

# Economy Muffle Furnaces up to 1100 °C

With their convincing price/performance ratio and the fast heat-up rates, these compact muffle furnaces are perfect for many applications in the laboratory. Quality features like the dual shell furnace housing of rust-free stainless steel, their compact, lightweight constructions, or the heating elements encased in quartz glass tubes make these models reliable partners for your application.



Muffle furnace LE 6/11

## Standard Equipment

- Tmax 1100 °C
- 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
- Flap door which can also be used as a work platform
- Exhaust air outlet in rear wall
- Compact dimensions and light weight
- Controller mounted under the door to save space
- Controller R7, controls description see page 78

## Additional Equipment

- Chimney, chimney with fan or catalytic converter (not for LE 1 and LE 2) see page 24
- Please see page 25 for more accessories

Model	Tmax in °C <sup>1</sup>	Inner dimensions in mm			Volume in l	Outer dimensions <sup>2</sup> in mm			Temperature uniformity of +/- 5K in the empty work- space <sup>4</sup>			Connected load in kW	Electrical connection*	Weight in kg	Heating time in min <sup>3</sup>
		w	d	h		W	D	H	w	d	h				
LE 1/11	1100	90	115	110	1	290	280	410	40	65	60	1,6	1-phase	15	10
LE 2/11	1100	110	180	110	2	330	390	410	60	130	60	1,9	1-phase	20	15
LE 6/11	1100	170	200	170	6	390	440	470	120	150	120	2,0	1-phase	27	30
LE 14/11	1100	220	300	220	14	440	540	520	170	250	170	3,2	1-phase	35	35
LE 24/11	1100	260	330	280	24	490	570	590	200	270	230	3,5	1-phase	42	40

<sup>1</sup>Recommended working temperature for processes with longer dwell times is 1050 °C

\*Please see page 75 for more information about supply voltage

<sup>2</sup>External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

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

<sup>4</sup>Temperature uniformity of +/- 5 K with closed fresh-air inlet in empty work space according to DIN 17052-1 at working temperatures above 800 °C see page 71



Muffle furnace LE 1/11



Muffle furnace LE 14/11



Heating elements protected in quartz glass tubes

# Functions of the Standard Controllers

	R7	3216	3208	B500/ B510	C540/ C550	P570/ P580	3508	3504	H500	H1700	H3700	NCC
Number of programs	1	1		5	10	50	1/10/ 25/50 <sup>3</sup>	1/10/ 25/50 <sup>3</sup>	20	20	20	100
Segments	1	8		4	20	40	500 <sup>3</sup>	500 <sup>3</sup>	20	20	20	20
Extra functions (e. g. fan or autom. flaps) maximum				2	2	2-6	0-4 <sup>3</sup>	2-8 <sup>3</sup>	3 <sup>3</sup>	6/2 <sup>3</sup>	8/2 <sup>3</sup>	16/4 <sup>3</sup>
Maximum number of control zones	1	1	1	1	1	3	2 <sup>1,2</sup>	2 <sup>1,2</sup>	1-3 <sup>3</sup>	8	8	8
Drive of manual zone regulation				●	●	●			○	○	○	○
Charge control/bath control							○	○	○	○	○	○
Auto tune		●	●	●	●	●	●	●				
Real-time clock				●	●	●			●	●	●	●
Graphic color display				●	●	●			4" 7"	7"	12"	22"
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.	●	●	●	●	●	●	●	●	●	●	●	●
Start time configurable (e. g. to use night power rates)				●	●	●			●	●	●	●
Switch-over °C/°F	○	○	○	●	●	●	○	○	●	● <sup>3</sup>	● <sup>3</sup>	● <sup>3</sup>
kWh meter				●	●	●						
Operating hour counter				●	●	●			●	●	●	●
Set point output			○	●	●	●	○	○		○	○	○
NTLog Comfort for HiProSystems: recording of process data on an external storage medium									○	○	○	
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)				●	●	●						

<sup>1</sup> Not for melt bath control

<sup>2</sup> Control of additional separate slave regulators possible

<sup>3</sup> Depending on the design

● Standard  
○ Option

Which controller for which furnaces	TR	TR .. LS	KTR	NAT 15/65	NA 30/45 - NA 675/85	L 1/12	L 3 - LT 40	LE	L(T) 9/11/SKM	LV(T)	L .. /11 BO	L(T) 9 .. /SW	LH, LF	N .. /H	LHTC(T)	LHT .. /.. (D)	LHT .. /17 LB Speed, LHT 16/17 LB	LHT 04/.. SW	HT, HFL	HTC	RD	R	RSH/RSV	RSRB, RSRC	RT	RHTC	RHTH/RHTV	N .. CUP	GR	LS	K	KC		
Catalog page	6	6	8	10	10	14	14,17,18	16	19	20	22	23	28	30	34	35	36	37	38,41	39	44	45	46	48	52	53	54	66	68	69	70	70		
Controller																																		
R7	●					●		●													●										●			
3508																																	●	
B500			●		●								●	●									●					●						
B510	○			●			●		●	●		●										●	●		●	●								
C540		○		○	○																													
C550	○	●		○			○		○	○	●	○			●								○	○	○	○								
P570			○	○												●	●	●	● <sup>3</sup>	● <sup>3</sup>							●					● <sup>3</sup>		
P580	○			○			○		○	○	○	○			○								○	○	○	○								
H500/PLC				○																														
H1700/PLC			○	○																														
H3700/PLC			○	○																														
NCC			○	○																														

## Mains Voltages for Nabertherm Furnaces

1-phase: all furnaces are available for mains voltages from 110 V - 240 V at 50 or 60 Hz.

3-phase: all furnaces are available for mains voltages from 200 V - 240 V or 380 V - 480 V, at 50 or 60 Hz.

The connecting rates in the catalog refer to the standard furnace with 400 V (3/N/PE) respectively 230 V (1/N/PE).