



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



1200°C Split-Hinge Tube Furnaces



CC58434C Three Zone Controller

Single Zone and Three Zone

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

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

Features

- Designed for horizontal or vertical operation
- Patented Moldatherm® LGO™ heating element modules for superior radial and linear temperature uniformity, fast heat-up and cool-down
- Long-life, energy efficient elements require little or no maintenance
- Unique cabinet design achieves lower exterior surface temperature
- Heat reflecting element support assembly creates two highly effective insulating air spaces
- Compact cabinet with high temperature resistant painted finish

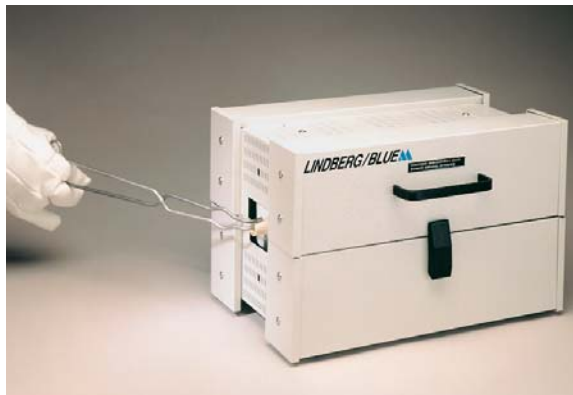
- Accepts interchangeable Moldatherm tube adapters. See chart on page 23
- Long-life Platinel® II thermocouple(s) with 10' compensated lead wire and polarized plug

Three Zone Models

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



CC58114C Single Zone Controller



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

Single Zone

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

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

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

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

Tube Adapters One set of (2) included with furnace: Model HTF55122A, (2) 1" dia. adapters; Models HTF55322A/C, (2) 2" dia. adapters; Model HTF55342C, (2) 3" dia. adapters.

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

1200°C Digital, Single Setpoint Controller

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

1200°C Digital Single Program, Multiple Segment Programmable Controller

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

Option B Overtemperature Control (OTC)

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

Optional RS485 Digital Communications Port

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

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

Three Zone

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

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

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

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

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

1200°C Three Zone Controller

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

Option B Overtemperature Control (OTC)

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

Optional RS485 Digital Communications Port

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

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

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

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

Center Zone

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

Simultaneous LED display of actual temperature vs. setpoint.

End Zones

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

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

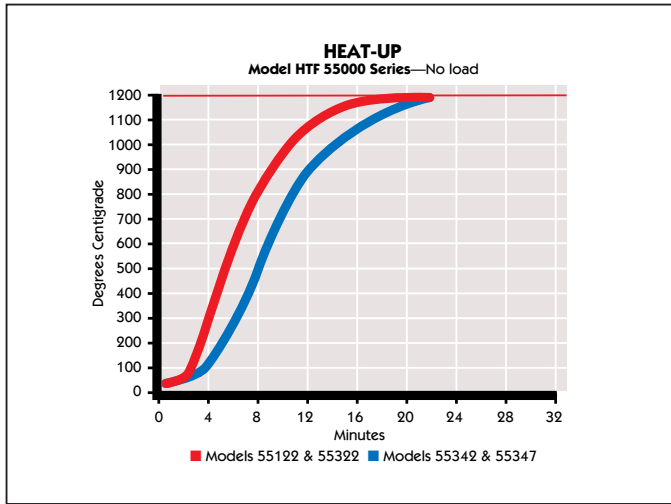
1200°C Three Zone Single Program, Multiple Segment Programmable Controllers

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

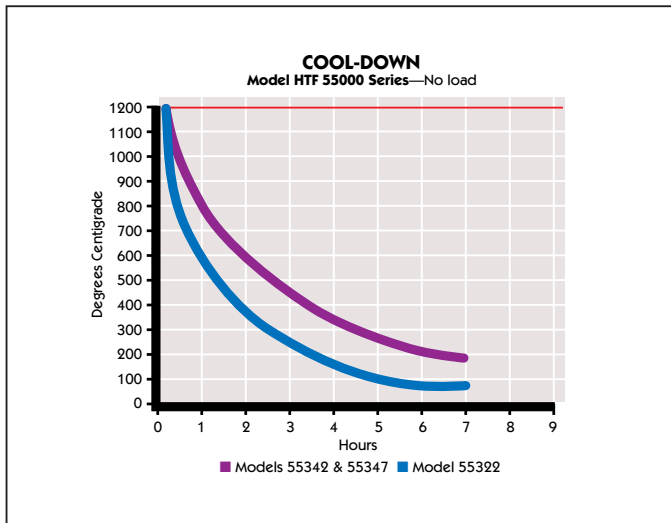
thermocouple input jacks for each zone. Includes three microprocessor-based PID programmable controllers (proportional, integral, derivative), single program with multiple segments for ramp (up and down) and dwell (timed hold) temperature control.

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

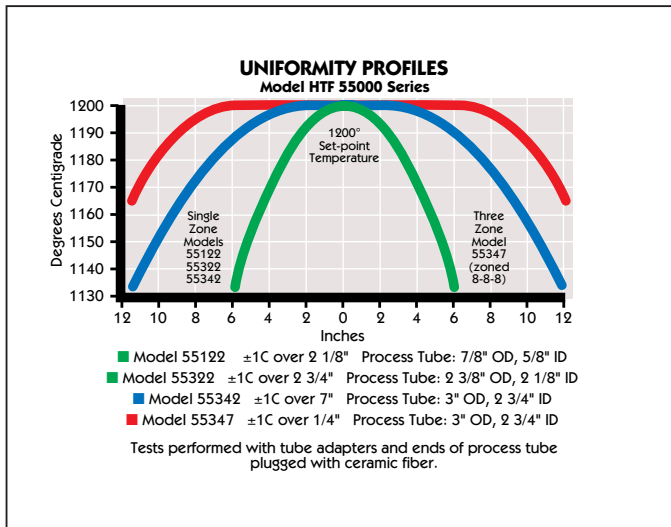
Controller Model No.	Digital	With Programmer	With Overtemp Control	Electrical Volts, Hz, 1Ø	Maximum Amps	Exterior Dimensions H x F-B x W in" (mm)	Ship Weight lbs (kg)
CC584343PC	■	■		208/240V, 50/60Hz	20/30/20	17" (431.8) x 19" (482.6) x 14" (355.6)	60 (28)
CC584343PBC	■	■	■	208/240V, 50/60Hz	20/30/20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



Heat-Up, Model HTF55000 Series, No Load



Cool-Down, Model HTF55000 Series, No Load



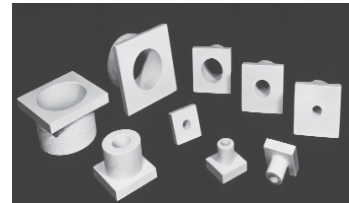
Uniformity Profiles, Model HTF55000 Series

Moldatherm® Tube Adapters (each sold separately)

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

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

* One set of (2) included with furnace



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



Floor Stand, For Vertical Installation

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

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

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

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