thermo scientific

Thermo Scientific Furnaces

Consistent performance at a high degree

ThermoFisher
SCIENTIFIC

Thermo Scientific Furnaces

Furnaces in laboratory and industrial settings are used every day for a wide variety of simple and technical applications. Deliver consistent results with a furnace you can depend on to attain your daily goals. Choose from a wide offering to accommodate your applications needs, which may include:

- Ashing
- Research, for example material science (ceramic, metal, glass), environmental, agriculture, food, chemistry
- Metal treatment
- Water treatment
- Electronics
- Pottery

Designed with safety in mind, Thermo Scientific™ furnaces offer temperature ranges up to 1200°C, temperature control options to meet your application needs, embedded or open heating elements designed to keep samples safe while maintaining reliable temperature uniformity.

Contents

Choose a temperature controller that fits your needs

Utilize our furnace's controllers and programmers for rigorous industrial, scientific and laboratory research and production applications

Various control options are offered for our two furnace product families:

- Thermo Scientific™ Thermolyne™ furnaces
- Thermo Scientific™ Lindberg/Blue M™ furnaces

Control sophistication ranges from single set point to more versatile microprocessor-based systems with temperature ramping, programming and communications options. The choice for each product provides the best solution for your application.

Integral contollers available across product families are self-contained and mounted in the main control panel of the furnace, saving space and allowing easy access with quick plug-in maintenance. All of our Thermolyne products come standard with integral controls, as do most of our Lindberg/Blue M models.

Independent contollers (available for select models) can be positioned adjacent to or remote from the furnace, allowing the operator to use the furnace in fume hoods or containment areas. The controls can also be placed or grouped for easy monitoring and control. Only available on select models of our Lindberg/Blue M.

Adjustable over-temperature protection provides additional peace of mind to the user. This safety feature overrides the main controller and shuts off the furnace's power if high limit is reached. It is available on many controls, standard, or as an option.

We only use reliable, high-quality controls from the specialized manufacturer Eurotherm™.

Thermo Scientific Thermolyne furnace controllers with PID microprocessor technology:

A1: Digital single setpoint control

- Dual display shows actual temperature and setpoint
- No mechanical over-temperature protection relay included

B1: Digital single setpoint control with a single ramp to setpoint and a dwell

- Mechanical over-temperature protection relay is included
- Dual display shows actual temperature and setpoint

C1: Digital programmable control with one stored program of 8 segments

- Mechanical over-temperature protection relay is included
- Dual display shows actual temperature and setpoint

D1: Digital programmable control with 4 stored programs, 16 segments per program, and RS-232 communications interface

- Mechanical over-temperature protection relay is included
- Dual display shows actual temperature and setpoint
- RS232 communications interface provides two-way communications between furnace and remote computer (cable, software, computer are not included)

Note: Thermo Fisher Scientific does not provide any software/ software support. Suggested suppliers are:

- Eurotherm™ (itools software) - visit www.eurotherm.co.uk/products/temperature-controller-programmers/config-software/eurotherm-itools
- Specview™ (itools software) - visit www.specview.com

Thermo Scientific Lindberg/Blue M furnace controllers with PID microprocessor technology:

A: Digital single program with 8 segments

- Additional Dwell Timer, Delay Timer, or Soft Start timer

B: Digital 5-programs with 16 segments programmable control

- Up to 5 programs and 16 segments for ramp (up and down) and dwell (timed hold) temperature control per program
- Dual display shows actual temperature and setpoint
- Mechanical over-temperature protection relay is included

C: Digital 25-program, 500-segment programmable control

- Up to 25 programs and up to 500 segments for ramp (up and down) and dwell (timed hold) temperature control per program
- Capability to repeat program steps, and cycles to repeat the whole program up to 999 times
- Program patterns can be based on either time or rate
- Large 5-digit LED display of actual temperature
- LCD display provides trend recording function, graphic prompts, configurable display data
- RS485 digital communications port available as an option on select models

D: Over-temperature control (OTC) – available as an option on most models:

- Adjustable digital over-temperature control, protects furnace and load in the event of primary control circuit failure available on selected models with “B” suffix designation; see spec table
- 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

Thermo Scientific Lindberg/Blue models

RS485 digital communications port available as an option on select models with programmable control:

- Provides two-way communications between furnace and remote computer (note: cable, software, computer is 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

Ordering instructions:

- 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 capabilities communication port: Accessory No. 7044

Note that Thermo Fisher Scientific is not providing any software / software support. Suggested suppliers:

- Eurotherm (e.g. itools software) - please visit www.eurotherm.co.uk/products/temperature-controller-programmers/config-software/eurotherm-itools
- Specview software – please go to www.specview.com

Furnace thermocouples provide temperature data to the control system to monitor the conditions in the interior of the system. They are made of different types of metals and metal alloys depending on the temperature level, stability, and measurement accuracy required.

Type K thermocouples are made of nickel-chromium or nickel-alumel alloys. They are the most common type of thermocouple and have very accurate and reliable temperature readings. They are used in all 1100 °C furnaces, including Thermolyne, LBM 1100 °C Moldatherm box and Mini-Mite tube furnaces.

Platinel II thermocouples are made of noble metal alloys and provide the best corrosion resistance at temperatures up to 1400 °C. They are used on the Thermolyne industrial benchtop, and LBM 1200 °C box and tube furnaces.

Type R thermocouples are made of platinum and platinum-rhodium alloys and are the best choice for very high temperature applications. They are used on all LBM 1500 °C box & tube furnaces.

Type B thermocouples are made of a platinum-rhodium alloy and can be used for extremely high temperatures, at which they are very accurate and stable. These are installed on all 1700 °C box & tube furnaces.

Temperature consistency and sample safety for your laboratory and industrial applications

For over 55 years, we have offered a variety of feature-rich furnaces to an array of industries and verticals to accommodate ordinary and technical tasks alike.

Box furnaces

Typically used for processing larger samples or to easily place and access samples. We offer a versatile selection of small, medium and large 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 side-swing doors (vertical or horizontal) or swing down doors.

Lindberg/Blue M heavy-duty 1200 C box furnace (BF51442C)

Thermolyne benchtop muffle furnace (F48025-60)

Thermo Scientific Thermolyne small benchtop muffle furnaces

Fast heatup and outstanding energy efficiency

Available in two capacities that reach a maximum temperature of 1100 °C

- Digital single setpoint temperature control
- Dual display shows actual temperature and setpoint
- Ceramic fiber insulation designed to permit faster heatup, reducing energy consumption
- Embedded heating elements on top and both sides designed to improve temperature uniformity
- Drop-down door doubles as a shelf for loading and unloading
- Door safety switch stops power to heating elements when door is opened
- Thermocouple break protection cuts power to heating elements, preventing failure runaway condition
- 0.95cm (0.38 in.) diameter port in chamber rear for monitoring temperatures with independent measuring devices

Applications

- Heat treatment
- Gravimetric analysis
- Quantitative analysis

Capacity	Temperature Range	Temperature Stability	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
1.3L 0.04 cu. Ft.	100°C to 1100°C	± 0.3 °C at 1000 °C	± 7.8 °C at 1000 °C	13 x 10.3 x 9.8 cm 5 x 4 x 3.8 in.	33 x 23 x 36 cm 13 x 9 x 14 in.	9 kg 20 lb

Please choose model based on your electrical requirements and plug type:

Cat. No.	Control	Electrical	Plug Type	Certification
FB1310M	Single setpoint	240 V, 50/60 Hz, 4.4 A, 1060 W	US: Nema 6-15	CSA
FB1310M-33	Single setpoint	240 V, 50/60 Hz, 4.4 A, 1060 W	EU / other countries: CEE 7/7	CE
FB1310M-33CN	Single setpoint	240 V, 50/60 Hz, 4.4 A, 1060 W	China: 10A	CE
FB1310M-33-CH	Single setpoint	240 V, 50/60 Hz, 4.4 A, 1060 W	Switzerland: SEV 1011	CE
FB1310M-33-UK	Single setpoint	240 V, 50/60 Hz, 4.4 A, 1060 W	UK / other countries: BS-1363	CE
FB1314M	Single setpoint	100 V, 50/60 Hz, 10.6 A, 1060 W	Japan: Nema 5-15	CSA
FB1315M	Single setpoint	120 V, 50/60 Hz, 8.9A, 1060 W	US: Nema 5-15	CSA
FB1318M	Single setpoint	208 V, 50/60 Hz, 5.1 A, 1060 W	US: Nema 6-15	CSA

Capacity	Temperature Range	Temperature Stability	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
2.1L 0.07 cu. Ft.	100°C to 1100°C	± 0.5 °C at 1000 °C	± 5.0 °C at 1000 °C	15.2 x 12.7 x 10.8 cm 6 x 5 x 4.25 in.	40 x 25 x 37 cm 15.8 x 10 x 14.5 in.	12.7 kg 28 lb

Please choose model based on electrical requirements:

Cat. No.	Control	Electrical	Plug Type	Certification
FB1410M	Single setpoint	240 V, 50/60 Hz, 6.3 A, 1520 W	US: Nema 6-15	CSA
FB1410M-33	Single setpoint	240 V, 50/60 Hz, 6.3 A, 1520 W	EU / other countries: CEE 7/7	CE
FB1410M-33CN	Single setpoint	240 V, 50/60 Hz, 6.3 A, 1520 W	China: 10A	CE
FB1410M-33-CH	Single setpoint	240 V, 50/60 Hz, 6.3 A, 1520 W	Switzerland: SEV 1011	CE
FB1410M-33-UK	Single setpoint	240 V, 50/60 Hz, 6.3 A, 1520 W	UK / other countries: BS-1363	CE
FB1414M	Single setpoint	100 V, 50/60 Hz, 14.5 A, 1450 W	Japan: Nema 5-15	CSA
FB1415M	Single setpoint	120 V, 50/60 Hz, 12.0 A, 1450 W	US: Nema 5-15	CSA
FB1418M	Single setpoint	208 V, 50/60 Hz, 7.3 A, 1520 W	US: Nema 6-15	CSA

Hearth plates

For Use With	Cat. No.
FB1300 Models	PH44X1
FB1400 Models	PH48X1

Ordering Information: Replacement heating elements and thermocouples available separately
Includes: Thermocouple, line cord, and hearth plate to protect bottom of unit
Warranty[v]: 1 year (parts and labor)
Certifications: -33 units are CE marked, all other units are CSA approved

Thermo Scientific Thermolyne industrial benchtop muffle furnaces

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

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

Temperature controller options

- Control B1, C1
- See page 4 for control details

Applications

- Heat treatment
- Melting
- Gravitmetric analysis

Capacity	Temperature Range	Interior Dimensions	Exterior Dimensions	Shipping Weight
2.2L	100°C to 1200°C	22.8 x 10.1 x 9.5 cm	45.7 x 27.9 x 41.9 cm	23.5 kg
0.08 cu. Ft.		9 x 4 x 3.75 in.	18 x 11 x 16.5 in.	52 lb

Please choose model based on your electrical requirements and plug type:

Cat. No.	Control	Electrical	Plug Type	Certification
FD1530M	Single setpoint with ramp	240 V, 50/60 Hz, 9.3 A, 2230 W	EU / other countries: CEE 7/7	cUL, UL
FD1530M-33	Single setpoint with ramp	240 V, 50/60 Hz, 9.3 A, 1560 W	US: Nema 6-15	cUL, UL
FD1530MCN	Single setpoint with ramp	240 V, 50/60 Hz, 9.3 A, 2230 W	China: 16A	cUL, UL
FD1535M	Single setpoint with ramp	120 V, 50/60 Hz, 18.6 A, 2230 W	No plug, no cable, requires hard wiring	cUL, UL
FD1540M	Programmable - 1 program	240 V, 50/60 Hz, 9.3 A, 2230 W	US: Nema 6-15	cUL, UL
FD1540M-33	Programmable - 1 program	240 V, 50/60 Hz, 9.3 A, 1560 W	EU / other countries: CEE 7/7	cUL, UL
FD1540MCN	Programmable - 1 program	240 V, 50/60 Hz, 9.3 A, 1560 W	China: 16A	cUL, UL
FD1545M	Programmable - 1 program	120 V, 50/60 Hz, 18.6 A, 2230 W	No plug, no cable, requires hard wiring	cUL, UL

Hearth plates

For Use With	Cat. No.
FD1500 Models	PHX2

Includes: Furnace, Platinel® II thermocouple and a ceramic hearth tray (Cat No. PHX2) to protect the bottom heating element

Warranty[y]: 1 year (parts and labor)

Certifications: All units cUL, UL listed

Thermo Scientific Thermolyne benchtop muffle furnaces

Increased efficiency with choice of two chamber capacities and choice of four control options for maximum flexibility

Available in two capacities for added flexibility

- Reaches a 1200 °C maximum temperature
- Built-in vent port removes contaminants and moisture to extend the life of the heating element and furnace
- For added protection, the door safety switch stops power to heating elements when door opens
- Thermocouple break protection cuts power to heating elements, preventing a thermocouple failure runaway condition
- Two open coil heating elements on chamber sides assure fast heat-up with minimum temperature gradient
- Thermal-efficient ceramic insulation surrounds chamber for maximum energy efficiency
- 0.312 in. (0.8 cm.) dia. port for monitoring chamber temperatures with independent measuring device at rear of chamber

F47900, F48000 models

- F47900 models have 2 L (0.07 cu.ft.) chamber capacity
- F48000 models have 5 L (0.2 cu.ft.) chamber capacity

Temperature controller options

- Controls A1, B1, C1, D1
- See page 4 for control details

Applications

General laboratory use including:

- Gravimetric analysis
- Ashing of organic and inorganic samples
- Sintering
- Quantitative analysis
- Heat treating

Accessories

For Use With	Description	Dimensions	Cat. No.
F47900	Hearth Tray	15.2 x 14.3 x 0.95 cm 5.98 x 5.63 x 0.37 in	PH479X1
F48000	Ceramic Shelf	17.4 x 17.3 x 1.2 cm 6.85 x 6.81 x 0.47 in	SH480X1
	Hearth Tray	25.4 x 19.3 x 0.95 cm 10 x 7.6 x 0.38 in	PH480X1
F47900 and F48000	Vent kit / exhaust tubing		AY408X1A

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

Capacity	Temperature Range	Temperature Stability	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
2.0L 0.07 cu. Ft.	100°C to 1200°C	± 0.4 °C at 1000 °C	± 4.8 °C at 1000 °C	15 x 13.7 x 10 cm 6 x 5 x 4 in.	39 x 28.5 x 47 cm 15.5 x 11.3 x 18.5 in.	18.5 kg 41 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Electrical	Plug Type	Certification
F47910	Single setpoint	240 V, 50/60 Hz, 4.2 A, 1000 W	US: Nema 6-15	CSA
F47910-33	Single setpoint	240 V, 50/60 Hz, 4.2 A, 1000 W	EU / other countries: CEE 7/7	CE
F47910-33CN	Single setpoint	240 V, 50/60 Hz, 4.2 A, 1000 W	China: 10A	CE
F47910-33-CH	Single setpoint	240 V, 50/60 Hz, 4.2 A, 1000 W	Switzerland: SEV 1011	CE
F47910-33-UK	Single setpoint	240 V, 50/60 Hz, 4.2 A, 1000 W	UK / other countries: BS-1363	CE
F47914	Single setpoint	100 V, 50/60 Hz, 7.5 A, 750 W	Japan: Nema 5-15	CSA
F47915	Single setpoint	120 V, 50/60 Hz, 8.3 A, 1000 W	US: Nema 5-15	CSA
F47920	Single setpoint with ramp	120 V, 50/60 Hz, 8.3 A, 1000 W	US: Nema 6-15	CSA
F47920-33	Single setpoint with ramp	240 V, 50/60 Hz, 4.2 A, 1000 W	EU / other countries: CEE 7/7	CE
F47920-33-80	Programmable - 1 program	240 V, 50/60 Hz, 4.2 A, 1000 W	EU / other countries: CEE 7/7	CE
F47920-33-80CN	Programmable - 1 program	240 V, 50/60 Hz, 4.2 A, 1000 W	China: 10A	CE
F47920-33CN	Single setpoint with ramp	240 V, 50/60 Hz, 4.2 A, 1000 W	China: 10A	CE
F47920-33-CH	Single setpoint with ramp	240 V, 50/60 Hz, 4.2 A, 1000 W	Switzerland: SEV 1011	CE
F47920-33-UK	Single setpoint with ramp	240 V, 50/60 Hz, 4.2 A, 1000 W	UK / other countries: BS-1363	CE
F47920-80	Programmable - 1 program	120 V, 50/60 Hz, 8.3 A, 1000 W	US: Nema 6-15	CSA
F47924	Single setpoint with ramp	100 V, 50/60 Hz, 7.5 A, 750 W	Japan: Nema 5-15	CSA
F47924-80	Programmable - 1 program	120 V, 50/60 Hz, 8.3 A, 1000 W	US: Nema 5-15	CSA
F47925	Single setpoint with ramp	120 V, 50/60 Hz, 8.3 A, 1000 W	US: Nema 5-15	CSA
F47925-80	Programmable - 1 program	120 V, 50/60 Hz, 8.3 A, 1000 W	US: Nema 5-15	CSA
F47950	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 4.2 A, 1000 W	US: Nema 6-15	CSA
F47950-33	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 4.2 A, 1000 W	EU / other countries: CEE 7/7	CE
F47950-33CN	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 4.2 A, 1000 W	China: 10A	CE
F47950-33-CH	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 4.2 A, 1000 W	Switzerland: SEV 1011	CE
F47950-33-UK	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 4.2 A, 1000 W	UK / other countries: BS-1363	CE
F47954	Programmable - 4 programs, COM*	100 V, 50/60 Hz, 7.5 A, 750 W	Japan: Nema 5-15	CSA
F47955	Programmable - 4 programs, COM*	120 V, 50/60 Hz, 8.3 A, 1000 W	US: Nema 5-15	CSA

Capacity	Temperature Range	Temperature Stability	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
5.8L 0.2 cu. Ft.	100°C to 1200°C	± 0.2 °C at 1000 °C	± 3.6 °C at 1000 °C	25 x 18 x 13 cm 10 x 7 x 5 in.	50 x 34 x 48 cm 19.5 x 13.3 x 19 in.	27.2 kg 60 lb

Programmable - 4 programs, COM

Cat. No.	Control	Electrical	Plug Type	Certification
F48010	Single setpoint	240 V, 50/60 Hz, 7.5A, 1800 W	USA: Nema 6-15	CSA
F48010-33	Single setpoint	240 V, 50/60 Hz, 6.5 A, 1560 W	EU / other countries: CEE 7/7	CE
F48010-33CN	Single setpoint	240 V, 50/60 Hz, 6.5 A, 1560 W	China: 10A	CE
F48010-33-CH	Single setpoint	240 V, 50/60 Hz, 6.5 A, 1560 W	Switzerland: SEV1011	CE
F48010-33-UK	Single setpoint	240 V, 50/60 Hz, 6.5 A, 1560 W	UK / other countries:BS1363	CE
F48015-60	Single setpoint	120 V, 50/60 Hz, 15 A, 1800 W	USA: Nema 5-20	CSA
F48018	Single setpoint	208 V, 50/60 Hz, 7.5 A, 1560 W	USA: Nema 6-15	CSA
F48020-DB	Single setpoint with ramp	240 V, 50/60 Hz, 7.5A, 1800 W	USA: Nema 6-15	CSA
F48020-26	Single setpoint with ramp	240 V, 50/60 Hz, 7.5A, 1800 W	EU / other countries: CEE 7/7	CSA
F48020-26-80	Programmable - 1 program	240 V, 50/60 Hz, 7.5A, 1800 W	EU / other countries: CEE 7/7	CSA
F48020-33	Single setpoint with ramp	240 V, 50/60 Hz, 6.5 A, 1560 W	EU / other countries: CEE 7/7	CE
F48020-33-80	Programmable - 1 program	240 V, 50/60 Hz, 6.5 A, 1560 W	EU / other countries: CEE 7/7	CE
F48020-33-80CN	Programmable - 1 program	240 V, 50/60 Hz, 6.5 A, 1560 W	China: 10A	CE
F48020-33CN	Single setpoint with ramp	240 V, 50/60 Hz, 6.5 A, 1560 W	China: 10A	CE
F48020-33-CH	Single setpoint with ramp	240 V, 50/60 Hz, 6.5 A, 1560 W	Switzerland: SEV1011	CE
F48020-33-UK	Single setpoint with ramp	240 V, 50/60 Hz, 6.5 A, 1560 W	UK / other countries: BS1363	CE
F48020-80	Single setpoint with ramp	240 V, 50/60 Hz, 7.5A, 1800 W	USA: Nema 6-15	CSA
F48024-80	Programmable - 1 program	100 V, 50/60 Hz, 14.5A, 1800 W	Japan: Nema 5-15	CSA
F48025-60	Single setpoint with ramp	120 V, 50/60 Hz, 15 A, 1800 W	USA: Nema 5-20	CSA
F48025-60-80	Programmable - 1 program	120 V, 50/60 Hz, 15 A, 1800 W	USA: Nema 5-20	CSA
F48028-80	Programmable - 1 program	208 V, 50/60 Hz, 7.5 A, 1560 W	USA: Nema 6-15	CSA
F48050	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 7.5A, 1800 W	USA: Nema 6-15	CSA
F48050-33	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 6.5 A, 1560 W	EU / other countries: CEE 7/7	CE
F48050-33CN	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 6.5 A, 1560 W	China: 10A	CE
F48050-33-CH	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 6.5 A, 1560 W	Switzerland: SEV1011	CE
F48050-33-UK	Programmable - 4 programs, COM*	240 V, 50/60 Hz, 6.5 A, 1560 W	UK / other countries:BS1363	CE
F48055-60	Programmable - 4 programs, COM*	120 V, 50/60 Hz, 15 A, 1800 W	USA: Nema 5-20	CSA
548054	Programmable - 4 programs, COM*	100 V, 50/60 Hz, 14.5A, 1800 W	No plug, no cable, requires hard wiring	CSA
548055	Programmable - 4 programs, COM*	120 V, 50/60 Hz, 15 A, 1800 W	No plug, no cable, requires hard wiring	CSA
F48058	Programmable - 4 programs, COM*	208 V, 50/60 Hz, 7.5 A, 1560 W	USA: Nema 6-15	CSA

* RS232 communications interface

Thermo Scientific Thermolyne premium large muffle furnaces

Robust design and choice of four temperature controllers

- Spacious 14 L (0.5 cu.ft.) capacity that reaches a maximum of 1200 °C
- Four heating elements are located on the chamber top, bottom and sides, designed for enhanced temperature uniformity
- Built-in vent port removes undesirable contaminants and moisture to extend the life of the element and unit
- Rear of the chamber incorporates a 0.312 in. (0.8 cm.) diameter port for monitoring chamber temperatures with independent measuring devices
- Optional stainless-steel shelf doubles load capacity (maximum temperature of 900 °C)
- Door safety switch stops power to heating elements when door opens
- Thermocouple break protection cuts power to the heating elements, preventing a thermocouple failure runaway condition
- Furnaces with B1, C1, and D1 control also use a mechanical over-temperature protection relay

Temperature controller options

- A1, B1, C1, D1
- See page 4 for control details

Applications

Ideal for industrial applications including:

- Ashing organic and inorganic samples
- Gravimetric analysis

Capacity	Temperature Range	Temperature Stability	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
14L 0.5 cu. Ft.	100°C to 1200°C	±0.3 °C at 1000 °C	±2.2 °C at 1000 °C	25 x 33 x 18 cm 10 x 12.8 x 6.8 in.	51 x 48.5 x 53.3 cm 20.1 x 19.1 x 21 in	60.8 kg 134 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Electrical	Plug Type	Certification
F6010	Single setpoint	240 V, 50/60 Hz, 12.9 A, 3095 W	US: Nema 6-15	CSA
F6010CN	Single setpoint	240 V, 50/60 Hz, 12.9 A, 3095 W	China: 16A	CSA
F6018	Single setpoint	208 V, 50/60 Hz, 11.2 A, 2325 W	US: Nema 6-15	CSA
F6020C	Single setpoint with ramp	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CSA
F6020C-33	Single setpoint with ramp	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CE
F6020C-33-80	Programmable - 1 program	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CE
F6020C-80	Programmable - 1 program	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CSA
F6028C	Single setpoint with ramp	208 V, 50/60 Hz, 19.2 A, 4000 W	No plug, no cable, requires hard wiring	CSA
F6028C-80	Programmable - 1 program	208 V, 50/60 Hz, 19.2 A, 4000 W	No plug, no cable, requires hard wiring	CSA
F6030CM	Programmable - 4 programs, COM	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CSA
F6030CM-33	Programmable - 4 programs, COM	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CE
F6038CM	Programmable - 4 programs, COM	208 V, 50/60 Hz, 19.2 A, 4000 W	No plug, no cable, requires hard wiring	CSA

Accessories

For Use With	Description	Dimensions	Cat. No.
F6000	Stainless Steel Shelf	32.5 x 21.1 cm 12.8 x 8.3 in	SH408X1
	Shelf Pegs		JSX16
	Hearth Tray (up to 9 per chamber floor in 3 x 3 pattern)	10 X 7.63 X 0.38 cm 3.93 x 3.3 x 0.15 in	PH480X1

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

Thermo Scientific Thermolyne largest tabletop muffle furnaces

Spacious chamber for large samples or high sample volumes

- Triple the work area using two supplied accessory refractory shelves with optional hearth tray
- Advanced LED digital-set/digital-display temperature controller is microprocessor-controlled
- LED display simultaneously shows both setpoint and actual furnace temperatures in °C or °F
- User-selectable over-temperature protection
- Open thermocouple protection
- Chamber has five shelf positions, two shelves supplied

Safety and design features

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

Choice of temperature controllers

- Controls B1, C1, D1
- See page 4 for control details

Applications

- Gravimetric analysis
- Sintering
- Quantitative analysis
- Heat treatment

Capacity	Temperature Range	Temperature Stability	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
45L 1.6 cu. Ft.	100°C to 1093°C	± 1.2 °C at 1000 °C	± 3.5 °C at 1000 °C	36 x 36 x 36 cm 14 x 14 x 14 in.	64.7 x 54.6 x 74.9 cm 25.5 x 21.5 x 29.5 in	117.9 kg 260 lb

Please choose model based on your electrical requirements and plug type:

Cat. No.	Control	Electrical	Plug Type	Certification
F30420C	Single setpoint with ramp	240 V, 50/60 Hz 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CSA
F30420C-33	Single setpoint with ramp	240 V, 50/60 Hz 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CE
F30420C-33-80	Programmable - 1 program	240 V, 50/60 Hz 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CE
F30420C-80	Programmable - 1 program	240 V, 50/60 Hz 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CSA
F30428C	Single setpoint with ramp	208 V, 50/60 Hz 26.4 A, 5500 W	No plug, no cable, requires hard wiring	CSA
F30428C-80	Programmable - 1 program	208 V, 50/60 Hz 26.4 A, 5500 W	No plug, no cable, requires hard wiring	CSA
F30430CM	Programmable - 4 programs, COM	240 V, 50/60 Hz 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CSA
F30430CM-33	Programmable - 4 programs, COM	240 V, 50/60 Hz 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CE
F30438CM	Programmable - 4 programs, COM	208 V, 50/60 Hz 26.4 A, 5500 W	No plug, no cable, requires hard wiring	CSA

Accessories

For Use With	Description	Dimensions	Cat. No.
F30000	Refractory Shelf	35.2 x 25.4 x 1.27 cm 13.87 x 10 x 0.56 in	SH412X1
	Hearth Tray	17.1 x 14.9 x 1.9 cm 6.75 x 5.9 x 0.75 in	PH146X1

Warranty[v]: 1 year (parts and labor)

Certifications: All units CSA approved, -33 units also CE marked

Includes: Two accessory refractory shelves; all models require hardwiring

Thermo Scientific Thermolyne atmosphere controlled ashing furnaces

Ideal for coal and coke ashing procedures

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

Type F6000

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

Type F6000-80 programmable models

- Typical settings can be programmed: Model F6000 with C1 control meets ASTM D3174 specifications: 3 to 4 air exchanges per minute - Heating rate of 8 °C/minute to 500 °C, 6 °C/minute, from 500° to 750 °C, Hold at 750 °C for two hours, then turn off automatically

Choice of temperature controllers

- Controls B1, C1, D1
- See page 4 for control details

Applications

- Coal and coke ashing procedures

Capacity	Temperature Range	Temperature Stability	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
14L 0.5 cu. Ft.	100 °C to 975 °C	± 1.5 °C at 975 °C	± 4.5 °C at 975 °C	25 x 33 x 18 cm 10 x 12.8 x 6.8 in.	51 x 48.5 x 53.3 cm 20.1 x 19.1 x 21 in	60.8 kg 134 lb

Please choose model based on your electrical requirements and plug type:

Cat. No.	Control	Electrical	Plug Type	Certification
F6020C-33-60	Single setpoint with ramp	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CE
F6020C-33-60-80	Programmable - 1 program	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CE
F6028C-60	Single setpoint with ramp	208 V, 50/60 Hz, 19.2 A, 4000 W	No plug, no cable, requires hard wiring	CSA
F6028C-60-80	Programmable - 1 program	208 V, 50/60 Hz, 19.2 A, 4000 W	No plug, no cable, requires hard wiring	CSA
F6030CM-33-60	Programmable - 4 program	240 V, 50/60 Hz, 18.3 A, 4400 W	No plug, no cable, requires hard wiring	CE

Capacity	Temperature Range	Temperature Stability	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
45L 1.6 cu. Ft.	100 °C to 975 °C	± 1.2 °C at 975 °C	± 3.5 °C at 975 °C	36 x 36 x 36 cm 14 x 14 x 14 in.	65 x 55 x 75 cm 25.5 x 21.5 x 29.5 in	117.9 kg 260 lb

Please choose model based on your electrical requirements and plug type:

Cat. No.	Control	Electrical	Plug Type	Certification
F30420-33-60-80	Programmable - 1 program	240 V, 50/60 Hz, 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CE
F30420C-60-80	Programmable - 1 program	240 V, 50/60 Hz, 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CSA
F30428C-60-80	Programmable - 1 program	208 V, 50/60 Hz, 23.4 A, 5500 W	No plug, no cable, requires hard wiring	CSA
F30430CM-33-60	Programmable - 4 program	240 V, 50/60 Hz, 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CE
F30430CM-60	Programmable - 4 program	240 V, 50/60 Hz, 22.9 A, 5500 W	No plug, no cable, requires hard wiring	CSA
F30438CM-60	Programmable - 4 program	208 V, 50/60 Hz, 23.4 A, 5500 W	No plug, no cable, requires hard wiring	CSA

Accessories

For Use With	Description	Dimensions	Cat. No.
F47900	Stainless Steel Shelf	32.5 x 21.1 cm 12.8 x 8.3 in	SH408X1
	Inconel Manifold		AY408X1
F30000-60	Refractory Shelf	35.2 x 25.4 x 1.27 cm 13.87 x 10 x 0.56 in	SH412X1
	Inconel Manifold		AY718X1
F6000-60 and F30000-60	Crucible Trays	32.4 x 25.4 x 17.1 cm 12.75 x 10 x 6.75 in	TY408X2A
	Shelf Handle		HN408X2A
	Exhaust Tubing Kit		AY408X1A

Warranty[4]: 1 year (parts and labor) **Certifications:** CSA certified, CE marked as indicated Required power cord and hardwiring not included.

Lindberg/Blue M products

Our Lindberg/Blue M furnaces

We offer a wide range of chamber and tube furnaces. Lindberg/Blue M furnaces offer temperature ranges up to 1700 °C, and a variety of chamber sizes designed to meet your application needs. The Lindberg/Blue M range is focused on industrial labs.

Unique Moldatherm® insulation

The patented Moldatherm ceramic fiber insulation composite has rapid heat-up and cool-down properties that allow a quick turn-around for more productive furnace use.

LGO™ heating element

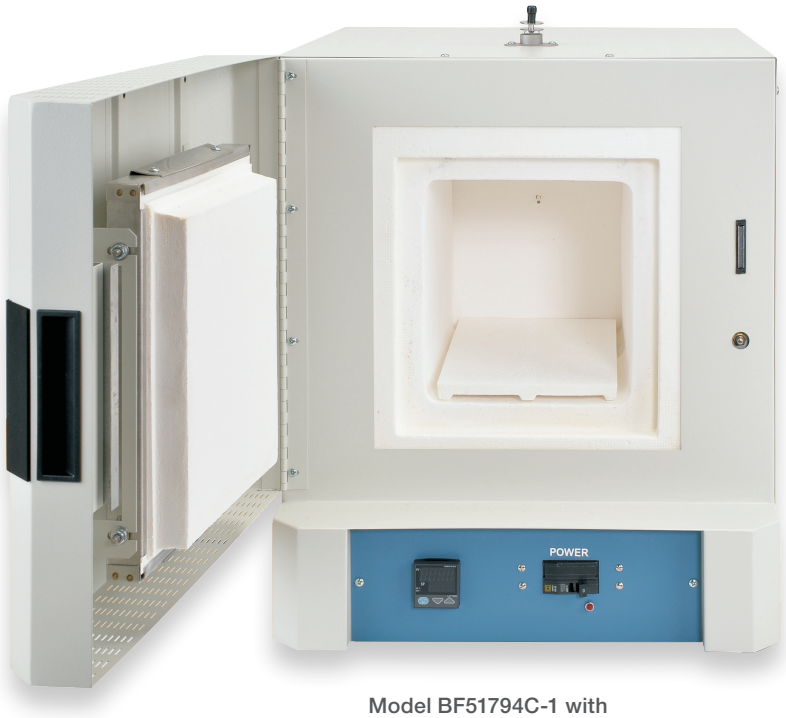
The patented LGO (light gauge overbend) heating element, a standard component on many Lindberg/Blue M box and tube furnaces, delivers exceptional energy release, fast heat-up and recovery, reduced thermal process cycle time, and cost savings through quicker throughput and energy efficiency. LGO heating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

A choice of high-end PID (proportional, integral, derivative) based microprocessor controls address specific application requirements with Lindberg/Blue M furnaces.

Thermo Scientific Lindberg/Blue M Moldatherm box furnaces

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

- Unique insulation and heating element composites minimize outer surface temperatures while maintaining uniform heat distribution within the chamber
- Selectable self-tuning feature sets control parameters for the thermal process
- PID control prevents temperature overshoot
- Main power ON/OFF switch on control panel
- Controlled heat-up rate eliminates thermal shock to materials
- Adjustable high-limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint (°C or °F)



Model BF51794C-1 with standard left hand door

Advanced construction

- Variable density insulation
- Double shell cabinets
- Long-life heating elements
- Horizontal side swing doors
- Side-hinge door for convenient operation and full chamber access
- Long-life Type K thermocouple
- Air vent (1 in. dia., top) and air inlet (0.375 in. dia., rear) for inert atmosphere exchange; (Note: door is not gas-tight)
- Removable and replaceable Moldatherm hearth plate supports load and prevents damage due to spillage
- Energy efficient Moldatherm insulation with embedded heating elements
- Safety door switch to interrupt power to heating element when door is opened; protects heating element and minimizes exposure to end-user

Controller choices, all with over-temperature protection

- A, B temperature control
- See page 5 for control details

Applications

- Incineration
- Ashing
- Baking
- Annealing
- Analytical processes

Capacity	Temperature Range	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
1.99L 0.07 cu. Ft.	100 °C to 1100 °C	± 2.0 at 1100 °C	10.2 x 10.2 x 20.3 cm 4 x 4 x 8 in.	50.8 x 38.1 x 44.4 cm 20 x 15 x 17.5 in	24.9 kg 55 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51748A-1	Single Program with 8 segments	Yes	BF51748COMA-1	120 V, 50/60Hz, 15 A, 1800 W	US: Nema 5-20P	UL
BF51748C-1	Single Program with 8 segments	Yes		208/240 V, 50/60Hz, 7.5 A, 1800 W	EU 1-16P and US NEMA 6-20P	UL, CE
BF51848A-1	5 Programs with 16 segements each	Yes	BF51848COMA-1	120 V, 50/60Hz, 15 A, 1800 W	US: Nema 5-20P	UL
BF51848C-1	5 Programs with 16 segements each	Yes	BF51848COMC-1	208/240 V, 50/60Hz, 7.5 A, 1800 W	EU 1-16P and US NEMA 6-20P	UL, CE

Capacity	Temperature Range	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
5.3L 0.19 cu. Ft.	100°C to 1100°C	± 2.0 °C at 1100 °C	22.9 x 15.2 x 15.2 cm 9 x 6 x 6 in.	53.3 x 43.1 x 54.6 cm 21 x 17 x 21.5 in	50 kg 110 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51766A-1	Single Program with 8 segments	Yes	BF51766COMA-1	120 V, 50/60Hz, 15 A, 1800 W	US: Nema 5-20P	UL
BF51766C-1	Single Program with 8 segments	Yes	BF51766COMC-1	208/240 V, 50/60Hz, 7.5 A, 1800 W	EU 1-16P and US NEMA 6-20P	UL, CE
BF51866A-1	5 Programs with 16 segements each	Yes	BF51866COMA-1	120 V, 50/60Hz, 15 A, 1800 W	US: Nema 5-20P	UL
BF51866C-1	5 Programs with 16 segements each	Yes	BF51866COMC-1	208/240 V, 50/60Hz, 7.5 A, 1800 W	EU 1-16P and US NEMA 6-20P	UL, CE

Capacity	Temperature range	Temperature Uniformity	Interior dimensions	Exterior dimensions	Shipping Weight
18.4L 0.65 cu. Ft.	100°C to 1100°C	± 2.0 °C at 1100 °C	35.6 x 22.9 x 22.9 cm 14 x 9 x 9 in.	65.4 x 53.3 x 66 cm 25.75 x 21 x 26 in	59 kg 130 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	OTP Standard	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51794C-1	Single Program with 8 segments	Yes		120 V, 50/60Hz, 15 A, 1800 W	EU 1-16P and US NEMA 6-20P	UL
BF51894C-1	5 Programs with 16 segements each	Yes	BF51894COMC-1	208/240 V, 50/60Hz, 7.5 A, 1800 W	EU 1-16P and US NEMA 6-20P	UL

Capacity	Temperature range	Temperature Uniformity	Interior dimensions	Exterior dimensions	Shipping Weight
42.5L 1.5 cu. Ft.	100°C to 1100°C	± 2.0 °C at 1100 °C	45.7 x 30.5 x 30.5 cm 18 x 12 x 12 in.	76.2 x 60.9 x 71.1 cm 30 x 24 x 28 in	84 kg 185 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51728C-1	Single Program with 8 segments	Yes		120 V, 50/60Hz, 15 A, 1800 W	No plug, no cable, requires hard wiring	UL, CE
BF51728RHDC-1	Single Program with 8 segments	Yes	BF51728RHDCOMC-1	120 V, 50/60Hz, 15 A, 1800 W	No plug, no cable, requires hard wiring	UL, CE
BF51828C-1	5 Programs with 16 segements each	Yes	BF51828COMC-1	208/240 V, 50/60Hz, 7.5 A, 1800 W	No plug, no cable, requires hard wiring	UL, CE
BF51828RHDC-1	5 Programs with 16 segements each	Yes	BF51828RHDCOMC-1	208/240 V, 50/60Hz, 7.5 A, 1800 W	No plug, no cable, requires hard wiring	UL, CE

*"RHD" designates right hand door - compared to regular model with left hand door

Warranty[x]: 1 year (parts and labor) **Certifications:** UL, CE on designated units. See Table.

Thermo Scientific Lindberg/Blue M LGO 1200 °C box furnaces

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

Model BF51842C-1 with horizontal side swing door

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

Microprocessor control

- Microprocessor-based self-tuning PID control provides optimum thermal process, prevents overshoot
- Control panel designed for easy access and maintenance
- Main power ON/OFF switch on control panel
- Adjustable high-limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint in °C or °F
- Safety door switch interrupts power to heating element when door is opened
- Removable shelves for versatility
- Moldatherm hearthplate supports load and prevents damage due to spillage

Flowmeter option (FM)

- Available on selected models with “FM” designation
- 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.

Controller choices, all with over-temperature protection

- A, B, C, choice of overtemperature control (OTC), flow meter option (FM) on select models
- See page 5 for control details

Applications

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

Capacity	Temperature range	Door Style	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
16.4 L 0.6 cu. Ft.	100 °C to 1200 °C	Vertical Lift Door	± 2.0 °C at 1200 °C	27.9 x 33 x 17.8 cm 11 x 13 x 7 in	58.4 x 61 x 68.6 cm 23 x 24 x 27 in.	75 kg 165 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Over Temperature Protection	Flow Meter	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51731C-1	Single program with 8 segments	No	No	BF51731COMC-1	208/240 V, 50/60 Hz, 16-19 A, 4500 W	No plug, no cable, requires hard wiring	UL, CE
BF51731BC-1	Single program with 8 segments	Yes	No		208/240 V, 50/60 Hz, 16-19 A, 4500 W	No plug, no cable, requires hard wiring	UL, CE
BF51732C-1	5 program with 16 segments each	No	No	BF51732COMC-1	208/240 V, 50/60 Hz, 16-19 A, 4500 W	No plug, no cable, requires hard wiring	UL, CE
BF51732BC-1	5 program with 16 segments each	Yes	No	BF51732BCOMC-1	208/240 V, 50/60 Hz, 16-19 A, 4500 W	No plug, no cable, requires hard wiring	UL, CE
BF51732PC-1	25 program - 500 segments each	No	No		208/240 V, 50/60 Hz, 16-19 A, 4500 W	No plug, no cable, requires hard wiring	UL, CE
BF51732PBC-1	25 program - 500 segments each	Yes	No		208/240 V, 50/60 Hz, 16-19 A, 4500 W	No plug, no cable, requires hard wiring	UL, CE
BF51732PFMC-1	25 program - 500 segments each	No	Yes	BF51732PFMCOMC-1	208/240 V, 50/60 Hz, 16-19 A, 4500 W	No plug, no cable, requires hard wiring	UL, CE
BF51732PBFMC-1	25 program - 500 segments each	Yes	Yes	BF51732PBFMCOMC-1	208/240 V, 50/60 Hz, 16-19 A, 4500 W	No plug, no cable, requires hard wiring	UL, CE

Capacity	Temperature range	Door Style	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
55.3 L 2.0 cu. Ft.	100°C to 1200°C	Horizontal Side Swing Door	± 2.0 °C at 1200 °C	38.1 x 38.1 x 38.1 cm 15 x 15 x 15 in.	71.3 x 73.7 x 83.8 cm 28 x 29 x 33 in	127 kg 280 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Over Temperature Protection	Flow Meter	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51841C-1	Single program with 8 segments	No	No		208/240 V, 50/60 Hz, 25 A, 5800 W	No plug, no cable, requires hard wiring	UL, CE
BF51841BC-1	Single program with 8 segments	Yes	No		208/240 V, 50/60 Hz, 25 A, 5800 W	No plug, no cable, requires hard wiring	UL, CE
BF51842C-1	5 program with 16 segments each	No	No	BF51842COMC-1	208/240 V, 50/60 Hz, 25 A, 5800 W	No plug, no cable, requires hard wiring	UL, CE
BF51842BC-1	5 program with 16 segments each	Yes	No		208/240 V, 50/60 Hz, 25 A, 5800 W	No plug, no cable, requires hard wiring	UL, CE
BF51842PC-1	25 program - 500 segments each	No	No	BF51842PCOMC-1	208/240 V, 50/60 Hz, 25 A, 5800 W	No plug, no cable, requires hard wiring	UL, CE
BF51842PBC-1	25 program - 500 segments each	Yes	No	BF51842PBCOMC-1	208/240 V, 50/60 Hz, 25 A, 5800 W	No plug, no cable, requires hard wiring	UL, CE
BF51842PFMC-1	25 program - 500 segments each	No	Yes	BF51842PFMCOMC-1	208/240 V, 50/60 Hz, 25 A, 5800 W	No plug, no cable, requires hard wiring	UL, CE
BF51842PBFMC-1	25 program - 500 segments each	Yes	Yes	BF51842PBFMCOMC-1	208/240 V, 50/60 Hz, 25 A, 5800 W	No plug, no cable, requires hard wiring	UL, CE

Ordering Information: Required power cord and hardwiring not included
Includes: One two-part shelf (0.6 cu. ft. models have one shelf position at center position; 2.0 cu. ft. models have three shelf positions)
Warranty[x]: 1 year (parts and labor)

Thermo Scientific Lindberg/Blue M heavy-duty 1200 °C box furnaces

Unique internal construction and outer shell design reduces external surface temperatures without compromising interior temperature control

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

Control consoles for 1200 °C box furnace:

- Control choices: A, B, choice of over temperature control (OTC) on select models – see page 5 for details
- Control console is fully wired and includes a solid-state power module, ON/OFF circuit breaker and thermocouple input jack
- Designed for operation on 208, or 240V 50/60 Hz, single-phase line
- Required power cord, hardwiring and interconnecting wiring are not included

Applications

- Ashing
- Fusion
- Ignitions
- Alloying
- Sintering
- Heat-treatment

Cat. No.	Capacity	Temperature range	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Electrical	Shipping Weight	Certification
BF51442C	9 L	100°C to 1200°C	± 5.0 °C at 1200 °C	35.6 x 19.5 x 13.3 cm	50.8 x 50.8 x 62.2 cm	208/240 V, 50/60 Hz, 21 A, 4800 W	66 kg	UL, CE
	0.31 cu. Ft.			14 x 7.5 x 5.25 in	20 x 20 x 24.5 in		145 lb	UL, CE

Cat. No.	Capacity	Temperature range	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Electrical	Shipping Weight	Certification
BF51542C	23 L	100°C to 1200°C	± 5.0 °C at 1200 °C	36.8 x 26.7 x 24.1 cm	78.7 x 71.1 x 72.4 cm	208/240 V, 50/60 Hz, 26 A, 6200 W	152 kg	UL, CE
	0.81 cu. Ft.			14.5 x 10.5 x 9.5 in	31 x 28 x 28.5 in		335 lb	UL, CE

Please choose Independent Control model based on desired options:

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
CC58114C-1	Single program with 8 segments	No	CC58114COMC-1	208/240V, 50/60Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114PC-1	5 program with 16 segments each	No	CC58114PCOMC-1	208/240V, 50/60Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114BC-1	Single program with 8 segments	Yes	CC58114BCOMC-1	208/240V, 50/60Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114PBC-1	5 program with 16 segments each	Yes		208/240V, 50/60Hz, 30 A	No plug, no cable, requires hard wiring UL, CE	UL, CE

Ordering information: Choice of controllers available, including 1200 °C digital single-program/multiple-segment programmable controller and over-temperature control

Required accessories: Independent control console CC58114C. Required power cord and hardwiring not included

Warranty[a]: 1 year (parts and labor)

Thermo Scientific Lindberg/Blue M multipurpose 1500 °C box furnaces

Multipurpose furnaces feature integral control to 1500 °C

BF51422PBC Box furnace with vertical lift door

- Double-wall construction with Moldatherm insulation for rapid heatup and cooldown, energy efficiency and cooler exterior surface temperatures
- Adjustable high-limit over-temperature protection
- Microprocessor-based PID control
- Choice of two controllers: single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control or multiple program with up to 16 segments
- Standard adjustable digital over-temperature control (OTC) protects furnace and load in the event of primary control circuit failure
- Simultaneous LED display of actual and setpoint temperatures in either °C or °F
- Silicon carbide heating elements for long-life, safety and reliable service with maximum energy savings
- Safety door switch interrupts power to heating elements when door is opened; protects elements and minimizes exposure to operator
- Moldatherm hearth plate supports load and protects interior from spillage and mishandling
- Type “R” thermocouple is integrated into chamber back wall

Control choices

- B,C standard over-temperature protection
- See page 5 for details on controllers

Applications

- Annealing
- Melting
- Heat treatment
- Brazing
- Alloying

Capacity	Temperature range	Door Style	Interior Dimensions	Exterior Dimensions	Shipping Weight
6 L 0.21 cu. Ft.	500°C to 1500°C	Vertical Lift Door	30.5 x 15.2 x 12.7 cm 12 x 6 x 5 in.	73.7 x 63.5 x 66 cm 29 x 25 x 26 in	145 kg 320 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51433BC-1	5 program with 16 segments each	Yes	BF51433BCOMC-1	208/240 V, 50/60Hz, 27 A, 6400 W	No plug, no cable, requires hard wiring	UL, CE
BF51433PBC-1	25 program - 500 segments each	Yes	BF51433PBCOMC-1	208/240 V, 50/60Hz, 27 A, 6400 W	No plug, no cable, requires hard wiring	UL, CE

Ordering information: Required power cord and hardwiring are not included
Warranty[x]: 1 year (parts and labor)

Thermo Scientific Lindberg/Blue M 1700 °C box furnaces, large chamber, integral control

Designed for efficient, high-temperature use with minimal maintenance

- Fast heatup to high temperatures, unique door design and control sophistication with programming and communications
- Designed for efficient high-temperature use with minimal maintenance
- Side swing door provides full and easy access to chamber, protects user from heat surge
- Atmosphere port, 0.375 in. diameter, for fresh air or inert gas inlet (located at back wall, bottom; door is not gas-tight)
- Solid-state power module with ammeter, circuit breaker, transformer and front panel indicator lights for “Ready Element” and “Main Power Applied”
- Safety power disconnect switch cuts power to heating elements when door is opened
- Moldatherm high-temperature ceramic fiber insulation with advanced graded design for fast heat-up and resistance to thermal shock
- Moldatherm hearth plate 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 for accurate high-temperature measurement
- Removable panels for easy access to replaceable heating elements and thermocouples

Smart heating elements

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

Control choices

- C, with over-temperature protection
- See page 5 for details

Applications

- Ashing
- Fusion
- Ignitions
- Alloying
- Sintering

Capacity	Temperature range	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
17 L 0.6 cu. Ft.	500°C to 1700°C	± 2.0 °C at 1700 °C	26.7 x 27.9 x 22.9 10.5 x 11 x 9 in.	61 x 71.1 x 78.7 cm 24 x 28 x 31 in	159 kg 350 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51634PBC-1	25 program - 500 segments each	Yes	BF51634PBCOMC-1	208/240 V, 50/60 Hz, 23 A, 5900 W	No plug, no cable, requires hard wiring	UL, CE

Capacity	Temperature range	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Shipping Weight
25.5 L 0.9 cu. Ft.	500°C to 1700°C	± 2.0 °C at 1700 °C	39.4 x 27.9 x 22.9 15.5 x 11 x 9 in.	76.2 x 71.1 x 78.7 cm 30 x 28 x 31 in	168 kg 370 lb

Please choose model based on your electrical requirements:

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
BF51664PBC-1	25 program - 500 segments each	Yes	BF51664PBCOMC-1	208/240 V, 50/60 Hz, 30 A, 7100 W	No plug, no cable, requires hard wiring	UL, CE

Ordering Information: Required power cord and hardwiring not included
Warranty*: 1 year (parts and labor)

Thermo Scientific Lindberg/Blue M 1700 °C box furnaces independent control

Designed for applications which require extremely rapid heat-up rates, with 3500 watt models reaching 1700 °C in as little as 15 minutes

- Available in two popular chamber sizes (see chart)
- Double shell design for lower external cabinet temperature with energy savings.High volume cooling fans move air between inner and outer chamber to reduce exterior shell temperatures and improve energy efficiency and operator safety
- Moldatherm high temperature ceramic fiber insulation with advanced graded design for fast heat-up and resistance to thermal shock
- Removable panels for easy access to replaceable heating elements and thermocouples
- Moldatherm hearthplate supports load and protects chamber from spills or mishandling. Long-life type “B” thermocouples for accurate high temperature measurement

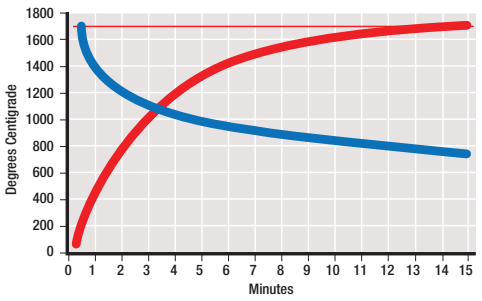
Smart heating elements

- 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

Applications

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

Heat-Up/Cool-Down
Model BF51314C— No load



■ Heat-Up ■ Cool-Down
42% holding power @ 1700 °C
Chamber uniformity @1700°C ±3% °C nominal.
Model BF51314C Heat-Up/Cool-Down, No Load.

Cat. No.	Capacity	Temperature range	Temperature Uniformity	Interior Dimensions	Exterior Dimensions	Electrical	Shipping Weight	Certification
BF51314C	2.5 L 0.08 cu. Ft.	500°C to 1700°C	± 3.0 °C at 1700 °C	12.7 x 15.2 x 12.7 cm 5 x 6 x 5 in.	40.6 x 40.6 x 35.6 cm 16 x 16 x 14 in	208/240 V, 50/60 Hz, 60 A, 3500 W	39 kg 85 lb	UL, CE
Cat. No.	**Capacity**	**Temperature range**	**Temperature Uniformity**	**Interior Dimensions**	**Exterior Dimensions**	**Electrical**	**Shipping Weight**	**Certification**
BF51524C	9 L 0.31 cu. Ft.	500°C to 1700°C	± 3.0 °C at 1700 °C	25.4 x 21.6 x 16.5 cm 10 x 8.5 x 6.5 in.	49.5 x 49.5 x 40 cm 19.5 x 19.5 x 15.8 in	208/240 V, 50/60 Hz, 50 A, 5000 W	52.1 kg 115 lb	UL, CE

Ordering information: Control ordered separately for this product. See below and page 7 for details on controllers.

Please choose Independent Control model based on desired options:

Cat. No.	Control	Over Temperature Protection	Comm Port	For Use With	Exterior dimensions	Electrical	Plug Type	Certification
CC59246PBCOMC-1	25 program - 500 segments each	Yes	Yes	BF51314C	38.1 x 53.3 x 25.4 cm 15 x 21 x 10 in	208/240V, 50/60Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC59256PBCOMC-1	25 program - 500 segments each	Yes	Yes	BF51524C				

*Please note: Connected furnace requires 2nd thermocouple for OTC (installed when ordered together)

Ordering Information: Required power cord and hardwiring not included

Tube furnaces

Tube furnaces are typically used for processing small samples or heating in an inert atmosphere. The single and three-zoned construction is designed to create precise temperature control.

Three-zone control enables the user to select a different temperature in each zone (e.g. for gas applications or material experiments). Some models offer split-hinge design, which easily allows you to change the tube.

Lindberg/Blue M mini-mite furnace (TF55030A-1)

Lindberg/Blue M 1100 C tube furnace three zone (STF55346C)

Thermo Scientific Lindberg/Blue M mini-mite tube furnaces

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

- Microprocessor-based self-tuning PID control provides optimal thermal processes without overshoot
- Single segment, single setpoint, one ramp to setpoint
- Adjustable high-limit over-temperature protection
- Simultaneous LED display of temperature and setpoint in °C or °F
- Split-hinge design simplifies loading and unloading
- Safety switch disconnects power when furnace is opened
- Type K long-life thermocouple (refer to page 5 for details on thermocouples)

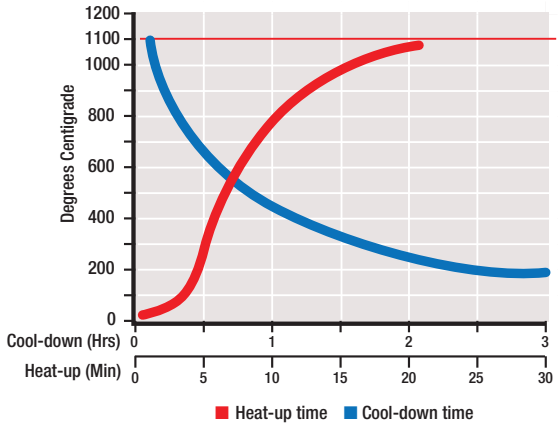
Control options

- A, B
- All models include adjustable high limit over-temperature protection
- See page 5 for details

Applications

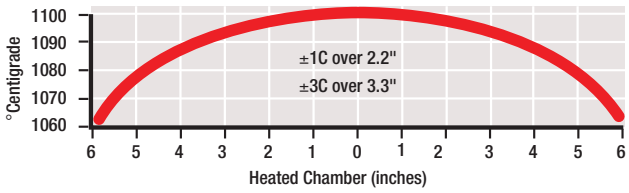
- Pyrolysis
- Thermal Expansion
- Calibration
- Sintering
- Viscosity testing

HEAT-UP/COOL-DOWN



Heat and cool rates measured in center 1"OD process tube. Ends of tube plugged with ceramic fiber.

Model TF55035A Heat-Up/Cool-Down



1" Dia. mullite process tube. Ends plugged

Model TF55035A Uniformity Profile, No Load

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

Heating Zone(s)	Temperature range	Heated Zone	Temperature Uniformity		Tube O.D.	Exterior Dimensions	Shipping Weight
Single	100°C to 1100°C	30.5 cm 12 in	± 1.0 °C over 5.6 cm (2.2 in)	± 3.0 °C over 8.4 cm (3.3 in)	25.4 cm 1 in	28 x 41 x 38 cm 11 x 16 x 15 in.	16 kg 35 lb

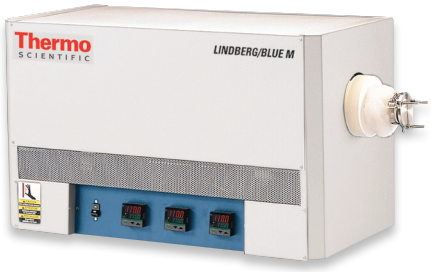
Please choose model based on your electrical requirements and plug type:

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
TF55030A-1	Single program with 8 segments	Yes	TF55030COMA-1	120 V, 50/60 Hz, 6.8 A, 800 W	US: Nema 5-15	UL
TF55030C-1	Single program with 8 segments	Yes	TF55030COMC-1	208/240 V, 50/60 Hz, 3.3 A, 800 W	EU 1-16P and US Nema 6-15	UL, CE
TF55035A-1	5 program with 16 segments each	Yes	TF55035COMA-1	120 V, 50/60 Hz, 6.8 A, 800 W	US: Nema 5-15	UL
TF55035C-1	5 program with 16 segments each	Yes	TF55035COMC-1	208/240 V, 50/60 Hz, 3.3 A, 800 W	EU 1-16P and US Nema 6-15	UL, CE

Ordering information: Process tubes not included and required. Purchase separately. 1 set of two tube adapters 1" included.
Includes: 9ft. (3m) power cord
Warranty[v]: 1 year (parts and labor)

Thermo Scientific Lindberg/Blue M 1100 °C tube furnaces

Three-zone 1100 °C tube furnaces feature Moldatherm ceramic fiber insulation with optimum power consumption



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

Performance features

- Three-zone control allows independent temperature control of each zone with programmability*
- Excellent temperature control
- Fast heat-up and cool-down and quick recovery

Design features

- Innovative use of venting and insulating air spaces create lower exterior surface temperatures
- Long-life Type K thermocouple
- Accepts an array of tube adapters; largest specified adapter size supplied (set of two)
- RS485 digital communications port available as an option; allows controller to be connected to a PC for remote monitoring and control

Control details

- B – three programmable controllers, one for each zone
- See page 6 for details

Applications

- Gravimetric analysis
- Sintering
- Quantitative analysis
- Heat treatment

* Note that maximum temperature difference between center zone and two end zones is +/-50°C

Heating Zone(s)	Temperature range	Heated Zone	Temperature Uniformity	Tube O.D.	Exterior Dimensions	Shipping Weight
Three	100°C to 1100°C	15.2/30.4/15.2 cm 6/12/6 in	± 1.0 °C over 45.7 cm (18 in)	2.5-7.5 cm 1-3 in	43.2 x 88.9 x 53.3 cm 17 x 35 x 21 in.	102 kg 225 lb

Cat. No.	Control	Comm Port Cat. No.	Electrical	Plug Type	Certification
STF55346C-1	Single program with 8 segments	STF55346COMC-1	208/240 V, 50/60 Hz, 16 A, 3800 W	No plug, no cable, requires hard wiring	UL, CE

Heating Zone(s)	Temperature range	Heated Zone	Temperature Uniformity	Tube O.D.	Exterior Dimensions	Shipping Weight
Three	100°C to 1100°C	22.3/45.7/22.3 cm 9/18/9 in	± 1.0 °C over 45.7 cm (18 in)	7.5-15.2 cm 3-6 in	55.9 x 137.2 x 66 cm 22 x 54 x 16 in.	115 kg 255 lb

Cat. No.	Control	Comm Port Cat. No.	Electrical	Plug Type	Certification
STF55666C-1	Single program with 8 segments	STF55666COMC-1	208/240 V, 50/60 Hz, 46 A, 11000 W	No plug, no cable, requires hard wiring	UL, CE

Tube Adapters

For Use With	Description	Cat No.
STF55346	1 in Adapter	59541TA
	3 in Adapter	59545
	3 in Adapter	59555
	Blank (solid) Adapter	59549
STF55666	4 in Adapter	59556
	6 in Adapter	59558TA
	Blank (solid) Adapter	59559TA

Ordering information: Required process tube not included. For information on process tubes contact your process tube supplier.

Includes one set of two tube adapters: 59545 (STF55346C-2), 59558TA (STF55666C-1)

Required accessories: Power cord and hardwiring

Warranty[¥]: 1 year (parts and labor)

Thermo Scientific Lindberg/ Blue M 1200 °C split-hinge tube furnaces and controllers

For ease of observation and operation and configurable for horizontal or vertical use

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

Three zone models

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

Control consoles

- Fully wired, control choices: A, B, select models with adjustable over-temperature control and/or RS485 data port
- See page 29 for details

Applications

- Annealing
- Crystal growing
- Calibration
- Heat treatment

Accessories

For Use With	Description	Cat No.
HTF55122	0.75 in Adapter	59510
	1 in Adapter	59511
	Blank Solid Adapter	59519
HTF55322, HTF55342, HTF55347	1 in Adapter	59521
	1.5 in Adapter	59522
	2 in Adapter	59523
	2.5 in Adapter	59524
	3 in Adapter	59525
	Blank Solid Adapter	59529
HTF55667	3 in Adapter	59535TA
	4 in Adapter	59536TA
	5 in Adapter	59537TA
	6 in Adapter	59538TA
	Blank Solid Adapter	59539TA

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

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
- Model HTF55347C, (2) 3” dia. adapters
- Model HTF55667C, (2) 3” dia. adapters

Required process tube not included.
For information on process tubes contact your process tube supplier.

Ordering information: Independent digital temperature control module (ordered separately) is available in standard or programmable options (see page 29)

Warranty¥: 1 year (parts and labor)

Single Zone (100°C to 1200°C)

Cat No.	Heated Zone	Tube O.D.	Temperature Uniformity	Exterior Dimensions	Electrical	Shipping Weight	Plug Type	Certification
HTF55122A	30.5 cm 12 in	1.9-2.54 cm 0.75-1 in	± 1.0 °C over 5.4 cm (2.1 in)	33.0 x 53.3 x 30.5 cm 13 x 21 x 12 in	120 V, 50/60 Hz, 11 A, 1300 W	28 kg 60 lb	No plug, no cable, requires hard wiring	UL, CE
HTF55322A	30.5 cm 12 in	2.54 - 7.62 cm 1-3 in	± 1.0 °C over 7.0 cm (2.75 in)	42.3 x 58.4 x 40.6 cm 17 x 23 x 16 in	120 V, 50/60 Hz, 11 A, 2675 W	55 kg 120 lb	No plug, no cable, requires hard wiring	UL, CE
HTF55322C	30.5 cm 12 in	2.54 - 7.62 cm 1-3 in	± 1.0 °C over 7 cm (2.75 in)	42.3 x 58.4 x 40.6 cm 17 x 23 x 16 in	208/240 V, 50/60 Hz, 12 A, 2670 W	55 kg 120 lb	No plug, no cable, requires hard wiring	UL, CE
HTF55342C	61 cm 24 in	2.54 - 7.62 cm 1-3 in	± 1.0 °C over 17.8 cm (7 in)	42.3 x 88.9 x 40.6 cm 17 x 35 x 16 in	208/240 V, 50/60 Hz, 12 A, 5440 W	80 kg 175 lb	No plug, no cable, requires hard wiring	UL, CE

Three Zone (100°C to 1200°C)

Cat No.	Heated Zone	Tube O.D.	Temperature Uniformity	Exterior Dimensions	Electrical	Shipping Weight	Plug Type	Certification
HTF55347C	61 cm 24 in	2.54 - 7.62 cm 1-3 in	± 1.0 °C over 30.5 cm (12 in)	42.3 x 88.9 x 40.6 cm 17 x 35 x 16 in	208/240 V, 50/60 Hz, 22 A, 5355 W	89 kg 195 lb	No plug, no cable, requires hard wiring	UL, CE
HTF55667C	91.4 cm 36 in	7.62 - 15.24 cm 3-6 in		53.3 x 124.5 x 50.8 cm 21 x 49 x 20 in	208/240 V, 50/60 Hz, 47 A, 11760 W	141 kg 310 lb	No plug, no cable, requires hard wiring	UL, CE

Thermo Scientific controllers for Lindberg/Blue M 1200 °C tube Furnaces

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

Control console

- Fully wired with advanced microprocessor based digital control
- Solid state power module
- ON/OFF circuit breaker
- Thermocouple input jacks for each zone

Control options

- A, B
- For three zone control, there is a choice of:
  - 3 x programmable, single program, multiple segment
  - center zone programmable and end zones programmable, which mimic the programmed profile of the center zone controller but allow an offset up to 100 °C (±50 °C). Offset is digitally displayed
- See page 5 for details

Choose Controller(s) based Electrical Compatibility and Programming Requirements:
Single Zone (100°C to 1200°C)

Cat No.	Control	Over Temperature Protection	Comm Port Cat. No.	For Use With	Electrical	Plug Type	Certification
CC58114A-1	Single program with 8 segments	No	CC58114COMA-1	HTF55122A HTF55322A	120 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114C-1	Single program with 8 segments	No	N/A	HTF55322C HTF55342C	208/240 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114BA-1	Single program with 8 segments	Yes	N/A	HTF55122A HTF55322A	120 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114BC-1	Single program with 8 segments	Yes	N/A	HTF55322C HTF55342C	208/240 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114PA-1	5 program with 16 segments each	No	N/A	HTF55122A HTF55322A	120 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114PC-1	5 program with 1 6 segments each	No	N/A	HTF55322C HTF55342C	208/240 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114PBA-1	5 program with 16 segments each	Yes	CC58114PBCOMA-1	HTF55122A HTF55322A	120 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC58114PBC-1	5 program with 16 segments each	Yes	CC58114PBCOMC-1	HTF55322C HTF55342C	208/240 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE

Three Zone (100°C to 1200°C) (All controllers compatible with HTF5500 Three Zone 1200°C Tube Heaters)

Cat No.	Center Zone Control	End Zones Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
CC58434BC-1	Single program with 8 segments	Single program with 8 segments	Yes	CC58434BCOMC-1	208/240 V, 50/60 Hz, 70 A	No plug, no cable, requires hard wiring	UL, CE
CC58434PBC-1	5 program with 16 segments each	5 program with 16 segments each	Yes	CC58434PBCOMC-1	208/240 V, 50/60 Hz, 70 A	No plug, no cable, requires hard wiring	UL, CE
CC584343PBC-1	5 program with 16 segments each	5 program with 16 segments each	Yes	CC584343PBCOMC-1	208/240 V, 50/60 Hz, 70 A	No plug, no cable, requires hard wiring	UL, CE

*End Zone Control mimics program set for Center Zone, but allows offset of up to 100°C (± 50°C).

Ordering information: Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier.
Warranty[¥]: 1 year (parts and labor)

Thermo Scientific Lindberg/Blue M 1500 °C general-purpose tube furnaces

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

- Energy-efficient Moldatherm insulation increases temperature control, improves energy efficiency and helps to maintain low exterior cabinet temperatures during operation
- Accommodate 1in., 2in. and 3in. O.D. process tubes (customer supplied)
- Silicon carbide heating elements positioned above and below tube works with Type “R” thermocouple to stabilize temperature
- Integral microprocessor-based PID programmable control prevents overshoot
- Adjustable high limit over-temperature protection
- Simultaneous LED display of actual temperature vs. setpoint
- Temperature display in °C or °F

Control options

- C, with Over Temperature Control
- See page 5 for details

Applications

- Heat treatment
- Sintering
- Annealing
- Atmosphere processing
- Melting
- Fusing

Heating Zone	Temperature Range	Heated Zone	Tube O.D.	Exterior Dimensions	Shipping Weight
Single	500°C to 1500°C	30.5 cm 12 in	2.54 - 7.62 cm 1-3 in	48.3 x 58.4 x 43.2 cm 19 x 23 x 17 in.	123 kg 270 lb

Cat. No.	Control	Over Temperature Protection	Comm Port Cat. No.	Electrical	Plug Type	Certification
STF55433PBC-1	25 program - 500 segments each	Yes	STF55433PBCOMC-1	208/240 V, 50/60 Hz, 6000 W, 25 A	No plug, no cable, requires hard wiring	UL, CE

Accessories - Compatible with all STF55433 Models

Description	Cat. No.
1 in Tube Adatper	7100-2444-070
2 in Tube Adapter	7100-2444-068
3 in Tube Adapter	7100-2444-069

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

Ordering information: Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier.

Includes: 1 set of two 2” tube adapters

Warranty[x]: 1 year (parts and labor)

Thermo Scientific Lindberg/Blue M 1700 °C tube furnaces

Rapid heat-up, recovery and cooldown

High temperature tube furnaces achieve excellent temperature consistency at 1700 °C with rapid heat-up, recovery and cool-down. The independent digital temperature control (ordered separately) has multiple programmable segments useful for a wide range of applications.

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

Control options

- C: Order independent control separately, (see below)
- Adjustable over-temperature control and/or RS845 data port available on select models
- See page 6 for details on controllers

Applications

- Heat treatment
- Sintering
- Annealing
- Atmosphere processing
- Crystal growing

Heating Zone	Temperature Range	Temperature Uniformity	Tube O.D.
Single	500°C to 1700°C	± 1.0 °C over 13.3 cm (5.25 in)	7.62 cm 3 in

Cat. No.	Heated Zone	Exterior Dimensions	Shipping Weight	Electrical	Plug Type	Certification
STF54434C	30.5 cm 12 in	40.6 x 55.9 x 48.3 cm 16 x 22 x 19 in.	43 kg 95 lb	208/240 V, 50/60 Hz, 24 A, 5000 W	No plug, no cable, requires hard wiring	UL, CE
STF5445C	61.0 cm 24 in	40.6 x 86.4 x 48.3 cm 16 x 34 x 19 in.	74.8 kg 165 lb	208/240 V, 50/60 Hz, 42 A, 10000 W	No plug, no cable, requires hard wiring	UL, CE

Choose control based on Furnace model and standard options available.
Control Choices

Cat. No.	Control	Over Temperature Protection	Comm Port Standard	For Use With	Electrical	Plug Type	Certification
CC59256PBCOMC-1	25 program - 500 segments each	Yes	Yes	STF54434C	208/240 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE
CC59256PCM2CTC-1	25 program - 500 segments each	No	Yes	STF54454C	208/240 V, 50/60 Hz, 30 A	No plug, no cable, requires hard wiring	UL, CE

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

Warranty[x]: 1 year (parts and labor)

Accessories - STF54434C

Description	Cat. No.
1 in Sleeve	7219-2134-001
2 in Sleeve	7219-2134-002
3 in Sleeve	7219-2134-003
1 in Vestibule	7219-2147-001
2 in Vestibule	7219-2147-002
3 in Vestibule	7219-2147-003

Accessories - STF54454C

Description	Cat. No.
1 in Sleeve	7219-2134-013
2 in Sleeve	7219-2134-012
3 in Sleeve	7219-2134-011
1 in Vestibule	7219-2147-013
2 in Vestibule	7219-2147-012
3 in Vestibule	7219-2147-011

Required Accessories: Independent digital temperature control module, available separately. Required power cord, hardwiring and interconnecting wiring are not included. For information on process tubes contact your process tube supplier.

Warranty[x]: 1 year (parts and labor)

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

Includes: 1 set of two 3” vestibules and sleeves.

thermo scientific

Electrical plug configurations

High temperature in a furnace requires significant power, often requiring a non-standard electrical connection.

Many of our furnaces offer a choice of electrical configurations. Choose the model that best fits your needs and local circuit requirements.

The list below specifies the plug pictures that correspond to the plugs listed in the furnace spec tables.

Some furnace models are delivered without a plug. As noted in the specification tables, these models require hardwiring by a technician.	
US plug: Nema 5-15	
US plug: Nema 6-15	
US plug: Nema 5-20	
US plug: Nema 6-20	
EU plug: CEE 7/7	
UK plug: BS1363	
China plug: 10A	
China plug: 16A	
Swiss plug: SEV1011	

Find out more at **thermofisher.com/furnaces**

Australia +61 39757 4300
Austria +43 1 801 40 0
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China +800 810 5118 or
+400 650 5118
France +33 2 2803 2180
Germany national toll free 0800 1 536 376
Germany international +49 6184 90 6000

India toll free 1800 22 8374
India +91 22 6716 2200
Italy +39 02 95059 552
Japan +81 3 5826 1616
Netherlands +31 76 579 55 55
New Zealand +64 9 980 6700
Nordic/Baltic/CIS countries
+358 10 329 2200

Russia +7 812 703 42 15
Spain/Portugal +34 93 223 09 18
Switzerland +41 44 454 12 12
UK/Ireland +44 870 609 9203
USA/Canada +1 866 984 3766

Other Asian countries +852 3107 7600
Countries not listed +49 6184 90 6000

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