

Nabertherm

MORE THAN HEAT 30-3000 °C



DENTAL

Furnaces for sintering, pressing, firing, preheating and annealing

nabertherm.com

□ Made
■ in
■ Germany

Nabertherm Dental Furnaces

Precision for dental practices, laboratories and professional dental applications



Nabertherm dental furnaces are the ideal choice for dental laboratories, dental workshops, and demanding professional applications. Each of our furnaces is meticulously handcrafted in Germany using high-quality materials. As a family-owned company with over 75 years of experience in furnace construction, we focus on durable, energy-efficient solutions – always with a focus on resource-conserving manufacturing processes.

Our dental furnaces reliably support you in all common dental processes and deliver consistently precise results.

Our furnaces are characterized by:

- Outstanding firing, pressing, and sintering results for ceramics, pressed as well as zirconia & CoCr processes
- Sustainability through durable construction and energy-efficient technology
- Durability, even in intensive laboratory use
- Ergonomic operation for comfortable workflows
- Reliability for reproducible results
- Made in Germany
- Energy efficiency and low operating costs
- Innovative control technology

With Nabertherm, you can rely on quality, safety, and outstanding results! And we also guarantee the particularly important customer service worldwide through our specialized, long-standing partners.



“For many years, the name Nabertherm has stood for the highest quality and durability in furnace construction.

Benefit from over 75 years of our experience!”

Timm Grotheer,
Managing Director of the Nabertherm Group

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History of Nabertherm Dental Furnaces

The name Nabertherm stands for the highest quality and durability in furnace construction. Our family-own company has over 75 years of experience in manufacturing dental furnaces.

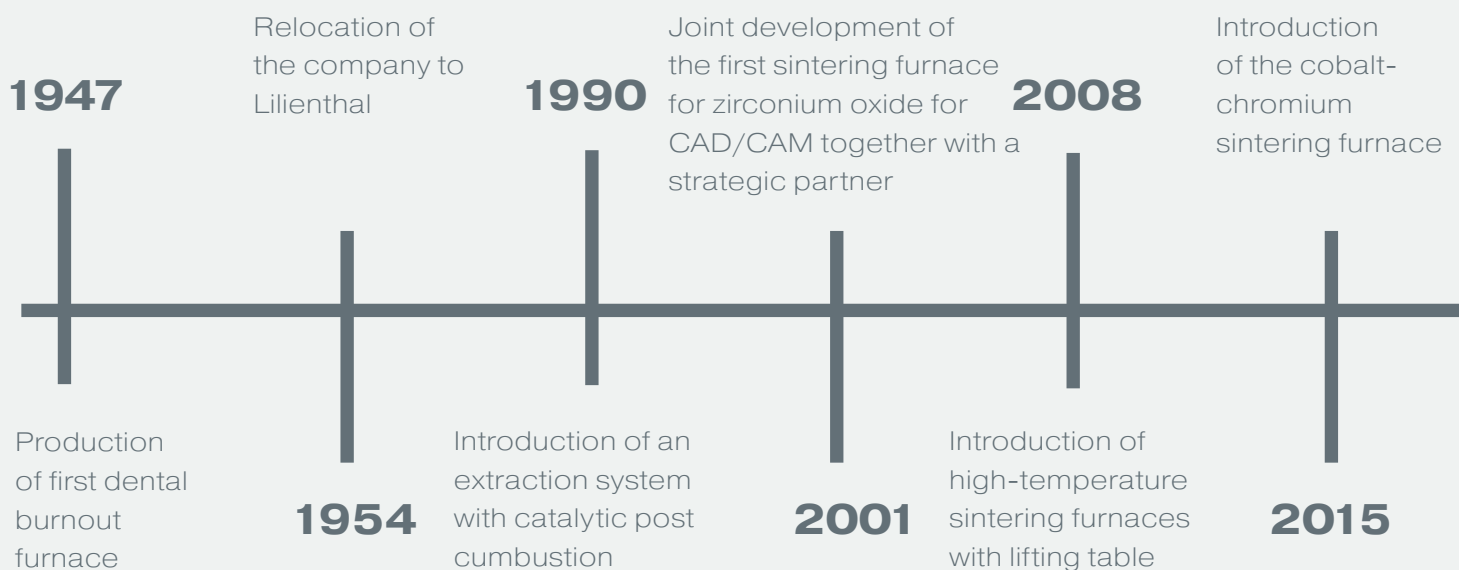
Nabertherm – where tradition meets innovation in furnace construction!



Company founded by
Conrad Naber in Bremen



Sintering furnace
LT 02/13 CR for cobalt-
chromium from 2015



Burnout furnace L 3 from 1989



Sintering furnace for zirconia
oxide for CAD/CAM from 2001



Sintering furnace LHT 02/16 LB
with lifting table from 2008

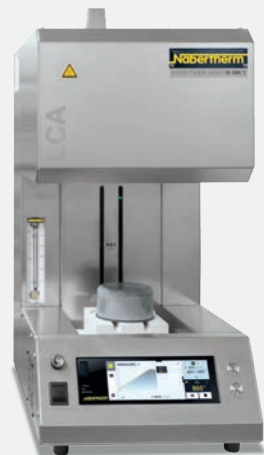
Precision Meets Reliability. Trust in Nabertherm.



Vacuum firing furnace
VL 01/12 LB from 2023



Vacuum pressing furnace
VL 01/12 LB Press from 2023



Combi furnace
LCA 04/13 LB
from 2026

2017

Introduction of
chamber furnaces for
stress-relief annealing
after laser sintering

Introduction of the
controller series 500
touch operation and
the „MyNabertherm“
app

2021

2022

Introduction of high-
temperature speed
sintering furnaces

Introduction of
vacuum firing and
vacuum pressing
furnaces including
controller D580

2023

2024

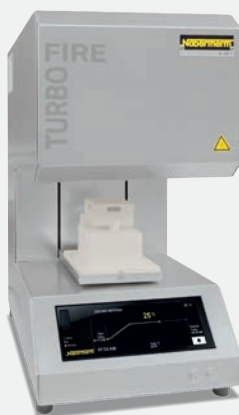
Introduction of
„Solar Mode“ for
using electricity from
PV systems

Introduction of the combi
furnace for sintering
cobalt-chromium and
stress-relief annealing
after 3D printing

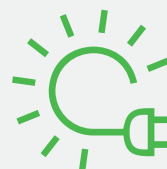
2026



Chamber furnace N 7/H for stress-
relief annealing from 2017



Speed sintering furnace
LHT 01/16 Turbo Fire from 2022



Precision Meets Reliability. Trust in Nabertherm.



Facts

- Manufacturing of Arts & Crafts kilns, laboratory and dental furnaces since 1947
- Production site in Lilienthal/Bremen – Made in Germany
- 600 employees worldwide
- 150.000 customers in more than 100 countries
- Wide range of kilns
- One of the largest R&D-departments in the kiln industry
- High vertical integration

Global sales and service

- Manufacturing only in Germany
- Decentralized sales and service close to our customers
- Own sales organization and long term sales partners in all important world markets
- Individual on-site customer service and consultation
- Secured spare parts supply, many spare parts available from stock
- More information see page 71

Benchmark in quality and reliability!



A close-up photograph of a person's hand wearing a grey and black work glove. The hand is holding a red-handled screwdriver and is in the process of unscrewing a small screw from a white, rectangular panel. The panel is part of a larger piece of equipment. In the background, another gloved hand is visible, and a yellow measuring tape is partially seen on the right side.

Handcrafted
in Germany

Emotion, Tradition and Innovation



Firing
Furnace and
Pressing
Furnace



Vacuum firing furnaces and vacuum pressing furnaces of the VL .. series are suitable for firing all common veneering ceramics in air or in vacuum and for pressing systems in vacuum.



The free download portal allows quick and easy download of firing and pressing programs from common material manufacturers. The desired programs can be loaded onto the controller via USB stick in seconds free of charge. No registration is required.



NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive



Freeware NTGraph for evaluation and documentation of sintering cycles using Excel™ for Windows™ on the PC



Dual shell ventilated housing made of textured stainless steel sheets for low surface temperature and high stability



MyNabertherm App for online monitoring of the sintering cycles on mobile devices for free download



We use only insulation materials that are classified as noncarcinogenic under EU Regulation 1272/2008 (CLP)



Defined application within the constraints of the operating instructions



Vacuum firing furnace
VL 01/12 LB



Vacuum pressing furnace
VL 01/12 LB Press

Vacuum Firing Furnace with Lifting Table VL 01/12 LB for firing of dental ceramics

The vacuum firing furnace VL 01/12 LB is ideally suited for firing of conventional ceramic veneers under air or vacuum. The all-round heating of the furnace chamber results in a very even temperature uniformity and enables very fast heat-up times. The lowerable, electric motor-driven lifting table ensures easy and convenient charging.

A highlight is the especially developed controller D580 with colourful, high-contrast 6.8 inch touch display. It enables intuitive program input on the large touch screen. Programs can be displayed graphically and in tabular form. The vacuum firing furnace is freely programmable. Many common firing programs can be downloaded free of charge from the download area on the Nabertherm website and imported into the controller.



Vacuum firing furnace VL 01/12 LB

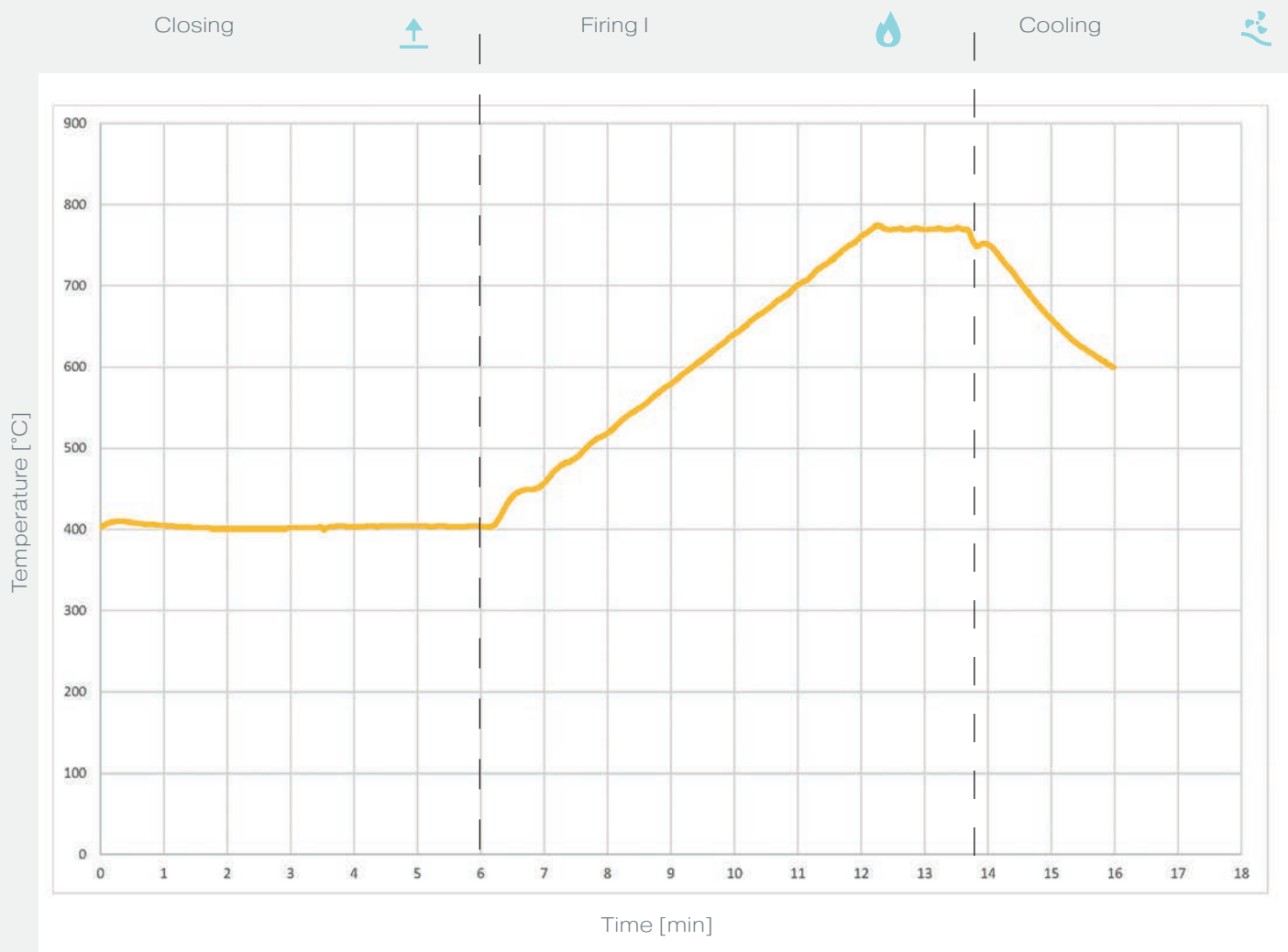
Key Facts

- Tmax 1200 °C
- Evacuation possibility for processes in vacuum
- High-quality, free-radiating heating elements
- Very good temperature uniformity due to all-round heating of the furnace chamber
- Stainless steel shelf for tools, tweezers, pliers & firing tray, can be mounted to the left or right side of the furnace
- Precise, motorized toothed belt drive of the table with button operation, program controlled opening for cooling possible
- Thermocouple type S
- Scope of delivery includes a starter set incl. firing tray with ceramic pins for exact positioning of the firing objects, tweezers and silver sample set for temperature calibration
- Controller with touch operation D580 for easy program input see page 18
- Free download of all common firing programs for easy program import via USB stick into the controller without registering a user account
- MyNabertherm App for online monitoring of the firing on mobile devices for free download see page 64

Additional Equipment

- Vacuum pump

Example Curve for “e.max Ceram” (Ivoclar) in Vacuum Firing Furnace VL 01/12 LB



Starter set for vacuum firing furnace and vacuum pressing furnace



Burnt crown



Download area for firing programs and pressing programs see page 19

Model	Tmax in °C	Work space dimensions		Charging area in mm Ø	Outer dimensions ¹			Connected load ⁴ in kW	Electrical connection*	Weight in kg	Heating time in min ³
		Ø	h		W ²	in mm D	H				
VL 01/12 LB	1200	70	70	70	260	360	605	1.8	1-phase	22	10

¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.
²Plus 105 mm for stainless steel shelf for tools
³Heating time of the empty and closed furnace up to Tmax – 100 K (connected to 230 V 1/N/PE resp. 400 V 3/N/PE)
⁴The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range vol-
tages, the connected load applies to the highest permissible connected voltage.

*These furnaces are available for main voltage of 220 V - 240 V, 1/N/PE or 2/PE

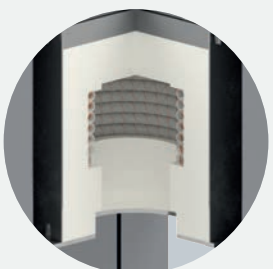
Detailed Overview Vacuum Firing Furnace with Lifting Table



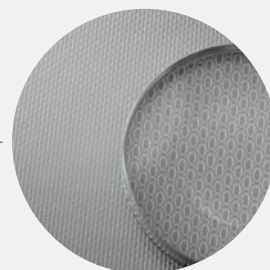
We use only insulation materials that are classified as noncarcinogenic



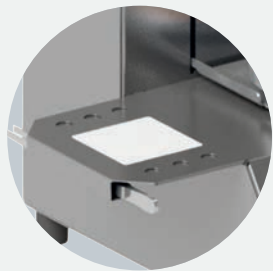
Starter set included in scope of delivery



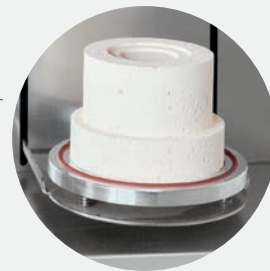
All-round heating of the furnace chamber



Dual shell ventilated housing made of textured stainless steel sheets



Stainless steel shelf for tools, tweezers, pliers and firing tray can be mounted left or right



Lowerable lifting table with seal as a vacuum-tight version up to 1200 °C



Free download of firing programs and pressing programs see page 19



Controller with touch operation for free programming of the firing programs for common veneering ceramics



Mobile monitoring with MyNabertherm app



Vacuum Pressing Furnace with Lifting Table VL 01/12 LB Press

for firing of dental ceramics and pressing ceramic restorations

The vacuum pressing furnace VL 01/12 LB Press is ideally suited for firing of conventional ceramic veneers under normal atmosphere or vacuum but also for processing of all common pressing ceramics. The all-round heating of the furnace chamber results in a very even temperature uniformity and enables fast heat-up times. The lowerable, electric motor-driven lifting table ensures easy and convenient handling for the pressing process.

A highlight is the especially developed controller D580 with colourful, high-contrast 6.8 inch touch display. It enables intuitive programme input on the large touch screen. Programs can be displayed graphically and in tabular form. The vacuum pressing furnace is freely programmable. Many manufacturer programs can be downloaded free of charge from the program portal on the Nabertherm website and loaded into the controller via USB stick.



Vacuum pressing furnace VL 01/12 LB Press

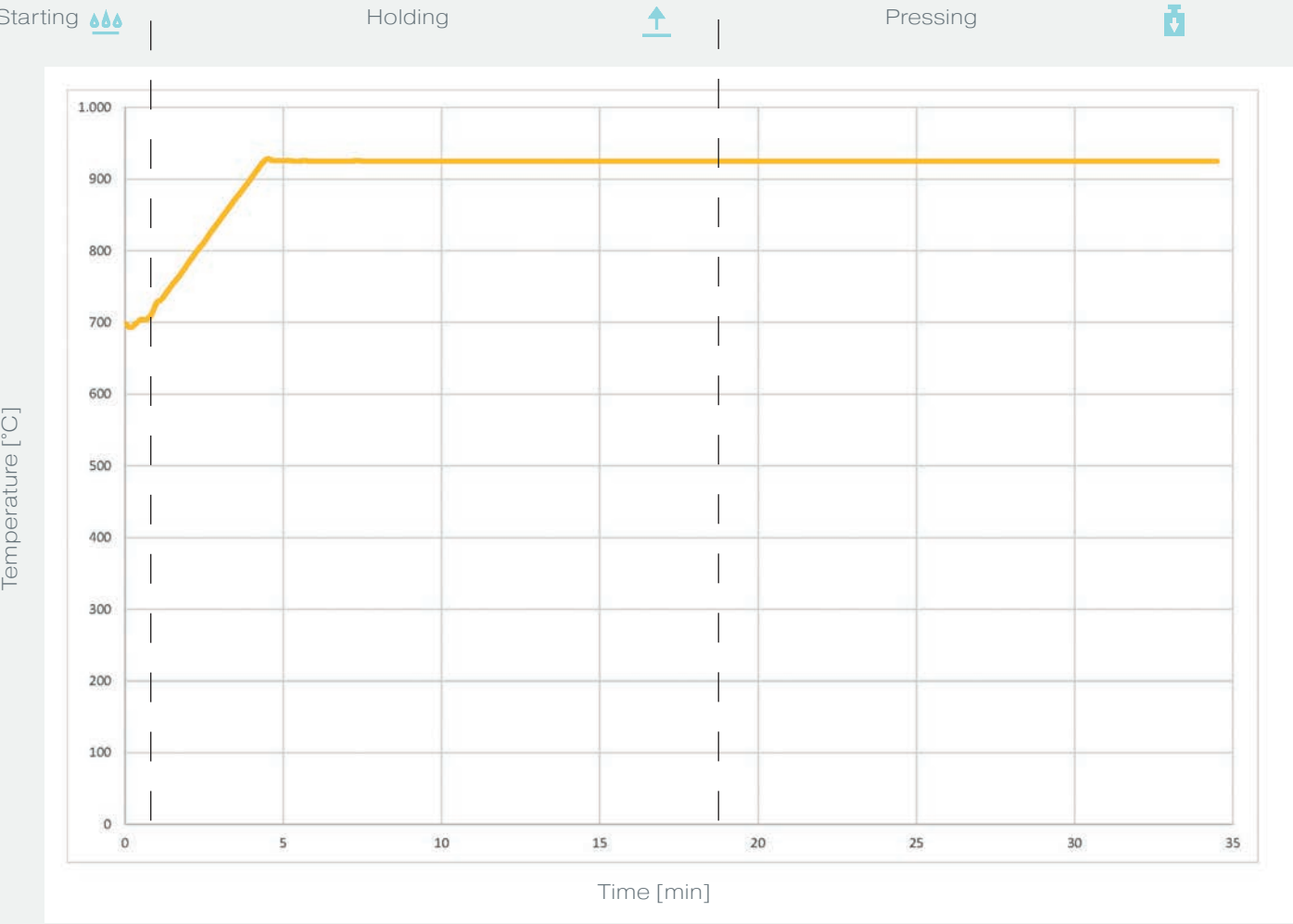
Key Facts

- Tmax 1200 °C
- Evacuation possibility for processes in vacuum
- High-quality, free-radiating heating elements
- Very good temperature uniformity due to all-round heating of the furnace chamber
- Stainless steel shelf for tools, tweezers, pliers & firing tray, can be mounted to the left or right side of the furnace
- Precise, motorized toothed belt drive of the table with button operation, program controlled opening for cooling possible
- Pneumatic press drive via compressed air
- Pressing pressure adjustable
- Thermocouple type S
- Scope of delivery includes a starter set incl. firing tray with ceramic pins for exact positioning of the firing objects, tweezers, silver sample set for temperature calibration
- Controller with touch operation D580 for easy program input see page 18
- Free download of all common firing programs and pressing programs for easy program import via USB stick into the controller without registering a user account
- MyNabertherm App for online monitoring of the firing on mobile devices for free download see page 64

Additional Equipment

- Vacuum pump

Example Curve for Pressing of „IPS e.max Press“ (Ivoclar) 100 g Muffle in Vacuum Pressing Furnace VL 01/12 LB Press



The vacuum pressing furnace is opened at 700 °C and charged with the preheated muffle, which means that slight temperature fluctuations occur at around 700 °C.



Membrane vacuum pump as additional equipment



Pressed muffle



Download area for firing programs and pressing programs see page 19

Model	Tmax	Work space dimensions		Charging area	Outer dimensions¹			Connected load⁴ in kW	Electrical connection*	Weight in kg	Heating time in min³
	in °C	Ø in mm	h		W²	in mm D	H				
VL 01/12 LB Press	1200	70	70	70	260	450	745	1.8	1-phase	27	10

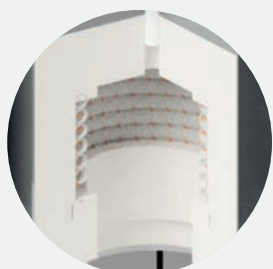
¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.
 ²Plus 105 mm for stainless steel shelf for tools
 ³Heating time of the empty and closed furnace up to Tmax – 100 K (connected to 230 V 1/N/PE resp. 400 V 3/N/PE)
 ⁴The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range vol-
 tages, the connected load applies to the highest permissible connected voltage.

*These furnaces are available for main voltage of 220 V - 240 V, 1/N/PE or 2/PE

Detailed Overview Vacuum Pressing Furnace with Lifting Table



Starter set included in scope of delivery



All-round heating of the furnace chamber



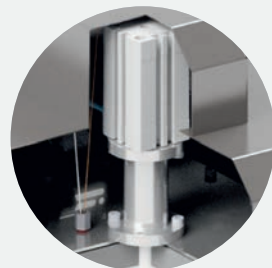
Adjustable compressed air pressure



Shelf for tools



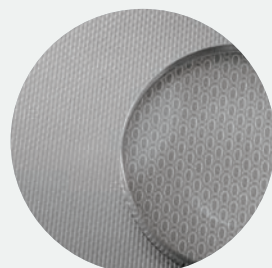
Free download of firing programs and pressing programs see page 19



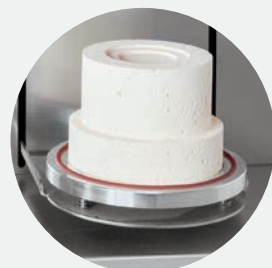
Pressing stamp



We use only insulation materials that are classified as noncarcinogenic



Dual shell ventilated housing made of textured stainless steel sheets



Lowerable lifting table with seal as a vacuum-tight version up to 1200 °C



Controller with touch operation for free programming of the firing programs and pressing programs for common veneering ceramics



Mobile monitoring with MyNabertherm app

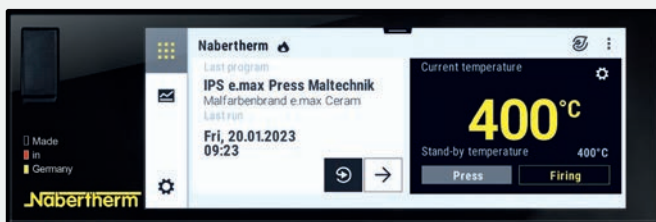


Controller for Vacuum Firing Furnace and Vacuum Pressing Furnace

The controller D580 is used for firing and pressing dental ceramics. This represents an intuitive high-end solution for the dental technician for free and easy program entry and control of firing and pressing furnaces.

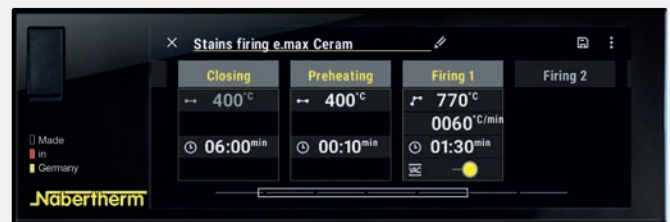
The controller D580 enables intuitive program entry on the large touchscreen. Programs can be displayed graphically and in tabular form. The furnace is freely programmable, many manufacturer programs can be downloaded free of charge from the download area on the Nabertherm website and loaded onto the controller via USB stick.

Standby Temperature



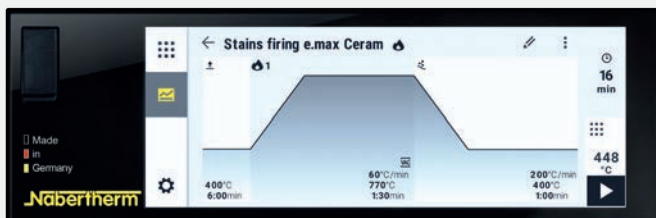
Depending on the furnace model, the standby temperature can be selected for the firing or pressing process and also adjusted individually.

Program Input



The intuitive and simple program input can be implemented in a matter of seconds. Changes to a running firing program are also possible.

Graphical representation



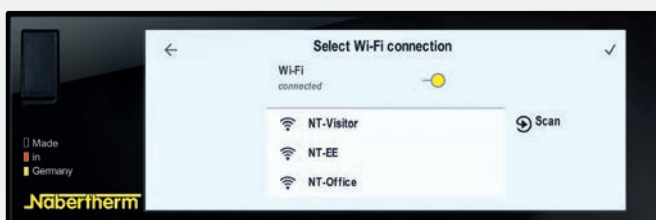
The program can be displayed graphically and clearly shows the respective progress.

Program Sequence Assistant



The program sequence assistant enables the correct material program to be started quickly and also marks the last program used so that the firing sequence is adhered to.

Wi-Fi-Capable



The furnaces can be connected to the Wi-Fi, e.g. for connecting the „MyNabertherm“ app.

MyNabertherm App

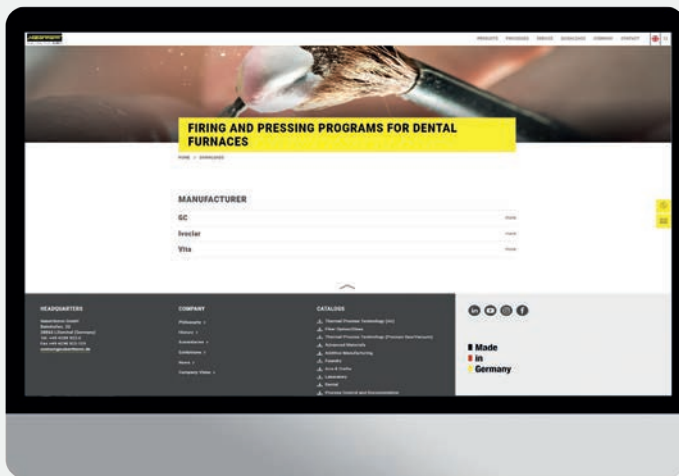


The progress of the process can be monitored with a mobile device (IOS or Android) using the free MyNabertherm App (connection of the furnace via Wi-Fi).

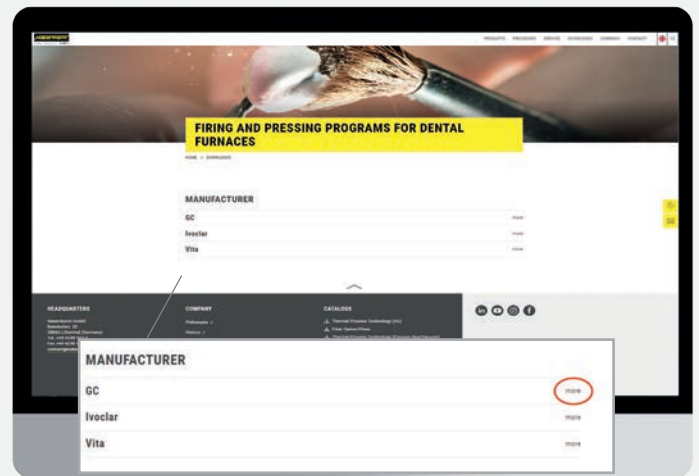
Download Portal for Firing and Pressing Programs

The free of charge download portal for all common firing and pressing programs enables the manufacturer's programs to be downloaded quickly and easily using a USB stick. The desired programs can be transferred to the controller in a matter of seconds. No registration in the portal is necessary.

Open the Download Portal

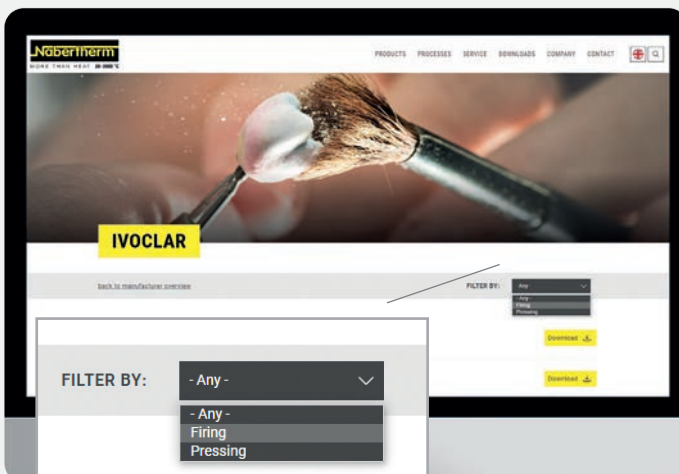


Select Material Manufacturer

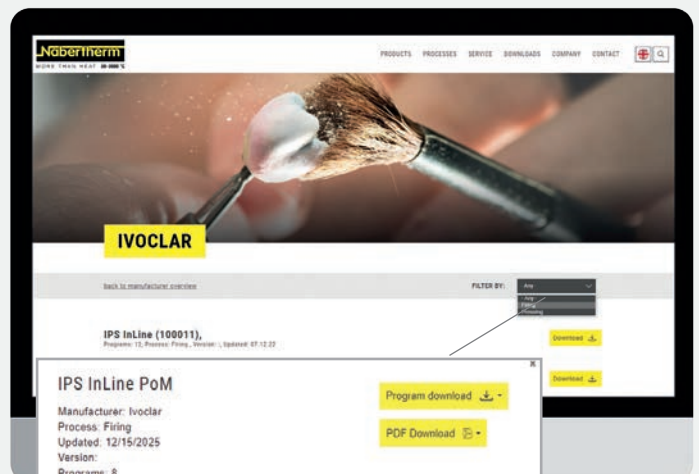


Open the download portal on the Nabertherm website:
<https://nabertherm.com/en/downloads/firing-and-pressing-programs>

Filter by Firing or Pressing Programs



Select and Download Material



Zirconia Sintering Furnaces



The sintering furnaces for zirconia represent an open system for all common blanks from leading manufacturers, from non-translucent to translucent zirconium. The product range includes various furnace models for conventional/classic sintering as well as speed sintering with a heating rate $> 220\text{ }^{\circ}\text{C}/\text{min}$.



The free download portal allows quick and easy download of sintering programs from common zirconia manufacturers. The desired programs can be loaded onto the controller via USB stick in seconds free of charge. No registration is required.



Freeware NTEdit for convenient program input via Excel™ for Windows™ on the PC



Freeware NTGraph for evaluation and documentation of sintering cycles using Excel™ for Windows™ on the PC



We use only insulation materials that are classified as noncarcinogenic under EU Regulation 1272/2008 (CLP)



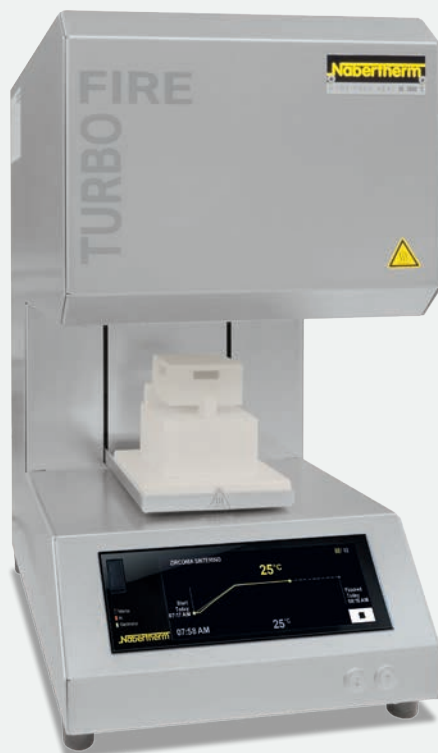
MyNabertherm App for online monitoring of the sintering cycles on mobile devices for free download



NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive



Defined application within the constraints of the operating instructions



Sintering furnace for super speed processes LHT 01/16 Turbo Fire



High-temperature sintering furnace LHTCT 01/16

Product Overview Sintering Furnaces



Technical informationen		LHT 01/16 Turbo Fire	LHT 01/17 LB Speed	LHT 02/17 LB Speed
Possible sintering processes		Speed S	Speed + Classic	
Tmax in °C		1600	1650	1650
Shortest heating time in min from 20 °C up to 1500 °C		12,5	40	90
Max. heating rate in °C/min from 20 °C up to 1000 °C		220	60	20
Max. heating rate in °C/min from 1000 °C up to 1500 °C		55	20	10
Shortest cooling time ¹ in min from 1500 °C down to 750 °C		9	30	28
Shortest cooling time ¹ in min from 1500 °C down to 300 °C		25	86	107
Shortest process time in min		21,5 ³	156 ²	227 ²
Energy consumption at shortest process time in kWh		0,5	1,3	4,3
Heating element type		Molybdenum disilicide		
Max. charging level (number of sintering saggars)				
Max. load (crowns)		5	30	75
Number of programs		50	50	50

¹Cooling by stepwise opening from 1100 °C and full opening below 750 °C. For models with flap door, with air inlet fully open

²Process description: sintering temperature 1500 °C, 30 min holding time with an empty sintering saggars as load, and cooling down to 300 °C

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Trust in Nabertherm.



LHT 01/17 D

LHT 03/17 D

LHTCT 01/16

LHTCT 03/16

Classic

1650	1650	1550	1550
49	80	30	35
30	20	100	85
10	10	25	20
-	-	-	-
198	165	110	145
277 ²	275 ²	170 ²	210 ²
1,9	3,8	1,8	3,1

Molybdenum disilicide

SiC



30

75

30

60

50

50

10

10

³Process description: sintering temperature 1500 °C, no holding time with an empty sintering saggar as load, and cooling down to 750 °C

Sintering Furnace for Super Speed Processes

LHT 01/16 Turbo Fire up to 1600 °C

The sintering furnace LHT 01/16 Turbo Fire was developed for the super speed sintering of up to 6 single crowns or a 4-unit bridge made of translucent zirconium oxide up to a maximum temperature of 1600 °C.

The entire sintering process can be completed within one hour. The furnace ideally suited for chairside applications. The special heating elements avoid chemical interactions between the charge and the furnace components as best as possible.

The crowns are placed in a saggar made of technical ceramics. The starter set for charging is already included in the scope of delivery. It can be programmed for all common temperature curves for super speed sintering zirconium oxide.

The lifting table can be opened for rapid, controlled cooling, depending on the program.

Key Facts

- Usable for super-speed sintering of zirconium oxide of all leading manufacturers
- Ideal for chairside use
- Maximum heating rate up to 1000 °C (starting from 220 °C/min)
- Fastest cooling time to 300 °C in 25 minutes
- Up to 6 single crowns or a 4-unit bridge can be sintered within 39 minutes
- Very good temperature uniformity due to allround heating of the furnace chamber
- Precise, motorized toothed belt drive of the lifting table



Ideal for
chairside
use

Sintering furnace for super speed processes
LHT 01/16 Turbo Fire

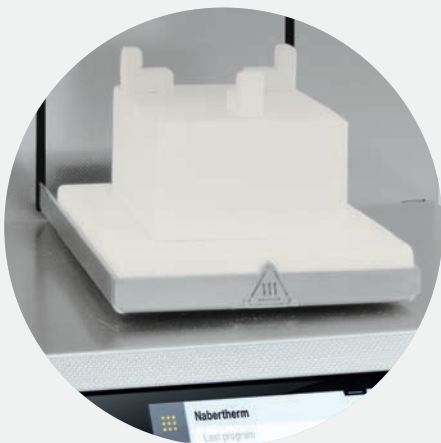
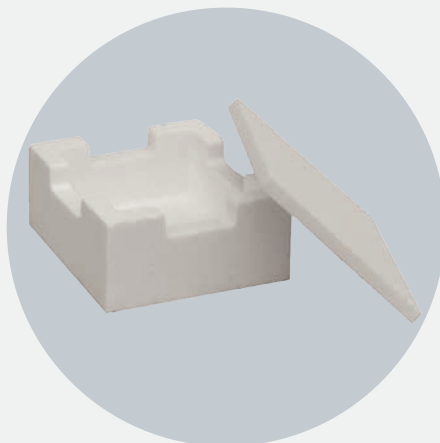


Table insulation incl. spacers



Starter set for one level for
LHT 01/16 Turbo Fire
Article No.: 600093981, 6000093984



Very good temperature uniformity
due to allround heating of the furnace
chamber

Model	Tmax	Work space dimensions ² in mm			Charging area in mm		Maximum load (crowns)	Outer dimensions ¹ in mm			Connected load ³ in kW	Electrical connection*	Weight in kg	Max. heating rate up to 1000 °C in °C/min
	in °C	w	d	h	w	d		W	D	H				
LHT 01/16 Turbo Fire	1600	65	65	30	85	85	5	295	405	565	3.5	1-phase	25	220

¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

²Corresponds to charge saggars with spacer

³The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range voltages, the connected load applies to the highest permissible connected voltage.

*These furnaces are available for main voltage of 220 V - 240 V, 1/N/PE or 2/PE

Sintering Furnaces with Lifting Table

LHT../17 LB Speed up to 1650 °C

Due to their maximum temperature of 1650 °C and their large furnace chamber, the sintering furnaces of product line LHT ../17 LB Speed are perfectly suited for sintering translucent zirconia.

Equipped with special heating elements made of molybdenum disilicide, chemical interactions between the charge and the furnace components are almost avoided. The sintered material is placed in saggars made of technical ceramics. Up to two batch containers for max. 15 single crowns per level can be accommodated in the LHT 01/17 LB Speed. The LHT 02/17 LB Speed offers space for up to three saggars for max. 25 individual crowns per level and thus guarantees high productivity.

The sintering furnaces can also be operated with a drying function and a controlled cooling function due to their lift table.

For predrying, the furnace keeps a gap open while heating up to a defined temperature (e.g., 500 °C), ensuring safe removal of moisture from colored solutions. The controlled cooling

function allows the lifting table to open according to a programmed cooling rate, enabling accelerated cooling.

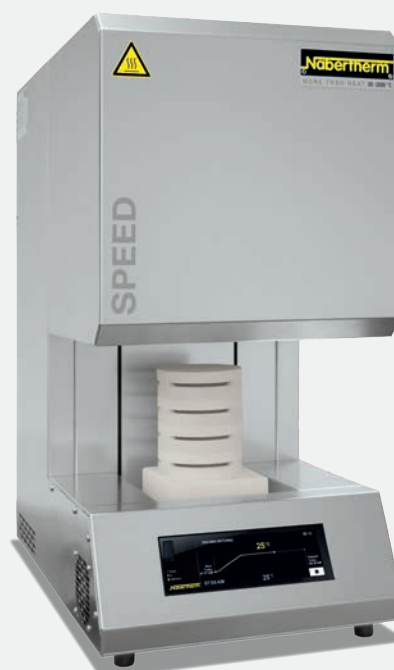
Depending on the batch size and the saggars used, these high-temperature furnaces can achieve total cycle times shorter than two and a half hours.

The furnaces can be individually programmed for most recommended sintering curves from all major zirconia manufacturers.

Thanks to their capacity, maximum heating rate, and the ability to perform regulated cooling, these sintering furnaces are ideal for dental labs that produce sameday sintered restorations.



High-temperature sintering furnace LHT 01/17 LB Speed with rapid cooling function



High-temperature sintering furnace LHT 02/17 LB Speed with rapid cooling function

Ideal for high capacity utilization dental labs

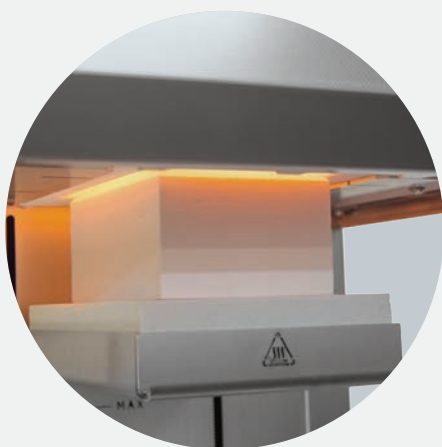
Key Facts

- Suitable for sintering zirconia from all leading manufacturers
- Ideal for high capacity utilization dental labs
- Maximum heating rate up to 1000 °C at 60 °C/min (LHT 01/17 LB Speed) or 20 °C/min (LHT 02/17 LB Speed)
- Fastest cooling time to 300 °C in 86 minutes (LHT 01/17 LB Speed) or 107 minutes (LHT 02/17 LB Speed)
- Sintering capacity of 30 to 75 single crowns/bridges and full arches
- Very good temperature uniformity due to allround heating of the furnace chamber
- Precise, motorized toothed belt drive of the table with button operation

- Predrying function
- Controlled cooling function
- Controller with touch operation P580 (50 programs with each 40 segments), 2 preset sample programs, controls description see page 62

Additional Equipment

- Stackable saggars for loading in up to two or three levels, depending on model, see page 32



Automated table lowering for fast cooling



Charge saggars for two levels for LHT 02/17 LB Speed



Starter set for one level for LHT 01/17 LB Speed

Model	Tmax in °C	Work space dimensions ² in mm			Charging area in mm		Maximum load (crowns)	Outer dimensions ¹ in mm			Connected load ³ in kW	Electrical connection*	Weight in kg	Max. heating rate up to 1000 °C/min
		w	d	h	w	d		W	D	H				
LHT 01/17 LB Speed	1650	75	110	60	95	130	30	350	590	695	3.6	1-phase	45	60
LHT 02/17 LB Speed	1650	Ø 115		140	135	135	75	390	590	785	3.6	1-phase	55	20

¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

²Corresponds to charge saggars with spacer

³The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range voltages, the connected load applies to the highest permissible connected voltage.

*These furnaces are available for main voltage of 220 V - 240 V, 1/N/PE or 2/PE

Sintering Furnaces

LHT ../17 D up to 1650 °C

The sintering furnaces of the LHT ../17 D model series are ideally suited for sintering bridges and crowns made of translucent zirconia up to 1650 °C. Their special heating elements made of molybdenum disilicide provide excellent protection against chemical interaction between the batch and the furnace components. Up to 30 (LHT 01/17 D) or 75 (LHT 03/17 D) single crowns can be produced per sintering cycle.

These furnaces are allrounders for the dental laboratory, standing out especially for their very good price-performance ratio combined with a long service life. The furnaces can be individually programmed for most recommended sintering curves from all major zirconia manufacturers.

Key Facts

- Suitable for sintering zirconia from all leading manufacturers
- Ideal for conventional/classic sintering, even overnight
- Maximum heating rate up to 1000 °C at 30 °C/min (LHT 01/17 D) or 20 °C/min (LHT 03/17 D)
- Fastest cooling time to 300 °C in 189 minutes (LHT 01/17 D) or 165 minutes (LHT 03/17 D)
- Sintering capacity of 30 to 75 single crowns/bridges and full arches
- Adjustable air inlet opening
- Type S thermocouple

Additional Equipment

- Stackable saggars for loading in up to two or three levels, depending on model see page 32



High-temperature sintering furnace
LHT 01/17 D



High-temperature sintering furnace
LHT 03/17 D

Ideal for
conventional/
classic sintering



Starter set for high-temperature furnace LHT 01/17 D



Charge sagger for two levels for high-temperature furnace LHT 03/17 D



Special heating elements made of molybdenum disilicide

Model	Tmax	Inner dimensions in mm			Volume in l	Maximum load (crowns)	Outer dimensions in mm ¹			Connected load ³ in kW	Electrical connection*	Weight in kg	Max. heating rate up to 1000 °C in °C/min
	in °C	w	d	h			W	D	H ²				
LHT 01/17 D	1650	110	120	120	1	30	385	425	525+195	1.95	1-phase	28	30
LHT 03/17 D	1650	135	135	200	3	75	412	450	595+300	2.70	1-phase	38	20

¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

²Including opened lift door

³The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range voltages, the connected load applies to the highest permissible connected voltage.

*These furnaces are available for main voltage of 208 V, 220 V - 240 V, 1/N/PE or 2/PE

Sintering Furnaces

LHTCT ../16 up to 1550 °C

The sintering furnaces of the LHTCT ../16 model series are designed as tabletop models equipped with SiC heating rods. The furnaces stand out for a very good price-performance ratio and numerous advantages when sintering zirconia at temperatures up to 1500 °C. Fast heating times make these models a solid choice for CAD/CAM processing of zirconia. The furnaces can be individually programmed for many recommended sintering curves up to 1550 °C.

- Fastest cooling time to 300 °C in 110 minutes (LHTCT 01/16) or 145 minutes (LHTCT 03/16)
- Furnace chamber can be charged with up to two (LHTCT 01/16) or four (LHTCT 03/16) saggars, 15 individual crowns per level
- Easy replacement of heating rods

Key Facts

- Sintering temperature 1500 °C, increased wear and tear of heating elements must be expected in case of working at higher temperatures
- Ideal for conventional/classic sintering up to a maximum of 1550 °C, even overnight
- Maximum heating rate up to 1000 °C at 100 °C/min (LHTCT 01/16) or 85 °C/min (LHTCT 03/16)

Additional Equipment

- Square sagger for charging of up to two layers (15 single crowns) see page 32
- Lid for top sagger



High-temperature sintering furnace
LHTCT 01/16



High-temperature sintering furnace
LHTCT 01/16

Ideal for
conventional/
classic sintering
up to a maximum
of 1550 °C



Starter set for high-temperature furnace LHTCT ../16



Loading in the high-temperature furnace LHTCT 03/16



Furnace chamber SiC heating rods on both sides of the furnace

Model	Tmax	Inner dimensions in mm			Volume in l	Maximum load (crowns)	Outer dimensions in mm ²			Connected load ⁴ in kW	Electrical connection [*]	Weight in kg	Max. heating rate up to 1000 °C in °C/min
	in °C	w	d	h			W	D	H ¹				
LHTCT 01/16	1550	110	120	120	1.5	30	340	335	485 + 205	3.5	1-phase	20	100
LHTCT 03/16	1550	120	210	120	3.0	60	415	545	490 + 200	8.5	3-phase ³	38	85

^{*}These furnaces are available for main voltage of 200 V, 208 V, 220 V - 240 V, 1/N/PE or 2/PE (LHTCT 01/16) resp. 380 V - 400 V, 3/N/PE (LHTCT 03/16)

¹Including opened lift door

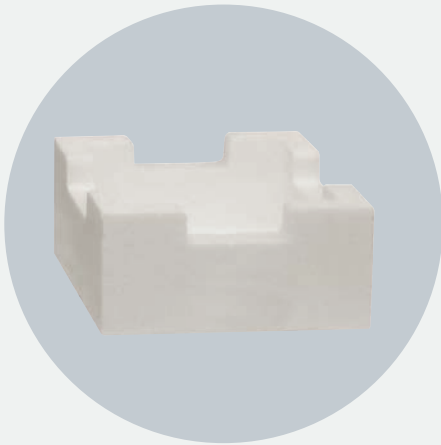
²External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

³Heating only between two phases

⁴The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range voltages, the connected load applies to the highest permissible connected voltage.

Accessories for Sintering Furnaces

Charge Sagger for Sintering Furnace LHT 01/16 Turbo Fire



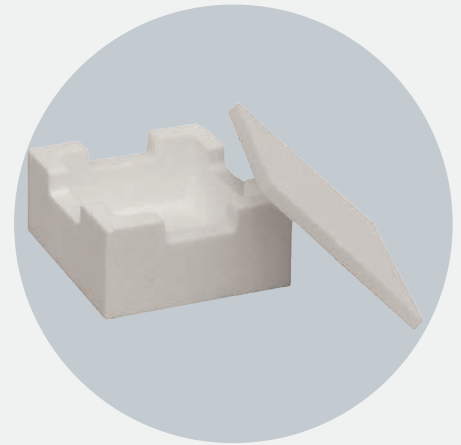
Charge Sagger with Ventilation Openings

Outside: 65 x 65 x 30 mm
Inside: 50 x 50 x 20 mm
Article No.: 6000093981



Lid for Charge Sagger

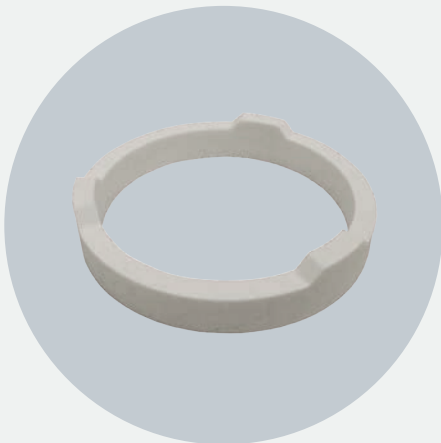
Outside: 65 x 65 mm
Article No.: 6000093984



Starter Set

Article No.: 699001320

Charge Saggars for Sintering Furnaces LHT 02/17 LB Speed and LHT 03/17 D



Spacer Ring with Ventilation Openings

Outside: Ø 115 mm
Inside: Ø 95 mm
Article No.: 699001055



Sintering Dish

Outside: Ø 115 mm
Inside: Ø 95 mm
Article No.: 699001054



Starter Set

Article No.: 699001066

Number of Required Charge Levels for Sintering Furnaces LHT 02/17 LB Speed and LHT 03/17 D in Overview:

For charging zirconia restorations charge saggars are recommended. A sagger basically consists of the sintering dish as base and the spacer ring with ventilation openings. The material is highly resistant to temperature fluctuations and can be used for processes with short heat-up and cool-down times.

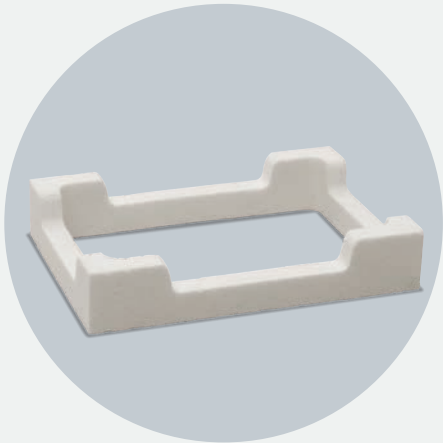
When charging the furnace it must be ensured that the lower charge carrier is generally resting on the spacer ring. This provides for air-circulation under this carrier and improves the temperature uniformity. It is recommended to cover upper sagger with another sintering dish as lid.

The starter set consists of a charge saggars, a spacer ring as a base and a second sintering dish as lid. The use of additional saggars (sintering dish and spacer ring) allows charging on additional levels. Both furnace models are designed to get charged with up to three charge saggars.

- 1 level: Starter set which includes 2 sintering dishes and 2 spacer rings
- 2 levels: Starter set + 1 sintering dish + 1 spacer ring
- 3 levels: Starter set + 2 sintering dishes + 2 spacer rings

Dental technology
on a new level

**Charge Saggars for Sintering Furnaces LHT 01/17 LB Speed,
LHTCT 01/16, LHTCT 03/16 and LHT 01/17 D**

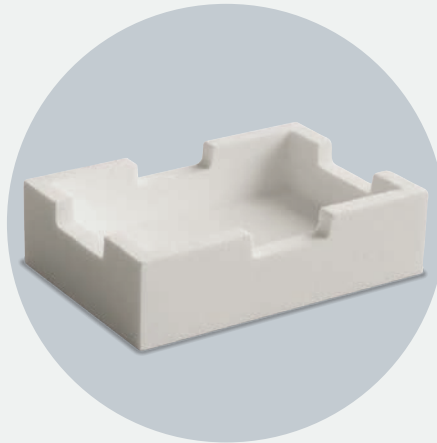


Spacer with Ventilation Openings

Outside: 110 x 75 x 20 mm

Inside: 95 x 60 mm

Article No.: 699000529

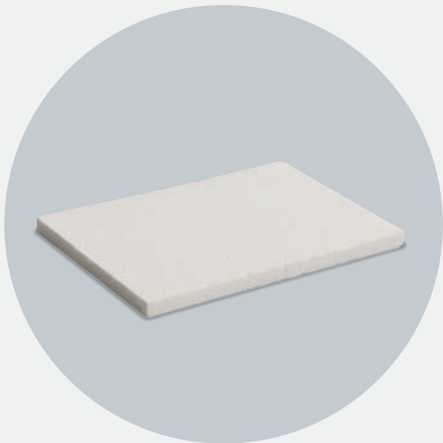


**Charge Saggars with Ventilation
Openings**

Outside: 110 x 75 x 30 mm

Inside: 95 x 60 x 20 mm

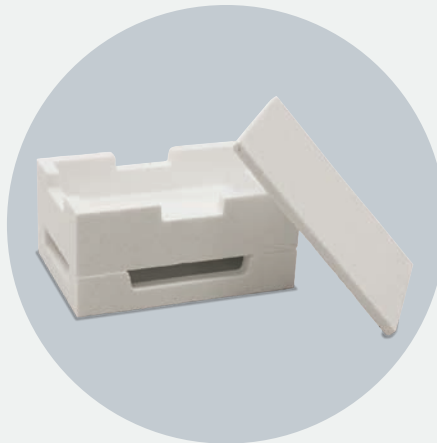
Article No.: 699000279



Lid for Charge Saggars

Outside: 110 x 75 x 5 mm

Article No.: 699000985



Starter Set, rectangular

Article No.: 699001124

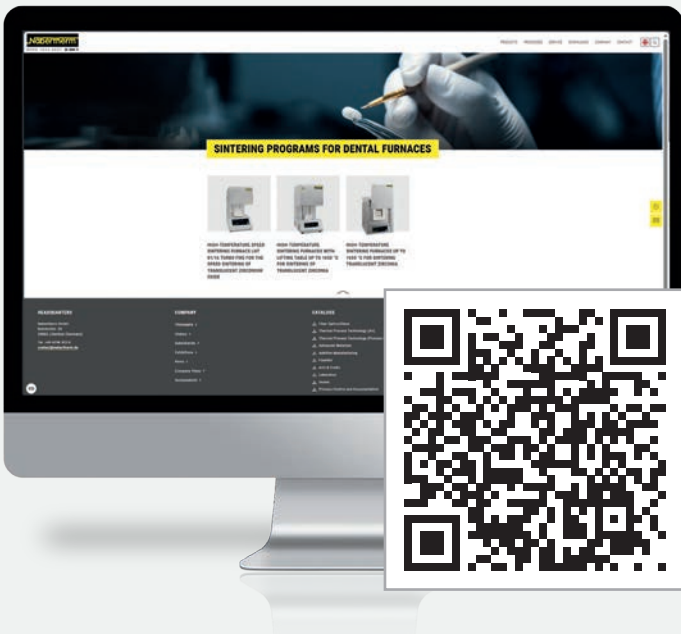
Placing the zirconia product in charge saggars provides for optimum utilization of the furnace chamber. Up to two saggars + spacer can be stacked in the furnaces. The integrated air slots in the saggars and spacer ensure a better air circulation of the charge. The upper sagger can be closed with a separate ceramic lid.

**Note: The Accessories Described above are Designed for Cold Charging and Discharging.
Removing the Accessories in Hot Condition is not Possible.**

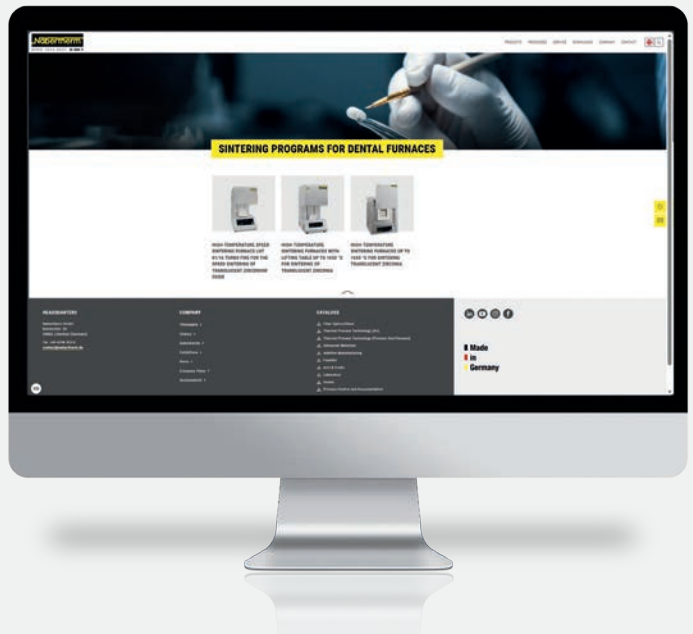
Download Portal for Sintering Programs

The free download portal for various zirconia sintering programs allows for quick and easy download of manufacturer parameters using a USB stick. The desired programs can then be transferred to the controller in seconds. No registration on the portal is required.

Open download area

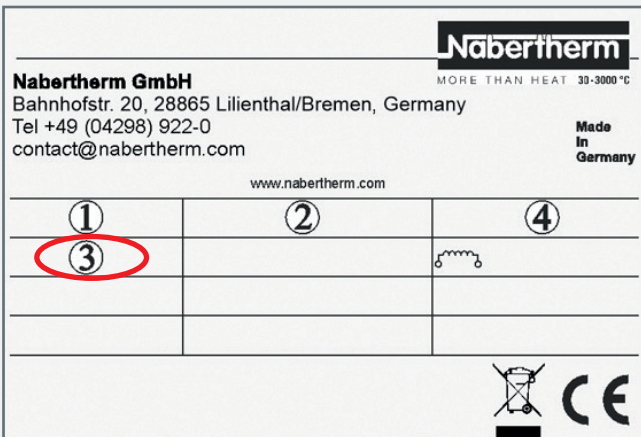


Select furnace model



Open the download area on the Nabetherm website:
<https://nabetherm.com/en/downloads/sintering-programs>

Select article number of your furnace



You can find the article number on the type plate on the side of your furnace (3)

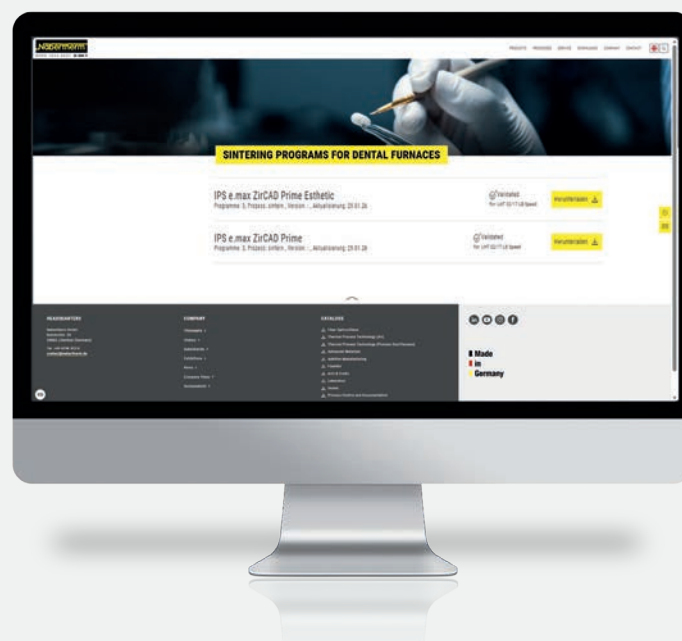
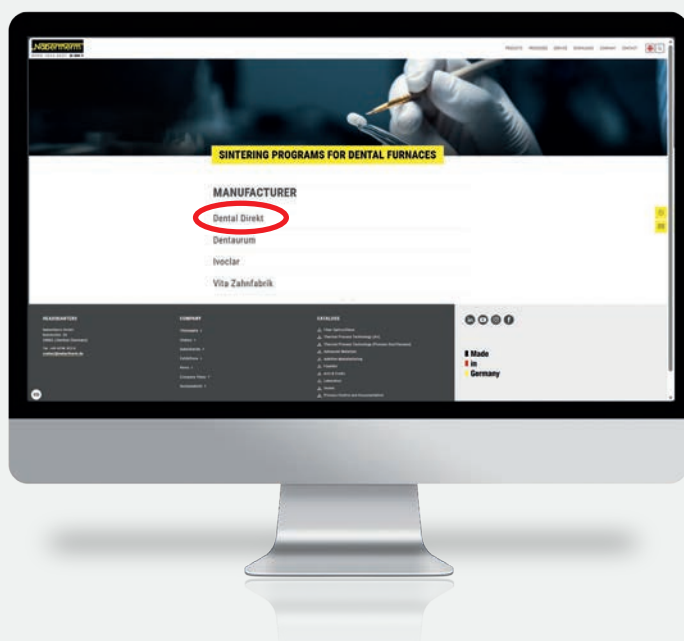


Precision Meets Reliability.
Trust in Nabertherm.



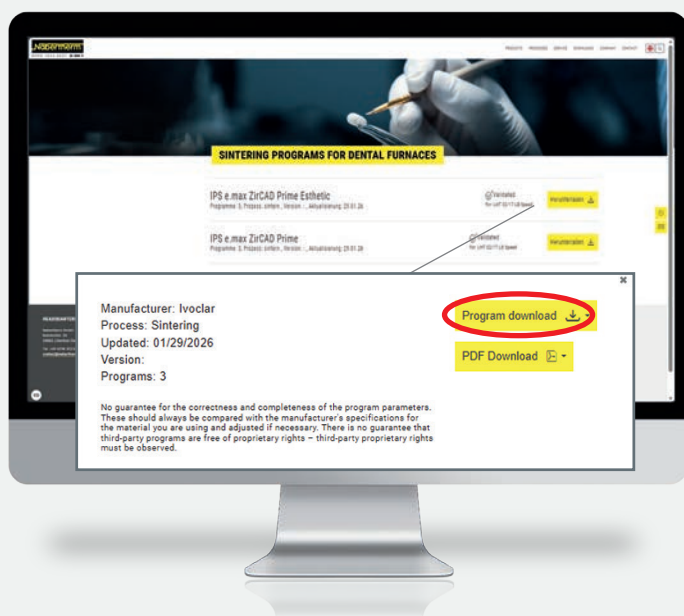
Select manufacturer

Select material



Download the program

Data import via USB stick



Download the appropriate program and transfer it to a USB stick

Import the downloaded sintering program into the controller using a USB stick

Combi Furnace
Cobalt-Chromium
&
Stress-Relief
Annealing

The compact combi furnace LCA 04/13 LB can be used both as a sintering furnace for cobalt-chromium and for stress-relief annealing after laser sintering.

The open system can be used for all standard CoCr blanks from leading manufacturers.



Dual shell ventilated housing made of textured stainless steel sheets for low surface temperature and high stability



Freeware NTEdit for convenient program input via Excel™ for Windows™ on the PC



We use only insulation materials that are classified as noncarcinogenic under EU Regulation 1272/2008 (CLP)



Freeware NTGraph for evaluation and documentation of sintering cycles using Excel™ for Windows™ on the PC



Defined application within the constraints of the operating instructions



MyNabertherm App for online monitoring of the sintering cycles on mobile devices for free download



NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive



Different protective gas bells available for different processes



Combi furnace LCA 04/13 LB with annealing bell set

Combi Furnace

LCA 04/13 LB up to 1280 °C

Execution: sintering cobalt-chromium

The sintering furnace LCA 04/13 LB is ideal for sintering cobalt-chromium restorations. The restorations are placed in a special sintering bell and heat-treated under argon. Good sintering results in an almost oxygen-free atmosphere with low argon consumption are achieved thanks to the unique construction combined with sintering pearls. The furnace can be freely programmed and therefore used for various materials up to a sintering temperature of 1280 °C.

Designed as a combi furnace, this model can also be equipped with an annealing bell set for stress-relief annealing after laser sintering. Platforms with dimensions up to Ø 10 cm fit this setup. See page 42 for description.

Two sample programs, which can be customized for each customer, are already preset. The LCA 04/13 LB furnace is also designed for connection to a single-phase power supply. The lifting table enables rapid cooling.

Key Facts

- Working temperature up to 1280 °C
- Gas supply system with solenoid valve and flow meter integrated in furnace chamber
- Forced cooling system with lifting table function possible
- Type S thermocouple
- Single-phase connection
- Controller with touch operation P580 (50 programs with each 40 segments), controls description see page 46

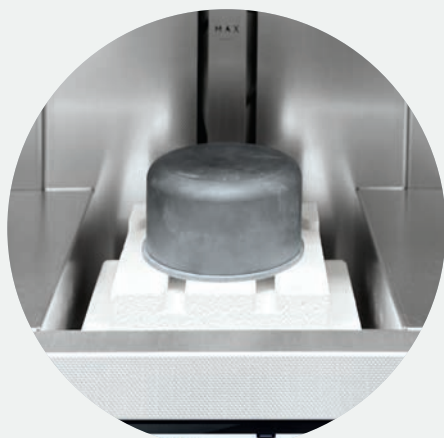
Required accessories

- Sintering bell set including:
 - Special tongs
 - Sintering disc
 - Sintering bowl
 - Sintering lid
 - Sintering bell
 - Sintering pearls, Ø 1.25 mm (200 g)



Combi
Furnace

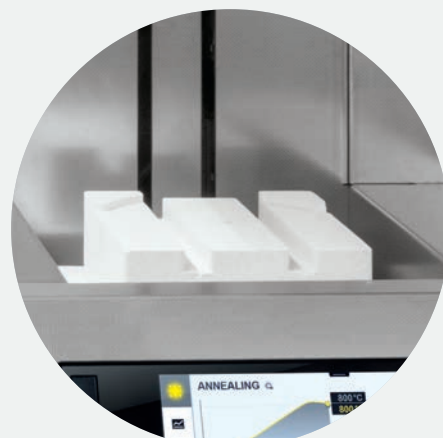
Sintering furnace LCA 04/13 LB



Charging in sintering furnace
LCA 04/13 LB for the sintering of
cobalt-chromium



Flowmeter for argon



Lifting table for rapid cooling

Model	Tmax in °C	Work space sintering bell in mm		Charging area in mm Ø	Maximum load crowns	Outer dimensions ¹ in mm			Connected load ² in kW	Electrical connection*	Weight in kg	Heating time ³ in min
		Ø	h			W	D	H				
LCA 04/13 LB	1300	76	34	126	30	350	500	780	3,6	1-phase	32	35

*These furnaces are available for main voltage of 220 V - 240 V, 1/N/PE or 2/PE

¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

²The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range voltages, the connected load applies to the highest permissible connected voltage.

³Heating time of the empty and closed furnace up to Tmax - 100 K (connected to 230 V 1/N/PE resp. 400 V 3/N/PE)

Required Accessories for Sintering of Cobalt-Chromium For Combi Furnace LCA 04/13 LB

Sintering Bell for Sintering Furnace LCA 04/13 LB

For sintering of NEM restorations under argon, a sintering saggar with very good sealing is used. The sintering bell is made of durable, low-wear material. The material is placed in the sintering bowl, covered with the sintering bell and sintered under argon. In total, up to 30 units per sintering process can be inserted.

The specific design in combination with sintering pearls provides for good sintering results in a nearly oxygen-free atmosphere at a very low argon consumption.

Sintering Pearls for Sintering Furnace LCA 04/13 LB

The use of sintering pearls which reduce the atmosphere inside the sintering bell ensures optimal results. They prevent the crowns and bridges from sticking or jamming during the sintering process.

It must be ensured that the frameworks and single crowns are imbedded in sintering pearls up to their upper edge. Though, it must be ensured that they should not enter the crowns in order not to hinder the sintering shrinkage.

Special Tongs for Charging the Sintering Bell

We offer a pair of special tongs for loading and unloading the furnace. The sintering bell can easily be removed from the sintering chamber.

Note: The accessories described above are designed for cold charging and discharging. Removing them in hot condition is not permitted.



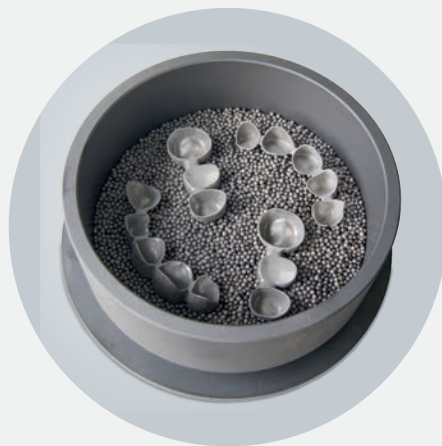
Sintering furnace LCA 04/13 LB



Sintering Bell Set,
Outer: Ø 95 x 50 mm
Article No.: 699001186



Special Tongs, Length: 250 mm
Article No.: 699001189



Sintering Pearls
Article No.: 699001185



Annealing Bell Set for Stress-Relief Annealing,
Outer: Ø 126 mm x 95 mm
Article No.: 6000170153

Combi Furnace

LCA 04/13 LB up to 1280 °C

Execution: stress-relief annealing after laser sintering

The combi furnace LCA 04/13 LB with annealing bell is ideal for stress-relief annealing after laser sintering and is very easy to operate.

With its compact design, this furnace fits in any dental laboratory. The batch to be annealed is placed under a special annealing bell. The protective gas flow is set via the integrated gas-feeding system in the front of the furnace. The lifting table can be used for rapid cooling - either automatically according to the program or manually, depending on the process.

Because it is a combi furnace, the same model can also be equipped with a corresponding sintering bell set for sintering cobalt-chromium. See page 38 for description.

Key Facts

- Working temperature up to 1280 °C
- Two-sides heating
- Heating elements on support tubes ensure free heat radiation and a long service life
- High-quality fiber insulation for furnace chamber
- Collar and table insulation made of light refractory bricks
- Low energy consumption
- Gas supply system for argon (optionally nitrogen or forming gas) with solenoid valve and flow meter integrated in the furnace
- Flow rate 50 – 510 l/h
- Forced cooling system with lifting table function possible
- Fastest cooling time from 1180 °C to 200 °C in 100 minutes (with table opening)
- Type S thermocouple
- Controller with touch operation P580 (50 programs with each 40 segments), controls description see page 62

Required accessories

- Annealing bell set including:
 - Annealing bell
 - Annealing disc
 - Base plate with gas distribution slots



Combi
Furnace

Combi furnace LCA 04/13 LB with annealing bell set



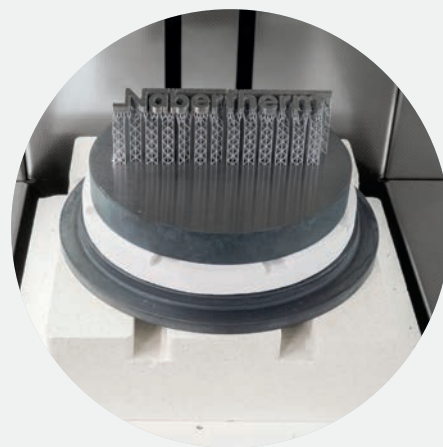
Annealing Bell Set for Stress-Relief Annealing,

Outer: Ø 126 mm x 95 mm

Article No.: 6000170153



Flowmeter for argon



Charging in combi furnace
LCA 04/13 LB for stress-relief
sintering

Model	Tmax in °C	Work space annealing bell in mm		Charging area ⁴ in mm	Maximum load crowns	Outer dimensions ¹ in mm			Connected load ² in kW	Electrical connection [*]	Weight in kg	Heating time ³ in min
		Ø	h			W	D	H				
LCA 04/13 LB	1300	108	80	126	30	350	500	780	3,6	1-phase	32	35

^{*}These furnaces are available for main voltage of 220 V - 240 V, 1/N/PE or 2/PE

¹External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

²The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range voltages, the connected load applies to the highest permissible connected voltage.

³Heating time of the empty and closed furnace up to Tmax - 100 K (connected to 230 V 1/N/PE resp. 400 V 3/N/PE)

⁴Designed for platforms of Ø 100 mm



Burnout Furnaces

Reliability in the burning out of muffles and speed investments as well as a long service life make these burnout furnaces the perfect choice for daily work in the dental laboratory.



Dual shell ventilated housing made of textured stainless steel sheets for low surface temperature and high stability



Freeware NTEdit for convenient program input via Excel™ for Windows™ on the PC



We use only insulation materials that are classified as noncarcinogenic under EU Regulation 1272/2008 (CLP)



Freeware NTGraph for evaluation and documentation of firings using Excel™ for Windows™ on the PC



Solid state relays provide for lownoise operation



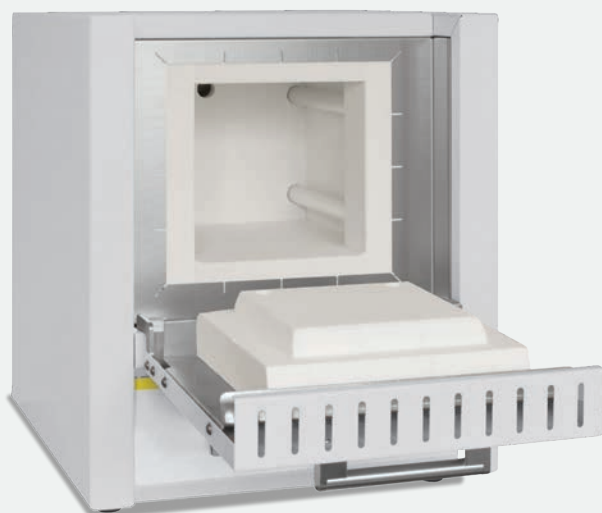
MyNabertherm App for online monitoring of the firing on mobile devices for free download



NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive



Defined application within the constraints of the operating instructions



Burnout furnace LE 6/11



Burnout furnace L 3/11

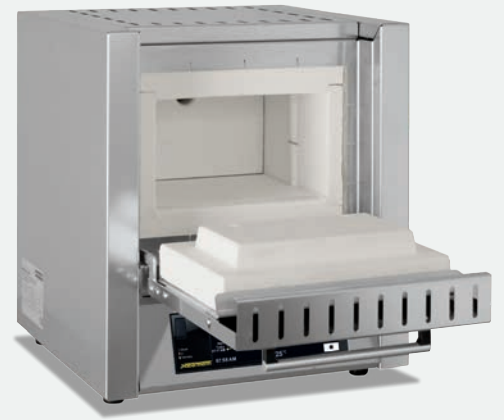
Product Overview Burnout Furnaces



Technical informationen	LE 1/11	LE 2/11	LE 6/11	LE 14/11
Possible applications	Speed investment material			
Tmax in °C	1100	1100	1100	1100
Heating time in min ¹	10	15	30	35
Heating element type	Heating wire protected in quartz tubes			
Max. load muffle type size 1 x (Ø 37 mm)	6	8	20	35
Max. load muffle type size 3 x (Ø 55 mm)	4	6	9	20
Max. load muffle type size 6 x (Ø 72 mm)	1	2	4	12
Max. load muffle type size 9 x (Ø 88 mm)	1	2	2	6
Max. holding time	1	1	1	1

¹Heating time of the empty and closed furnace up to Tmax – 100 K (connected to 230 V 1/N/PE resp. 400 V 3/N/PE)

Precision Meets Reliability.
Trust in Nabertherm.



L(T) 3/11

L(T) 5/11

L(T) 9/11

L(T) 15/11

Speed investment material and conventional preheating

1100

1100

1100

1100

40

50

65

75

Heating wire in ceramic plates

12

20

36

54

6

9

16

24

2

4

9

12

2

2 - 3

4

6

10

10

10

10

Burnout Furnaces for Burn-Out of Muffles and Speed Investment Material L(T) .. / 11 up to 1100 °C

The burnout furnaces of model series L(T) .. are the perfect choice for daily work in the dental laboratory. These furnaces stand for excellent workmanship, advanced, attractive design and highest level of reliability. They are perfectly suitable for burnout of muffles and also for speed investments. These furnaces come equipped with either a flap door (L) which can be used as work platform or lift door (LT) with hot surface facing away from the operator. The burnout furnaces come with a fiber insulation for 1100 °C.

- Solid state relays provide for low-noise operation
- For maximum number of chargeable muffles in the furnace models see page 46
- Controller with touch operation C550 (10 programs with each 20 segments), alternative controllers see page 62
- MyNabertherm App for online monitoring of the firing on mobile devices for free download see page 64

Key Facts

- Heating from two sides by ceramic heating plates provides for an optimal temperature uniformity
- Ceramic heating plates with integral heating element which is safeguarded against fumes and splashing, and easy to replace
- Thermocouple type N
- Adjustable air inlet integrated in door
- Exhaust air outlet in rear wall of furnace

Additional Equipment

- Chimney, chimney with fan or catalytic converter see page 52
- Please see page 53 for more accessories



Burnout furnace LT 5/11



Burnout furnace L 3/11 with casting muffle



Flap door (L) which can be used as work platform



Lift door (LT) with hot surface facing away from the operator



Wax modulation

Model	Tmax in °C ¹	Inner dimensions in mm			Volume in l	Outer dimensions ² in mm			Temperature uniformity of +/- 5 K in the empty workspace ⁵			Connected load ⁶ in kW	Electrical connection [*]	Weight in kg	Heating time in min ⁴
		w	d	h		W	D	H ³	w	d	h				
L(T) 3/11	1100	160	140	100	3	385	330	405+155	110	50	50	1.3	1-phase	20	40
L(T) 5/11	1100	200	170	130	5	385	390	460+205	170	80	90	2.6	1-phase	30	50
L(T) 9/11	1100	230	240	170	9	415	455	515+240	180	150	120	3.3	1-phase	35	65
L(T) 15/11	1100	230	340	170	15	415	555	515+240	180	250	120	3.5	1-phase	40	75

*These furnaces are available for main voltage of 110 V - 120 V (up to 1,5 kW) resp. 200 V - 240 V, 1/N/PE or 2/PE

¹Recommended working temperature for processes with longer dwell times is 1000 °C (L../11)

²External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

³Including opened lift door (LT models)

⁴Heating time of the empty and closed furnace up to Tmax - 100 K (connected to 230 V 1/N/PE resp. 400 V 3/N/PE)

⁵Temperature uniformity of +/- 5 K with closed fresh-air inlet in empty work space according to DIN 17052-1 at working temperatures above 800 °C

⁶The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range voltages, the connected load applies to the highest permissible connected voltage.

Compact Burnout Furnaces for Speed Investment Material

LE .. / 11 up to 1100 °C

With their unbeatable price/performance ratio, the compact burnout furnaces of the LE series are the ideal suited for speed investment material. They convince by very fast possible heating ramps and attractive design. Quality features like the dual shell housing, their compact, lightweight design, or the heating elements installed in quartz glass tubes make this burnout furnace a reliable partner for your dental application.

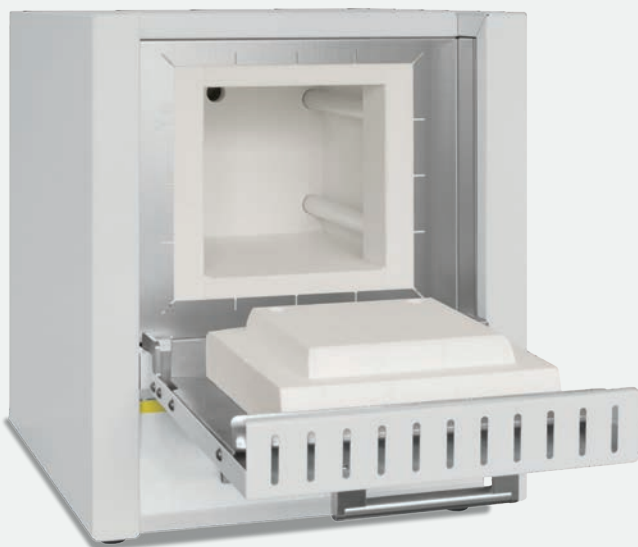
- Solid state relays provide for low-noise operation
- Compact dimensions and light weight
- Controller mounted under the door to save space
- For maximum number of chargeable muffles in the furnace models see page 46
- Controller R8 (manually adjustable for one temperature, manual shutdown)

Key Facts

- Heating from two sides from heating elements protected in quartz glass tubes
- Fast heating times (see table)
- Maintenance-friendly replacement of heating elements and insulation
- Housing coated in RAL 9003
- Flap door which can also be used as a work platform
- Exhaust air outlet in rear wall
- Thermocouple type N

Additional Equipment

- Chimney, chimney with fan or catalytic converter (not for LE 1 and LE 2) see page 52
- Please see page 53 for more accessories



Burnout furnace LE 6/11



Burnout furnace LE 1/11



Heating elements protected in quartz glass tubes



Maximum chargeable number of burnout muffs see page 46



Controller R8

Model	Tmax	Inner dimensions in mm			Volume in l	Outer dimensions ² in mm			Temperature uniformity of +/- 5K in the empty workspace ⁴			Connected load ⁵ in kW	Electrical connection*	Weight in kg	Heating time in min ³
	in °C ¹	w	d	h		W	D	H	w	d	h				
LE 1/11	1100	90	115	110	1	310	300	410	40	65	60	1.6	1-phase	15	6
LE 2/11	1100	110	180	110	2	330	365	410	60	130	60	1.9	1-phase	20	11
LE 6/11	1100	170	200	170	6	390	385	470	120	150	120	2.0	1-phase	27	27
LE 14/11	1100	220	320	220	14	440	485	520	170	250	170	3.2	1-phase	35	30

¹Recommended working temperature for processes with longer dwell times is 1050 °C

²External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

³Heating time of the empty and closed furnace up to Tmax – 100 K (connected to 230 V 1/N/PE)

⁴Temperature uniformity of +/- 5 K with closed fresh-air inlet in empty work space according to DIN 17052-1 at working temperatures above 800 °C

⁵The connected load refers to the standard furnace and may increase for a furnace with additional equipment. For furnaces with connection options for multi-range voltages, the connected load applies to the highest permissible connected voltage.

*These furnaces are available for main voltage of 110 V - 120 V resp. 200 V - 240 V, 1/N/PE or 2/PE

Accessories for Bournout Furnaces

L(T) ../11 and LE ../11



Article No.: 631000140

Exhaust Vent

Exhaust vent for collection and upstream direction of escaping gases



Article No.: 6000140311

Chimney with Fan

Exhaust gases are better removed from the furnace and discharged. The C550 - P580 controllers can be used to activate the fan automatically (not for models L 1/12, LE 1/11, LE 2/11).*



Article No.: depends on furnace model

Catalytic Converter with Fan

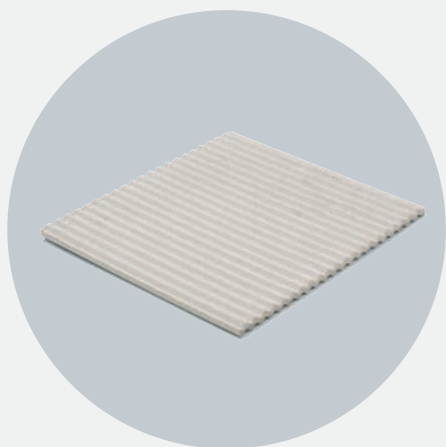
Organic components are catalytically cleaned at about 600 °C, broken into carbon dioxide and water vapour. Irritating odors are thus largely eliminated. The C550 - P580 controllers can be used to switch the catalytic converter automatically (not for models L 1/12, LE 1/11, LE 2/11).*

The catalytic converter with fan has two connectors, one is connected to the furnace and the other to the power supply. Models LE 6 - LE 14 require an additional box for switching it on and off.

* Note: If other controller types are used an adapter cable for connection to mains supply has to be ordered separately. The device will be activated by plugging in the socket.



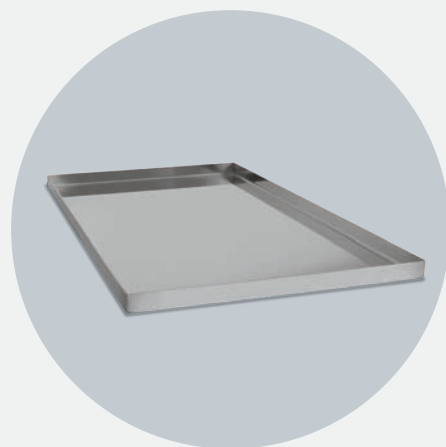
Select between different **bottom plates** and collecting pans for protection of the furnace and easy loading (for models L, LT, LE on pages 48 - 51). Steel collecting pans may deform/distort under heat. For batches that are sensitive to tipping, ceramic shelves to protect the furnace bottom are recommended.



Ceramic Ribbed Plate,
Tmax 1200 °C



Ceramic Collecting Pan,
Tmax 1300 °C



Stainless Steel Collecting Pan, Tmax 1100 °C

For models	Ceramic ribbed plate		Ceramic collecting pan		Stainless steel collecting pan (Material 1.4828)	
	Articel No.	Dimensions in mm	Articel No.	Dimensions in mm	Articel No.	Dimensions in mm
L 1, LE 1	691601835	110 x 90 x 12.7	-	-	691404623	85 x 100 x 20
LE 2	691601097	170 x 110 x 12.7	691601099	100 x 160 x 10	691402096	100 x 180 x 20
L(T) 3	691600507	150 x 140 x 12.7	691600510	150 x 140 x 20	691400145	150 x 140 x 20
LE 6	691600508	190 x 170 x 12.7	691600511	190 x 170 x 20	6000095954	160 x 200 x 20
L(T) 5	691600508	190 x 170 x 12.7	691600511	190 x 170 x 20	691400146	190 x 170 x 20
L(T) 9	691600509	240 x 220 x 12.7	691600512	240 x 220 x 20	691400147	240 x 220 x 20
LE 14	691601098	210 x 290 x 12.7	-	-	691402097	210 x 290 x 20
L(T) 15	691600506	340 x 220 x 12.7	-	-	691400149	220 x 340 x 20



Article No.:
493000004

Gloves, Tmax 650 °C

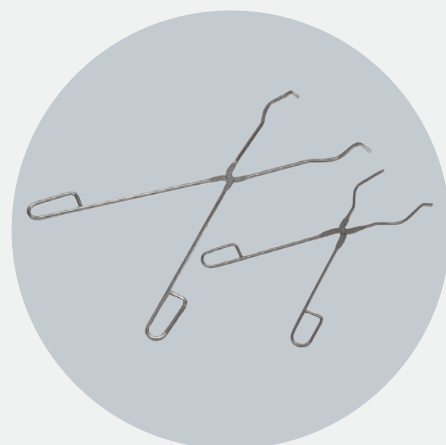
For protection of the operator when loading or removing hot materials



Article No.:
491041101

Gloves, Tmax 700 °C

For protection of the operator when loading or removing hot materials

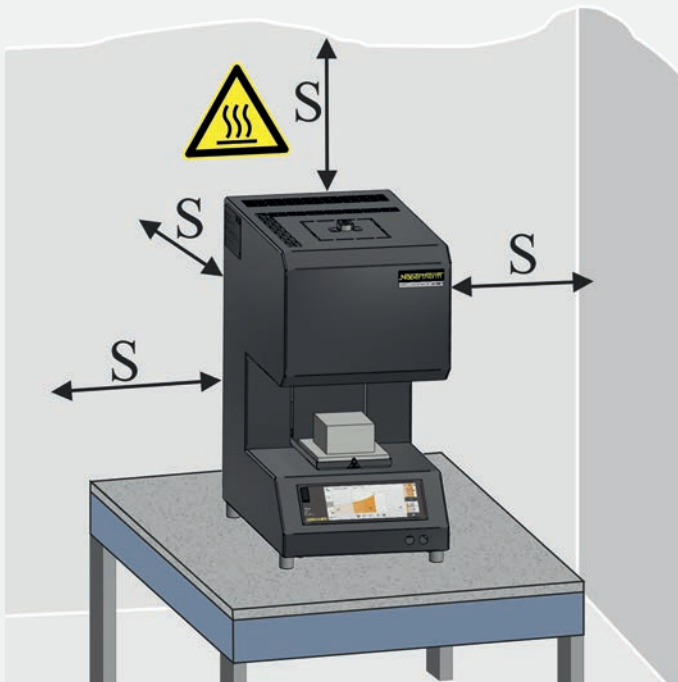


Article No.:
493000002 (300 mm)
493000003 (500 mm)

Charing Tongs

For easy loading and unloading of the furnace

Installation and Exhaust Air System

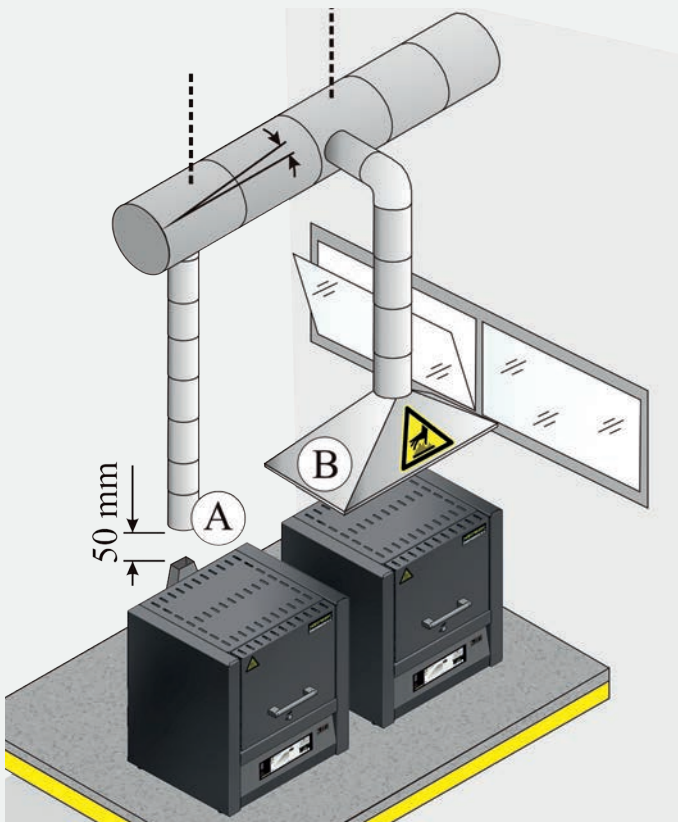


Installation

When the kiln is being installed, it is important that there is a safety gap of 0.5 m between the kiln and flammable materials on all sides and 1.0 m to the ceiling. If the ceiling is lower, heat-resistant insulation must be used for protection. The kiln must be placed on a non-flammable surface (fire safety class A DIN 4102 – Example: concrete, tiles, glass, aluminum or steel). The floor must be level so that the kiln can stand upright. Kiln and switchgear are not designed to be used outdoors.

Exhaust air system

When exhaust gases are generated during the process it is mandatory to guide them outside in an adequate way. The relevant operating instructions must be always taken into consideration. When exhaust gas pipings are installed it is always necessary that a local ventilation technician lays out the system in accordance to the real environment.



There are different possibilities to guide the exhaust gases out. In many cases the furnace is positioned under a laboratory extraction provided by the customer. In these cases the use of an exhaust vent is recommended just to guide the gases upwards.

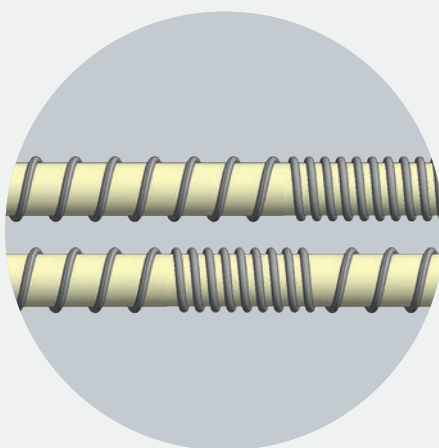
For this purpose metal exhaust gas pipes with NW 80 to NW 120 can be used. They must be installed continuously rising and fastened to the wall or ceiling. Center the pipe over the furnace vent (for models with vent fan or catalytic converter, NW 120 is necessary). The exhaust gas pipe must not be installed with a tight fit to the furnace vent pipe since this would prevent any bypass effect. This is necessary so that not too much fresh air is sucked in by the furnace.

Recommendations for the First Heating

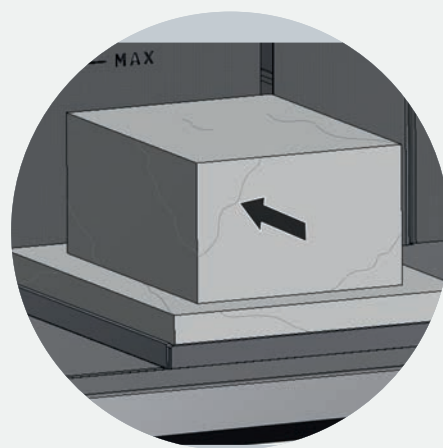
Model	Heating time	Final temperature	Holding time	Notes for heating elements	Notes for Insulation
VL 01/12 LB (Press)	Preset dehumidification program	-	-	-	Cracks in the insulation do not affect the function
LHT 01/16 Turbo Fire	5 hours	1500 °C	5 hours	Deformations have no effect on the function	
LHT ../17 LB Speed	5 hours	1550 °C	5 hours		
LHT ../17 D	5 hours	1550 °C	5 hours		
LHTCT ../16	5 hours	1400 °C	2 hours	-	
LCA 04/13 LB	6 hours	1200 °C	1 hour	Nest formation is a natural process and requires no correction	
L(T) ../11	7 hours	1050 °C	1 hour	-	
LE ../11	7 hours	1000 °C	1 hour	-	



Deformations after the initial heating do not affect the function



Nest formation is a natural process and requires no correction



Cracks in the insulation do not affect the function



Detailed information for installation and commissioning can be found in the operating instructions for your specific furnace

<https://nabertherm.com/en/downloads/instructions>

Nabertherm Goes Green

All of our furnaces are hand-made at our factory Germany, using the best available materials. In our kiln production, we not only pay attention to the careful use of our valuable resources, but also make an important contribution to sustainable energy generation ourselves.

With 2450 solar modules, our state-of-the-art photovoltaic system, installed on the roof of our production hall, has a powerful output of 999 kWp! This covers a significant part of our electricity requirements and reduces our CO₂ emissions by 100 tons per year. We are thus taking another important step towards climate neutrality.

We live sustainability!



2450
Modules!
999 kWp!



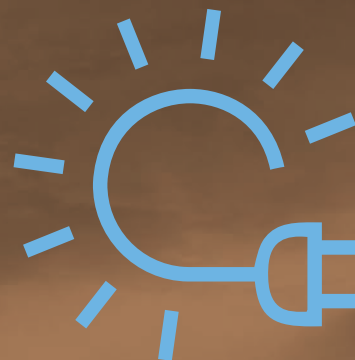
Nabertherm Goes Solar

Have you already invested in a photovoltaic system as your contribution to sustainable energy generation and would like to use this energy to operate your furnace? Every controller in the 500 series can be switched to "Solar Mode" and utilize electricity from photovoltaic systems with and without a battery. A specially tuned control response ensures that the delayed switchover times of solar storage systems are taken into account in the control system. As opposed to other solutions on the market, in solar mode, our controllers work with two switching points, which reduces temperature overshoots. This produces more uniform and improved firing results, especially with hold times. The "Solar Mode" can be set so that the oscillation behavior of the controller for heating ramps and hold times is considered separately. This ensures the best possible balance between short heating times and precise temperature control in the hold range.

Solar mode can be activated on all 500 series controllers and can be used for all electrically heated kilns.

Photovoltaics for sustainable results!





Solar
Mode



The background image shows a close-up of a person's hand typing on a laptop keyboard. The lighting is soft and focused on the hand and keys. Overlaid on this are several semi-transparent, rectangular cards that appear to be floating in the air. Each card features a white icon of a document with horizontal lines, representing text or data. The cards are positioned at various heights and angles, creating a sense of dynamic movement and digital workflow. In the upper right corner, there is a solid blue circle containing the title text.

Process Control and Docu- mentation

The controller series 500 impresses with its unique scope of performance and intuitive operation. In combination with the free “MyNabertherm” smartphone app, the monitoring of the furnace is even easier and more powerful than ever before. The operation and programming takes place via a high-contrast, large touch panel, which shows exactly the information that is relevant at the moment.



NTLog Basic for Nabertherm controller:
recording of process data with USB-flash
drive



Freeware NTEdit for convenient program
input via Excel™ for Windows™ on the PC



Freeware NTGraph for evaluation and
documentation of sintering cycles using
Excel™ for Windows™ on the PC



MyNabertherm App for online monitoring
of the sintering cycles on mobile devices
for free download



Controller can be switched to “Solar
Mode” to take advantage of electricity
from PV systems with and without battery



As additional equipment: Process control
and documentation via VCD software
package for monitoring, documentation
and control

Precision Meets Reliability.
Trust in Nabertherm.

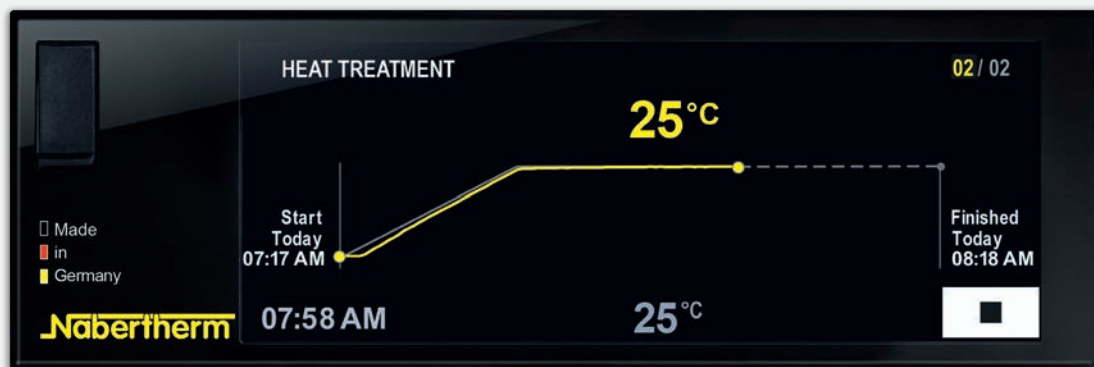


Nabertherm controller series 500



MyNabertherm app

Nabertherm Controller Series 500



Standard Equipment

- Transparent, graphic display of the temperature curves
- Clear presentation of the process data
- 24 operating languages selectable
- Consistent, attractive design
- Easily understandable symbols for many functions
- Precise and accurate temperature control
- User levels
- Program status display with estimated end time and date
- Documentation of the process curves on USB storage medium in .csv file format
- Service information can be read out via USB stick
- Clear presentation
- Plain text display
- Configurable for all furnace families
- Can be parameterized for the different processes
- "Solar Mode" to utilize electricity from photovoltaic systems with and without a battery

Highlights

In addition to the well-known and matured controller functions, the new generation offers you some individual highlights. Here is an overview of the most important ones for you:

Modern Design



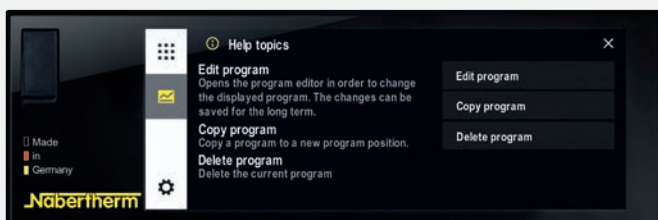
Colored display of temperature curves and process data

Easy Programming



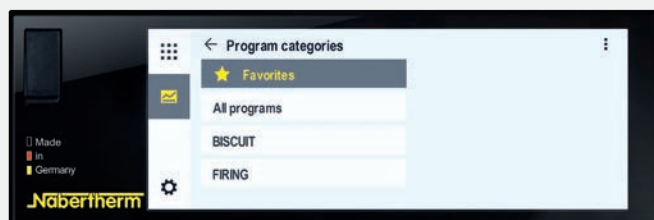
Simple and intuitive program entry via touch panel

Integrated Help Function



Information on various commands in plain text

Program Management



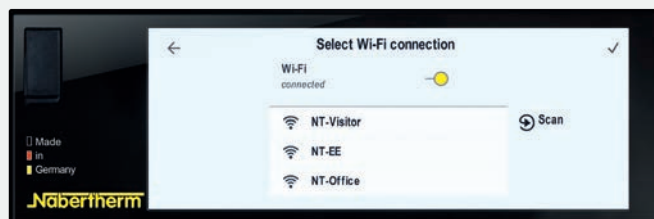
Temperature programs can be saved as favorites and in categories

Segment Player



Detailed overview of process information including setpoint, actual value and switched functions

Wi-Fi-Capable



Connection with the MyNabertherm app



Intuitive touch screen



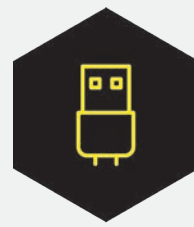
Easy program entry and control



Precise temperature control



User levels



Process documentation on USB

Further information on Nabertherm controllers, process documentation and tutorials on operation can be found on our website: <https://nabertherm.com/en/series-500>



MyNabertherm App

for mobile monitoring of process progress

MyNabertherm app – the powerful and free digital accessory for Nabertherm 500 Series Controllers. Use the app for convenient online progress monitoring of your Nabertherm furnaces – from your office, while on the way or from wherever you wish. The app always keeps you in the picture. Just like the controller itself, the app is also available in 24 languages.

App-Functions

- Convenient monitoring of one or multiple Nabertherm furnaces simultaneously
- Clear presentation as a dashboard
- Individual overview of a furnace
- Display of active/inactive furnaces
- Operating status
- Current process data

Display of Program Progress for Each Furnace

- Graphical representation of the program progress
- Display of furnace name, program name, segment information
- Display of start time, program run time, remaining run time
- Display of additional functions such as fresh-air fan, exhaust air flap, gassing, etc.
- Operating modes as symbol

Push Notifications in Case of Malfunctions and at Program End

- Push notification on the lock screen
- Display of malfunctions with an associated description in the individual overview and in a message list

Contact with Service Possible

- Stored furnace data facilitate rapid support for you

Requirements

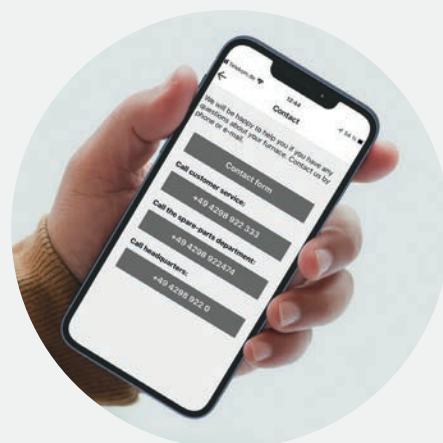
- Connection of the furnace to the Internet via the customer's Wi-Fi
- For mobile devices with Android (from version 9) or IOS (from version 13)



Convenient monitoring of one or multiple Nabertherm furnaces simultaneously



Display of program progress for each furnace

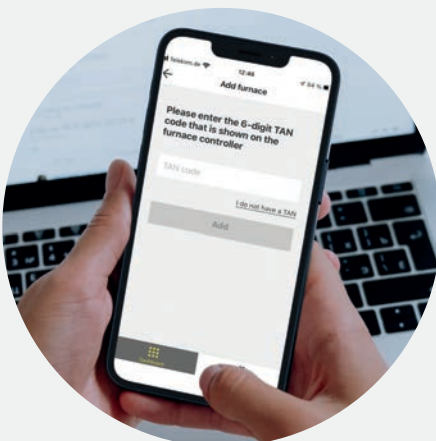


Easy to contact



Monitoring of Nabertherm furnaces with 500 series touch panel controller for Arts & Crafts, laboratory, dental, thermal process technology, advanced materials and foundry applications.

Everything on display in the new Nabertherm app for the new controller series 500. Get the most out of your furnace with our app for iOS and Android. Don't hesitate to download it now.



Any addition of Nabertherm furnaces



Push notifications in case of malfunctions



Clear contextual menu

Functions of the Standard Controllers

	R8	C550	P580	D580 ¹
Number of programs	1	10	50	> 50
Segments	1	20	40	7
Extra functions (e. g. fan or autom. flaps) maximum		2	2-6	
Maximum number of control zones	1	1	3	1
Drive of manual zone regulation		●	●	
Charge control/bath control			●	
Auto tune		●	●	
Real-time clock		●	●	●
Graphic color display		●	●	●
Graphic display of temperature curves (program sequence)				●
Status messages in clear text		●	●	●
Data entry via touchpanel		●	●	●
Entering program names (i.e. "Sintering")		●	●	●
Keypad lock		●	●	●
User levels		●	●	●
Skip-button for segment jump		●	●	●
Program entry in steps of 1 °C or 1 min.	●	●	●	1 sec.
Start time configurable (e. g. to use night power rates)		●	●	
Switch-over °C/°F	●	●	●	●
kWh meter		●	●	●
Operating hour counter		●	●	●
Set point output		●	●	
NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive		●	●	●
Interface for VCD software		○	○	
Malfunction memory		●	●	●
Number of selectable languages		24	24	24
Wi-Fi-capable („MyNabertherm" app)		●	●	●
Solar Mode		●	●	●

¹Controls description for D580 see chapter „Firing furnace and pressing furnace" in catalog „Dental Furnaces"

● Standard
○ Option



Nabertherm controller series 500



Connection with the MyNabertherm app



Convenient monitoring of one or multiple Nabertherm furnaces simultaneously

Which Controller for Which Furnaces



	VL .. LB (Press)	LHT .01/16 Turbo Fire	LHT .. LB Speed	LHT .. /17 D	LHTCT .. /16	LCA 04/13 LB	L3/11 - L 15/11	LE .. /11
Catalog page	10 - 16	24	26	28	30	38 - 43	48	50
Controller								
R8								•
C550					•		•	
P580		•	•	•		•	○	
D580*	•							

*Controls description for D580 see page 18



Sintering furnace for super speed processes LHT 01/16 Turbo Fire



Vacuum pressing furnace VL 01/12 LB Press



Combi furnace LCA 04/13 LB with annealing bell set

Process Data Storage and Data Input via PC

There are various options for evaluation and data input the processes for optimal process documentation and data storage. The following options are suitable for data storage when using the standard controllers.

Data Storing of Nabertherm Controllers with NTLog Basic

NTLog Basic allows for recording of process data of the connected Nabertherm Controller (B500, B510, C540, C550, P570, P580) on a USB stick. The process documentation with NTLog Basic requires no additional thermocouples or sensors. Only data recorded which are available in the controller. The data stored on the USB stick (up to 130,000 data records, format CSV) can afterwards be evaluated on the PC either via NTGraph or a spreadsheet software used by the customer (e.g. Excel™ for MS Windows™). For protection against accidental data manipulation the generated data records contain checksums.

Visualization with NTGraph for MS Windows™ for Single-Zone Controlled Furnaces

The process data from NTLog can be visualized either using the customer's own spreadsheet program (e.g. Excel™ for MS Windows™) or NTGraph for MS Windows™ (Freeware).

With NTGraph Nabertherm provides for an additional user-friendly tool free of charge for the visualization of the data generated by NTLog. Prerequisite for its use is the installation of the program Excel™ for MS Windows™ (from version 2003). After data import presentation as diagram, table or report can be chosen. The design (color, scaling, reference labels) can be adapted by using prepared sets. NTGraph is available in eight languages (DE/EN/FR/ES/IT/CN/RU/PT). In addition, selected texts can be generated in other languages.

Software NTEdit for MS Windows™ for Entering Programs on the PC

By using the software NTEdit for MS Windows™ (Freeware) the input of the programs becomes clearer and thus easier. The program can be entered on customers PC and then be imported into the controller (B500, B510, C540, C550, P570, P580) with a USB stick. The display of the set curve is tabular or graphical. The program import in NTEdit is also possible. With NTEdit Nabertherm provides a user-friendly free tool. A prerequisite for the use is the client installation of Excel™ for MS Windows™ (from version 2007). NTEdit is available in eight languages (DE/EN/FR/ES/IT/CN/RU/PT).





NTGraph, a freeware for the easy-to-read analysis of recorded data using Excel™ for MS Windows™



Recording of process data of the connected controller via USB stick

The screenshot shows the Nabernorm software interface. At the top right, the logo "Nabernorm" is displayed in a yellow box. Below it, the "Max. furnace temperature" is set to 1,600. The "Control type" is B400/B410, and the "Control version" is Up to V1.34. On the left, the "Program number" is 01, and the "Program name" field is empty. There are two buttons: "Export to disk" and "Export to USB". Below these are checkboxes for "In-process" and "Manual keyboard". A table with 10 columns is visible at the bottom, with the first column labeled "Segment" and the second "Start temp". The table contains data for segments 1 through 10, with start temperatures of 1,300, 1,300, 1,300, 1,300, 1,300, 1,300, 1,300, 1,300, 1,300, and 1,300 respectively. The "Time" column shows values of 00:30, 00:30, 00:30, 00:30, 00:30, 00:30, 00:30, 00:30, 00:30, and 00:30. The "Motion" column shows values of 100, 100, 100, 100, 100, 100, 100, 100, 100, and 100. The "Rate" column shows values of 100, 100, 100, 100, 100, 100, 100, 100, 100, and 100. The "Axis" columns (Axis 1 to Axis 10) show values of 1, 1, 1, 1, 1, 1, 1, 1, 1, and 1. The "Cooling" column shows values of 1, 1, 1, 1, 1, 1, 1, 1, 1, and 1.

Process input via the NTEdit software
(freeware) for MS Windows™



Spare Parts and Customer Service

our service makes the difference

For many years, the name Nabertherm has been standing for top quality and durability in furnace manufacturing. We secure this position for the future as well, Nabertherm offers not only a first-class spare parts service, but also excellent customer service for our customers. Benefit from more than 75 years of experience in furnace construction!

In addition to our qualified service technicians on site, our service specialists in Lilienthal are also available to answer your questions about your furnace. We take care of your service needs to keep your furnace always up and running. In addition to spare parts and repairs, maintenance and safety checks are part of our service portfolio. Our range of services also includes the modernization of older furnace systems or new linings. We work closely together with our qualified specialist dealers. They not only sell our products within their territories, but are also competent contact persons with regard to spare part and customer service inquiries. Through this close collaboration with our specialist dealers, we ensure that, as a customer, you are supplied quickly and efficiently with the spare parts that you need. Our specialist dealers are specially trained and have the necessary expertise to assist you and guarantee the best possible on-site support. We are proud to be able to rely on such a well-connected and qualified dealer network to offer you the best possible service.

Your needs are our top priority!

- Very fast spare parts supply, many standard spare parts in stock
- Worldwide customer service on site with its own service points in the largest markets
- International service network with long-term partners
- Highly qualified customer service team for quick and reliable repair of your furnace
- Customer training in function and operating of the system
- Competent service team for fast help on the phone
- Preventive maintenance to ensure that your furnace is ready for use
- Modernization or relining of older furnace systems

“The specialists in the Nabertherm service team are true experts in their field. They were able to provide me with competent help on the phone and in the end you can really replace almost every part in a furnace such as this.”

Customer feedback

Contact us:

Spare parts

spares@nabertherm.de
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Customer service

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