



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

Applications

- Annealing
- Crystal Growing
- Calibration
- Heat Treating

1500°C Heavy Duty Tube Furnaces (Independent Control)

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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

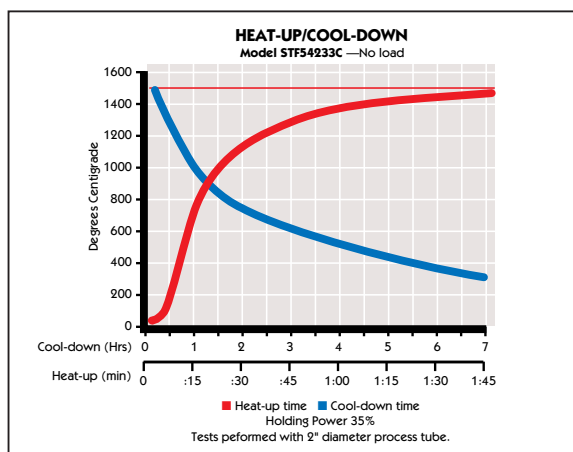
- Double-end silicon carbide heating elements mounted above and below the chamber
- Heating elements with unique right angle bend, sidewall mounting and compressed spacing at ends deliver fast heat-up and recovery and offset heat loss from end of process tube

- 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)