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).

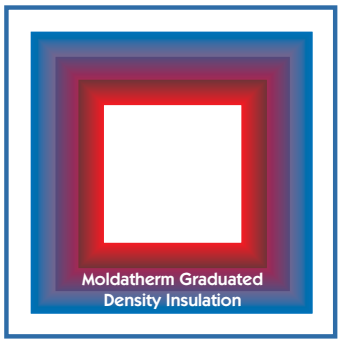
Features

- 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.

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.

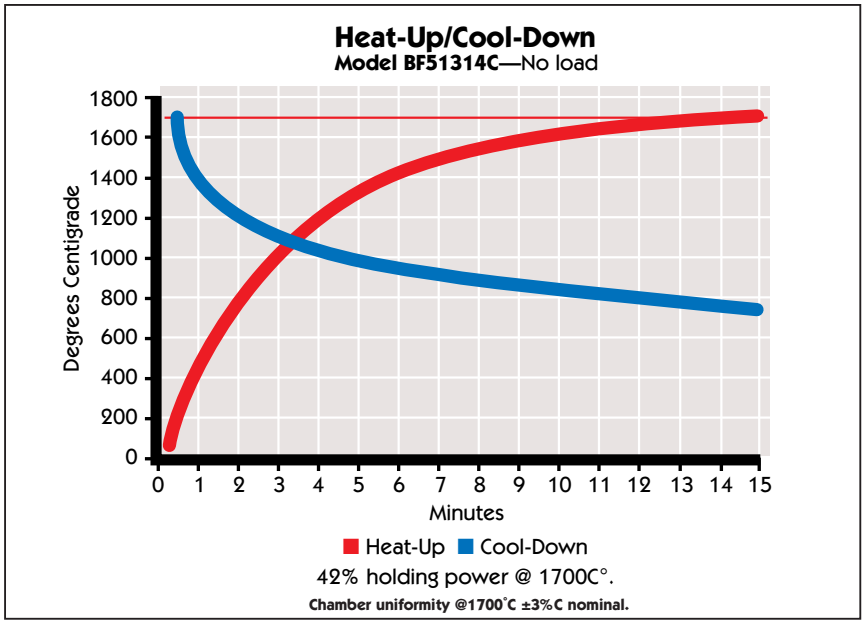
Controllers include RS485 data port (communications card and port) for connection to remote computer, allowing modification, interrogation and data transfer of all instrument control and configuration parameter. Up to 30 units can be connected to one PC. Software is not included, but is available as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

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

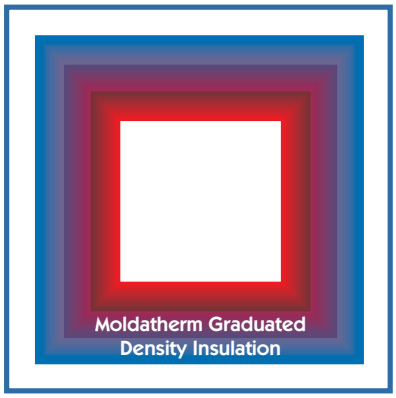
Moldatherm® graduated density insulation adds to safety and performance by forming enhanced insulation protection between the high temperature chamber and exterior cabinet surface. Unique right angle heating elements and an integrated control system (a choice of single setpoint or programmable control)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

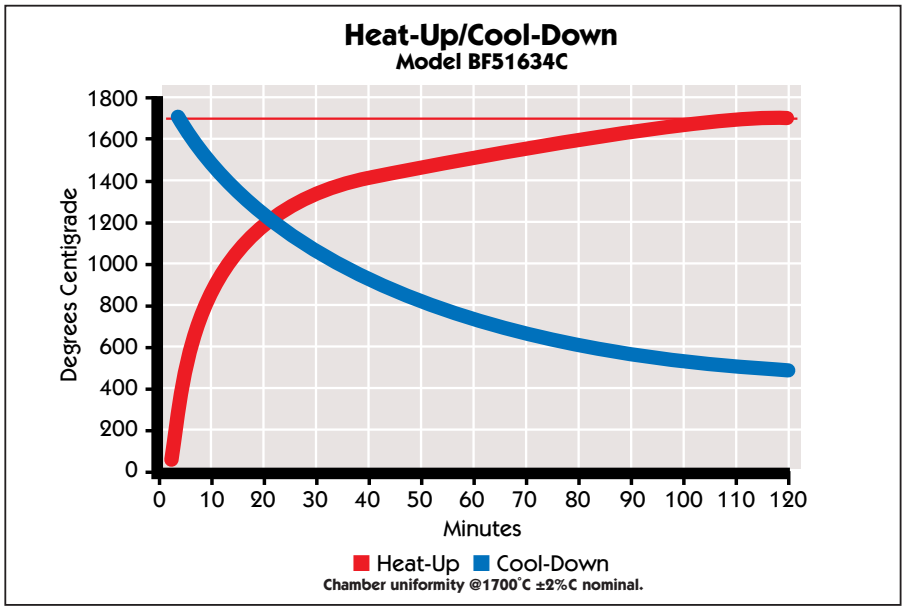
Option B Overtemperature Control (OTC)

- 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.