Side clamps press glass plates against silicone gasket to provide uniform pressure and form a leakproof seal resulting in flat, even banding patterns
- Notched alumina ceramic plate (included) may be used in front of notched glass for cooler, faster runs

**Includes:** Upper and lower buffer chambers, SuperSafe* lid with attached power supply leads, blank glass plate, notched glass plate, notched alumina plate, two combs (10 well, 0.8mm thick), spacer set (0.8mm thick)
**Warranty**¥: Three years
**Certifications:** CE marked

| Cat. No. | Vertical System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | | |
|---|---|---|---|---|---|---|
| | | | | Upper Buffer | Lower Buffer | Total Buffer |
| **P81** | Single Sided | 10 × 10cm | 18 × 8 × 13cm (7.1 × 3.1 × 5.1in.) | 100mL | 50mL | 150mL |

## Thermo Scientific Owl P81 System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description | Dimensions |
|---|---|---|
| **PSL-5** | Power supply leads, 3 ft. (one black and one red lead) | — |
| **P81-009** | Supersafe* lid with attached power supply leads | — |
| **P8-GK** | Orange replacement gaskets (1 pair) | — |
| **P8-CL** | Side clamps (1 pair) | — |
| **R10446** | Wing knob | — |
| **P7-SA** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 0.5mm thickness |
| **P7-SC** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 0.8mm thickness |
| **P7-SD** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 1.5mm thickness |
| **P7-10R** | Notched glass | 10cmL x 10cmW x $^{3}/_{32}$" thickness |
| **P7-10G** | Blank Glass | 10cmL x 10cmW x $^{3}/_{32}$" thickness |
| **P7-10FR** | Frosted notched glass | 10cmL x 10cmW x $^{3}/_{32}$" thickness |
| **P7-10FG** | Frosted blank glass | 10cmL x 10cmW x $^{3}/_{32}$" thickness |
| **P7-10RA** | Notched alumina plate | 10cmL x 10cmW x 1.0mm thickness |

## Thermo Scientific Owl P8-Series Vertical Electrophoresis System Accessories

| Cat. No. | Description | Gel Size (L × W) | Footprint (L × W × H) |
|---|---|---|---|
| **JGC-4** | Gel Casting System; Compatible with P8DS | 10 × 10cm | 13 × 13 × 11cm |
| **P7-CST** | Gradient Gel Caster | 10 × 10cm | 13 × 15 × 13cm |

## Thermo Scientific Owl P8-Series System Combs

| Cat. No.† | Description | Thickness of teeth | Width of teeth | EST Well Volume |
|---|---|---|---|---|
| **MP-6A** | Standard 6-tooth comb | 0.5mm | 11.1mm | 89µL |
| **MP-6C** | Standard 6-tooth comb | 0.8mm | 11.1mm | 142µL |
| **MP-6D** | Standard 6-tooth comb | 1.5mm | 11.1mm | 266µL |
| **MP-8A** | Standard 8-tooth comb | 0.5mm | 7.7mm | 62µL |
| **MP-8C** | Standard 8-tooth comb | 0.8mm | 7.7mm | 99µL |
| **MP-8D** | Standard 8-tooth comb | 1.5mm | 7.7mm | 185µL |
| **MP-10A** | Standard 10-tooth comb | 0.5mm | 5.7mm | 46µL |
| **MP-10C** | Standard 10-tooth comb | 0.8mm | 5.7mm | 73µL |
| **MP-10D** | Standard 10-tooth comb | 1.5mm | 5.7mm | 134µL |
| **MP-12A** | Standard 12-tooth comb | 0.5mm | 4.3mm | 34µL |
| **MP-12C** | Standard 12-tooth comb | 0.8mm | 4.3mm | 55µL |
| **MP-12D** | Standard 12-tooth comb | 1.5mm | 4.3mm | 103µL |
| **MP-15A** | Standard 15-tooth comb | 0.5mm | 2.9mm | 23µL |
| **MP-20A** | Standard 20-tooth comb | 0.5mm | 1.6mm | 13µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl P82 Dual-Gel Electrophoresis System

**Easy to use system produces flat, even banding and crisp resolution**

- Runs two 10 x 10cm gels or one gel when used with blocking plate; accommodates 8 x 10cm gels utilizing the provided adapter
- Allows gels to easily be placed into the device
- Wedge placed in front of the cassettes provides even pressure against the leakproof gasket, places the cassettes in proper running position
- Two sizes of wedges accommodate varying thickness of precast gels
- Flexible — use precast polyacrylamide gels or hand cast gels
- No cooling required

**Includes:** Inner buffer chambers, buffer tank, SuperSafe* lid with attached power supply leads, two wedges (1.27cm thick), two wedges (1.59cm thick), adapter plates for 10 × 8 gels (2) and blocking plate
**Warranty[¥]:** Three years
**Certifications:** CE marked

| Cat. No. | Vertical System | Gel Size (L × W) | Footprint (L × W × H) | Runing Buffer Volume | | |
|---|---|---|---|---|---|---|
| | | | | Upper Buffer Chamber Vol. | Lower Buffer Chamber Max. Vol. | Lower Buffer Chamber Min. Vol. (8cm / 10cm gel) |
| **P82** | Double Sided | 8-10 × 10cm | 15.2 × 12.4 × 17cm (5.88 x 4.75 x 6.69") | 150mL | 300mL | 150mL |

## Thermo Scientific Owl P82 Dual Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description | Dimensions |
|---|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) | — |
| **OG-PL1** | Blocking plate | — |
| **R12009** | Replacement gaskets (1 pair) | — |
| **P82DS-016** | Adapter plate | — |
| **P82DS-012** | Thick replacement wedge; 1.59cm | — |
| **P82DS-013** | Thin replacement wedge; 1.27cm | — |
| **P82DS-GK** | Replacement gasket (1 pair) | — |
| **P7-SA** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 0.5mm thickness |
| **P7-SC** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 0.8mm thickness |
| **P7-SD** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 1.5mm thickness |
| **P7-10R** | Notched glass | 10cmL x 10cmW x $^{3}/_{32}$" thickness |
| **P7-10G** | Blank glass | 10cmL x 10cmW x $^{3}/_{32}$" thickness |
| **P7-10FR** | Frosted notched glass | 10cmL x 10cmW x $^{3}/_{32}$" thickness |
| **P7-10FG** | Frosted blank glass | 10cmL x 10cmW x $^{3}/_{32}$" thickness |
| **P7-10RA** | Notched alumina plate | 10cmL x 10cmW x 1.0mm thickness |

## Thermo Scientific Owl P8-Series Vertical Electrophoresis System Accessories

| Cat. No. | Description | Gel Size (L × W) | Footprint (L × W × H) |
|---|---|---|---|
| **JGC-4** | Gel Casting System; Compatible with P8DS | 10 × 10cm | 13 × 13 × 11cm |
| **P7-CST** | Gradient Gel Caster | 10 × 10cm | 13 × 15 × 13cm |

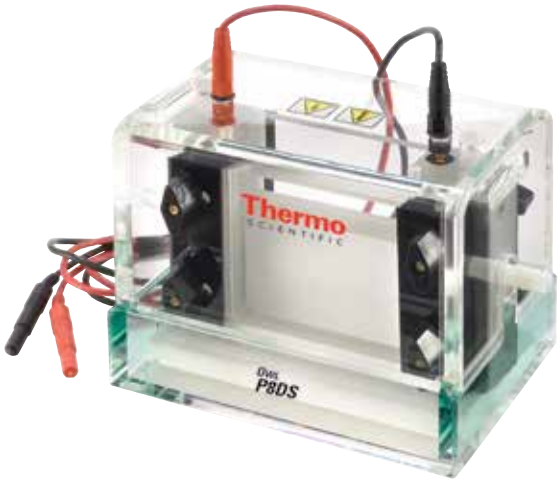
## Thermo Scientific Owl P8-Series System Combs

| Cat. No.† | Description | Thickness of teeth | Width of teeth | EST Well Volume |
|---|---|---|---|---|
| **MP-6A** | Standard 6-tooth comb | 0.5mm | 11.1mm | 89µL |
| **MP-6C** | Standard 6-tooth comb | 0.8mm | 11.1mm | 142µL |
| **MP-6D** | Standard 6-tooth comb | 1.5mm | 11.1mm | 266µL |
| **MP-8A** | Standard 8-tooth comb | 0.5mm | 7.7mm | 62µL |
| **MP-8C** | Standard 8-tooth comb | 0.8mm | 7.7mm | 99µL |
| **MP-8D** | Standard 8-tooth comb | 1.5mm | 7.7mm | 185µL |
| **MP-10A** | Standard 10-tooth comb | 0.5mm | 5.7mm | 46µL |
| **MP-10C** | Standard 10-tooth comb | 0.8mm | 5.7mm | 73µL |
| **MP-10D** | Standard 10-tooth comb | 1.5mm | 5.7mm | 134µL |
| **MP-12A** | Standard 12-tooth comb | 0.5mm | 4.3mm | 34µL |
| **MP-12C** | Standard 12-tooth comb | 0.8mm | 4.3mm | 55µL |
| **MP-12D** | Standard 12-tooth comb | 1.5mm | 4.3mm | 103µL |
| **MP-15A** | Standard 15-tooth comb | 0.5mm | 2.9mm | 23µL |
| **MP-20A** | Standard 20-tooth comb | 0.5mm | 1.6mm | 13µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl P8DS Dual-Gel Vertical Electrophoresis System

**Ideal for two-dimensional electrophoresis**




- Quickly and easily casts and runs 1 or 2 gels in the same device
- Perfect tool for second dimension protocols of 2-D electrophoresis, SDS and agarose gels, and native PAGE electrophoresis
- Unique agarose plug method makes casting gel simple and quick. Gel assemblies do not have to be moved once set-up. Two individual steps of casting and running in different devices are now combined. Simply secure the glass cassettes, pour the agarose plug in the specially designed trough, cast polyacrylamide solution in the cassettes, load samples, and run the gel. Manufactured using a time-tested acrylic fabrication technology, providing a durable, long-lasting system
- Central cooling core provides even cooling across the gel surface for outstanding resolution and clear banding
- Cooling is achieved by circulating fluid through the core with external circulator or cool tap water
- Very simple clamping mechanism makes loading glass cassettes and most manufacturers' precast gels trouble free

**Includes:** Complete System consist of Upper Buffer Chamber with Internal Cooling Core, Lower Buffer Chamber, SuperSafe Lid with Attached Power Supply Leads, 4 Blank Glass Plates, 2 Notched Glass Plates, 2 Notched Alumina Plates, 2 Spacer Sets: 0.8 mm Thick, Blocking Plate for Single Gel Operation, Spacer Placer, 2 Combs: 10 Well, 0.8 mm Thick
**Warranty**[¥]: Three years

| Cat. No. | Description | Vertical System | Gel Size L × W | Footprint (L × W × H) | Running Buffer | | |
|---|---|---|---|---|---|---|---|
| | | | | | Lower Buffer | Upper Buffer | Total |
| **P8DS-1** | P8DS Complete System plus Caster | Double-sided | 8–10 × 10cm | 17 × 13 × 14cm (6.7 × 5.1 × 5.5") | 150mL | 150mL | 300mL |
| **P8DS-2** | P8DS Complete System | Double-sided | 8–10 × 10cm | 17 × 13 × 14cm (6.7 × 5.1 × 5.5") | 150mL | 150mL | 300mL |
| **P8DS-3** | P8DS Apparatus Only | Double-sided | 8–10 × 10cm | 17 × 13 × 14cm (6.7 × 5.1 × 5.5") | 150mL | 150mL | 300mL |

## Thermo Scientific Owl P8DS Gel System Replacement Parts

- Three-point leveling platform ensures flat casting and running surface
- Includes bubble level

| Cat. No. | Description | Dimensions |
|---|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) | — |
| **P8DS-016** | Blocking Plate | — |
| **P8DS-012** | Super Safe Lid with Attached Power Supply Leads | — |
| **R12009** | Replacement gaskets (1 pair) | — |
| **P8-CL** | Side clamps (1 pair) | — |
| **R10446** | Wing knob | — |
| **ST-10** | Sponge Tips (Pack of 10) | — |
| **P7-SA** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 0.5mm thickness |
| **P7-SC** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 0.8mm thickness |
| **P7-SD** | Spacer Set (2 sides, 1 bottom) | 0.5cmW x 1.5mm thickness |
| **P7-10R** | Notched glass | 10cmL x 10cmW x 3/32" thickness |
| **P7-10G** | Blank Glass | 10cmL x 10cmW x 3/32" thickness |
| **P7-10FR** | Frosted notched glass | 10cmL x 10cmW x 3/32" thickness |
| **P7-10FG** | Frosted blank glass | 10cmL x 10cmW x 3/32" thickness |
| **P7-10RA** | Notched alumina plate | 10cmL x 10cmW x 1.0mm thickness |

## Thermo Scientific Owl P8-Series Vertical Electrophoresis System Accessories

| Cat. No. | Description | Gel Size (L × W) | Footprint (L × W × H) |
|---|---|---|---|
| **JGC-4** | Gel Casting System; Compatible with P8DS | 10 × 10cm | 13 × 13 × 11cm |
| **P7-CST** | Gradient Gel Caster | 10 × 10cm | 13 × 15 × 13cm |

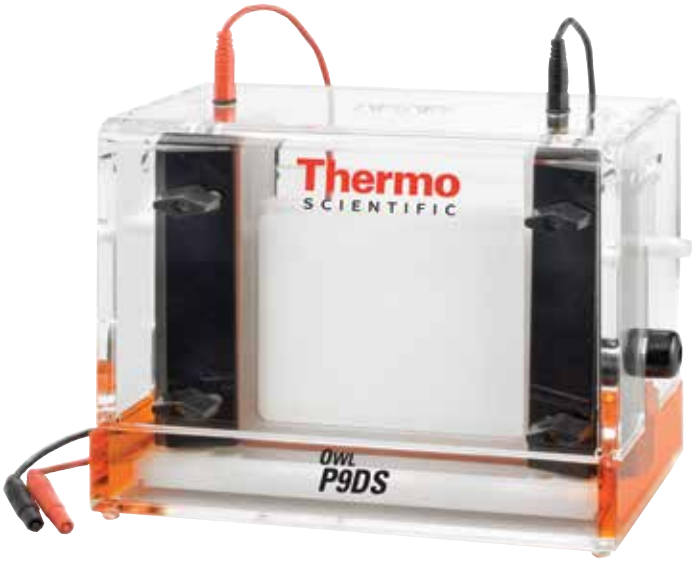
## Thermo Scientific Owl P8-Series System Combs

| Cat. No.† | Description | Thickness of teeth | Width of teeth | EST Well Volume |
|---|---|---|---|---|
| **MP-6A** | Standard 6-tooth comb | 0.5mm | 11.1mm | 89µL |
| **MP-6C** | Standard 6-tooth comb | 0.8mm | 11.1mm | 142µL |
| **MP-6D** | Standard 6-tooth comb | 1.5mm | 11.1mm | 266µL |
| **MP-8A** | Standard 8-tooth comb | 0.5mm | 7.7mm | 62µL |
| **MP-8C** | Standard 8-tooth comb | 0.8mm | 7.7mm | 99µL |
| **MP-8D** | Standard 8-tooth comb | 1.5mm | 7.7mm | 185µL |
| **MP-10A** | Standard 10-tooth comb | 0.5mm | 5.7mm | 46µL |
| **MP-10C** | Standard 10-tooth comb | 0.8mm | 5.7mm | 73µL |
| **MP-10D** | Standard 10-tooth comb | 1.5mm | 5.7mm | 134µL |
| **MP-12A** | Standard 12-tooth comb | 0.5mm | 4.3mm | 34µL |
| **MP-12C** | Standard 12-tooth comb | 0.8mm | 4.3mm | 55µL |
| **MP-12D** | Standard 12-tooth comb | 1.5mm | 4.3mm | 103µL |
| **MP-15A** | Standard 15-tooth comb | 0.5mm | 2.9mm | 23µL |
| **MP-20A** | Standard 20-tooth comb | 0.5mm | 1.6mm | 13µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl P9DS Dual-Gel Vertical Electrophoresis Systems

**Ideal for two-dimensional electrophoresis**




- Quickly and easily casts and runs 1 or 2 gels in the same device
- Perfect tool for second dimension protocols of 2-D electrophoresis, SDS and agarose gels, and native PAGE electrophoresis
- Unique agarose plug method makes casting gel simple and quick. Gel assemblies do not have to be moved once set-up. Two individual steps of casting and running in different devices are now combined. Simply secure the glass cassettes, pour the agarose plug in the specially designed trough, cast polyacrylamide solution in the cassettes, load samples, and run the gel. Manufactured using a time-tested acrylic fabrication technology, providing a durable, long-lasting system
- Central cooling core provides even cooling across the gel surface for outstanding resolution and clear banding
- Cooling is achieved by circulating fluid through the core with external circulator or cool tap water
- Very simple clamping mechanism makes loading glass cassettes and most manufacturers' precast gels trouble free

**Includes:** Complete System consists of Upper Buffer Chamber with Internal Cooling Core, Lower Buffer Chamber, SuperSafe Lid with Attached Power Supply Leads, 4 Blank Glass Plates, 2 Notched Glass Plates, Spacer Set: 1.5mm Thick, Blocking Plate for Single Gel Operation, 2 Combs: (2) 10-Well and (2) 15-Well, 1.5mm Thick
**Warranty[¥]:** Three years
**Certifications:** CE marked

| Cat. No. | Description | Vertical System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | | |
|---|---|---|---|---|---|---|---|
| | | | | | Lower Buffer | Upper Buffer | Total |
| **P9DS-1** | P9DS Complete System plus Caster | Double-sided | 14–16 × 16cm | 25 × 13 × 19.5cm (9.8 × 5.1 × 7.7in.) | 350mL | 200mL | 550mL |
| **P9DS-2** | P9DS Complete System | Double-sided | 14–16 × 16cm | 25 × 13 × 19.5cm (9.8 × 5.1 × 7.7in.) | 350mL | 200mL | 550mL |
| **P9DS-3** | P9DS Apparatus Only | Double-sided | 14–16 × 16cm | 25 × 13 × 19.5cm (9.8 × 5.1 × 7.7in.) | 350mL | 200mL | 550mL |

## Thermo Scientific Owl P9DS Dual Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description | Dimensions |
|---|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) | |
| **P9DS-006** | Blocking Plate | — |
| **P9DS-012** | Super Safe Lid with Attached Power Supply Leads | — |
| **P9-GK** | Orange replacement gaskets (1 pair) | — |
| **P9-CL** | Side clamps; pack of 2 | — |
| **R10446** | Wing knob | — |
| **ST-10** | Sponge Tips (Pack of 10) | — |
| **P1-SC** | Spacer set (2 sides, 1 bottom) | 1.0cmW x 0.8mm thickness |
| **P1-SD** | Spacer set (2 sides, 1 bottom) | 1.0cmW x 1.5mm thickness |
| **P1-14R** | Notched glass | 14cmL x 16cmW x 1/8" thickness |
| **P1-14G** | Blank glass | 14cmL x 16cmW x 1/8" thickness |
| **P1-14FR** | Frosted notched glass | 14cmL x 16cmW x 1/8" thickness |
| **P1-14FG** | Frosted blank glass | 14cmL x 16cmW x 1/8" thickness |
| **P1-12G** | Offset glass | 12cmL x 16cmW x 1/8" thickness |

## Thermo Scientific Owl P9-Series Vertical Electrophoresis System Accessories

| Cat. No. | Description | Gel Size (L × W) | Footprint (L × W × H) |
|---|---|---|---|
| **JGC-2** | Gel Casting System | 14 × 16cm | 17 × 18 × 15cm |
| **P1-CST** | Multiple Gradient Gel Caster | 14 × 16cm | 13 × 20 × 18cm |

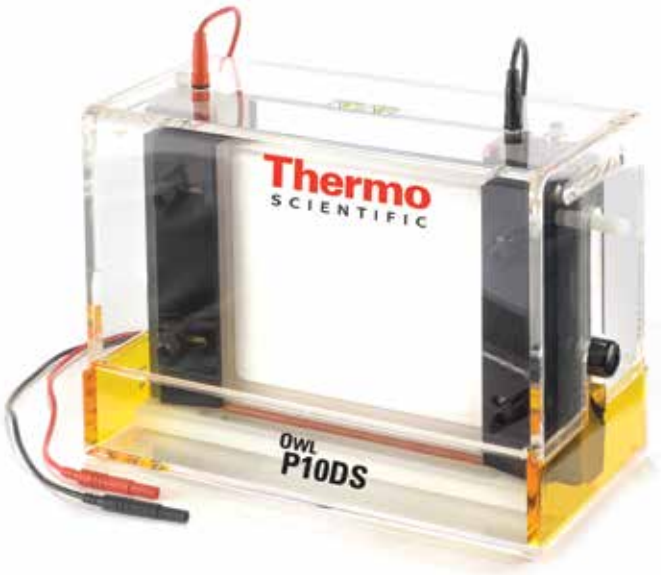
## Thermo Scientific Owl P9DS System Combs

| Cat. No.† | Description | Thickness of teeth | Width of teeth | EST Well Volume |
|---|---|---|---|---|
| **P1-10C** | Standard 10-tooth comb | 0.8mm | 10.4mm | 138µL |
| **P1-10D** | Standard 10-tooth comb | 1.5mm | 10.4mm | 343µL |
| **P1-15C** | Standard 15-tooth comb | 0.8mm | 6.1mm | 107µL |
| **P1-15D** | Standard 15-tooth comb | 1.5mm | 6.1mm | 201µL |
| **P1-20C** | Standard 20-tooth comb | 0.8mm | 3.9mm | 69µL |
| **P1-20D** | Standard 20-tooth comb | 1.5mm | 3.9mm | 129µL |
| **P1-24C** | Standard 24-tooth comb | 0.8mm | 2.9mm | 51µL |
| **P1-24D** | Standard 24-tooth comb | 1.5mm | 2.9mm | 96µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl P10DS Dual-Gel Vertical Electrophoresis Systems

**Ideal for second dimension protocols of 2-D electrophoresis applications**




- Optimal device for a large number of samples that need extended separation and mobility shift assays
- Casts and runs one or two 20 × 20cm gels in the upper buffer chamber
- Larger size cassette gives the maximum number of samples and separation length
- Manufactured using a time-tested acrylic fabrication technology, providing a durable, long-lasting system
- Central cooling core provides even cooling across the gel surface for outstanding resolution and clear banding
- Cooling is achieved by circulating fluid through the core with external circulator or cool tap water
- Very simple clamping mechanism makes loading glass cassettes and most manufacturers' precast gels trouble free

**Applications:** SDS electrophoresis, the second dimension of two-dimensional (2-D) electrophoresis, agarose electrophoresis and native electrophoresis
**Includes:** Complete System consists of Upper Buffer Chamber with Internal Cooling Core, Lower Buffer Chamber, SuperSafe* Lid with Attached Power Supply Leads, 4 Blank Glass Plates, 4 Notched Glass Plates, 4 Combs: (2) 15 Well and (2) 20 Well, 1.5mm Thick, 4 Spacer Sets: 1.5mm Thick, Blocking Plate for Single Gel Operation, and Spacer Placer
**Warranty[Y]:** Three years

| Cat. No. | Description | Vertical System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | | |
|---|---|---|---|---|---|---|---|
| | | | | | Lower Buffer | Upper Buffer | Total |
| **P10DS-1** | P10DS Complete System plus Caster | Double-sided | 20 × 20cm | 30.5 × 16.5 × 23cm (12 × 6.5 × 9in.) | 600mL | 650mL | 1250mL |
| **P10DS-2** | P10DS Complete System | Double-sided | 20 × 20cm | 30.5 × 16.5 × 23cm (12 × 6.5 × 9in.) | 600mL | 650mL | 1250mL |
| **P10DS-3** | P10DS Apparatus Only | Double-sided | 20 × 20cm | 30.5 × 16.5 × 23cm (12 × 6.5 × 9in.) | 600mL | 650mL | 1250mL |

## Thermo Scientific Owl P10DS Dual Gel System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description | Dimensions |
|---|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) | — |
| **P10DS-006** | Blocking Plate | — |
| **P10DS-012** | Super Safe Lid with Attached Power Supply Leads | — |
| **P10-GK** | Orange replacement gaskets (1 pair) | — |
| **P10-CL** | Side Clamps (1 pair) | — |
| **R10446** | Wing knob | — |
| **ST-10** | Sponge Tips (Pack of 10) | — |
| **P2-SC** | Spacer Set (2 sides, 1 bottom) | 1.0cmW × 0.8mm thickness |
| **P2-SD** | Spacer Set (2 sides, 1 bottom) | 1.0cmW × 1.5mm thickness |
| **P2-20R** | Notched glass | 20cmL × 20cmW × 3/16" thickness |
| **P2-20G** | Blank glass | 20cmL × 20cmW × 3/16" thickness |
| **P2-20FR** | Frosted notched glass | 20cmL × 20cmW × 3/16" thickness |
| **P2-20FG** | Frosted blank glass | 20cmL × 20cmW × 3/16" thickness |
| **P2-18G** | Offset glass | 18cmL × 20cmW × 3/16" thickness |
| **P10-20R** | Notched glass | 20cmL × 20cmW × 1/8" thickness |
| **P10-20G** | Blank glass | 20cmL × 20cmW × 1/8" thickness |
| **P10-18G** | Offset glass | 20cmL × 18cmW × 1/8" thickness |

## Thermo Scientific Owl P10-Series Vertical Electrophoresis System Accessories

| Cat. No. | Description | Gel Size (L × W) | Footprint (L × W × H) |
|---|---|---|---|
| **JGC-3** | Gel Casting System | 20 × 20cm | 23 × 17 × 17cm |
| **P2-CST** | Gradient Gel Caster | 20 × 20cm | 13 × 25 × 23cm |

## Thermo Scientific Owl P10-Series System Combs

| Cat. No.† | Description | Thickness of teeth | Width of teeth | EST Well Volume |
|---|---|---|---|---|
| **P2-10C** | Standard 10-tooth comb | 0.8mm | 13.6mm | 239µL |
| **P2-10D** | Standard 10-tooth comb | 1.5mm | 13.6mm | 449µL |
| **P2-15C** | Standard 15-tooth comb | 0.8mm | 8.2mm | 144µL |
| **P2-15D** | Standard 15-tooth comb | 1.5mm | 8.2mm | 271µL |
| **P2-20C** | Standard 20-tooth comb | 0.8mm | 5.5mm | 97µL |
| **P2-20D** | Standard 20-tooth comb | 1.5mm | 5.5mm | 182µL |
| **P2-25C** | Standard 25-tooth comb | 0.8mm | 3.9mm | 69µL |
| **P2-25D** | Standard 25-tooth comb | 1.5mm | 3.9mm | 129µL |
| **P2-PREP** | Prep comb with 2 teeth | 1.5mm | 151 / 5.0mm | 4604 / 162µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl S4S Aluminum-Backed Sequencers

**Easy setup with even heat distribution for "smile"-free results**

- Floating aluminum heat sink reduces chance of plates cracking during runs
- Upper buffer chamber (UBC) requires minimal buffer and is easily drained via inline drain port into removable bottle
- Lower buffer chamber (LBC) is removable for simple buffer disposal
- Full-length side clamps press gel plates against gasket seated on UBC, applying even pressure across the entire plate providing a reliable, leakproof seal between the plate and gasket
- Clamps slide over glass plates for easy setup and removal of gels

**Includes:** UBC with removable drain bottle (with safety interlocking lid and attached power supply lead), removable LBC, anodized aluminum heat sink, two side clamps, two blank glass plates, two notched glass plates, two sharktooth combs (39 teeth, 0.4mm thick), Well comb (20 well, 0.4mm thick), 2 spacer sets (0.4mm), adhesive temperature indicator
**Warranty[¥]:** Three years
**Certifications:** CE marked

| Cat. No. | Vertical System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | | |
|---|---|---|---|---|---|---|
| | | | | Lower Buffer | Upper Buffer | Total |
| **S4S** | Sequencing system | 45 × 20cm | 27 × 23 × 50cm | 500mL | 300mL | 800mL |

## Thermo Scientific Owl S4S Aluminum Backed Sequencer System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) |
| **S3S-CL** | Side Clamp (1 pair) |
| **R10384** | Buffer Drain Bottle |
| **S4S-GK** | Replacement Gasket |
| **ST-10** | Sponge Tips (Pack of 10) |
| **TEMP-5** | Adhesive Temperature Indicator (Pack of 5) |
| **STK-10** | Stopcocks (1 pair) |
| **S3S-KNOB** | Replacement Knob (Pack of 6) |

## Thermo Scientific Owl Sequencing System Spacer Sets and Glass Plates

| Cat. No. | Description | Dimensions |
|---|---|---|
| **S2S-SA4** | Spacer Set (2 sides, 1 bottom) | 1.0cmW × 0.4mm thickness |
| **S2S-SA2** | Spacer Set (2 sides, 1 bottom) | 1.0cmW × 0.2mm thickness |
| **S2S-SAW** | Wedge (Pack of 2) | 1.0cmW × 0.4 - 0.8mm thickness |
| **S1S-45R** | Notched Glass | 45cmL × 20cmW × 3/16" thickness |
| **S1S-45G** | Blank Glass | 45cmL × 20cmW × 3/16" thickness |
| **S1S-43G** | Offset Glass | 43cmL × 20cmW × 3/16" thickness |

## Thermo Scientific Owl SGC-1 Sequencing Gel Casters

- Simple method permits bubble-free gels to be cast in less than three minutes
- Horizontal plate sliding procedure, capillary action drawing gel between plates, and surface tension keeps the gel from leaking.
- No taping or special assembly required
- Exposure to hazardous acrylamide is decreased, reducing cleanup time
- Fully adjustable to accommodate glass plates from 20 to 42cm wide

**Includes:** Adjustable casting platform, width adjustment knobs, 12 binder clamps

| Cat. No. | Gel Size (L × W) | Footprint (L x W x H) |
|---|---|---|
| **SGC-1** | 48 × 20-42cm | 71 x 21 x 12.2cm (28 x 8.25 x 4.75in.) |

## Thermo Scientific Owl S4S System Combs

| Cat. No.† | Description | Thickness of teeth | Width of teeth | EST Well Volume |
|---|---|---|---|---|
| **S1S-40A** | 20-tooth Well Comb | 0.4mm | 6.8mm | 15µL |
| **S1S-60A** | 30-tooth Well comb | 0.4mm | 4.1mm | 9µL |
| **S1S-SHARK4** | 39-tooth Sharktooth Comb | 0.4mm | — | 9µL |
| **S1S-SHARK2** | 39-tooth Sharktooth Comb | 0.2mm | — | 5µL |
| **S1S-MT2** | 36 (2X)-tooth Sharktooth Micro-Well Comb | 0.4mm | — | 10µL |
| **S1S-MT3** | 55 (3X)-tooth Sharktooth Micro-Well Comb | 0.4mm | — | 5.5µL |
| **S1S-MT44** | 73 (4X)-tooth Sharktooth Micro-Well Comb | 0.4mm | — | 3.7µL |
| **S1S-MT42** | 73 (4X)-tooth Sharktooth Micro-Well Comb | 0.2mm | — | 2.0µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl S3S Aluminum-Backed Sequencers

**Most common size for manual sequencing, providing the optimal size for separation**

- Floating aluminum heat sink reduces chance of plates cracking during runs
- Upper buffer chamber (UBC) requires minimal buffer and is easily drained via inline drain port into removable bottle
- Lower buffer chamber (LBC) is removable for simple buffer disposal
- Side clamps press gel plates against gasket seated on UBC applying even pressure across plate, forming a leakproof seal resulting in flat, even banding patterns
- Clamps slide over glass plates for easy setup and removal of gels

**Includes:** UBC with removable drain bottle (with safety interlocking lid and attached power supply lead), removable LBC, heat sink, two side clamps, two blank glass plates, two notched glass plates, two sharktooth combs (78 teeth, 0.4mm thick), well comb (40 well, 0.4mm thick), 2 spacer sets (0.4mm), Adhesive temperature indicator
**Warranty[¥]:** Three years
**Certifications:** CE marked

| Cat. No. | Vertical System | Gel Size (L × W) | Footprint (L × W × H) | Running Buffer Volume | | |
|---|---|---|---|---|---|---|
| | | | | Lower Buffer | Upper Buffer Chamber | Total |
| **S3S** | Sequencing System | 45 × 35cm | 44 × 23 × 50cm | 450mL | 500mL | 950mL |

## Thermo Scientific Owl S3S Sequencer System Replacement Parts

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (Includes one black and one red lead) |
| **S3S-CL** | Side Clamp (1 pair) |
| **R10383** | Buffer drain bottle |
| **S3S-GK** | Replacement Gasket |
| **ST-10** | Sponge Tips (Pack of 10) |
| **TEMP-5** | Adhesive Temperature Indicator (Pack of 5) |
| **STK-10** | Stopcocks (1 pair) |
| **S3S-KNOB** | Replacement Knob (Pack of 6) |

## Thermo Scientific Owl Sequencing System Spacer Sets and Glass Plates

| Cat. No. | Description | Dimensions |
|---|---|---|
| **S2S-SA4** | Spacer Set (2 sides, 1 bottom) | 1.0cmW × 0.4mm thickness |
| **S2S-SA2** | Spacer Set (2 sides, 1 bottom) | 1.0cmW × 0.2mm thickness |
| **S2S-SAW** | Wedge (Pack of 2) | 1.0cmW × 0.4 - 0.8mm thickness |
| **S2S-45R** | Notched Glass | 45cmL × 35cmW × 3/16" thickness |
| **S2S-45G** | Blank Glass | 45cmL × 35cmW × 3/16" thickness |
| **S2S-43G** | Offset glass | 43cmL × 35cmW × 3/16" thickness |

## Thermo Scientific Owl SGC-1 Sequencing Gel Casters

- Simple method permits bubble-free gels to be cast in less than three minutes
- Horizontal plate sliding procedure, capillary action drawing gel between plates, and surface tension keeps the gel from leaking, no taping or special assembly required
- Exposure to hazardous acrylamide is decreased, reducing cleanup time
- Fully adjustable to accommodate glass plates from 20 to 42cm wide

| Cat. No. | Gel Size (L × W) | Footprint (L x W x H) |
|---|---|---|
| **SGC-1** | 48 × 20-42cm | 71 x 21 x 12.2cm (28 x 8.25x 4.75in.) |

## Thermo Scientific Owl S3S System Combs

| Cat. No.† | Description | Thickness of teeth | Width of teeth | EST Well Volume |
|---|---|---|---|---|
| **S2S-20A** | 40-tooth Well Comb | 0.4mm | 6.8mm | 15µL |
| **S2S-30A** | 60-tooth Well Comb | 0.4mm | 4.1mm | 9µL |
| **S2S-SHARK4** | 78-tooth Sharktooth Comb | 0.4mm | — | 9µL |
| **S2S-SHARK2** | 78-tooth Sharktooth Comb | 0.2mm | — | 5µL |
| **S2S-MT2** | 72 (2X)-tooth Sharktooth Micro-Well Comb | 0.4mm | — | 10µL |
| **S2S-MT3** | 110 (3X)-tooth Sharktooth Micro-Well Comb | 0.4mm | — | 5.5µL |
| **S2S-MT44** | 146 (4X)-tooth Sharktooth Micro-Well Comb | 0.4mm | — | 3.7µL |
| **S2S-MT42** | 146 (4X)-tooth Sharktooth Micro-Well Comb | 0.2mm | — | 2µL |

† Customized combs are available (Order SKU # XCM). Please contact your Customer Service Representative for further details.

# Thermo Scientific Owl JGC-4, JGC-3, JGC-2 Gel Casting Systems

**Fast, unique way to cast polyacrylamide gels**

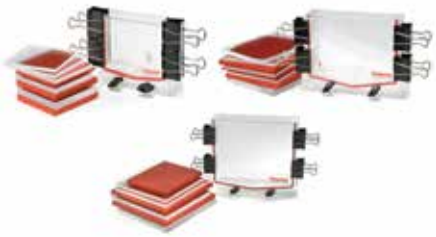
- Pouch collects excess polyacrylamide and seals bottom of gel, eliminating need for tape or bottom spacers
- Design allows storage of gels without dehydration by adding buffer and heat sealing
- Casts from one to four gels
- Few moving parts result in outstanding durability and extra long life

**Includes:** Casting stand with three-point leveling base, blocking plate, spacer placer, 25 gel pouches, clamping screws, bubble level and leveling screws

| Cat. No. | Compatible With | Gel Size | L x W x H |
|---|---|---|---|
| **JGC-4** | Owl P8DS, P82, P81 | 10 × 10cm | 13 × 13 × 11cm |
| **JGC-3** | Owl P10DS | 20 × 20cm | 23 × 17 × 17cm |
| **JGC-2** | Owl P9DS | 14 × 16cm | 17 × 18 × 15cm |

## Thermo Scientific Owl JGC Gel Casting System Replacement Parts

| Cat. No. | Description | Dimensions | For Use With |
|---|---|---|---|
| **GP4-100** | Gel Pouches; Pack of 100 | 10 × 10cm | JGC-4 Systems |
| **GP4-25** | Gel Pouches; Pack of 25 | 10 × 10cm | JGC-4 Systems |
| **JG4-PL** | Spacer Placer; Pack of 3 | — | JGC-4 Systems |
| **JGC4-006** | Blocking Plate; Each | 10 × 10cm | JGC-4 Systems |
| **GP3-100** | Gel Pouches; Pack of 100 | 20 × 20cm | JGC-3 Systems |
| **GP3-25** | Gel Pouches; Pack of 25 | 20 × 20cm | JGC-3 Systems |
| **JG3-PL** | Spacer Placer; Pack of 3 | — | JGC-3 Systems |
| **JGC-003** | Blocking plate; Each | 20 × 20cm | JGC-3 Systems |
| **GP2-100** | Gel Pouches; Pack of 100 | 14 × 16cm | JGC-2 Systems |
| **GP2-25** | Gel Pouches; Pack of 25 | 14 × 16cm | JGC-2 Systems |
| **JG2-PL** | Spacer Placer; Pack of 3 | — | JGC-2 Systems |
| **JGC2-003** | Blocking Plate; Each | 14 × 16cm | JGC-2 Systems |
| **R10013** | Leveling screws | 1"L | JGC-4, JGC-3, JGC-2 Systems |
| **R10014** | Clamping screws | 2"L | JGC-4, JGC-3, JGC-2 Systems |



## Thermo Scientific Owl Gradient Gel Casters

**Simultaneously casts from 1 to 5 gels**

- Use external gradient maker to cast gels with ease and great reproducibility
- Gradient gels may be pumped in through port in base of caster—requires no external pump due to gravity pull
- Design and format of unit will provide years of service

**Includes:** Casting stand with base port, spacer placer, foam, acrylic spacer plates, four binder clamps, front plate, 2 wing knobs and blocking plate

| Cat. No. | Description | Gel Size (L × W) | Footprint (L × W × H) | Compatible Owl Units |
|---|---|---|---|---|
| **P7-CST** | Gradient Gel Caster | 10 × 10cm | 15 × 13 × 13cm (5.8 × 5.1 × 5.1in.) | P81, P82, P8DS |
| **P1-CST** | Gel Caster | 14 × 16cm | 20 × 13 × 18cm (7.9 × 5.1 × 7in.) | P9DS |
| **P2-CST** | Gel Caster | 20 × 20cm | 25 × 13 × 23cm (9.8 × 5.1 × 9in.) | P10DS |

## Thermo Scientific Owl SGC Sequencing Gel Casters

**Simple method that allows bubble-free gels to be cast in less than three minutes**

- Horizontal plate sliding procedure, capillary action drawing gel between plates, and surface tension, keeps the gel from leaking, no taping or special assembly required
- Exposure to hazardous acrylamide is decreased, reducing cleanup time
- Available in two lengths: 48 or 65.5cm
- Fully adjustable to accomodate glass plates from 20 to 42cm wide

**Includes:** Adjustable casting platform, width adjustment knobs, 12 binder clamps

| Cat. No. | Plate Size (L × W) | L x W x H | Compatible Owl Units |
|---|---|---|---|
| **SGC-1** | 48 × 20-42cm | 71 x 21 x 12.2cm (28 x 8.25x 4.75in.) | S4S, S3S |
| **SGC-2** | 65.5 × 20-42cm | 102 x 21 x 12.2cm (40 x 8.25 x 4.75in.) | S4S, S3S |

## Thermo Scientific Owl Accessories for CST Multiple Gradient Gel Casters

| Cat. No. | Description |
|---|---|
| **CL-12** | Binder clamps (pk. of 12) |
| **CL-125** | Stainless-steel clamps (pk. of 12) |

## Thermo Scientific Owl Gel-Drying Kits

**Convenient method of preserving protein gels by air drying them between two sheets of cellophane**

- Preserves protein gels easily and economically, while eliminating distortion problems common in other drying procedures
- Available in minigel and large format sizes
- Beveled-edge design of gel-drying frame makes assembly easy

**Includes:** Complete kits include two sets of gel-drying frames, 50 sheets of precut cellophane, two solid back plates, and eight side clips; frames and cellphane are also available separately

| Cat. No. | Description | L x W |
|---|---|---|
| **GDF-10** | Gel-Drying Kit, Minigel Format | 14 × 14cm |
| **GDF-20** | Gel-Drying Kit, Large Format | 24 × 24cm |

## Thermo Scientific Owl Gel Drying Kit Accessories

| Cat. No. | Description | L × W |
|---|---|---|
| **GDF-3** | Gel drying frame, Minigel | 14 × 14cm |
| **GDF-1** | Gel drying frame, Large | 24 × 24cm |
| **CM10** | Precut Cellophane; 50 sheets | 14 × 14cm |
| **CM20** | Precut Cellophane; 50 sheets | 24 × 24cm |

## Thermo Scientific Owl Gel Staining Box

**Permits staining, fixing and destaining in the same container**

- Resistant to most organic dyes, silver and other stains.
- Holds up to 125mL of liquid and one gel when used on a shaking platform
- Grooved lid enables proper orientation and stability when stacking
- Made of clear plastic, so gels can be viewed directly in the tray

**Ordering Information:** Package of 5

| Cat. No. | Exterior DimensionL × W × H | Capacity |
|---|---|---|
| **GSB-3** | 11 × 11 × 3cm | 125mL |

## Thermo Scientific Owl Blotting Paper

**High-quality blotting paper ideal for wicking and blotting applications**

- Provides sufficient thickness to absorb adequate amounts of buffer for semi-dry electroblotting without the loss of mechanical stability
- Available in pre-cut mini gel and large format gel sizes
- Compatiable with Owl electroblotting systems

| Cat. No. | | | Material | Weight | Thickness | Flowrate |
|---|---|---|---|---|---|---|
| **FP-1** | 20 × 20cm | HEP-1 | 100% cotton fiber | 183g/m2 | 0.83mm | 35mL/min. |
| **FP-3** | 46 × 57cm | — | | | | |
| **FP-4** | 10 × 10cm | HEP-1, VEP-2 | | | | |
| **FP-5** | 18 × 20cm | HEP-1, VEP-3 | | | | |
| **FP-6** | 9 × 9cm | HEP-1, VEP-3 | | | | |
| **FP-7** | 12 × 16cm | HEP-1 | | | | |

## Thermo Scientific Owl Transfer Membranes

**Hydrophobic membranes that are ideal for Western blotting**

- Thermo Scientific offers Immobilon*-P, PVDF transfer membrane
- This membrane provides the highest signal-to-noise ratio, which allows the use of mild blocking procedures
- Immobilon-P has high protein retention; is compatible with all standard visualization methods; and can be used for protein sequencing
- Immobilon is available in minigel and large-format gel sizes

| Cat. No. | Format | Membrane Size |
|---|---|---|
| **TM151-1** | Roll, 26.5cm × 3.75m | 26.5cm × 3.75m |
| **TM151-4** | Sheets (Pack of 10) | 15 × 15cm |
| **TM151-5** | Sheets (Pack of 10) | 10 × 10cm |

## Thermo Scientific Owl RF-3 Filing System

**Ideal for organizing your refrigerator, coldroom, freezer or benchtop**

- Eight compartments constructed of durable 0.64cm thick acrylic
- No skid rubber feet prevent sliding
- Use either vertically or horizontally

**Notes:** Microtube racks are not included

| Cat. No. | Array | Compartments | Material | Exterior L × W × H | Interior L × W × D |
|---|---|---|---|---|---|
| **RF-3** | 2 × 4 | 8 | Sturdy 0.25" thick acrylic | 6 × 9 × 12" | 2.625 × 2.625 × 8.875" |

## Thermo Scientific Owl Pipet Holder

**Designed to hold standard glass and disposable pipets in square or round cans**

| Cat. No. | Description | Material | Exterior L × W × H | Interior L × W × H |
|---|---|---|---|---|
| **PCH-1** | Pipet Holder | Sturdy 0.25" thick acrylic | 13.5 × 11.5 × 16" | 3 × 3 × 11.25" |

# Thermo Scientific Owl EC-105 Compact Power Supply

**Ideal for DNA and RNA electrophoresis**

- Equipped with an over current detector for maximum safety
- Easy-to-use power supply operates in constant voltage
- The adjustment knob and hi-lo range switch control the output, which is variable in 10V increments from 20V to 250V
- Two-position switch toggles the bright LED display from indicating output voltage to output current
- The supply is also equipped with an over current detector for maximum safety and has two jacks

**Warranty¥:** 1 year

| Cat. No. | Maximum Voltage | Max. Current | No. of Jacks | Display Modes | L × W × H | Electrical |
|---|---|---|---|---|---|---|
| **105ECA-115** | 250V | 300mA @ 150-250V; 500mA below 150V | 1 | Voltage or current | 15 × 20 × 11cm (6 x 8 x 4.5in.) | 115V/60Hz |
| **105ECA-LVD** | 250V | 300mA @ 150-250V; 500mA below 150V | 1 | Voltage or current | 15 × 20 × 11cm (6 x 8 x 4.5in.) | 230V/50Hz |

| Cat. No. | Description |
|---|---|
| **112ECA** | 250V Power Supply Timer |

# Thermo Scientific Owl EC-300XL2 Compact Power Supply

**Simple-to-use, multi-purpose, lightweight and great for DNA/RNA and Pprotein electrophoresis**

- Power-off memory retains settings after shut-down
- Stackable design saves benchtop space
- Soft-touch key pad allows quick set-up
- Designed for safety
- Non-skid rubber feet provide stability

**Warranty¥:** 1 year

| Cat. No. | Output Voltage | Max. Current | No. of Jacks | Display Modes | Timer | L × W × H | Electrical |
|---|---|---|---|---|---|---|---|
| **EC300XL** | 300V | 400mA | 3 | Voltage or current | 0-999 min. | 26 × 14 × 13.3cm (10.25 × 5.5 × 5.25in.) | 120V 50/60Hz |
| **EC300XL2** | 300V | 400mA | 3 | Voltage or current | 0-999 min. | 26 × 14 × 13.3cm (10.25 × 5.5 × 5.25in.) | 230V 50/60Hz |

# Thermo Scientific Owl EC-200XL High Current Power Supply

**Simple-to-use, multi-purpose, lightweight and great for DNA/RNA, protein and blotting electrophoresis**

- Power-off memory retains settings after shut-down
- Stackable design saves benchtop space
- Soft-touch key pad allows quick set-up
- Designed for safety
- Non-skid rubber feet provide stability

**Warranty¥:** 1 year

| Cat. No. | Output Voltage | Max. Current | No. of Jacks | Display Modes | Timer | L × W × H | Electrical |
|---|---|---|---|---|---|---|---|
| **EC200XL** | 200V | 2000mA | 4 | Voltage or current | 0-99 hr. 59 min. | 31 × 27 × 13.3cm (12 × 10.75 × 5.25in.) | 120V 50/60Hz |
| **EC200XL2** | 200V | 2000mA | 4 | Voltage or current | 0-99 hr. 59 min. | 31 × 27 × 13.3cm (12 × 10.75 × 5.25in.) | 230V 50/60Hz |

# Thermo Scientific Owl EC-1000XL Programmable Power Supply

**Great for DNA/RNA, protein and blotting electrophoresis**

- Power-off memory retains settings after shut-down
- Offers constant power mode
- Stackable design saves benchtop space
- Soft-touch key pad allows quick set-up
- Designed for safety
- Non-skid rubber feet
- Easy to operate

**Warranty¥:** 1 year

| Cat. No. | Output Voltage | Max. Current | No. of Jacks | Display Modes | Timer | L × W × H | Electrical |
|---|---|---|---|---|---|---|---|
| **EC1000XL** | 1000V | 500mA | 4 | Voltage, current, or power | 0-99 hr. 59 min. | 31 × 27 × 13.3cm (12 × 10.75 × 5.25in.) | 120V 50/60Hz |
| **EC1000XL2** | 1000V | 500mA | 4 | Voltage, current, or power | 0-99 hr. 59 min. | 31 × 27 × 13.3cm (12 × 10.75 × 5.25in.) | 230V 50/60Hz |

# Thermo Scientific Owl EC-3000XL Programmable Power Supply

**Simple-to-use, multi-purpose and lightweight**

- Power-off memory retains settings after shut-down
- Offers constant power mode
- Stackable design saves benchtop space
- Soft-touch key pad allows for quick set-up
- Designed for safety
- Non-skid rubber feet

**Warranty[¥]:** 1 year

| Cat. No. | Output Voltage | Max. Current | No. of Jacks | Display Modes | Timer | L × W × H | Electrical |
|---|---|---|---|---|---|---|---|
| **EC3000XL** | 3000V | 400mA | 4 | Voltage, current, or power | 0-99 hr. 59 min. | 31 × 27 × 13.3cm (12 × 10.75 × 5.25in.) | 120V 50/60Hz |
| **EC3000XL2** | 3000V | 400mA | 4 | Voltage, current, or power | 0-99 hr. 59 min. | 31 × 27 × 13.3cm (12 × 10.75 × 5.25in.) | 230V 50/60Hz |

## Thermo Scientific Owl Power Supply Leads

- Power supply leads include a retractable sheath end for convenience and safety
- Power supply leads are manufactured with strain relief cord to prevent breakage

| Cat. No. | Description |
|---|---|
| **PSL-5** | Power supply leads, 3 ft. (includes one black and one red lead) |

# furnaces

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# Thermo Scientific Thermolyne Small Benchtop Muffle Furnaces

**Fast heatup and excellent energy efficiency — ideal for ashing most types of organic and inorganic samples, heat treating small steel parts, performing ignition tests, conducting gravimetric analysis and for the determination of volatile and suspended solids**

- Available in two capacities and reaches a maximum temperature of 1100°C
- Digital single setpoint temperature control to 1100°C
- Single display shows actual temperature or setpoint
- Ceramic fiber insulation permits faster heatup, reducing energy consumption
- Embedded heating element on top and both sides improves temperature uniformity
- Drop-down door doubles as a shelf for loading and unloading
- Door safety switch stops power to heating elements when door is opened
- Thermocouple break protection cuts power to heating elements, preventing failure runaway condition
- 0.95cm (0.38in.) diameter port in chamber rear for monitoring temperatures with independent measuring devices

**Ordering Information:** Replacement heating elements and thermocouples available separately
**Includes:** Thermocouple, line cord, and 1 hearth tray
**Warranty¥:** 1 year (parts and labor)
**Certifications:** All units CSA approved, -33 units also CE marked

| Cat. No. | Capacity | Temp. Range | Temp. Stability (Uniformity) | Interior D x W x H | Exterior L x W x H | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **FB1315M** | 1.3L (0.04 cu. ft.) | 100° to 1100°C | ±0.3°C at 1000°C (±7.8°C at 1000°C) | 13 x 10.3 x 9.8cm (5 x 4 x 3.8in.) | 33 x 23 x 36cm (13 x 9 x 14in.) | 120V 50/60Hz 1060w | 9kg (20 lb.) |
| **FB1318M** | 1.3L (0.04 cu. ft.) | 100° to 1100°C | ±0.3°C at 1000°C (±7.8°C at 1000°C) | 13 x 10.3 x 9.8cm (5 x 4 x 3.8in.) | 33 x 23 x 36cm (13 x 9 x 14in.) | 208V 50/60Hz 1060w | 9kg (20 lb.) |
| **FB1310M** | 1.3L (0.04 cu. ft.) | 100° to 1100°C | ±0.3°C at 1000°C (±7.8°C at 1000°C) | 13 x 10.3 x 9.8cm (5 x 4 x 3.8in.) | 33 x 23 x 36cm (13 x 9 x 14in.) | 240V 50/60Hz 1060w | 9kg (20 lb.) |
| **FB1314M** | 1.3L (0.04 cu. ft.) | 100° to 1100°C | ±0.3°C at 1000°C (±7.8°C at 1000°C) | 13 x 10.3 x 9.8cm (5 x 4 x 3.8in.) | 33 x 23 x 36cm (13 x 9 x 14in.) | 100V 50/60Hz 1060w | 9kg (20 lb.) |
| **FB1310M-33** | 1.3L (0.04 cu. ft.) | 100° to 1100°C | ±0.3°C at 1000°C (±7.8°C at 1000°C) | 13 x 10.3 x 9.8cm (5 x 4 x 3.8in.) | 33 x 23 x 36cm (13 x 9 x 14in.) | 240V 50/60Hz 1060w | 9kg (20 lb.) |
| **FB1415M** | 2.1L (0.07 cu. ft.) | 100° to 1100°C | ±0.5°C at 1000°C (±5.0°C at 1000°C) | 15.2 x 12.7 x 10.8cm (6 x 5 x 4.25in.) | 40 x 25 x 37cm (15.8 x 10 x 14.5in.) | 120V 50/60Hz 1450w | 12.7kg (28 lb.) |
| **FB1418M** | 2.1L (0.07 cu. ft.) | 100° to 1100°C | ±0.5°C at 1000°C (±5.0°C at 1000°C) | 15.2 x 12.7 x 10.8cm (6 x 5 x 4.25in.) | 40 x 25 x 37cm (15.8 x 10 x 14.5in.) | 208V 50/60Hz 1520w | 12.7kg (28 lb.) |
| **FB1410M** | 2.1L (0.07 cu. ft.) | 100° to 1100°C | ±0.5°C at 1000°C (±5.0°C at 1000°C) | 15.2 x 12.7 x 10.8cm (6 x 5 x 4.25in.) | 40 x 25 x 37cm (15.8 x 10 x 14.5in.) | 240V 50/60Hz 1520w | 12.7kg (28 lb.) |
| **FB1410M-33** | 2.1L (0.07 cu. ft.) | 100° to 1100°C | ±0.5°C at 1000°C (±5.0°C at 1000°C) | 15.2 x 12.7 x 10.8cm (6 x 5 x 4.25in.) | 40 x 25 x 37cm (15.8 x 10 x 14.5in.) | 240V 50/60Hz 1520w | 12.7kg (28 lb.) |
| **FB1414M** | 2.1L (0.07 cu. ft.) | 100° to 1100°C | ±0.5°C at 1000°C (±5.0°C at 1000°C) | 15.2 x 12.7 x 10.8cm (6 x 5 x 4.25in.) | 40 x 25 x 37cm (15.8 x 10 x 14.5in.) | 100V 50/60Hz 1450w | 12.7kg (28 lb.) |

-33 units available with plug for China: please add "**CN**" at the end of the Cat. No.

## Hearth Trays

| Cat. No. | For Use With |
|---|---|
| **PH44X1** | FB1300 Furnace |
| **PH48X1** | FB1400 Muffle Furnace |

# Thermo Scientific Thermolyne Industrial Benchtop Muffle Furnaces

**Rugged design with multiple safety features and choice of two temperature control options**

Industrial benchtop muffle 2.2L / 0.08 cu. ft

**Includes:** Furnace, Platinel® II thermocouple and a ceramic hearth tray (Cat No. PHX2) to protect the bottom heating element
**Warranty**¥: 1 year (parts and labor)
**Certifications:** All units cUL, UL listed
**Notes:** 120V models require power cord and hardwiring. 240V models include a power cord

**NOT AVAILABLE IN EUROPE**

- Reaches 1200°C maximum temperature
- Heavy-duty firebrick insulation surrounds the opening for added durability
- Adjustable alarm or Over-temperature Protection (OTP) setting can be used to protect the furnace or loaded chamber from excessive heat
- Thermocouple break protection cuts power to the heating elements, preventing a thermocouple failure runaway condition
- Counter-weighted door swings upward, directing heat away from operator
- Four individual embedded elements in special refractory cement permit excellent heat distribution in the chamber
- Door safety switch protects operator by removing power to the heating elements upon opening the door
- Rear-mounted 0.38in. (0.95cm) diameter port for monitoring chamber temperatures with independent measuring devices
- LED display simultaneously shows both setpoint and actual furnace temperatures in either °C or °F (programmable models only)

## Single-setpoint Controller (B1)

- Single ramp to setpoint and a dwell
- Single display shows actual temperature or setpoint

## 8-step Programmable Controller (C1)

- Ramps to vary heat-up rate and dwell cycles to hold temperature at set levels from 0.1 to 999.9 minutes
- "Holdback" feature "holds" program until furnace temperature heats up or cools down to preprogrammed parameters — program will never outrun furnace performance

| Cat. No. | Capacity | Temp. Range | Control | Interior D x W x H | Exterior L x W x H | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **FD1535M** | 2.2L (0.08 cu. ft.) | 100° to 1200°C | B1 | 22.8 x 10.1 x 9.5cm (9 x 4 x 3.75in.) | 45.7 x 27.9 x 41.9cm (18 x 11 x 16.5in.) | 120V 50/60Hz, 18.6A 2230w | 23.5kg (52 lb.) |
| **FD1530M*** | 2.2L (0.08 cu. ft.) | 100° to 1200°C | B1 | 22.8 x 10.1 x 9.5cm (9 x 4 x 3.75in.) | 45.7 x 27.9 x 41.9cm (18 x 11 x 16.5in.) | 240V 50/60Hz, 9.3A 2230w | 23.5kg (52 lb.) |
| **FD1545M** | 2.2L (0.08 cu. ft.) | 100° to 1200°C | C1 | 22.8 x 10.1 x 9.5cm (9 x 4 x 3.75in.) | 45.7 x 27.9 x 41.9cm (18 x 11 x 16.5in.) | 120V 50/60Hz, 18.6A 2230w | 23.5kg (52 lb.) |
| **FD1540M*** | 2.2L (0.08 cu. ft.) | 100° to 1200°C | C1 | 22.8 x 10.1 x 9.5cm (9 x 4 x 3.75in.) | 45.7 x 27.9 x 41.9cm (18 x 11 x 16.5in.) | 240V 50/60Hz, 9.3A 2230w | 23.5kg (52 lb.) |
| **FD1530M-33** | 2.2L (0.08 cu. ft.) | 100° to 1200°C | B1 | 22.8 x 10.1 x 9.5cm (9 x 4 x 3.75in.) | 45.7 x 27.9 x 41.9cm (18 x 11 x 16.5in.) | 240V 50/60Hz, 6.5A 1560w | 23.5kg (52 lb.) |
| **FD1540M-33** | 2.2L (0.08 cu. ft.) | 100° to 1200°C | C1 | 22.8 x 10.1 x 9.5cm (9 x 4 x 3.75in.) | 45.7 x 27.9 x 41.9cm (18 x 11 x 16.5in.) | 240V 50/60Hz, 6.5A 1560w | 23.5kg (52 lb.) |

*available with plug for China: please add "**CN**" at the end of the Cat. No.

## Hearth Trays

| Cat. No. | D x W x H |
|---|---|
| **PHX1** | 8.2 x 10.1 x 1.27cm (3.25 x 4 x 0.5in.) |
| **PHX2** | 20.3 x 9.6 x 1.9cm (8 x 3.8 x 0.75in.) |

# Thermo Scientific Thermolyne Benchtop Muffle Furnaces

**Ideal for general laboratory use, including gravimetric analysis, sintering, quantitative analysis and heat treating**

Benchtop muffle 5.8L / 0.2 cu.ft

- Reaches a 1200°C maximum temperature
- Available in two capacities for added flexibility
- Built-in vent port removes contaminants and moisture to extend the life of the heating element and furnace
- For added protection, the door safety switch stops power to heating elements when door opens
- Thermocouple break protection cuts power to heating elements, preventing a thermocouple failure runaway condition
- Two open coil heating elements on chamber sides assure fast heat-up with minimum temperature gradient
- Thermal-efficient ceramic insulation surrounds chamber for maximum energy efficiency
- 0.312in. dia. port for monitoring chamber temperatures with independent measuring device at rear of chamber

## F47900, F48000 Models

- F47900 models have 2L chamber capacity, F48000 models have 5L chamber capacity

## Choice of Temperature Controllers

- Furnaces that use B, C or D control also use a mechanical over-temperature protection relay
- **A1:** Digital single setpoint control; single display shows actual temperature or setpoint
- **B1:** Digital single setpoint control with a single ramp to setpoint and a dwell; single display shows actual temperature or setpoint; mechanical over-temperature protection relay is included
- **C1:** Digital programmable control with one stored program of 8 segments; mechanical over-temperature protection relay is included
- **D1:** Digital programmable control with 4 stored programs, 16 segments per program, and RS-232 communications interface; mechanical over-temperature protection relay is included

**Includes:** Power cord and one hearth tray, F48000 models also include a ceramic shelf (SH480X1)
**Warranty[¥]:** 1 year (parts and labor)
**Certifications:** CSA approved, CE marked as indicated

## Accessories

| Cat. No. | Description | For Use With |
|---|---|---|
| **PH479X1** | Hearth Tray, 15.2 x 14.3 x 0.95cm | F47900 Muffle Furnace |
| **SH480X1** | Ceramic Shelf, 17.4 x 17.3 x 1.2cm | F48000 Muffle Furnace (one shelf position at center) |
| **PH480X1** | Hearth Tray, 25.4 x 19.3 x 0.95cm | F48000 Muffle Furnace |
| **AY408X1A** | Stainless Steel Exhaust Tubing Kit, 2.5in. ID x 60in. L | Atmosphere Controlled Ashing and Muffle Furnaces |

| Cat. No. | Capacity | Temp. Range | Interior D x W x H | Exterior L x W x H | Control | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **F47910‡** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | A1 | 240V 50/60Hz 1000w 4.2 A | 18.5kg (41 lb.) |
| **F47910-33†** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | A1 | 240V 50/60Hz 1000w 4.2 A | 18.5kg (41 lb.) |
| **F47914** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | A1 | 100V 50/60Hz 750W 7.5A | 18.5kg (41 lb.) |
| **F47915‡** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | A1 | 120V 50/60Hz 1000w 8.3A | 18.5kg (41 lb.) |
| **F48010‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | A1 | 240V 50/60Hz 1800w 7.5A | 27.2kg (60 lb.) |
| **F48010-33†** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | A1 | 240V 50/60Hz 1560w 6.5A | 27.2kg (60 lb.) |
| **F48015-60‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | A1 | 120V 50/60Hz 1800w 15A | 27.2kg (60 lb.) |
| **F48018‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | A1 | 208V 50/60Hz 1560w 7.5A | 27.2kg (60 lb.) |
| **F47920‡** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | B1 | 240V 50/60Hz 1000w 4.2A | 18.5kg (41 lb.) |
| **F47920-33†** | 2L (0.07 cu. ft.) | 100° to 1200°C 212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | B1 | 240V 50/60Hz 1000w 4.2A | 18.5kg (41 lb.) |
| **F47924** | 2L (0.07 cu. ft.) | 100° to 1200°C 212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | B1 | 100V 50/60Hz 750w 7.5A | 18.5kg (41 lb.) |
| **F47925** | 2L (0.07 cu. ft.) | 100° to 1200°C 212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | B1 | 120V 50/60Hz 1000w 8.3A | 18.5kg (41 lb.) |
| **F48020 -DB‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C 212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | B1 | 240V 50/60Hz 1800w 7.5A | 18.5kg (41 lb.) |
| **F48020-33†** | 5.8L (0.2 cu. ft.) | 100° to 1200°C 212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | B1 | 240V 50/60Hz 1560w 6.5A | 27.2kg (60 lb.) |
| **F48028‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | B1 | 208V 50/60Hz 1560W 7.5A | 27.2kg (60 lb.) |
| **F48025-60‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | B1 | 120V 50/60Hz 1800w 15.0A | 27.2kg (60 lb.) |
| **F47920-80** | 2L (0.07 cu. ft.) | 100° to 1200°C 212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | C1 | 240V 50/60Hz 1000w 4.2A | 18.5kg (41 lb.) |
| **F47920-33-80†** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | C1 | 240V 50/60Hz 1000w 4.2A | 18.5kg (41 lb.) |
| **F47924-80** | 2L (0.07 cu. ft.) | 100° to 1200°C 212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | C1 | 100V 50/60Hz 750w 7.5A | 18.5kg (41 lb.) |
| **F47925-80** | 2L (0.07 cu. ft.) | 100° to 1200°C 212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | C1 | 120V 50/60Hz 1000w 8.3A | 18.5kg (41 lb.) |
| **F48020-80** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | C1 | 240V 50/60Hz 1800w 7.5A | 27.2kg (60 lb.) |
| **F48020-33-80†** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | C1 | 240V 50/60Hz 1800w 6.5A | 27.2kg (60 lb.) |
| **F48025-60-80‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | C1 | 120V 50/60Hz 1800w 15.0A | 27.2kg (60 lb.) |
| **F48028-80** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | C1 | 208V 50/60Hz 1560w 7.5A | 27.2kg (60 lb.) |
| **F47950‡** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | D1 | 240V 50/60Hz 1000w 4.2A | 18.5kg (41 lb.) |
| **F47950-33†** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | D1 | 240V 50/60Hz 1000w 4.2A | 18.5kg (41 lb.) |
| **F47954** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | D1 | 100V 50/60Hz 750w 7.5A | 18.5kg (41 lb.) |
| **F47955** | 2L (0.07 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 15 x 13.7 x 10cm (6 x 5 x 4in.) | 39 x 28.5 x 47cm (15.5 x 11.3 x 18.5in.) | D1 | 120V 50/60Hz 1000w 8.3A | 18.5kg (41 lb.) |
| **F48050-33†** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | D1 | 240V 50/60Hz 1800w 6.5A | 27.2kg (60 lb.) |
| **F48050‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | D1 | 240V 50/60Hz 1800w 7.5A | 27.2kg (60 lb.) |
| **F48055-60‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | D1 | 120V 50/60Hz 1800w 15.0A | 27.2kg (60 lb.) |
| **F48058‡** | 5.8L (0.2 cu. ft.) | 100° to 1200°C (212° to 2192°F) | 25 x 18 x 13cm (10 x 7 x 5in.) | 50 x 34 x 19cm (19.5 x 13.3 x 19in.) | D1 | 208V 50/60Hz 1560w 7.5A | 27.2kg (60 lb.) |

† CE marked; ‡ CSA listed; -60 models include 20-amp cord.
-33 units available with plug for China: please add "CN" at the end of the Cat. No.
-60 models having a 20-amp power cord.

# Thermo Scientific Thermolyne Premium Large Muffle Furnaces

**Robust design and choice of four temperature controllers, ideal for industrial applications including ashing organic and inorganic samples and conducting gravimetric analysis**

Premium large muffle furnace - 14L / 0.5 cu. ft

**Includes:** Models F6010 and F6018 include a cord and plug set
**Required Accessories:** All models except F6010 and F6018 require hardwiring
**Warranty¥:** 1 year (parts and labor)
**Certifications:** All units CSA approved, -33 units also CE marked

- Spacious 14L (0.5 cu. ft.) capacity and reaches a maximum of 1200°C
- Four heating elements are located on the chamber top, bottom and sides for enhanced temperature uniformity
- Built-in vent port removes undesirable contaminants and moisture to extend the life of the element and unit
- Rear of the chamber incorporates a 0.312 in. diameter port for monitoring chamber temperatures with independent measuring devices
- Optional stainless-steel shelf doubles load capacity (maximum temperature of 900°C)
- Door safety switch stops power to heating elements when door opens
- Thermocouple break protection cuts power to the heating elements, preventing a thermocouple failure runaway condition
- Furnaces with B1, C1, and D1 control also use a mechanical over-temperature protection relay

## Choice of Temperature Controllers

- **A1:** Digital single setpoint control; single display shows actual temperature or setpoint
- **B1:** Digital single setpoint control with single ramp to setpoint and a dwell; single display shows actual temperature or setpoint
- **C1:** Digital programmable control with one stored program of eight segments
- **D1:** Digital programmable control with four stored programs, 16 segments per program and Controller includes RS-232 communications

| Cat. No. | Capacity | Temp. Range | Temp. Stability/ Uniformity at 1000°C | Interior D x W x H | Exterior L x W x H | Control | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|---|
| **F6018** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±0.3°C ±2.2°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | A1 | 208V 50/60Hz 11.2A 2325w | 60.8kg (134 lb.) |
| **F6010*** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±0.3°C ±2.2°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | A1 | 240V 50/60Hz 12.9A 3095w | 60.8kg (134 lb.) |
| **F6028C** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | B1 | 208V 50/60Hz 19.2A 4000w | 60.8kg (134 lb.) |
| **F6020C** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | B1 | 240V 50/60Hz 18.3A 4400w | 60.8kg (134 lb.) |
| **F6020C-33** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | B1 | 240V 50/60Hz 18.3A 4400w | 60.8kg (134 lb.) |
| **F6028C-80** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | C1 | 208V 50/60Hz 19.2A 4000w | 60.8kg (134 lb.) |
| **F6020C-80** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | C1 | 240V 50/60Hz 18.3A 4400w | 60.8kg (134 lb.) |
| **F6020C-33-80** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | C1 | 240V 50/60Hz 18.3A 4400w | 60.8kg (134 lb.) |
| **F6038CM** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | D1 | 208V 50/60Hz 19.3A 4000w | 60.8kg (134 lb.) |
| **F6030CM** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | D1 | 240V 50/60Hz 18.3A 4400w | 60.8kg (134 lb.) |
| **F6030CM-33** | 14L (0.5 cu.ft.) | 100° to 1200°C (212° to 2192°F) | ±1.5°C ±4.5°C | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 48.5 x 53.3cm (20.1 x 19.1 x 21in.) | D1 | 240V 50/60Hz 18.3A 4400w | 60.8kg (134 lb.) |

* Available with plug and cord for China: order F6010CN

## Accessories

| Cat. No. | Description |
|---|---|
| **JSX16** | Shelf Pegs (4 required) |
| **PH177X1** | Hearth Tray, 22.9 x 27.3 x 1.9cm (one per chamber floor) |
| **PHX1** | Hearth Tray, 8.2 x 10.1 x 1.27cm (up to 9 per chamber floor in 3x3 pattern) |
| **SH408X1** | Stainless-steel shelf (requires 4 shelf pegs), max. temperature: 900°C, number of shelf positions: 7 |

# Thermo Scientific Thermolyne Largest Tabletop Muffle Furnaces

**Ideal for safe operation with a range of applications including annealing glass, determinations of volatiles, catalyst research and ashing organic and inorganic samples**

Largest tabletop muffle furnace
45L / 1.6 cu. ft

**Warranty[Y]: 1** year (parts and labor)
**Certifications:** All units CSA approved, -33 units also CE marked
Required power cord and hardwiring not included.

- Triple the usable working area using two supplied accessory refractory shelves (number of shelf positions: 5)
- Advanced LED digital-set/digital-display temperature controller is microprocessor-controlled
- LED display simultaneously shows both setpoint and actual furnace temperatures in °C or °F
- User-selectable over-temperature protection
- Open thermocouple protection
- Chamber has five shelf positions

## Safety and Design Features

- Heating elements are on chamber top, bottom and sides for enhanced temperature uniformity
- Built-in vent port removes undesirable contaminants and moisture to extend the life of the element and unit
- Rear of chamber incorporates a 0.25in. diameter port for monitoring chamber temperatures with independent measuring devices
- Critical electronic components and heating elements are protected by a 35A circuit breaker
- Door safety switch stops power to the heating elements when door opens

## Choice of Temperature Controllers

- Furnaces that use B1, C1 or D1 control also use a mechanical Over-temperature Protection relay
- **B1:** Digital single setpoint control with a single ramp to setpoint and dwell; single display shows actual temperature or setpoint
- **C1:** Digital programmable control with one stored program of 8 segments
- **D1:** Digital programmable control with 4 stored programs, 16 segments per programl, and RS-232 communications interface

| Cat. No. | Capacity | Temp. Range | Temp. Stability and Uniformity | Interior D x W x H | Exterior L x W x H | Control | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|---|
| **F30428C** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | B1 | 208V 50/60Hz 26.4A 5500w | 117.9kg (260 lb.) |
| **F30420C** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | B1 | 240V 50/60Hz 22.9A 5500w | 117.9kg (260 lb.) |
| **F30420C-33** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | B1 | 240V 50/60Hz 22.9A 5500w | 117.9kg (260 lb.) |
| **F30428C-80** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | C1 | 208V 50/60Hz 26.4A 5500w | 117.9kg (260 lb.) |
| **F30420C-80** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | C1 | 240V 50/60Hz 22.9A 5500w | 117.9kg (260 lb.) |
| **F30420C-33-80** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | C1 | 240V 50/60Hz 22.9A 5500w | 117.9kg (260 lb.) |
| **F30438CM** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | D1 | 208V 50/60Hz 26.4A 5500w | 117.9kg (260 lb.) |
| **F30430CM** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | D1 | 240V 50/60Hz 22.9A 5500w | 117.9kg (260 lb.) |
| **F30430CM-33** | 45L (1.6 cu. ft.) | 100° to 1093°C | ±1.2°C at 1000°C ±3.45°C | 36 x 36 x 36cm (14 x 14 x 14in.) | 64.7 x 54.6 x 74.9cm (25.5 x 21.5 x 29.5in.) | D1 | 240V 50/60Hz 22.9A 5500w | 117.9kg (260 lb.) |

## Accessories

| Cat. No. | Description | D x W x H |
|---|---|---|
| **PH146X1** | Hearth Tray | 17.1 x 14.9 x 1.9cm (6.75 x 5.9 x 0.75in.) |
| **SH412X1** | Shelf - max weight 11.3 kg (25 lbs), 5 shelf positions | 35.2 x 25.4 x 1.27cm (13.87 x 10 x 0.56in.) |
| **AY408X1A** | Exhaust Tubing Kit | — |

# Thermo Scientific Thermolyne Atmosphere Controlled Ashing Furnaces

## Ideal for coal and coke ashing procedures

Type F6000-60 with SS shelf and handle

**Warranty¥:** 1 year (parts and labor)
**Certifications:** CSA certified, CE marked as indicated
Required power cord and hardwiring not included.

- Reaches 975°C with the standard stainless-steel manifold and 1093°C with the optional inconel manifold
- Adjustable gas flowmeter/valve (0-80L/min.) on front for easy access when adjusting the airflow rate
- Stainless-steel manifold at rear chamber prewarms incoming gases, provides a maximum temperature gradient of only ±3°C at 750°C
- Chamber rear has a 0.25in. diameter port for monitoring chamber temperatures with independent measuring devices
- Includes hose barb (in back of chamber) for inert gas line with tubing 0.64cm (0.25 in.) I.D. and 0.96cm (0.375in.) O.D

### Type F6000

- Includes two dual-purpose stainless-steel trays and one handle. Each tray can accommodate 24 (30mL) porcelain crucibles or 38 (10mL) quartz crucibles

### Type F6000-80 programmable models

- Meet ASTM® D3174 specifications: 3 to 4 air exchanges per min.
- Can be programmed to norm: "Heating rate of 8°C/min. to 500°C, 6°C/min. from 500° to 750°C, Hold at 750°C for two hours, then turn off automatically"

| Cat. No. | Capacity | Maximum Temp. | Holds | Interior D x W x H | Exterior L x W x H | Control | Electrical |
|---|---|---|---|---|---|---|---|
| **F6020C-33-60‡** | 14L (0.5 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 49 x 53cm (20 x 19.1 x 21in.) | Digital single setpoint with ramp and dwell (B1) | 240V, 18.3A 4400w |
| **F6028C-60†** | 14L (0.5 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 49 x 53cm (20 x 19.1 x 21in.) | Digital single setpoint with ramp and dwell (B1) | 208V, 19.2A 4000w |
| **F6020C-33-60-80‡** | 14L (0.5 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 49 x 53cm (20 x 19.1 x 21in.) | Digital programmable with 1 program, 8 segments (C1) | 240V, 18.3A 4400w |
| **F6028C-60-80** | 14L (0.5 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 49 x 53cm (20 x 19.1 x 21in.) | Digital programmable with 1program, 8 segments (C1) | 208V, 19.2A 4000w |
| **F6030CM-33-60‡** | 14L (0.5 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 25 x 33 x 18cm (10 x 12.8 x 6.8in.) | 51 x 49 x 53cm (20 x 19.1 x 21in.) | Digital programmable with 4 programs, 16 segments each (D1) | 240V, 18.3A 4400w |
| **F30420C-60-80†** | 45L (1.6 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 36 x 36 x 36cm (14 x 14 x 14in.) | 65 x 55 x 75cm (25.5x 21.5 x 29.5in.) | Digital programmable with 1 program, 8 segments (C1) | 240V, 22.9A 5500w |
| **F30420-33-60-80‡** | 45L (1.6 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 36 x 36 x 36cm (14 x 14 x 14in.) | 65 x 55 x 75cm (25.5x 21.5 x 29.5in.) | Digital programmable with 1 program, 8 segments (C1) | 240V, 22.9A 5500w |
| **F30428C-60-80†** | 45L (1.6 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 36 x 36 x 36cm (14 x 14 x 14in.) | 65 x 55 x 75cm (25.5x 21.5 x 29.5in.) | Digital programmable with 1 program, 8 segments (C1) | 208V, 23.4A 5500w |
| **F30430CM-60†** | 45L (1.6 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 36 x 36 x 36cm (14 x 14 x 14in.) | 65 x 55 x 75cm (25.5x 21.5 x 29.5in.) | Digital programmable with 4 programs, 16 segments each (D1) | 240V, 22.9A 5500w |
| **F30430CM-33-60‡** | 45L (1.6 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 36 x 36 x 36cm (14 x 14 x 14in.) | 65 x 55 x 75cm (25.5x 21.5 x 29.5in.) | Digital programmable with 4 programs, 16 segments each (D1) | 240V, 22.9A 5500w |
| **F30438CM-60†** | 45L (1.6 cu.ft.) | 975°C | 24 (30mL) porcelain or 38 (10mL) quartz crucibles | 36 x 36 x 36cm (14 x 14 x 14in.) | 65 x 55 x 75cm (25.5x 21.5 x 29.5in.) | Digital programmable with 4 programs, 16 segments each (D1) | 208V, 23.4A 5500w |

† CSA approved. ‡ CE marked.

## Accessories

| Cat. No. | Description | For Use with |
|---|---|---|
| **TY408X2A** | Crucible Trays | Atmosphere Controlled Ashing Furnace |
| **SH408X1** | Stainless-steel shelf (requires 4 shelf pegs JSX16), max. temperature: 900°C, number of shelf positions: 7 | F6000-60 Atmosphere Controlled Ashing Furnace; Premium Large Muffle Furnaces |
| **HN408X2A S** | Shelf Handle | Atmosphere Controlled Ashing Furnaces |
| **SH412X1** | Refractory Shelf, number of shelf positions: 5 | F30400-60 Atmosphere Controlled Ashing Furnaces |
| **AY408X1** | Inconel Manifold - increases maximum temperature to 1093°C | F6000 Furnace |
| **AY408X1A** | Exhaust Tubing Kit | Atmosphere Controlled Ashing and Muffle Furnaces |
| **AY718X1** | Inconel Manifold - increases maximum temperature to 1093°C | F30400 Furnace |

# Thermo Scientific Lindberg/Blue M Moldatherm Box Furnaces

**Versatile selection of chamber box furnaces in several popular chamber sizes to meet a variety of demanding industrial and laboratory applications**

**Ordering Information:** Factory-installed Optional RS485 Digital Communications Port allows controller to be connected to a PC for remote monitoring and control of the furnace. Up to 30 units can be connected to one PC. Requires Communication Cable # 7043 for First unit and Communication Cable # 7044 for Second and additional units.
**Includes:** 10ft. power cord except 1.5 cu. ft. models which require customer-supplied power cord or hardwiring
**Warranty¥:** 1 year (parts and labor)
**Certifications:** UL

**NOT AVAILABLE IN EUROPE**

- Unique insulation and heating element composites to minimize outer surface temperatures while maintaining uniform heat distribution within the chamber
- Advanced engineering and specialized construction techniques include variable density insulation, double shell cabinets, long-life heating elements and horizontal side swing doors
- Selectable self-tuning feature sets best control parameters for the thermal process
- PID control (proportional, integral, derivative) prevents overshoot
- Main power ON/OFF switch on control panel
- Controlled heat-up rate eliminates thermal shock to materials
- Quick heat-up and cool-down rates
- Adjustable high-limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint (°C or °F)

## Advanced Construction

- Advanced double wall minimizes exterior surface temperatures for operator safety and energy efficiency
- Side-hinge door for convenient operation and full chamber access
- Long-life Type K thermocouple
- Air vent (1in. dia., top) and air inlet (0.375in. dia., rear) for inert atmosphere exchange; note: door is not gas-tight
- Removable and replaceable Moldatherm® hearth plate supports load and prevents damage due to spillage
- Energy efficient Moldatherm insulation with embedded heating elements
- Safety door switch to interrupt power to heating element when door is opened; protects heating element and minimizes exposure to end-user

## Controller choices, with over-temperature protection:

- **A:** Digital single segment, single setpoint, one ramp to setpoint
- **B:** Digital single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control

| Cat. No. | Capacity | Temp. Range | Interior Dimensions (D x W x H) | Exterior Dimensions (L x W x H) | Control | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **BF51748A-1** | 1.99L (0.07 cu. ft.) | 100° to 1100°C | 20.3 x 10.2 x 10.2cm (4 x 8 x 4in.) | 50.8 x 38.1 x 44.4cm (20 x 15 x 17.5in.) | A/OTP | 120V 50/60Hz 1800w | 25kg (55 lb.) |
| **BF51748C-1** | 1.99L (0.07 cu. ft.) | 100° to 1100°C | 20.3 x 10.2 x 10.2cm (4 x 8 x 4in.) | 50.8 x 38.1 x 44.4cm (20 x 15 x 17.5in.) | A/OTP | 208/240V 50/60Hz 1800w | 25kg (55 lb.) |
| **BF51848A-1** | 1.99L (0.07 cu. ft.) | 100° to 1100°C | 20.3 x 10.2 x 10.2cm (4 x 8 x 4in.) | 50.8 x 38.1 x 44.4cm (20x 15 x 17.5in.) | B/OTP | 120V 50/60Hz 1800w | 25kg (55 lb.) |
| **BF51848C-1** | 1.99L (0.07 cu. ft.) | 100° to 1100°C | 20.3 x 10.2 x 10.2cm (4 x 8 x 4in.) | 50.8 x 38.1 x 44.4cm (20 x 15 x 17.5in.) | B/OTP | 208/240V 50/60Hz 1800w | 25kg (55 lb.) |
| **BF51766A-1** | 5.3L (0.19 cu. ft.) | 100° to 1100°C | 22.9 x 15.2 x 15.2cm (9 x 6 x 6in.) | 53.3 x 43.1 x 54.6cm (21 x 17 x 21.5in.) | A/OTP | 120V 50/60Hz 1800w | 50kg (110 lb.) |
| **BF51766C-1** | 5.3L (0.19 cu. ft.) | 100° to 1100°C | 22.9 x 15.2 x 15.2cm (9 x 6 x 6in.) | 53.3 x 43.1 x 54.6cm (21 x 17 x 21.5in.) | A/OTP | 208/240V 50/60Hz 1800w | 50kg (110 lb.) |
| **BF51866A-1** | 5.3L (0.19 cu. ft.) | 100° to 1100°C | 22.9 x 15.2 x 15.2cm (9 x 6 x 6in.) | 53.3 x 43.1 x 54.6cm (21 x 17 x 21.5in.) | B/OTP | 120V 50/60Hz 1800w | 50kg (110 lb.) |
| **BF51866C-1** | 5.3L (0.19 cu. ft.) | 100° to 1100°C | 22.9 x 15.2 x 15.2cm (9 x 6 x 6in.) | 53.3 x 43.1 x 54.6cm (21 x 17 x 21.5in.) | B/OTP | 208/240V 50/60Hz 1800w | 50kg (110 lb.) |
| **BF51794C-1** | 18.4L (0.65 cu. ft.) | 100° to 1100°C | 35.6 x 22.9 x 22.9cm (14 x 9 x 9in.) | 65.4 x 53.3 x 66cm (25.75 x 21 x 26in..) | A/OTP | 208/240V 50/60Hz 3500w | 59kg (130 lb.) |
| **BF51894C-1** | 18.4L (0.65 cu. ft.) | 100° to 1100°C | 35.6 x 22.9 x 22.9cm (14 x 9 x 9in.) | 65.4 x 53.3 x 66cm (25.75 x 21 x 26in.) | B/OTP | 208/240V 50/60Hz 3500w | 59kg (130 lb.) |
| **BF51728C-1** | 42.5L (1.5 cu. ft.) | 100° to 1100°C | 45.7 x 30.5 x 30.5cm (18 x 12 x 12in.) | 76.2 x 60.9 x 71.1cm (30 x 24 x 28in.) | A/OTP | 208/240V 50/60Hz 5600w | 84kg (185 lb.) |
| **BF51828C-1** | 42.5L (1.5 cu. ft.) | 100° to 1100°C | 45.7 x 30.5 x 30.5cm (18 x 12 x 12in.) | 76.2 x 60.9 x 71.1cm (30 x 24 x 28in.) | B/OTP | 208/240V 50/60Hz | 84kg (185 lb.) |

To add RS-485 Digital Communications Port to Furnace model, add "**COM**" to model number before last letter in cat. no. – e.g., BF51748**COM**A-1

# Thermo Scientific Lindberg/Blue M LGO Box Furnaces

**Latest technical advances in heating elements, insulation and temperature control, all integrated into a self-contained cabinet**

- Feature exclusive LGO™ (light gauge overbend) heating elements and Moldatherm insulation for efficient and economical transfer of heat to chamber, with low exterior temperatures
- Variable heat-up rate eliminates thermal shock to materials with quick heat-up and cool-down rates
- Choice of side hinge or vertical lift door
- Air vent (1in. dia., top) and air inlet (0.375in. dia., rear) for inert atmosphere exchange (note: door is not gas-tight)
- Self-tuning, digital instrumentation for precise temperature setpoint and display
- Platinel II thermocouple for long-term stability
- 0.6 cu. ft. models feature vertical lift door; 2 cu. ft. models feature horizontal side swing door, hot side facing away from operator for protection

## Microprocessor Control

- Microprocessor-based self-tuning PID control (proportional, integral, derivative) provides optimum thermal process, prevents overshoot
- Control panel designed for easy access and maintenance
- Main power ON/OFF switch on control panel
- Adjustable high-limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint in °C or °F
- Safety door switch interrupts power to heating element when door is opened; protects heating elements and minimizes exposure to end-user
- Removable shelves for versatility: all units include 1 two-part shelf; 16.4L has 1 center position; 55.3 L models have 3 shelf positions
- Moldatherm hearthplate supports load and prevents damage due to spillage

## Digital, Single-Setpoint Controller (A)

- Single segment, single setpoint, one ramp to setpoint

## Digital Single-Program, Multiple-Segment Programmable Controller (B)

- Single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control

## Digital Multiple-Program, Multiple-Segment Programmable Controller (C)

- Available on models with P designation
- Multiple programs , 4 programs with up to 300 steps, and segments for ramp (up and down) and dwell (timed hold) temperature control

## Over-temperature Control (OTC)

- Adjustable digital over-temperature control, available on selected models with B suffix designation
- Protects furnace and load in the event of primary control circuit failure
- Overrides main controller and shuts off power to furnace if high limit is reached
- Manual reset required for safety
- Operates via magnetic contacts through signal from independent thermocouple

## Flowmeter Option (FM) (Inert Atmosphere Only)

- Available on selected models with FM designation
- Gas flowmeter, adjustable, located on front control panel
- Adjustable flowrate, range 1.0 to 10.0 cu. ft./hr. standard
- Suitable for inert gas or airflow to chamber
- Allows fresh air exchange for ashing applications
- Not suitable for combustible or volatile gases

**Ordering Information:** Required power cord and hardwiring not included. Factory-installed Optional RS485 Digital Communications Port allows controller to be connected to a PC for remote monitoring and control of the furnace. Up to 30 units can be connected to one PC. Requires Communication Cable # 7043 for First unit and Communication Cable # 7044 for Second and additional units
**Includes:** One two-part shelf (0.6 cu. ft. models have one shelf position at center position; 2.0 cu. ft. models have three shelf positions)
**Warranty[¥]:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

| Cat. No. | Capacity | Temp. Range | Interior Dimensions (D x W x H) | Exterior Dimensions (L x W x H) | Control | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **BF51731C-1** | 16.4L (0.6 cu. ft.) | 100° to 1200°C | 27.9 x 33.0 x 17.8cm (11 x 12 x 11in.) | 58.4 x 61 x 68.6cm (23 x 24 x 27in.) | A | 208/240V 50/60Hz 4500w | 75kg |
| **BF51731BC-1** | 16.4L (0.6 cu. ft.) | 100° to 1200°C | 27.9 x 33.0 x 17.8cm (11 x 12 x 11in.) | 58.4 x 61 x 68.6cm (23 x 24 x 27in.) | A/OTC | 208/240V 50/60Hz 4500w | 75kg |
| **BF51732C-1** | 16.4L (0.6 cu. ft.) | 100° to 1200°C | 27.9 x 33.0 x 17.8cm (11 x 12 x 11in.) | 58.4 x 61 x 68.6cm (23 x 24 x 27in.) | B | 208/240V 50/60Hz 4500w | 75kg |
| **BF51732BC-1** | 16.4L (0.6 cu. ft.) | 100° to 1200°C | 27.9 x 33.0 x 17.8cm (11 x 12 x 11in.) | 58.4 x 61 x 68.6cm (23 x 24 x 27in.) | B/OTC | 208/240V 50/60Hz 4500w | 75kg |
| **BF51732PC-1** | 16.4L (0.6 cu. ft.) | 100° to 1200°C | 27.9 x 33.0 x 17.8cm (11 x 12 x 11in.) | 58.4 x 61 x 68.6cm (23 x 24 x 27in.) | C | 208/240V 50/60Hz 4500w | 75kg |
| **BF51732PBC-1** | 16.4L (0.6 cu. ft.) | 100° to 1200°C | 27.9 x 33.0 x 17.8cm (11 x 12 x 11in.) | 58.4 x 61 x 68.6cm (23 x 24 x 27in.) | C/OTC | 208/240V 50/60Hz 4500w | 75kg |
| **BF51732PFMC-1** | 16.4L (0.6 cu. ft.) | 100° to 1200°C | 27.9 x 33.0 x 17.8cm (11 x 12 x 11in.) | 58.4 x 61 x 68.6cm (23 x 24 x 27in.) | C/FM | 208/240V 50/60Hz 4500w | 75kg |
| **BF51732PBFMC-1** | 16.4L (0.6 cu. ft.) | 100° to 1200°C | 27.9 x 33.0 x 17.8cm (11 x 12 x 11in.) | 58.4 x 61 x 68.6cm (23 x 24 x 27in.) | C/OTC/FM | 208/240V 50/60Hz 4500w | 75kg |
| **BF51841C-1** | 55.3L (2.0 cu. ft.) | 100° to 1200°C | 38.1 x 38.1 x 38.1cm (15 x 15 x 15in.) | 71.1 x 73.7 x 83.8cm (28 x 29 x 33in.) | A | 208/240V 50/60Hz 5800w | 127kg |
| **BF51841BC-1** | 55.3L (2.0 cu. ft.) | 100° to 1200°C | 38.1 x 38.1 x 38.1cm (15 x 15 x 15in.) | 71.1 x 73.7 x 83.8cm (28 x 29 x 33in.) | A/OTC | 208/240V 50/60Hz 5800w | 127kg |
| **BF51842C-1** | 55.3L (2.0 cu. ft.) | 100° to 1200°C | 38.1 x 38.1 x 38.1cm (15 x 15 x 15in.) | 71.1 x 73.7 x 83.8cm (28 x 29 x 33in.) | B | 208/240V 50/60Hz 5800w | 127kg |
| **BF51842BC-1** | 55.3L (2.0 cu. ft.) | 100° to 1200°C | 38.1 x 38.1 x 38.1cm (15 x 15 x 15in.) | 71.1 x 73.7 x 83.8cm (28 x 29 x 33in.) | B/OTC | 208/240V 50/60Hz 5800w | 127kg |
| **BF51842PC-1** | 55.3L (2.0 cu. ft.) | 100° to 1200°C | 38.1 x 38.1 x 38.1cm (15 x 15 x 15in.) | 71.1 x 73.7 x 83.8cm (28 x 29 x 33in. | C | 208/240V 50/60Hz 5800w | 127kg |
| **BF51842PBC-1** | 55.3L (2.0 cu. ft.) | 100° to 1200°C | 38.1 x 38.1 x 38.1cm (15 x 15 x 15in.) | 71.1 x 73.7 x 83.8cm (28 x 29 x 33in.) | C/OTC | 208/240V 50/60Hz 5800w | 127kg |
| **BF51842PFMC-1** | 55.3L (2.0 cu. ft.) | 100° to 1200°C | 38.1 x 38.1 x 38.1cm (15 x 15 x 15in.) | 71.1 x 73.7 x 83.8cm (28 x 29 x 33in.) | C/FM | 5800w | 127kg |
| **BF51842PBFMC-1** | 55.3L (2.0 cu. ft.) | 100° to 1200°C | 38.1 x 38.1 x 38.1cm (15 x 15 x 15in.) | 71.1 x 73.7 x 83.8cm (28 x 29 x 33in.) | C/OTC/FM | 5800w | 127kg |

A, B, C: see details of control options, previous page
OTC: Over-temperature Control
FM: Flowmeter option
To add RS-485 Digital Communications Port to Furnace model, add "**COM**" to model number before last letter in cat.no. - e.g., BF51731**COM**C-1

# Thermo Scientific Lindberg/Blue M Heavy-Duty 1200°C Box Furnaces

**Unique internal construction and outer shell design that reduces external surface temperatures without compromising interior temperature uniformity**

- Features individual heating elements at chamber top, bottom and sides for uniform heat distribution
- Unique Moldatherm ceramic fiber insulation to allow rapid heatup, recovery and cooldown rates. Swing-down door provides convenient loading platform
- Helically coiled, high-temperature alloy wire elements for extended service life
- High-temperature insulation in vestibule and floating plug door to minimize heat loss and improve temperature control
- Spring-loaded door holds door securely shut; door rests in horizontal position when open
- Sight glass for convenient observation of heated load during operation
- Refractory plate heating unit
- Long-life Platinel II thermocouple with 10ft. compensated lead wire and polarized plug
- Rugged, heavy-duty Inconel® hearthplate supports load and protects the furnace from damage due to spillage (Model BF51542C)
- Heating element imbedded in Moldatherm insulation (Model BF51542C)

***Note: Independent control is sold separately; see next page.***

**Ordering Information:** Choice of controllers available, including 1200°C digital single-program/multiple-segment programmable controller and over-temperature control
**Required Accessories:** Independent control console CC58114C. Required power cord and hardwiring not included.
**Warranty¥:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

| Cat. No. | Capacity | Temp. Range | Interior Dimensions (D x W x H) | Exterior Dimensions (L x W x H) | Description | Electricial | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **BF51442C** | 9L (0.32 cu. ft.) | 100° to 1200°C | 35.6 x 19.5 x 13.3cm (14 x 7.5 x 5.25in.) | 50.8 x 50.8 x 62.2cm (20 x 20 x 24.5in.) | With refractory plate heating element | 208/240V 50/60 Hz 4800w | 66kg (145 lb.) |
| **BF51542C** | 23L (0.81 cu. ft.) | 100° to 1200°C | 36.8 x 26.7 x 24.1cm (14.5 x 10.5 x 9.5in.) | 78.7 x 71.1 x 72.4cm (31 x 28 x 28.5in.) | With Moldatherm Heating Element (Four Sides) | 208/240V 50/60 Hz 6200w | 152kg (335 lb.) |

# Thermo Scientific Controllers for Lindberg/Blue M Heavy-Duty 1200°C Box Furnaces

**Temperature accuracy and offer options for over-temperature control and multiple segment configuration**

**Ordering Information:** Factory-installed Optional RS485 Digital Communications Port allows controller to be connected to a PC for remote monitoring and control of the furnace. Up to 30 units can be connected to one PC. Requires Communication Cable # 7043 for First unit and Communication Cable # 7044 for Second and additional units  Required power cord and hardwiring not included.

**NOT AVAILABLE IN EUROPE**

## 1200°C Digital, Single Setpoint Controller

- Control console is fully wired and includes a solid-state power module, ON/OFF circuit breaker and thermocouple input jack
- Microprocessor-based PID control (proportional, integral, derivative), single segment, single setpoint, one ramp to setpoint
- Built-in adjustable high limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint in °C or °F
- Designed for operation on 208, or 240V 50/60Hz, single-phase line

## Over-temperature Control on selected control consoles with "B" suffix designation

- Adjustable digital control is factory installed
- Protects furnace and load in the event of primary control circuit failure
- Overrides main controller and shuts off power to furnace if high limit is reached
- Must be manually reset for safety
- Operates via magnetic contacts through a signal from an independent thermocouple

| Cat. No. | Description | Electricial |
|---|---|---|
| **CC58114C-1** | Single-Setpoint | 208/240V 50/60Hz 30A |
| **CC58114PC-1** | Single-zone Console, Digital, Programmable | 208/240V 50/60Hz 30A |
| **CC58114BC-1** | Single Setpoint with Over Temperature Control | 208/240V 50/60Hz 30A |
| **CC58114PBC-1** | Single-zone Console, Digital, Programmable, with Over Temperature Control | 208/240V 50/60Hz 30A |

To add RS-485 Digital Communications Port to Furnace model, add "**COM**" to model number before last letter in cat. no. – e.g., CC58114**COM**C-1

# Thermo Scientific Lindberg/Blue M 1700°C Box Furnaces, Large Chamber, Integral Control

**Designed for efficient, high-temperature use with minimal maintenance**

- Fast heatup to high temperatures, unique door design and control sophistication ranging from solid-state, single setpoint to more versatile microprocessor-based systems with programming and communications options
- Designed for efficient high-temperature use with minimal maintenance
- Choice of single setpoint or programmable control
- Side swing door provides full and easy access to chamber, protects user from heat surge
- Atmosphere port, 0.375in. diameter, for fresh air or inert gas inlet (located at back wall, bottom)
- Solid-state power module with ammeter, circuit breaker, transformer and front panel indicator lights for “Ready Element” and “Main Power Applied”
- Safety power disconnect switch cuts power to heating elements when door is opened
- Moldatherm high-temperature ceramic fiber insulation with advanced graded design for fast heat-up and resistance to thermal shock
- Moldatherm hearthplate supports load and protects chamber from spills or mishandling
- High-volume cooling fans move air between inner and outer chamber to reduce exterior shell temperatures and improve energy efficiency and operator safety
- Long-life type “B” thermocouples with 10ft. compensated lead wire and polarized plug for accurate high-temperature measurement
- Removable panels for easy access to replaceable heating elements and thermocouples

### Smart Heating Elements

- Molybdenum disilicide elements with unique right-angle bend and sidewall mounting reduce maintenance usually associated with element termination and mounting
- Designed for easy replacement without matching resistance values
- Fast heat-up and recovery with excellent uniformity and energy efficiency
- Increased resistance to thermal shock, ideal for rapid cycling over extended periods

### Over-temperature Protection (OTP)†

- Adjustable digital over-temperature control protects furnace and load in the event of primary control circuit failure
- Overrides main controller and shuts off power to furnace if high limit is reached
- Manual reset required for safety
- Operates via signal from independent thermocouple

### Programmable Controller With Communications (COM Models)

- With RS-485 data port (communications card and port) for connection to remote computer
- Enables modification, interrogation and data transfer of instrument control and configuration parameters
- Up to 30 units can be connected to one PC
- Software not included (available as an option)
- Requires Communication Cable # 7043 for First unit and Communication Cable # 7044 for Second and additional units

### Digital Multiple Program, Multiple Segment Programmable Controller

- Microprocessor-based PID control (proportional, integral, derivative) prevents overshoot
- Up to 30 programs and up to 300 segments for ramp (up and down) and dwell (timed hold) temperature control – up to 99 segments per program
- Simultaneous digital LED display of actual temperature vs. setpoint in either °C or °F
Digital Single-Setpoint Controller

### Digital Single Setpoint Controller:

- Microprocessor-based PID control (proportional, integral, derivative) prevents overshoot
- Single segment, single setpoint, one ramp to setpoint
- Adjustable high limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint in either °C or °F

**Ordering Information:** Required power cord and hardwiring not included
**Required Accessories**: Power cord, hardwiring
**Warranty[¥]:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

| Cat. No. | Capacity | Maximum Temp. | Interior Dimensions (D x W x H) | Exterior Dimensions (L x W x H) | Controller | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **BF51634PC-1** | 17L (0.6 cu. ft.) | 1700°C | 26.7 x 27.9 x 22.9cm (10.5 ×11 x 9in.) | 61 x 71.1 x 78.7cm (24 x 28 x 31in.) | Multisegment/multiprogram | 208/240V 50/60Hz 5900w | 159kg (350 lb.) |
| **BF51634PCOMC-1** | 17L (0.6 cu. ft.) | 1700°C | 26.7 x 27.9 x 22.9cm (10.5 ×11 x 9in.) | 61 x 71.1 x 78.7cm (24 x 28 x 31in.) | Multisegment/multiprogram/ communications | 208/240V 50/60Hz 5900w | 159kg (350 lb.) |
| **BF51664C-1** | 25.5L (0.9 cu. ft.) | 1700°C | 39.4 x 27.9 x 22.9cm (15.5 x 11 x 9in.) | 76.2 x 71.1 x 78.7cm (30 x 28 x 31in.) | Digital/1 setpoint | 208/240V 50/60Hz 7100w | 168kg (370 lb.) |
| **BF51664PC-1** | 25.5L (0.9 cu. ft.) | 1700°C | 39.4 x 27.9 x 22.9cm (15.5 x 11 x 9in.) | 76.2 x 71.1 x 78.7cm (30 x 28 x 31in.) | Multisegment/multiprogram | 208/240V 50/60Hz 7100w | 168kg (370 lb.) |
| **BF51664PCOMC-1** | 25.5L (0.9 cu. ft.) | 1700°C | 39.4 x 27.9 x 22.9cm (15.5 x 11 x 9in.) | 76.2 x 71.1 x 78.7cm (30 x 28 x 31in.) | Multisegment/multiprogram/ communications | 208/240V 50/60Hz 7100w | 168kg (370 lb.) |

† For OTP specify Option B before last letter in cat. no. when ordering, e.g., BF51634P**B**C-1, or BF51634P**B**COMC-1
COM option requires communication Cable # 7043 for first unit and Communication Cable # 7044 for second and additional units

# Thermo Scientific Lindberg/Blue M Multipurpose 1500°C Box Furnaces

**Multipurpose furnaces feature integral control to 1500°C**

- Double-wall construction with Moldatherm insulation for rapid heatup and cooldown, energy efficiency and cooler exterior surface temperatures
- Adjustable high-limit over-temperature protection
- Microprocessor-based PID control
- Choice of two controllers: single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control or multiple program with up to 300 segments
- Optional adjustable digital over-temperature control (OTC) protects furnace and load in the event of primary control circuit failure
- Simultaneous LED display of actual and setpoint temperatures in either °C or °F
- Silicon carbide heating elements for long-life, safety and reliable service with maximum energy savings
- Safety door switch interrupts power to heating elements when door is opened; protects elements and minimizes exposure to operator
- Moldatherm hearthplate (included) supports load and protects interior from spillage and mishandling
- Type “R” thermocouple (included) is integrated into chamber backwall
- 6L models with vertical lift door, 25L models with side swing door

**Ordering information:** Factory-installed Optional RS485 Digital Communications Port allows controller to be connected to a PC for remote monitoring and control of the furnace. Up to 30 units can be connected to one PC. Requires Communication Cable # 7043 for First unit and Communication Cable # 7044 for Second and additional units
Required power cord and hardwiring are not included.
**Warranty[¥]:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

| Cat. No. | Capacity | Maximum Temp. | Controller | Interior Dimensions (D x W x H) | Exterior Dimensions (L x W x H) | Electrical |
|---|---|---|---|---|---|---|
| **BF51433C-1** | 6L (0.21 cu. ft.) | 1500°C | Multi Seg/1 Prog | 30.5 x 15.2 x 12.7cm (12 x 6 x 5in.) | 73.7 x 63.5 x 66cm (29 x 25 x 26in.) | 208/240V 50/60Hz 6400w |
| **BF51433BC-1** | 6L (0.21 cu. ft.) | 1500°C | Multi Seg/1 Prog/OTC | 30.5 x 15.2 x 12.7cm (12 x 6 x 5in.) | 73.7 x 63.5 x 66cm (29 x 25 x 26in.) | 208/240V 50/60Hz 6400w |
| **BF51433PC-1** | 6L (0.21 cu. ft.) | 1500°C | 300 Seg/30 Prog | 30.5 x 15.2 x 12.7cm (12 x 6 x 5in.) | 73.7 x 63.5 x 66cm (29 x 25 x 26in.) | 208/240V 50/60Hz 6400w |
| **BF51433PBC-1** | 6L (0.21 cu. ft.) | 1500°C | 300 Seg/30 Prog/OTC | 30.5 x 15.2 x 12.7cm (12 x 6 x 5in.) | 73.7 x 63.5 x 66cm (29 x 25 x 26in.) | 208/240V 50/60Hz 6400w |
| **BF5143COMC-1** | 6L (0.21 cu. ft.) | 1500°C | Multi Seg/1 Prog/ RS485 port | 30.5 x 15.2 x 12.7cm (12 x 6 x 5in.) | 73.7 x 63.5 x 66cm (29 x 25 x 26in.) | 208/240V 50/60Hz 6400w |
| **BF51433PBCOMC-1** | 6L (0.21 cu. ft.) | 1500°C | 300 Seg/30 Prog/OTC/ RS485 port | 30.5 x 15.2 x 12.7cm (12 x 6 x 5in.) | 73.7 x 63.5 x 66cm (29 x 25 x 26in.) | 208/240V 50/60Hz 6400w |
| **BF51643C-1** | 25L (0.88 cu. ft.) | 1500°C | 300 Seg/30 Prog | 39.4 x 27.9 x 22.9cm (15.5 x 11 x 9in.) | 73.7 x 63.5 x 66cm (29 x 25 x 26in.) | 208/240V 50/60Hz 14800w |
| **BF51643BC-1** | 25L (0.88 cu. ft.) | 1500°C | 300 Seg/30 Prog/OTC | 39.4 x 27.9 x 22.9cm (15.5 x 11 x 9in.) | 73.7 x 63.5 x 66cm (29 x 25 x 26in.) | 1 208/240V 50/60Hz 4800w |

# Thermo Scientific M104 Muffle Furnaces

**Excellent protection against sample contamination with abrasion-resistant ceramic annealing chamber**

- Designed for minimum space requirements and can be set up under the laboratory fume hood
- Environmentally friendly and economical — asbestos-free insulation minimizes energy consumption and keeps exterior temperature low
- Easy handling and loading via tilting door that also protects users from hot inside surface
- Reaches rated temperature of 1000°C in 110 min.*
- Working volume of 3.5L
- Standard model equipped with electronic controller, digital display and upper limit cut-out; deluxe models available with electronic or programmable controller, timer and exhaust fan

*Ideal for applications including:*

– Chemical analysis
– Annealing loss determination
– Materials testing
– Ashing processes

**Ordering Alerts:** Not availble in North America
**Certifications:** CE
**Warranty¥:** 2 years (parts and labor)

| Cat. No. | Description | Capacity | Max. Temp. | Temp. Uniformity | Chamber Dimensions (D x W x H) | Exterior Dimensions (D x W x H) | Heat Output | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|---|---|
| **M104 Muffle Furnace** | | | | | | | | | |
| **50040485** | With electronic controller and upper limit cut-out | 3.5L (0.12 cu. ft.) | 1000°C | ± 10°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 2.5kW | 230V 50/60Hz, 1040W | 51kg (112.4 lb.) |
| **50040486** | With electronic controller, upper limit cut-out and 24-hour timer | 3.5L (0.12 cu. ft.) | 1000°C | ± 10°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 2.5kW | 230V 50/60Hz, 1040W | 51kg (112.4 lb.) |
| **50040487** | With electronic controller, upper limit cut-out, 24-hour timer and exhaust fan | 3.5L (0.12 cu. ft.) | 1000°C | ± 10°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 2.5kW | 230V 50/60Hz, 1040W | 51kg (112.4 lb.) |
| **50040488** | With digital programmable temperature controller and upper limit cut-out | 3.5L (0.12 cu. ft.) | 1000°C | ± 10°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 2.5kW | 230V 50/60Hz, 1040W | 51kg (112.4 lb.) |
| **50040489** | With digital programmable temperature controller, upper limit cut-out and exhaust fan | 3.5L (0.12 cu. ft.) | 1000°C | ± 10°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 2.5kW | 230V 50/60Hz, 1040W | 51kg (112.4 lb.) |
| **50049820** | With adjustable fresh air supply for incinerating processes | 3.5L (0.12 cu. ft.) | 1000°C | ± 10°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 2.5kW | 230V 50/60Hz, 1040W | 51kg (112.4 lb.) |
| **50040903** | With electronic controller | 3.5L (0.12cu. ft.) | 1000°C | ± 10°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm 22.4 x 18 x 25.4in) | 2.5kW | 230V 50/60Hz, 1040W | 51kg (112.4 lb.) |

* measured at ambient temperature of 23°C, with no load

# Thermo Scientific K114 Chamber Furnaces

**Ideal for use in crowded laboratories and for routine high temperature laboratory applications**

- Extremely short heating and recovery times along with accurate temperature control
- Asbestos-free insulation for minimal energy consumption and low exterior temperature
- High temperature accuracy and optimised heating system layout ensure most efficient use of work space
- Easy temperature controls and easy handling and loading via tilting door
- Designed for minimum space requirements and can be set up under a laboratory fume hood
- Reaches 1100°C in 35 min.*

*Ideal for applications including:*

– Incineration
– Ashing
– Baking
– Annealing
– Analytical processes

**Ordering Alerts:** Not available in North America. Available options include choice of automatic upper limit cut-out (TWB), Digicon™ controller or Thermicon™ programmable controller, and timer
**Certifications:** CE
**Warranty[¥]:** 2 years (parts and labor)

| Cat. No. | Description | Capacity | Max. Temp. | Temp. Uniformity | Chamber Dimensions (D x W x H) | Exterior Dimensions (D x W x H) | Heat Output | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|---|---|
| **50040491** | With electronic controller and upper limit cut-out | 3.5L (0.12 cu. ft.) | 1100°C | ± 6°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 1.7kW | 230V 50/60Hz, 690W | 79.4kg (36 lb.) |
| **50040492** | With electronic controller, upper limit cut-out, and 24-hr. timer | 3.5L (0.12 cu. ft.) | 1100°C | ± 6°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 1.7kW | 230V 50/60Hz, 690W | 79.4kg (36 lb.) |
| **50040493** | With digital programmable temperature controller and upper limit cut-out | 3.5L (0.12 cu. ft.) | 1100°C | ± 6°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 1.7kW | 230V 50/60Hz, 690W | 79.4kg (36 lb.) |
| **50049812** | With adjustable fresh air supply for incinerating purposes | 3.5L (0.12 cu. ft.) | 1100°C | ± 6°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 1.7kW | 230V 50/60Hz, 690W | 79.4kg (36 lb.) |
| **50040902** | With electronic controller | 3.5L (0.12 cu. ft.) | 1100°C | ± 6°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 1.7kW | 230V 50/60Hz, 690W | 79.4kg (36 lb.) |
| **50047063** | With electronic controller and exhaust fan | 3.5L (0.12 cu. ft.) | 1100°C | ± 6°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 1.7kW | 230V 50/60Hz, 690W | 79.4kg (36 lb.) |
| **50051059** | With digital programmable controller and exhaust fan | 3.5L (0.12 cu. ft.) | 1100°C | ± 6°K | 16 x 17 x 13cm (6.3 x 6.7 x 5.1in) | 57 x 45.6 x 64.6cm (22.4 x 18 x 25.4in) | 1.7kW | 230V 50/60Hz, 690W | 79.4kg (36 lb.) |

* measured at ambient temperature of 23°C, with no load

# Thermo Scientific M110 Muffle Furnaces

**Even heat distribution and economical operation in a small footprint**

- Outstanding insulation and heating element arrangement give even heat distribution with minimal fluctuation
- Two-shell design with air pocket between annealing box and outside walls
- Requires only 0.41 sq m of bench space
- Rugged and flexible — for all types of lab applications, including heating of metals and drying at high temperatures
- Multiple layers of high-quality, asbestos-free ceramic fiber insulation
- Heating elements safely positioned in grooved blocks on side walls of the work space, covered with ceramic plates
- Hinged door designed with parallel forced guidance system — hot surface always faces away from user when door is open
- Adjustable upper limit cut-out protects samples and equipment
- Reaches 1100°C in 100 min.*

***Ideal for applications including:***

– Incineration and annealing processes
– Baking
– Heat treatment of metals
– Material testing

| Cat. No. | Description | Capacity | Max. Temp. | Temp. Uniformity | Chamber Dimensions (D x W x H) | Exterior Dimensions (D x W x H) | Heat Output | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|---|---|
| **51010272** | With electronic controller and upper limit cut-out | 9L (0.32 cu. ft.) | 1100°C | ±7°K | 30 x 20 x 15cm (11.8 x 7.9 x 5.9in) | 72 x 57.6 x 75.2cm (28.4 x 22.7 x 29.6in) | 2.9kW | 230V 50/60Hz 1400W | 78kg (172 lb.) |
| **50057440** | With electronic controller, upper limit cut-out and 24-hr. timer | 9L (0.32 cu. ft.) | 1100°C | ±7°K | 30 x 20 x 15cm (11.8 x 7.9 x 5.9in) | 72 x 57.6 x 75.2cm (28.4 x 22.7 x 29.6in) | 2.9kW | 230V 50/60Hz 1400W | 78kg (172 lb.) |
| **51000808** | With digital program controller, upper limit cut-out, exhaust fan and flue | 9L (0.32 cu. ft.) | 1100°C | ±7°K | 30 x 20 x 15cm (11.8 x 7.9 x 5.9in) | 72 x 57.6 x 75.2cm (28.4 x 22.7 x 29.6in) | 2.9kW | 230V 50/60Hz 1400W | 78kg (172 lb.) |
| **50056360** | With electronic controller, upper limit cut-out, 24-hour timer and exhaust fan | 9L (0.32 cu. ft.) | 1100°C | ±7°K | 30 x 20 x 15cm (11.8 x 7.9 x 5.9in) | 72 x 57.6 x 75.2cm (28.4 x 22.7 x 29.6in) | 2.9kW | 230V 50/60Hz 1400W | 78kg (172 lb.) |
| **51000802** | With digital program controller and upper limit cut-out | 9L (0.32 cu. ft.) | 1100°C | ±7°K | 30 x 20 x 15cm (11.8 x 7.9 x 5.9in) | 72 x 57.6 x 75.2cm (28.4 x 22.7 x 29.6in) | 2.9kW | 230V 50/60Hz 1400W | 78kg (172 lb.) |

* measured at ambient temperature of 23°C, with no load

## Accessories M104, K114, M110 Muffle Furnaces

| Cat. No. | Description | For Use With |
|---|---|---|
| **Accessories** | | |
| **50040537** | Exhaust Flue | K114 Chamber Furnace and M104 Muffle Furnace |
| **50040492** | Tray | K114 Chamber Furnace and M104 Muffle Furnace |
| **50006394** | Exhaust Flue | M110 Muffle Furnace |
| **50006408** | Tray | M110 Muffle Furnace |
| **Factory-Installed Options** | | |
| **50044447** | Calibration Certificate for 900°C at center of work space | |
| **50044188** | Calibration, Additional Measuring Point | |

**Ordering Alerts:** Not availble in North America; models available with optional 24 hr. timer, Thermicon P digital program controller with microprocessor, exhaust fan and/or exhaust flue. Exhaust flue (50006394) and tray (50006408) available separately
**Certifications:** CE
**Warranty[¥]:** 2 years (parts and labor)

# Thermo Scientific Lindberg/Blue M Mini-Mite Tube Furnaces

**Compact, portable single tube furnace insulated with Moldatherm for quick heatup and cooldown**

- Microprocessor-based self-tuning PID control provides optimal thermal processes without overshoot
- Single segment, single setpoint, one ramp to setpoint
- Adjustable high-limit over-temperature protection
- Simultaneous LED display of temperature and setpoint in °C or °F
- Split-hinge design simplifies loading and unloading
- Safety switch disconnects power when furnace is opened
- Type K long-life thermocouple

**Ordering information:** Optional RS485 Digital Communications Port allows controller to be connected to a PC for remote monitoring and control of the furnace; up to 30 units can be connected to one PC. Process tubes not included and required. Purchase separately.
**Includes:** 9ft. (3m) power cord
**Warranty¥:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

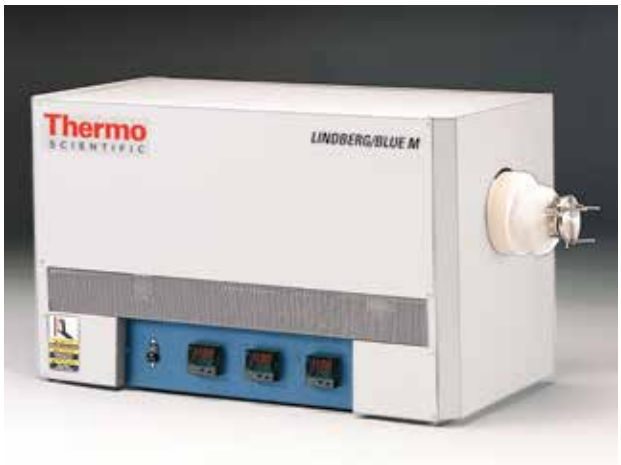
| Cat. No. | Temperature Range | Heating Zone | Outside Dia. [Tube] | Overall L x W x H | Control Temperature | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **TF55030A-1** | 100° to 1100°C | 30.5cm (12in.) | 2.5cm (1in.) | 28 x 41 x 38cm (11 x 16 x 15in.) | Digital, Single Segment | 120V 50/60Hz 800w | 16kg (35 lb.) |
| **TF55030C-1** | 100° to 1100°C | 30.5cm (12in.) | 2.5cm (1in.) | 28 x 41 x 38cm (11 x 16 x 15in.) | Digital, Single Segment | 208/240V 50/60Hz 800w | 16kg (35 lb.) |
| **TF55035A-1** | 100° to 1100°C | 30.5cm (12in.) | 2.5cm (1in.) | 28 x 41 x 38cm (11 x 16 x 15in.) | Digital, Multisegment Programmable | 120V 50/60Hz 800w | 16kg (35 lb.) |
| **TF55035C-1** | 100° to 1100°C | 30.5cm (12in.) | 2.5cm (1in.) | 28 x 41 x 38cm (11 x 16 x 15in.) | Digital, Multisegment Programmable | 208/240V 50/60Hz 800w | 16kg (35 lb.) |

To add RS-485 Digital Communications Port to Furnace model, add "COM" before last letter in cat. no. - e.g., TF55030COMA-1

208-240V units are available with cord and plug for China: please add "K" before last letter in cat.no. - e.g., TF55030KC-1 (note: no RS-485 port available for this version)

# Thermo Scientific Lindberg/Blue M 1100°C Tube Furnaces

**Three-zone 1100°C tube furnaces feature Moldatherm ceramic fiber insulation, excellent temperature uniformity, fast heatup and cooldown, and quick recovery with optimum power consumption**




**Ordering information:** Optional RS485 Digital Communications Port allows controller to be connected to a PC for remote monitoring and control of the furnace; up to 30 units can be connected to one PC.
Required process tube not included. For information on process tubes contact your process tube supplier.
**Includes:** One set of two tube adapters (59545)
**Required Accessories**: Power cord and hardwiring
**Warranty¥:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

- Ideal for a variety of process tubes including alumina, mullite, quartz and metallic
- Double-shell construction and variable density insulation combine to
- enhance performance over conventional furnaces
- Durable, high-strength hardware and a variety of control systems offer both convenience and versatility over a range of sophistication

## Performance Features

- Three zones, three programmable controllers (one for each zone)
- Microprocessor-based self-tuning PID control (proportional, integral, derivative) provides optimum thermal process without overshoot
- Single program with multiple segments for ramp (up/down) and dwell (timed hold) temperature control
- Adjustable high-limit over-temperature protection
- Simultaneous LED display of temperature and setpoint in °C or °F

## Design Features

- Flexible design—can be used for a variety of applications
- Innovative use of venting and insulating air spaces create lower exterior surface temperatures
- Long-life Type K thermocouple
- Accepts an array of tube adapters;largest specified tube size supplied.
- RS485 digital communications port available as an option; allows controller to be connected to a PC for remote monitoring and control

| Cat. No. | Temperature Range | Heated Length | Heated Zone | Process Tube Diameter | Exterior L x W x H | Power Consumption | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **STF55346C-1** | 100° to 1100°C (212° to 2012°F) | 61cm (24in.) | 15.2/30.4/15.2cm (6/12/6in.) | 2.5–7.5cm (1–3in.) | 43.2 x 88.9 x 53.3cm (17 x 35 x 21in.) | 208/240V, 50/60Hz 3800w | 102kg (225 lb.) |
| **STF55666C-1** | 100° to 1100°C (212° to 2012°F) | 91.4cm (36in.) | 22.3/45.7/22.3cm (9/18/9in.) | 7.5–15.2cm (3–6in.) | 55.9 x 137.2 x 66cm (22 x 54 x 16in.) | 208/240V, 50/60Hz 11,000w | 115kg (255 lb.) |

To add RS-485 Digital Communications Port to Furnace model, add "COM" before last letter in cat. no. - e.g., STF55346COMC-1

## Tube Adapters/Sleeves

| Cat. No. | Description | For Use With |
|---|---|---|
| **59541** | 1in. Adapter | STF55346C -1 Tube Furnace |
| **59543** | 2in. Adapter | STF55346C -1 Tube Furnace |
| **59545** | 3in. Adapter | STF55346C -1 Tube Furnace |
| **59555** | 3in. Adapter | STF55666C -1 Tube Furnace |
| **59556** | 4in. Adapter | STF55666C -1 Tube Furnace |
| **59557** | 5in. Adapter | STF55666C -1 Tube Furnace |
| **59558TA** | 6in. Adapter | STF55666C -1 Tube Furnace |
| **59549** | Blank (solid) Adapter | STF55346C -1 Tube Furnace |
| **59559TA** | Blank (Solid) Adapter | STF55666C -1 Tube Furnace |

***Note: Tube adapters sold individually (not as sets).***

# Thermo Scientific Lindberg/Blue M 1200°C Split-Hinge Tube Furnaces

**Ease of observation and operation and configurable for horizontal or vertical use**

**Ordering information:**
Independent digital temperature control module (ordered separately) are available in standard or programmable options
**Warranty[¥]:** 1 year (parts and labor)

**NOT AVAILABLE OPTIONAL IN EUROPE**

- Moldatherm LGO™ heating element modules for excellent radial and linear temperature uniformity and fast heatup and cooldown
- Long-life, energy-efficient elements require little or no maintenance
- Unique cabinet design achieves lower exterior surface temperature
- Heat-reflecting element support assembly creates two highly effective insulating air spaces
- Compact cabinet with high temperature-resistant painted finish
- Accepts interchangeable Moldatherm tube adapters
- Long-life Platinel II thermocouple(s) with 10ft. compensated lead wire and polarized plug

## Three Zone Models

- Three independent power circuits (zones) with independent thermocouples for control references
- Full adjustment of each zone over entire operating range to 1200°C
- Center zone uniformity achieved and operating length maximized through adjustable profiling of end zones by independent controller
- Temperature uniformity achieved with independent setpoint of end zones higher or lower than center

*Note: Independent control is sold separately; see next page.*

| Cat. No. | Controller (Please order separately) | Temperature Range | Heated Zone | Exterior L x W x H | Tube O.D. | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **Single Zone** | | | | | | | |
| **HTF55122A-1** | Independent CC58114A | 100° to 1200°C | 30.5cm (12in.) | 33.0 x 53.3 x 30.5cm (13 x 21 x 12in.) | 1.9 to 2.54cm (0.75 to 1in.) | 120V 50/60Hz | 28kg (60 lb.) |
| **HTF55322A-1** | Independent CC58114A | 100° to 1200°C | 30.5cm (12in.) | 43.2 x 58.4 x 40.6cm (17 x 23 x 16in.) | 2.54 to 7.62cm (1 to 3in.) | 120V 50/60Hz | 55kg (120 lb.) |
| **HTF55322C-1** | Independent CC58114C | 100° to 1200°C | 30.5cm (12in.) | 43.2 x 58.4 x 40.6cm (17 x 23 x 16in.) | 2.54 to 7.62cm (1 to 3in.) | 208/240V 50/60Hz | 55kg (120 lb.) |
| **HTF55342C-1** | Independent CC58114C | 100° to 1200°C | 61.0cm (24in.) | 43.2 x 88.9 x 40.6cm (17 x 35 x 16in.) | 2.54 to 7.62cm (1 to 3in.) | 208/240V 50/60Hz | 80kg 175 lb.) |
| **Three Zone** | | | | | | | |
| **HTF55347C-1** | Independent CC58434C | 100° to 1200°C | 61.0cm (24in.) | 43.2 x 88.9 x 40.6cm (17 x 35 x 16in.) | 2.54 to 7.62cm (1 to 3in.) | 208/240V 50/60Hz | 89kg (195 lb.) |
| **HTF55667C-1** | Independent CC58434C | 100° to 1200°C | 91.4cm (36in.) | 53.3 x 124.5 x 50.8cm (21 x 49 x 20in.) | 76.2 to 152.4cm (3 to 6in.) | 208/240V 50/60Hz | 141kg (310 lb.) |

## Accessories

| Cat. No. | Description | For Use with |
|---|---|---|
| **59510** | 0.75in. Adapter | HTF55122 Tube Furnace |
| **59511** | 1in. Adapter | HTF55122 Tube Furnace |
| **59521** | 1in. Adapter | HTF55322, HTF55342, HTF55347 Tube Furnaces |
| **59522** | 1.5in. Adapter | HTF55322, HTF55342, HTF55347 Tube Furnaces |
| **59523** | 2in. Adapter | HTF55322, HTF55342, HTF55347 Tube Furnaces |
| **59524** | 2.5in. Adapter | HTF55322, HTF55342, HTF55347 Tube Furnaces |
| **59525** | 3in. Adapter | HTF55322, HTF55342, HTF55347 Tube Furnaces |
| **59535TA** | 3in. Adapter | HTF55667 Tube Furnace |
| **59536TA** | 4in. Adapter | HTF55667 Tube Furnace |
| **59537TA** | 5in. Adapter | HTF55667 Tube Furnace |
| **59538TA** | 6in. Adapter | HTF55667 Tube Furnace |
| **59539TA** | Blank (solid) Adapter | HTF55667 Tube Furnace |
| **59519** | Blank (solid) Adapter | HTF55122 Tube Furnace |
| **59529** | Blank (solid) Adapter | HTF55322, HTF55342, HTF55347 Tube Furnaces |
| **VFS551** | Floor Stand, vertical | HTF55112A -1 Tube Furnace |
| **VFS553** | Floor Stand, vertical | HTF55322A -1, HTF55322C, HTF55342C -1, HTF55667C -1 and HTF55347C -1 Tube Furnaces |
| **VFS556** | Floor Stand, vertical | HTF55667C -1 Tube Furrnace |

One set of (2) included with furnace:

- Model HTF55122A, (2) 1” dia. adapters; Models HTF55322A/C, (2) 2” dia. adapters;
- Model HTF55342C, (2) 3” dia. adapters.

*Note: Tube adapters sold individually (not as sets).*

# Thermo Scientific Controllers for Lindberg/Blue M1200°C Tube Furnaces

**Temperature accuracy and options for over-temperature control and multiple segment configuration**

- Fully wired with advanced microprocessor-based digital control, solid-state power module, ON/ OFF circuit breaker and thermocouple input jacks for each zone
- Built-in adjustable high-limit over-temperature protection
- LED simultaneously displays actual temperature vs. setpoint in °C or °F
- Designed for operation on 120, 208, or 240V 50/60Hz, single-phase line

## Over-temperature Control

- Adjustable digital control is factory installed
- Protects furnace and load in the event of primary control circuit failure
- Overrides main controller and shuts off power to furnace if high limit is reached
- Must be manually reset for safety
- Operates via magnetic contacts through a signal from an independent thermocouple

**Ordering information:** Optional RS485 Digital Communications Port allows controller to be connected to a PC for remote monitoring and control of the furnace; up to 30 units can be connected to one PC. Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier.
**Warranty[¥]:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

| Cat. No. | Description | For Use with | Electrical |
|---|---|---|---|
| **CC58114A-1** | Single-zone Console, Digital | 1200°C Furnaces | 120V 50/60Hz |
| **CC58114C-1*** | Single-Setpoint | 1200°C Furnaces | 208/240V 50/60Hz |
| **CC58114BA*** | Single-zone Console, Digital, with Over Temperature Control | 1200°C Furnaces | 120V 50/60Hz |
| **CC58114PA-1** | Single-zone, Multiple Segment | 1200°C Split-hinge Tube Furnace | 120V 50/60Hz |
| **CC58114PBA-1** | Single-zone, Multiple Segment | 1200°C Split-hinge Tube Furnace | 120V 50/60Hz |
| **CC58114BC-1*** | Single-zone Console, Digital, with Over Temperature Control | 1200°C Furnaces | 208/240V 50/60Hz |
| **CC58114PBC-1** | Single-zone Console, Digital, Programmable, with Over Temperature Control | 1200°C Furnaces | 208/240V 50/60Hz |
| **CC58114PC-1** | Single-zone Console, Digital, Programmable | 1200°C Furnaces | 208/240V 50/60Hz |
| **CC58434C-1** | Three-zone | 1200°C Split-hinge Tube Furnace | 208/240V 50/60Hz |
| **CC58434BC-1** | Three-zone Console, Digital, with Over Temperature Control | 1200°C Furnaces | 208/240V 50/60Hz |
| **CC58434PC-1** | Three-zone Console, Digital, Programmable Controller for Center Zone, with Over Temperature Control | 1200°C Furnaces | 208/240V 50/60Hz |
| **CC584343PBC-1** | Three-zone Console, Programmable, with Over Temperature Control | 1200°C Furnaces | 208/240V 50/60Hz |
| **CC584343PC-1** | Three-zone Console, Digital, Programmable | 1200°C Furnaces | 208/240V 50/60Hz |
| **CC58434PBC-1** | Three-zone, 16 Segment | 1200°C Split-hinge Tube Furnace | 208/240V 50/60Hz |

* not available with RS585 port
To add RS-485 Digital Communications Port to Furnace model, add "**COM**" before last letter in cat. no. – e.g., CC58114**COM**A-1

# Thermo Scientific Lindberg/Blue M 1500°C General-Purpose Tube Furnaces

**Integral temperature control designed for a range of applications which require processing flexibility with fast heatup and recovery**

- Energy-efficient Moldatherm insulation increases temperature uniformity, improves energy efficiency and helps to maintain low exterior cabinet temperatures during operation
- Accommodate 1in., 2in. and 3in. O.D. process tubes (customer supplied)
- Silicon carbide heating elements positioned above and below tube works with Type “R” thermocouple to stabilize temperature
- Integral microprocessor-based PID programmable control (proportional, integral, derivative) prevents overshoot
- Available with Single Program/Multiple Segment or Multiple Program/Multiple Segment Programmable Controller
- Program(s) and segment(s) for ramp (up and down) and dwell (timed hold) temperature control
- Adjustable high limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- Temperature display in °C or °F
- Optional Over-temperature Control (OTC) on Multi-Program/Multi-Segment model

**Ordering information:** Optional RS485 Digital Communications Port allows controller to be connected to a PC for remote monitoring and control of the furnace; up to 30 units can be connected to one PC. Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier
**Includes:** 1 set of two 2” tube adapters
**Warranty¥:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

| Cat. No. | Type | Temperature Range | Heated Zone | Exterior L x W x H | Tube O.D. | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|
| **STF55433C-1** | Multisegment (16)/single program | 500° to 1500°C | 30.5cm (12in.) | 33.0 x 53.3 x 30.5cm (13 x 21 x 12in.) | 2.54 to 7.62cm (1 to 3in.) | 208/240V 50/60Hz | 123kg (270 lb.) |
| **STF55433PC-1** | Multisegment (up to 99 segments)/ multiprogram | 500° to 1500°C | 30.5cm (12in.) | 43.2 x 58.4 x 40.6cm (17 x 23 x 16in.) | 2.54 to 7.62cm (1 to 3in.) | 208/240V 50/60Hz | 123kg (270 lb.) |
| **STF55433PBC-1** | Multisegment (up to 99 segments) multiprogram/OTC | 500° to 1500°C | 30.5cm (12in.) | 43.2 x 58.4 x 40.6cm (17 x 23 x 16in.) | 2.54 to 7.62cm (1 to 3in.) | 208/240V 50/60Hz | 123kg (270 lb.) |

To add RS-485 Digital Communications Port to Furnace model, add “**COM**” before last letter in cat.no. – e.g., STF55433**COM**C-1

## Accessories — Tube Adapters

| Cat. No. | Description | For Use with |
|---|---|---|
| **7100-2444-070** | 2.5cm (1in.) | STF55433C-1, STF55433PC-1, STF55433PBC-1 |
| **7100-2444-068** | 5cm (2in.) | STF55433C-1, STF55433PC-1, STF55433PBC-1 |
| **7100-2444-069** | 7.6cm (3in.) | STF55433C-1, STF55433PC-1, STF55433PBC-1 |

***Note: Tube adapters sold individually (not as sets).***

# Thermo Scientific Lindberg/Blue M 1700°C Tube Furnaces

**Rapid heatup, recovery and cooldown**

- Feature heating elements with unique right-angle bend and sidewall mounting to deliver exceptional energy release, reduced thermal process cycle time, and cost savings through quicker throughput and energy efficiency
- Moldatherm graduated-density insulation provides safety, performance and outstanding radial and linear temperature uniformity with resistance to thermal shock
- Heating elements tolerate rapid cycling over extended periods; elements are easily replaceable without the need to match resistance values
- Type “B” thermocouples assure accurate temperature measurement and long thermocouple life; 10ft. compensated lead wire with polarized plug included
- Moldatherm graduated density insulation adds to safety and performance by forming enhanced insulation protection between the high-temperature chamber and exterior cabinet surface
- Double shell construction and convection cooling design reduces exterior surface temperature
- Removable louvered panels provide easier access to heating elements and thermocouple
- Temperature range: 500°C to 1700°C

**Includes:** 1 set of two 3” vestibules and sleeves.
**Required Accessories:** Independent digital temperature control module, available separately. Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier.
**Warranty¥:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

| Cat. No. | Temp. Range and Control | Heated Zone | Exterior L x W x H | Tube O.D. | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|
| **STF54434C** | 500° to 1700°C Independent | 30.5cm (12in.) | 40.6 x 55.9 x 48.3cm (16 x 22 x 19in.) | 7.6cm (3in.) | 208/240V, 50/60Hz 5000w | 43kg (95 lb.) |
| **STF54454C** | 500° to 1700°C Independent | 61.0cm (24in.) | 40.6 x 86.4 x 48.3cm (16 x 34 x 19in.) | 7.6cm (3in.) | 208/240V, 50/60Hz 10,000w | 75kg (165 lb.) |

***Note: Independent control is sold separately; see next page.***

## Accessories – Vestibules/Sleeves

| Cat. No. | Description | For Use with |
|---|---|---|
| **7219-2134-001** | 1in. Sleeve | STF54434C Tube Furnace |
| **7219-2134-002** | 2in. Sleeve | STF54434C Tube Furnace |
| **7219-2134-003** | 3in. Sleeve | STF54434C Tube Furnace |
| **7219-2134-011** | 3in. Sleeve | STF54454C Tube Furnace |
| **7219-2134-012** | 2in. Sleeve | STF54454C Tube Furnace |
| **7219-2134-013** | 1in. Sleeve | STF54454C Tube Furnace |
| **7219-2147-001** | 1in. Vestibule | STF54434C Tube Furnace |
| **7219-2147-002** | 2in. Vestibule | STF54434C Tube Furnace |
| **7219-2147-011** | 3in. Vestibule | S TF54454C Tube Furnace |
| **7219-2147-003** | 3in. Vestibule | STF54434C Tube Furnace |
| **7219-2147-012** | 2in. Vestibule | STF54454C Tube Furnace |
| **7219-2147-013** | 1in. Vestibule | STF54454C Tube Furnace |

- Optional Moldatherm vestibules permit operation with 1”, 2” and 3” O.D. process tubes for increased versatility. Two vestibules are required for each furnace
- Tube Sleeves may be placed over customer supplied process tubes to reduce thermal shock to the process tube. All tube sleeves are 3” long

***Note: Tube adapters sold individually (not as sets).***

# Thermo Scientific Controllers for Lindberg/Blue M 1700°C Tube Furnaces

- Holdback feature allows the operator to set a "process vs. setpoint" temperature value which, when exceeded, holds the program to allow the process to catch up
- RS485 data port for connection to remote computer, allowing modification, interrogation and data transfer of all instrument control and configuration parameters
- Up to 30 units can be connected to one PC (software not included)

**Required power cord, hardwiring and interconnecting wiring are not included.**
**Warranty[¥]:** 1 year (parts and labor)

**NOT AVAILABLE IN EUROPE**

| Cat. No. | Description | Electrical | For Use with |
|---|---|---|---|
| **CC59256PCOMC-1** | Digital, with Programmer, RS485 data port | 208/240V 50/60 Hz | STF54434C |
| **CC59256PBCOMC-1** | Digital, with Programmer and Over Temperature Control, RS485 data port | 208/240V 50/60 Hz | STF54434C |
| **CC59256PCM2CTC-1** | Digital, with Programmer | 208/240V 50/60 Hz | STF54454C |

# hotplates & stirrers

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## Thermo Scientific Cimarec+ Series

**Our new Cimarec+ series digital stirrers, hotplates, and stirring hotplates are designed to provide precise stirring control, exceptional safety and temperature performance for your routine protocols. The Cimarec+ units are available in three sizes, providing flexibility from microscale chemistries to production operations.**

Cimarec+ Digital Stirring Hotplate

### Advanced technology

- StirTrac features innovative engineering for slow-speed stirring, consistent speed control, and strong magnetic coupling
- Temperature adjustable in 1 degree increments
- HOT TOP warning system designed to protect from accidental burns with prominent display when heating surface is above 50°C (122°F)
- Automatic over-temperature protection

### Flexible, robust design

- Top plate choices in ceramic or aluminum
- Easy-to-read LED display for heating and stirring (except 4x4 model)
- Raised display design protects electronics from spills
- Optional temperature probe and splash guard protection shield
- Three sizes for different sample volumes
- Stir bar included with stirrer and stirring hotplate models

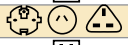
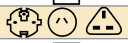
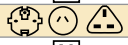
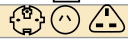
## Simplicity. Safety. Value.

**Heating Surface: 4.25" x 4.25" (10.8 x 10.8 cm) Overall Dimensions: 5" W x 10" D x 3.6" H (12.7 x 25.4 x 9.1 cm)**

| | Cat. No. | Description | Surface Type | Volts/Hz | Stir Range (RPM) | Max Surface Temp °C | Plug Configuration |
|---|---|---|---|---|---|---|---|
| 4"x4" | **HP88854100** | Hotplate | Ceramic | 100-120V 50/60Hz | N/A | 540 | |
| | **HP88854105** | Hotplate | Ceramic | 230V 50/60Hz | N/A | 540 | |
| | **S88854100** | Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | N/A | |
| | **S88854105** | Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | N/A | |
| | **SP88854100** | Hotplate Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | 540 | |
| | **SP88854105** | Hotplate Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | 540 | |

**Note:** 4"x 4" Hotplate Stirrer has digital temperature and analog stirring control.

**Heating Surface: 7.25" x 7.25" (18.4 x 18.4 cm) Overall Dimensions: 8.2" W x 13" D x 3.8" H (20.8 x 33 x 9.7 cm)**

| | Cat. No. | Description | Surface Type | Volts/Hz | Stir Range (RPM) | Max Surface Temp °C | Plug Configuration |
|---|---|---|---|---|---|---|---|
| 7"x7" | **HP88857100** | Hotplate | Ceramic | 100-120V 50/60Hz | N/A | 540 | |
| | **HP88857105** | Hotplate | Ceramic | 230V 50/60Hz | N/A | 540 | |
| | **S88857100** | Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | N/A | |
| | **S88857105** | Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | N/A |  |
| | **SP88857100** | Hotplate Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | 540 | |
| | **SP88857105** | Hotplate Stirrer | Ceramic | 230V 50/60Hz (EU Plug) | 50-1500 | 540 | |
| | **SP88857106** | Hotplate Stirrer | Ceramic | 230V 50/60Hz (AUS/CN plug) | 50-1500 | 540 | |
| | **SP88857107** | Hotplate Stirrer | Ceramic | 230V 50/60Hz (UK Plug) | 50-1500 | 540 | |
| | **HP88857104** | Hotplate | Aluminum | 100-120V 50/60Hz | N/A | 300 | |
| | **HP88857108** | Hotplate | Aluminum | 230V 50/60Hz | N/A | 300 |  |
| | **S88857104** | Stirrer | Aluminum | 100-120V 50/60Hz | 50-1500 | N/A | |
| | **S88857108** | Stirrer | Aluminum | 230V 50/60Hz | 50-1500 | N/A |  |
| | **SP88857104** | Hotplate Stirrer | Aluminum | 100-120V 50/60Hz | 50-1500 | 300 | |
| | **SP88857108** | Hotplate Stirrer | Aluminum | 230V 50/60Hz | 50-1500 | 300 |  |

**Heating Surface: 10.25" x 10.25" (26.0 x 26.0 cm) Overall Dimensions: 11.3" W x 16.2" D x 4" H (28.7 x 41.1 x 10.2 cm)**

| | Cat. No. | Description | Surface Type | Volts/Hz | Stir Range (RPM) | Max Surface Temp °C | Plug Configuration |
|---|---|---|---|---|---|---|---|
| 10"x10" | **HP88850100** | Hotplate | Ceramic | 100-120V 50/60Hz | N/A | 400 | |
| | **HP88850105** | Hotplate | Ceramic | 230V 50/60Hz | N/A | 400 | |
| | **S88850100** | Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | N/A | |
| | **S88850105** | Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | N/A | |
| | **SP88850100** | Hotplate Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | 400 | |
| | **SP88850105** | Hotplate Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | 400 | |
| | **SP88850106** | Hotplate Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | 400 | |
| | **SP88850107** | Hotplate Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | 400 | |

**Warranty:** Three years **Certifications:** cCSAus (100-120V models), CE (230V models) **RoHS** compliant

## Accessories for Thermo Scientific Cimarec+ and SuperNuova+ Series

| Cat. No. | Description |
|---|---|
| **CIC0001444** | Splash guard / safety shield for all Cimarec+ and SuperNuova+ 4'' x 4'' Stirrers, Hotplates and Hotplate Stirrers |
| **CIC0001445** | Splash guard protection shield for all Cimarec+ and SuperNuova+ 7'' x 7'' Stirrers, Hotplates and Hotplate Stirrers |
| **CIC0001446** | Splash guard / safety shield for all Cimarec+ and SuperNuova+ 10'' x 10'' Stirrers, Hotplates and Hotplate Stirrers |
| **CIC0001447** | PT100 temperature probe, 0-400°C, Stainless steel for Cimarec+ (+/- 1.8°C @ 70°C) and SuperNuova+ (+/- 1.2°C @ 70°C) Hotplates |
| **CIC0001448** | PT1000 temperature probe, 0-400°C, Stainless steel, for Cimarec+ (+/- 1.0°C @ 70°C) and SuperNuova+ (+/- 0.5°C @ 70°C) Hotplates |
| **CIC0001449** | Hastelloy PT1000 temperature probe, 0-400°C, for Cimarec+ and SuperNuova+ Hotplates; Hastelloy is chemical and corrosion resistant. |
| **CIC0001830** | Supporting rod to be used with clamp and clamp holder to hold temperature probe and flask, suitable for all Cimarec+ and SuperNuova+ models |
| **CIC0001831** | Clamp and clamp holder to attach to supporting rod, suitable for all Cimarec+ and SuperNuova+ models |

*When the probe is connected, the adjustable temperature range is 30-250°C.

# Thermo Scientific SuperNuova+ Series

**Our SuperNuova+ series stirrers, hotplates and stirring hotplates are designed to provide reliable performance, dependable safety and simple operation. SuperNuova+ units are available in two sizes and provide optimized controls and settings for applications that demand advanced precision.**

## Intuitive design

- Top plate choices in ceramic or aluminum
- Easy-to-read LED display for heating and stirring
- Raised display design protects electronics from spills
- Ability to save temperature settings
- Stainless steel PT100 temperature probe, supporting rod and clamp kit included with both hotplate and stirring hotplate
- Timer
- Stir bar comes standard with stirrer and stirring hotplate models
- Optional PT1000 temperature probe and splash guard protection shield

## Advanced technology

- StirTrac features innovative engineering for slow-speed stirring, consistent speed control, and stronger magnetic coupling
- HOT TOP warning system designed to protect from accidental burns with prominent display when heating surface is above 50°C of set temperature (122°F)
- Temperature display resolution when connected with probe: <100°C: 0.1 degree; >100°C: 1 degree

**Warranty:** Three years
**Certifications:** cCSAus (100-120V models), CE (230V models) RoHS compliant

**Heating Surface: 7.25" x 7.25" (18.4 x 18.4 cm) Overall Dimensions: 8.2" W x 13" D x 3.8" H (20.8 X 33 X 9.7 cm)**

| | Cat. No. | Description | Surface Type | Volts/Hz | Stir Range (RPM) | Max Surface Temp °C | Plug Configuration |
|---|---|---|---|---|---|---|---|
| 7"x7" | **HP88857190** | Hotplate | Ceramic | 100-120V 50/60Hz | N/A | 450 | |
| | **HP88857195** | Hotplate | Ceramic | 230V 50/60Hz | N/A | 450 | |
| | **S88857190** | Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | N/A | |
| | **S88857195** | Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | N/A | |
| | **SP88857190** | Hotplate Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | 450 | |
| | **SP88857195** | Hotplate Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | 450 | |
| | **HP88857194** | Hotplate | Aluminum | 100-120V 50/60Hz | N/A | 300 | |
| | **HP88857198** | Hotplate | Aluminum | 230V 50/60Hz | N/A | 300 | |
| | **SP88857194** | Hotplate Stirrer | Aluminum | 100-120V 50/60Hz | 50-1500 | 300 | |
| | **SP88857198** | Hotplate Stirrer | Aluminum | 230V 50/60Hz | 50-1500 | 300 | |

**Heating Surface: 10.25" x 10.25" (26.0 x 26.0 cm) Overall Dimensions: 11.3" W x 16.2" D x 4" H (28.7 x 41.1 x 10.2 cm)**

| | Cat. No. | Description | Surface Type | Volts/Hz | Stir Range (RPM) | Max Surface Temp °C | Plug Configuration |
|---|---|---|---|---|---|---|---|
| 10"x10" | **HP88850190** | Hotplate | Ceramic | 100-120V 50/60Hz | N/A | 400 | |
| | **HP88850195** | Hotplate | Ceramic | 230V 50/60Hz | N/A | 400 | |
| | **S88850190** | Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | N/A | |
| | **S88850195** | Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | N/A | |
| | **SP88850190** | Hotplate Stirrer | Ceramic | 100-120V 50/60Hz | 50-1500 | 400 | |
| | **SP88850195** | Hotplate Stirrer | Ceramic | 230V 50/60Hz | 50-1500 | 400 | |

# Thermo Scientific Nuova Hotplates, Stirring Hotplates & Stirrers

**Excellent low end temperature control ideal for warming applications, culture media preparation and slow speed stirring of culture media**

- Full stirring and heating capabilities, a compact design and low temperature stability for a wide range of warming applications requiring stir speeds as low as 100rpm
- Reaches maximum temperature in just 8 minutes.* Embedded heating element ensures even heat distribution
- Durable, die-cast aluminum case and corrosion-resistant porcelain-coated stainless-steel top
- Excellent low speed stirring (100rpm) can be achieved by turning knob to setting 1
- Topside drip edge protects internal components from spills
- Stirrer accommodates up to 20 lb. (9.1kg) load
- Porcelain coated stainless steel top gives excellent corrosion resistance

**Includes:** Integral ring stand holder accommodates a 0.5in. (1.3cm) diameter support rod, TFE stirbar
**Warranty¥:** Three years
**Certifications:** UL, CUL listed (S18520Q, S18525Q, SP18420Q, SP18425Q HP18320Q and HP18325Q only)
**Notes:** Recommended for use with glass vessels only.

## Thermo Scientific Nuova Hotplates

| Cat. No. | Surface Area | Temp. Range | Overall L x W x H | Shipping Weight | Electrical |
|---|---|---|---|---|---|
| **HP18325Q** | 17.7 x 17.7cm (7.0 x 7.0in.) | 38° to 371°C (100° to 700°F) | 21.8 × 29.9 × 11.73cm (8.6 × 11.8 × 4.5in.) | 4.5kg (10 lb.) | 120V, 840w, 7.0A |
| **HP18320Q** | 17.7 x 17.7cm (7.0 x 7.0in.) | 38° to 371°C (100° to 700°F) | 21.8 × 29.9 × 11.73cm (8.6 × 11.8 × 4.5in.) | 4.5kg (10 lb.) | 220 to 240V, 840w, 3.5A |
| **HP18320-26Q** | 17.7 x 17.7cm (7.0 x 7.0in.) | 38° to 371°C (100° to 700°F) | 21.8 × 29.9 × 11.73cm (8.6 × 11.8 × 4.5in.) | 4.5kg (10 lb.) | 220 to 240V (supplied with European cord set), 840w, 3.5A |

## Thermo Scientific Nuova Stirring Hotplates

| Cat. No. | Stirring Speed Range | Surface Area | Overall L x W x H | Temp. Range | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|
| **SP18425Q** | 100 to 1000rpm | 17.7 x 17.7cm (7.0 x 7.0in.) | 21.8 x 29.9 x 11.43cm (8.6 x 11.8 x 4.5in.) | 38° to 371°C (100° to 700°F) | 5kg (11 lb.) | 120V, 858w, 7.0A |
| **SP18420Q** | 100 to 1000rpm | 17.7 x 17.7cm (7.0 x 7.0in.) | 21.8 x 29.9 x 11.43cm (8.6 x 11.8 x 4.5in.) | 38° to 371°C (100° to 700°F) | 5kg (11 lb.) | 240V, 851ww, 3.5A |
| **SP18420-26Q** | 100 to 1000rpm | 17.7 x 17.7cm (7.0 x 7.0in.) | 21.8 x 29.9 x 11.43cm (8.6 x 11.8 x 4.5in.) | 38° to 371°C (100° to 700°F) | 5kg (11 lb.) | 240V (with European cord set), 851w, 3.6A |

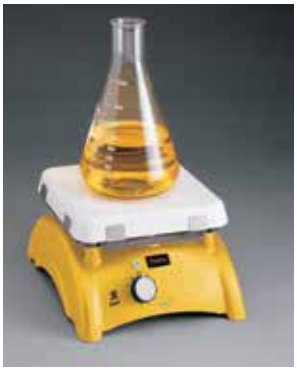
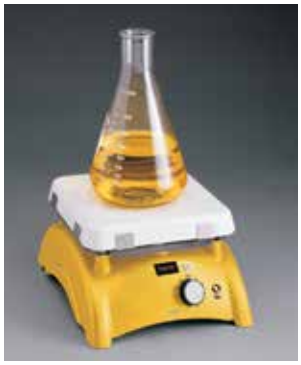
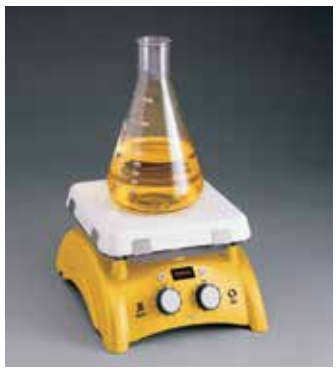
## Thermo Scientific Nuova Magnetic Stirrers

| Cat. No. | Stirring Speed Range | Surface Area | Overall L x W x H | Shipping Weight | Electrical |
|---|---|---|---|---|---|
| **S18525Q** | 100 to 1000rpm | 17.8 × 17.8cm (7 × 7in.) | 21.8 × 29.9 × 11.43cm (8.6 × 11.8 × 4.5in.) | 4.5kg (10lbs) | 120V 50/60Hz, 18w, 0.3A |
| **S18520Q** | 100 to 1000rpm | 17.8 × 17.8cm (7 × 7in.) | 21.8 × 29.9 × 11.43cm (8.6 × 11.8 × 4.5in.) | 4.5kg (10lbs) | 240V 50/60Hz, 11w, 0.1A |
| **S18520-26Q** | 100 to 1000rpm | 17.8 × 17.8cm (7 × 7in.) | 21.8 × 29.9 × 11.43cm (8.6 × 11.8 × 4.5in.) | 4.5kg (10lbs) | 240V (with European cord set) 50/60Hz, 11w, 0.1A |

*assumes ambient temperature of 23°C

# Thermo Scientific Cimarec Basic Series

**Sleek, rugged, no frills design combined with our renowned quality, performance**

- Ideal for economical, general-purpose use
- Sleek, rugged design and construction promotes durability
- New top-plate design reduces chance of breakage
- Spill-away design diverts spills away from internal components
- Solid ceramic top plate cleans easily, resists acids and alkalis
- Integral ring-stand holder accommodates 0.5 in. (1.3cm) diameter support rod

## Thermo Scientific Cimarec Basic Hotplates

| Cat. No. | Surface Area | Top Plate Material | Temp. Range | Overall L x W x H | Electrical |
|---|---|---|---|---|---|
| **HP194515** | 10.8 × 10.8cm (4.25 × 4.25in.) | Ceramic | 150° to 538°C (302° to 1000°F) | 20 × 14.5 × 12.7cm (7.9 × 5.7 × 5in.) | 120V 60Hz, 3.21A, 385w |
| **HP194825** | 18.4 × 18.4cm (7.25 × 7.25in.) | Ceramic | 150° to 538°C (302° to 1000°F) | 28.2 × 21.1 × 12.7cm (11.1 × 8.3 × 5in.) | 120V 60Hz, 8.96A, 1062w |

## Thermo Scientific Cimarec Basic Stirring Hotplates

| Cat. No. | Surface Area | Top Plate Material | Stirring Range | Temp. Range | Overall L × W × H | Electrical |
|---|---|---|---|---|---|---|
| **SP194715** | 10.8 × 10.8cm (4.25 × 4.25in.) | Ceramic | 250 to 2500rpm | 150° to 538°C (302 to 1000°F) | 20 × 14.5 × 12.7cm (7.9 × 5.7 × 5in.) | 120V 60Hz, 3.45A, 405w |
| **SP195025** | 18.4 × 18.4cm (7.25 × 7.25in.) | Ceramic | 250 to 2500rpm | 150° to 538°C (302 to 1000°F) | 28.2 × 21.1 × 12.7cm (11.1 × 8.3 × 5in.) | 120V 60Hz, 9.18A, 1086w |

## Thermo Scientific Cimarec Basic Stirrers

| Cat. No. | Surface Area | Top Plate Material | Stirring Range | Overall L × W × H | Electrical |
|---|---|---|---|---|---|
| **S194615** | 10.8 × 10.8cm (4.25 × 4.25in.) | Ceramic | 250 to 2500rpm | 20× 14.5 × 12.7cm (7.9 × 5.7× 5in.) | 120V 60Hz, 0.45A, 21w |
| **S194925** | 18.4 × 18.4cm (7.25 × 7.25in.) | Ceramic | 250 to 2500rpm | 28.2 × 21.1 × 12.7cm (11.1 × 8.3 × 5in.) | 120V 60 Hz,0.48A, 23w |

**Includes:** TFE-coated stir bar
**Warranty**[¥]: Three years
**Certifications:** cCSAus

**Warranty¥:** Three years

## Thermo Scientific Student Hotplates

**Small diameter heating surfaces, which provide high heat in a small footprint, ideal for quick sample testing**

- Perforated stainless-steel case allows air to circulate to protect controls and countertop from excess heat
- Thermostatic temperature control provides excellent stability of the top plate temperature and the sample
- Hotplate reaches 260°C (500°F) in just 4.5 min.*
- Recommended for use with glass vessels

| Cat. No. | Surface Material | Maximum Temp. | Electrical |
|---|---|---|---|
| **HP2305BQ** | Aluminum | 371°C (700°F) | 120V 50/60Hz, 325w, 2.7A |
| **HP2310BQ** | Aluminum | 371°C (700°F) | 240V 50/60Hz, 325w, 1.4A |

**Includes:** TFE-coated stir bar
**Warranty¥:** Three years

## Thermo Scientific StirBuddy Personal Stirrer

**Compact and space-saving design with a large stirring surface to reduce risk of spills**

- Solid-state speed control
- Direct-drive motor/magnet assembly stir solutions from water to viscous 50% glycerin
- Can recalibrate to accommodate viscous liquids and specialized vessels
- Top plate and base are made of molded thermoplastic polyester

| Cat. No. | Stirring Speed | Dimensions | Shipping Weight | Electrical |
|---|---|---|---|---|
| **S168515Q** | 200 to 2500rpm | 15.2 x 7.6cm (6 x 3in.) | 1.2kg (2.4 lb.) | 120V 60Hz, 0.4A, 48w |

**Includes:** TFE-coated stir bar
**Warranty¥:** Three years
**Certifications:** cCSAus

## Thermo Scientific Stir Light 7 x 7 Stirrer

**Illuminates hard-to-see titration end points, and ideal for general laboratory applications including reagent mixing and stirring bacteria cultures**

- Lighted top allows easy viewing of samples while stirring
- Light and stirring functions can be used independently
- Large 7 × 7in. acrylic top plate surface accommodates 4L flasks
- Cool fluorescent bulbs minimize heat output
- Features built-in indicator light

| Cat. No. | Stirring Speed | Top Plate Dimensions ,L x W | Shipping Weight | Electrical |
|---|---|---|---|---|
| **SL194325** | 250 to 2500rpm | 17.8 × 17.8cm (7 × 7in.) | 2.7kg (6 lb.) | 120V 60Hz, 37w |

* with temperature setting at maximum and ambient temperature 23°C

# Thermo Scientific Super-Nuova Multi-Position Digital Stirring Hotplates and Stirrers

**Ideal for high-volume, high-performance processing and life science/biotechnology applications as well as labs with multiple users**

**Includes:** Detachable line cord and plug, 6in. Type K probe. Stirring models also include stir bar
**Warranty¥:** Three years
**Certifications:** cCSAus (all models), CE (220-240V models)

## Operating Features

- Features four independently controlled stirring positions
- Separate easy to read displays for heating and stirring are adjustable in 1°C and 1rpm increments.
- User programmable preset buttons can store 4 commonly used protocols at the touch of a button – excellent for labs with multiple users
- Microprocessor controlled feedback technology ensures accurate and stable setpoints
- Control either the top plate surface temperature or the liquid temperature (when using the included PTFE-coated probe)
- Calibration mode allows remote probe to the calibrated to external standards at a user selected temperature
- StirTrac technology with superb magnetic coupling provides smooth slow speed stirring and rapid braking.
- Walk away timer shuts off heating, stirring or both after preset user defined interval
- Integrated ring stand, single knob design and RS232 output

## Safety Features

- Cast-aluminum base diverts spills from internal electronics
- Low-profile design and stable, rugged base prevent tipping and spillage
- User-adjustable over-temperature protection prevents overheating, short-circuiting and internal damage in case of sample overflow
- Red HOT TOP warning light activates when heating surface is above 50°C (122°F); unit flashes HOT OFF until surface temperature falls to 50°C or below, even when heat control is turned off
- Lock feature prevents accidental changes

## Thermo Scientific Super-Nuova Multi-Position Digital Stirring Hotplates

| Cat. No. | No. of Places | Stirring Range | Temp. Range | Overall L x W x H | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|
| **SP135935Q** | 4 | 50 to 1200rpm | RT +1° to 370° C (33.8° to 698°F) | 41.1 × 28.7 × 10.2cm (16.2 × 11.3 × 4in.) | 9.3kg (20.5 lb.) | 120V 60Hz, 1400w, 11.8A |
| **SP135930-33Q** | 4 | 50 to 1200rpm | RT +1° to 370° C (33.8° to 698°F) | 41.1 × 28.7 × 10.2cm (16.2 × 11.3 × 4in.) | 9.3kg (20.5 lb.) | 220-240V 50-60Hz |

## Thermo Scientific Super-Nuova Multi-Position Digital Stirrers

| Cat. No. | No. of Stirring Positions | Stirring Range | Overall L × W × H | Shipping Weight | Electrical |
|---|---|---|---|---|---|
| **S136035Q** | 4 | 50 to 1200rpm | 41.1 × 28.7 × 10.2cm (16.2 × 11.3 × 4in.) | 9.3kg (20.5 lb.) | 120V 60Hz |
| **S136030-33Q** | 4 | 50 to 1200rpm | 41.1 × 28.7 × 10.2cm (16.2 × 11.3 × 4in.) | 9.3kg (20.5 lb.) | 220-240V 50/60Hz |

# Thermo Scientific RT Basic Series Magnetic Stirrers

**Experience the reliability of our plug-and-play stirrers, ideal for routine stirring applications**

- Strong magnetic coupling to ensure consistent stirring during experimental procedures
- Three size options
- Low profile lightweight design with small footprint
- Speed Control: 150 to 2500rpm
- Two non-slip silicone plate covers included with all units (1 black, 1 white)

| Cat. No. | 88880007 | 88880008 | 88880009 | 88880010 | 88880011 | 88880012 |
|---|---|---|---|---|---|---|
| **Plug Configuration** | | | | | | |
| **Mechanism** | Brushless DC motor | | Brushless DC motor | | Brushless DC motor | |
| **Stirring Capacity (H20)** | 2L | | 4L | | 5L | |
| **Speed Range** | 150 to 2500rpm | | 150 to 2500rpm | | 150 to 2500rpm | |
| **Maximum Load (vessel)** | 15kg / 33.07lbs | | 20kg / 44.09lbs | | 25kg / 55.12lbs | |
| **Body Material** | Polypropylene | | Polypropylene | | Polypropylene | |
| **Top Plate Dimensions** | 120mm / 4.72in diameter | | 170mm / 6.69in diameter | | 220mm / 8.66in diameter | |
| **Overall Dimensions (WxDxH)** | 130 x 130 x 65mm<br>5.12 x 5.12 x 2.56in | | 185 x 185 x 65mm<br>7.28 x 7.28 x 2.56in | | 230 x 230 x 65mm<br>9.06 x 9.06 x 2.56in | |
| **Power Consumption** | 5W | | 6W | | 6W | |
| **Power** | 100 – 240V, 50/60Hz | | 100 – 240V, 50/60Hz | | 100 – 240V, 50/60Hz | |
| **Certifications** | CE | | CE | | CE | |
| **Warranty** | 2 Years | | 2 Years | | 2 Years | |

| Accessories for RT Basic Series Magnetic Stirrers | Cat. No. |
|---|---|
| Non-slip silicone plate cover for items 88880007 and 88880008 (White color, Silicone Ø120cm) | **88880144** |
| Non-slip silicone plate cover for items 88880009 and 88880010 (White color, Silicone Ø170cm) | **88880145** |
| Non-slip silicone plate cover for items 88880011 and 88880012 (White color, Silicone Ø220cm) | **88880146** |

Non-slip Silicone Plate Covers

# Thermo Scientific RT Touch Series Magnetic Stirrers

**Stay in control with our low profile digital display stirrer, ideal for routine stirring applications where precise stir speed is required.**

- Digital control
- Gradual start-up stirring to prevent splashing
- Threaded hole for support rod
- Low profile lightweight design with small footprint; two sizes available
- Strong magnetic coupling to ensure consistent stirring during experimental procedures
- Speed Control: 30 to 2000rpm
- Two non-slip silicone plate covers included with all units (1 black, 1 white)
- Timer: Run continuously or countdown
- Detachable Plug
- Programmable
- Includes stir bar

| Cat. No. | 88880013 | 88880014 | 88880015 | 88880016 |
|---|---|---|---|---|
| Plug Configuration | | | | |
| Speed Control | Digital | | Digital | |
| Stirring Capacity ($H_2O$) | 4L | | 5L | |
| Speed Range | 30 to 2000rpm | | 30 to 2000rpm | |
| Maximum Load (vessel) | 20kg / 44.09lbs | | 25kg / 55.12lbs | |
| Body and Top Plate Material | Polypropylene | | Polypropylene | |
| Top Plate Dimensions | 170mm / 6.69in diameter | | 220mm / 8.69in diameter | |
| Overall Dimensions (WxDxH) | 210 x 280 x 72mm<br>8.27 x 11.02 x 2.82in | | 260 x 360 x 72mm<br>10.24 x 14.17 x 2.82in | |
| Power Consumption | 6W | | 6W | |
| Power | 100 – 240V, 50/60Hz | | 100 – 240V, 50/60Hz | |
| Certifications | CE | | CE | |
| Warranty | 2 Years | | 2 Years | |

| Accessories for RT Touch Series Magnetic Stirrers | Cat. No. |
|---|---|
| Non-slip silicone plate cover for items 88880013 and 88880014<br>(White color, Silicone Ø170cm) | **88880145** |
| Non-slip silicone plate cover for items 88880015 and 88880016<br>(White color, Silicone Ø220cm) | **88880146** |

Non-slip Silicone Plate Covers

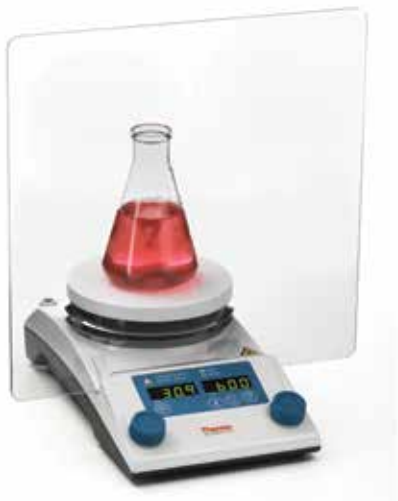
# Thermo Scientific RT2 Digital Hotplate

**Increase your confidence in safety and accuracy with our low-profile digital display hotplate. Equipped with hot top warning and built-in temperature shut-off to provide accurate heating of samples and safety to the laboratory.**

- Precise digital control with 0.1C resolution
- Automatic over-temperature safety shut off at 450C
- Hot top warning indicator
- Microprocessor PID temperature control
- Non-slip heating bath (optional)
- Transparent safety shield (optional)
- Two threaded holes for Support Rods
- Keypad lock
- Heating rate can be set from 0 to 100% at 1% interval
- View current and set temperature simultaneously
- Timer can be set to start immediately, count down or start when top plate reaches desired set point
- Aluminum top provides excellent temperature uniformity while the thin ceramic coating provides excellent corrosion resistance and a white surface for optimal sample viewing.

| Cat. No. | 88880002 | 88880001 |
|---|---|---|
| Plug Configuration | | |
| Temperature Range | Max 350°C /662°F | |
| Heating Control | Feedback Control with PID | |
| Display | LED digital (0.1C resolution) | |
| Maximum Load (vessel) | 25kg / 55.1lbs | |
| Body Material | Cast aluminum | |
| Top Plate Dimensions | 140 mm / 5.5in diameter | |
| Top Plate Material | Ceramic coated aluminum | |
| Overall Dimensions (WxDxH) | 161 x 290 x 100mm<br>6.34 x 11.42 x 3.94in | |
| Heating Power | 600W | |
| Power | 120V, 60Hz | 230V, 50/60Hz |
| Certifications | CE, cCSAus | |
| Warranty | 2 Years | |

| Accessories for RT2 Hotplate | Cat. No. |
|---|---|
| Heating Bath | **88880141** |
| Transparent Shield (PC) | **88880142** |
| Support Rod (Ø12mm, 400mm, M10) | **88880143** |



RT2 with Transparent Shield

# Thermo Scientific RT2 Basic Hotplate Stirrer

**Rely on the accuracy of our low-profile analog hotplate stirrer for your routine applications. Each unit is equipped with hot top warning and built-in over-temperature safety shut-off.**

- Automatic Over-temperature safety shut off at 450°C
- Hot top warning indicator
- Max temperature of 350°C
- Non-slip heating bath (optional)
- Transparent safety shield (optional)
- Supporting rod (optional)
- Two threaded holes for Support Rods
- Aluminum top provides excellent temperature uniformity while the thin ceramic coating provides excellent corrosion resistance and a white surface for optimal sample viewing.
- 20L stirring Capacity

| Cat. No. | 88880004 | 88880003 |
|---|---|---|
| Plug Configuration | | |
| Temperature Range | Max 350°C /662°F | |
| Heating Control | Scale | |
| Stirring Speed Range | 50 to 2000rpm | |
| Maximum Load (vessel) | 25kg / 55.1lbs | |
| Stirring Capacity (H20) | 20L | |
| Body Material | Cast aluminum | |
| Top Plate Material | Ceramic coated aluminum | |
| Top Plate Dimensions | 140 mm / 5.5in diameter | |
| Overall Dimensions (WxDxH) | 161 x 290 x 100mm<br>6.34 x 11.42 x 3.94in | |
| Heating Power | 600W | |
| Power | 120V, 60Hz | 230V, 50/60Hz |
| Certifications | CE, cCSAus | |
| Warranty | 2 Years | |

| Accessories for the RT2 Basic Hotplate Stirrer | Cat. No. |
|---|---|
| Heating Bath | **88880141** |
| Transparent Shield (PC) | **88880142** |
| Support Rod (Ø12mm, 400mm, M10) | **88880143** |

Heating Bath

# Thermo Scientific RT2 Advanced Hotplate Stirrer

**Experience precision with our low-profile digital display hotplatestirrer, equipped with PT100 sensor for precise temperature measurements for sensitive experimental procedures**

- Precise digital control with 0.1C resolution
- Hot top warning indicator
- Microprocessor PID temperature control
- User configurable temperature limit setting
- Non-slip heating bath (optional)
- Transparent safety shield (optional)
- Two threaded holes for Support Rods
- Keypad lock
- Automatic Over-temperature safety shut off at 450C
- Heating rate can be set from 0 to 100% at 1% interval
- View current and set temperature simultaneously
- Timer: start immediately or when desired temperature is reached
- Aluminum top provides excellent temperature uniformity while the thin ceramic coating provides excellent corrosion resistance and a white surface for optimal sample viewing.
- 20L stirring Capacity
- Stir speed range: 30-2000RPM
- If stirring viscosity changes, the feedback function allows unit to maintain set speed.
- Temperature probe (included) when coupled, automatically changes to external sensor mode, user can check sample temperature also control via probe on digital display.

| Cat. No. | 88880006 | 88880005 |
|---|---|---|
| Plug Configuration | | |
| Temperature Range | Ambient 50°C to 350°C / 122°F to 662°F | |
| Heating Control | Feedback Control with PID / Scale | |
| Stirring Speed Range | 30 to 2000rpm | |
| Maximum Load (vessel) | 25kg / 55.1lbs | |
| Stirring Capacity ($H_20$) | 20L | |
| Body Material | Aluminum | |
| Top Plate Material | Ceramic coated aluminum | |
| Top Plate Dimensions | 140mm / 5.5in diameter | |
| Overall Dimensions (WxDxH) | 161 x 290 x 100mm<br>6.34 x 11.42 x 3.94in | |
| Heating Power | 600W | |
| Power | 120V, 60Hz | 230V, 50/60Hz |
| Certifications | CE, cCSAus | |
| Warranty | 2 Years | |

| Accessories for RT2 Advanced Hotplate Stirrer | Cat. No. |
|---|---|
| Heating Bath | 88880141 |
| Transparent Shield (PC) | 88880142 |
| Support Rod (Ø12mm, 400mm, M10) | 88880143 |
| Temperature Probe (PT 100, SN-8-4 connector sensor) | 88880147 |
| C-5, Clamp Holder (PP body, Ø12 mm) | 88880148 |
| 3 Prong Clamp ( 60mm grip) | 88880149 |
| Temperature Probe (PT100, A Class, 400°C) | 88880150 |

Includes Temperature Probe
(PT 100, SN-8-4 connector sensor)

# Thermo Scientific Cimarec i Magnetic Stirrers

## No-Compromise Stirring Performance

**Renowned for their outstanding quality and durability, Thermo Scientific Cimarec i stirrers are available in a range of sizes, with inductive drive systems to match the application or process need.**

Powerful magnetic couplings ensure precise, reproducible stirring performance for both general and specialty applications. Cimarec i® stirrers are available with convenient built-in controllers or with versatile external controllers. All offer safe, low voltage operation. Many models feature hermetically-sealed drive housings that allow operation in challenging laboratory environments and facilitate cleaning.

Units with adjustable power settings, allow users to adjust the power to the lowest level necessary to maintain the desired speed, resulting in an environmentally friendly solution that decreases power consumption and lowers heat output.

## Cimarec i Magnetic Stirrers – Maintenance-free, inductive-drive stirrers

**Inductive-drive stirrers operate without moving parts, making them uniquely wear-free and maintenance-free.**

- Hermetically-sealed drives for safe operation in demanding environments, easier cleaning and contamination prevention
- Single-point and multi-point stirring configurations

Cimarec i Stirrers

# Thermo Scientific Cimarec i Mini & Micro Stirrer

## Cimarec i Mini Stirrers

**No larger than a thumbnail, perfect for stirring cuvettes**

- Stir speeds up to 1400 rpm
- Stir volumes up to 5 mL

## Cimarec i Micro Stirrers

**Hermetically sealed housing resists dust and microorganisms**

- Suitable for use in high humidity conditions, CO2, and refrigeration – and can be fully submerged in water baths up to 95°C
- Stainless-steel housing has excellent chemical resistance
- Stir speeds up to 1400 rpm; stir volumes up to 1L

## Controller Choices

- The Cimarec i Micro and Mini series stirrers come standard with your choice of controller. Choose the Cimarec i standard Telemodul controller with its space saving design or the Cimarec i Telemodul 20C with microprocessor controls, adjustable power setting and programmability.

LINK & SYNC

Link and Sync up to 8 Mini or Micro stirrers using one controller with optional distributors (see page 102) and 50088140 Mini stirrers without controller or 50134760 Micro stirrers without controller.

**Warranty[Y]:** Five years
**Certifications:** CE

| Cat. No. | Model | Stirring Speed | Power Setting | Protection Class (stirrer only) | Overall L x W x H | Weight | Electrical |
|---|---|---|---|---|---|---|---|
| **50088130** | Mini w/ Telemodul | 130 to 1000rpm | 0.1w | IP67 | 12 × 12 × 5mm (0.47 × 0.47 × 0.19in.) | 0.02kg | 230V Euro |
| **50088132** | Mini w/ Telemodul | 130 to 1000rpm | 0.1w | IP67 | 12 × 12 × 5mm (0.47 × 0.47 × 0.19in.) | 0.02kg | 230V UK |
| **50088126** | Mini w/ Telemodul | 130 to 1000rpm | 0.1w | IP67 | 12 × 12 × 5mm (0.47 × 0.47 × 0.19in.) | 0.02kg | 100V Japan |
| **50088118** | Mini w/ Telemodul | 130 to 1000rpm | 0.1w | IP67 | 12 × 12 × 5mm (0.47 × 0.47 × 0.19in.) | 0.02kg | 115V USA |
| **50088120** | Mini 20 w/ Telemodul 20C | 130 to 1400rpm | 0.5/0.1/0.15/0.2w | IP67 | 12 × 12 × 5mm (0.47 × 0.47 × 0.19in.) | 0.02kg | 100-240V |
| **50088140** | Mini w/o Controller | – | – | IP67 | 12 × 12 × 5mm (0.47 × 0.47 × 0.19in.) | 0.02kg | – |
| **50088162** | Micro w/Telemodul | 130 to 1000rpm | 3w | IP68 | 48 × 48 × 15mm (1.8 × 1.8 × 0.6in.) | 0.2kg | 230V Euro |
| **50088150** | Micro w/Telemodul | 130 to 1000rpm | 3w | IP68 | 48 × 48 × 15mm (1.8 × 1.8 × 0.6in.) | 0.2kg | 115V USA |
| **50088151** | Micro w/Standard Telemodul | 130 to 1000rpm | 3w | IP68 | 48 × 48 × 15mm (1.8 × 1.8 × 0.6in.) | 2.3kg | 230V UK |
| **50088149** | Micro w/Standard Telemodul | 130 to 1000rpm | 3w | IP68 | 48 × 48 × 15mm (1.8 × 1.8 × 0.6in.) | 2.3kg | 100V Japan |
| **50088148** | Micro 20 w/Telemodul 20C | 130 to 1400rpm | 2/4/6/8w | IP68 | 48 × 48 × 15mm (1.8 × 1.8 × 0.6in.) | 0.2kg | 100-240V |
| **50134760** | Micro w/o Controller | – | – | IP68 | 48 × 48 × 15mm (1.8 × 1.8 × 0.6in.) | 0.2kg | — |

**OPERATING CONDITIONS:**
**Mini:** -10 to +56°C at 95% rH ; 100-240 V units contain a cord set with various plugs
**Micro:** -10 to 100°C at 95% rH, -10 to 120°C in dry air, 0-95°C submerged in water; 100-240 V units contain a cord set with various plugs

# Thermo Scientific Cimarec i Maxi & Compact Stirrers

**100% maintenance- and wear-free, hermetically sealed units designed for challenging stirring environments**

- Powerful magnets and no moving parts, these inductive-drive stirrers are designed to go into water baths and incubators (including $CO_2$) and humid environments, as well as in refrigerators
- Outstanding mechanical, physical, thermal and chemical resistance
- Large, flat, easy-to-clean work surfaces
- Hermetically sealed chemically-resistant housing resists dust and microorganisms
- All models submersible for use in water baths up to 50°C
- Link and Sync up to 8 Compact stirrers or 4 Maxi stirrers using one controller with optional distributors (see page 102)

LINK & SYNC

## Cimarec i Maxi Stirrer with External Control

- Stir speeds up to 2000rpm
- Stir volumes up to 5L

## Cimarec i Compact Stirrer with External Control

- Stir speeds up to 1400rpm
- Stir volumes up to 1.5L

## Controller Choices

- The Cimarec i Compact and Maxi stirrers come standard with your choice of controller. Choose the Cimarec i standard Telemodul controller with its space-saving design, the Cimarec i Telemodul 20C with microprocessor controls, adjustable power setting and programmability or the Cimarec i Telemodul 40C with higher speeds, more power settings and PC control. Adjustable power settings available on the Telemodul 20C and Telemodul 40C offer decreased power consumption and lower heat output

**Warranty[Y]:** Five years
**Certifications:** CE

| Cat. No. | Model | Stirring Speed | Power Settings | Material | Protection Class (stirrer only) | L x W x H | Weight | Electrial |
|---|---|---|---|---|---|---|---|---|
| **50088143** | Maxi w/Standard Telemodul | 130 to 2000rpm | 6w | Stainless Steel | IP68 | 18 × 18 × 3.5cm (7.1 × 7.1 × 1.4in.) | 2.3kg (5.1 lb.) | 230V, Euro |
| **50088145** | Maxi w/Standard Telemodul | 130 to 2000rpm | 6w | Stainless Steel | IP68 | 18 × 18 × 3.5cm (7.1 × 7.1 × 1.4in.) | 2.3kg (5.1 lb.) | 230 V UK |
| **50088146** | Maxi w/Standard Telemodul | 130 to 2000rpm | 6w | Stainless Steel | IP68 | 18 × 18 × 3.5cm (7.1 × 7.1 × 1.4in.) | 2.3kg (5.1 lb.) | 100 V Japan |
| **50088147** | Maxi w/Standard Telemodul | 130 to 2000rpm | 6w | Stainless Steel | IP68 | 18 × 18 × 3.5cm (7.1 × 7.1 × 1.4in.) | 2.3kg (5.1 lb.) | 115V, USA |
| **50088135** | Maxi w/Telemodul 20C | 130 to 4000rpm | 4.5/9/13.5/18 | Stainless Steel | IP68 | 18 × 18 × 3.5cm (7.1 × 7.1 × 1.4in.) | 2.3kg (5.1 lb.) | 100-240V |
| **50088122** | Maxi w/Telemodul 40C | 130 to 5000rpm | 3-36w | Stainless Steel | IP68 | 18 × 18 × 3.5cm (7.1 × 7.1 × 1.4in.) | 2.3kg (5.1 lb.) | 100-240V |
| **50088152** | Compact w/Standard Telemodul | 130 to 1000rpm | 5w | Stainless Steel | IP68 | 12 × 12 × 3.5cm (4.7 × 4.7 × 1.4in.) | 1kg (2.2 lb.) | Euro 230V |
| **50088142** | Compact w/Standard Telemodul | 130 to 1000rpm | 5w | Stainless Steel | IP68 | 12 × 12 × 3.5cm (4.7 × 4.7 × 1.4in.) | 1kg (2.2 lb.) | 115V, USA |
| **50088153** | Compact w/Standard Telemodul | 130 to 1000rpm | 5w | Stainless Steel | IP68 | 12 × 12 × 3.5cm (4.7 × 4.7 × 1.4in.) | 2.3kg (5.1 lb.) | 230 V UK |
| **50088154** | Compact w/Standard Telemodul | 130 to 1000rpm | 5w | Stainless Steel | IP68 | 12 × 12 × 3.5cm (4.7 × 4.7 × 1.4in.) | 2.3kg (5.1 lb.) | 100 V Japan |
| **50088133** | Compact w/Telemodul 20C | 130 to 1500rpm | 3/6/9/12w | Stainless Steel | IP68 | 12 × 12 × 3.5cm (4.7 × 4.7 × 1.4in.) | 1kg (2.2 lb.) | 100-240V |

**OPERATING CONDITIONS:** -10 to +56°C in air; 0 to 50°C submerged in water.
100-240 V units contain a cord set with various plugs

# Thermo Scientific Cimarec i Mono & Maxi Direct Stirrers

**With powerful magnets and no moving parts, these inductive-drive stirrers are the perfect choice for your general lab needs.**

- 100% maintenance- and wear-free
- Compact, space-saving design with large, flat, easy-to-clean work surfaces
- Gradual start acceleration is gentle and ensures optimum magnetic coupling
- Adjustable power settings are separate from the speed control—decreasing power consumption and lowering heat output

## Cimarec i Mono Direct Stirrer

- Easy-to-use rotary knob design
- Rugged powder-coated stainless-steel housing
- Stir volumes up to 3L

## Cimarec i Maxi Direct Stirrers

- Precise microprocessor control with bright digital display
- Easy-to-clean, chemical resistant, sealed stainless-steel housing
- Easily recall last used settings
- Stir volumes up to 5L
- Smooth and even stirring as low as 80 rpm

Warranty¥: Five years
Certifications: CE

| Cat. No. | Description | Overall L x W x H | Stirring Speed | Protection Class | Weight | Power Settings | Voltage/ Plug Type |
|---|---|---|---|---|---|---|---|
| **50094711** | Mono Direct | 215 × 180 × 35mm (8.5 × 7.1 × 1.4in.) | 130 to 1000rpm | IP32 | 1.4kg (3 lb.) | 1/5W | 230V Euro |
| **50095601** | Mono Direct | 215 × 180 × 35mm (8.5 × 7.1 × 1.4in.) | 130 to 1000rpm | IP32 | 1.4kg (3 lb.) | 1/5W | 115V USA |
| **50096203** | Mono Direct | 215 × 180 × 35mm (8.5 × 7.1 × 1.4in.) | 130 to 1000rpm | IP32 | 1.4kg (3 lb.) | 1/5W | 230V UK |
| **50097289** | Mono Direct | 215 × 180 × 35mm (8.5 × 7.1 × 1.4in.) | 130 to 1000rpm | IP32 | 1.4kg (3 lb.) | 1/5W | 230V Australia |
| **50095921** | Mono Direct | 215 × 180 × 35mm (8.5 × 7.1 × 1.4in.) | 130 to 1000rpm | IP32 | 1.4kg (3 lb.) | 1/5W | 100V Japan |
| **50094713** | Maxi Direct | 215 × 180 × 35mm (8.5 × 7.1 × 1.4in.) | 80 to 2000rpm | IP62 | 2.5kg (5.5 lb.) | 5/10/15/20W | 100-240V |

**OPERATING CONDITIONS** are -10° to +40°C at 95% RH.
100-240V units contain a cord set with various plugs

# Thermo Scientific Cimarec i Poly 15 & Multipoint Stirrers

**100% maintenance and wear-free stirrers available in platforms with up to 15 positions**

- Ideal for mass screening applications and other applications requiring multiple stirring points
- Inductive drive stirrers offer 100% maintenance and wear-free features in a fully synchronized multipoint platform
- Large, flat easy-to-clean work surfaces
- Precise microprocessor control with bright digital display
- Easily recall last used settings
- Gradual start acceleration is gentle and ensures good magnetic coupling

## Cimarec i Poly 15 Stirrer

- Rugged powder-coated stainless-steel housing
- Stir speeds up to 990rpm
- Suitable for 15 × 250mL beakers or 6 × 1L flasks

## Cimarec i Multipoint 6/15 Stirrers

- IP64 protection rated; easily cleaned with running water
- Easy-to-clean, chemical resistant, sealed stainless steel housing
- Chemical resistant, sealed stainless-steel housing
- Adjustable power settings are separate from the speed control that decreases power consumption and lowers heat output
- Smooth and even stirring as low as 80rpm and up to 2000rpm
- Stir volumes up to 3L per multipoint

**Warranty**[¥]: Five years
**Certifications:** CE

| Cat. No. | Model | No. of Stirring Positions | Power Settings | Overall L x W x H | Stirring Speed | Protection Class | Weight | Electrical |
|---|---|---|---|---|---|---|---|---|
| **50094596** | Poly 15 | 15 | 10w | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 130 to 990rpm | IP32 | 6kg | 100-240V |
| **50093557** | Multipoint 6 | 6 | 5/10/15/20w | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 80 to 2000rpm | IP62 | 7.5kg | 100-240V |
| **50093538** | Multipoint 15 | 15 | 5/10/15/20w | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 80 to 2000rpm | IP62 | 7.5kg | 100-240V |

**OPERATING CONDITIONS:** -5 to +40°C at 95% rH; 100-240 V units contain a cord set with various plugs

# Thermo Scientific Cimarec i Telesystem Multipoint Stirrers

**Designed for use with aggressive media, in high humidity environments and for integration with incubators and controlled climate chambers**

- All models submersible for use in water baths up to 50°C as well as incubators (including $CO_2$), and in refrigerators
- Inductive drive is 100% wear and maintenance free and ensures completely synchronized stirring at all positions
- 6-, 15- or 60-position stirrers
- IP68 protection rated; easily cleaned with running water
- Smooth and even stirring from 100rpm up to 2000rpm
- Stir volumes up to 2L per multipoint
- External controllers decrease power consumption and lower heat output
- Chemical resistant, sealed stainless-steel housing
- Easy recall of last used settings

## Controller Choices

The Cimarec i Telesystem multipoint stirrers come standard with your choice of controller. Choose the Cimarec i Telemodul 20C contollers with microprocessor controls, adjustable power setting, and programmability or the Cimarec i Telemodul 40C controllers with higher speeds, more power settings, and PC control.

**Warranty**[¥]: Five years
**Certifications:** CE

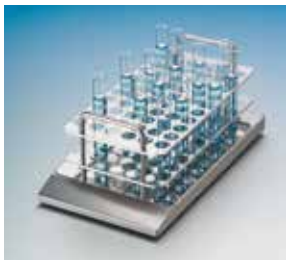
| Cat. No. | Model | Protection Class | Power Setting | Stir Volume per point | Overall L x W x H | Stirring Speed | Weight | Electrical |
|---|---|---|---|---|---|---|---|---|
| **50088077** | Telesystem 6 Position w/Telemodul 20C | IP 68 | 5/10/15/20w | 1-1500ml | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 130 to 1400rpm | 7.5kg (16.5 lb.) | 100-240V |
| **50088078** | Telesystem 6 Position w/Telemodul 40C | IP 68 | 4-40w | 1-2000ml | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 100 to 2000rpm | 8kg (17.6 lb.) | 100-240V |
| **50088034** | Telesystem 15 Position w/Telemodul 20C | IP 68 | 5/10/15/20w | 1-1000ml | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 130 to 1400rpm | 7.5kg (16.5 lb.) | 100-240V |
| **50088036** | Telesystem 15 Position w/Telemodul 40C | IP 68 | 4-40w | 1-1200ml | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 100 to 2000rpm | 8kg (17.6 lb.) | 100-240V |
| **50088009** | Telesystem 60 Position w/Telemodul 20C | IP 68 | 5/10/15/20w | 0.1-50ml | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 130 to 1400rpm | 7.5kg (16.5 lb.) | 100-240V |
| **50088011** | Telesystem 60 Position w/Telemodul 40C | IP 68 | 4-40w | 0.1-100ml | 420 × 240 × 35mm (16.5 × 9.4 × 1.4in.) | 100 to 2000rpm | 8kg (17.6 lb.) | 100-240V |

**OPERATING CONDITIONS:** -10° to +56°C at 100%RH in air; 0° to 50°C submerged in water.
100-240 V units contain a cord set with various plugs

# Thermo Scientific Cimarec Stirrer Accesssories

## Thermo Scientific Cimarec i Bath Mounts

| Cat. No. | Material | Dimensions (L x W x H) | Capacity | Operating Temp. | For Use With |
|---|---|---|---|---|---|
| **50087880** | Transparent Acrylic | 610 × 330 × 185mm (24 × 13 × 7.3in.) | 15L (3.9 gal.) | 0° to 60°C | Telesytem Cimarec i Stirrers |
| **50087882** | Stainless Steel | 520 × 315 × 160mm (20.4 × 12.4 × 6.3in.) | 15L (3.9 gal.) | -10 to +200°C | Telesytem Cimarec i Stirrers |



## Thermo Scientific Cimarec i Test Tube Racks

| Cat. No. | Material | For Use With |
|---|---|---|
| **50087960** | Stainless Steel | 25mm tubes in Telesytem Cimarec i Stirrers |
| **50087955** | Stainless Steel | 16mm tubes in Telesytem Cimarec i Stirrers |

## Thermo Scientific Cimarec i Benchtop Distributors

LINK & SYNC

- Ensure identical operating conditions for multiple stirrer installations
- Even power distribution for synchronized stirring
- Benchtop distributors ensure identical operating conditions for multiple stirrer installations.
- Simultaneous control of 2, 4, 6 or 8 Mini, Micro or Compact series stirrers using a single Cimarec i Telemodul 20C or Cimarec i Telemodul 40C external controller
- Simultaneous control of 2 or 4 Maxi series stirrers using a single Cimarec i Telemodul 20C or Cimarec i Telemodul 40C external controller
- Even power distribution for synchronized stirring

| Cat. No. | Model |
|---|---|
| **50091720** | 4-Place Distributor |
| **50091721** | 8-Place Distributor |

## Thermo Scientific Cimarec Extension Cables

| Cat. No. | Model | Length | Compatibility |
|---|---|---|---|
| **50088016** | 4-Pin Extension Cable | 3m (9.8ft.) | Cimarec i Telmodul 20C, 40C and Cimarec Telemodul 10M Controllers |
| **50088021** | 6-Pin Extension Cable | 3m (9.8ft.) | Cimarec Telemodul Biosystem 40B Controller |
| **50088102** | 8-Pin Extension Cable | 3m (9.8ft.) | Cimarec Telemodul 40M and 80M Controllers |

# Thermo Scientific Cimarec i Telemodul Controllers

**Included with the Cimarec i Micro, Mini, Compact, and Maxi Stirrers**

- Order as replacement controller only.
- Single point stirring power for small to medium volumes (up to 250mL)

| Cat. No. | Stirring Speed | Speed Control Accuracy | Stirring Power Relative to Rated Power | Ambient Temp. Range | Overall L x W x H | Weight | Electrical |
|---|---|---|---|---|---|---|---|
| **50119115** | 130 to 1000rpm | ±3 | 100% | 0° to 40°C @ 80% relative humidity | 96 × 63 × 50mm (3.7 × 2.4 × 1.9in.) | 0.4kg (0.8 lb.) | 230V/12V DC 7W |
| **50119119** | 130 to 1000rpm | ±3 | 100% | 0° to 40°C @ 80% relative humidity | 96 × 63 × 50mm (3.7 × 2.4 × 1.9in.) | 0.4kg (0.8 lb.) | 115V/12V DC 7W |

# Thermo Scientific Cimarec i Telemodul 40C and 20C Controllers

**Included with the Cimarec i Micro, Mini, Compact, Maxi and Telesystems Stirrers**

- Order as replacement controller only
- High speeds and power settings for more demanding stirring tasks
- Single-handed operation with straightforward turn and press adjustment wheel
- Three individual program, store and recall keys for rapid start-up
- Last used settings stored in memory
- Rocking/shake mode reverses stir bar direction for a gentle back and forth stirring motion
- Four power settings to decrease power consumption and lower heat output
- 10 power settings (40C model) and four power settings (20C model) to decrease power consumption and lower heat output
- RS-232 interface for data transfer and PC control (40C model only)

| Cat. No. | Stirring Speed | Speed Control Accuracy | Rated Power | Stirring Power Relative to Rated Power | Ambient Temp. Range | Starting Times/ Pause Times | Output Voltage | Overall L x W x H | Weight |
|---|---|---|---|---|---|---|---|---|---|
| **50090774** | 100 to 2000rpm | ±1 | 40w | 10 to 100 (10 levels) | 0° to 40°C @ 80% relative humidity | 5 sec. to 60 min. | 36V DC | 165 × 155 × 95mm (6.4 × 6.1 × 3.7in.) | 0.7kg (1.5 lb.) |
| **50090773** | 130 to 1400rpm | ±1 | 20w | 25/50/75/100 (4 levels) | 0° to 40°C @ 80% relative humidity | 5 sec. to 60 min. | 20V DC | 165 × 155 × 95mm (6.4 × 6.1 × 3.7in.) | 0.6kg (1.3lb.) |

# Thermo Scientific Cimarec Biosystem Slow Speed Stirrer for Cell Culture

**Gentle stirring of microcarrier cultures, culture broths and cell suspensions inside your $CO_2$ incubator**

- Hermetically sealed housing resists microorganisms — separate external controller ensures only the hermetically sealed stirrer is exposed to the $CO_2$ environment
- Heatless operation will not compromise the incubator chamber conditions
- Stainless-steel housing is easy to clean and resists aggressive media
- Gradual low-shear acceleration on start-up
- Smooth and even stirring as low as 5rpm
- Adjustable controller power settings decrease power consumption and lower heat output
- Single position stirrers stir up to 20L; Four-position stirrers stir up to 5L per position

### Required Cimarec Biosystem 40B Controller:

**50118915** – 230V Germany
**50118918** – 230V UK
**50118921** – 230V China
**50118916** – 230V Italy
**50118919** – 230V Switzerland
**50126086** – 115V US
**50118917** – 230V Denmark
**50118920** – 230V Australia

| Cat. No. | Model | Dimensions (L x W x H) | Weight | Stir Speed | Protection Class | Power Setting |
|---|---|---|---|---|---|---|
| **50119113** | Biosystem w/o Controller | 180 × 180 × 60mm (7 × 7 × 2.4in.) | 3.4kg (7.5 lb.) | 5 to 120rpm | IP68 | 0.4 to 4w |
| **50119114** | Biosystem 4-Position w/o Controller | 330 × 330 × 60mm (12.9 × 12.9 × 2.4in.) | 9.4kg (20.7 lb.) | 5 to 120rpm | IP68 | 0.4 to 4w |

# Thermo Scientific Cimarec Biosystem Direct Slow Speed Stirrer

**Gentle stirring outside of a $CO_2$ incubator**

- Heatless operation protects heat-sensitive cell culture
- Stainless-steel housing is easy to clean and resists aggressive media
- Gradual low-shear acceleration on start-up
- Smooth and even stirring as low as 5rpm
- Single position stirrers stir up to 5L: Four-position stirrers stir up to 2L per position
- Bulit-in controller

**Warranty**¥: Five years
**Certifications:** CE marked

| Cat. No. | Model | Dimensions (L x W x H) | Weight | Stir Speed | Protection Class | Electrical | Power Setting |
|---|---|---|---|---|---|---|---|
| **50088071** | Biosystem 1-Position Direct | 180 × 180 × 60mm (7 × 7 × 2.4in.) | 3.4kg (7.5 lb.) | 5 to 120rpm | IP64 | 230V Euro | 1w |
| **50088058** | Biosystem 1-Position Direct | 180 × 180 × 60mm (7 × 7 × 2.4in.) | 3.4kg (7.5 lb.) | 5 to 120rpm | IP64 | 115V USA | 1w |
| **50088057** | Biosystem 1-Position Direct | 180 × 180 × 60mm (7 × 7 × 2.4in.) | 3.4kg (7.5 lb.) | 5 to 120rpm | IP64 | 230V UK | 1w |
| **50088064** | Biosystem 1-Position Direct | 180 × 180 × 60mm (7 × 7 × 2.4in.) | 3.4kg (7.5 lb.) | 5 to 120rpm | IP64 | 230V Australia | 1w |
| **50101524** | Biosystem 1-Position Direct | 180 × 180 × 60mm (7 × 7 × 2.4in.) | 3.4kg (7.5 lb.) | 5 to 120rpm | IP64 | 100V Japan | 1w |
| **50088061** | Biosystem 4-Position Direct | 330 × 330 × 60mm (12.9 × 12.9 × 2.4in.) | 11kg (24.3 lb.) | 5 to 120rpm | IP64 | 100-240V | 0.05w (×4) |

**OPERATING CONDITIONS: Biosytem:** Operating conditions are -10 to +56°C at 100% rH; **Biosytem Direct:** -10 to +40°C at 95% rH; 100-240 V units contain a cord set with various plugs

# Thermo Scientific Cimarec Mobil 10 and Mobil 25 Large Volume & Power Direct Stirrers

**Ideal for hard to stir viscous liquids up to 10L or 40L depending on model with Quick Stop function to stop the drive within three seconds, minimizing after runs and reducing the risk of breakage**

## Cimarec Mobil 10

- Compact space-saving design
- Gradual low-shear acceleration on start-up
- Stirring volume: 100mL to 20L

## Cimarec Mobil 25

- Ideal for high temperatures up to 121°C and high pressure applications up to 2 bars (29psi)
- Stirring volume: 100mL to 25L
- Can be used in autoclaves, water baths and climatic chambers
- Perfect for use on sterilized media ensuring even heating and cooling
- Easy-to-clean, chemical resistant, sealed stainless-steel housing
- Gradual low-shear acceleration on start-up

## Cimarec Power Direct (no controller required)

- Ideal for high-capacity (up to 40L) stirring
- Integrated controller has an adjustable power setting that decreases power consumption and lowers heat output
- Sealed stainless-steel housing is easy to clean and chemical resistant

**Required Accessories:** Cimarec Telemodul 10M controller (#50019120 or #50019121) (Only required for Cimarec Mobil 10 and 25 models)
**Warranty¥:** Five years
**Certifications:** CE

| Cat. No. | Model | Overall Dimensions | Stir Speed | Stir Capacity | Operating Temp. | Weight | Protection Class | Power Setting | Electrical |
|---|---|---|---|---|---|---|---|---|---|
| **50119111** | Mobil 10 w/o controller | 128 × 32mm (5 × 1.3in.) | 100 to 1000 rpm | 20L | -10° to +56°C | 0.7kg (1.5 lb.) | IP66 | 10w | – |
| **50119112** | Mobil 25 w/o controller | 128 × 32mm (5 × 1.3in.) | 100 to 1000 rpm | 25L | -10° to +121°C | 1.7kg (3.7 lb.) | IP68 | 10w | – |
| **50098760** | Power Direct | 295 × 240 × 35mm (11.6 × 9.4 × 1.4in.) | 100 to 2000 rpm | 40L | -10° to +40°C | 2.5kg (5.5lbs) | IP22 | 5/10/15/20w | 100-240V |

**OPERATING CONDITIONS: Mobil 10:** -10 to 56°C ; **Mobil 25:** -10 to 121°C; **Power Direct:** -10 to 40°C
100-240 V units contain a cord set with various plugs

## Thermo Scientific Cimarec Telemodul 10M Controller

| Cat. No. | Stir Speed | Stir Capacity | Electrical | For use with |
|---|---|---|---|---|
| **50119120** | 100 to 1000 rpm | 10L | 230V | Mobil 10 and Mobil 25 |
| **50119121** | 100 to 1000 rpm | 10L | 115V US | Mobil 10 and Mobil 25 |

# Thermo Scientific Cimarec Mobil Direct, Mobil 200 and Mobil 600 Large Volume Stirrers

**Outstanding stirring power for high-volume applications**

- For use in pilot plant or integrated with process equipment
- Quick Stop function stops the drive within three seconds, minimizing after runs and risk of vessel breakage
- Easy-to-clean, chemical resistant, sealed stainless-steel housing
- Maximum shaft torque is 30Ncm for the Mobil Direct and 50Ncm for the Mobil 200 and 600
- Mobil Direct can stir up to 150L and features an integrated controller with adjustable power settings
- Mobil 200 can stir up to 200L; Mobil 600 can stir up to 600L

**Required Accessories**: The Cimarec Mobil 200 and 600 require either the Cimarec Telemodul 40M or 80M controller (order separately).
**Warranty**[¥]: Five years
**Certifications:** CE

| Cat. No. | Description | Stir Speed | Power Settings | Type | Dimensions | Weight | Electrical |
|---|---|---|---|---|---|---|---|
| **50088131** | Mobil Direct | 100 to 1000rpm | 40w | IP65 | 330 × 330 × 80mm (13 × 13 × 3.4in.) | 16kg | 115V USA |
| **50088128** | Mobil Direct | 100 to 1000rpm | 40w | IP65 | 330 × 330 × 80mm (13 × 13 × 3.4in.) | 16kg | 230V Euro |
| **50088129** | Mobil Direct | 100 to 1000rpm | 40w | IP65 | 330 × 330 × 80mm (13 × 13 × 3.4in.) | 16kg | 100V Japan |
| **50100547** | Mobil Direct | 100 to 1000rpm | 40w | IP65 | 330 × 330 × 80mm (13 × 13 × 3.4in.) | 16kg | 230V UK |
| **50119109** | Mobil 200 w/o Controller | 100 to 1000rpm | 80w | IP65 | 180 × 180 × 80mm (7 × 7 × 3.4in.) | 6kg | – |
| **50119110** | Mobil 600 w/o Controller | 100 to 1000rpm | 80w | IP65 | 330 × 330 × 80mm (13 × 13 × 3.4in.) | 16kg | – |

**OPERATING CONDITIONS: Mobil Direct**: -10 to +40°C at 95% rH; **Mobil 200 & 600:** -10 to +56°C at 100% rH

## Thermo Scientific Cimarec 40M and 80M Telemodul Controllers

- Constant speeds, even during viscosity changes
- High visibility digital display
- Thermal and electrical overload protection, with fault alert

| Cat. No. | Stirring Range | Voltage |
|---|---|---|
| **Cimarec 40M Controllers (40w)** | | |
| **50118901** | 100 to 1000rpm | 230V Germany |
| **50118903** | 100 to 1000rpm | 230V Denmark |
| **50118904** | 100 to 1000rpm | 230V UK |
| **50118905** | 100 to 1000rpm | 230V Swiss |
| **50118906** | 100 to 1000rpm | 230V Australia |
| **50118907** | 100 to 1000rpm | 230V China |
| **50119122** | 100 to 1000rpm | 110V Japan |
| **50119123** | 100 to 1000rpm | 115V US |

| Cat. No. | Stirring Range | Voltage |
|---|---|---|
| **Cimarec 80M Controllers (80w)** | | |
| **50118908** | 100 to 1000rpm | 230V Germany |
| **50118909** | 100 to 1000rpm | 230V Italy |
| **50118911** | 100 to 1000rpm | 230V UK |
| **50118912** | 100 to 1000rpm | 230V Swiss |
| **50118913** | 100 to 1000rpm | 230V Australia |
| **50119124** | 100 to 1000rpm | 110V Japan |
| **50119125** | 100 to 1000rpm | 115V US |

# Thermo Scientific Explosion-Proof Series

**Deliver the highest protection for hazardous applications, including Class I, Group C and D flammable gases or solvent vapors**

- Features over-temperature safety monitors, precise thermostatic controls and sealed aluminum housing
- Corrosion-resistant steel case for easy cleaning and maintenance
- Sturdy construction allows maximum load capacity, 25 lb. (11.3kg) on top plate

## SAFE-T HP6 Hotplates

- Thermostatic safety is set at 243°C (469.4°F) for added protection
- Maintains temperature within ±5.5°C (9.9°F)
- Sealed aluminum housing contains and protects controls
- Cast aluminum top plate maximizes heat transfer and uniformity (±6.5°C or 11.7°F)

## SAFE-T SHP9 Stirring Hotplates

- Feature thermostatic control, over-temperature safety monitors and precise temperature stability
- Large, aluminum top plate surface provides efficient heat transfer
- Precise electronic heat control maintains temperature stability within ±2°C (±4°F)
- Stir solutions with a viscosity of 1200cp at 400rpm (at 21.5°C)
- Stainless-steel case is easily cleaned and maintained and accommodates a metal vessel

## Safe-T S20 Stirrer

- Designed for stirring viscous solutions and suspensions
- Accommodates vessels with a capacity of 1.58 gal. (6L)
- Sturdy construction to handle a maximum load of 25 lb. (11.3kg) on the top plate

**Includes:** Stirrer unit and one 2 × 0.38 in. (5 × 1cm) PTFE–coated stir bar
**Warranty¥:** Three years
**Compliance:** Meets IEC1010 laboratory standards
**Certifications:** UL listed. Safe for Class 1, Group C and D flammable gases or solvent vapors

| Cat. No. | Model | Surface Dimensions | Surface Material | Stirring Speed | Temp. Range | Overall Dimensions | Weight | Electrical |
|---|---|---|---|---|---|---|---|---|
| **HP11515B** | SAFE-T HP6 Hotplate | 15.6 x 15.6cm (6.13 x 6.13in.) | Aluminum | – | 38° to 220°C (100° to 428°F) | 32.4 x 28.3 x 20cm (12.8 x 11.1 x 7.9in.) | 13.6kg (30 lb.) | 120V 50/60Hz; 600w; 5A |
| **SP87325** | SAFE-T SHP9 Stirring Hotplate | (23.2 x 23.2cm) (9.1 x 9.1in.) | Aluminum | 60 to 1200rpm | 38° to 220°C (100° to 428°F) | 32.4 x 25.4 x 20.8cm (12.8 x 10 x 8.1in.) | 13.6kg (30 lb.) | 120V 50/60Hz, 1070w, 8.9A |
| **S108525** | SAFE-T S20 Stirrer | 25.4 x 25.4cm (10 x 10in.) | Ceramic | 60 to 1200rpm | – | 32.4 x 28.3 x 20cm (12.8 x 11.1 x 7.9in.) | 13.6kg (30 lb.) | 120V 50/60Hz; 70w; 0.6A |

# Thermo Scientific Aluminum-Top Hotplates

**Cast-aluminum top for maximum heat transfer, strength and corrosion resistance**

- Equipped with thermostatic temperature control
- Baffle-vented welded stainless-steel case

**Warranty¥:** Three years
**Certifications:** UL listed (120V model)
**Notes:** Recommended for use with glass vessels only.

| Cat. No. | Heating Surface Area | Temperature Range | Temp. Uniformity | Overall L x W x H | Volts |
|---|---|---|---|---|---|
| **HPA1915BQ** | 15.9cm2 (6.25 sq.in.) | 38° to 371°C (100° to 700°F) | ±2.4°C at 100°C | 19.4 x 16.8 x 11.1cm (7.63 x 6.63 x 4.38in.) | 120V |
| **HPA1910MQ** | 15.9cm2 (6.25 sq.in.) | 38° to 371°C (100° to 700°F) | ±2.4°C at 100°C | 19.4 x 16.8 x 11.1cm (7.63 x 6.63 x 4.38in.) | 240V |

# Thermo Scientific Large External-Controlled Hotplates

**Uniform heating of large volumes and multiple vessels**

- External controller operates outside fume hoods
- Robust design for safety; large capacity with excellent temperature stability
- Porcelain-coated, stainless-steel top and case offer chemical and stain resistance
- Chemical-resistant cover protects line cord
- Isolation of controls allows operation in hazardous environments
- Percentage input controller delivers infinite temperature selection
- Power light indicates when control is operating

**Warranty¥:** Three years
**Includes:** 5ft. (1.5m) 3-wire cord and plug

| Cat. No. | Heating Surface | Temp. Range | Temp. Stability | Temperature Uniformity | Electrical Requirements |
|---|---|---|---|---|---|
| **RC2235Q** | 30.5 x 30.5cm (12 x 12in.) | 150° to 371°C (300° to 700°F) | ±5°C (9°F) | ±10°C (18°F) (at 150°C) | 120V 50/60Hz, 1600w, 13.3A |
| **RC2240Q** | 30.5 x 60.9cm (12 x 24in.) | 150° to 371°C (300° to 700°F) | ±5°C (9°F) | ±10°C (18°F) (at 150°C) | 240V 50/60Hz, 3200w, 13.3A |

# Thermo Scientific 2200 Series Aluminum Top Hotplates

**Ideal for large-volume heating applications requiring precise temperature stability, including acid base digestion, sample drying, general reagent heating, heating TLC plates, and evaporations**

- Large, aluminum heating surface, thermostatic temperature controls for outstanding temperature uniformity and stability
- Cycle light indicates when power is being supplied to heating element
- Stainless-steel case provides safe, reliable construction and optimal strength for heavy loads
- Epoxy-painted surface increases chemical resistance in corrosive environments

**Warranty¥:** Three years
**Certifications:** UL listed
**Alert:** Recommended for use with glass vessels only.

| Cat. No. | Heating Surface Area | Temp. Range | Temp.Stability (at 100°C) | Temp.Uniformity (at 100°C) | Overall L x W x H | Electrical |
|---|---|---|---|---|---|---|
| **HPA2235MQ** | 30.5 x 30.5cm (12 x 12in.) | 38° to 371°C (100° to 700°F) | ±3.0°C (5.4°F) | ±4.0°C (7.2°F) | 33 x 30.5 x 15.6cm (13 x 12 x 6.13in.) | 120V 50/60Hz, 1600w, 13.3A |
| **HPA2230MQ** | 30.5 x 30.5cm (12 x 12in.) | 38° to 371°C (100° to 700°F) | ±3.0°C (5.4°F) | ±4.0°C (7.2°F) | 33 x 30.5 x 15.6cm (13 x 12 x 6.13in.) | 240V 50/60Hz, 1600w, 6.7A |
| **HPA2245MQ*** | 30.5 x 60.9cm (12 x 24in.) | 38° to 371°C (100° to 700°F) | ±3.5°C (6.3°F) | ±10°C (18°F) | 34.9 x 60.9 x 15.9cm (13.75 x 24 x 6.25in.) | 120V 50/60Hz, 3200w, 26.6A |
| **HPA2240MQ** | 30.5 x 60.9cm (12 x 24in.) | 38° to 371°C (100° to 700°F) | ±3.5°C (6.3°F) | ±10°C (18°F) | 34.9 x 60.9 x 15.9cm (13.75 x 24 x 6.25in.) | 240V 50/60Hz, 3200w, 13.3A |

*12x24 top plate models not supplied with cord and plug due to high-wattage consumption requirements. Must be hard wired.

# Thermo Scientific Large Volume Stirrer

**Reach speeds up to 2400rpm**

- Polished stainless-steel construction resists corrosion
- Digital speed settings
- Stirring capacity up to 200L
- Accommodates stir bars from 1.5 to 6in. (4 to 15cm); sold separately
- Top surface has ridged non-slip white rubber mat

**Warranty**[¥]: Three years

| Cat. No. | Speed | Capacity | Top Plate Surface Area | Electrical |
|---|---|---|---|---|
| **1295Q** | Up to 2400rpm | Up to 200L | 46 x 46cm (18 x 18in.) | 120V, 50/60Hz |

# Thermo Scientific Cimarec Komet Stir Bars

**Generate over three times the torque of conventional stirring bars**

- Significantly enhance stirrer performance and applications versatility
- High-energy Samarium-Cobalt (SmCo) magnetic core
- Excellent mixing action at high speeds, and with viscous media
- Evenly coated PTFE surface prevents residue deposits
- Sterilize with steam to 249.8°F (121°C)

| Cat. No. | Description | Shape | Outside Dia. x Length |
|---|---|---|---|
| **50087902** | Cimarec Komet Stir Bar 90, 1 pack | Round | 25mm x 90mm |
| **50087909** | Cimarec Komet Stir Bar 50, 1 pack | Round | 21mm x 50mm |
| **50087930** | Cimarec Komet Stir Bar 30, 1 pack | Round | 13mm x 30mm |
| **50087924** | Cimarec Komet Stir Bar 15, 1 pack | Round | 9mm x 15mm |
| **50093336** | Cimarec Komet Stir Bar 90 with glide ring, 1 pack | Round, with glide ring | 31mm x 90mm |
| **50093335** | Cimarec Komet Stir Bar 50 with glide ring, 1 pack | Round, with glide ring | 26mm x 50mm |
| **50093334** | Cimarec Komet Stir Bar 30 with glide ring, 1 pack | Round, with glide ring | 17mm x 30mm |

# incubators

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# Thermo Scientific Microbiological Incubators Selector Guide

| Application | Material/Sample | Temp. Requirements | Recommended Heratherm Incubator |
|---|---|---|---|
| **Bacterial research** | Bacteria | Temperatures between 30 °C and 70 °C | General Protocol; Advanced Protocol for highest temperature accuracy, and time control |
| **Microbiology** | Microorganisms, cells | Temperatures between 30 °C and 50 °C | |
| **Coliform determination** | Bacteria | Temperature around 37 °C | |
| **Histology** | Tissue | Temperature around 37 °C | |
| **Paraffin embedding** | Paraffin | Temperatures of 37 °C to around 50 °C | |
| **Egg incubation** | Eggs | Temperature around 37 °C | General Protocol; Advanced Protocol for highest temperature accuracy, and time control |
| **Heated storage** | Media, samples | Temperature depends on material and specific application – between 30 °C and 105 °C | General Protocol for temperatures up to 75 °C; Advanced Protocol for highest temperature accuracy, and time control – up to 105 °C |
| **Gene cloning** | Bacteria, cells | Temperature around 37 °C | Advanced Protocol for highest temperature accuracy, and time control<br>Advanced Protocol Security with additional safety features for peace of mind |
| **Pharmaceutical stability testing** | Various | Temperatures of 37 °C up to 105 °C | |
| **Food and beverage testing** | Various | Temperatures of 37 °C up to 105 °C | |
| **BOD / water pollution testing** | Water | Temperature around 20 °C | Compact |
| **Yeast growth** | Yeast | Temperatures between 10 °C and 37 °C | General Protocol for temperatures above ambient +5 °C<br>Advanced Protocol for highest temperature accuracy or Compact for temperatures as low as 17 °C |
| **Hatching of insects, fish** | Insects | Temperature near or below ambient | |

For lower temperatures: check the Thermo Scientific refrigerated models at: www.thermoscientific.com/incubators

| Features | Heratherm Compact Incubator | Heratherm General Protocol Incubator | Heratherm Advanced Protocol Incubator | Heratherm Advanced Protocol Security Incubator |
|---|---|---|---|---|
| **Temperature range** | 17 - 40 °C | ambient +5 °C - 75 °C | ambient +5 °C - 105 °C | ambient +5 °C - 105 °C |
| **Convection technology** | Mechanical | Gravity | Dual: fan off / adjust fan speed | Dual: fan off / adjust fan speed* |
| **Rounded corners** | ✔ | ✔ | ✔ | ✔ |
| **Microprocessor control** | ✔ | ✔ | ✔ | ✔ |
| **Automatic over-temperature alarm** | | ✔ | ✔ | ✔ |
| **Stackable** | | ✔ | ✔ | ✔ |
| **Stainless steel interior** | | AISI 430/1.4016 | AISI 304/1.4301 | AISI 304/ 1.4301 |
| **RS232 interface** | | ✔ | ✔ | ✔ |
| **Internal glass door** | | ✔ | ✔ | ✔ |
| **Easy calibration routine** | | ✔ | ✔ | ✔ |
| **Timer** | | on/off | choice of weekly / daily / real time | choice of weekly / daily / real time |
| **Dry alarm contact for connection of alarm device** | | | ✔ | ✔ |
| **Access port** | | ✔ | ✔ | ✔ |
| **Interior socket (120V models only)** | | | ✔ | |
| **Optional Stainless steel exterior** | | | 230V models only | ✔ |
| **Certified decontamination cycle** | | | | ✔ |
| **Automatic undertemperature alarm** | | | | ✔ |
| **Door alarm** | | | | ✔ |
| **Lockable door** | | | | ✔** |
| **Optional stainless steel exterior** | | | | ✔ |
| **Connection for optional sample temperature sensor** | | | | ✔ |

*Large capacity units: mechanical convection with 2 speeds
** No lockable door in large capacity units

# Thermo Scientific Heratherm Compact Microbiological Incubators

**Extremely small footprint, making it ideal for personalized workspace or for crowded labs with small sample volumes**

- 18L capacity
- Mechanical convection technology
- High temperature accuracy
- Easy-to-use, LED display
- Internal light and window in door facilitates sample observation
- Temperature range: 17-40°C
- Peltier/Thermoelectric Technology

**Ordering Alerts:** Availability may vary by country
**Warranty[Y]:** 2 years (parts and labor)
**Certifications:** cCSAus, CE

| Cat. No. (Model IMC18) | Chamber Volume | Temp. Range | Shelves Supplied (Max)/ Max Load | Chamber Dimensions (D x W x H) | Exterior Dimensions (D x W x H) | Temp. Uniformity/ Stability (@37°C) | Shipping Weight | Electrical/Plug Type |
|---|---|---|---|---|---|---|---|---|
| **50125590** | 18L (.65 cu. ft.) | 17-40°C | 2 (3)/ 2kg (4.4lbs) | 290 x 180 x 310mm (11.4 x 7.1 x 12.2in.) | 470 x 260 x 415mm (18.5 x 10.2 x 16.3in.) | ±1.2°C/ ±0.2°C | 7.2kg (15.9 lb.) | 100-240V 50/60Hz, 45w; 0.45–0.85A/ US Nema 5-15 |
| **50125882** | 18L (.65 cu. ft.) | 17-40°C | 2 (3)/ 2kg (4.4lbs) | 290 x 180 x 310mm (11.4 x 7.1 x 12.2in.) | 470 x 260 x 415mm (18.5 x 10.2 x 16.3in.) | ±1.2°C/ ±0.2°C | 7.2kg (15.9 lb.) | 100-240V 50/60Hz, 45w; 0.45–0.85A/ EU standard, UK and Australia cable/plug |
| **50129111** | 18L (.65 cu. ft.) | 17-40°C | 2 (3)/ 2kg (4.4lbs) | 290 x 180 x 310mm (11.4 x 7.1 x 12.2in.) | 470 x 260 x 415mm (18.5 x 10.2 x 16.3in.) | ±1.2°C/ ±0.2°C | 7.2kg (15.9 lb.) | 100-240V 50/60Hz, 45w; 0.45–0.85A/ China cable/plug |

# Thermo Scientific Heratherm General Protocol Microbiological Incubators

**Ideally suited for routine applications in pharmaceutical, medical, food and research laboratories, with sample safety in mind**

- Gravity convection provides gentle airflow and minimal drying out
- Temperature range from ambient +5° to 75°C
- Corrosion-resistant stainless-steel chamber (1.4016 / AISI 430) and coated exterior
- Intuitive user interface for setting temperature
- Large, easy to read vacuum fluorescent display
- Internal glass door allows sample viewing without impacting temperature
- Exceptionally small footprint
- Access port for independent data monitoring or use of equipment, such as shakers or stirrers inside unit
- Easy stacking of two same-size units without need for stacking device

**Ordering Alerts:** Availability may vary by country
**Warranty¥:** 2 years (parts and labor)
**Certifications:** cCSAus (120V, 50/60Hz models) and CE (230V, 50/60Hz models)

| Cat. No. | Chamber Volume | Temp. Range | Shelves Supplied (Max)/Max Load | Chamber Dimensions (D x W x H) | Exterior Dimensions (D x W x H)* | Temp. Uniformity/ Stability (@37°C) | Shipping Weight | Electrical/ Plug Type |
|---|---|---|---|---|---|---|---|---|
| **51028063** | 75L (2.6 cu. ft.) | ambient +5 °C to 75 °C | 2 (13)/25kg (55 lb.) | 414 x 354 x 508mm (16.3 x 13.9 x 20.0in.) | 470 x 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C/ ±0.2°C | 40kg (88 lb.) | 120V 60Hz; 300w; 2.5A; Nema 5-15 US |
| **51028130** | 75L (2.6 cu. ft.) | ambient +5 °C to 75 °C | 2 (13)/25kg (55 lb.) | 414 x 354 x 508mm (16.3 x 13.9 x 20.0in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C/ ±0.2°C | 40kg (88 lb.) | 230V 50/60Hz; 300w; 1.3A; Country-specific |
| **51029638** | 75L (2.6 cu. ft.) | ambient +5 °C to 75 °C | 2 (13)/25kg (55 lb.) | 414 x 354 x 508mm (16.3 x 13.9 x 20.0in.) | 470 x 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C/ ±0.2°C | 40kg (88 lb.) | 100V 50/60Hz; 300w; 3A; Nema 5-15 Japan |
| **51028064** | 117L (4.0 cu. ft.) | ambient +5 °C to 75 °C | 2 (16)/25kg (55 lb.) | 414 x 464 x 608mm (16.3 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.2°C | 51kg (112 lb.) | 120V 60Hz; 540w; 4.5A; Nema 5-15 US |
| **51028131** | 117L (4.0 cu. ft.) | ambient +5 °C to 75 °C | 2 (16)/25kg (55 lb.) | 414 x 464 x 608mm (16.3 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7 in.) | ±0.6°C/ ±0.2°C | 51kg (112 lb.) | 230V 50/60Hz; 540w; 2.3A; Country-specific |
| **51029639** | 117L (4.0 cu. ft.) | ambient +5 °C to 75 °C | 2 (16)/25kg (55 lb.) | 414 x 464 x 608mm (16.3 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.2°C | 51kg (112 lb.) | 100V 50/60Hz; 540w; 5.4A; Nema 5-15 Japan |
| **51028065** | 194L (6.85 cu. ft.) | ambient +5 °C to 75 °C | 2 (19)/25kg (55 lb.) | 589 x 464 x 708mm (23.2 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | ±0.6°C/ ±0.2°C | 65kg (143 lb.) | 120V 60Hz; 720w; 6A; Nema 5-15 US |
| **51029640** | 194L (6.85 cu. ft.) | ambient +5 °C to 75 °C | 2 (19)/25kg (55 lb.) | 589 x 464 x 708mm (23.2 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in. | ±0.6°C/ ±0.2°C | 65kg (143 lb.) | 100V 50/60Hz; 720w; 7.2A; Nema 5-15 Japan |
| **51028132** | 194L (6.85 cu. ft.) | ambient +5 °C to 75 °C | 2 (19)/25kg (55 lb.) | 589 x 464 x 708mm (23.2 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | ±0.6°C/ ±0.2°C | 65kg (143 lb.) | 230V 50/60Hz; 710w; 3.1A; Country-specific |

* Depth does not include handle/display (65mm / 2.6in.) and distance spacer at rear (80mm / 3.1in.); height includes the feet (35mm / 1.4in.).
NOTE: All figures in tables are typical average values for series devices, based on factory standard following norm Din12880. Please contact us for certification information or IQ/OQ documents.

# Thermo Scientific Heratherm Advanced Protocol Microbiological Incubators

**Innovative dual convection technology with excellent temperature performance, providing an optimal sample environment**

- Unsurpassed temperature performance — the flexible tool in the lab to be used for multiple applications
- Dual convection for application versatility — fan speed adjustable from 0 to 100%
- Advanced digital timer for daily or weekly ON / OFF cycles
- Access port for independent data monitoring or use of equipment, such as shakers or stirrers inside unit
- Internal 120V socket allows the use of equipment inside the unit (120V MODELS ONLY)
- Easy-to-clean, corrosion-resistant stainless-steel interior (1.4301 / AISI 304)
- Broad temperature range from 5°C above ambient to 105°C — suitable even for drying applications
- Temperature uniformity of +/- 0.6 (Fan off) and between ±0.2°C and +/- 0.4C (Fan full speed) (measured at 37°C)
- Temperature stability of ±0.1°C (measured at 37°C)
- Microprocessor controlled touch button user interface for ease of use and best performance
- Large, easy-to-view vacuum fluorescent display
- Internal glass door allows sample viewing without impacting temperature
- Exceptionally small footprint
- Choice of stainless steel exterior available for demanding pharmaceutical and clinical requirement (230V models only)

**Ordering Alerts:** Availability may vary by country
**Warranty[¥]:** 2 years (parts and labor)
**Certifications:** cCSAus (120V, 50/60Hz models) and CE (230V, 50/60Hz models)

| Cat. No. | Model/Description | Chamber Volume | Temp. Range | Shelves Supplied (Max)/ Max Load | Chamber Dimensions (D x W x H) | Exterior Dimensions* (D x W x H) | Temp Uniformity (@37°C) | Temp Stability (@37°C) | Shipping Weight | Electrical/ Plug Type |
|---|---|---|---|---|---|---|---|---|---|---|
| **51028066** | IMH60, coated exterior, Dual Convection | 66L (2.3 cu. ft.) | ambient +5 °C to 105 °C | 2 (13)/ 25kg (55 lb.) | 368 x 354 x 508mm (14.5 x 13.9 x 20in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C*/ ±0.2°C | ±0.1°C | 45kg (99 lb.) | 120V 60Hz; 300w; 2.5A; Nema 5-15 US |
| **51028067** | IMH100, coated exterior, Dual Convection | 104L (3.67 cu. ft.) | ambient +5 °C to 105 °C | 2 (16)/ 25kg (55 lb.) | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 56kg (123 lb.) | 120V 60Hz; 300w; 2.5A; Nema 5-15 US |
| **51028068** | IMH180, coated exterior, Dual Convection | 178L (6.3 cu. ft.) | ambient +5 °C to 105 °C | 2 (19)/ 25kg (55 lb.) | 543 x 464 x 708mm (21.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | ±0.6°C/ ±0.4°C | ±0.1°C | 70kg (154 lb.) | 120V 60Hz; 300w; 2.5A; Nema 5-15 US |
| **51028133** | IMH60, coated exterior, Dual Convection | 66L (2.3 cu. ft.) | ambient +5 °C to 105 °C | 2 (13)/ 25kg (55 lb.) | 368 x 354 x 508mm (14.5 x 13.9 x 20in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C*/ ±0.2°C | ±0.1°C | 45kg (99 lb.) | 230V 50/60Hz; 850w; 3.7A; Country-specific |
| **51028134** | IMH100, coated exterior, Dual Convection | 104L (3.67 cu. ft.) | ambient +5 °C to 105 °C | 2 (16)/ 25kg (55 lb.) | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 56kg (123 lb.) | 230V 50/60Hz; 1100w; 4.8A; Country-specific |
| **51028135** | IMH180, coated exterior, Dual Convection | 178L (6.3 cu. ft.) | ambient +5 °C to 105 °C | 2 (19)/ 25kg (55 lb.) | 543 x 464 x 708mm (21.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | ±0.6°C/ ±0.4°C | ±0.1°C | 70kg (154 lb.) | 230V 50/60Hz; 1300w; 5.7A; Country-specific |
| **51028717** | IMH60 SS, stainless steel exterior, Dual Convection | 66L (2.3 cu. ft.) | ambient +5 °C to 105 °C | 2 (13)/ 25kg (55 lb.) | 368 x 354 x 508mm (14.5 x 13.9 x 20in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C*/ ±0.2°C | ±0.1°C | 45kg (99 lb.) | 230V 50/60Hz; 850w; 3.7A; Country-specific |
| **51028718** | IMH100 SS, stainless steel exterior, Dual Convection | 104L (3.67 cu. ft.) | ambient +5 °C to 105 °C | 2 (16)/ 25kg (55 lb.) | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 56kg (123 lb.) | 230V 50/60Hz; 1100w; 4.8A; Country-specific |
| **51028719** | IMH180 SS, stainless steel exterior, Dual Convection | 178L (6.3 cu. ft.) | ambient +5 °C to 105 °C | 2 (19)/ 25kg (55 lb.) | 543 x 464 x 708mm (21.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | ±0.6°C/ ±0.4°C | ±0.1°C | 70kg (154 lb.) | 230V 50/60Hz; 1300w; 5.7A; Country-specific |

* Depth does not include handle/display (65mm / 2.6in.) and distance spacer at rear (80mm / 3.1in.); height includes the feet (35mm / 1.4in.).
**NOTE**: All figures in tables are typical average values for series devices, based on factory standard following norm Din12880. Please contact us for certification information or IQ/OQ documents.

# Thermo Scientific Heratherm Advanced Protocol Security Microbiological Incubators

**Unique 140°C decontamination routine, providing outstanding safety for samples**

- Unique 140°C decontamination routine, providing outstanding safety for samples:
  - At 140°C microorganisms are reduced to a minimum, comparable to sterilization, within a six hour cycle
  - No need for separate autoclaving of interior fittings
  - Certified by an accredited microbiological institute (IBFE 09/2010)
- Safety features for ultimate sample protection:
  - Lockable door for restricted access
  - Alarm sounds if door is left open accidentally
  - Automatic over- and under-temperature alarm
- Dual convection for application versatility — fan speed adjustable from 0 to 100%
- Advanced digital timer for daily or weekly ON / OFF cycles
- Temperature Range: Ambient +5°C to 105°C
- Intuitive user interface for setting temperature
- Large, easy to read vacuum fluorescent display
- Optional sample sensor provides exact temperature of sample on display
- Access port for independent data monitoring or use of equipment, such as shakers or stirrers inside unit
- Internal glass door allows sample viewing without impacting temperature
- Available with a stainless-steel exterior, meets demanding needs in pharmaceutical and clinical laboratories

**Ordering Alerts:** Availability may vary by country.
**Warranty[¥]:** 2 years (parts and labor)
**Certifications:** cCSAus (120V, 50/60Hz units) and CE (230V, 50/60Hz units)

| Cat. No. | Model/ Description | Chamber Volume | Shelves Supplied (Max)/Max Load | Chamber Dimensions (W x D x H) | Exterior Dimensions* (W x D x H) | Temp. Uniformity (@37°C) | Temp Stability (@37°C) | Shipping Weight | Electrical/ Plug Type |
|---|---|---|---|---|---|---|---|---|---|
| **51028069** | IMH60-S, coated | 66L (2.3 cu. ft.) | 2 (13)/ 25kg (55 lb.) | 368 x 354 x 508mm (14.5 x 13.9 x 20in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C*/ ±0.2°C | ±0.1°C | 45kg (99 lb.) | 120V 60Hz; 1390w; 11.6A; Country-specific |
| **51028070** | IMH100-S, coated | 104L (3.67 cu. ft.) | 2 (16)/ 25kg (55 lb.) | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 56kg (123 lb.) | 120V 60Hz; 1390w; 11.6A; Country-specific |
| **51028111** | IMH180-S, coated | 178L (6.3 cu. ft.) | 2 (19)/ 25kg (55 lb.) | 543 x 464 x 708mm (21.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | ±0.6°C/ ±0.4°C | ±0.1°C | 70kg (154 lb.) | 120V 60Hz; 1390w; 11.6A; Country-specific |
| **51028264** | IMH60-S SS stainless steel | 66L (2.3 cu. ft.) | 2 (13)/ 25kg (55 lb.) | 368 x 354 x 508mm (14.5 x 13.9 x 20in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C*/ ±0.2°C | ±0.1°C | 45kg (99 lb.) | 120V 60Hz; 1390w; 11.6A; Country-specific |
| **51028535** | IMH100-S SS stainless steel | 104L (3.67 cu. ft.) | 2 (16)/ 25kg (55 lb.) | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 56kg (123 lb.) | 120V 60Hz; 1390w; 11.6A; Country-specific |
| **51028327** | IMH180-S SS stainless steel | 178L (6.3 cu. ft.) | 2 (19)/ 25kg (55 lb.) | 543 x 464 x 708mm (21.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | 0.6°C/ ±0.4°C | ±0.1°C | 70kg (154 lb.) | 120V 60Hz; 1390w; 11.6A; Country-specific |
| **51028136** | IMH60-S, coated | 66L (2.3 cu. ft.) | 2 (13)/ 25kg (55 lb.) | 368 x 354 x 508mm (14.5 x 13.9 x 20in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 45kg (99 lb.) | 230V 50/60Hz; 1390w; 6.1A; Country-specific |
| **51028137** | IMH100-S, coated | 104L (3.67 cu. ft.) | 2 (16)/ 25kg (55 lb.) | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 56kg (123 lb.) | 230V 50/60Hz; 1390w; 6.1A; Country-specific |
| **51028138** | IMH180-S, coated | 178L (6.3 cu. ft.) | 2 (19)/ 25kg (55 lb.) | 543 x 464 x 708mm (21.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 70kg (154 lb.) | 230V 50/60Hz; 1390w; 6.1A; Country-specific |
| **51028541** | IMH60-S SS, stainless steel | 66L (2.3 cu. ft.) | 2 (13)/ 25kg (55 lb.) | 368 x 354 x 508mm (14.5 x 13.9 x 20in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 45kg (99 lb.) | 230V 50/60Hz; 1390w; 6.1A; Country-specific |
| **51028542** | IMH100-S SS, stainless steel | 104L (3.67 cu. ft.) | 2 (16)/ 25kg (55 lb.) | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 56kg (123 lb.) | 230V 50/60Hz; 1390w; 6.1A; Country-specific |
| **51028543** | IMH180-S SS, stainless steel | 178L (6.3 cu. ft.) | 2 (19)/ 25kg (55 lb.) | 543 x 464 x 708mm (21.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | ±0.6°C/ ±0.3°C | ±0.1°C | 70kg (154 lb.) | 230V 50/60Hz; 1390w; 6.1A; Country-specific |

* Depth does not include handle/display (65mm / 2.6in.) and distance spacer at rear (80mm / 3.1in.); height includes the feet (35mm / 1.4in.).
**NOTE**: All figures in tables are typical average values for series devices, based on factory standard following norm Din12880. Please contact us for certification information or IQ/OQ documents.

## Thermo Scientific Heratherm Microbiological Incubators Accessories

| Cat. No. | Description | Details |
|---|---|---|
| **50125605** | SS shelf compact incubator | Stainless steel perforated shelf for Compact incubator |
| **50127770** | SS shelf IGS60 | Stainless steel perforated shelf for General Protocol 60L unit; includes 2 shelf supports |
| **50127771** | SS shelf IGS100 | Stainless steel perforated shelf for General Protocol 100L unit; includes 2 shelf supports |
| **50127772** | SS shelf IGS180 | Stainless steel perforated shelf for General Protocol 180L unit; includes 2 shelf supports |
| **50127773** | SS shelf IMH60 / IMH60-S | Stainless steel perforated shelf for Advanced Protocol / Advanced Protocol Security 60L unit; includes 2 shelf supports |
| **50127774** | SS IMH100 / IMH100-S | Stainless steel perforated shelf for Advanced Protocol / Advanced Protocol Security 100L unit; includes 2 shelf supports |
| **50127777** | SS IMH180 / IMH180-S | Stainless steel perforated shelf for Advanced Protocol / Advanced Protocol Security 180L unit; includes 2 shelf supports |
| **50127764** | Wire mesh shelf IGS60/ IMH60 / IMH60-S | Wire mesh shelf for all 60L unit; includes 2 shelf supports |
| **50127765** | Wire mesh shelf IGS100/ IMH100 / IMH100-S | Wire mesh shelf for all 100L unit; includes 2 shelf supports |
| **50127766** | Wire mesh shelf IGS180/ IMH180 / IMH180-S | Wire mesh shelf for all 180L unit; includes 2 shelf supports |

## Thermo Scientific Heratherm Incubators: Additional Accessories & Options

| Cat. No. | Description | Details |
|---|---|---|
| **Additional Shelving & Drip Trays** | | |
| **50128816** | Petri Dish Holder (90 mm) 60L units | Shelf with holders for Petri dishes; 90 mm diameter; wire mesh; for all 60L units; includes 2 shelf supports |
| **50128818** | Petri Dish Holder (90 mm) 100L units | Shelf with holders for Petri dishes; 90 mm diameter; wire mesh; for all 100L units; includes 2 shelf supports |
| **50128819** | Petri Dish Holder (90 mm) 180L units | Shelf with holders for Petri dishes; 90 mm diameter; wire mesh; for all 180L units; includes 2 shelf supports |
| **50128793** | Petri Dish Holder (50 mm) 60L units | Shelf with holders for Petri dishes; 50 mm diameter; wire mesh; for all 60L units; includes 2 shelf supports |
| **50128794** | Petri Dish Holder (50 mm) 100L units | Shelf with holders for Petri dishes; 50 mm diameter; wire mesh; for all 100L units; includes 2 shelf supports |
| **50128815** | Petri Dish Holder (50 mm) 180L units | Shelf with holders for Petri dishes; 50 mm diameter; wire mesh; for all 180L units; includes 2 shelf supports |
| **50128683** | Drip Tray 60L units | Stainless steel drip tray for all 60L units; includes 2 shelf supports |
| **50128791** | Drip Tray 100L units | Stainless steel drip tray for all 100L units; includes 2 shelf supports |
| **50128792** | Drip Tray 180L units | Stainless steel drip tray for all 180L units; includes 2 shelf supports |
| **50128265** | Lowenstein kit 150 mm tubes | 2 trays for 150mm Lowenstein tubes to place on top of perforated shelf (shelf not supplied); 435 x 155 mm; 20 tubes each tray – usable for 100L models and larger |
| **Support Stands** | | |
| **50127741** | Support stand 60L units | Support stand with casters for 60L units; height of stand including casters: 187mm / 7.4in |
| **50127742** | Support stand 100L units | Support stand with casters for 100L units; height of stand including casters: 187mm / 7.4in |
| **50127743** | Support stand 180L units | Support stand with casters for 180L units; height of stand including casters: 187mm / 7.4in |
| **Sample Sensor** | | |
| **50127768** | Sample sensor for IMH60-S / IMH100-S / IMH180-S | All Heratherm Advanced Protocol Security incubators |
| **Stacking Kits** | | |
| **50126665** | Stacking kit 60L units | Kit for stacking 60L units; recommended if decon cycle is used on lower unit |
| **50126666** | Stacking kit 100L units | Kit for stacking 100L units; recommended if decon cycle is used on lower unit; stacks also smaller unit on 100L unit |
| **50126667** | Stacking kit 180L units | Kit for stacking 180L units; recommended if decon cycle is used on lower unit; stacks also smaller unit on 180L unit |
| **Special Sealing** | | |
| **50130657** | Silicone free viton sealing 60L | Silicone free viton door sealing for all 60L units |
| **50130658** | Silicone free viton sealing 100L | Silicone free viton door sealing for all 100L units |
| **50130659** | Silicone free viton sealing 180L | Silicone free viton door sealing for all 180L units |
| **50134906** | Vent gasket 60L | Special sealing for high humidity - for 60L units |
| **50134907** | Vent gasket 100L | Special sealing for high humidity - for 100L units |
| **50134908** | Vent gasket 180L | Special sealing for high humidity - for 180L units |
| **Fresh Air Filter** | | |
| **50127567** | Fresh air particle filter | Fresh air particle filter for connection to the fresh air vent (intake); for all Advanced Protocol and Advanced Protocol incubators |
| **Factory-Installed Options — Please order in conjunction with desired incubator** | | |
| **51900996** | Heratherm Access port left, small | Additional access port on center of left side of unit; Ø 24 mm for all incubators |
| **51900997** | Heratherm Access port left, large | Additional access port on center of left side of unit; Ø 58 mm for all incubators |
| **51900998** | Heratherm Access port right, small | Additional access port on center of right side of unit; Ø 24 mm for all incubators |
| **51900999** | Heratherm Access port right, large | Additional access port on center of right side of unit; Ø 58 mm for all incubators |
| **51901000** | Heratherm Access port top, small | Additional access port on center of top of unit; Ø 24 mm for all incubators |
| **51901001** | Heratherm Access port top, large | Additional access port on center of top of unit; Ø 58 mm for all incubators |
| **51900993** | Door hinge left side | Door hinge on left side – Available for General Protocol; Advanced Protocol and Advanced Protocol Security units. Coated exterior only, table top units only |

# Thermo Scientific Heratherm Microbiological Incubators – Large Capacity

**Designed for high sample volume or large samples**

## General Protocol Incubators

### Efficient

- Two sizes (400 and 750 L)
- Gravity convection technology with unique airflow – designed for minimal drying out of samples
- Flexible shelf system for optimal use of chamber volume
- Access port for independent data monitoring

### Safe

- Automatic overtemperature alarm system
- Inner glass door for undisturbed viewing of samples
- Inner chambers made from corrosion-resistant stainless steel (1.4016)
- Protect delicate samples with stable temperature conditions: uniformity of up to ± 0.5 °C and temperature stability of 0.4 °K at 37 °C

### Easy

- Large, easy to view, vacuum fluorescent display with push-button simplicity
- Doors can be opened over 180° for easy access and use
- Lockable casters for easy mobility and stability

**Warranty[¥]:** 2 years (parts and labor)
**Certifications:** CE, CSAus (120V, 208-240V/60Hz models) and CE (230V, 50/60Hz models)

## Advanced Protocol Security Incubators

### Efficient

- Two sizes (400 and 750 L)
- Mechanical convection technology ensures optimal temperature distribution with improved level of temperature uniformity: : ± 0.2 to 0.3 °C
- Temperature ranges from ambient +5 °C to 105 °C for application flexibility: units can even be used for drying applications

### Safe

- Unique 140°C decontamination cycle eliminating the need for separate autoclaving or use of toxic decontaminants
- 2-speed fan for application flexibility
- Additional undertemp alarm provides safety even when the temperature deviates below set point
- Alarm notifies operator if door is left open
- Inner chamber made from highly corrosion-resistant stainless steel (AISI304 / 1.4301), suited even for use with aggressive substances

### Easy

- Timer extends the automation options available to user
- Stainless steel inner chamber with rounded edges for easy cleaning
- Available in stainless steel exterior

# Thermo Scientific Heratherm Microbiological Incubators – Large Capacity

| Cat. No. | Model/ Exterior | Chamber Volume L (cuft) | Temperature Range | Temp. Uniformity/ Stability (@37°C) | Chamber Dimensions (D x W x H) | Exterior Dimensions* (D x W x H) | Shelves Supplied/ Max (Max. Load) | Shipping Weight | Electrical, Plug Type |
|---|---|---|---|---|---|---|---|---|---|
| **General Protocol Incubators - Gravity Convection** | | | | | | | | | |
| **51029322** | IGS400 / coated | 405 (14.3) | Ambient +5 °C to 75 °C | ± 0.5 °C / ± 0.4 °C | 569 x 544 x 1307 mm (22 x 21 x 51 in.) | 770 x 778 x 1653mm (30 x 31 x 66in.) | 2 / 39 (30kg / 66lb) | 145 kg (187 lb) | 230V; 50/60Hz; 1200W; 5A; Country specific |
| **51029321** | IGS400 / coated | 405 (14.3) | Ambient +5 °C to 75 °C | ± 0.5 °C / ± 0.4 °C | 569 x 544 x 1307 mm (22 x 21 x 51 in.) | 770 x 778 x 1653mm (30 x 31 x 66in.) | 2 / 39 (30kg / 66lb) | 145 kg (187 lb) | 120V; 60Hz; 1080W; 9A; NEMA5-15 |
| **51029334** | IGS750 / coated | 747 (26.4) | Ambient +5 °C to 75 °C | ± 1.3 °C / ± 0.4 °C | 569 x 1004 x 1307 mm (22 x 40 x 51 in.) | 770 x 1261 x 1653mm (30 x 50 x 66in.) | 2 / 39 (30kg / 66lb) | 201 kg (251 lb) | 230V; 50/60Hz; 1500W; 6.5A; Country specific |
| **51029333** | IGS750 / coated | 747 (26.4) | Ambient +5 °C to 75° C | ± 1.3 °C / ± 0.4 °C | 569 x 1004 x 1307 mm (22 x 40 x 51 in.) | 770 x 1261 x 1653mm (30 x 50 x 66in.) | 2 / 39 (30kg / 66lb) | 201 kg (251 lb) | 120V; 60Hz; 1500W; 12.5A; NEMA5-15 |
| **Advanced Protocol Security Incubators - Mechanical Convection** | | | | | | | | | |
| **51029325** | IMH400-S / coated | 381 (13.4) | Ambient +5 °C to 105 °C | ± 0.2 °C / ± 0.2 °C | 524 x 544 x 1335 mm (21 x 21 x 53 in.) | 770 x 778 x 1653mm (30 x 31 x 66in.) | 2 / 39 (30kg / 66lb) | 144 kg (186 lb) | 230V; 50/60Hz; 1400W; 6A; Country specific |
| **51029323** | IMH400-S / coated | 381 (13.4) | Ambient +5 °C to 105 °C | ± 0.2 °C / ± 0.2 °C | 524 x 544 x 1335 mm (21 x 21 x 53 in.) | 770 x 778 x 1653mm (30 x 31 x 66in.) | 2 / 39 (30kg / 66lb) | 144 kg (186 lb) | 120V; 60Hz; 1380W; 11.5A; NEMA5-15 |
| **51029326** | IMH400-S SS / stainless steel | 381 (13.4) | Ambient +5 °C to 105 °C | ± 0.2 °C / ± 0.2 °C | 524 x 544 x 1335 mm (21 x 21 x 53 in.) | 770 x 778 x 1653mm (30 x 31 x 66in.) | 2 / 39 (30kg / 66lb) | 144 kg (186 lb) | 230V; 50/60Hz; 1400W; 6A; Country specific |
| **51029324** | IMH400-S SS / stainless steel | 381 (13.4) | Ambient +5 °C to 105 °C | ± 0.2 °C / ± 0.2 °C | 524 x 544 x 1335 mm (21 x 21 x 53 in.) | 770 x 778 x 1653mm (30 x 31 x 66in.) | 2 / 39 (30kg / 66lb) | 144 kg (186 lb) | 120V; 60Hz; 1380W; 11.5A; NEMA5-15 |
| **51029337** | IMH750-S / coated | 702 (24.8) | Ambient +5 °C to 105 °C | ± 0.3 °C / ± 0.2 °C | 524 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66in.) | 2 / 39 (30kg / 66lb) | 205 kg (255 lb) | 230V; 50/60Hz; 1600W; 7A; Country specific |
| **51029335** | IMH750-S / coated | 702 (24.8) | Ambient +5 °C to 105 °C | ± 0.3 °C / ± 0.2 °C | 524 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66in.) | 2 / 39 (30kg / 66lb) | 205 kg (255 lb) | 120V; 60Hz; 1560W; 13A; NEMA5-15 |
| **51029338** | IMH750-S SS / stainless steel | 702 (24.8) | Ambient +5 °C to 105 °C | ± 0.3 °C / ± 0.2 °C | 524 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66in.) | 2 / 39 (30kg / 66lb) | 205 kg (255 lb) | 230V; 50/60Hz; 1600W; 7A; Country specific |
| **51029336** | IMH750-S SS / stainless steel | 702 (24.8) | Ambient +5 °C to 105 °C | ± 0.3 °C / ± 0.2 °C | 524 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66in.) | 2 / 39 (30kg / 66lb) | 205 kg (255 lb) | 120V; 60Hz; 1560W; 13A; NEMA5-15 |

* Depth does not include handle/display (65mm / 2.6in.) and distance spacer at rear (80mm / 3.1in.); height includes the feet (35mm / 1.4in.).
NOTE: All figures in tables are typical average values for series devices, based on factory standard following norm Din12880. Please contact us for certification information or IQ/OQ documents.

## Accessories

| Cat. No. | Description |
|---|---|
| **50135241** | Perforated stainless steel shelf for Heratherm Advanced Protocol Security incubators IMH400-S and General Protocol incubator IGS400 |
| **50135242** | Perforated stainless steel shelf for Heratherm Advanced Protocol Security incubators IMH750-S and General Protocol incubator IGS750 |
| **50135244** | Wire mesh shelf for Heratherm Advanced Protocol oven OMH750 3PH; also for use in Advanced Protocol Security incubator IMH750-S; 984 x 503 mm |
| **50135869** | Silicone-free viton sealing for all Heratherm 400L models |
| **50135870** | Silicone-free viton sealing for all Heratherm 750L models |

# Thermo Scientific Precision High-Performance Incubators

**Mechanical or gravity convection with advanced microprocessor controls ideal for applications requiring excellent temperature distribution or gentle sample heating between 5°C above ambient to 75°C**

- Uniform heating, precise temperature control and fast drying
- Blower circulates heated air in a horizontal airflow pattern for efficient heat distribution with tight temperature tolerances of up to ±0.5°C
- Gravity convection offers gentle drying with heat-generated convection to move the air vertically through the chamber to heat samples

## 317L units with Advanced Microprocessor PID Controls

- Sophisticated microprocessor PID controls with easy-to-view digital LED readout
- Temperature is displayed on large, three-character screen; can be easily set from 5°C above ambient to up to 75°C (depending on model) in 0.1°C increments using touch-sensitive arrow keys
- Fixed setpoints on control panel eliminate need for tuning
- Offset feature enables easy calibration

## Built-In Safety

- Built-in safety back-up maintains control at 3°C above setpoint if primary heater control fails
- Visual alarm indicates when temperature exceeds 3°C setpoint

## Robust Construction

- Inner glass door permits viewing of samples without disturbing chamber environment in 317L unit
- Silicone gasket on outer door and 7.6cm (3in.)-thick fiberglass insulation prevents heat loss, for high temperature uniformity
- Circuit breaker protects against power surges
- Durable, enamel-coated steel exterior
- Low-watt density heater elements are designed for long life
- Internal electrical outlet allows operation of a shaker, stirrer or other lab apparatus
- Double-door design

**Warranty[¥]:** 1 year (parts and labor)
**Certifications:** UL/cUL listed

**PRODUCT ONLY AVAILABLE IN NORTH AMERICA**

| Cat. No. | Capacity | Interior Dimensions (D × W × H) | Exterior Dimensions (L × W × H) | Control | Temp. Range | No. of Shelves | Electrical |
|---|---|---|---|---|---|---|---|
| **Gravity Convection** | | | | | | | |
| **PR205075G** | 317L (11.2 cu. ft.) | 53 × 94 × 64cm (21 × 37 × 25in.) | 64 × 101 × 88cm (25 × 40 × 35in.) | Microprocessor PID | Ambient +5° to 65°C | 6 supplied/ 36 max. | 120V 60Hz (450w/3.8A) |
| **Mechanical Convection** | | | | | | | |
| **PR205075M** | 317L (11.2 cu. ft.) | 53 × 94 × 64cm (21 × 37 × 25in.) | 64 × 101 × 88cm (25 × 39.8 × 34.5in.) | Microprocessor PID | Ambient +5° to 75°C | 6 supplied/ 36 max. | 120V 60Hz (520w/4.3A) |

## Accessories

| Cat. No. | Description | For Use with |
|---|---|---|
| **AY2076X1** | Shelf Kit | High-Performance Incubator; Double-door 11.2 cu. ft. units |

# Thermo Scientific Heratherm Refrigerated Incubators

**Energy efficient, precise temperature control, reliable temperature environment**

IMP180 and IMP400

- Superior performance with Peltier technology: Energy efficiency without the use of harmful refrigerants
- Temperature range: +5°C to +70°C
- Outstanding temperature uniformity and stability to keep the samples in a safe environment - uniformity as good as ±0.3°C (at +25°C), and stability as tight as ±0.1°C
- Energy consumption as low as 80Wh/h (benchtop model) 150Wh/h (floor model) at +20°C
- CFC free/HFC free polyurethane insulation foam for outstanding temperature performance and condensation prevention
- Heated door with intelligent energy control to ensure reduced condensation – even at low temperatures
- Sophisticated timer function with weekly/ daily or real-time mode
- Intuitive programmability function for defined temperature ramping, soak/cool and dwell: store up to 10 programs with 10 temperature steps, loop program, and select mode at end of cycle
- Adjustable over-temperature shut-off for protocols that require setting of over temperature for protection – (class 2 according to norm DIN12880)
- Easy-to-use microprocessor control
- PID control with automated fault analysis at start-up to ensure correct control at all times
- PID controls with easy push-button calibration
- Large and clear vacuum fluorescent display for easy viewing
- Flexible shelf system for optimal loading, easy to remove for cleaning, with non-tip protection
- Safe containment with automatic over and under temperature alarm
- Standard access port for data monitoring (large diameter of 42 mm/1.65 in.)
- RS232 interface for data logging
- Stainless steel interior (1.4301/ASTM 304) and rounded corners for easy cleaning

## Specifications

| Model | IMP180 (Benchtop/stackable) | IMP400 (Floor Standing) |
|---|---|---|
| **Chamber Volume** | 178 L / 6.3 cu. ft. | 381 L / 13.5 cu. ft. |
| **Temperature Range** | +5 to 70 °C | |
| **Temperature Deviation Over Time** (Measured in mid of work space)** | at 20 °C ≤ ± 0.1 / at 37 °C ≤ ± 0.1 | |
| **Spatial Temperature Deviation** (Measured with 27 sensors)*** | at 20 °C ≤ ± 0.2 / at 37 °C ≤ ± 0.5 | at 20 °C ≤ ± 0.3 / at 37 °C ≤ ± 0.7 |
| **Internal Dimensions (W x H x D)** | 464 x 708 x 543 mm / 18.3 x 27.9 x 21.4 in. | 544 x 1335 x 524 mm / 21.4 x 52.6 x 20.6 in. |
| **External Dimensions (W x H x D)** | 640 x 955* x 738* mm / 25.2 x 37.6* x 29.1* in. | 778 x 1653** x 770** mm / 30.6 x 66** x 30.3** in. |
| **Footprint** | 0.47m² / 5.1ft.² | 0.56m² / 6.0ft.² |
| **Shelves Supplied / Max** | 2 / 9 | 2 / 17 |
| **Number of Shelf Positions** | 19 | 39 |
| **Shelf Size (W x D)** | 439 x 505 mm / 17.28 x 19.98 in. | 528 x 498 mm / 20.79 x 21.06 in. |
| **Loading Capcitiy Per Shelf**** | 25 kg / 55 lbs. | 30 kg / 66 lbs. |
| **Loading Capcitiy of Unit**** | 75 kg /165 lbs. | 75 kg /165 lbs. |
| **Weight of Unit** | 84 kg / 185 lbs. | 167 kg / 368 lbs. |
| **Shipping Weight** | 97 kg / 214 lbs. | 216 kg / 476 lbs. |
| **Peltier Modules (units)** | 1 | 2 |
| **Energy Consumption at 20 °C** | 90 W | 150 W |
| **Access Port Diameter** | 42 mm / 1.65 in. | |
| **Interior Material** | Stainless steel 1.4301/304 | |
| **Exterior** | Coated sheet metal | |

* Depth of handle/display not included in depth (65 mm / 2.6 in.); adjustable feet are included in height (35 mm/ 1.4 in.) - required distance to rear wall: 130 mm / 5.1 in
** Depth of handle/display not included in depth (65 mm / 2.6 in.); casters are included in height (108 mm / 4.3 in.) - required distance to rear wall: 150 mm / 5.9 in
*** All figures in this table are typical average values for series devices, based on factory standard following norm DIN12880. Please contact us for certification information or IQ/OQ documents.

# Ordering information Heratherm Refrigerated Incubators

## select the Heratherm refrigerated incubator that best meets your requirements:

| | Model IMP180 | Model IMP400 |
|---|---|---|
| **Standard unit without electrical outlet, for US and EU with NEMA 5-15 cable and Schuko CEE7/7 cable** | 51031562 | 51031565 |

| | | |
|---|---|---|
| **Please add your electrical configuration:** | | |
| **Electrical configuration for China** | 51900900 | 51900900 |
| **Electrical configuration for Great Britain** | 51900303 | 51900303 |
| **Electrical configuration for Australia** | 51900449 | 51900449 |
| **Electrical configuration for Denmark** | 51900481 | 51900481 |
| **Electrical configuration for Italy** | 51900306 | 51900306 |
| **Electrical configuration for Switzerland** | 51900300 | 51900300 |
| **Electrical configuration for Japan** | 51900312 | 51900312 |

| | | |
|---|---|---|
| **Models with internal electrical socket:** | | |
| **Unit with electrical outlet - 120V, 60Hz, US-plug (Nema 5-15)** | 51031563 | 51031566 |
| **Unit with electrical outlet - 230V, 50/60Hz, Schuko plug, (EU standard)** | 51031564 | 51031567 |
| **Unit with electrical outlet - 230V, 50/60Hz, UK plug** | 51031564 + 51900303 | 51031567 + 51900303 |

## Factory installed options

| | Model IMP180 | Model IMP400 |
|---|---|---|
| **Door hinge left** | 51900993 | 51901213 |
| **Stainless steel exterior** | 51900992 | 51901212 |
| **Heratherm Access port left, small - 22mm/0.87in.** | 51900996 | 51900996 |
| **Heratherm Access port left, large - 52mm/2.05in.** | 51900997 | 51900997 |
| **Heratherm Access port right, small - 22mm/0.87in.** | 51900998 | 51900998 |
| **Heratherm Access port right, large - 52mm/2.05in.** | 51900999 | 51900999 |
| **Heratherm Access port top, small - 22mm/0.87in.** | 51901000 | 51901000 |
| **Heratherm Access port top, large - 52mm/2.05in.** | 51901001 | 51901001 |

## Customer installed accessories

| | | |
|---|---|---|
| **Perforated stainless steel shelf for IMP180** | 50127777 | Includes 2 shelf supports, 439 x 551 mm |
| **Perforated stainless steel shelf for IMP400** | 50135241 | Includes 2 shelf supports, 528 x 498 mm |
| **Wire mesh shelf for IMP180** | 50127766 | Includes 2 shelf supports, 448 x 511 mm |
| **Wire mesh shelf for IMP400** | 50135243 | Includes 2 shelf supports, 528 x 503 mm |
| **Petri Dish holder (90 mm) IMP180** | 50128819 | Shelf with holders for Petri dishes; ø 90mm; stainless steel; for all 180 l incubators; incl. 2 shelf supports; 16 stacks; 77 mm height |
| **Petri Dish holder (50 mm) for IMP180** | 50128815 | Shelf with holders for Petri dishes; ø 50mm; stainless steel; for all 180 l incubators; incl. 2 shelf supports; 36 stacks; 77 mm height |
| **Drip tray for IMP180** | 50128792 | Includes 2 shelf supports, 405 x 500 x 20 mm drip space |
| **Stacking kit for IMP180** | 50126667 | For stacking oven or 60L/100L on IMP180 |
| **Support stand with casters for IMP180** | 50127743 | Height including casters: 187mm |
| **Fresh air particle filter for IMP180 and IMP400** | 50127567 | Fresh air particle filter for connection to port |
| **Silicone free viton gasket for IMP180** | 50130659 | For silicone-free applications |
| **Silicone free viton gasket for IMP400** | 50135869 | For silicone-free applications |
| **Vent gasket for IMP180** | 50134908 | For reduced condensation in applications with higher humidity |
| **Vent gasket for IMP400** | 50152305 | For reduced condensation in applications with higher humidity |

# Thermo Scientific Precision Refrigerated Incubators

**Ideal for applications that require temperatures ranging from -10°C to +60°C with excellent stability**

**Warranty[Y]:** 2 year (parts and labor)
**Certifications:** 115V units are cCSAus listed

**PRODUCT NOT AVAILABLE IN EUROPE**

## Temperature Uniformity

- Microprocessor control with easy-to-read display shows actual temperature within 0.1°C
- Push-button controls for temperature setpoint selection
- Forced-air circulation delivers excellent temperature stability
- CFC-free, foamed polyurethane insulation prevents heat loss
- RTD temperature probe and protected setpoint mode prevent accidental temperature change
- Door key lock protects samples from unauthorized access

## Efficient Design

- Easy-to-clean, corrosion-resistant construction
- Compressor relay conserves energy

## 173L (6.1 cu. ft.) Unit

- Economical undercounter design
- High/low safety thermostat backups
- Three cooling modes simplify operation: high precision with cooling; high precision without cooling; and frost-free with variable cooling
- Four adjustable leveling feet for stable setup
- 2A outlet easily supports apparatus inside the unit (115V model only)

## 566L (20Cu. ft.) Unit

- Ideal for BOD applications and temperature settings at or below ambient
- Holds over 300 BOD bottles (300mL)
- Temperature setpoint selection with high- and low-temperature protection and simple calibration
- Available with dual lamp fluorescent lighting for plant growth studies and day/night cycles, programmable lighting conditions (see next page)
- Energy efficient design, cooling can be switched off for temperatures above ambient - energy consumption as low as 0.1kW at 37 °C*
- Safety relay and alarm LED alert to over/undertemperature conditions, see next page
- Recorder jacks for data logging; RS232 connection available on option (Cat. No. of optional Kit: 3166245)
- Standard access port for feeding probes and apparatus cord in/out of unit

* Based on internal testing

| Cat. No. | Capacity | Shelves (50 lb. weight limit per shelf) | Interior Dimensions (D × W × H) | Exterior Dimensions (D x W x H) | Uniformity @37 °C/20 °C | Temp. Range | Electrical |
|---|---|---|---|---|---|---|---|
| **BOD models** | | | | | | | |
| **PR205745R** | 173L (6.1 cu. ft.) | 2 supplied/4 max | 520 x 520 x 700mm (20.5 x 20.5 x 28in.) | 622 x 610 x 876mm (24.5 x 24 x 34.5in.) | ± 0.6/1.0 °C* | -10° to +60 °C | 115V 60Hz (9.5A), NEMA 5-15 plug |
| **PR205740R** | 173L (6.1 cu. ft.) | 2 supplied/4 max | 520 x 520 x 700mm (20.5 x 20.5 x 28in.) | 622 x 610 x 876mm (24.5 x 24 x 34.5in.) | ± 0.6/1.0 °C* | -10° to +60 °C | 230V 50Hz (5.8A), NEMA 6-15P plug |
| **PR205740RCN** | 173L (6.1 cu. ft.) | 2 supplied/4 max | 520 x 520 x 700mm (20.5 x 20.5 x 28in.) | 622 x 610 x 876mm (24.5 x 24 x 34.5in.) | ± 0.6/1.0 °C* | -10° to +60 °C | 230V 50Hz (5.8A), China plug |
| **PR505755R** | 566L (20.0 cu. ft.) | 4 supplied/6 max | 508 x 673 x 1448mm (20 x 26.5 x 57in.) | 787 x 864 x 1956mm (31 x 34 x 77in.) | ± 0.5/0.9 °C** | -10° to +50 °C | 120V, 60Hz (6.2A), NEMA 5-15P plug |
| **PR505750R** | 566L (20.0 cu. ft.) | 4 supplied/6 max | 508 x 673 x 1448mm (20 x 26.5 x 57in.) | 787 x 864 x 1956mm (31 x 34 x 77in.) | ± 0.5/0.9 °C** | -10° to +50 °C | 230V, 50/60Hz (3.1A), NEMA 6-15P plug |
| **PR505750RCN** | 566L (20.0 cu. ft.) | 4 supplied/6 max | 508 x 673 x 1448mm (20 x 26.5 x 57in.) | 787 x 864 x 1956mm (31 x 34 x 77in.) | ± 0.5/0.9 °C** | -10° to +50 °C | 230V, 50/60Hz (3.1A), China plug |

* Performance values are based on 10 point measurements
** Performance values are based on 27 point measurements (DIN 12880)
*** Lights switched on

## Additional shelving and accessory options

| Cat. No. | Description | Dimensions |
|---|---|---|
| **107384** | Shelf for 173L units | 52 x 44cm (20.5 x 17.5 in.) |
| **GT3185275** | Shelf for 566L / 504L unit | 64 x 42cm (25.3 x 16.6 in.) |
| **3173710** | Glass Thermometers | |
| **3166245** | RS232 Interface Kit | |
| **3166207** | Digital Chart Recorder | |
| **3174255** | Chart Paper (100 sheets) | |

# Thermo Scientific Refrigerated Incubators

## A broad temperature range for your applications

Models RI150 and RI250

- Broad 4 to 60 ºC temperature range for applications that require high or low temperature levels
- Adjustable over and under temperature alarm alerts operator of unexpected temperature deviations
- Single-setpoint microprocessor control for precise temperature setting
- Timer function for automatic start or shut down of unit (0 to 99:59 hours:minutes)
- Automatic defrost for uninterrupted longterm applications below ambient
- Overtemperature cut-out and fan motor overheating protection for additional safety
- Access port (Ø 50 mm) for inserting monitoring probes or cables for use of electrical devices – easy access on right side of unit
- RS232 data interface for temperature monitoring (no software included)
- Large unit with lockable casters for easy set-up and re-location

**Ordering Alerts:** Not available in North America
**Warranty¥:** 2 years (parts and labor)
**Certifications:** CE

| | Model RI-150 | Model RI-250 |
|---|---|---|
| Order code for unit with following cables: EU CEE7/7 (Schuko), UK BS1363/A, Australia AS 3112 | **RI-150EU** | **RI-250EU** |
| Order code for unit with China GB 2099 cable | **RI-150CN** | **RI-250CN** |

## Specifications

| Model | RI-150 (Table top) | RI-250 (Floor Standing) |
|---|---|---|
| **Chamber Volume** | 150 L / 5.3 cu. ft. | 250 L / 8.8 cu. ft. |
| **Temperature Range** | +4 to 60 °C | |
| **Temperature Deviation Over Time*** | at 20 °C ≤ ± 0.3<br>at 37 °C ≤ ± 0.3 | |
| **Spatial Temperature Deviation*** | at 20 °C ≤ ± 0.8<br>at 37 °C ≤ ± 0.7 | at 20 °C ≤ ± 0.8<br>at 37 °C ≤ ± 1.0 |
| **Internal Dimensions (W x H x D)** | 550 x 450 x 615 mm<br>21.6 x 17.7 x 24.2 in. | 550 x 450 x 1015 mm<br>21.6 x 17.7 x 40.0 in. |
| **External Dimensions (W x H x D)**** | 652 x 605 x 1050** mm<br>25.7 x 23.8 x 41.3** in. | 652 x 605 x 1450** mm<br>25.7 x 23.8 x 57.1** in. |
| **Footprint** | 0.39m² / 4.2ft.² | |
| **Shelves Supplied / Max** | 2 / 4 | 3 / 5 |
| **Shelf Size (W x D)** | 545 x 445 mm / 21.46 x 17.52 in. | |
| **Loading Capcitiy Per Shelf** | 15 kg / 33 lbs. | |
| **Weight of Unit** | 95 kg / 209 lbs. | 115 kg / 254 lbs. |
| **Shipping Weight** | 115 kg / 254 lbs. | 135 kg / 298 lbs. |
| **Electrical** | 230 V / 50 Hz, China Plug | |
| **Rated Power / Max. Current** | 90 W / 3.9 A | |

*Based on measurement according to DIN12880, at ambient temperature of 22 °C ± 3 °C
** Height includes the height of feet/casters

## Shelving

| Cat. No. | Description | Dimensions | Shipping Weight | For Use With |
|---|---|---|---|---|
| **RISHELF** | Perforated stainless steel shelf (white, powder coated) with 4 shelf holders) | 545 x 445 mm<br>21.46 x 17.52 | 2 kg / 4 lbs | RI-150EU, RI-150CN, RI-250EU, RI-250CN |

# Thermo Scientific Peltier Low Temperature Incubators

**Ideal for Drosophila research or applications requiring temperature above and/or below ambient**

**Warranty:** 2 years parts, 1 year labor

**PRODUCT NOT AVAILABLE IN EUROPE**

- Innovative thermoelectric cooling technology eliminates the need for a refrigerated compressor. Units consume less power than conventional models while also reducing laboratory ambient temperatures and air conditioning loads
- Thermo Scientific Peltier cooled incubators operate within the temperature range preferred by fruit flies
- Programmable Watlow® controller allows for 40-step ramp and soak profiles, or four files with 10 steps per file
- Capable of programming day/night cycles in models with LED lights
- The lack of compressor coils eliminates the concerns of corrosion from insect waste
- Excellent temperature uniformity allows for effective space utilization
- Peltier technology excludes the need for compressor coils so corrosion from fly secretions is no longer a concern
- Meets American Public Health Association (APHA) specifications for biochemical oxygen demand (BOD)
- Easy to clean and corrosion resistant painted stainless steel interiors.
- All models include an RS 485 output as well as an independent over-temperature thermostat and over-temperature alarm
- Heavy-duty shelves have a 75 lb. capacity
- TUV certification
- Access port standard

## Specifications

| Cat. No. | 3915FL | 3990FL | 3915LT | 3990LT |
|---|---|---|---|---|
| **Description** | Drosophila incubator with LED lights | Drosophila incubator with LED lights | Low temperature incubator | Low temperature incubator |
| **Capacity** | 6.5 Cu.Ft. (185L) | 19.5 Cu.Ft. (552L) | 6.5 Cu.Ft. (185L) | 19.5 Cu.Ft. (552L) |
| **Interior Dimensions W x D x H in. (cm)** | 25.6 x 24.1 x 18.5 (64.7 x 60.9 x 46.9) | 25.6 x 24.1 x 54.8 (64.7 x 60.9 x 138.4) | 25.6 x 24.1 x 18.5 (64.7 x 60.9 x 46.9) | 25.6 x 24.1 x 54.8 (64.7 x 60.9 x 138.4) |
| **Exterior Dimensions W x D x H in. (cm)** | 31.8 x 32.3 x 33.5 (76.2 x 80.1 x 85.1) | 31.8 x 32.3 x 69.6 (76.2 x 80.1 x 176.6) | 31.8 x 32.3 x 33.5 (76.2 x 80.1 x 85.1) | 31.8 x 32.3 x 69.6 (76.2 x 80.1 x 176.6) |
| **Temperature Range** | 15°C to 40°C | | | |
| **Temperature Uniformity (unit@15°)** | +/-0.55°C (at 15-28°C ambient, 50%RH | | | |
| **Temperature Uniformity (unit@22°)** | +/-0.64°C (at 15-35°C ambient, 50%RH | | | |
| **Temperature Uniformity (unit@40°)** | +/-1.0°C (at 18-40°C ambient, 50%RH | | | |
| **Electrical Specifications** | 100-120V, 50/60Hz, 360W (3.0A) | | | |
| **Temperature Control** | 0.1°C Display increments | | | |
| **RS 485 interface** | Yes | | | |
| **Shelving** | 2 Supplied | 5 Supplied, Adjustable, Bottom shelf slide; max. 16 | 2 Supplied | 5 Supplied, Adjustable, Bottom shelf slide, max. 16 |
| **Shelf Capacity** | 75 lbs/34 kg shelf. 150 lbs/68 kg total | 75 lbs/34 kg shelf. 375 lbs/170 kg total | 75 lbs/34 kg shelf. 150 lbs/68 kg total | 75 lbs/34 kg shelf. 375 lbs/170 kg total |
| **Weight (lbs/kg)** | 259/118 | 380/172 | 259/118 | 380/172 |
| **US style plug** | Yes | | | |

## Thermo Scientific Accessories* for Peltier Low Temperature Incubators

| Cat. No. | Description |
|---|---|
| **3900BR** | Sliding shelf brackets for drosophila and low temperature incubators |
| **3900FSH** | Fixed shelf for drosophila and low temperature incubators |
| **3900SSH** | Sliding shelf for drosophila and low temperature incubators incubators |

* Stacking kit (Cat. No. 3915SK) is available for 6.5 Cu.Ft. models

# Thermo Scientific Precision Plant-Growth Incubators

**Broad temperature range ideal for applications requiring night/day simulation, precise temperature control and uniformity over a broad temperature range**

- Programmable heating and lighting cycles: 7-day program with 2 light cycles per day
- Easy-to-read LED display shows actual temperature within 0.1°C
- Push-button microprocessor controls feature temperature setpoint selection
- Forced-air circulation delivers excellent temperature stability
- RTD temperature probe and protected setpoint mode prevent accidental temperature change
- Easy-to-clean, corrosion-resistant construction
- CFC-free, foamed polyurethane insulation prevents heat loss
- Door key lock protects samples from unauthorized access
- 1.2 in. access port
- Light information:
  - Color: cool white supreme
  - Lumens (brightness) per fluorescent lamp: 2600 Lm
  - Illumination level (measured at chamber center point at 20°C): 3678 Lux/342 foot-candles

**Warranty¥:** 1 year (parts and labor)
**Certifications:** 115V unit is cCSAus listed

**PRODUCT NOT AVAILABLE IN EUROPE**

| Cat. No. | Capacity | Shelves | Interior Dimensions (D × W × H) | Exterior Dimensions (D x W x H) | Uniformity @37 °C/20 °C | Temp. Range | Electrical |
|---|---|---|---|---|---|---|---|
| **Plant growth models with light at 20 °C** | | | | | | | |
| **PR505755L** | 504L (17.8 cu. ft.) | 4 supplied/6 max | 508 x 673 x 1448mm (20 x 26.5 x 57in.) | 787 x 864 x 1956mm (31 x 34 x 77in.) | ± 1.8 °C*** (0.9 °C w/o light) | -10° to +50 °C +10° to +50 °C*** | 120V, 60Hz (6.8A), NEMA 5-15P plug |
| **PR505750L** | 504L (17.8 cu. ft.) | 4 supplied/6 max | 508 x 673 x 1448mm (20 x 26.5 x 57in.) | 787 x 864 x 1956mm (31 x 34 x 77in.) | ± 1.8 °C*** (0.9 °C w/o light) | -10° to +50 °C +10° to +50 °C*** | 230V, 60Hz (3.4A), NEMA 6-15P plug **Note: cannot be used in 50Hz circuit** |

* Performance values are based on 10 point measurements
** Performance values are based on 27 point measurements (DIN 12880)
*** Lights switched on

## Additional Shelving Options

| Cat. No. | Description | Dimensions |
|---|---|---|
| **107384** | Shelf for 173L units | 52 x 44cm (20.5 x 17.5 in.) |
| **GT3185275** | Shelf for 566L / 504L unit | 64 x 42cm (25.3 x 16.6 in.) |

# Thermo Scientific Educational Countertop Plant Growth Chamber

**Ideal for growing plants and designed to accommodate plant, animal culture studies in the classroom setting**

- Automatic 24-hour programming with timer
- Sliding glass doors for easy access and viewing
- Four fluorescent and three incandescent lamps for various lighting levels (customer supplied)
- Two interior electrical outlets to easily accommodate other electrical equipment
- On/Off indicator lights for main power switch, lamp switch, heater output, fan, thermostat and 24 timer/programmer switches
- Front control panel can be removed for maintenance without disturbing experiments in progress
- Model 846 series combine large viewing area, simplified temperature controls and an economical price
- Black-out panel included

**Warranty[¥]:** 1 year (parts); 90 days (labor)

**PRODUCT NOT AVAILABLE IN EUROPE**

| Cat. No. | Chamber Volume | Shelf Area | Chamber Dimensions (W x D x H) | Exterior Dimensions (W x D x H) | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|
| **846** | 14.2 cu. ft. (396L) | 0.20 sq m (2.2 sq. ft.) | 127 x 43 x 74cm (50 x 17 x 29in.) | 132 x 47x 97cm (52 x 18.5 x 38in.) | 107 kg (236 lb.) | 120V, 60 Hz, 800W |

## Accessories

| Cat. No. | Description |
|---|---|
| **846-8** | Chamber shelf (H x D) 16.5 x 125.7cm (6.5 x 49.5in.) |
| **846-12** | Mobile chamber stand 134.6 x 81.3 x 59.7cm (53 x 32 x 23.5in.) |
| **846-13** | Planting Tray (pkg. of 4) |

# Thermo Scientific Shake ‘n’ Stack Hybridization Ovens

**Stackable, space-saving design and excellent uniformity are ideal for molecular biology labs**

- Each unit capable of operating either rotisserie or shaking platform for additional functionality
- One compact triple-oven tower can be set up for three distinct functions at different temperatures
- Digital LED display and controls
- Capacity for 10 medium bottles
- Accurate temperature control for improved experimental results
- Excellent temperature uniformity for reproducible results with low backgrounds
- Multiple rotisserie fittings for flexible choice of consumable
- Interchangeable rotisserie/shaking platform (max. load of 1kg/2.2 lb.) for hybridization and washing procedures
- Variable speed settings for protocol optimization
- Up/down shaking motion

**Includes:** Models 6243, 6242 include 10-bottle capacity rotisserie, adjustable feet, drip tray, manual; Models 6241, 6240 includes Shaker platform, 10-bottle capacity rotisserie, adjustable feet, drip tray, manual
**Warranty[¥]:** 1 year (parts and labor)

| Cat. No. | Interior D x W x H | Platform L x W | Exterior L x W x H | Temperature Range | Temperature Uniformity | Rotisserie Speed Range | Electrical |
|---|---|---|---|---|---|---|---|
| **6243** | 24 × 35 × 24.5cm (9.5 × 13.8 × 9.7in.) | 25 × 18cm (9.8 × 7in.) | 38 × 42.5 × 43.5cm (15 × 17.1 × 16.7in.) | 35° to 85°C | ±0.25°C within bottle | 5 to 15rpm | 110V 250w 50/60 Hz |
| **6242** | 24 × 35 × 24.5cm (9.5 × 13.8 × 9.7in.) | 25 × 18cm (9.8 × 7in.) | 38 × 42.5 × 43.5cm (15 × 17.1 × 16.7in.) | 35° to 85°C | ±0.25°C within bottle | 5 to 15rpm | 220V 250w 50/60 Hz |
| **6241** | 24 × 35 × 24.5cm (9.5 × 13.8 × 9.7in.) | 25 × 18cm (9.8 × 7in.) | 38 × 42.5 × 43.5cm (15 × 17.1 × 16.7in.) | 35° to 85°C | ±0.25°C within bottle | 5 to 15rpm | 110V 250w 50/60 Hz |
| **6240** | 24 × 35 × 24.5cm (9.5 × 13.8 × 9.7in.) | 25 × 18cm (9.8 × 7in.) | 38 × 42.5 × 43.5cm (15 × 17.1 × 16.7in.) | 35° to 85°C | ±0.25°C within bottle | 5 to 15rpm | 220V 250w 50/60 Hz |

Models 6242 and 6240 are CE certified

## Thermo Scientific Accessories for Shake ‘n’ Stack Hybridization Ovens

| Cat. No. | Description | For Use with |
|---|---|---|
| **Rotisseries** | | |
| **222032** | Delrin* Plastic Rotisserie | Shake ‘n’ Stack ovens |
| **222033** | Stainless-steel Rotisserie | Shake ‘n’ Stack ovens |
| **222041** | Stainless-steel Rotisserie | Shake ‘n’ Stack ovens |
| **222042** | Delrin Plastic Rotisserie | Shake ‘n’ Stack, Maxi 14 ovens |
| **222043** | Delrin Plastic Rotisserie | Shake ‘n’ Stack, Maxi 14 ovens |
| **222044** | Delrin Plastic Rotisserie | Shake ‘n’ Stack, Maxi 14 ovens |
| **Other Accessories** | | |
| **222051** | Drip Tray | Shake ‘n’ Stack ovens |
| **222000** | Shaking Platform | Shake ‘n’ Stack ovens |

# Thermo Scientific Hybridization Bottle & Mesh System

**Manufactured using thick walled borosilicate glass to ensure safe and easy handling**

- Improves the flow of probe solution around and through membranes for optimal results
- Designed to exacting safety standards, these bottles have screw caps containing flat PTFE seals to ensure leak-resistant hybridization
- Full range of bottles accommodates every size of membrane
- Enables multiple blots to be processed simultaneously in one 35mm diameter bottle without direct overlap

**Bottle gripper** for safe and easy handling of bottles. Additional grippers can be purchased separately (Cat. No. 222055 to -057)

| Cat. No. | Description | Dimensions |
|---|---|---|
| **Bottles and Rack** | | |
| **110103** | Bottle Rack | For up to six 35mm bottles |
| **110113** | Bottle; Large | 300 × 35mm |
| **110115** | Bottle; Medium | 250 × 35mm |
| **110116** | Bottle; Small | 150 × 35mm |
| **110094** | Bottle; Extra large | 300 × 70mm |
| **Bottle Caps and O-Rings** | | |
| **110108** | Bottle cap and seal for small, medium and large bottles | 35mm |
| **110105** | Bottle cap and seal for extra large bottles | 70mm |
| **110109** | Washer seal; For small, medium and large bottle caps | 35mm |
| **110107** | Washer seal; For extra large bottle caps | 70mm |
| **Bottle Grippers** | | |
| **222055** | Bottle gripper; For extra large 70mm bottles | Length: 300mm |
| **222056** | Bottle gripper; For large and medium 35mm bottles | Length: 300mm |
| **222057** | Bottle gripper; For small 35mm bottles | Length: 150mm |
| **Oven Mesh** | | |
| **222054** | Roll of mesh | 5m × 25cm |
| **222052** | Oven mesh sheets; Small; Pack of 5 | 10 × 15cm |
| **222053** | Oven mesh sheets; Large; Pack of 5 | 23 × 23cm |
| **222058** | Oven mesh sheets; Small; Pack of 20 | 10 × 15cm |
| **222059** | Oven mesh sheets; Large; Pack of 20 | 23 × 23cm |
| **Accessory Pack** | | |
| **222060** | Includes two medium bottles, one bottlegripper, one mesh and hybridization guide | 250 × 35mm |

# ovens

pages 131 - 152

# Thermo Scientific Heratherm Heating and Drying Ovens Selector Guide

| Features | Heratherm® General Protocol Oven | | Heratherm Advanced Protocol Oven | | Heratherm Advanced Protocol Security Oven |
|---|---|---|---|---|---|
| | TABLE TOP | LARGE CAPACITY | TABLE TOP | LARGE CAPACITY | TABLE TOP |
| **Temperature range** | 50°C [1] - 250°C | 50°C [1] - 250°C | 50°C [1] - 330°C | 50 °C - 250 °C | 50°C [1] 330°C |
| **Interior material** | stainless steel AISI 430 / 1.4016 | stainless steel AISI 430 / 1.4016 | stainless steel AISI 304 / 1.4301 | stainless steel AISI 304 / 1.4301 | stainless steel AISI 304 / 1.4301 |
| **Rounded corners** | ✔ | ✔ | ✔ | ✔ | ✔ |
| **Microprocessor control** | ✔ | ✔ | ✔ | ✔ | ✔ |
| **Automatic over-temperature alarm** | ✔ | ✔ | ✔ | ✔ | ✔ |
| **Stackable with optional stacking kit** | ✔ | – | ✔ | – | ✔ |
| **Easy calibration routine** | ✔ | ✔ | ✔ | ✔ | ✔ |
| **Gravity Convection** | choice | ✔ | choice | – | choice |
| **Mechanical Convection** | choice | – | choice | ✔ | choice |
| **Timer functions** | on / off | on / off | choice of weekly / daily / real time | choice of weekly / daily / real time | choice of weekly / daily / real time |
| **Fresh air damper** | manually controlled | manually controlled | electronically controlled | electronically controlled | electronically controlled |
| **Access port for independent data monitoring** | Use exhaust vent | Use exhaust vent | ✔ | ✔ | ✔ |
| **RS232 interface** | ✔ | ✔ | ✔ | ✔ | ✔ |
| **Adjustable fan speed** | – | – | 5 speeds | 2 speeds | 5 speeds |
| **Programmable (ramps / dwells)** | – | – | ✔ | ✔ | ✔ |
| **Boost function for accelerated heat-up** | – | – | ✔ | – | ✔ |
| **Optional stainless steel exterior** | – | – | – | ✔ (not available in NA) | ✔ |
| **Dry alarm contact for connection of alarm device** | – | – | ✔ | ✔ | ✔ |
| **Automatic undertemperature alarm** | – | – | – | – | ✔ |
| **Door alarm** | – | – | – | ✔ | ✔ |
| **Lockable door** | – | – | – | – | ✔ |
| **Connection for optional sample temperature sensor** | – | – | – | ✔ | ✔ |

[1] Temperatures as low as ambient +10 °C can be selected – requires open damper and no additional heat in unit

| Application | Material/Sample* | Temp. Requirements | Recommended Heratherm Oven |
|---|---|---|---|
| **Drying** | Glassware | Fast drying | Gravity convection for gentle drying, Mechanical convection for fast drying, Choose Advanced Protocol for highest temperature accuracy and selection of fan speed, choose Advanced Protocol Security for highest sample safety. Check also our vacuum ovens for speedy drying at low temperatures. |
| | Powders | Gentle/Fast drying | |
| | Paper, textile | Gentle/Fast drying | |
| | Soil, sand | Gentle drying | |
| | Electronics | Gentle drying | |
| | Pharmaceutical preparations | Gentle drying | |
| **Material testing** | Cables | Highest temperature accuracy; safe processes | Advanced protocol models with mechanical convection; Advanced protocol security models for highest sample safety. |
| | Plastics | Highest temperature accuracy; safe processes | |
| **Curing** | Paint | Gentle Heating | Gravity convection for gentle heating. Choose Advanced Protocol for high temperature accuracy, Advanced Protocol Security for highest sample safety. If combustible solvents are released: ask your Thermo Fisher Scientific representative! |
| | Adhesives | Gentle Heating | |
| | Plastics | Gentle Heating | |
| | Metals | Gentle Heating | |
| **Heated Storage** | Pills, drugs | Gentle heating; safe processes | Gravity convection for gentle heating, or mechanical convection Advanced Protocol at low fan speed. Choose Advanced Protocol Security for highest sample safety. |
| **Vulcanization** | Rubber | Gentle Heating | |

* examples

# Thermo Scientific Heratherm General Protocol Ovens

**Perfect for routine day to day work, providing the ideal heating and drying solution for research, clinical or industrial needs**

- Choice of gravity convection for gentle drying and heating, or mechanical convection for faster drying and heating, and excellent temperature uniformity
- Three sizes; Operating temperatures from 50° to 250°C
- Automatic over-temperature alarm system to protect samples
- Low overall energy consumption
- Excellent footprint/volume ratio
- Corrosion-resistant stainless-steel chambers with rounded corners for easy cleaning
- Large, easy to read vacuum fluorescent display
- Easy to use, microprocessor-controlled touch button operation
- Easy to access – doors can be opened to over 180° degrees

**Ordering Alerts**: Availability may vary by country.
**Warranty¥**: 2 years (parts and labor)
**Certifications:** cCSAus (120V 208-240V 60Hz models) and CE (230V, 50/60Hz models)

| Cat. No. | Model | Chamber Volume | Footprint | Temp Uniformity/ Stability (@150°C) | Chamber Dimensions (D x W x H) | Exterior Dimensions* (D x W x H) | Shelves Supplied (Max)/ Max Load | Shipping Weight | Electrical/ Plug Type |
|---|---|---|---|---|---|---|---|---|---|
| **Gravity Convection** | | | | | | | | | |
| **51028112** | OGS60 | 65L (2.30 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±4.0°C / ±0.4°C | 415 x 328 x 480mm (16.4 x 12.9 x 18.9in.) | 470 x 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 42kg (93 lb.) | 120V; 60Hz; 1730w; 14.4A; US Nema 5-15 |
| **51028139** | OGS60 | 65L (2.30 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±4.4°C / ±0.4°C | 415 x 328 x 480mm (16.4 x 12.9 x 18.9in.) | 470 x 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 42kg (93 lb.) | 230V; 50/60Hz; 1800w; 7.9A; Country specific |
| **51028872** | OGS100 | 105L (3.75 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±4.5°C / ±0.4°C | 414 x 438 x 580mm (16.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 53kg (117 lb.) | 120V; 60Hz; 1680w; 14A; US Nema 5-15 |
| **51028140** | OGS100 | 105L (3.75 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±4.0°C / ±0.4°C | 414 x 438 x 580mm (16.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 53kg (117 lb.) | 230V; 50/60Hz; 3100w; 13.5A; Country specific |
| **51028113** | OGS100 | 105L (3.75 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±4.0°C / ±0.4°C | 414 x 438 x 580mm (16.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 53kg (117 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 |
| **51028874** | OGS180 | 176L (6.20Cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±5.0°C / ±0.4°C | 589 x 438 x 680mm (23.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 66kg (146 lb.) | 120V; 60Hz; 1680w; 14Ac; US Nema 5-15 (for use in North America) |
| **51028141** | OGS180 | 176L (6.20Cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±4.0°C / ±0.4°C | 589 x 438 x 680mm (23.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 66kg (146 lb.) | 230V; 50/60Hz; 3100w; 13.5A; Country specific |
| **51028114** | OGS180 | 176L (6.20Cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±4.0°C / ±0.4°C | 589 x 438 x 680mm (23.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 66kg (146 lb.) | 208-240V; 60Hz; 3360w; 14A US Nema 6-20 (for use in North America) |
| **Mechanical Convection** | | | | | | | | | |
| **51028121** | OMS60 | 66L (2.30 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±3.3°C / ±0.3°C | 368 x 354 x 508mm (14.5 x 13.9 x 20.0in.) | 470 x 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 40kg (88 lb.) | 120V; 60Hz; 1440w; 12A US Nema 5-15 |
| **51028148** | OMS60 | 66L (2.30 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±2.8°C / ±0.3°C | 368 x 354 x 508mm (14.5 x 13.9 x 20.0in.) | 470 x 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 40kg (88 lb.) | 230V; 50/60Hz; 1400w; 6.1A Country specific |
| **51028873** | OMS100 | 104L (6.30 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±3.5°C / ±0.4°C | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 53kg (117 lb.) | 120V; 60Hz; 1660w; 13.8A; US Nema 5-15 |
| **51028149** | OMS100 | 104L (6.30 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±2.5°C / ±0.3°C | 368 x 464 x 608mm (14.5 x 18.3 x 23.9in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 53kg (117 lb.) | 230V; 50/60Hz; 3060w; 13.3A; Country specific |
| **51028122** | OMS100 | 104L (6.30 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±2.5°C / ±0.3°C | 368 x 464 x 608mm (14.5 x 18.3 x 23.9 in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 53kg (117 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 |
| **51028875** | OMS180 | 179L (6.30 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±3.5°C / ±0.3°C | 543 x 464 x 708mm (21.4 x 18.3 x 27.9 in. | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 66kg (146 lb.) | 120V; 60Hz; 1660w; 13.8Ac; US Nema 5-15 (for use in North America) |
| **51028150** | OMS180 | 179L (6.30 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±3.0°C / ±0.3°C | 543 x 464 x 708mm (21.4 x 18.3 x 27.9 in. | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 66kg (146 lb.) | 230V 50/60Hz; 3060w; 13.3A; Country specific |
| **51028123** | OMS180 | 179L (6.30 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±2.8°C / ±0.3°C | 543 x 464 x 708mm (21.4 x 18.3 x 27.9 in. | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 66kg (146 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 (for use in North America) |

* Depth does not include handle/display (65mm / 2.6 in.) and distance spacer at rear (80mm / 3.1 in.); height includes the feet (35mm / 1.4 in.)
NOTE: All figures in tables are typical average values for series devices, based on factory standard following norm Din12880. Please contact us for certification information or IQ/OQ documents.

# Thermo Scientific Heratherm Advanced Protocol Heating and Drying Ovens

**Mechanical or gravity convection technology with excellent temperature values, providing flexibility, accuracy and dependability**

- Unsurpassed temperature performance – the flexible tool in the lab to be used for multiple applications
- Choice of gravity convection for gentle drying and heating, or mechanical convection for faster drying and heating, and outstanding temperature uniformity
- Broad temperature range from 50-330°C
- Adjustable fan speed for application-related airflow in mechanical convection models (e.g., drying of powders)
- High speed for expedited drying and heating, quick recovery, and optimal temperature stability and uniformity
- Programmable controller for temperature ramps and dwells
- Up to 10 programs can be saved, each with 10 discrete steps
- Electronically controlled fan speed and damper position
- Programs can be repeated automatically
- Access port allows the introduction of sensors for independent data monitoring
- Microprocessor control with vacuum fluorescent display
- Simple calibration routine ensures temperature accuracy over time
- Boost function enables rapid heating up — no need to operate the oven 24/7

**Ordering Alerts:** Availability may vary by country
**Warranty**[¥]: 2 years (parts and labor)
**Certifications:** CSAus (120V, 208-240V/60Hz models) and CE (230V, 50/60 Hz models)

| Cat. No. | Model/ Interior | Chamber Volume | Footprint | Temp Uniformity/ Stability (@150°C) | Chamber Dimensions (D x W x H) | Exterior Dimensions* (D x W x H) | Shelves Supplied (Max)/ Max Load | Shipping weight | Electrical/ Plug Type |
|---|---|---|---|---|---|---|---|---|---|
| **Gravity Convection** | | | | | | | | | |
| **51028115** | OGH60/ coated | 61L (2.15 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 328 x 480mm (15.3 x 12.9 x 18.9in.) | 565 x 530 x 755mm 22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 120V; 60Hz; 1730w; 14.4A; US Nema 5-15 |
| **51028142** | OGH60/ coated | 61L (2.15 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 328 x 480mm (15.3 x 12.9 x 18.9in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 230V; 50/60Hz; 1800w; 7.9A; Country specific |
| **51028709** | OGH60 SS/ stainless steel | 61L (2.15 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 328 x 480mm (15.3 x 12.9 x 18.9in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 230V; 50/60Hz; 1800w; 7.9A; Country specific |
| **51028116** | OGH100/ coated | 99L (3.6 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 438 x 580mm (15.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 (for use in North America) |
| **51028143** | OGH100/ coated | 99L (3.6 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±3.0°C / ±0.3°C | 389 x 438 x 580mm (15.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 230V; 50/60Hz; 3100w; 13.5A; Country specific |
| **51028711** | OGH100 SS/ stainless steel | 99L (3.6 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±3.0°C / ±0.3°C | 389 x 438 x 580mm (15.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 230V; 50/60Hz; 3100w; 13.5A; Country specific |
| **51028144** | OGH180/ coated | 168L (6.05 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±2.5°C / ±0.3°C | 564 x 438 x 680mm (17.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 230V; 50/60Hz; 3100w; 13.5A; Country specific |
| **51028117** | OGH180/ coated | 168L (6.05 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±2.9°C / ±0.3°C | 564 x 438 x 680mm (17.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 208-240V; 60Hz; 3360w; 14A US Nema 6-20 (for use in North America) |
| **51028712** | OGH180 SS/ stainless steel | 168L (6.05 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±2.5°C / ±0.3°C | 564 x 438 x 680mm (17.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 230V; 50/60Hz; 3100w; 13.5A; Country specific |
| **Mechanical Convection** | | | | | | | | | |
| **51028124** | OMH60/ coated | 62L (2.2 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±1.5°C / ±0.2°C | 343 x 354 x 508mm (13.5 x 13.9 x 20.0in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 120V; 60Hz; 1440w; 12A; US Nema 5-15 |
| **51028151** | OMH60/ coated | 62L (2.2 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±1.8°C / ±0.2°C | 343 x 354 x 508mm (13.5 x 13.9 x 20.0in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 230V; 50/60Hz; 1400w; 6.1A; Country specific |
| **51028713** | OMH60 SS/ stainless steel | 62L (2.2 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±1.8°C / ±0.2°C | 343 x 354 x 508mm (13.5 x 13.9 x 20.0in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13/25kg (55 lb.) | 44kg (97 lb.) | 230V; 50/60Hz; 1400w; 6.1A; Country specific |
| **51028125** | OMH100/ coated | 97L (3.5 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±1.3°C / ±0.2°C | 343 x 464 x 608mm (13.5 x 18.3 x 23.9 in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 (for use in North America) |
| **51028152** | OMH100/ coated | 97L (3.5 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±1.3°C / ±0.2°C | 343 x 464 x 608mm (13.5 x 18.3 x 23.9 in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 230V; 50/60Hz; 3060w; 13.3A; Country specific |
| **51028715** | OMH100 SS/ stainless steel | 97L (3.5 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±1.3°C / ±0.2°C | 343 x 464 x 608mm (13.5 x 18.3 x 23.9 in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 230V; 50/60Hz; 3060w; 13.3A; Country specific |
| **51028126** | OMH180/ coated | 170L (6.1 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±1.5°C / ±0.2°C | 518 x 464 x 708mm (18.3 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 (for use in North America) |
| **51028153** | OMH180/ coated | 170L (6.1 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±1.8°C / ±0.2°C | 518 x 464 x 708mm (18.3 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 230V; 50/60Hz; 3060w; 13.3Ac; Country specific |
| **51028716** | OMH180 SS/ stainless steel | 179L (6.30 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±1.8°C / ±0.2°C | 518 x 464 x 708mm (18.3 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 230V; 50/60Hz; 3060w; 13.3A; Country specific |

* Depth does not include handle/display (65mm / 2.6 in.) and distance spacer at rear (80mm / 3.1 in.); height includes the feet (35mm / 1.4 in.)
NOTE: All figures in tables are typical average values for series devices, based on factory standard following norm Din12880. Please contact us for certification information or IQ/OQ documents.

# Thermo Scientific Heratherm Advanced Protocol Security Heating and Drying Ovens

**Extra layer of security for applications where process reliability and security are paramount**

- Choice of gravity convection for gentle drying and heating, or mechanical convection for faster drying and heating, and exceptional temperature uniformity
- Choice of stainless steel exterior available for demanding pharmaceutical and clinical applications
- Standard over-temperature alarm and an additional under-temperature alarm ensure that your samples stay at the correct temperature
- Door lock prevents disruption, tampering or accidental opening
- Door alarm notifies the operator when door is left open accidentally, preventing the temperature from deviating
- Broad temperatures range from 50-330°C
- Optional sample sensor provides exact temperature of sample on display
- Auto-dry function deactivates oven when the samples are dry, saving energy
  (Note: Optional sample sensor is required to utilize this feature)
- Advanced digital timer for daily or weekly on / off cycles
- Stainless-steel interior is easy to clean and corrosion resistant (steel quality AISI 304 /1.4301)
- Programmable controller for temperature ramps and dwells
- Up to 10 programs can be saved, each with 10 discrete steps
- Electronically controlled fan speed and damper position can be incorporated; Programs can be repeated automatically
- Access port allows the introduction of sensors for independent data monitoring
- Simple calibration routine ensures temperature accuracy over time
- Boost function enables rapid heating up – no need to operate the oven 24/7

**Ordering Alerts:** Availability may vary by country
**Warranty**[¥]: 2 years (parts and labor)
**Certifications:** CSAus (120V, 208-240V/60Hz models) and CE (230V, 50/60Hz models)

| Cat. No. | Model/Interior | Chamber Volume | Footprint | Temp Uniformity/ Stability (@37°C) | Chamber Dimensions (D x W x H) | Exterior Dimensions* (D x W x H) | Shelves Supplied (Max)/ Max Load | Shipping weight | Electrical/ Plug Type |
|---|---|---|---|---|---|---|---|---|---|
| **Gravity Convection** | | | | | | | | | |
| **51028118** | OGH60-S/ coated | 61L (2.15 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 328 x 480mm (15.3 x 12.9 x 18.9in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 120V; 60Hz; 1730w; 14.4A; US Nema 5-15 |
| **51028536** | OGH60-S SS/ Stainless Steel | 61L (2.15 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 328 x 480mm (15.3 x 12.9 x 18.9in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 120V; 60Hz; 1730w; 14.4A; US Nema 5-15 |
| **51028145** | OGH60-S/ coated | 61L (2.15 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 328 x 480mm (15.3 x 12.9 x 18.9in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 230V; 50/60Hz; 1800w; 7.9A; Country specific |
| **51028544** | OGH60-S SS/ Stainless Steel | 61L (2.15 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 328 x 480mm (15.3 x 12.9 x 18.9in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 230V; 50/60Hz; 1800w; 7.9A; Country specific |
| **51028119** | OGH100-S/ coated | 99L (3.6 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±3.0°C / ±0.3°C | 389 x 438 x 580mm (15.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 (for use in North America) |
| **51028537** | OGH100-S SS/ Stainless Steel | 99L (3.6 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±2.5°C / ±0.3°C | 389 x 438 x 580mm (15.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 |
| **51028146** | OGH100-S/ coated | 99L (3.6 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±3.0°C / ±0.3°C | 389 x 438 x 580mm (15.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 230V; 50/60Hz; 3100w; 13.5A Country specific |
| **51028545** | OGH100-S SS/ Stainless Steel | 99L (3.6 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±3.0°C / ±0.3°C | 389 x 438 x 580mm (15.3 x 17.2 x 22.8in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 230V; 50/60Hz; 3100w; 13.5A Country specific |
| **51028120** | OGH180-S/ coated | 168L (6.05 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±2.9°C / ±0.3°C | 564 x 438 x 680mm (17.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 (for use in North America) |
| **51028538** | OGH180-S SS/ Stainless Steel | 168L (6.05 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±2.9°C / ±0.3°C | 564 x 438 x 680mm (17.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 208-240V; 60Hz; 3360w; 14A; US Nema 6-20 (for use in North America) |
| **51028147** | OGH180-S/ coated | 168L (6.05 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±2.5°C / ±0.3°C | 564 x 438 x 680mm (17.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 230V; 50/60Hz; 3100w; 13.5A Country specific |
| **51028546** | OGH180-S SS/ Stainless Steel | 168L (6.05 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±2.5°C / ±0.3°C | 564 x 438 x 680mm (17.2 x 17.2 x 26.8in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6 in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 230V; 50/60Hz; 3100w; 13.5A Country specific |
| **Mechanical Convection** | | | | | | | | | |
| **51028127** | OMH60-S/ coated | 62L (2.2 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±1.5°C / ±0.2°C | 343 x 354 x 508mm (13.5 x 13.9 x 20.0in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 120V; 60Hz; 1440w; 12A; US Nema 5-15 |
| **51028539** | OMH60-S SS/ Stainless Steel | 62L (2.2 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±1.5°C / ±0.2°C | 343 x 354 x 508mm (13.5 x 13.9 x 20.0in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 120V; 60Hz; 1440w; 12A; US Nema 5-15 |
| **51028154** | OMH60-S/ coated | 62L (2.2 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±1.8°C / ±0.2°C | 343 x 354 x 508mm (13.5 x 13.9 x 20.0in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 230V; 50/60Hz; 1400w; 6.1A Country specific |
| **51028547** | OMH60-S SS/ Stainless Steel | 62L (2.2 cu. ft.) | 0.3 sq. m (3.2 sq. ft.) | ±1.8°C / ±0.2°C | 343 x 354 x 508mm (13.5 x 13.9 x 20.0in.) | 565 x 530 x 755mm (22.2 x 20.9 x 29.7in.) | 2 (13)/25kg (55 lb.) | 44kg (97 lb.) | 230V; 50/60Hz; 1400w; 6.1A Country specific |
| **51028128** | OMH100-S/coated | 97L (3.5 cu. ft) | 0.36 sq. m (3.9 sq. ft.) | ±1.3°C / ±0.2°C | 343 x 438 x 608mm (13.5 x 17.2 x 23.9 in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 208-240V; 60Hz; 3360w; 14A US Nema 6-20 (for use in North America) |
| **51028326** | OMH100-S SS/ Stainless Steel | 97L (3.5 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±1.3°C / ±0.2°C | 343 x 438 x 608mm (13.5 x 17.2 x 23.9 in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 208-240V; 60Hz; 3360w; 14A US Nema 6-20 (for use in North America) |
| **51028155** | OMH100-S/coated | 97L (3.5 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±1.3°C / ±0.2°C | 343 x 438 x 608mm (13.5 x 17.2 x 23.9 in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 230V; 50/60Hz; 3060w; 13.3A Country specific |
| **51028548** | OMH100-S SS/ Stainless Steel | 97L (3.5 cu. ft.) | 0.36 sq. m (3.9 sq. ft.) | ±1.3°C / ±0.2°C | 343 x 438 x 608mm (13.5 x 17.2 x 23.9 in.) | 565 x 640 x 855mm (22.2 x 25.2 x 33.7in.) | 2 (16)/25kg (55 lb.) | 55kg (121 lb.) | 230V; 50/60Hz; 3060w; 13.3A Country specific |
| **51028129** | OMH180-S/coated | 170L (6.1 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±1.5°C / ±0.2°C | 518 x 464 x 708mm (20.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 208-240V; 60Hz; 3360w; 14A US Nema 6-20 |
| **51028540** | OMH180-S SS/ Stainless Steel | 170L (6.1 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±1.5°C / ±0.2°C | 518 x 464 x 708mm (20.4 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 208-240V; 60Hz; 3360w; 14A US Nema 6-20 (for use in North America) |
| **51028156** | OMH180-S/ coated | 170L (6.1 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±1.8°C / ±0.2°C | 518 x 464 x 708mm (18.3 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 230V 50/60Hz; 3060w; 13.3A Country specific |
| **51028549** | OMH180-S SS/ Stainless Steel | 170L (6.1 cu. ft.) | 0.47 sq. m (5.1 sq. ft.) | ±1.8°C / ±0.2°C | 518 x 464 x 708mm (18.3 x 18.3 x 27.9in.) | 738 x 640 x 955mm (29.1 x 25.2 x 37.6in.) | 2 (19)/25kg (55 lb.) | 69kg (152 lb.) | 230V 50/60Hz; 3060w; 13.3A Country specific |

* Depth does not include handle/display (65mm / 2.6 in.) and distance spacer at rear (80mm / 3.1 in.); height includes the feet (35mm / 1.4 in.)

NOTE: All figures in tables are typical average values for series devices, based on factory standard following norm Din12880. Please contact us for certification information or IQ/OQ documents.

## Thermo Scientific Heratherm Ovens Accessories

| Cat. No. | Description | Details |
|---|---|---|
| **Additional Shelving** | | |
| **50128881** | Reinforced shelf – 180L, mechanical convection | Shelf with maximum capacity of 70 kg for 180 liter models, mechanical convection of Advanced Protocol and Advanced Protocol Security ovens; max total capacity is 250 kg |
| **50128880** | Reinforced shelf – 180L, gravity convection | Shelf with maximum capacity of 70 kg for 180 liter models, gravity convection of Advanced Protocol and Advanced Protocol Security ovens; max total capacity is 250 kg |
| **50127761** | Additional shelf kit, 60L model, gravity convection | Additional wire mesh shelf for 60L gravity convection models, including 2 shelf supports |
| **50127762** | Additional shelf kit, 100L model, gravity convection | Additional wire mesh shelf for 100L gravity convection models, including 2 shelf supports |
| **50127763** | Additional shelf kitf, 180L model, gravity convection | Additional wire mesh shelf for 180L gravity convection models, including 2 shelf supports |
| **50127764** | Additional shelf kit, 60L model, mechanical convection | Additional wire mesh shelf for 60L mechanical convection models, including 2 shelf supports |
| **50127765** | Additional shelf kit, 100L model, mechanical convection | Additional wire mesh shelf for 100L mechanical convection models, including 2 shelf supports |
| **50127766** | Additional shelf kit, 180L model, mechanical convection | Additional wire mesh shelf for 180L mechanical convection models, including 2 shelf supports |
| **Stacking Kits** | | |
| **50126665** | Stacking kit 60L units | Stacking kit for Heratherm 60L models |
| **50126666** | Stacking kit 100L units | Stacking kit for Heratherm 100L models - use also to stack 60L on 100L |
| **50126667** | Stacking kit 180L units | Stacking kit for Heratherm 180L models - use also to stack 60Lor 100L on 180L |
| **Support Stands** | | |
| **50127741** | Support stand 60L units | Support stand with casters for 60L units; height of stand including casters: 187mm / 7.4in |
| **50127742** | Support stand 100L units | Support stand with casters for 100L units; height of stand including casters: 187mm / 7.4in |
| **50127743** | Support stand 180L units | Support stand with casters for 180L units; height of stand including casters: 187mm / 7.4in |
| **Sample Sensor** | | |
| **50127767** | Sample sensor Advanced Protocol Security | Sample sensor to measure and display exact sample temperature - forHeratherm Advanced Protocol Security ovens |
| **Underbench Installation Kit** | | |
| **50128887** | Kit for underbench installation – air exhaust | Kit for underbench installation; for all AP and APS ovens; consists of exhaust tubing (1.5 m length) and details on wall distances; note that maximum temperature for underbench installation is 250 °C |
| **Special Sealing** | | |
| **50130657** | Silicone free viton sealing 60L | Silicone free viton door sealing for all 60 liter Heratherm ovens |
| **50130658** | Silicone free viton sealing 100L | Silicone free viton door sealing for all 100 liter Heratherm ovens |
| **50130659** | Silicone free viton sealing 180L | Silicone free viton door sealing for all 180 liter Heratherm ovens |
| **Fresh Air Filter** | | |
| **50127566** | Fresh air particle filter | Fresh air particle filter for connection to the fresh air vent (intake), for Advanced Protocol and Advanced Protocol Security models only |

* other voltages available on request

| Cat. No. | Description | Details |
|---|---|---|
| **Factory-Installed Options — Please order in conjunction with desired oven** | | |
| **51900996** | Access port left, small | Additional access port on center of left side of unit; Ø 24 mm for all mechanical convection ovens / Ø 19 mm for all gravity convection ovens. |
| **51900997** | Access port left, large | Additional access port on center of left side of unit; Ø 58 mm for all mechanical convection ovens / Ø 53 mm for all gravity convection ovens. |
| **51900998** | Access port right, small | Additional access port on center of right side of unit; Ø 24 mm for all mechanical convection ovens / Ø 19 mm for all gravity convection ovens. |
| **51900999** | Access port right, large | Additional access port on center of right side of unit; Ø 58 mm for all mechanical convection ovens / Ø 53 mm for all gravity convection ovens. |
| **51901000** | Access port top, small | Additional access port on center of top of unit; Ø 24 mm for all ovens. |
| **51901001** | Access port top, large | Additional access port on center of top of unit; Ø 58 mm for all ovens. |
| **51900993** | Door hinge left side | Door hinge on left side – Available for General Protocol, Advanced Protocol and Advanced Protocol Security units. Coated exterior only. |
| **Ovens with View Package (ask for other voltages)** | | |
| **51028897** | OGH60 with view package 230VAC; 50/60Hz | Advanced Protocol oven with gravity convection; 61 liters volume; 230VAC; 50Hz; 1 window; light |
| **51028898** | OGH100 with view package 230VAC; 50/60Hz | Advanced Protocol oven with gravity convection; 99 liters volume; 230VAC; 50Hz; 1 window, light |
| **51028916** | OGH180 with view package 230VAC; 50/60Hz | Advanced Protocol oven with gravity convection; 168 liters volume; 230VAC; 50Hz; 2 windows, light |
| **51028923** | OMH60 with view package 230VAC; 50/60Hz | Advanced Protocol oven with mechanical convection; 62 liters volume; 230VAC; 50Hz; 1 window; light |
| **51028734** | OMH100 with view package 230VAC; 50/60Hz | Advanced Protocol oven with mechanical convection; 97 liters volume; 230VAC; 50Hz; 1 window, light |
| **51028910** | OMH180 with view package 230VAC; 50/60Hz | Advanced Protocol oven with mechanical convection; 170 liters volume; 230VAC; 50Hz; 2 windows, light |
| **51028736** | OGH60-S with view package 230VAC; 50/60Hz | Advanced Protocol Security oven with gravity convection; 61 liters volume; 230VAC; 50Hz; 1 window; light |
| **51028924** | OGH100-S with view package 230VAC; 50/60Hz | Advanced Protocol Security oven with gravity convection; 99 liters volume; 230VAC; 50Hz; 1 window, light |
| **51028925** | OGH180-S with view package 230VAC; 50/60Hz | Advanced Protocol Security oven with gravity convection; 168 liters volume; 230VAC; 50Hz; 2 windows, light |
| **51028926** | OMH60-S with view package 230VAC; 50/60Hz | Advanced Protocol Security oven with mechanical convection; 62 liters volume; 230VAC; 50Hz; 1 window; light |
| **51028927** | OMH100-S with view package 230VAC; 50/60Hz | Advanced Protocol Security oven with mechanical convection; 97 liters volume; 230VAC; 50Hz; 1 window, light |
| **51028733** | OMH180-S with view package 230VAC; 50/60Hz | Advanced Protocol Security oven with mechanical convection; 170 liters volume; 230VAC; 50Hz; 2 windows, light |

# Thermo Scientific Heratherm Heating and Drying Ovens – Large Capacity

**Designed for high sample volume or large samples**

**Warranty**[¥]: 2 years (parts and labor)
**Certifications:** CSAus (208-240V/60Hz models) and CE (230V, 50/60Hz models)

## General Protocol Ovens

### Efficent

- Two sizes (400 and 750 L)
- Gravity convection technology for gentle heating and drying
- Low overall energy consumption: 25% energy savings compared to conventional ovens*
- Great footprint/volume ratio

### Safe

- Operating from 10 °C above ambient temperature up to 250 °C
- Temperature uniformity of +/- 3.0 to 3.7 °K and temperature stability of 0.5 °K at 150 °C
- 750 L unit available in 400 V for high temperatures and fast heat-up and recovery times
- Inner chambers made from corrosion-resistant stainless steel (1.4016 / AISI430)

### Easy

- “Plug and play” for 230V models with standard plug: 208/240V 60Hz models have Nema 6-20 plug: no special high voltage connection needed
- Intuitive user interface and easy to read display
- Lockable casters for mobility and easy set-up in your lab

## Advanced Protocol Ovens

### Efficent

- Two sizes (400 and 750 L)
- Mechanical convection technology ensures optimal temperature distribution with fast heat-up and drying processes

### Safe

- Operating at temperatures as high as 250 °C – large 400 V unit available for up to 300 °C
- Improved level of temperature uniformity: 2.1 to 3.1 °K

### Easy

- 2-speed fan for application flexibility:
- Programmable controller for pre-defined temperature ramps
  - > Up to 10 temperature steps defined per program
  - > Fan speed and damper position controlled electronically, and can be changed for every program step individually for maximium process flexibility
  - > Up to 10 programs can be saved for simple and speedy process repetition
- Sophisticated timer extends the automation options available to the user
- Inner chamber made from stainless steel (highly resistant quality 1.4301 / AISI304)
- Available in stainless steel exterior

*Values stated apply to the unloaded oven in conjunction with wire mesh trays (measurement according to DIN 12880, Part 2), air flap closed.

| Cat. No. | Model/ Exterior | Chamber Volume L (cuft) | Temperature Range | Temp. Uniformity*/ Stability (@150°C)* | Chamber Dimensions (D x W x H) | Exterior Dimensions * (D x W x H) | Shelves Supplied/ Max (Max Load) | Shipping Weight | Electrical/ Plug Type |
|---|---|---|---|---|---|---|---|---|---|
| **General Protocol Ovens - Gravity Convection** | | | | | | | | | |
| **51029328** | OGS400 / coated | 419 (14.8) | 50 C to 250 C | ± 3°C / ± 0.5°C | 590 x 544 x 1307 mm (23 x 21 x 51 in.) | 770 x 778 x 1653mm (30 x 31 x 66 in.) | 2 / 39 (40kg / 88lb) | 136 kg (300 lb) | 230V; 50/60Hz; 2400W; 10.5A; Country specific |
| **51029327** | OGS400 / coated | 419 (14.8) | 50 C to 250 C | ± 3°C / ± 0.5°C | 590 x 544 x 1307 mm (23 x 21 x 51 in.) | 770 x 778 x 1653mm (30 x 31 x 66 in.) | 2 / 39 (40kg / 88lb) | 136 kg (300 lb) | 208/240V; 60Hz; 2640W; 11A; Nema 6-20 (for use in North America) |
| **51029340** | OGS750 / coated | 774 (27.3) | 50 C to 250 C | ± 3.7°C / ± 0.5°C | 590 x 1004 x 1307 mm (23 x 40 x 51 in.) | 770 x 1261 x 1653mm (30 x 50 x 66 in.) | 2 / 39 (40kg / 88lb) | 182 kg (401 lb) | 230V; 50/60Hz; 3000W; 13A; Country specific |
| **51029339** | OGS750 / coated | 774 (27.3) | 50 C to 250 C | ± 3.7°C / ± 0.5°C | 590 x 1004 x 1307 mm (23 x 40 x 51 in.) | 770 x 1261 x 1653mm (30 x 50 x 66 in.) | 2 / 39 (40kg / 88lb) | 182 kg (401 lb) | 208/240V; 60Hz; 3240W; 13.5A; Nema 6-20 (for use in North America) |
| **51029342** | OGS750-3P / coated | 774 (27.3) | 50 C to 300 C | ± 2.8°C / ± 0.5°C | 590 x 1004 x 1307 mm (23 x 40 x 51 in.) | 770 x 1261 x 1653mm (30 x 50 x 66 in.) | 2 / 39 (40kg / 88lb) | 182 kg (401 lb) | 400V; 50/60Hz; 6350W; 14A; 3-Phase |
| **Advanced Protocol Ovens - Mechanical Convection** | | | | | | | | | |
| **51029331** | OMH400 / coated | 396 (14.0) | 50 C to 250 C | ± 2.1°C / ± 0.3°C | 545 x 544 x 1335 mm (21 x 21 x 53 in.) | 770 x 778 x 1653mm (30 x 31 x 66 in.) | 2 / 39 (40kg / 88lb) | 135 kg (298 lb) | 230V; 50/60Hz; 3000W; 13A; Country specific |
| **51029329** | OMH400 / coated | 396 (14.0) | 50 C to 250 C | ± 2.1°C / ± 0.3°C | 545 x 544 x 1335 mm (21 x 21 x 53 in.) | 770 x 778 x 1653mm (30 x 31 x 66 in.) | 2 / 39 (40kg / 88lb) | 135 kg (298 lb) | 208/240V; 60Hz; 3240W; 13.5A; Nema 6-20 (for use in North America) |
| **51029332** | OMH400 SS / stainless steel | 396 (14.0) | 50 C to 250 C | ± 2.1°C / ± 0.3°C | 545 x 544 x 1335 mm (21 x 21 x 53 in.) | 770 x 778 x 1653mm (30 x 31 x 66 in.) | 2 / 39 (40kg / 88lb) | 135 kg (298 lb) | 230V; 50/60Hz; 3000W; 13A; Country specific |
| **51029330** | OMH400 SS / stainless steel | 396 (14.0) | 50 C to 250 C | ± 2.1°C / ± 0.3°C | 545 x 544 x 1335 mm (21 x 21 x 53 in.) | 770 x 778 x 1653mm (30 x 31 x 66 in.) | 2 / 39 (40kg / 88lb) | 135 kg (298 lb) | 208/240V; 60Hz; 3240W; 13.5A; Nema 6-20 (for use in North America) |
| **51029345** | OMH750 / coated | 731 (25.8) | 50 C to 250 C | ± 3.1°C / ± 0.4°C | 545 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66 in.) | 2 / 39 (40kg / 88lb) | 185 kg (408 lb) | 230V; 50/60Hz; 3000W; 13A; Country specific |
| **51029343** | OMH750 / coated | 731 (25.8) | 50 °C to 250 °C | ± 3.1°C / ± 0.4°C | 545 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66 in.) | 2 / 39 (40kg / 88lb) | 185 kg (408 lb) | 208/240V; 60Hz; 3480W; 14.5A; Nema 6-20 (for use in North America) |
| **51029348** | OMH750-3P / coated | 731 (25.8) | 50 °C to 300 °C | ± 2.3°C / ± 0.4°C | 545 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66 in.) | 2 / 39 (40kg / 88lb) | 185 kg (408 lb) | 400V; 50/60Hz; 5750W; 12A; 3-Phase |
| **51029346** | OMH750 SS / stainless steel | 731 (25.8) | 50 °C to 250 °C | ± 3.1°C / ± 0.4°C | 545 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66 in.) | 2 / 39 (40kg / 88lb) | 185 kg (408 lb) | 230V; 50/60Hz; 3000W; 13A; Country specific |
| **51029344** | OMH750 SS / stainless steel | 731 (25.8) | 50 °C to 250 °C | ± 3.1°C / ± 0.4°C | 545 x 1004 x 1335 mm (21 x 40 x 53 in.) | 770 x 1261 x 1653mm (30 x 50 x 66 in.) | 2 / 39 (40kg / 88lb) | 185 kg (408 lb) | 208/240V; 60Hz; 3480W; 14.5A; Nema 6-20 (for use in North America) |

* Depth does not include handle/display (65mm / 2.6 in.) and distance spacer at rear (106mm / 4.2 in.); height includes the casters (108mm / 4.3 in.)
NOTE: All figures in tables are typical average values for series devices, based on factory standard following norm Din12880. Please contact us for certification information or IQ/OQ documents.

## Accessories

| Cat. No. | Description |
|---|---|
| **50135245** | Wire mesh shelf for Heratherm Advanced Protocol oven OMH400 and General Protocol oven OGS400; 528 x 535 mm |
| **50135246** | Wire mesh shelf for Heratherm Advanced Protocol oven OMH750 and General Protocol oven OGS750; 984 x 541 mm |
| **50135244** | Wire mesh shelf for Heratherm Advanced Protocol oven OMH750 3PH; also for use in Advanced Protocol Security incubator IMH750-S; 984 x 503 mm |
| **50135869** | Silicone-free viton sealing for all Heratherm 400L models |
| **50135870** | Silicone-free viton sealing for all Heratherm 750L models |

# Thermo Scientific Precision High-Performance Ovens

**Built for drying applications requiring high temperatures, ultra-precise temperature stability and reproducibility with a very broad temperature range of ambient +15° to 325°C**

- High-quality construction and high-efficiency insulation provide temperature uniformity as precise as ±0.5°C with excellent stability and air exchange within the chamber
- Mechanical convection provides uniform heating, precise temperature control and fast drying using a blower that circulates heated air in a horizontal airflow pattern

## Advanced Microprocessor PID Controls

- Bright LED display of actual and setpoint temperatures using 2-line, 4-digit
- Built-in 12-hour mechanical timer along with user-adjustable safety thermostat allows for power cut-out in case of over-temperature
- Highly responsive RTD sensor provides temperature sensitivity of ±0.1°C or better

## Two Specialty Units

- Model 605P: Extra baffle provides low airflow for precise drying and testing of material with minimal disruption of volatile components
- Model 625S: Features a rear blowout panel with retaining cage and positive action front-door catches for volatile material testing

## Energy- and Safety-Efficient Construction

- Heat-up time to 325°C: 45-60 minutes, depending on model
- Turbo blowers for efficient drying are side-mounted within stainless-steel chamber
- Stainless-steel exterior door with fiberglass gasket for secure, tight seal
- Cold-rolled, chemical-resistant steel cabinet with powder-coated finish
- High-limit safety with built-in circuit breaker protects oven from power surges
- Fiberglass door gasket prevents heat loss
- Low-density heating elements ensure long life
- Non-tip shelves spaced 4cm (1.6in.) apart quickly, easily remove for thorough cleaning – 2 supplied

**Includes:** Two nickel-plated nontip shelves Warranty¥: 12 months, parts and labor
**Compliance:** ASTM* E145 Type IIA, ASTM D-2436, and UL 746B performance/uniformity standards
**Notes:** Requires hardwired installation by a qualified technician; Ordering Alerts: Not available in Europe
**Warranty¥:** 1 year (parts and labor)
**Certifications:** all models are UL listed

**PRODUCT NOT AVAILABLE IN EUROPE**

*Values stated apply to the unloaded oven in conjunction with wire mesh trays (measurement according to DIN 12880, Part 2), air flap closed.

| Cat. No. | Model | Capacity | Interior D x W x H | Exterior D x W x H | Electrical | Temperature Uniformity | Temperature Range | Max. Output Power |
|---|---|---|---|---|---|---|---|---|
| **6050** | 605 | 39.6L (1.4 cu. ft.) | 33 × 36 × 33cm (13 × 14 × 13in.) | 61 × 97.8 × 63.5cm (24 × 38.5 × 25in.) | 120V 50/60Hz, 2500w/20.8A | ±0.5° at 100°C; ±1.0° at 200°C; ±2.5° at 300°C | Ambient +15° to 325°C | 8538 BTU/hr. |
| **6051** | 605 | 39.6L (1.4 cu. ft.) | 33 × 36 × 33cm (13 × 14 × 13in.) | 61 × 97.8 × 63.5cm (24 × 38.5 × 25in.) | 208/230V 50/60Hz, 2500w/10.9A | ±0.5° at 100°C; ±1.0° at 200°C; ±2.5° at 300°C | Ambient +15° to 325°C | 8538 BTU/hr. |
| **6052** | 605P | 39.6L (1.4 cu. ft.) | 33 × 36 × 33cm (13 × 14 × 13in.) | 61 × 97.8 × 63.5cm (24 × 38.5 × 25in.) | 120V 50/60Hz, 2500w/20.8A | ±0.5° at 100°C; ±1.0° at 200°C; ±2.5° at 300°C | Ambient +15° to 325°C | 8538 BTU/hr. |
| **6053** | 605P | 39.6L (1.4 cu. ft.) | 33 × 36 × 33cm (13 × 14 × 13in.) | 61 × 97.8 × 63.5cm (24 × 38.5 × 25in.) | 205/230V 50/60Hz, 2500w/10.9A | ±0.5° at 100°C; ±1.0° at 200°C; ±2.5° at 300°C | Ambient +15° to 325°C | 8538 BTU/hr. |
| **6054** | 625 | 113.3L (4.0 cu. ft.) | 48.3 × 48.3 × 48.3cm (19 × 19 × 19in.) | 71.1 × 114.3 × 73.7cm (28 × 45 × 29in.) | 208/230V 50/60Hz 3700w 16.1A | ±0.5° at 100°C; ±1.0° at 200°C; ±2.5° at 300°C | Ambient +15° to 325°C | 12,636 BTU/hr. |
| **6055** | 625S | 113.3L (4.0 cu. ft.) | 48.3 × 48.3 × 48.3cm (19 × 19 × 19in.) | 71.1 × 114.3 × 73.7cm (28 × 45 × 29in.) | 208/230V 50/60Hz 3700w 16.1A | ±0.5° at 100°C; ±1.0° at 200°C; ±2.5° at 300°C | Ambient +15° to 325°C | 12,636 BTU/hr. |
| **6056** | 645 | 269L (9.5cuft)) | 48.3x91.4x61cm (19x36x24in.) | 78.7x165.1x91.4cm (31x65x36in.) | 208/230V 50/60Hz 3700w/16.1A | ±0.5° at 100°C; ±1.0° at 200°C; ±2.1° at 300°C | Ambient +15° to 325 °C | 16,393 BTU/hr. |

NOTE: Note maximum air exchange rates per hour: Model 605/605P: 128; Model 625/625S: 195; Model 645: 155

## Accessories — Additional Shelving

| Cat. No. | For Use with | Max. No. of Shelves |
|---|---|---|
| **3166188** | Precision High-Performance Ovens Models 605/605P | 7 |
| **3166179** | Precision High-Performance Ovens Models 625/625S | 11 |
| **3166180** | Precision High-Performance Oven Model 645 | 12 |

# Thermo Scientific Precision Compact Heating and Drying Ovens

**Compact heating and drying ovens conserve valuable benchtop space and feature mechanical or gravity convection models, ideal for drying and baking applications**

Unit shown mechanical convection unit PR305225M with LED display.

- Double-wall interior with 2.5cm (1in.) silica-based insulation and powder-coated cold-rolled steel exterior
- Pilot light visually indicates oven operation status

## Gravity-Convection Models

- Gentle drying with low turbulence: air is moved vertically through chamber to heat samples
- Preset high-temperature safety bimetallic thermostat (no display) ensures over-temperature protection

## Mechanical-Convection Models

- Uniform heating, precise temperature control and fast drying
- Hydraulic thermostat
- LED display
- Stainless-steel chamber

**Applications:** Drying and baking
**Ordering Information:** Additional shelves are sold separately
**Includes:** One fixed and two adjustable shelves.
**Warranty**[¥]: 1 year (parts and labor)
**Certifications:** UL/cUL listed

**PRODUCT NOT AVAILABLE IN EUROPE**

| Cat. No. | Capacity | Interior D x W x H | Exterior L x W x H* | Temp. Range | Chamber Material | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|---|
| **Gravity Convection** | | | | | | | |
| **PR305225G** | 48.1L (1.7 cu. ft.) | 41× 41 × 29cm (11.5 x 16 x 16.2in.) | 34 × 47 × 57cm (13.5× 18.5 × 22.5in.) | Ambient +5° to 210°C | Aluminum | 26kg (57 lb.) | 120V 60Hz, 800w |
| **PR305220G** | 48.1L (1.7 cu. ft.) | 41 × 41 × 29cm (11.5 x 16 x 16.2in.) | 34 × 47 × 57cm (13.5× 18.5 × 22.5in.) | Ambient +5° to 210°C | Aluminum | 26kg (57 lb.) | 240V 50/60Hz, 800w |
| **Mechanical Convection** | | | | | | | |
| **PR305225M** | 48.1L (1.7 cu. ft.) | 29 × 41 × 41cm (11.5 x 16 x 16in.) | 40 x 47 × 64cm (15.6 x 18.4 × 25in.) | Ambient +5° to 210°C | Stainless steel | 36kg (80 lb.) | 120V 60Hz, 1200w |
| **PR305220M** | 48.1L (1.7 cu. ft.) | 29 × 41 × 41cm (11.5 x 16 x 16in.) | 40 x 47 × 64cm (15.6 x 18.4 × 25in.) | Ambient +5° to 210°C | Stainless steel | 36kg (80 lb.) | 240V 50/60Hz, 1200w |

*Length does not include handle (2in.)

## Thermo Scientific Shelves for Precision Compact Ovens

| Cat. No. | Capacity | Type |
|---|---|---|
| 3511-8Q | 48.1L (1.7 cu. ft.) | Gravity Convection |
| 3515M-8Q | 48.1L (1.7 cu. ft.) | Mechanical Convection |

# Thermo Scientific Vacuum Ovens

**Maximum flexibility, with a maximum temperature of 220°C (428°F), two control configurations and display options**

Model 3608-5 (with LED)

- Radiant warm-wall heating system optimizes uniformity and conserves chamber space for drying, curing, vacuum embedding and plating applications
- 3in. (7.6cm) glass wool insulation prevents heat loss
- Silicone door gasket and positive latch door maintain seal at all vacuum levels
- Polycarbonate safety shield protects door glass
- Hydraulic thermostat temperature control ±1.5°C with a uniformity of ±5°C at 100°C, 25in.Hg
- Built-in over-temperature protection
- Vacuum level is displayed on gauges from 0 to 30in.Hg
- Vacuum and air lines are corrosion-resistant stainless-steel tubing for optimum chamber cleanliness and long-term performance
- With two removable stacking aluminum shelves
- Easy-to-clean Type 304 stainless-steel interior chamber
- Powder-coated heavy-gauge steel exterior for durability
- Temperature Range: Ambient +10° to 220°C

## 3606 Models

- Top-mounted independent evacuation and venting vacuum fittings

## 3608 and 3618 Models

- Front-mounted three-way valve for evacuation, venting and purging of inert gases (e.g., Nitrogen or Argon) with vacuum fittings on the front of the unit

**Required Accessories:** Vacuum fittings require 0.25in. (0.6cm) I.D. tubing
**Warranty¥:** 1 year (parts and labor)
**Certifications:** CSA, CE as listed

| Cat. No. | Capacity | Display | Interior D x W x H | Exterior L x W x H | Temp. Resolution | Temp. Uniformity | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|---|---|
| **3606** | 12.5L (0.44 cu. ft.) | Bimetallic thermometer with 5°C increments | 30 × 20 × 20cm (12 x 8 x 8in.) | 41 × 43 × 44cm (16 × 17 × 17in.) | ±1.5°C | ±2.2°C at 100°C 25in.Hg | 50kg (110 lb.) | 120V 50/60Hz, 600w, 5A |
| **3606-1CE** | 12.5L (0.44 cu. ft.) | Bimetallic thermometer with 5°C increments | 30 × 20 × 20cm (12 x 8 x 8in.) | 41 × 43 × 44cm (16 × 17 × 17in.) | ±1.5°C | ±2.2°C at 100°C 25in.Hg | 50kg (110 lb.) | 240V 50/60Hz 600w 2.5A |
| **3608** | 19.8L (0.7 cu. ft.) | Bimetallic thermometer with 5°C increments | 30 × 25 × 25cm (12 x 10 x 10in.) | 40 × 50 × 41cm (16× 19.8 × 16.25in.) | ±1.0°C | ±6.0°C at 150°C 25in.Hg | 59kg (130 lb.) | 120V 50/60Hz, 600w, 5A |
| **3608-1CE*** | 19.8L (0.7 cu. ft.) | Bimetallic thermometer with 5°C increments | 30 × 25 × 25cm (12 x 10 x 10in.) | 40 × 50 × 41cm (16× 19.8 × 16.25in.) | ±1.0°C | ±6.0°C at 150°C, 25in.Hg | 59kg (130 lb.) | 240V 50/60Hz 600w 2.5A |
| **3608-5** | 19.8L (0.7 cu. ft.) | LED with 1°C increments | 30 × 25 × 25cm (12 x 10 x 10in.) | 40 × 50 × 41cm (16×19.8 × 16.25in.) | ±1.0°C | ±6.0°C at 150°C, 25in.Hg | 59kg (130 lb.) | 120V 50/60Hz, 600w, 5A |
| **3608-6CE*** | 19.8L (0.7 cu. ft.) | LED with 1°C increments | 30 × 25 × 25cm (12 x 10 x 10in.) | 40 × 50 × 41cm (16×19.8 × 16.25in.) | ±1.0°C | ±6.0°C at 150°C, 25in.Hg | 59kg (130 lb.) | 240V 50/60Hz 600w 2.5A |
| **3618** | 65.1L (2.3 cu. ft.) | Bimetallic thermometer with 5°C increments | 51 × 36 × 36cm (20 x 14 x 14in.) | 64 × 64 × 56cm (25 × 25 × 22in.) | ±1.0°C | ±5.0°C at 100°C 25in.Hg | 134kg (295 lb.) | 120V 50/60Hz, 1600w, 13.3A |
| **3618-1CE*** | 65.1L (2.3 cu. ft.) | Bimetallic thermometer with 5°C increments | 51 × 36 × 36cm (20 x 14 x 14in.) | 64 × 64 × 56cm (25 × 25 × 22in.) | ±1.0°C | ±5.0°C at 100°C 25in.Hg | 134kg (295 lb.) | 240V 50/60Hz 1600w 6.7A |
| **3618-5** | 65.1L (2.3 cu. ft.) | LED with 1°C increments | 51 × 36 × 36cm (20 x 14 x 14in.) | 64 × 64 × 56cm (25 × 25 × 22in.) | ±1.0°C | ±5.0°C at 100°C 25in.Hg | 134kg (295 lb.) | 120V 50/60Hz, 1600w, 13.3A |
| **3618-6CE*** | 65.1L (2.3 cu. ft.) | LED with 1°C increments | 51 × 36 × 36cm (20 x 14 x 14in.) | 64 × 64 × 56cm (25 × 25 × 22in.) | ±1.0°C | ±5.0°C at 100°C 25in.Hg | 134kg (295 lb.) | 240V 50/60Hz 1600w 6.7A |

* Model is CE certified

# Thermo Scientific Lindberg/Blue M Vacuum Ovens

**Digital electronic control, built-in over-temperature protection, and a fully flexible vacuum/purge/release system for a range of applications including drying, curing, outgassing, aging, process control and other applications requiring elevated temperature in reduced atmospheres or vacuum/purge with nonflammable and inert atmospheres**

## Single-Setpoint Digital Microprocessor Control

- Maximum temperature: 260°C (500°F) with nominal uniformity of ±3.5% of setpoint
- Simultaneous LED display of setpoint and actual temperature with push-button view
- Keypad data entry and pull-out control module for easy service
- Independent over-temperature safety system factory set with reset push-button

## Vacuum System

- 1in. (2.54cm) manifold, chamber rear, exterior, connects to pump or in-house vacuum source
- With inert gas injection valve, fresh air inlet, vacuum exhaust port, controllable vacuum release vent port
- 1000 microns (1torr) capacity
- Vacuum gauge, vacuum, gas and inlet valves located on front

## Construction

- Corrosion-resistant stainless-steel cabinet chamber
- Rear-mounted vacuum manifold connects to pump (not included) or in-house vacuum source
- Low-watt heating element extends oven life
- Heavy-gauge steel, dual-wall construction with fiberglass insulation for minimum heat loss in walls and door
- High-temperature silicone gasket is specially molded for a positive seal
- Magnetic latch for positive door seal (4.5 cu. ft. capacity models include mechanical latches)
- Viewing windows: 0.5in. (1.3cm) thick in two smaller capacity models or 0.75in. (1.9cm) thick in 4.5 cu. ft. model; permit observation of work in progress without loss of heat
- Stainless-steel exterior models come with double door — a solid outer door over inner window door

**Includes:** Power cord and aluminum shelves (number of shelves based on model; see ordering table)
**Warranty[¥]:** 1 year (parts and labor)
**Certifications:** UL listed (VO914A, VO914SA, VO1218A, VO1218SA only)
**Alert:** Ovens are not suitable for use with hazardous vapor. For use with nonflammable, noncorrosive inert gases only

**PRODUCT NOT AVAILABLE IN EUROPE**

| Cat. No. | Capacity | Interior D x W x H | Exterior L x W x H | Temp. Resolution/ Uniformity | Temp. Range | No. of Shelves | Finish | Electrical | Shipping Weight |
|---|---|---|---|---|---|---|---|---|---|
| **V0914A-1** | 18.6L (0.65 cu. ft.) | 36 × 23 × 23cm (14 × 9 × 9in.) | 58 × 46 × 66cm (23 × 18 × 26in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 3 | Painted Steel | 120V 50/60Hz 750w | 68kg (150 lb.) |
| **V0914C-1** | 18.6L (0.65 cu. ft.) | 36 × 23 × 23cm (14 × 9 × 9in.) | 58 × 46 × 66cm (23 × 18 × 26in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 3 | Painted Steel | 208/240V 50/60Hz 750w | 68kg (150 lb.) |
| **V0914SA-1** | 18.6L (0.65 cu. ft.) | 36 × 23 × 23cm (14 × 9 × 9in.) | 58 × 46 × 66cm (23 × 18 × 26in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 3 | Stainless Steel | 120V 50/60Hz 750w | 68kg (150 lb.) |
| **V01218A-1** | 42.5L (1.5 cu. ft.) | 46 × 31 × 31cm (18 × 12 × 12in.) | 66 × 53 × 74cm (26 × 21 × 29in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 3 | Painted Steel | 120V 50/60Hz, 1250w | 113kg (250 lb.) |
| **V01218C-1** | 42.5L (1.5 cu. ft.) | 46 × 31 × 31cm (18 × 12 × 12in.) | 66 × 53 × 74cm (26 × 21 × 29in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 3 | Painted Steel | 208/240V 50/60Hz 1250w | 113kg (250 lb.) |
| **V01218SA-1** | 42.5L (1.5 cu. ft.) | 46 × 31 × 31cm (18 × 12 × 12in.) | 66 × 53 × 74cm (26 × 21 × 29in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 3 | Stainless Steel | 120V 50/60Hz, 1250w | 113kg (250 lb.) |
| **V01824A-1** | 127.4L (4.5 cu. ft.) | 61 × 46 × 46cm (24 × 18 × 18in.) | 81 × 69 × 89cm (32 × 27 × 35in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 2 | Painted Steel | 120V 50/60Hz 1500w | 147kg (325 lb.) |
| **V01824C-1** | 127.4L (4.5 cu. ft.) | 61 × 46 × 46cm (24 × 18 × 18in.) | 81 × 69 × 89cm (32 × 27 × 35in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 2 | Painted Steel | 208/240V 50/60Hz 1500w | 147kg (325 lb.) |
| **V01824SA-1** | 127.4L (4.5 cu. ft.) | 61 × 46 × 46cm (24 × 18 × 18in.) | 81 × 69 × 89cm (32 × 27 × 35in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 2 | Stainless Steel | 120V 50/60Hz, 1500w | 147kg (325 lb.) |
| **V01824HPC-1** | 127.4L (4.5 cu. ft.) | 61 × 46 × 46cm (24 × 18 × 18in.) | 81 × 69 × 89cm (32 × 27 × 35in.) | ±1°C/ ±3.5°C | 6° above ambient to 260°C | 1 | Painted Steel | 208/240V 50/60Hz 3000w | 147kg (325 lb.) |

## Thermo Scientific Accessories for Lindberg/Blue M Vacuum Ovens

| Catalog No | Description | For use with |
|---|---|---|
| **6718** | White Floor Stand | All Lindberg/Blue M vacuum ovens |
| **6723** | Stainless-steel Floor Stand | All Lindberg/Blue M vacuum ovens |
| **118961** | Connection Kit – includes NW fittings, centering rings, connectors, vacuum clamps and hose to connect vacuum pump to oven. | All Lindberg/Blue M vacuum ovens |
| **305994H01** | Silicone replacement gasket (red) | V0914 Series |
| **305992H01** | Silicone replacement gasket (red) | V01218 Series |
| **305993H01** | Silicone replacement gasket (red) | V01824 Series |
| **118974** | Buna-N silicone-free gasket, for temperatures up to 150°C only | V0914 Series |
| **118977** | Buna-N silicone-free gasket, for temperatures up to 150°C only | V01218 Series |
| **34637H01** | Buna-N silicone-free gasket, for temperatures up to 150°C only | V01824 Series |

# Thermo Scientific Vacutherm Vacuum Ovens

**Excellent heat transfer and fast heating up minimize operation time**

- Ideal for drying of heat-sensitive materials, residue-free drying of intricately designed parts, elimination of oxidation associated with heat treatment and targeted recover of degassed products
- Front window with double-paned safety glass provides unique implosion protection
- Modular system allows application-specific configurations through a wide range of equipment options
- Ovens can dry up to six times faster than conventional units
- Temperature and pressure documentation is available to meet ISO 9000 and GLP/GMP requirements
- User-friendly Kelvitron™ microprocessor (jacket-heated ovens) or Digicon multi-channel controller (shelf-heated ovens)
- Analog pressure display; attainable ultimate vacuum: 0.1 mbar
- Over-temperature sensor protects oven and product – protection class I / IP20
- Stainless steel vacuum fittings, tubing and ball valve
- Interior chamber made of high-grade 1.4404 (316L) stainless steel, electropolished for smooth surface
- Inert gas connection with precision valve and overpressure safety valve precisely releases non-flammable, non-toxic gasses
- Standard DN25 access port in rear wall (20 mm)
- Jacket-heated models operate up to 200°C
- Shelf-heated versions operate up to 300 or 400°C for optimum heat transfer
- For applications with flammable solvents, ask your sales representative for our BL version with additional safety features (230V versions only)

**Ordering Alerts:** Not available in some countries
**Certifications:** CE (230V, 50 / 60Hz models) and cCSAus (120V and 208V, 60Hz models)
**Warranty**[¥]: 2 years (parts and labor)

| Cat. No. | Model | Type | Capacity | Internal Dimensions W x H x D | External Dimensions[1] W x H x D | Rated Temp.[2,3] | Spatial temp. deviation[2,4] | Heat Output (at max. temperature) | Electrical[5] | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| **51014550** | VT 6025 | Jacket-Heating no inert gas connection | 25L (0.88 cu.ft.) | 300 x 275 x 307mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 200°C | ±4 (@200°C) | 340 Wh/h | 230V 50/60Hz, 1.3kW | 58kg (128 lb.) |
| **51014551** | VT 6025 | Jacket-Heating no inert gas connection | 25L (0.88 cu.ft.) | 300 x 275 x 307mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 200°C | ±4 (@200°C) | 340 Wh/h | 120V 60Hz, 1.3kW | 58kg (128 lb.) |
| **51014552** | VT 6025 | Jacket-Heating | 25L (0.88 cu.ft.) | 300 x 275 x 307mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 200°C | ±4 (@200°C) | 340 Wh/h | 230V 50/60Hz, 1.3kW | 58kg (128 lb.) |
| **51014553** | VT 6025 | Jacket-Heating[6] | 25L (0.88 cu.ft.) | 300 x 275 x 307 mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 200°C | ±4 (@200°C) | 340 Wh/h | 230V 50/60Hz, 1.3kW | 58kg (128 lb.) |
| **51014554** | VT 6025 | Jacket-Heating with Digicon S[7] | 25L (0.88 cu.ft.) | 300 x 275 x 307 mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 200°C | ±4 (@200°C) | 340 Wh/h | 230V 50/60Hz, 1.3kW | 58kg (128 lb.) |
| **51014539** | VT 6060 M | Jacket-Heating | 53L (1.87 cu.ft.) | 415 x 345 x 371 mm (16.3 x 13.6 x 14.6in.) | 744 x 576 x 570 mm (29.3 x 22.7 x 22.4in.) | 200°C | ±4 (@200°C) | 540Wh/h | 230V 50/60Hz, 1.7kW | 82kg (181 lb.) |
| **51014540** | VT 6060 M | Jacket-Heating | 53L (1.87 cu.ft.) | 415 x 345 x 371 mm (16.3 x 13.6 x 14.6in.) | 744 x 576 x 570 mm (29.3 x 22.7 x 22.4in.) | 200°C | ±4 (@200°C) | 550Wh/h | 120V 60Hz, 1.4kW | 82kg (181 lb.) |
| **51014542** | VT 6060 P | Shelf-Heating[8] | 53L (1.87 cu.ft.) | 415 x 345 x 371 mm (16.3 x 13.6 x 14.6in.) | 744 x 576 x 570 mm (29.3 x 22.7 x 22.4in.) | 300/400°C | ±3 (@200°C) ±7 (@300°C) ±9 (@400°C) | 450 Wh/h | 230V 50/60Hz, 1.6kW | 90kg (198 lb.) |
| **51023263** | VT 6060 P | Shelf-Heating[8] | 53L (1.87 cu.ft.) | 415 x 345 x 371 mm (16.3 x 13.6 x 14.6in.) | 744 x 576 x 570 mm (29.3 x 22.7 x 22.4in.) | 300/400°C | ±3 (@200°C) ±7 (@300°C) ±9 (@400°C) | 450 Wh/h | 120V 60Hz, 1.4kW | 90kg (198 lb.) |
| **51014541** | VT 6130 M | Jacket-Heating | 128L (4.52 cu.ft.) | 495 x 489 x 529 (19.5 x 19.3 x 20.8in.) | 895 x 720 x 750 mm (35.2 x 28.3 x 29.5in.) | 200°C | ±7 (@200°C) | 870 Wh/h | 230V 50/60Hz, 2.2kW | 153kg (337 lb.) |
| **51023262** | VT 6130 M | Jacket-Heating | 128L (4.52 cu.ft.) | 495 x 489 x 529 (19.5 x 19.3 x 20.8in.) | 895 x 720 x 750 mm (35.2 x 28.3 x 29.5in.) | 200°C | ±7 (@200°C) | 870 Wh/h | 208V 60Hz, 1.8kW | 150kg (331 lb.) |
| **51014543** | VT 6130 P | Shelf-Heating[8] | 128L (4.52 cu.ft.) | 495 x 489 x 529 mm (19.5 x 19.3 x 20.8in.) | 895 x 720 x 750 mm (35.2 x 28.3 x 29.5in.) | 300/400°C | ±4 (@200°C) ±7 (@300°C) ±9 (@400°C) | 880 Wh/h | 230V 50/60Hz, 3.0kW | 164kg (362 lb.) |
| **51023264** | VT 6130 P | Shelf-Heating[8] | 128L (4.52 cu.ft.) | 495 x 489 x 529 mm (19.5 x 19.3 x 20.8in.) | 895 x 720 x 750 mm (35.2 x 28.3 x 29.5in.) | 300/400°C | ±4 (@200°C) ±7 (@300°C) ±9 (@400°C) | 880 Wh/h | 208V 60Hz, 2.5kW | 164kg (362 lb.) |

[1] Depth without handle and wall distance. Dimensions: handle 70 mm, wall distance 80 mm
[2] The values stated apply to the empty oven and vacuum operation in acc. with DIN 12880, part 2
[3] Control range M: electronic controller from TA + 15°C; control range P: electronic controller from TA + 10°C; TA = Ambient temperature
[4] Measured on the shelves
[5] Other voltages on request
[6] With digital pressure display and recorder output
[7] Digicon S: Analog temperature controller
[8] Comes standard with Digicon multi-channel controller and rated temperature of 300°C; for 400°C: order option in addition, see next page

## Accessories & Options

| Accessories | |
|---|---|
| Cat. No. | Description |
| **50028403** | Additional shelf for VT6025 (incl. Shelf supports) |
| **50043975** | Additional shelf for VT6060 M (incl. Shelf supports) |
| **50043976** | Additional shelf for VT6130 M (incl. Shelf supports) |
| **50048621** | Stainless steel tray for VT6060 |
| **50048619** | Stainless steel tray for VT6130 |
| **50048620** | Aluminum tray for VT6060 M/P |
| **50048618** | Aluminum tray for VT6130 M/P |
| **50046860** | Stainless steel vacuum connection kit for tubing, 10mm diameter (all models) |
| **50029890** | Support frame, 780 mm height, for VT6060 M/P |
| **50029597** | Support frame, 780 mm height, for VT6130 M/P |

| | | Diaphragm pumps | | | Rotary vane pumps |
|---|---|---|---|---|---|
| Vacuum Pumps** | | MD 12H | HMD 4C | HMZ 2C | RE 9H |
| Cat. No. | | 50040078 | 50028362 | 50028364 | 50028361 |
| **Rated pumping capacity (Pneurop)** | $m^3/h$ | 9.6 | 3.0 | 1.7 | 8.6 |
| **Total final pressure without gas ballast** | mbar | 2 | 2 | 10 | 0.1 |
| **Total final pressure with gas ballast** | mbar | <10 | <10 | <20 | 6 x 10-1 |
| **Water vapor compatibility** | mbar | – | – | – | 40 |
| **Capacity of trap** | ml | 725 | 500 | 500 | 500 |
| **Weight** | kg | 24 | 18 | 14 | 21.6 |
| **Dimensions with trap (w/h/d)** | mm | 240 x 300 x 610 | 241 x 500 x 338 | 241 x 326 x 336 | 260 x 232 x 460 |
| Vacucenter® with pump model | | MD 12H | HMD 4C | | RE 9H |
| Cat. No.* | | 50044332 | 50044333 | – | 50044334 |
| **Voltage** | V3N~, 50/60 Hz | 400 | 400 | – | 400 |
| **Max. rated power** | kW | 3.37 | 3.20 | – | 3.37 |
| **External dimensions (w/h/d)** | mm | 895/650/900 | 895/650/900 | – | 895/650/900 |
| **Total weight** | kg | 88 | 80 | – | 86 |
| **Protection class** | | I | I | – | I |
| **Protection type** | | IP 20 | IP 20 | – | IP 20 |

*In combination with VT 6060 or VT 6130
**Pumps not available in North America

| Factory installed options | |
|---|---|
| Cat. No. | Options for Vacutherm 6060 and 6130 M/P |
| **51900284** | RS 232 computer interface for Kelvitron controller |
| **51900069*** | Digital pressure display |
| **51900193*** | Pressure controller with solenoid valve |
| **51900071** | VITON door gasket for VT 6060 M |
| **51900072** | VITON door gasket for VT 6130 M |
| **51900205** | Daily program timer, mechanical |
| **51900073*** | 24 hour timer (20 h at 60 Hz) |
| **51900008** | Weekly program timer, mechanical |
| **51900161** | Weekly program timer, digital |
| **51900074** | Digital sample temperature display with flexible Pt 100 temperature sensor and socket for external data recorder |
| **51900209** | Thermicon® P temperature program controller (for M-models only) |
| **51900297** | Eurotherm 2404/P4 temperature controller with RS 232 interface (for M-models only) |
| **51900298** | Eurotherm 2404/P4 temperature controller with RS 422/485 interface (for M-models only) |
| **51900081*** | Central monitoring connection |
| **51900194*** | Digicon S temperature controller with analog interface 0-20 mA/0-10V (for M-models only) |
| **Cat. No.** | **Extended rated temperature, Digicon® S temperature controller with analog interface 0–20 mA/0–10 V** |
| **51900195** | (300 °C): VT 6060 P and VT 6130 P |
| **51900196** | (400 °C): VT 6060 P, door without inspection window |
| **51900197** | (400 °C): VT 6130 P, door without inspection window |
| **Cat. No.** | **Extended rated temperature, Digicon® S temperature controller without data interface** |
| **51900079*** | 400 °C: for VT 6060 P, door without inspection window |
| **51900080*** | 400 °C: for VT 6130 P, door without inspection window |
| **Cat. No.** | **Vacuum chamber with rounded corners at the rear** |
| **51900075** | for VT 6060 M |
| **51900077** | for VT 6060 P |
| **51900076** | for VT 6130 M |
| **51900078** | for VT 6130 P |
| **Cat. No.** | **Options for Vacutherm 6025** |
| **51900326** | Precision control valve for standard model (only for order nos. 51014550 and 51014551) |
| **51900284** | RS232 computer interface |

* Option not available for North American voltages (120V-60Hz, 208V-60Hz)

# Thermo Scientific Hi-Temp Vacuum Ovens

**Over-temperature protection for peace of mind at temperatures up to 280°C**

- Ideally suited for general drying, conditioning, curing, desiccating, and annealing – as well as moisture tests
- Radiant warm wall heaters mounted on the outside conserve chamber working space and eliminate hazards of open wire heaters
- Compression fittings on the sidewall accept 0.6cm (0.25in.) O.D. hard tubing for pump and air connections
- Durable exterior is powder-coated heavy-gauge steel
- Glass window in the door allows sample viewing
- Two adjustable chrome-plated shelves improve heat conduction to samples; remove easily for cleaning
- Stainless-steel interior chamber resists corrosion
- Vacuum and air lines of corrosion-resistant stainless-steel tubing optimize chamber cleanliness and long-term performance
- Vacuum range: 10 to 30" hg

## Models 3625A and 3625A-1

- Dual-electronic control system
- For operational convenience, all controls and indicators are located on the front panel: powerswitch and three indicators, purge gas and vacuum control valves, a 0-to-30-inch vacuum gauge and a temperature control

## Models 3628A and 3628A-1

- Seven-day programmable timer that cycles oven on or off up to eight times per day with automatic temperature/vacuum control in real time steps
- Runs on a single setpoint controller
- Dual displays provide constant day/time and temperature/pressure updates every 5 seconds
- Purge and Vacuum valves conveniently located under the control panel
- Accepts up to eight shelves

**Warranty[¥]:** 1 year (parts and labor)

**PRODUCT NOT AVAILABLE IN EUROPE**

| Cat. No. | Capacity | Interior D x W x H | Exterior L x W x H | Temp. Range | Temp. Uniformity | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|---|
| **3625A** | 18.4L (0.65 cu. ft.) | 29 × 25.4 × 25.4cm (11.5 × 10 × 10in.) | 44 × 46 × 58cm (17.5 × 18 × 23in.) | Ambient +10° to 280°C | ±1.0°C at 100°C 25ft.Hg | 48kg (90 lb.) | 120V 50/60Hz, 1000w, 8.5A |
| **3625A-1** | 18.4L (0.65 cu. ft.) | 29 × 25.4 × 25.4cm (11.5 × 10 × 10in.) | 44 × 46 × 58cm (17.5 × 18 × 23in.) | Ambient +10° to 280°C | ±1.0°C at 100°C, 25ft.Hg | 48kg (90 lb.) | 240V 50/60Hz, 1000w; 4.2A |
| **3628A** | 42.4L (1.5 cu. ft.) | 46 × 30 × 30cm (18 × 12 × 12in.) | 66 × 58 × 56cm (26 × 23 × 22in.) | 50° to 280°C | ±5°C at 100°C 25ft.Hg | 92.9kg (205 lb.) | 120V 50/60Hz, 1800w, 14.7A |
| **3628A-1** | 42.4L (1.5 cu. ft.) | 46 × 30 × 30cm (18 × 12 × 12in.) | 66 × 58 × 56cm (26 × 23 × 22in.) | 50° to 280°C | ±5°C at 100°C 25ft.Hg | 92.9kg (205 lb.) | 240V 50/60Hz, 1800w, 7.4A |

# rockers, rotators & mixers

pages 153-166

# Thermo Scientific LP Vortex Mixer

**Choose to continuously mix or pulse samples with our low profile vortex mixer**

Includes rubber platform for single tube pulsing, shown at left

- Low profile design with small footprint
- Continuous or pulsing functions
- Speed Control: 0 to 3000rpm
- Built-in safety features regarding current overload
- Wide variety of optional accessories to accommodate different vessel types
- **Includes: rubber platform for tube vortexing**

## Common Applications

- Any application that requires vortex mixing in a tube, plate, or glass vessel

Optional tube holder shown

| Cat. No. | 88880017 | 88880018 |
|---|---|---|
| **Plug Configurations** | | |
| **Speed Range** | 0-3000rpm | |
| **Operating Mode** | Continuous / Touch | |
| **Max Load** | 0.5 kg / 1.1lbs | |
| **Dimensions (W x D x H) without attachments** | 154 x 210 x 83mm<br>6.1 x 8.3 x 3.3in | |
| **Weight** | 3.1kg / 6.8lbs | |
| **Power** | 100 – 240V, 50/60Hz | |
| **Certifications** | CE | |
| **Warranty** | 2 Years | |

| Accessories for the LP Vortex mixer | Cat. No. |
|---|---|
| Microplate Tray | **88880117** |
| Rubber Platform | **88880118** |
| Flat bottom vessel accessory (for pulse mode only) | **88880119** |
| 10mm Dia. Tube Holder with Insert Retainer | **88880120** |
| 12mm Dia. Tube Holder with Insert Retainer | **88880121** |
| 15mm Dia. Tube Holder with Insert Retainer | **88880122** |
| 20mm Dia. Tube Holder with Insert Retainer | **88880123** |
| 25mm Dia. Tube Holder with Insert Retainer | **88880124** |

Tube Holders

# Thermo Scientific MaxiMix I Vortex Mixer

**Ensures fast, uniform mixing in continuous operation or touch-on mode.**

- Ideal for enzymatic and RIA assays, general test tube mixing, biochemical assays, viral dilutions preparations, precipitated assays, cell suspension vortexing and tissue sample mixing
- Excellent for single and multiple tubes and small flasks with closed tops
- Simultaneously mixes up to four test tubes
- Push-button top-mounted ON/OFF switch
- Vary vortex mixing by simply changing pressure of tube against foam rubber top
- Durable, white plastic case resists acids and alkalis
- Cast-aluminum base with suction-cup rubber feet provides maximum stability
- Compact design with 4in. diameter (10.2cm) foam rubber top

**Includes:** One extra foam top (PT167X2), 3-wire power cord and plug
**Warranty[¥]:** 90 days on labor and one year on parts
**Certifications:** CSA listed (120V models only) and CE listed (230V models)

| Cat. No. | Speed Range | Tube Capacity | Platform, Foam Pad | Exterior L x W x H | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|
| M16715Q | 3000rpm | 1 to 4 | 10.1cm (4in.) | 13.9 x 13.9 x 10.6cm (5.5 x 5.5 4.2in.) | 1.5 kg (3.5 lb.) | 120V 50/60Hz, 0.5A |
| M16710-33Q | 3000rpm | 1 to 4 | 10.1cm (4in.) | 13.9 x 13.9 x 10.6cm (5.5 x 5.5 4.2in.) | 1.5 kg (3.5 lb.) | 230V 50/60Hz, 0.3A |

# Thermo Scientific MaxiMix III Vortex Mixer

**Performs functions of four separate apparatus, saving valuable bench space in labs and clinics.**

- Four interchangeable mixing and shaking accessories for large volume mixing, variable speed control, and continuous, trouble-free shaking
- Accessories available for different applications (foam pad, universal holder, utility tray or flask holder). Precise matching of an electronic speed control to a high torque DC type motor provides versatile speed selection ranging from 100 to 2200rpm
- Soft foam rubber top 6.3 x 5.5in. (15.8 x 13.9cm) allows vortexing multiple test tubes and small flasks
- Lighted main power switch indicates mixer is operating
- Heavy, cast-aluminum base with counterbalance system for strength and stability
- Spring-dampened feet eliminate “creeping and walking” during large volume mixing
- Continuous trouble-free shaking of loads up to 5 lb. (2.2kg)

**Includes:** One soft foam rubber pad (PT500X6A)
**Warranty**[¥]: 90 days on labor and one year on parts
**Certifications:** CSA listed (120V models only) and CE listed (230V models)

| Cat. No. | Speed Range | Platform L x W | Load Capacity | Exterior L x W x H | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|
| **M65825** | 100 to 2200rpm | 15.8 x 13.9cm (6.3 x 5.5in.) | 2.2 kg (5 lb.) | 21.5 x 16.5 x 13cm (8.5 x 6.5 x 5.1in.) | 7.7 kg (17 lb.) | 120V 50/60Hz, 0.4A |
| **M65820-33** | 100 to 2200rpm | 15.8 x 13.9cm (6.3 x 5.5in.) | 2.2 kg (5 lb.) | 21.5 x 16.5 x 13cm (8.5 x 6.5 x 5.1in.) | 7.7 kg (17 lb.) | 230V 50/60Hz, 0.2A |

## Accessories and Replacement Parts for MaxiMix III Vortex Mixer

| Cat. No. | Description |
|---|---|
| **PT500X6A** | Replacement foam rubber pad |
| **PT500X9A** | Universal holder for a variety of flasks, beakers, bottles, test tub racks. Two soft rubber bars hold vessels in place. |
| **PT500X7A** | Utility tray |
| **PT500X8A** | Flask holder for 4 x 250mL flasks |

# Thermo Scientific Digital Bottle/Tube Roller

**Maximize valuable bench space with our compact, adjustable speed unit, capable of rolling multiple tube and bottle sizes**

- Adjustable speed accommodates a variety of applications
- Anti-corrosive and wear resistant construction enables use in humid and $CO_2$ environments
- Adjustable rollers accommodate a variety of tube/bottle sizes
- Stacking kit allows you to stack units two high, saving valuable bench space
- Optional remote control facilitates operating unit while in incubator and adds timer function
- Includes O Rings for smooth rolling of 15 or 50ml tubes

## Common Applications

- Cell Culture
- Hybridization Assays
- Liquid Mixing
- Bioproduction

Nalgene Unwire Test Tube Full Rack

| Cat. No. | 88881003 | 88881004 |
|---|---|---|
| **Plug configurations** | | |
| **Roller Speed** | 1-80rpm | |
| **Maximum Bottle Diameter** | ≤ Φ 120mm 4.72in | |
| **Number of Rollers** | 6 rollers standard, up to 11 can be added | |
| **Roller Dimensions (D x L)** | Φ 28 x 259mm / 1.1 x 10.2in | |
| **Display** | LED Roller Speed Display | |
| **Timing Range (optional control box needed)** | 0-999min or continuous | |
| **Stackable** | Two high with optional kit | |
| **Maximum Working Capacity** | 6.5kg / 14.3lbs | |
| **Maximum Power** | 10W | |
| **Operating Temperature** | 4°C – 60°C | |
| **Relative Humidity Tolerance** | ≤ 95% | |
| **Dimensions W x L x H** | 378 x 360 x 72mm / 14.9 x 14.2 x 2.8in | |
| **Weight** | 6.5kg / 14.3lbs | |
| **Power** | AC100V-240V / 50Hz 60Hz | |
| **Certification** | CE cCSAus | |
| **Warranty** | 2 year | |

| Accessories for Bottle/Tube Roller | Cat. No. |
|---|---|
| Additional Rollers (pack of two) | 88881010 |
| O ring for 50ml tube (pack of 20) 23.5 x 3.55mm .93 x .14in | 88881011 |
| O ring for 15ml tube (pack of 20) 13.2 x 2.65mm .52 x .1in | 88881012 |
| Bar for stacking (pack of four) | 88881013 |
| Remote Control | 88881014 |

Note: Two bottle rollers stacked reach 32cm in height.

O rings

Bars for Stacking

Remote control

# Thermo Scientific Digital Tube Revolver

**Increase your lab's efficiency with our variable speed tube revolver. Its small footprint, flexible design, and simple display help increase flexiblity and effectiveness.**

- Interchangeable rotisseries accommodate different tube sizes for maximum flexiblity. Each paddle can be adjusted from 0-90 degrees.
- Achieve more effective mixing with "agitation" mode. Agitation will occur at every 40 degrees in the rotation cycle.
- Small footprint
- Plug-and-play simplicity
- Maintenance-free motor, quiet operation

## Common Applications

- Molecular Biology
- Clinical
- Biochemistry

| Cat. No. | 88881001 | 88881002 |
|---|---|---|
| **Plug Configurations** | | |
| **Rotation Speed** | 10-40 rpm | |
| **Capacity** | **Combination of 4 paddles of:**<br>7 x 10/15ml tubes<br>7 x 5/7ml tubes<br>15 x 1.5ml/2ml tubes<br>21 x 0.5/0.8ml tubes<br>One paddle of 6 x 50ml tubes | |
| **Standard Rotisserie Paddles included** | **88881005** – 10/15ml paddle, quantity 2<br>**88881006** – 5ml/7ml paddle, quantity 2<br>**88881007** – 1.5ml/2ml paddle, quantity 2<br>**88881008** – 0.5ml/0.8ml paddle, quanity 2<br>**88881009** – 50ml paddle, quantity 1<br><br>Paddles can also be purchased as accessories in quantities listed above | |
| **Operating Temperature** | 4°C – 60°C | |
| **Dimensions W x L x H** | 225 x 154 x 195mm / 8.9 x 6 x 7.7in | |
| **Max Power** | 6W | |
| **Weight** | 1.2kg / 2.65lbs | |
| **Power** | AC100V-240V / 50Hz – 60Hz | |
| **Certification** | cCSAus, CE | |
| **Warranty** | 2 years | |

| Ordering Information and Specifications | Cat. No. |
|---|---|
| Paddles 10ml/15ml, 2 pack | **88881005** |
| Paddles 5ml/7ml, 2 pack | **88881006** |
| Paddles 1.5ml/2ml, 2 pack | **88881007** |
| Paddles 0.5ml/0.8ml, 2 pack | **88881008** |
| Paddle 50ml | **88881009** |

Paddles

# Thermo Scientific Compact Digital Microplate Shaker

**Harness the efficiency of our microplate shaker, capable of shaking up to four microplates in one run**

## Features

- PID control ensures consistent shaking results
- Digital display for easy viewing
- Compact design is ideal for placing in incubators (non-$CO_2$), chambers, and refrigerators (up to 60°C)
- Timer Range: Continuous or 1min to 99hrs 59min
- Automatic Overload Shutdown
  > 4.4kg / 9.7lbs
- Small 3mm orbital motion, ideal mixing small volumes
- Tube rack accessories make this unit extremely versatile
- Includes 4 place microplate top standard

## Common Applications

- Any application requiring precise and accurate shaking of microplates: immunoassay, screening applications, magnetic bead applications

| Cat. No. | 88880023 | 88880024 |
|---|---|---|
| Plug Configurations | | |
| **Max. Load** | 4kg / 8.8lbs | |
| **Control** | Feedback Control PID | |
| **Display** | Digital | |
| **Speed Range** | 150-1,200rpm | |
| **Accuracy at 500 rpm** | +/- 15rpm | |
| **Timer** | 1min to 99hrs 59min/continuous | |
| **Orbit Size** | 3 mm / 0.12in diameter | |
| **Maximum Load** | 4kg / 8.8lbs | |
| **Dimensions** | **Tray:** (W x D)<br>267 x 185mm / 10.5 x 7.3in<br><br>**Overall:** (W x D x H)<br>249 x 329 x 127mm / 9.8 x 13 x 5in | |
| **Weight** | 7.7kg / 17lbs | |
| **Power** | 100 – 240V, 50/60Hz | |
| **Certifications** | CE | |
| **Warranty** | 2 years | |

| Accessories for Compact Digital Microplate Shaker | Number of Tubes | Cat. No. |
|---|---|---|
| 1.5ml micro tube rack | 80 (5 x 16) | **88880114** |
| 15ml conical rack | 30 (3 x 10) | **88880115** |
| 50ml conical rack | 12 (2 x 6) | **88880116** |

Conical racks, sold separately

# Thermo Scientific Compact Digital Rocker

**Ensure gentle sample agitation with our compact, adjustable angle, digital display rocker**

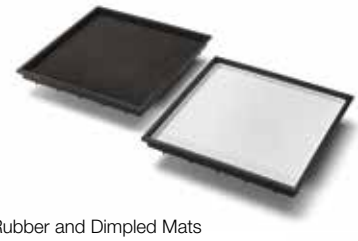
- PID control ensures consistent and smooth rocking motion
- Digital Speed Control: 5-100rpm
- Easy to adjust tilt angle: 7° to 13°
- Compact design is ideal for placing in incubators (non-$CO_2$), chambers, and refrigerators (up to 60°C)
- Timer Range: Continuous or 1min to 99hrs 59min
- Securing bands keep tubes in place to reduce risk of rolling around
- Optional non-slip rubber sticky mat tray is great for use with plates, dishes and bags
- Efficient size trays can be used with up to 6 well-plates
- Includes dimpled mat (tray, silicone pad, two securing bands)

## Common Applications

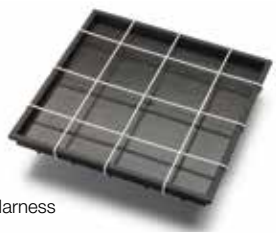
- Designed for time-dependent and low-dependent sensitive applications such as ELISA, protein synthesis, staining/de-staining gels, and antibody staining

| Cat. No. | 88880019 | 88880020 |
|---|---|---|
| Plug Configurations | | |
| **Max. Load** | 5kg / 11lbs | |
| **Control** | Feedback Control PID | |
| **Display** | Digital | |
| **Speed Range** | 5 -100rpm | |
| **Accuracy at 100 rpm** | +/- 5 rpm | |
| **Timer** | 1min to 99hrs 59min / Continuous | |
| **Tilt Angle** | 7° to 13° | |
| **Dimensions** | **Tray:** (W x D)<br>276 x 276mm / 10.87 x 10.87in<br><br>**Overall:** (W x D x H)<br>276 x 320 x 150mm / 10.87 x 12.6 x 5.91in | |
| **Weight** | 3.7kg / 8.16lbs | |
| **Power** | 100 – 240V, 50/60Hz | |
| **Certifications** | CE | |
| **Warranty** | 2 years | |

| Accessories for the Compact Digital Rocker | Description | Cat. No. |
|---|---|---|
| Rubber Mat | Tray, Sticky Pad | **88880101** |
| Dimpled Mat | Tray, Silicone Pad | **88880102** |
| Universal Harness | Tray, Sticky Pad, Rubber Band (6ea) | **88880103** |
| Securing Bands | 6 Securing Cands | **88880105** |



Rubber and Dimpled Mats



Universal Harness

# Thermo Scientific Compact Digital Waving Rotator

**Achieve maximum sample mixing efficiency with the adjustable orbital waving rotator**

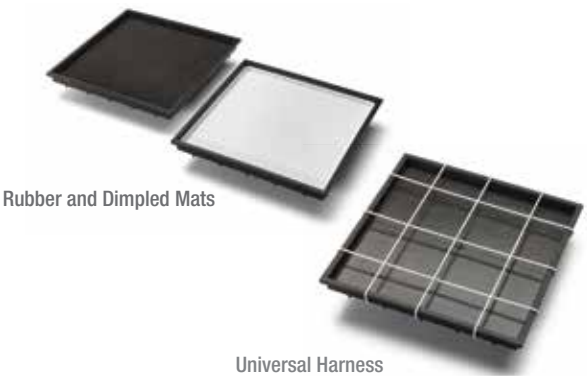
- PID control ensures consistent and smooth waving motion
- Digital Speed Control: 8 to100rpm
- Easy to adjust tilt angle: 0° to 13°
- Compact design ideal for placing in incubators (non-$CO_2$), chambers, and refrigerators (up to 60°C)
- Timer Range: Continuous or 1min to 99hrs 59min
- Securing bands keep tubes in place to reduce risk of rolling around
- When angle is set at 0°, can be used as small orbital shaker.
- Optional non-slip rubber sticky mat tray is great for use with plates, dishes and bags
- Efficient size trays can be used with up to 6 well-plates
- Includes dimpled mat (tray, silicone pad, two securing bands)

## Common Applications

- Designed for time-dependent and low-dependent sensitive applications such as ELISA, protein synthesis, staining/de-staining gels, and antibody staining

| Cat. No. | 88880021 | 88880022 |
|---|---|---|
| **Plug Configurations** | | |
| **Max. Load** | 5kg / 11lbs | |
| **Control** | Feedback Control PID | |
| **Display** | Digital | |
| **Speed Range** | 8 -100rpm | |
| **Accuracy at 100 rpm** | +/- 5 rpm | |
| **Timer** | 1min to 99hrs 59min / continuous | |
| **Tilt Angle** | 0° to 13° | |
| **Dimensions** | **Tray:** (W x D)<br>276 x 276mm / 10.87 x 10.87in<br><br>**Overall:** (W x D x H)<br>276 x 320 x 150mm / 10.87 x 12.6 x 5.91in | |
| **Weight** | 3.7kg / 8.16lbs | |
| **Power** | 100 – 240V, 50/60Hz | |
| **Certifications** | CE | |
| **Warranty** | 2 years | |

| Accessories for the Compact Digital Waving Rotator | Description | Cat. No. |
|---|---|---|
| Rubber Mat | Tray, Sticky Pad | **88880101** |
| Dimpled Mat | Tray, Silicone Pad | **88880102** |
| Universal Harness | Tray, Sticky Pad, Rubber Band (6ea) | **88880103** |
| Securing Bands | 6 Securing Bands | **88880105** |



Rubber and Dimpled Mats

Universal Harness

# Thermo Scientific Compact Digital Mini Rotator

**Realize maximum flexibility and high quality with the easy-to-use Thermo Scientific™ Compact Digital Mini Rotator/Shaker, which provides smooth, quiet orbital mixing for beakers, flasks, tubes, dishes and more.**

Universal platform and clamps

## Features

- PID control ensures consistent and smooth orbital motion
- Digital Speed Control: 50 to 300rpm
- Timer Range: Continuous or 1min to 99hrs 59min
- Compact design ideal for placing in incubators (non-$CO_2$), chambers, and refrigerators (up to 60°C)
- Choose from 5 different platform options (purchased separately) to customize unit to meet exact application needs.
- Display both current and set RPM simultaneously.

## Common Applications

- Bacteria and fungi culturing
- Hybridization assays
- Gel staining/de-staining

**Required:** must purchase a platform with unit, and clamps if using universal platform

| Cat. No. | 88880025* | 88880026* |
|---|---|---|
| **Plug Configurations** | | |
| **Max. Load** | 4kg / 8.8lbs | |
| **Control** | Feedback Control PID | |
| **Display** | Digital | |
| **Speed Range** | 50-300rpm | |
| **Accuracy at 100rpm** | +/- 5rpm | |
| **Orbit Size** | 13 mm / 0.51in diameter | |
| **Maximum Load** | 4 kg/8.81lbs | |
| **Dimensions** | **Platform:** (W x D) 250 x 250mm / 9.8 x 9.8in **Overall:** (W x D x H) 276 x 334 x 130mm / 10.9 x 13 x 5.1in | |
| **Weight** | 8kg / 17.6lbs | |
| **Power** | 100 – 240V, 50/60Hz | |
| **Certifications** | CE | |
| **Warranty** | 2 Years | |

***NOTE: Unit must be ordered with a platform**

## Platforms (at least one platform must be purchased)

| Cat. No. | Description |
|---|---|
| **88880104** | Universal Attachment with Adjustable Bars |
| **88880106** | Universal Platform for Flask Clamps |
| **88880101** | Tray with Rubber Mat (250x250mm) |
| **88880102** | Tray with Silicon Dimpled Mat |
| **88880103** | Tray with Universal Harness with 6 bands |

## Flask Clamps & Accessories

| Cat. No. | Description |
|---|---|
| **88880107** | 50 mL metal clamp, 1 ea (max platform capacity- 16) |
| **88880108** | 100 mL metal clamp, 1 ea (max platform capacity- 9) |
| **88880109** | 250 mL metal clamp, 1 ea (max platform capacity- 9) |
| **88880110** | 300 mL metal clamp, 1 ea (max platform capacity- 9) |
| **88880111** | 500 mL metal clamp, 1 ea (max platform capacity- 5) |
| **88880112** | 1 L metal clamp, 1 ea (max platform capacity- 4) |
| **88880113** | 2 L metal clamp, 1 ea (max capacity- 1) |
| **88880105** | Rubber Bands for Universal Harness (6 each) |

Universal Platform

Rubber and Dimpled Mats

Universal Attachment

# Thermo Scientific Vari-Mix Platform Rocker

**Provides steep angle rocking for applications such as hybridization, blotting and staining or destaining gels**

- Variable speed control provides a gentle to vigorous wave motion
- Built-in timer makes it easy to perform time-dependent studies
- Large white nonskid rubber mixing platform easily adjusts angle of motion
- Set timer for continuous or timed operation
- Rocker can be used in many different laboratory applications
- Platform removes easily for autoclaving and allows easy viewing of contents
- All finishes are chemical-resistant and easy to clean
- Optional double-tier platform doubles mixing surface

**Includes:** 3-wire cord and plug; 240V model also includes European cord set
**Warranty¥:** 90 days on labor and one year on parts
**Certifications:** 120V model is CSA approved; 240V model is CE marked

| Specifications | |
|---|---|
| **Speed Range** | 5 to 30rpm variable |
| **Rocking Angle** | 1° to 48° |
| **Timer** | Up to 2 hr. automatic at 60Hz; Up to 3 hr. automatic at 50Hz; Continuous |
| **Platform L x W** | 32 x 26.9cm (12.6 x 10.6in.) |
| **Load Bearing Capacity** | 6.8kg (15 lb.) |
| **Exterior L x W x H** | 30.4 x 39.6 x 18.5cm (12 x 15.6 x 7.3in.) |
| **Operating Temperature Range** | 4° to 40°C (39.2° to 104°F) |
| **Operating Humidity Range** | 20 to 80% noncondensing |
| **Shipping Weight** | 2.7kg (6 lb.) |

| Cat. No. | Electrical |
|---|---|
| **M79735Q** | 120V 50/60Hz, 0.10A, 12W |
| **M79730-33** | 240V 50/60Hz, 0.05A, 12W |

## Thermo Scientific Vari-Mix Double Tier Platform

| Cat. No. | Description | Dimensions |
|---|---|---|
| **AY797X1** | Double-Tier Platform | 32 x 26.9cm (12.6 x 10.6in.) |

# Thermo Scientific Thermal Rocker Incubators

**Excellent alternative to higher-priced hybridization incubators for agitation of blotting membranes under controlled temperatures**

- Provides smooth, gentle adjustable rocking from 0 to 100 cycles/min to meet a variety of mixing needs
- Accommodates different-size containers and heat-sealed plastic bags; operates with and without heat
- Front-mounted switch allows operation with or without heat
- LED temperature display, analog speed display with rotary dial
- Electronic proportional temperature controller maintains temperatures
- Automatic resetting thermal cutoff shuts down power to the heaters in the event of an over-temperature condition
- Platform features a nonskid rubber pad to keep samples in place
- Angle of motor is easily adjusted.

**Includes:** 3-wire line cord and plug
**Warranty¥:** 90 days on labor and one year on parts
**Certifications:** 120V model is cCSAus approved; 240V model is CE marked

| Specifications | |
|---|---|
| **Speed Range** | 0 to 100 cycles/min. |
| **Rocking Angle** | 10° to 15° |
| **Temperature Control** | Electronic Proportional |
| **Temperature Range** | Ambient ±5° to 70°C |
| **Temperature Accuracy** | ±0.5°C |
| **Platform L x W** | 36 x 36cm (14.19 x 14.19in.) |
| **Load Capacity** | 4.5kg (10 lb.) |
| **Exterior L x W x H with cover** | 41 x 42 x 34.7cm (16 x 16.5 x 13.5in.) |
| **Shipping Weight** | 11kg (25 lb.) |

| Cat. No. | Electrical |
|---|---|
| **4637Q** | 120V 50/60Hz (3.3A) |
| **4637-1CEQ** | 240V 50/60Hz (1.7A) |

# Thermo Scientific Vari-Mix and Speci-Mix Test Tube Rockers

**Compact, precision-controlled platform mixers provide smooth rocking action for uniform specimen suspension**

- All models hold 10 to 30mm diameter tubes; Choose from fixed or adjustable speeds
- Reversible pad provides one side (with lip to prevent sliding) for capped tubes 110mm (4.33in.) long; other side for longer tubes
- Autoclavable white silicone rubber pad enhances viewing
- Can be used in a noncondensing incubator or coldroom with ambient operating conditions of 4° to 40°C (39.2° to 104°F) and 20 to 80% RH noncondensing

**Includes:** A white silicon rubber friction grip pad for holding tubes in place
**Warranty¥:** 90 days labor, one year on parts
**Certifications:** CE listed (240V models only)

| Cat. No. | Description | Tube Capacity | Speed Range | Rocking Angle | Exterior L x W x H | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|---|
| **M71015Q** | Speci-Mix™ Test Tube Rocker | 8 (10-20mm); 3 (22-30mm) | 18rpm, fixed | Preset 48° tilt of rocker platform | 13.9 x 19.1 x 10.7cm (5.5 x 7.5 x 4.3in.) | 1.4kg (3 lb.) | 120V 50/60Hz (0.03A) |
| **M71010-33Q** | Speci-Mix Test Tube Rocker | 8 (10-20mm); 3 (22-30mm) | 18rpm, fixed | Preset 48° tilt of rocker platform | 13.9 x 19.1 x 10.7cm (5.5 x 7.5 x 4.3in.) | 1.4kg (3 lb.) | 240V 50Hz (0.01A) |
| **M48725Q** | Vari-Mix™ Test Tube Rocker | 16 (10-20mm); 7 (22-30mm) | 2 to 20rpm | Adjustable rocking from 1° to 48° angle | 13.9 x 38.1 x 10.7cm (5.5 x 15 x 4.3in.) | 2.6kg (5.8 lb.) | 120V 50Hz (0.08A) |
| **M48720-33Q** | Vari-Mix Test Tube Rocker | 16 (10-20mm); 7 (22-30mm) | 2 to 20rpm | Adjustable rocking from 1° to 48° angle | 13.9 x 38.1 x 10.7cm (5.5 x 15 x 4.3in.) | 2.6kg (5.8 lb.) | 240V 50Hz (0.02A) |

# Thermo Scientific Multi-Tube Rotators

**Three-dimensional rotation is ideal for DNA extractions and other laboratory applications where a continuous, gentle motion is necessary**

- Circular motion coupled with a rocking pattern keeps liquids and solutions mixed gently without the potential for shearing or other damage
- Fixed shaker speed of 30rpm
- Compact size makes it easy to transport and use in areas with limited space
- Angle of rotation – varies 20° from the horizontal plane
- Portable, lightweight metal body is durable and easy to clean
- Four rubber feet provide added stability
- White silicone, nonskid, dimpled platform surface and 1.8cm (0.71in.) sides hold tubes firmly in place – no need for racks or clamps
- Removable platform surface can be used to transport tubes

**Includes:** White silicone, nonskid dimpled platform surface (L x W: 8.5in. x 5in.)
**Warranty¥:** 90 days labor, one year parts
**Certifications:** 120V model is cCSAus approved; 240V model is CE marked

| Cat. No. | Tube Capacity | Operating Temp. Range | Operating Humidity Range | Mixing Surface | Platform Load Capacity | Exterior L x W x H | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|---|---|
| **4632Q** | 14 x 7mL, 10mL or 15mL | 15° to 40°C (59° to 104°F) | 20 to 80% noncondensing | 13 x 22cm (5.3 x 8.8in.) | 1.4 kg (31 lb.) | 21 x 22 x 18cm (8.5 x 8.8 x 8.1in.) | 3.6kg (8 lb.) | 120V 60Hz, 0.3A |
| **4632-1CEQ** | 14 x 7mL, 10mL or 15mL | 15° to 40°C (59° to 104°F) | 20 to 80% noncondensing | 13 x 22cm (5.3 x 8.8in.) | 1.4 kg (31 lb.) | 21 x 22 x 18cm (8.5 x 8.8 x 8.1in.) | 3.6kg (8 lb.) | 240V 50Hz, 0.2A |

# Thermo Scientific Cel-Gro Tissue Culture Rotator

**No-maintenance brushless motor provides a gentle rotating motion that mixes test tube contents for optimum culture results**

- Single-drum as an adjustable rotating angle and speed, while the dual-drum has a fixed rotating angle and speed
- Rotator operates in standard incubators for cultivation under controlled temperature conditions
- Powder-coated stainless-steel outer body construction is durable and corrosion-resistant
- Drums can be lifted off the rotor without interrupting rotator operation
- Adjusting screw on the base varies elevation angle
- Pilot light indicates when unit is on

## Single-Drum Rotator

- Adjustable 5° rotating angle above horizontal to 90°
- Adjustable speed control from 12 to 70rpm

**Ordering Information:** Drums sold separately (1647Q, 1648Q, 1651Q)
**Required Accessories:** Single-drum model requires one drum, sold separately.
**Warranty[¥]:** 90 days labor, one year parts
**Certifications:** 120V models are cCSAus approved

| Cat. No. | Description | Speed Range | Operating Temp. Range | Operating Humidity Range | Rotating Angle | Exterior L x W x H | Shipping Weight | Electrical |
|---|---|---|---|---|---|---|---|---|
| **1640Q** | Single-Drum Model | 12 to 70rpm | Up to 40°C (104°F) | 20 to 80 % noncondensing | Adjustable 5° above horizontal to 90° | 38.1 x 35.6 x 57.2cm (15 x 14 x 22.5in.) | 9kg (19 lb.) | 120V 60Hz, 0.5A |

## Thermo Scientific Cel-Gro Tissue Culture Rotator Drums

| Cat. No. | Description |
|---|---|
| **1647Q** | 142 x 17mm tube diameter |
| **1648Q** | 76 x 26mm tube diameter |
| **1651Q** | 60 x 30mm tube diameter |

# water purification essentials

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# Thermo Scientific Barnstead Hose Nipple Cartridges

**Economical and simple way to purify water in small volumes up to 75L/hr**

- Barnstead™ Hose Nipple Cartridges may be installed in a series using simple tubing for greater capacity
- Color change indicator identifies when resin is exhausted in specific cartridges
- Designed for non-pressurized applications
- Cartridges include 0.38in. hose barb connection on each end except D8822, D8950 and D8951, which include tapered straight nipple for 0.38in. ID tubing
- Constructed of 100% virgin polypropylene cartridge with excellent quality resin

**Applications:** Softening, deionization, organic and chlorine removal
**Alert:** Alcohol-containing samples cannot be used in cartridges containing the color indicator
**System Warranty[¥]:** One year parts, 90 days labor
**Cartridge Warranty[¥]:** 1 year parts

| Cat. No. | Description | Flowrate | Length |
|---|---|---|---|
| **D8900** | Hose Nipple Cartridge Holder | Up to 75L/hr | 1/2 Size: 25.9cm (10.2in.)<br>2/3 Size: 33.8cm (13.3in.)<br>Full Size: 47.5cm (18.7in.) |

## Required Accessories

| Cat. No. | Description | Resin Type(s) | Capacity | Color Indicator[†] |
|---|---|---|---|---|
| **D50220** | 1/2 Size Mixed Bed | Ultrapure Ion Exchange | 430 grains | No |
| **D8822** | 1/2 Size Mixed Bed with Oxygen Removal | Ultrapure Mixed Bed with Strong Anion Exchange | 280 grains/4.4g | No |
| **D8950** | 2/3 Size High Capacity | Two bed Ion Exchange with Strong Cation Exchange | 1100 grains | Yes |
| **D8951** | 2/3 Size Mixed Bed and Organic Removal | Mixed Bed Ion Exchange with Activated Carbon | 470 grains/ 2000 gal. | Yes |
| **D8905** | Full Size Cation Removal | Cation Exchange | 3000 grains | Yes |
| **D8901** | Full Size High Capacity | Two Bed Ion Exchange | 1650 grains | Yes |
| **D8908** | Full Size Macroreticular, Cation Removal | Macroreticular Cation Exchange | n/a | No |
| **D8904** | Full Size Organic Removal | Activated Carbon | 5000 gal. | No |
| **D8903** | Full Size Oxygen Removal | Strong Anion Exchange | 30g | No |
| **D8921** | Full Size Pretreatmentand Scale Eliminator | Mixed Bed and Strong Cation Exchange, Activated Charcoal | 1250 grains/1000 gal. | Yes |
| **D8911** | Full Size Ultrapure | Ultrapure Ion Exchange | 915 grains | No |
| **D8902** | Full Size Ultrapure | Ultrapure Mixed Bed Ion Exchange | 915 grains | Yes |
| **D8922** | Full Size Ultrapure with Organic Removal | Mixed Bed Ion Exchange with Activated Carbon | 730 grains/2000 gal. | Yes |

*†Alcohol-containing samples cannot be used in cartridges containing the color indicator.*

# Thermo Scientific Bantam Deionizer

**Economical way to deionize water and easily view resistivity directly from unit**

- Customizable to specific applications by selecting the appropriate cartridge
- Ideal for applications requiring up to 38L/hr of purified water
- Point-of-use polishing of pretreated water or single-stage treatment of tap water
- Integrated direct-reading purity monitor
- Inlet pressure range: 5 to 70psi (0.35 to 4.9kg/cm$^2$)
- Mounts on benchtop or wall
- Select the cartridge best suited to meet your application needs

**Applications:** Pretreatment and deionization
**Includes:** 3ft. (91cm) inlet tubing
**Required Accessories:** Cartridges sold separately
**System Warranty**[¥]: 1 year parts, 90 days labor
**Cartridge Warranty**[¥]: 1 year parts
**Notes:** Designed for nonpressurized applications. Output water must be diverted to an atmospherically vented receptacle; no back pressure can be accepted.

| Cat. No. | Model | L x W x H | Resistivity | Flowrate | Max. Feed Water Pressure | Electrical |
|---|---|---|---|---|---|---|
| **D0800** | Bantam Deionizer | 22 × 15 × 72cm (8.75 × 6 × 28.5in.) | Reads 25,000 to 18,000,000ohms-cm | Up to 38L/hr | 0.35 to 4.9kg/cm2 (5 to 70psi) | 120V 50/60Hz |
| **D0805** | Bantam Deionizer | 22 × 15 × 72cm (8.75 × 6 × 28.5in.) | Reads 25,000 to 18,000,000ohms-cm | Up to 38L/hr | 0.35 to 4.9kg/cm2 (5 to 70psi) | 240V 50/60Hz |

## Required Accessories

| Cat. No. | Type | Characteristics | Resin | Capacity | Cartridge Size |
|---|---|---|---|---|---|
| **D0760** | Anion Removal | Effective removal of weakly ionized impurities, raises the pH of solutions, recovers precious metal complex | Strong Anion Exchange | 1680 grains | Full |
| **D0815** | Cation Removal | Converts ionized salts to the acid form resulting in a product water that is low in pH, ideal for precious metal or isotope recovery | Strong Cation Exchange | 3170 grains | Full |
| **D0803** | High Capacity | Removes ionized impurities, produces a larger quantity of water than that of the Ultrapure (D0809), however at a lower resistivity | Two-bed Ion Exchange | 1760 grains | Full |
| **D0813** | Organic Removal | Removes organics and chlorine | Activated Carbon | 5000 gal. | Full |
| **D0809** | Ultrapure | Removes ionized impurities to produce high resistivity water with a neutral pH | Mixed Bed | 875 grains | Full |
| **D0832** | Ultrapure and Organic Removal | Commonly used as still pretreatment. Removes ionized impurities and has a layer of activated carbon to remove chlorine and organics | Mixed Bed, Activated Carbon | 785 grains/ 1000 gal. | Full |
| **D0835** | Macroreticular and Organic Removal | Effectively removes colloids, bacteria, organics and chlorine. Excellent for pretreatment | Macroreticular, Activated Carbon | 5000 gal. | Full |
| **D0811** | Oxygen Removal | Maintains low oxygen content to prevent corrosion in cooling loops, etc. The feed water should contain less than 10ppm of ionized solids | Porous Strong Anion Exchange | 30 g | Full |
| **D8811** | Ultrapure, Oxygen and Organic Removal | Removes ions, oxygen and organics to produce water with a high resistivity | Mixed Bed Ion Exchange, Porous Strong Anion Exchange and Activated Carbon | 365 gr / 2000 gal./ 12 g | Full |

# Thermo Scientific Barnstead B-Pure Water Purification System

**Economical, lab-grade water system easily customized for all pretreatment or deionization needs**

- Engineered for feed water pressures up to 100 psi
- Choose from single, double or half-size holders depending on your application
- Modular design provides ability to add additional holders as needed
- Produces up to 4L/min., depending on model
- Quarter-turn quick-release canisters make cartridge changes easy
- Accepts Thermo Scientific Barnstead Pura-Lite indicator or digital purity meter to monitor water quality
- Barnstead B-Pure holders are available in full or half-size cartridge configurations supporting space constraints

## B-Pure™ Single Cartridge Holder

- Simple system without draw-off valve; optional Barnstead Pura-Lite purity indicator available

## B-Pure Double Cartridge Holder

- Complete with draw-off valve
- Choose from models with digital purity meter or Barnstead Pura-Lite "Go/No Go" resistivity indicator

## B-Pure Half-size Cartridge Holder

- Easily attaches to full-size B-Pure systems
- Small size allows flexibility in mounting location

**Applications:** Pretreatment, deionization
**Required Accessories:** Cartridges (sold separately).
**System Warranty¥:** 1 year parts, 90 days labor
**Cartridge Warranty¥:** 1 year parts
**Certifications:** CE, CSA
**Notes:** Free Thermo Scientific Barnstead $H_2O$ Select Kits are available to help select the correct B-Pure system. For details, contact your Sales Representative.

| Cat. No. | Model | L x W x H | Inlet Connection NPTF | Maximum Flowrate | Feedwater Temperature | Max. Feed Water Pressure | Electrical | Requires |
|---|---|---|---|---|---|---|---|---|
| **D4505** | Half-size Holder | 17.8 × 17.8 × 38.1cm (7 × 7 × 15in.) | 1.3cm (0.5in.) NPTF | 2L/min. | 4° to 49°C (40° to 120°F) | 100psig | N/A | Half-Size B-Pure Cartridge |
| **D4511** | Single Holder | 17.8 × 17.8 × 61cm (7 × 7 × 24in.) | 1.3cm (0.5in.) NPTF | 4L/min. | 4° to 49°C (40° to 120°F) | 100psig | N/A | Full-Size B-Pure Cartridge |
| **D4521** | Double Holder with Digital Purity Meter | 17.8 × 38.1 × 68.6cm (7 × 15 × 27in.) | 1.3cm (0.5in.) NPTF | 4L/min. | 4° to 49°C (40° to 120°F) | 100psig | 120V | 2 Full-Size B-Pure Cartridges |
| **D4522-33** | Double Holder with Digital Purity Meter | 17.8 × 38.1 × 68.6cm (7 × 15 × 27in.) | 1.3cm (0.5in.) NPTF | 4L/min. | 4° to 49°C (40° to 120°F) | 100psig | 240V | 2 Full-Size B-Pure Cartridges |
| **D4524** | Double Holder with Pura-Lite Indicator (50 kΩ) | 17.8 × 38.1 × 68.6cm (7× 15 × 27in.) | 1.3cm (0.5in.) NPTF | 4L/min. | 4° to 49°C (40° to 120°F) | 100psig | 120V | 2 Full-Size B-Pure Cartridges |
| **D5831** | Double Holder with Pura-Lite Indicator (200 kΩ) | 17.8 × 38.1 × 68.6cm (7 × 15 × 27in.) | 1.3cm (0.5in.) NPTF | 4L/min. | 4° to 49°C (40° to 120°F) | 100psig | 120V | 2 Full Size B-Pure Cartridges |
| **D5833** | Double Holder with Pura-Lite Indicator (1M Ω) | 17.8 × 38.1 × 68.6cm (7 × 15 × 27in.) | 1.3cm (0.5in. NPTF | 4L/min. | 4° to 49°C (40° to 120°F) | 100psig | 120V | 2 Full Size B-Pure Cartridges |

## Required Accessories

| Cat. No. | Cartridge Size | Type | Characteristics | Resin | Capacity |
|---|---|---|---|---|---|
| **D0760** | Full Size | Anion Removal | Effective removal of weakly ionized impurities, raises the pH of solutions,recovers precious metal complex | Strong Anion Exchange | 1680 grains |
| **D0815** | Full Size | Cation Removal | Converts ionized salts to theacid form resulting in a product water that is low in pH, ideal for precious metal or isotope recovery | Strong Cation Exchange | 3170 grains |
| **D0803** | Full Size | High Capacity | Removes ionized impurities, produces a larger quantity of water than that of the Ultrapure (D0809), however at a lower resistivity | Two-bed Ion Exchange | 1760 grains |
| **D0835** | Full Size | Pretreatment | Effectively removes colloids, bacteria, chlorine and organics | Macroreticular, Activated Carbon | 5000 gal. |
| **D0836** | Full Size | Macropure | Effectively removes collloids, bacteria, chlorine and organics, increases filter life | Macroreticular, Activated Carbon | 2000 gal. |
| **D0813** | Full Size | Organic Removal | Removes organics and chlorine | Activated Carbon | 5000 gal. |
| **D0811** | Full Size | Oxygen Removal | Maintains low oxygen content to prevent corrosion in cooling water. The feedwater should contain less than 10ppm of ionized solids | Porous Strong Ion Exchange | 30g |
| **D0809** | Full Size | Ultrapure | Removes ionized impurities to produce high resistivity water with a neutral pH | Mixed Bed | 875 grains |
| **D0832** | Full Size | Ultrapure and Organic Removal | Commonly used as still pretreatment. Removes ionized impurities and has a layer of activated carbon to remove chlorine and organics | Mixed Bed, Activated Carbon | 785 grains / 1000 gal. |
| **D8809** | Full Size | Ultrapure and Oxygen Removal | Removes ionized impurities and oxgen to produce high purity water | Ultrapure, Oxygen Removal | 455 grains/ 30g |
| **D8811** | Full Size | Ultrapure, Oxygen and Organic Removal | Removes ionized impurities, oxygen and organics to produce high purity water | Ultrapure, Oxygen and Organic Removal | 365 grains/ 2000 gal./12g |
| **D50215** | Half Size | Organic Removal | Removes organics and chlorine | Activated Carbon | 5000 gal. |
| **D50214** | Half Size | Oxygen Removal | Maintains low oxygen content toprevent corrosion in colling water. The feed water should contain less than 10ppm of ionized solids | Porous Strong Anion Exchange | 18g |
| **D50213** | Half Size | Ultrapure | Removes ionized impurities to produce high resistivity water with a neutral pH | Mixed Bed | 550 grains |
| **D50217** | Half Size | Ultrapure and Organic removal | Commonly used as still pretreatment. Removes ionized impurities and has a layer of activated carbon to remove chlorine and organics | Mixed Bed, Activated Carbon | 275 grains/ 2000 gal. |
| **D50216** | Half Size | Oxygen and demineralization | Removes oxygen and ions. Commonly used in cooling loops | Oxygen Removal Mixed | 275 grains/ 9 gal. |

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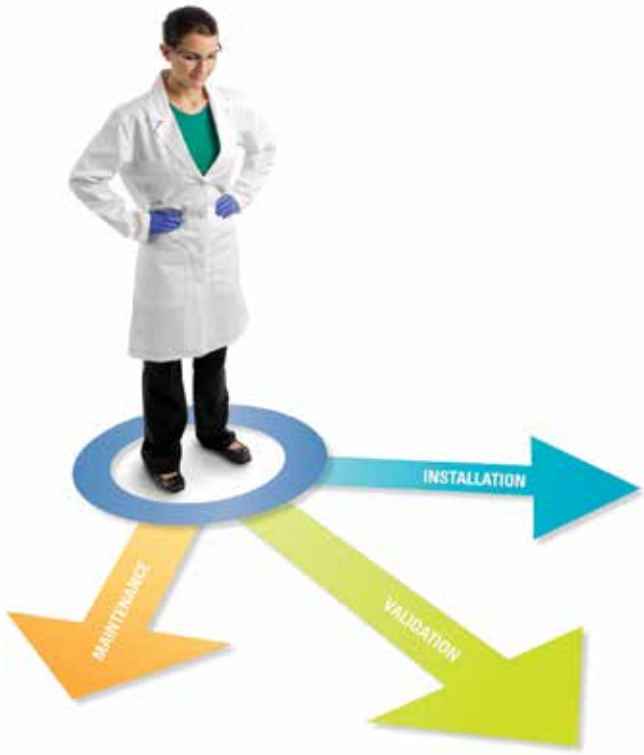


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