

LINDBERG/BUE 



LABORATORY FURNACES

**BOX
FURNACES**

**TUBE
FURNACES**

**CRUCIBLE
FURNACES**

CONTROLLERS

HOT PLATES

Lindberg/Blue M Furnaces

Box Furnaces

The Lindberg/Blue M product line offers a versatile selection of small, medium and large chamber box furnaces suitable for a variety of industrial and laboratory applications. Advanced engineering and specialized construction techniques include variable density insulation, double shell cabinets, long-life heating elements and vertical, horizontal side swing or swing down doors.

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Tube Furnaces

Applications for Lindberg/Blue M Tube Furnaces include high temperature air and atmosphere processes in horizontal or vertical configurations. Single and three-zone designs create precise temperature uniformity. Temperature controllers offer a range of sophistication, including microprocessor-based single and multi-setpoint programmable controls.

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Crucible Furnaces

Lindberg/Blue M Crucible Furnaces create safe, energy efficient, high temperature performance for melting, sintering, annealing and atmosphere processing. Microprocessor-based independent control systems assure accuracy and repeatability.

1200°C Crucible Furnace, Top Loading	30-31
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Hot Plates

Lindberg/Blue M Hot Plates provide large surface heating up to 400°C for general purpose applications.

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Controllers and Accessories	35
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Some questions to consider when selecting a Lindberg/Blue M furnace for your application

1. What temperature is needed for the application?

Lindberg/Blue M furnaces are listed by increasing maximum temperature; 1100°C, 1200°C, 1500°C and 1700°C.

2. What type of furnace is needed: box, tube or crucible?

Each type of furnace may be used for many different types of applications. Here are some examples: A box furnace may be appropriate for processing large samples or for ease of placement and access of samples. A tube furnace may be appropriate for processing small samples in inert atmospheres. A crucible furnace may be appropriate for processing samples in crucibles.

3. If a tube furnace seems appropriate for the application, please consider the following features:

Will a single zone or three zone furnace be more appropriate for the application?

A single zone furnace has one set of heating elements controlled by one controller. A three zone furnace has three groups of heating elements controlled by three controllers, one for each zone. A three zone furnace can be configured to help reduce the heat loss at the tube ends or to provide a gradient temperature along the length of a sample.

Is a split-hinge or solid tube furnace needed?

A hinge tube furnace allows a process tube to be easily changed and removed and may be appropriate if tubes must be changed on a frequent basis. A solid tube furnace may be appropriate if the tube will not be changed or removed from the furnace on a frequent basis.

What heated length is needed?

The heated length of a tube furnace refers to the area covered by the heating elements. The heated length is noted for each tube furnace in the specifications.

What size process tube will be used in the furnace?

Most of our tube furnaces will accommodate a range of process tubes due to our interchangeable tube adapters. Please see the specifications for each furnace model for this information.

4. What type of controller is needed? A single setpoint, a single program with multiple segments, or multiple programs and multiple segments?

A single setpoint provides one ramp up to one temperature setpoint. A single program, multiple segment controller provides one program with multiple ramp (change in temperature) and dwell (temperature hold) settings. A multiple program, multiple segment controller allows multiple programs to be stored in the controller memory, with each program offering multiple segments for temperature control. Please see page 35 for additional information on each type of controller.

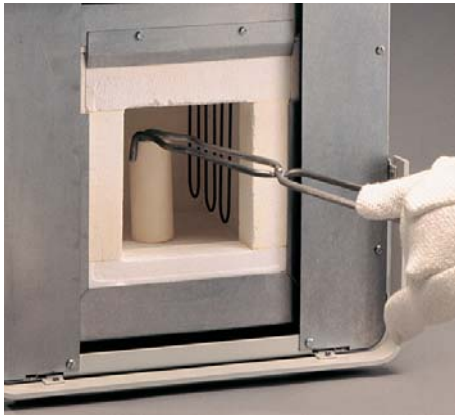
5. Are you concerned about safety? Will the furnace be left running while unattended or overnight?

We offer an Over Temperature Control (OTC) feature that provides a redundant, back-up thermocouple and controller to shut down the furnace if the high temperature limit is reached. This requires a manual reset for optimum safety. This feature is designated by a "B" in the model number suffix or is available as an option on other select furnaces. Please see individual furnace specifications for additional information.

Caution:

Furnaces are not recommended for use with these substances as they may damage insulation:

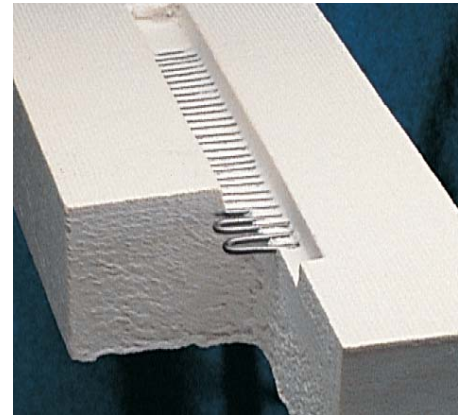
- Strong fluxing agents, such as alkali (sodium, potassium, boria, vanadium, and iron oxide)
- Reducing conditions (oxygen depletion) environments. Example: high concentrations of hydrogen at low dew point above 1040°C would attack insulation
- Fluorine and chlorine (above 650°C for chlorine)
- Phosphates above 500°C
- Hydrofluoric and phosphoric acids
- Strong bases (sodium hydroxide)



Unique right angle bend heating elements with sidewall mounting tolerate rapid cycling over extended periods. Elements are easily replaced without the need to match resistance values, and sidewall mounting protects integrity of chamber roof by eliminating roof penetrations.



The Lindberg/Blue M product line has earned a reputation for safety, dependability and extended useful life with robust sub-component assemblies scientifically engineered for long life in a wide range of demanding research and production applications.



The LGO heating element is formed of sinuous shaped resistance wires partially embedded in Moldatherm insulation to create a single insulated module. Recessed into an open groove to amplify energy release, the LGO element transfers more radiant energy to the process area.

Offering the industry's largest selection of box, tube and crucible models used for rigorous industrial, scientific and laboratory research and production.

Lindberg/Blue M furnaces are useful for materials testing and investigation, analysis, quality control and production of ceramics, electronics, polymers and chemicals. With maximum temperature ranges from 1100°C to 1700°C, applications include ashing, sintering, crystallizing, annealing, fusion, tempering and hardening, atmosphere processing and more.

Performance And Convenience

Design techniques such as 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.

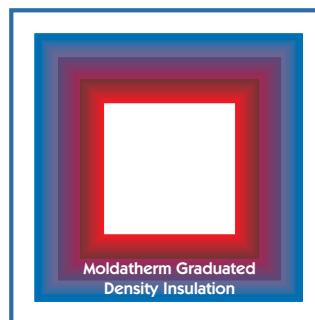
Safer To Operate, Up To 70% Cooler

Exterior temperatures of many Lindberg/Blue M furnaces are proven 70% cooler than competitive brands.* Reduced heat loss improves energy efficiency, and cooler exterior temperatures enhance operator safety.

*Independent Study; test results available upon request

Unique Moldatherm® Insulation

The patented Moldatherm ceramic fiber insulation composite has rapid heat-up and cool-down properties which allow quick turn-around for more productive furnace use. Moldatherm high temperature fiber is vacuum formed around operating chambers to provide efficient radiant energy release, excellent uniformity, reduced operating costs and increased resiliency to thermal shock.



Many Lindberg/Blue M furnaces feature compact, lightweight Moldatherm graduated density insulation which adds to safety and performance with enhanced protection between the high temperature chamber and exterior cabinet surface.

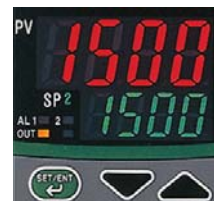
LGO™ Heating Element

The patented LGO heating element, (light gauge overbend) a standard component on many Lindberg/Blue M box and tube furnaces, delivers exceptional energy release, fast heat-up and recovery, reduced thermal process cycle time, and cost savings through quicker throughput and energy efficiency.

LGO heating elements on single and three-zone tube furnaces offer superior radial and linear temperature uniformity with exceptional reliability.

Power Controllers and Programmers

Lindberg/Blue M furnaces are available with built-in (integral) or independent temperature controllers, depending on model selected. Control sophistication ranges from solid-state single setpoint to more versatile microprocessor-based systems with programming and communications options.



Microprocessor Controller

- Integral controllers, self-contained and mounted in the main control panel of the furnace, save space and allow easy access with quick plug-in maintenance.
- Independent controllers can be positioned adjacent to or remote from the furnace, permitting furnaces to be used in fume hoods or containment areas, or installed in banks of multiple furnaces with control cabinets centrally located or grouped for easy monitoring and control. Some furnaces can be positioned or oriented as required (i.e. horizontal or vertical), leaving available all installation and applications alternatives.

The Moldatherm® 1100°C Box Furnace is available with single setpoint or multiple segment programmable power controller. Each version is available in four sizes with a variety of options; see chart for ordering information.



Model BF51866C Moldatherm Box Furnace designed for 100°C to 1100°C operation includes high efficiency insulation for rapid heat-up and energy efficient performance.

Applications

- Ashing, organic and inorganic
- Heat treating
- Annealing
- Tempering
- Hardening
- Melting
- Fusing
- Bonding
- Drying
- Digestion of samples
- Asphalt testing

1100°C Moldatherm® Box Furnaces

Lindberg/Blue M Moldatherm 1100°C box furnaces feature a choice of microprocessor-based single setpoint or programmable control instrumentation. Available in four popular chamber sizes to meet the most demanding laboratory applications, these furnaces include unique insulation and heating element composites to minimize outer surface temperatures while maintaining uniform heat distribution within the chamber.

Features and Benefits

- Two control options
- Controlled heat-up rate eliminates thermal shock to materials
- Quick heat-up and cool-down rates
- Energy efficient Moldatherm insulation with embedded heating elements
- Unique double-wall construction 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 (1" dia., top) and air inlet (.375" dia., rear) for inert atmosphere exchange. Will experience some leakage at door
- Removable and replaceable

Moldatherm hearth plate supports load and prevents damage due to spillage

- Main power on/off switch on control panel
- Safety door switch to interrupt power to heating element when door is opened; protects heating element and minimizes exposure to end-user
- Available in 120V and 208/240V configurations

Digital, Single Setpoint Controller

- Microprocessor-based control with selectable self-tuning feature sets best control parameters for the thermal process. PID control (proportional, integral, derivative) prevents overshoot
- Single segment, single setpoint, 1 ramp to setpoint
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F
- UL approval

Digital Single Program, Multiple Segment Programmable Controller

- Microprocessor-based control with selectable self-tuning feature sets best control parameters for the thermal process. PID control (proportional, integral, derivative) prevents overshoot
- Single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F
- UL approval

Optional RS485 Digital Communications Port

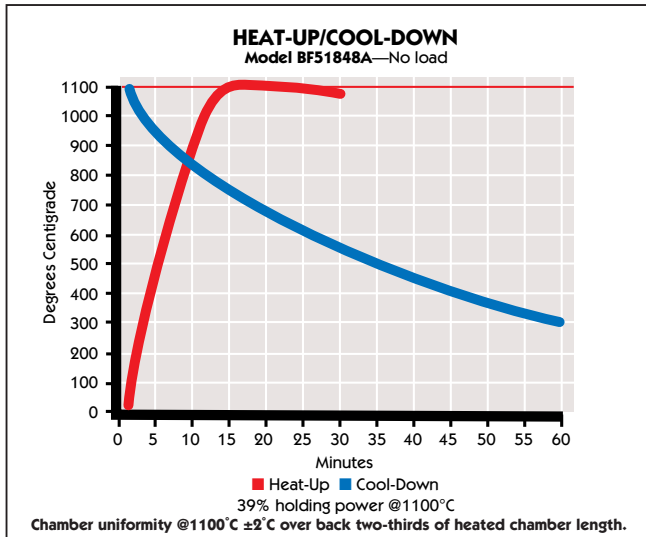
- RS485 Digital communications port available as an option. Allows controller to be connected to a PC for remote monitoring and control of the furnace. Up to 30 units can be connected to one PC. Please see page 35 for ordering information and additional options

1100°C Moldatherm® Box Furnaces, Temperature Range 100°C to 1100°C

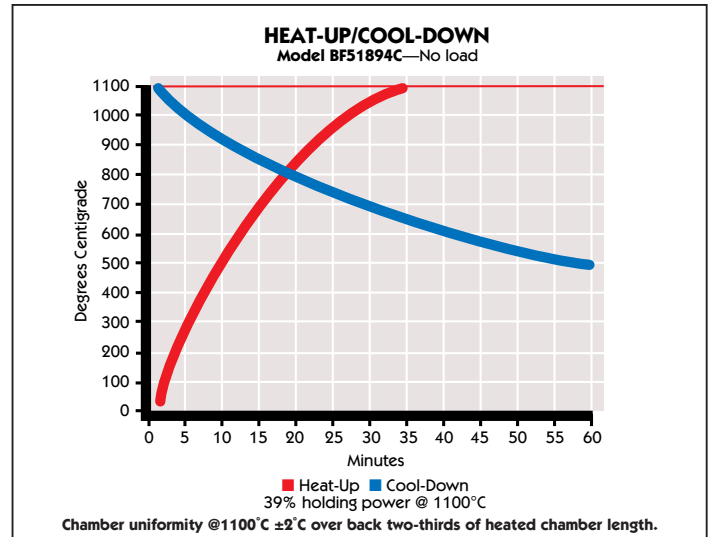
Furnace Model No.	Integrated Control	Electrical Volts, Hz, 1Ø	Watts	Interior Dimensions H x F-B x W in" (mm)	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
0.07 Cu.Ft. (1.99 liters)						
BF51748A	Digital/OTP	120V, 50/60 Hz	1800	4" (101.6) x 8" (203.2) x 4" (101.6)	17.5" (444.5) x 20" (508) x 15" (381)	55 (25)
BF51748C	Digital/OTP	208/240V, 50/60 Hz	1800	4" (101.6) x 8" (203.2) x 4" (101.6)	17.5" (444.5) x 20" (508) x 15" (381)	55 (25)
BF51848A	Multiple Seg/1 Prog/OTP	120V, 50/60 Hz	1800	4" (101.6) x 8" (203.2) x 4" (101.6)	17.5" (444.5) x 20" (508) x 15" (381)	55 (25)
BF51848C	Multiple Seg/1 Prog/OTP	208/240V, 50/60 Hz	1800	4" (101.6) x 8" (203.2) x 4" (101.6)	17.5" (444.5) x 20" (508) x 15" (381)	55 (25)
0.1875 Cu.Ft. (5.3 liters)						
BF51766A	Digital/OTP	120V, 50/60 Hz	1800	6" (152.4) x 9" (228.6) x 6" (152.4)	21.5" (546.1) x 21" (533.4) x 17" (431.8)	110 (50)
BF51766C	Digital/OTP	208/240V, 50/60 Hz	1800	6" (152.4) x 9" (228.6) x 6" (152.4)	21.5" (546.1) x 21" (533.4) x 17" (431.8)	110 (50)
BF51866A	Multiple Seg/1 Prog/OTP	120V, 50/60 Hz	1800	6" (152.4) x 9" (228.6) x 6" (152.4)	21.5" (546.1) x 21" (533.4) x 17" (431.8)	110 (50)
BF51866C	Multiple Seg/1 Prog/OTP	208/240V, 50/60 Hz	1800	6" (152.4) x 9" (228.6) x 6" (152.4)	21.5" (546.1) x 21" (533.4) x 17" (431.8)	110 (50)
0.65 Cu.Ft. (18.4 liters)						
BF51794C	Digital/OTP	208/240V, 50/60 Hz	3500	9" (228.6) x 14" (355.6) x 9" (228.6)	26" (660.4) x 25.75" (654.04) x 21" (533.4)	130 (59)
BF51894C	Multiple Seg/1 Prog/OTP	208/240V, 50/60 Hz	3500	9" (228.6) x 14" (355.6) x 9" (228.6)	26" (660.4) x 25.75" (654.04) x 21" (533.4)	130 (59)
1.5 Cu.Ft. (42.5 liters)						
BF51728C	Digital/OTP	208/240V, 50/60 Hz	5600	12" (304.8) x 18" (457.2) x 12" (304.8)	28" (711.2) x 30" (762) x 24" (609.6)	185 (84)
BF51828C	Multiple Seg/1 Prog/OTP	208/240V, 50/60 Hz	5600	12" (304.8) x 18" (457.2) x 12" (304.8)	28" (711.2) x 30" (762) x 24" (609.6)	185 (84)

Note: All models include 10' power cord except 1.5 cu. ft. models which require customer supplied power cord or hard wiring. Contact your sales representative for CE Models.

Note: Use with inert atmosphere will exhibit some leakage.



Model BF51848A
Heat-Up/Cool-Down, No Load



Model BF51894C
Heat-Up/Cool-Down, No Load

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.

*Model BF51842C
1200°C LGO Box
Furnace with
multiple segment,
single program controller
integrated into the
main control panel.
(below)*



*Model BF51732BC, 1200°C LGO Box Furnace
features digital control and OTC system.*

Applications

- Drying
- Ashing
- Annealing
- Enameling
- Tempering
- Heat treating
- Melting

1200°C LGO™ Box Furnaces

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Versatile LGO Series Box Furnaces feature the latest technical advances in heating elements, insulation and temperature control, all integrated into a self-contained cabinet. The patented LGO heating element (light gauge overbend) delivers maximum radiant heat energy to the process load. The LGO element is partially imbedded within the exclusive Moldatherm® insulation, combined with unique double shell construction to provide optimum temperature uniformity, energy efficiency, fast response, quick heat-up and rapid cool-down.

Features and Benefits

- Patented LGO (light gauge overbend) heating elements with 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; see specifications for model selection
- Air vent (1" dia., top) and air inlet (.375" dia., rear) for inert atmosphere exchange. May experience some leakage at door
- Self-tuning, digital instrumentation for precise temperature setpoint and display

- Platinel II® thermocouple for long-term stability
- Main power on/off switch on control panel; control panel designed for easy maintenance access
- Safety door switch to interrupt power to heating element when door is opened; protects heating elements and minimizes exposure to end-user
- Removable shelves for versatility; 0.58 cu.ft. models include 1 two-part shelf, center position; 1.95 cu.ft. models have 3 shelf positions; 1 two-part shelf included standard
- Moldatherm hearthplate supports load and prevents damage due to spillage

Digital, Single Setpoint Controller

- Microprocessor-based self-tuning PID control (proportional, integral, derivative) provides optimum thermal process, prevents overshoot
- Single segment, single setpoint, 1 ramp to setpoint
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F

Digital Single Program, Multiple Segment, Programmable Controller

- Microprocessor-based self-tuning PID control (proportional, integral, derivative) provides optimum thermal process, prevents overshoot
- Single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F

Digital Multiple Program, Multiple Segment Programmable Controller

- Available on models with "P" designation
- Microprocessor-based self-tuning PID control (proportional, integral, derivative) provides optimum thermal process, prevents overshoot
- Multiple programs and segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F

1200°C LGO Box Furnaces

Vertical Lift Door, 0.6 cu ft (16.4 liters), Temperature Range 100°C to 1200°C

Furnace Model No.	Integrated Digital Control	Electrical Volts, Hz, 1Ø	Watts	Interior Dimensions H x F-B x W in" (mm)	Exterior Dimensions H* x F-B x W in" (mm)	Ship Weight lbs (kg)
Single Setpoint						
BF51731C	Digital	208/240V, 50/60 Hz	4500	7" (177.8) x 11" (279.4) x 13" (330.2)	27" (685.8) x 23" (584.2) x 24" (609.6)	165 (75)
BF51731BC	Digital/OTC	208/240V, 50/60 Hz	4500	7" (177.8) x 11" (279.4) x 13" (330.2)	27" (685.8) x 23" (584.2) x 24" (609.6)	165 (75)
Programmable, Single Program						
BF51732C	Multi Seg/1 Prog	208/240V, 50/60 Hz	4500	7" (177.8) x 11" (279.4) x 13" (330.2)	27" (685.8) x 23" (584.2) x 24" (609.6)	165 (75)
BF51732BC	Multi Seg/1 Prog/OTC	208/240V, 50/60 Hz	4500	7" (177.8) x 11" (279.4) x 13" (330.2)	27" (685.8) x 23" (584.2) x 24" (609.6)	165 (75)
Programmable, Multiple Program						
BF51732PC	Multi Seg/Multi Prog	208/240V, 50/60 Hz	4500	7" (177.8) x 11" (279.4) x 13" (330.2)	27" (685.8) x 23" (584.2) x 24" (609.6)	165 (75)
BF51732PBC	Multi Seg/Multi Prog/OTC	208/240V, 50/60 Hz	4500	7" (177.8) x 11" (279.4) x 13" (330.2)	27" (685.8) x 23" (584.2) x 24" (609.6)	165 (75)
BF51732PFMC	Multi Seg/Multi Prog/FM	208/240V, 50/60 Hz	4500	7" (177.8) x 11" (279.4) x 13" (330.2)	27" (685.8) x 23" (584.2) x 24" (609.6)	165 (75)
BF51732PBFMC	Multi Seg/Multi Prog/OTC/FM	208/240V, 50/60 Hz	4500	7" (177.8) x 11" (279.4) x 13" (330.2)	27" (685.8) x 23" (584.2) x 24" (609.6)	165 (75)

Note: Required power cord and hardwiring are not included.

* Overall height with door open is 39" on vertical lift door models only.

Horizontal Side Swing Door, 2.0 cu.ft. (55.3 liters), Temperature Range 100°C to 1200°C

Furnace Model No.	Integrated Digital Control	Electrical Volts, Hz, 1Ø	Watts	Interior Dimensions H x F-B x W in" (mm)	Exterior Dimensions H* x F-B x W in" (mm)	Ship Weight lbs (kg)
Single Setpoint						
BF51841C	Digital	208/240V, 50/60 Hz	5800	15" (381) x 15" (381) x 15" (381)	33" (838.2) x 28" (711.2) x 29" (736.6)	280 (127)
BF51841BC	Digital/OTC	208/240V, 50/60 Hz	5800	15" (381) x 15" (381) x 15" (381)	33" (838.2) x 28" (711.2) x 29" (736.6)	280 (127)
Programmable, Single Program						
BF51842C	Multi Seg/1 Prog	208/240V, 50/60 Hz	5800	15" (381) x 15" (381) x 15" (381)	33" (838.2) x 28" (711.2) x 29" (736.6)	280 (127)
BF51842BC	Multi Seg/1 Prog/OTC	208/240V, 50/60 Hz	5800	15" (381) x 15" (381) x 15" (381)	33" (838.2) x 28" (711.2) x 29" (736.6)	280 (127)
Programmable, Multiple Program						
BF51842PC	Multi Seg/Multi Prog	208/240V, 50/60 Hz	5800	15" (381) x 15" (381) x 15" (381)	33" (838.2) x 28" (711.2) x 29" (736.6)	280 (127)
BF51842PBC	Multi Seg/Multi Prog/OTC	208/240V, 50/60 Hz	5800	15" (381) x 15" (381) x 15" (381)	33" (838.2) x 28" (711.2) x 29" (736.6)	280 (127)
BF51842PFMC	Multi Seg/Multi Prog/FM	208/240V, 50/60 Hz	5800	15" (381) x 15" (381) x 15" (381)	33" (838.2) x 28" (711.2) x 29" (736.6)	280 (127)
BF51842PBFMC	Multi Seg/Multi Prog/OTC/FM	208/240V, 50/60 Hz	5800	15" (381) x 15" (381) x 15" (381)	33" (838.2) x 28" (711.2) x 29" (736.6)	280 (127)

Note: Required power cord and hardwiring are not included.

Overtemperature Control (OTC)

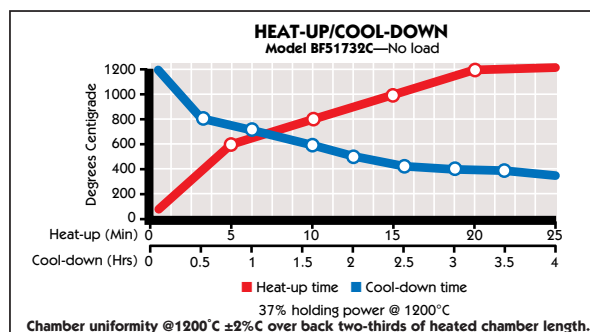
- Adjustable digital overtemperature control, available on selected models with "B" suffix designation; see chart
- Protects furnace and load in the event of primary control circuit failure
- Overrides main controller and shuts off power to furnace if high limit is reached
- Manual re-set required for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

Optional RS485 Digital Communications Port

- RS485 Digital Communications port available as an option. 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. Please see page 35 for ordering information and additional options

Flowmeter Option (FM) (Inert Atmosphere Only)

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



Note: Use with inert atmosphere will exhibit some leakage.

*Model BF51732C,
Heat-Up/Cool-Down,
No Load*

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.



Model BF51442C requires the 1200°C, CC58114C controller (below) ordered separately.

Applications

- Ashing
- Fusion
- Ignitions
- Alloying
- Sintering
- Heat-treating

1200°C Box Furnaces, Heavy-Duty

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Heavy-Duty 1200°C Box Furnaces feature a unique internal construction and outer shell design which reduces external surface temperatures without compromising interior temperature uniformity. Requires independent control console, Model No. CC58114C (ordered separately).

Features

- Individual heating elements at chamber top, bottom and sides for uniform heat distribution
- Swing down door provides convenient loading platform.

- Helically coiled, high temperature alloy wire elements for extended service life
- Unique Moldatherm® ceramic fiber insulation to allow rapid heat-up, recovery and cool-down rates
- 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 (Model BF51442C)
- Heating element imbedded in Moldatherm insulation (Model BF51542C)
- Rugged, heavy-duty Inconel™ hearthplate supports load and protects the furnace from damage due to spillage (Model BF51542C)
- Long-life Platinel II® thermocouple with 10' compensated lead wire and polarized plug



The Model CC58114C Controller can be positioned adjacent to or remote from the furnace, permitting applications in fume hoods or containment areas.

1200°C Box Furnace, Heavy Duty

With Refractory Plate Heating Element, Temperature Range 100 to 1200°C

Furnace Model No.	Independent Controller	Electrical Volts, Hz, 1Ø	Watts	Interior Dimensions, Furnace H x F-B x W in" (mm)	Exterior Dimensions, Furnace H x F-B x W in" (mm)	Ship Weight lbs (kg)
BF51442C	CC58114C	208/240V, 50/60 Hz	4800	5.25" (133.35) x 14" (355.6) x 7.5" (190.5)	24.5" (622.3) x 20" (508) x 20" (508)	145 (66)

With Moldatherm® Heating Element (Four Sides), Temperature Range 100 to 1200°C

BF51542C	CC58114C	208/240V, 50/60 Hz	6200	9.5" (241.3) x 14.5" (368.3) x 10.5" (266.7)	28.5" (723.9) x 31" (787.4) x 28" (711.2)	335 (152)
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Note: Required power cord, hardwiring and interconnecting wiring are not included.

1200°C Digital, Single Setpoint Controller

Control console is fully wired and includes advanced microprocessor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single segment, single setpoint, 1 ramp to setpoint. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option P 1200°C Digital Single Program, Multiple Segment Programmable Controller

Control console is fully wired and includes advanced microprocessor-based digital control, a

solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), with single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. 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 re-set required for safety. Operates via magnetic contacts through signal from independent thermocouple.

Optional RS485 Digital Communications Port

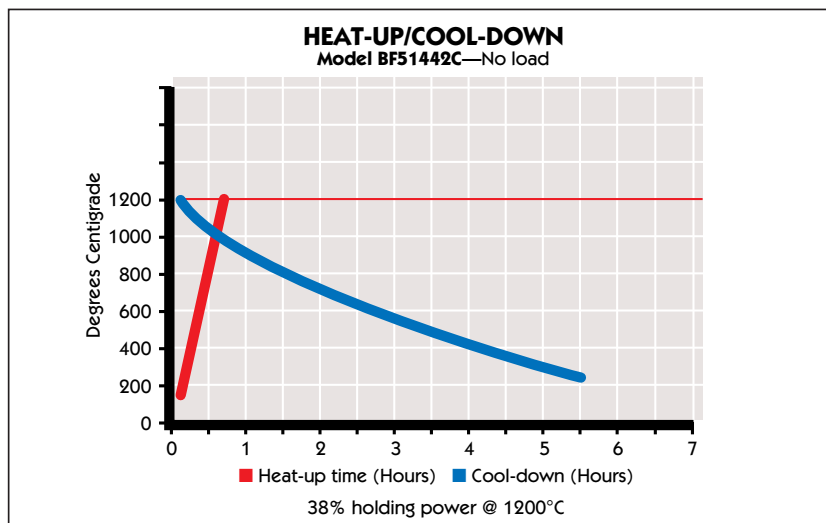
RS485 Digital communications port available as an option. Allows controller to be connected to a PC for remote monitoring and control of the furnace. Up to 30 units can be connected to one PC. Please see page 35 for ordering information and additional options.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58114C	■			208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (18)
CC58114PC	■	■		208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (18)

With Overtemp Control

CC58114BC	■		■	208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (18)
CC58114PBC	■	■	■	208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (18)

Note: Required power cord, hardwiring and interconnecting wiring are not included.



Chamber uniformity @1200°C ±5°C nominal.

Model BF51442C, Heat-Up/Cool-Down, No Load

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.

Below, Model BF51643C Box Furnace, 1500°C, with side swing door



Above, Model BF51433PBC Box Furnace, 1500°C, with vertical lift door, shown with multiple segment integrated digital programmable controller.

Applications

- Ashing
- Fusion
- Ignitions
- Alloying
- Sintering

1500°C Box Furnaces, Multi-Purpose, Integral Control

Features

- Double-wall construction with Moldatherm® insulation for rapid heat-up and cool-down, energy efficiency and cooler exterior surface temperatures
- 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 supports load and protects interior from spillage and mishandling
- Type "R" Thermocouple is integrated into chamber backwall

Digital Single Program, Multiple Segment Programmable Controller

- Microprocessor-based PID control, single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information
- Adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint in either °C or °F

Digital Multiple Program, Multiple Segment Programmable Controller

- Microprocessor-based PID control, multiple programs and segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information
- Adjustable high limit overtemperature protection
- Simultaneous digital LED display of actual temperature vs. setpoint in either °C or °F

Option B Overtemperature Control (OTC)

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

Optional RS485 Digital Communications Port

- RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options

1500°C Box Furnaces

Vertical Lift Door, Temperature Range 500°C to 1500°C

Furnace Model No.	Integrated Digital Control	Electrical Volts, Hz, 1Ø	Watts	Door	Interior Dimensions H x F-B x W in" (mm)	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
BF51433C	Multi Seg/1 Prog	208/240V, 50/60 Hz	6400	Vertical Lift	5" (127) x 12" (304.8) x 6" (152.4)	26" (660.4) x 29" (736.6) x 25" (635)	320 (145)
BF51433BC	Multi Seg/1 Prog/OTC	208/240V, 50/60 Hz	6400	Vertical Lift	5" (127) x 12" (304.8) x 6" (152.4)	26" (660.4) x 29" (736.6) x 25" (635)	320 (145)
BF51433PC	Multi Seg/Multi Prog	208/240V, 50/60 Hz	6400	Vertical Lift	5" (127) x 12" (304.8) x 6" (152.4)	26" (660.4) x 29" (736.6) x 25" (635)	320 (145)
BF51433PBC	Multi Seg/Multi Prog/OTC	208/240V, 50/60 Hz	6400	Vertical Lift	5" (127) x 12" (304.8) x 6" (152.4)	26" (660.4) x 29" (736.6) x 25" (635)	320 (145)

Side Swing Door, Temperature Range 500°C to 1500°C

BF51643C	Multi Seg/Multi Prog	208/240V, 50/60 Hz	14800	Side Swing	9" (228.6) x 15.5" (393.7) x 11" (279.4)	31" (787.4) x 30" (762) x 28" (711.2)	320 (145)
BF51643BC	Multi Seg/Multi Prog/OTC	208/240V, 50/60 Hz	14800	Side Swing	9" (228.6) x 15.5" (393.7) x 11" (279.4)	31" (787.4) x 30" (762) x 28" (711.2)	320 (145)

Note: Required power cord and hardwiring are not included.

Model BF51333C Box Furnace is constructed with rugged firebrick insulation for stability, silicon carbide heating elements to maximize heat transfer, insulating door plug and swing-down door for convenience and safety



Left, Model CC58125C Controller, ordered separately.



1500°C Box Furnace, Independent Control

1500°C Box Furnace, Brick Sidewall Composition, Temperature Range 500°C to 1500°C

Furnace Model No.	Independent Controller	Electrical Volts, Hz, 1Ø	Watts	Interior Dimensions H x F-B x W in" (mm)	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
BF51333C	CC58125C	208/240V, 50/60 Hz	5900	5" (127) x 12" (304.8) x 6" (152.4)	26" (660.4) x 29" (736.6) x 25" (635)	440 (200)

Note: Required power cord, hardwiring and interconnecting wiring are not included. Silicon-carbide heating elements. Fitted hearthplate protects interior from spills. Type "R" thermocouple integrated into chamber backwall, top. Includes 10' compensated thermocouple lead wire and polarized plug.

1500°C Digital, Single Setpoint Controller

Control console is fully wired and includes advanced microprocessor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single segment, single setpoint, 1 ramp to setpoint. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option P 1500°C Digital Single Program, Multiple Segment Programmable Controller

Control console includes advanced microprocessor-based digital control, a solid-state

power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See Page 35 for more information. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. Protects furnace and load in the event of primary control circuit failure. Overrides main controller,

assumes temperature control and shuts off power to furnace if high limit is reached. Manual re-set required for safety. Operates via magnetic contacts through signal from independent thermocouple.

Optional RS485 Digital Communications Port

RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58125C	■			208/240V, 50/60Hz	60	10" (254) x 19" (482.6) x 14" (355.6)	35 (16)
CC58125BC	■		■	208/240V, 50/60Hz	60	10" (254) x 19" (482.6) x 14" (355.6)	35 (16)
CC58125PC	■	■		208/240V, 50/60Hz	60	10" (254) x 19" (482.6) x 14" (355.6)	35 (16)
CC58125PBC	■	■	■	208/240V, 50/60Hz	60	10" (254) x 19" (482.6) x 14" (355.6)	35 (16)



The BF51314C, 1700°C Box Furnace requires an independent controller, Model CC59246PCOMC, for programmable operation.

Applications

- Sintering,
- Ashing
- Bonding
- Melting
- Metals and ceramic composites

1700°C Box Furnaces, Independent Control

Research and Pilot Plant Production

The General Purpose 1700°C Box Furnace with independent control are designed for applications which require extremely rapid heat-up rates, with 3500 watt models reaching 1700°C in as little as 15 minutes. Choose from two popular chamber sizes, each with a fully programmable independent controller (ordered separately, see chart).

Features

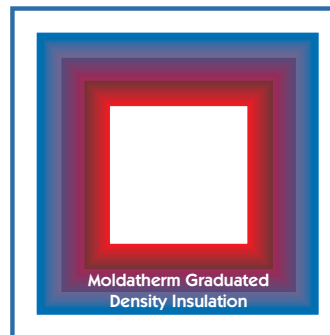
- Available in two popular chamber sizes (see chart)
- Double shell design for lower external cabinet temperature with energy savings
- Moldatherm® high temperature ceramic fiber insulation with advanced graded design for fast heat-up and resistance to thermal shock

- Vertically hinged door lifts up and out of the way to save space and minimize exposure to the operator
- Removable panels for easy access to replaceable heating elements and thermocouples
- 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 10’ compensated lead wire and polarized plug for accurate high temperature measurement

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

Programmable Controller, 1700°C Model CC59256PCOMC.



Moldatherm high temperature ceramic fiber insulation with advanced graduated density composition for fast heat-up and resistance to thermal shock.

1700°C Box Furnaces, Temperature Range 500°C to 1700°C

Furnace Model No.	Independent Controller	Electrical Volts, Hz, 1Ø	Watts	Interior Dimensions H x F-B x W in" (mm)	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
BF51314C	CC59246PCOMC	208/240V, 50/60 Hz	3500	5" (127) x 6" (152.4) x 5" (127)	14" (355.6) x 16" (406.4) x 16" (406.4)	85 (39)
BF51524C	CC59256PCOMC	208/240V, 50/60 Hz	5000	6.5" (165.1) x 10" (254) x 8.5" (215.9)	15.75" (400.05) x 19.5" (495.3) x 19.5" (495.3)	115 (53)

1700°C Controller, Programmable, With Communications

Lindberg/Blue M 1700°C Programmable Controllers provide multiple programs and multiple segments for ramp (up and down) and dwell (timed hold) temperature control. The controller visually displays ramp rate, dwell time, program segment and percent power output. A 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. Please see page 35 for additional information.

The controller includes a selectable self-tuning feature which sets the best PID settings for the thermal process. LED display

indicates actual temperature. High limit overtemperature protection is standard. The control console includes a circuit breaker, power module, transformer and cooling fans.

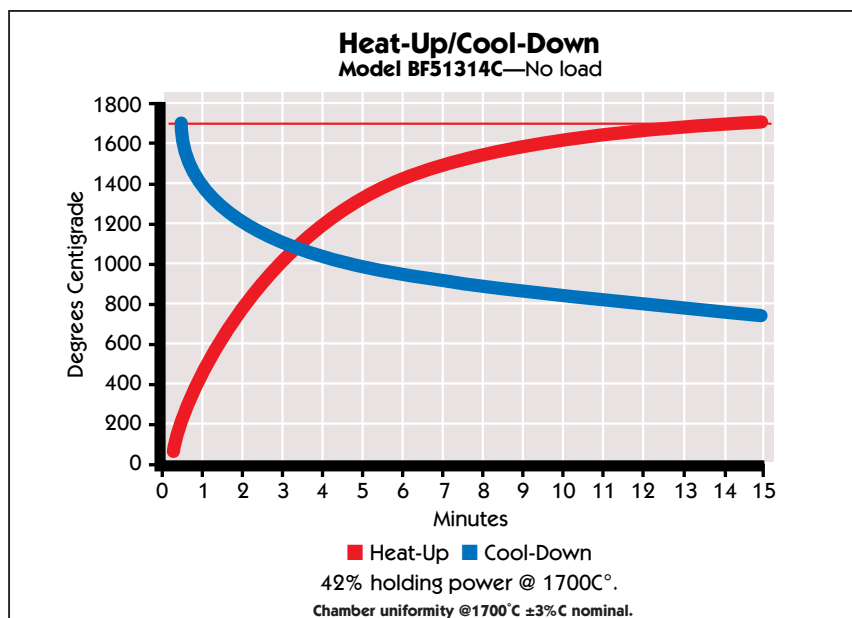
Controllers include RS485 data port (communications card and port) for connection to remote computer, allowing modification, interrogation and data transfer of all instrument control and configuration parameter. Up to 30 units can be connected to one PC. Software is not included, but is available as an option. Please see page 35 for additional options and information.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. 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 re-set required for safety. Operates via signal from independent thermocouple.

Controller Model No.	Digital	With Programmer	With Overtemp Controller	Electrical Volts, Hz	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC59246PCOMC	■	■		208/240V, 50/60Hz	10" (254) x 15" (381) x 21" (533.4)	115 (53)
CC59246PBCOMC	■	■	■	208/240V, 50/60Hz	10" (254) x 15" (381) x 21" (533.4)	115 (53)
CC59256PCOMC	■	■		208/240V, 50/60Hz	10" (254) x 15" (381) x 21" (533.4)	130 (59)
CC59256PBCOMC	■	■	■	208/240V, 50/60Hz	10" (254) x 15" (381) x 21" (533.4)	130 (59)

Note: Required power cord, hardwiring and interconnecting wiring are not included.



Model BF51314C Heat-Up/Cool-Down, No Load.

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.



Integrated controls are standard on the large chamber, 1700°C Box Furnaces. Models available in 0.6 and 0.9 cu.ft. capacities. Model BF51634C shown.

Applications

- Sintering,
- Ashing
- Bonding
- Melting
- Metals and ceramic composites

1700°C Box Furnaces, Large Chamber, Integral Control

14 Large Chamber 1700°C Box Furnaces are designed for efficient, high temperature use with minimal maintenance.

Moldatherm® graduated density insulation adds to safety and performance by forming enhanced insulation protection between the high temperature chamber and exterior cabinet surface. Unique right angle heating elements and an integrated control system (a choice of single setpoint or programmable control) combine to deliver safe, dependable operation.

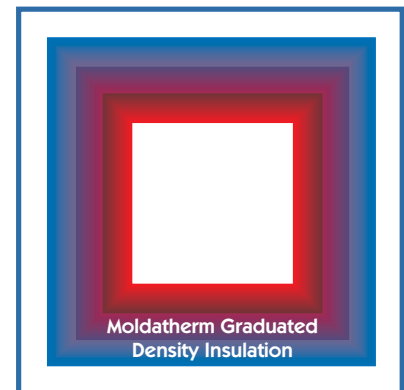
Construction

- Available in two popular chamber sizes (see chart)
- Energy efficient double shell design for better uniformity, lower external cabinet temperature
- Moldatherm high temperature ceramic fiber insulation with advanced graded design for fast heat-up and resistance to thermal shock
- Side swing door provides full and easy access to chamber, protects user from heat surge
- Removable panels for easy access to replaceable heating elements and thermocouples
- Atmosphere port, .375" diameter, for fresh air or inert gas inlet (located at back wall, bottom)

- Moldatherm hearthplate supports load and protects chamber from damage due to spillage
- High volume cooling fans move air between inner and outer chamber to lower exterior shell temperatures and improve energy efficiency
- Solid-state power module with ammeter, circuit breaker, transformer and front panel indicator lights for "Ready Element" and "Main Power Applied"
- Long-life type "B" thermocouples for accurate high temperature measurement
- Safety power disconnect switch cuts power to heating elements when door is opened

Smart Heating Elements

- Molybdenum disilicide elements with unique right angle bend and sidewall mounting to reduce maintenance associated with element termination and mounting
- Energy efficient, fast heat-up and response
- Increased resistance to thermal shock, ideal for rapid cycling over extended periods
- Designed for easy replacement without matching resistance values



Moldatherm high temperature ceramic fiber insulation with advanced graduated density composition for fast heat-up and resistance to thermal shock

Digital, Single Setpoint Controller

- Microprocessor-based PID control (proportional, integral, derivative) prevents overshoot
- Single segment, single setpoint, 1 ramp to setpoint
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F

Option P Digital Multiple Program, Multiple Segment Programmable Controller

- Microprocessor-based PID control (proportional, integral, derivative) prevents overshoot
- Multiple programs and segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information

- LED display of actual temperature
- May be configured to display temperature in either °C or °F

Programmable Control With Communications

- Available on "COM" Models
- Controllers include RS485 data port (communications card and port) for connection to remote computer, allowing modification, interrogation and data transfer of all instrument control and configuration parameter. Up to 30 units can be connected to one PC. Software is not included, but is available as an option. Please see page 35 for additional options and information.
- Includes installed communications card and port for user connection

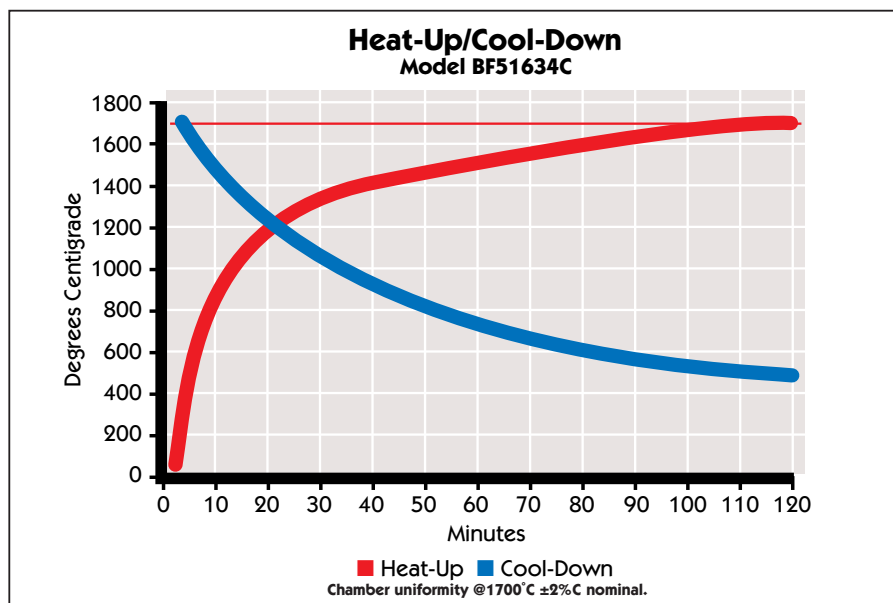
Option B Overtemperature Control (OTC)

- Adjustable digital overtemperature control, available on selected models with "B" suffix designation; see chart
- 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 re-set required for safety
- Operates via magnetic contacts through signal from independent thermocouple
- Factory installed, specify when ordering

1700°C Box Furnaces, Large Chamber, Temperature Range 500°C to 1700°C For Overtemperature Control Specify Option B When Ordering.

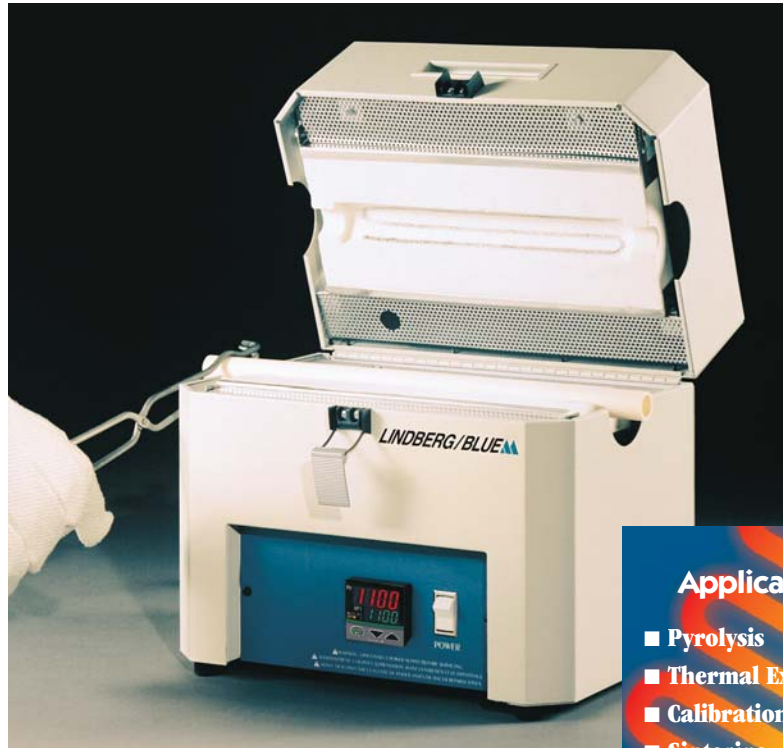
Furnace Model No.	Integrated Digital Control	Electrical Volts, Hz, 1Ø	Watts	Interior Dimensions H x F-B x W in" (mm)	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
Capacity 0.6 cu.ft. (17 liters)						
BF51634C	Digital/1 setpoint	208/240V, 50/60 Hz	5900	9" (228.6) x 10.5" (266.7) x 11" (279.4)	31" (787.4) x 24" (609.6) x 28" (711.2)	350 (159)
BF51634PC	Multi Seg/Multi Prog	208/240V, 50/60 Hz	5900	9" (228.6) x 10.5" (266.7) x 11" (279.4)	31" (787.4) x 24" (609.6) x 28" (711.2)	350 (159)
BF51634PCOMC	Multi Seg/Multi Prog/Com	208/240V, 50/60 Hz	5900	9" (228.6) x 10.5" (266.7) x 11" (279.4)	31" (787.4) x 24" (609.6) x 28" (711.2)	350 (159)
Capacity 0.9 cu.ft. (25.5 liters)						
BF51664C	Digital/1 setpoint	208/240V, 50/60 Hz	7100	9" (228.6) x 15.5" (393.7) x 11" (279.4)	31" (787.4) x 30" (762) x 28" (711.2)	370 (168)
BF51664PC	Multi Seg/Multi Prog	208/240V, 50/60 Hz	7100	9" (228.6) x 15.5" (393.7) x 11" (279.4)	31" (787.4) x 30" (762) x 28" (711.2)	370 (168)
BF51664PCOMC	Multi Seg/Multi Prog/Com	208/240V, 50/60 Hz	7100	9" (228.6) x 15.5" (393.7) x 11" (279.4)	31" (787.4) x 30" (762) x 28" (711.2)	370 (168)

Note: Required power cord and hardwiring are not included.



Model BF51634C Heat-Up/Cool-Down, No load

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.



The 1100°C Mini-Mite Tube Furnace includes integrated digital control, single setpoint or multiple segment programmable.

Applications

- Pyrolysis
- Thermal Expansion
- Calibration
- Sintering
- Viscosity Testing

Mini-Mite™ 1100°C Tube Furnaces (Single Zone)

Mini-Mite™ 1100°C Tube Furnaces offer a selection of control instrumentation including multiple segment programmable or single setpoint control. All models feature energy efficient Moldatherm® insulation for quick heat-up and cool-down.

Features

- Compact, portable and lightweight design
- Split-hinge design simplifies loading and unloading
- Main power on/off switch on control panel
- Safety switch disconnects power to heating element when furnace is opened
- Long life type “K” thermocouple

Digital, Single Setpoint Controller

- Microprocessor-based self-tuning PID control (proportional, integral, derivative) provides optimum thermal process without overshoot
- Single segment, single setpoint, 1 ramp to setpoint
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F

Digital Single Program, Multiple Segment Programmable Controller

- Microprocessor-based self-tuning PID control (proportional, integral, derivative) provides optimum thermal process without overshoot

- Single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F

Optional RS485 Digital Communications Port

- RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options

1100°C Mini-Mite™ Split-Hinge, Single Zone, Integrated Controller, Temperature Range 100 to 1100°C

Furnace Model No.	Electrical Volts, Hz, 1Ø	Watts	Integral Controller	Exterior Dimensions H x F-B x W in" (mm)	*Process Tube Diameter, in" (mm)	Heated Length in" (mm)	Ship Weight lbs (kg)
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Digital, Single Segment Control, 1100°C

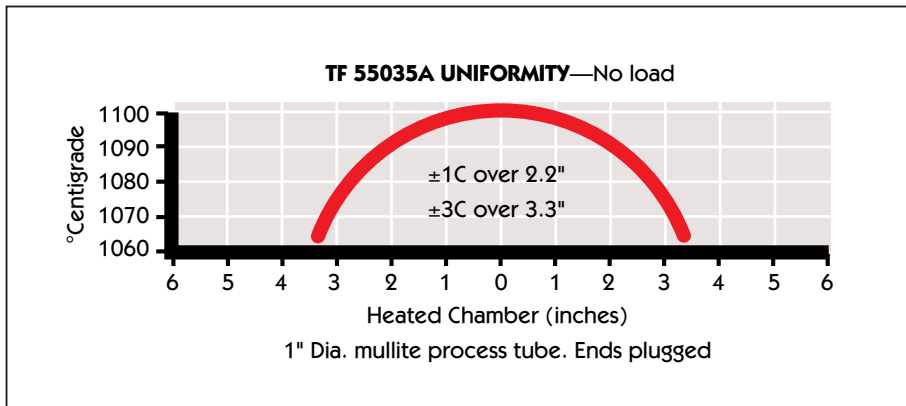
TF55030A	120V, 50/60 Hz	800	1 Segment	15" (381) x 11" (279.4) x 16" (406.4)	1" (25.4)	12" (304.8)	35 (16)
TF55030C	208/240V, 50/60 Hz	800	1 Segment	15" (381) x 11" (279.4) x 16" (406.4)	1" (25.4)	12" (304.8)	35 (16)

Digital, Multi Segment Programmable, 1100°C

TF55035A	120V, 50/60 Hz	800	16 Segment	15" (381) x 11" (279.4) x 16" (406.4)	1" (25.4)	12" (304.8)	35 (16)
TF55035C	208/240V, 50/60 Hz	800	16 Segment	15" (381) x 11" (279.4) x 16" (406.4)	1" (25.4)	12" (304.8)	35 (16)

***Process Tubes** These furnaces are designed for use with a variety of process tubes including alumina, mullite, quartz and metallic. For information on process tubes contact your process tube supplier or call your Lindberg/Blue M sales representative.

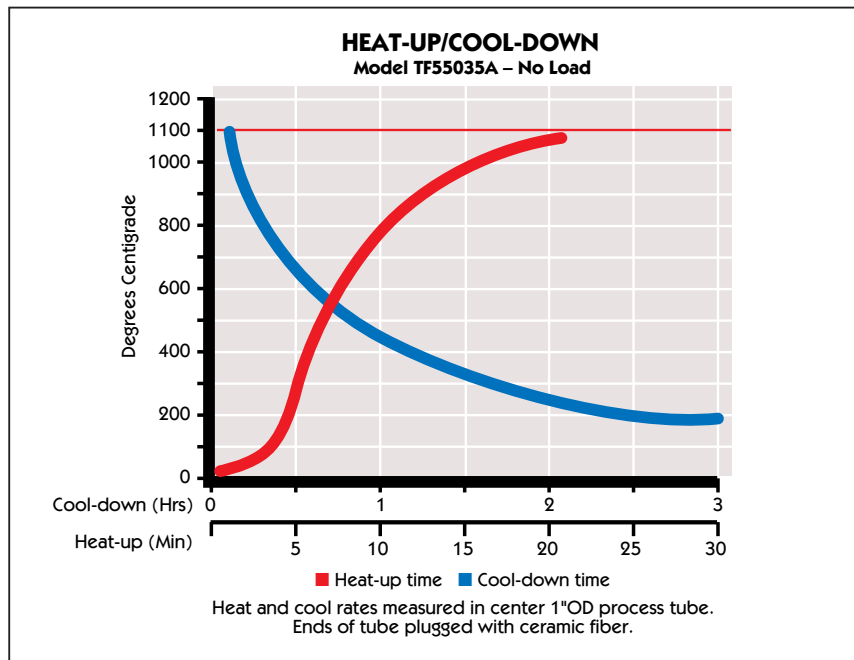
Note: All models include 10' power cord.



Model TF55035A Uniformity Profile, No Load



Model TF55035A Mini-Mite Tube Furnace, 1100°C, shown with digital multiple segment programmable control.



Model TF55035A Heat-Up/Cool-Down

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.

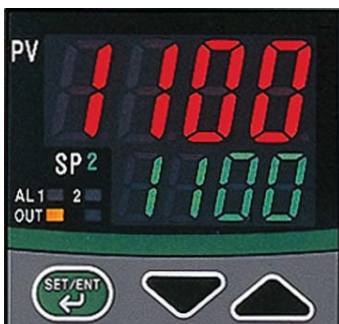


Model STF55346C, Solid Tube, Three-Zone Furnace includes three multiple segment programmable controllers, one for each zone. (Process tube shown, not included).

Applications

- Annealing
- Crystal Growing
- Calibration
- Heat Treating

1100°C Tube Furnaces (Three Zone)



Programmable control. Each zone programmable for variable process requirements.

Three Zone 1100°C Tube Furnaces have new, energy efficient designs incorporating Lindberg/Blue M exclusive Moldatherm® ceramic fiber insulation. Performance attributes include excellent temperature uniformity, fast heat-up and cool-down, and quick recovery with optimum power consumption. The furnace includes three independent, programmable controllers, one for each zone.

Features

- Innovative use of venting and insulating air spaces to create lower exterior surface temperatures
- Accepts an array of tube adapters (see chart)
- One set of (2) tube adapters included; standard, largest size supplied
- Flexible design, may be used for a variety of applications
- Long-life Type "K" thermocouples

Digital Single Program, Multiple Segment Programmable Controller

- 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 and down) and dwell (timed hold) temperature control. See page 35 for more information
- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F

Optional RS485 Digital Communications Port

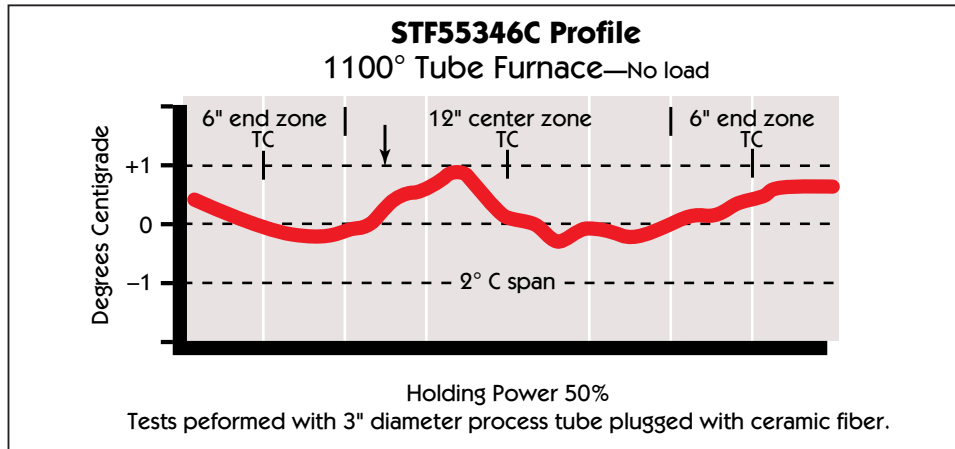
- RS485 Digital communications port available as an option. Allows controller to be connected to a PC for remote monitoring and control of the furnace. Up to 30 units can be connected to one PC. Please see page 35 for ordering information and additional options

1100°C Solid, Three Zone, Multi Segment Integrated Controller, Temperature Range 100°C to 1100°C

Furnace Model No.	Electrical Volts, Hz, 1Ø	Watts	Exterior Dimensions H x F-B x W in" (mm)	*Process Tube Diameter, in" (mm)	Heated Length in" (mm)	Heated Zone in" (mm)	Ship Weight lbs (kg)
STF55346C	208/240V, 50/60 Hz	3800	21" (533.4) x 17" (431.8) x 35" (889)	1" (25.4) to 3" (76.2)	24" (609.6)	6"/12"/6" (152.4/304.8/152.4)	225 (102)
STF55666C	208/240V, 50/60 Hz	11000	26" (660.4) x 22" (558.8) x 54" (1371.6)	3" (76.2) to 6" (152.4)	36" (914.4)	9"/18"/9" (228.6/457.2/228.6)	255 (115)

***Process Tubes** These furnaces are designed for use with a variety of process tubes including alumina, mullite, quartz and metallic. For information on process tubes contact your process tube supplier or call your Lindberg/Blue M sales representative. One set of (2) Tube Adapters included with furnace; largest specified size supplied. See table for additional options.

Note: Required power cord and hardwiring are not included.



Model STF55346C Uniformity Profile, 1100°C Tube Furnace, No Load



Tube adapters prevent heat loss and improve temperature uniformity within the furnace chamber by insulating the end vestibules. One set (2) of tube adapters provided with each Lindberg/Blue M furnace fits the largest diameter process tube specified for use with that furnace. Interchangeable tube adapters which allow alternative size process tubes are available; see chart.

Moldatherm® Tube Adapters (each sold separately)

Size	Model STF55346C	Model STF55666C
1"	59541	
2"	59543	
3"	59545*	59555
4"		59556
5"		59557
6"		59558*
Blank (Solid)	59549	59559

*One set of (2) included with furnace.

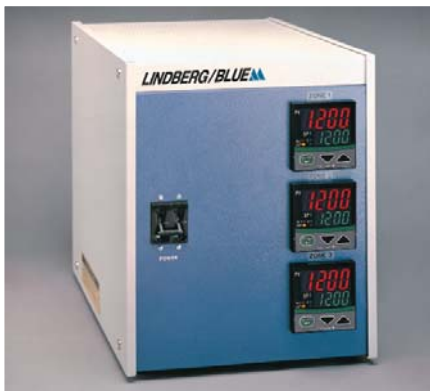
Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.



Model HTF55322C, 1200°C Tube Furnace, Split Hinge, Single Zone, adaptable for vertical use. Shown right, Three-Zone tube furnace Model HTF55347C (see page 22).



1200°C Split-Hinge Tube Furnaces



CC58434C Three Zone Controller

Single Zone and Three Zone

Lindberg/Blue M 1200°C split hinge tube furnaces are configurable for horizontal or vertical use. Choose from single zone models of 12" and 24" heated lengths, and three zone models of 24" to 36" heated lengths. Furnaces use independent digital temperature control modules (ordered separately) which are available in standard or programmable options.

The split-hinge design permits easy observation, fast cooling, convenient placement of the process tube and overall ease of operation. All models can be used with a variety of ceramic, quartz or alloy process tubes (customer supplied), diameters to 6" depending on model. One set of tube adapters is included with each model.

Features

- Designed for horizontal or vertical operation
- Patented Moldatherm® LGO™ heating element modules for superior radial and linear temperature uniformity, fast heat-up and cool-down
- 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

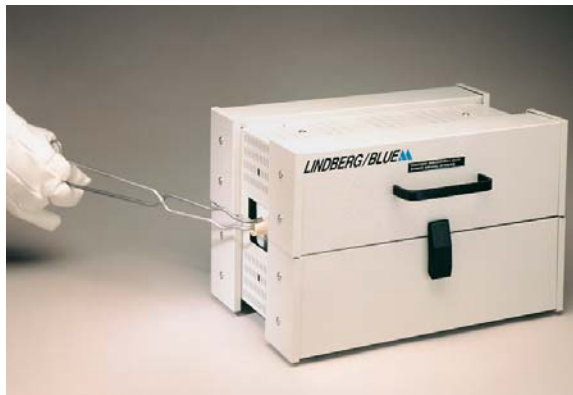
- Accepts interchangeable Moldatherm tube adapters. See chart on page 23
- Long-life Platinel® II thermocouple(s) with 10' compensated lead wire and polarized plug

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



CC58114C Single Zone Controller



Model HTF55322C 1200°C Tube Furnace, Single Zone
(Process tube not included)

Single Zone

1200°C Split Hinge, Horizontal or Vertical Use, Temperature Range 100°C to 1200°C

Furnace Model No.	Electrical Volts, Hz, 1Ø	Watts	Independent Controller	Exterior Dimensions H x F-B x W in" (mm)	*Process Tube Diameter, in" (mm)	Heated Length in" (mm)	Ship Weight lbs (kg)
HTF55122A	120V, 50/60 Hz	1330	CC58114A	12" (304.8) x 13" (330.2) x 21" (533.4)	.75" (19.05) to 1" (25.4)	12" (304.8)	60 (28)
HTF55322A	120V, 50/60 Hz	2675	CC58114A	16" (406.4) x 17" (431.8) x 23" (584.2)	1" (25.4) to 3" (76.2)	12" (304.8)	120 (55)
HTF55322C	208/240V, 50/60 Hz	2675	CC58114C	16" (406.4) x 17" (431.8) x 23" (584.2)	1" (25.4) to 3" (76.2)	12" (304.8)	120 (55)
HTF55342C	208/240V, 50/60 Hz	5440	CC58114C	16" (406.4) x 17" (431.8) x 35" (889)	1" (25.4) to 3" (76.2)	24" (609.6)	175 (80)

***Process Tubes** These furnaces are designed for use with a variety of process tubes including alumina, mullite, quartz and metallic.

For information on process tubes contact your process tube supplier or call your Lindberg/Blue M sales representative.

Tube Adapters 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: Required power cord, hardwiring and interconnecting wiring are not included.

1200°C Digital, Single Setpoint Controller

Control console includes advanced micro-processor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single segment, single setpoint, 1 ramp to setpoint. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

1200°C Digital Single Program, Multiple Segment Programmable Controller

Control console includes advanced micro-processor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. 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 re-set required for safety. Operates via magnetic contacts through signal from independent thermocouple.

Optional RS485 Digital Communications Port

RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58114A	■			120V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (19)
CC58114C	■			208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (19)
CC58114BA	■		■	120V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	45 (21)
CC58114BC	■		■	208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	45 (21)
CC58114PA	■	■		120V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (19)
CC58114PC	■	■		208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (19)
CC58114PBA	■	■	■	120V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	45 (21)
CC58114PBC	■	■	■	208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	45 (21)

Three Zone

1200°C Split-Hinge, Horizontal or Vertical Use, Temperature Range 100°C to 1200°C

Furnace Model No.	Electrical Volts, Hz, 1Ø	Watts	Independent Controller	Exterior Dimensions H x F-B x W in" (mm)	*Process Tube Diameter, in" (mm)	Heated Length in" (mm)	Heated Zone in" (mm)	Ship Weight lbs (kg)
HTF55347C	208/240V, 50/60 Hz	5355	CC58434C	16" (406.4) x 17" (431.8) x 35" (889)	1" (25.4) to 3" (76.2)	24" (609.6)	8/8/8" (203.2/203.2/203.2)	195 (89)
HTF55667C	208/240V, 50/60 Hz	11760	CC58434C	20" (508) x 21" (533.4) x 49" (1244.6)	3" (76.2) to 6" (152.4)	36" (914.4)	12/12/12" (304.8/304.8/304.8)	310 (141)

***Process Tubes** These furnaces are designed for use with a variety of process tubes including alumina, mullite, quartz and metallic. For information on process tubes contact your process tube supplier or call your Lindberg/Blue M sales representative.

Tube Adapters One set of (2) included with furnace: Model HTF55347C, (2) 3" dia. adapters; Models HTF55667C, (2) 3" dia. adapters.

Note: Required power cord, hardwiring and interconnecting wiring are not included.

1200°C Three Zone Controller

Control console includes advanced micro-processor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jacks for each zone. Includes three microprocessor-based PID controls (proportional, integral, derivative), single segment, single setpoint, 1 ramp to setpoint. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. 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 re-set required for safety. Operates via magnetic contacts through signal from independent thermocouple. Available system on all three zone controller varieties.

Optional RS485 Digital Communications Port

RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz, 1Ø	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58434C	■			208/240V, 50/60Hz	20/30/20	17" (431.8) x 19" (482.6) x 14" (355.6)	60 (28)
CC58434BC	■		■	208/240V, 50/60Hz	20/30/20	17" (431.8) x 19" (482.6) x 14" (355.6)	60 (28)

1200°C Three Zone Single Program, Multiple Segment Programmable Controller for Center Zone

Control console includes advanced micro-processor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jacks for each zone.

Center Zone

One microprocessor-based PID programmable control (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information. Built-in adjustable high limit overtemperature protection.

Simultaneous LED display of actual temperature vs. setpoint.

End Zones

Two microprocessor-based PID control (proportional, integral, derivative), single segment, single setpoint which mimic the programmed profile of the center zone controller, but allow an offset up to 100°C (+/- 50°C). Offset is digitally displayed.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz, 1Ø	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58434PC	■	■		208/240V, 50/60Hz	20/30/20	17" (431.8) x 19" (482.6) x 14" (355.6)	60 (28)
CC58434PBC	■	■	■	208/240V, 50/60Hz	20/30/20	17" (431.8) x 19" (482.6) x 14" (355.6)	65 (30)

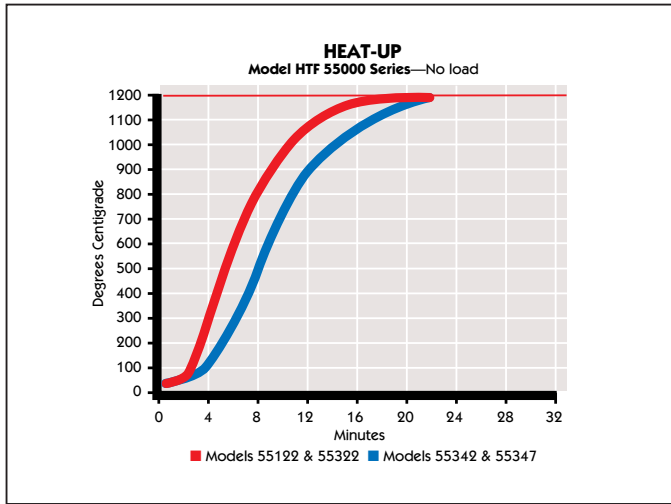
1200°C Three Zone Single Program, Multiple Segment Programmable Controllers

Control console includes advanced micro-processor-based digital control, a solid-state power module, on/off circuit breaker and

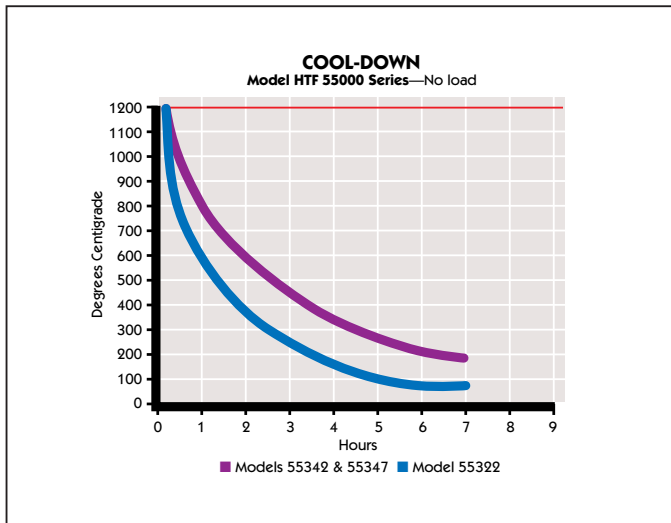
thermocouple input jacks for each zone. Includes three microprocessor-based PID programmable controllers (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control.

See page 35 for more information. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

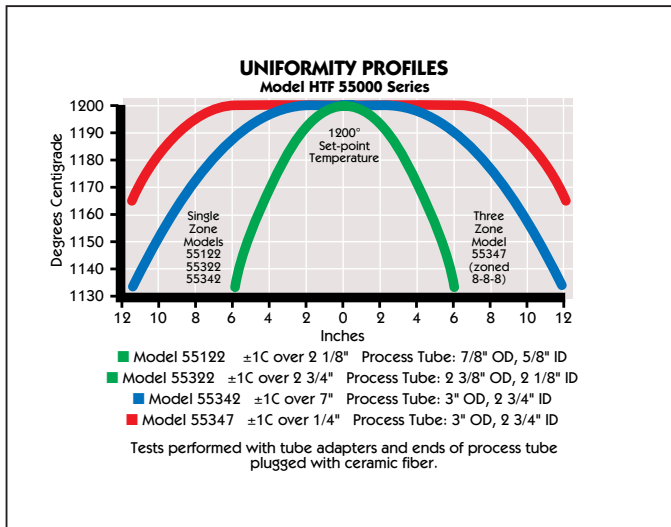
Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz, 1Ø	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC584343PC	■	■		208/240V, 50/60Hz	20/30/20	17" (431.8) x 19" (482.6) x 14" (355.6)	60 (28)
CC584343PBC	■	■	■	208/240V, 50/60Hz	20/30/20	17" (431.8) x 19" (482.6) x 14" (355.6)	65 (30)



Heat-Up, Model HTF55000 Series, No Load



Cool-Down, Model HTF55000 Series, No Load



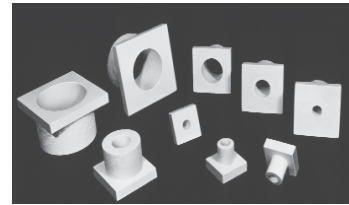
Uniformity Profiles, Model HTF55000 Series

Moldatherm® Tube Adapters (each sold separately)

One set (2) of tube adapters provided with each Lindberg/Blue M furnace. See below * for standard tube adapter supplied with each furnace. Interchangeable individual tube adapters which allow alternative size process tubes are available; see chart.

Adapter Size	Single Zone	Model HTF55122	Model HTF55322	Model HTF55342	Model HTF55667
	Three Zone			Model HTF55347	
0.75"		59510			
1"		59511*	59521	59521	
1.5"			59522	59522	
2"			59523*	59523	
2.5"			59524	59524	
3"			59525	59525*	59535*
4"					59536
5"					59537
6"					59538
Blank (Solid)		59519	59529	59529	59539

* One set of (2) included with furnace



Tube adapters prevent heat loss and improve temperature uniformity within the furnace chamber by insulating the end vestibules.



Floor Stand, For Vertical Installation

The optional Floor Stand is required to support HTF Series Tube Furnaces in a vertical configuration. Floor stands include all mounting hardware.

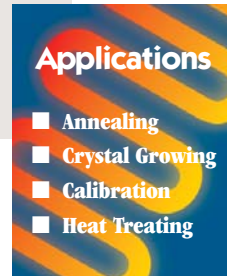
1200°C LGO Split-Hinge Tube Furnaces can be used in a horizontal or vertical configuration.

	Furnace Model	Furnace Model	Furnace Model	Furnace Model
Single Zone	HTF55122A	HTF55322A	HTF55342C	
		HTF55322C		
Three Zone			HTF55347C	HTF55667C
Floor Stand Model	VFS551	VFS553		
Floor Stand Model			VFS553	VFS553
Floor Stand Model				VFS556

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.



Model STF54233, 1500°C Solid Tube Furnace requires the Model CC58125C, 1500°C Controller (left) ordered separately.



1500°C Heavy Duty Tube Furnaces (Independent Control)

24

Heavy duty 1500°C tube furnaces are available in single and three zone models, designed for high temperature metallurgical, ceramic, chemical and electronic research.

Features

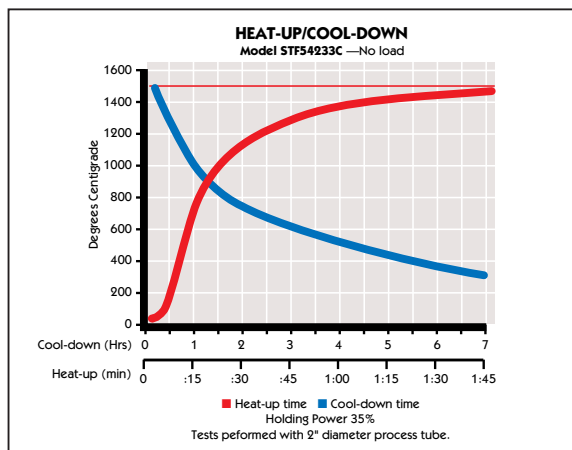
- Double-end silicon carbide heating elements mounted above and below the chamber
- Heating elements with unique right angle bend, sidewall mounting and compressed spacing at ends deliver fast heat-up and recovery and offset heat loss from end of process tube

- Removable side panels for easy installation and electrical connection, simplified heating element replacement and adjustment
- High temperature insulation with insulated end vestibules for better uniformity and energy efficiency
- Long life, fast response type "R" thermo-couples with 10' 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 of 500°C to 1500°C
- Center zone uniformity achieved and operating length maximized through adjustable profiling of end zones by independent controller
- Controlled temperature uniformity achieved with independent setpoint of end zones higher or lower than center zone



Model STF54233C Heat-Up/Cool-Down, No load.

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.

Single Zone

1500°C Heavy-Duty Solid Tube Furnace, Temperature Range 500°C to 1500°C

Furnace Model No.	Electrical Volts, Hz, 1Ø	Watts	Independent Controller	Exterior Dimensions H x F-B x W in" (mm)	*Process Tube Diameter, in" (mm)	Heated Length in" (mm)	Ship Weight lbs (kg)
STF54233C	208/240V, 50/60 Hz	7200	CC58125C	19" (482.6) x 20" (508) x 25" (635)	2" (50.8)	12" (304.8)	250 (114)
STF54453C	208/240V, 50/60 Hz	6857	CC58125C	19" (482.6) x 30" (762) x 37" (939.8)	3" (76.2)	24" (609.6)	390 (177)

***Process Tubes** These furnaces are designed for use with a variety of process tubes including alumina, mullite, quartz and metallic. For information on process tubes contact your process tube supplier or call your Lindberg/Blue M sales representative.

Note: Required power cord, hardwiring and interconnecting wiring are not included.

1500°C Digital, Single Setpoint Controller

Control console includes advanced micro-processor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single segment, single setpoint, 1 ramp to setpoint. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

1500°C Digital Single Program, Multiple Segment Programmable Controller

Control console includes advanced micro-processor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. 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 re-set required for safety. Operates via magnetic contacts through signal from independent thermocouple.

Optional RS485 Digital Communications Port

RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz, 1Ø	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58125C	■			208/240V, 50/60Hz	60	10" (254) x 19" (482.6) x 14" (355.6)	40 (19)
CC58125BC	■		■	208/240V, 50/60Hz	60	10" (254) x 19" (482.6) x 14" (355.6)	40 (19)
CC58125PC	■	■		208/240V, 50/60Hz	60	10" (254) x 19" (482.6) x 14" (355.6)	40 (19)
CC58125PBC	■	■	■	208/240V, 50/60Hz	60	10" (254) x 19" (482.6) x 14" (355.6)	45 (21)

Three Zone

1500°C Heavy-Duty Solid Tube Furnace, Temperature Range 500°C to 1500°C

Furnace Model No.	Electrical Volts, Hz, 1Ø	Watts	Independent Controller	Exterior Dimensions H x F-B x W in" (mm)	Process Tube Diameter, in" (mm)	Heated Length in" (mm)	Heated Zone in" (nominal mm)	Ship Weight lbs (kg)
STF54459C	208/240V, 50/60 Hz	12600	CC58475C	20" (508) x 22.5" (571.5) x 37" (939.8)	3" (76.2)	24" (609.6)	6/12/6" (152.4/304.8/152.4)	390 (177)
STF54759C	208/240V, 50/60 Hz	20000	CC58485C	31" (787.4) x 33.5" (850.9) x 37" (939.8)	6" (152.4)	24" (609.6)	6/12/6" (152.4/304.8/152.4)	720 (327)
STF54779C	208/240V, 50/60 Hz	25000	CC58485C	31" (787.4) x 33.5" (850.9) x 49" (1244.6)	6" (152.4)	36" (914.4)	6/24/6" (152.4/609.6/152.4)	1000 (453)

Process Tubes These furnaces are designed for use with a variety of process tubes including alumina, mullite, quartz and metallic. For information on process tubes contact your process tube supplier or call your Lindberg/Blue M sales representative.

Note: Required power cord, hardwiring and interconnecting wiring are not included. See page 26 for controller specifications.

1200°C Three Zone Controller

Control console is fully wired and includes advanced microprocessor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jacks for each zone. Includes three microprocessor-based PID controls (proportional, integral, derivative), single segment, single setpoint, 1 ramp to setpoint. Built-in adjustable

high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F



Three Zone 1500°C Controller
Model CC58475C

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz, 1Ø	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58475C	■			208/240V, 50/60Hz	30/60/30	17" (431.8) x 21" (533.4) x 17" (431.8)	70 (32)
CC58485C	■			208/240V, 50/60Hz	60/120/60	17" (431.8) x 21" (533.4) x 24" (609.6)	80 (37)

Note: Required power cord, hardwiring and interconnecting wiring are not included.

1500°C Three Zone Single Program, Multiple Segment Programmable Controller for Center Zone

Control console includes advanced microprocessor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jacks for each zone.

Center Zone

One microprocessor-based PID programmable control (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint.

End Zones

Two microprocessor-based PID control (proportional, integral, derivative), single segment, single setpoint which mimic the programmed profile of the center zone controller, but allow an offset up to 100°C (+/- 50°C). Offset is LED displayed.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. 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 re-set required for safety.

Operates via magnetic contacts through signal from independent thermocouple.

Optional RS485 Digital Communications Port

RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz, 1Ø	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58475PC	■	■		208/240V, 50/60Hz	30/60/30	17" (431.8) x 21" (533.4) x 17" (431.8)	70 (32)
CC58485PC	■	■		208/240V, 50/60Hz	60/120/60	17" (431.8) x 21" (533.4) x 24" (609.6)	80 (37)

With Overtemp Control

CC58475PBC	■	■	■	208/240V, 50/60Hz	30/60/30	17" (431.8) x 21" (533.4) x 17" (431.8)	80 (37)
CC58485PBC	■	■	■	208/240V, 50/60Hz	60/120/60	17" (431.8) x 21" (533.4) x 24" (609.6)	90 (41)

1500°C Three Zone Single Program, Multiple Segment Programmable Controllers

Control console includes advanced microprocessor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jacks for each zone. Includes three microprocessor-based PID programmable controllers (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and

dwell (timed hold) temperature control. See page 35 for more information. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control

consoles with "B" suffix designation; see chart. 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 re-set required for safety. Operates via magnetic contacts through signal from independent thermocouple.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz, 1Ø	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC584753PBC	■	■	■	208/240V, 50/60Hz	30/60/30	17" (431.8) x 21" (533.4) x 17" (431.8)	80 (37)
CC584853PBC	■	■	■	208/240V, 50/60Hz	60/120/60	17" (431.8) x 21" (533.4) x 24" (609.6)	90 (41)

Tube adapters prevent heat loss and improve temperature uniformity within the furnace chamber by insulating the end vestibules. One set (2) of 2" tube adapters provided with each model.



Model STF55433C, 1500°C Solid Tube Furnace with integrated multiple segment controller; for multiple segment programmable control order Model STF55433PC. (Process tube shown not included).

Applications

- Heat Treating
- Sintering
- Annealing
- Atmosphere Processing
- Melting
- Fusing

1500°C General Purpose Tube Furnaces (Integral Control)

1500°C General Purpose Tube Furnaces with integral control are designed for a range of applications which require processing flexibility with fast heat-up and recovery. Energy efficient Moldatherm® insulation increases temperature uniformity, improves energy efficiency and helps to maintain low exterior cabinet temperatures during operation.

Features

- Accommodates 1", 2" and 3" O.D. process tubes (customer supplied)
- Silicon carbide heating elements positioned above and below tube and Type "R" thermocouple combine to maintain temperature stability at 1500°C
- Microprocessor-based PID programmable control (proportional, integral, derivative) prevents overshoot

Digital Single Program, Multiple Segment Programmable Controller

- Single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information

- Adjustable high limit overtemperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- May be configured to display temperature in either °C or °F

Digital Multiple Program, Multiple Segment Programmable Controller

- Multiple programs and segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information
- Adjustable high limit overtemperature protection
- LED display of actual temperature
- May be configured to display temperature in either °C or °F

Option B Overtemperature Control (OTC)

- Adjustable digital overtemperature control, protects furnace and load in the event of primary control circuit failure. Available on selected models with "B" suffix designation; see chart

Optional RS485 Digital Communications Port

- RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options

Ordering Information, Moldatherm® Tube Adapters

Size	Furnace Model STF55433C	Furnace Model STF55433PC	Furnace Model STF55433PBC
	Catalog No.	Catalog No.	Catalog No.
1"	7100-2444-070	7100-2444-070	7100-2444-070
2"*	7100-2444-068	7100-2444-068	7100-2444-068
3"	7100-2444-069	7100-2444-069	7100-2444-069

* One set of (2) included with furnace
Each sold separately

1500°C Solid, Integral Controller, Temperature Range 500°C to 1500°C

Furnace Model No.	Electrical Volts, Hz, 1Ø	Watts	Integral Controller	Exterior Dimensions H x F-B x W in" (mm)	Process Tube Diameter, in" (mm)	Heated Length in" (mm)	Ship Weight lbs (kg)
STF55433C	208/240V, 50/60 Hz	6000	Multi Seg/1 Prog	17" (431.8) x 19" (482.6) x 23" (584.2)	1", 2", 3" (25.4 - 76.2)	12" (304.8)	270 (123)
STF55433PC	208/240V, 50/60 Hz	6000	Multi Seg/Multi Prog	17" (431.8) x 19" (482.6) x 23" (584.2)	1", 2", 3" (25.4 - 76.2)	12" (304.8)	270 (123)
STF55433PBC	208/240V, 50/60 Hz	6000	Multi Seg/Multi Prog/OTC	17" (431.8) x 19" (482.6) x 23" (584.2)	1", 2", 3" (25.4 - 76.2)	12" (304.8)	270 (123)

Process Tubes These furnaces are designed for use with a variety of process tubes including alumina, mullite, quartz and metallic. For information on process tubes contact your process tube supplier or call your Lindberg/Blue M sales representative.

Tube Adapters One set of (2) 2" dia. adapters included with furnace. **Note:** Required power cord and hardwiring are not included.



(Top) Model STF54434C 1700°C Tube Furnace shown with controller CC59256PCOMC.
(Process tube shown, not included).

Applications

- Atmosphere Processing
- Sintering
- Annealing
- Crystal Growing
- Heat Treating

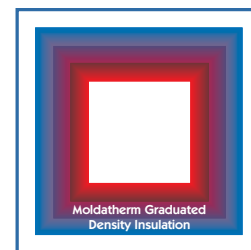
1700°C High Temperature Tube Furnaces (Independent Control)

28

High temperature tube furnaces achieve excellent temperature uniformity at 1700°C with rapid heat-up, recovery and cool-down. Moldatherm® graduated density insulation adds to safety and performance by forming enhanced insulation protection between the high temperature chamber and exterior cabinet surface. Moldatherm graduated density insulation, combined with molybdenum disilicide heating elements, provide superior radial and linear temperature uniformity with resistance to thermal shock. The independent digital temperature control (ordered separately) has multiple programmable segments useful for a wide range of applications.

Features

- Heating elements with unique right angle bend and sidewall mounting deliver exceptional energy release, fast heat-up and recovery, reduced thermal process cycle time, and cost savings through quicker throughput and energy efficiency
- Heating elements tolerate rapid cycling over extended periods; elements are easily replaceable without the need to match resistance values
- Heating elements are sidewall mounted to protect integrity of chamber roof; roof penetrations are avoided
- Type “B” thermocouples assure accurate temperature measurement and long thermocouple life; 10' compensated lead wire with polarized plug included
- Moldatherm end vestibules accept 3" O.D. process tube (customer supplied)
- Optional Moldatherm vestibules permit operation with 1", 2" and 3" O.D. process tubes for increased versatility
- Double shell construction and convection cooling design reduces exterior surface temperature
- Removable louvered panels provide easier access to heating elements and thermocouple



Moldatherm graduated density insulation adds to safety and performance by forming enhanced insulation protection between the high temperature chamber and exterior cabinet surface.

1700°C High Temperature Tube Furnace, Temperature Range 500°C to 1700°C

Furnace Model No.	Electrical Volts, Hz, 1Ø	Watts	Independent Controller	Exterior Dimensions H x F-B x W in" (mm)	Process Tube Diameter, in" (mm)	Heated Length in" (mm)	Ship Weight lbs (kg)
STF54434C	208/240V, 50/60 Hz	5000	CC59256PCOMC	19" (482.6) x 16" (406.4) x 22" (558.8)	3" (76.2)	12" (304.8)	95 (43)
STF54454C	208/240V, 50/60 Hz	10000	CC59256PCOM2CKT	19" (482.6) x 16" (406.4) x 34" (863.6)	3" (76.2)	24" (609.6)	165 (75)

Process Tubes These furnaces are designed for use with a variety of process tubes including alumina, mullite, quartz and metallic. For information on process tubes contact your process tube supplier or call your Lindberg/Blue M sales representative.

Vestibule Set One 3" vestibule set and sleeves included; other size vestibule sets and sleeves may be ordered separately.

1700°C Controller, Programmable, With Communications

Lindberg/Blue M 1700°C Programmable Controllers provide multiple programs and multiple segments for ramp (up and down) and dwell (timed hold) temperature control. The controller visually displays ramp rate, dwell time, program segment and percent power output. A 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. Please see page 35 for additional information.

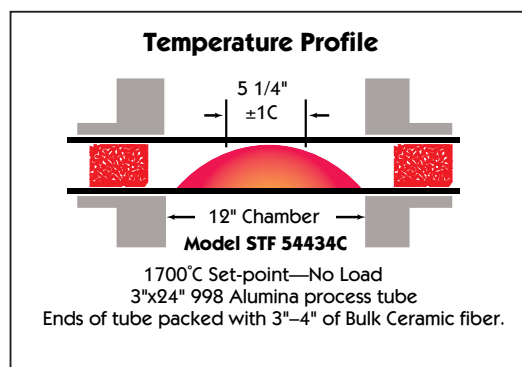
The controller includes a selectable self-tuning feature which sets the best PID settings for the thermal process. Two digital displays simultaneously indicate actual temperature and

setpoint temperature. High limit overtemperature protection is standard. The control console includes a circuit breaker, power module, transformer and cooling fans.

Controllers include RS485 data port (communications card and port) for connection to remote computer, allowing modification, interrogation and data transfer of all instrument control and configuration parameter. Up to 30 units can be connected to one PC. Software is not included, but is available as an option. Please see page 35 for additional options and information.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with “B” suffix designation; see chart. 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 re-set required for safety. Operates via magnetic contacts through signal from independent thermocouple.



Uniformity Profile, Model STF54434C,
1700°C, No Load.



Programmable Controller, 1700°C
Model CC59256PCOMC.

1700° Controller, Programmable, with Communications

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC59256PCOMC	■	■		208/240V, 50/60Hz	10" (254) x 15" (381) x 21" (533.4)	130 (59)
CC59256PBCOMC	■	■	■	208/240V, 50/60Hz	10" (254) x 15" (381) x 21" (533.4)	130 (59)
CC59256PCOM2CKTC	■	■		208/240V, 50/60Hz	30" (762) x 15" (381) x 22" (558.8)	230 (105)
CC59256PBCOM2CKTC	■	■	■	208/240V, 50/60Hz	30" (762) x 15" (381) x 22" (558.8)	230 (105)

Note: Required power cord, hardwiring and interconnecting wiring are not included.

Vestibules

Optional Moldatherm® vestibules permit operation with 1", 2" and 3" O.D. process tubes for increased versatility. Two vestibules are required for each furnace. One 3" vestibule set is included and installed with each furnace.

Moldatherm Sleeves

Tube sleeves may be placed over customer supplied process tubes to reduce thermal shock to the process tube. Sleeves must be ordered separately. All tube sleeves are 3" long.

Furnace Model Number	Vestibule Catalog No. (Ordered Separately)		
	1" dia.	2" dia.	3" dia.
STF54434C	7219-2147-001	7219-2147-002	7219-2147-003*
STF54454C	7219-2147-013	7219-2147-012	7219-2147-011*

* One set of (2) included with furnace

Furnace Model Number	Sleeve Catalog No. (Ordered Separately)		
	1" dia.	2" dia.	3" dia.
STF54434C	7219-2134-001	7219-2134-002	7219-2134-003*
STF54454C	7219-2134-013	7219-2134-012	7219-2134-011*

* One set of (2) included with furnace

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.



Model CF56622C Crucible Furnace.

Applications

- Melting
- Annealing
- Heat Treating

1200°C Crucible Furnace, Top Loading

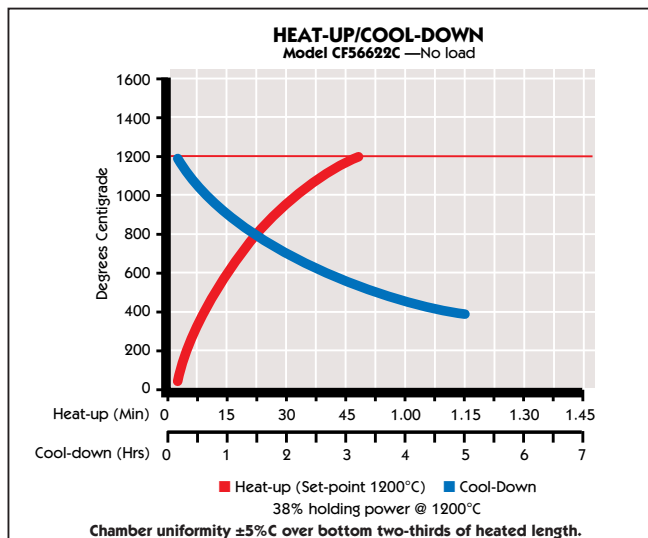
1200°C Crucible furnaces are ideal for use in ceramics, electronics, glass, metallurgy and superconductor materials research. These models require independent controllers (ordered separately).

Features

- Requires independent controller (ordered separately, see chart)
- Unitized heating and insulation element with helical wire coil embedded in Moldatherm® insulation for maximum heat transfer to the work load
- Cover plug with Moldatherm insulation and handle for safe removal
- Moldatherm insulation protects vestibule, improves energy efficiency
- Platinel®II thermocouple with 10' compensated lead wire and polarized plug for long life and accurate temperature measurement
- Moldatherm ceramic fiber hearthplate supports load and protects furnace from spillage



Model CC58114C Controller



Model CF56622C, Heat-Up/Cool-Down, No Load

Crucible Furnaces, 1200°C, Independent Control, Temperature Range 100°C to 1200°C

Furnace Model No.	Electrical Volts, Hz	Watts	Temp	Controller	Top Opening ID inches (mm)	Chamber Depth inches (mm)	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CF56622C	208/240V, 50/60 Hz	1700	1200°C	CG58114C	5" (127)	8" (203.2)	16" (406.4) x 15" (381) x 15" (381)	52 (24)
CF56822C	208/240V, 50/60 Hz	2600	1200°C	CG58114C	7.5" (190.5)	8" (203.2)	19" (482.6) x 20" (508) x 20" (508)	105(48)

Crucibles: These furnaces are designed for use with a variety of crucibles including alumina, mullite, quartz and metallic. For information on crucibles contact your crucible supplier or call your Lindberg/Blue M sales representative.

Note: Required power cord, hardwiring and interconnecting wiring are not included.

1200°C Digital, Single Setpoint Controller

Control console includes advanced microprocessor-based digital control, a solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single segment, single setpoint, 1 ramp to setpoint. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

1200°C Digital Single Program, Multiple Segment Programmable Controller

Control console is fully wired and includes advanced microprocessor-based digital control,

a solid-state power module, on/off circuit breaker and thermocouple input jack. Includes microprocessor-based PID control (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control. See page 35 for more information. Built-in adjustable high limit overtemperature protection. Simultaneous LED display of actual temperature vs. setpoint. May be configured to display temperature in either °C or °F.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. 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 re-set required for safety. Operates via magnetic contacts through signal from independent thermocouple.

Optional RS485 Digital Communications Port

RS485 Digital communications port available as an option. 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. Please see page 35 for ordering information and additional options.

Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC58114C	■			208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	35 (16)
With Programmer							
CC58114PC	■	■		208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	35 (16)
With Overtemp Control							
CC58114BC	■		■	208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	35 (16)
CC58114PBC	■	■	■	208/240V, 50/60Hz	30	10" (254) x 19" (482.6) x 14" (355.6)	40 (19)

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.



Programmable
Controller,
1700°C Model
CC59256PCOMC.

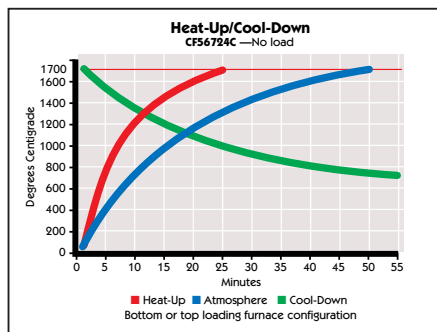


Model CF56724C 1700°C Crucible Furnace is used with Controller Model CC59256PCOMC (left), ordered separately.

Applications

- Sintering
- Melting
- Annealing
- Atmosphere Processing

1700°C Crucible Furnace, Top or Bottom Loading

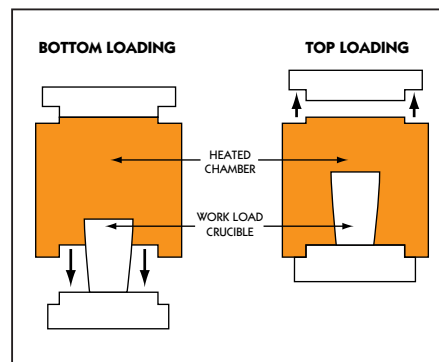


Heat-Up/Cool-Down, Model CF56724C

The Model CF56724C Crucible Furnace is used for high temperature research under three methods of processing: air, controlled atmosphere, or vertical tube orientation using an interchangeable vestibule as an insulating sleeve (which requires a vertical tube adaptation kit). Graduated density Moldatherm® insulation combined with a unique right-angle bend heating element, sidewall mounted, delivers excellent chamber uniformity, fast heat-up and recovery, and energy conserving performance.

1700°C Features

- Requires independent controller (ordered separately, see chart)
- Chamber is accessed by top or bottom with manually operated lifting mechanism; work load may be raised and lowered with convenience and safety
- Long-life molybdenum disilicide heating elements resist thermal shock, withstand rapid cycling over extended periods
- Individual elements easily replaceable without matching resistance values
- Elements mounted on four sides of chamber for fast response and recovery
- Forced-air blowers circulate ambient air throughout the double-wall crucible cabinet to minimize exterior surface temperature
- Long-life Type “B” thermocouple for accurate high temperature measurement. Includes 10' compensated lead wire with polarized plug



Dual access chamber permits top or bottom loading. Processing can be done in air or in a protective inert atmosphere when bottom loaded.

Note: This crucible furnace chamber is not atmosphere tight.

Actual performance may vary depending on load, chamber size, sample placement, ambient temperature and environmental conditions.

Crucible Furnaces, 1700°C, Independent Control, Temperature Range 500°C to 1700°C, 5,000 Watts

Model No.	Voltage, Hz	Controller	Vestibule Top Opening ID in" (mm)	Vestibule Bottom Opening ID in" (mm)	Working Depth ID in" (mm)	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CF56724C	208/240V, 50/60 Hz	CC59256PCOMC	6.5" (165.1 mm) ²	5" (127 mm)	6.5" (165.1 mm)	35.5" (901.7) x 20" (508) x 19.5" (495.3)	250 (114)

Note: Required power cord, hardwiring and interconnecting wiring are not included.

1700°C Controller, Programmable, With Communications

Lindberg/Blue M 1700°C Programmable Controllers provide multiple programs and multiple segments for ramp (up and down) and dwell (timed hold) temperature control. The controller visually displays ramp rate, dwell time, program segment and percent power output. A 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. Please see page 35 for additional information.

The controller includes a selectable self-tuning feature which sets the best PID settings for the thermal process. Two digital displays simultaneously indicate actual temperature and setpoint

temperature. High limit overtemperature protection is standard. The control console includes a circuit breaker, power module, transformer and cooling fans.

Controllers include RS485 data port (communications card and port) for connection to remote computer, allowing modification, interrogation and data transfer of all instrument control and configuration parameter. Up to 30 units can be connected to one PC. Software is not included, but is available as an option. Please see page 35 for additional options and information.

Option B Overtemperature Control (OTC)

Adjustable digital overtemperature control, factory installed on selected control consoles with "B" suffix designation; see chart. 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 re-set required for safety. Operates via signal from independent thermocouple.

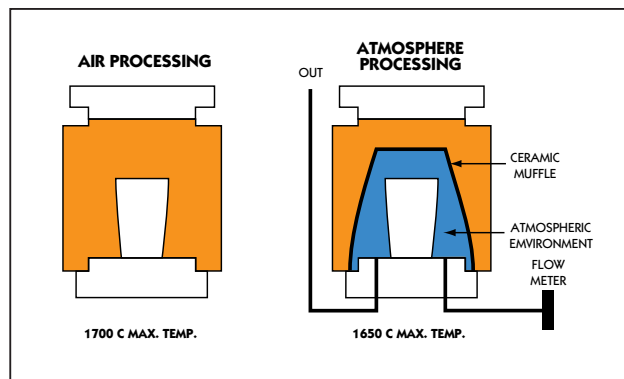
Controller Model No.	Digital	With Programmer	With Overtemp Controller	Electrical Volts, Hz	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC59256PCOMC	■	■		208/240V, 50/60Hz	10" (254) x 15" (381) x 21" (533.4)	130 (59)
CC59256PBCOMC	■	■	■	208/240V, 50/60Hz	10" (254) x 15" (381) x 21" (533.4)	130 (59)

Chamber uniformity over center 5.5" heated chamber length is ±1°C at 1700°C (no atmosphere).

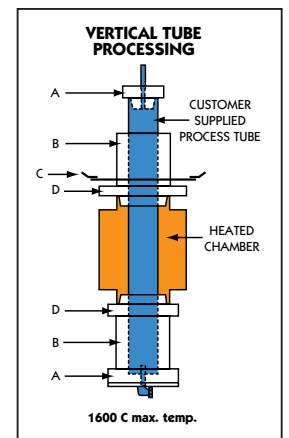
Processing Options

In addition to air processing, the 1700°C crucible furnace can be used for atmosphere processing using an inverted ceramic crucible (included) over the load forming a muffle. Inert gas is supplied through inlet and outlet tubes (customer supplied). Gas flow is controlled via an adjustable N₂ flowmeter, included.

For use in a vertical tube configuration, either air or controlled atmosphere processing, the furnace requires an optional Adaptation Kit (see chart) ordered to match the size of the desired process tube (customer supplied).



May be configured for air or atmosphere processing, vertical tube/atmosphere processing.



Adaption Kit Model No.	Diameter inches (mm)
VTINS156724	1" (25.4)
VTINS256724	2" (50.8)
VTINS356724	3" (76.2)

Vertical Tube Adaption Kit

The Vertical Tube Adaption Kit creates a 1700°C tube furnace with air or inert atmosphere control using the Model CF56724C crucible furnace as the heating source. Each field installed kit (see ordering chart) is selected based on intended process tube size, and includes two tube

vestibules (D), two tube insulating sleeves (B) with cover plate (C) and outlet plugs (A). Process tube and atmosphere piping are not included. Contact your Lindberg/Blue M sales representative for more information.



Model HP53014C Hot Plate

Model HP53025C Hot Plate

Applications

- Heating
- Boiling
- Drying
- Evaporating
- Digesting

Hot Plates, Heavy Duty

Solid-State Control Models

- Solid-state electronic controls deliver rapid heat-up, precise control and exceptional reliability
- Moldatherm® insulation/heating element modules with extremely low thermal mass optimizes energy use, reduces maintenance and accelerates heat-up and cool-down
- Unique helically coiled heating element and heat-resistant top plate configuration combine to create uniform top plate temperature

- Independent On/Off switch
- Adjustable temperature control dial with red power ON and amber power APPLIED indicator lights
- Heavy-gauge top plate is mounted securely to a reinforced steel base; a high temperature painted finish resists wear
- 10' power cord included

On/Off Control Models, HP53025 Series

- Three On/Off toggle switches mounted on the main control panel control each of three independent heating elements

- Unique placement of heating elements provides uniform temperatures over top plate surface at each of three settings
- Low thermal conductivity insulation optimizes energy use, accelerates heat-up and cool-down
- Moldatherm insulation holds coiled heating elements in place; elements provide direct radiant heat to top plate
- Heat-resistant alloy top plate is attached to reinforced steel base; a high temperature painted finish resists wear

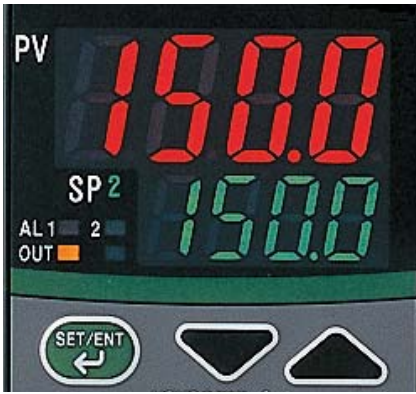
Hot Plates, 400°C, Solid-State Control

Hot Plate Model No.	Top Plate		Electrical Volts, Hz, 1Ø	Watts	Temp	Plate Working Surface F-B x W, inches (mm)	Overall Height inches (mm)	Ship Weight lbs (kg)
	Aluminum	Steel						
HP53013A	1/4"	N/A	120V, 50/60 Hz	1800	to 400°C	10" (254) x 12" (304.8)	8.5" (215.9)	20 (9)
HP53014C	N/A	5/16"	208/240, 50/60 Hz	2400	to 400°C	12" (304.8) x 20" (508)	8.5" (215.9)	46 (21)
HP53015C	N/A	1/4"	208/240, 50/60 Hz	3600	to 400°C	12" (304.8) x 30" (762)	8.5" (215.9)	74 (34)
HP53016A	1/4"	N/A	120V, 50/60 Hz	1800	to 400°C	5" (127) x 22" (558.8)	8.5" (215.9)	23 (11)

Hot Plate, 400°C, 3-Switch On/Off Control

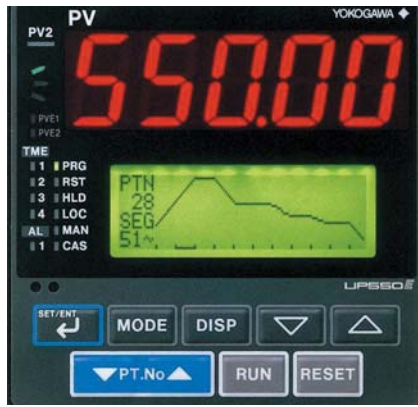
Hot Plate Model No.	Top Plate		Electrical Volts, Hz, 1Ø	Low Temp/Watts	Medium Temp/Watts	High Temp/Watts	Plate Working Surface F-B x W, inches (mm)	Overall Height inches (mm)	Ship Weight lbs (kg)
	Aluminum	Steel							
HP53025A*	N/A	3/8"	120V, 50/60 Hz	204°C/1200	316°C/2400	400°C/3600	18" (457.2) x 24" (609.6)	5.75" (146.05)	110 (50)
HP53025C	N/A	3/8"	208/240V, 50/60 Hz	204°C/1200	316°C/2400	400°C/3600	18" (457.2) x 24" (609.6)	5.75" (146.05)	110 (50)

*Required power cord and hardwiring are not included.



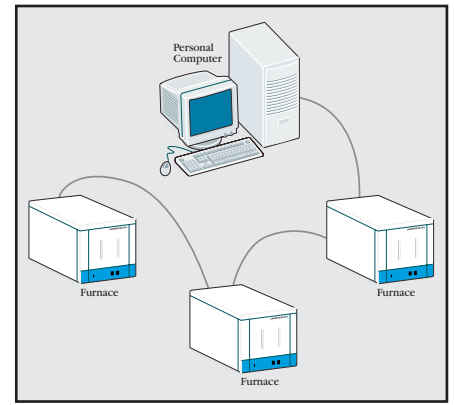
Digital Single Program, Multiple Segment Programmable Controller

- Single program with 16 segments for ramp (up and down) and dwell (timed hold) temperature control
- PID based control
- Simultaneous LED display of actual temperature vs. setpoint
- Super Control (Fuzzy Logic) suppresses overshooting of temperature
- Customer initiated Auto-Tune function will adjust and update the PID parameters to the optimum settings for new temperature setpoints
- 1/16 DIN controller
- Accuracy of controller: +/-0.3%
- RS485 digital communications port available as an option



Digital Multiple Program, Multiple Segment Programmable Controller

- 30 programs and 300 segments for ramp (up and down) and dwell (timed hold) temperature control (maximum of 99 segments per program)
- Program patterns can be based on either time or rate
- PID based control
- Large 5-digit LED display of actual temperature
- LCD display provides trend recording function, graphic prompts, configurable display data and custom messages (set by customer)
- Eight PID settings per segment
- 1/4 DIN controller
- Accuracy of controller: +/-0.1%
- RS485 digital communications port available as an option



RS485 Digital Communications Port Digital Communications Features

- Provides two-way communications between furnace and remote computer (*accessory #7043 required*). Computer not included.
- Allows remote monitoring and control of furnace equipment
- Ability to connect up to 30 furnaces to one personal computer
- 9-pin connection ports
- Compatible with SPECVIEW PLUS™ and most communications software packages

SPECVIEW PLUS™ Software Features

- Automatic Configuration
- Data logging of any variable with historic screen display
- Trend Charts
- Parameter Access so setpoints and high limits can be changed from PC
- Monitors and controls up to 30 furnaces with one software package

RS-485 Ordering Information

To add RS-485 Digital Communications Port to Furnace or Control Console model, add "COM" to model number before last letter in model number (see examples below). Please contact your Lindberg/Blue M sales representative for pricing and lead times.

Old Part#	New Part#
BF51842C	BF51842COMC
BF51433PBC	BF51433PBCOMC
CC58114C	CC58114COMC
CC58125BC	CC58125BCOMC

Twenty-five foot cable and RS-232 converter for connection of furnace/control console RS-485 port to personal computer serial port. Required for first unit connection.

Accessory No. 7043

Cable to connect multiple (2+) furnaces, ovens or other equipment with Yokogawa communications capabilities to first furnace with Yokogawa RS-485 communications port.

Accessory No. 7044

SPECVIEW PLUS software package includes disc and instructional book.

Accessory No. 7046

- **Box Furnaces**
- **Tube Furnaces**
- **Crucible Furnaces**
- **Furnace Controllers**
- **Hot Plates**
- **Gravity Convection Ovens**
- **Mechanical Convection Ovens**
- **Vacuum Ovens**



Ovens

Thermo Electron Corporation manufactures a wide range of laboratory ovens, furnaces, water baths and allied controlled environment equipment.



Furnaces

Factory installed options and product modifications are available and must be specified when ordering.



Baths

Contact your Thermo Electron Sales Representative for more information on these and other high performance laboratory products.

All published dimensions performance data are nominal. Specifications are subject to change without notice.

For Ordering or Technical Information

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