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Muffle Furnaces with Flap Door or Lift Door



Muffle furnace L 3/12



Muffle furnace L 5/11

The muffle furnaces L 1/12 - LT 40/12 are the right choice for daily laboratory use. These models stand out for their excellent workmanship, advanced and attractive design, and high level of reliability. The muffle furnaces come equipped with either a flap door or lift door at no extra charge.

- Tmax 1100 °C or 1200 °C
- Heating from two sides by ceramic heating plates (heating from three sides for muffle furnaces L 24/11 - LT 40/12)
- Ceramic heating plates with integral heating element which is safeguarded against fumes and splashing, and easy to replace
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Housing made of sheets of textured stainless steel
- Dual shell housing for low external temperatures and high stability
- Optional flap door (L) which can be used as work platform or lift door (LT) with hot surface facing away from the operator
- Adjustable air inlet integrated in door (see illustration)
- Exhaust air outlet in rear wall of furnace
- Solid state relays provide for low-noise operation
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72



Observation hole in the door as additional equipment

Additional equipment

- Chimney, chimney with fan or catalytic converter (not for L 1)
- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Protective gas connection to purge with non-flammable protective or reaction gases (not available in combination with chimney, chimney with fan or catalytic converter)
- Observation hole in the door
- Manual or automatic gas supply system
- Please see page 14 for more accessories
- Process control and documentation via VCD software package for monitoring, documentation and control see page 75



Over-temperature limiter



Muffle furnace LT 5/12



Muffle furnace L 3/11

Model Flap door	Tmax °C	Inner dimensions in mm			Volume in l	Outer dimensions ³ in mm			Connected load kW	Electrical connection*	Weight in kg	Minutes to Tmax ²
		w	d	h		W	D	H				
L 3/11	1100	160	140	100	3	385	330	405	1.2	1-phase	20	60
L 5/11	1100	200	170	130	5	385	390	460	2.4	1-phase	30	60
L 9/11	1100	230	240	170	9	415	455	515	3.0	1-phase	35	75
L 15/11	1100	230	340	170	15	415	555	515	3.5	1-phase	40	95
L 24/11	1100	280	340	250	24	490	555	580	4.5	3-phase	55	95
L 40/11	1100	320	490	250	40	530	705	580	6.0	3-phase	65	95
L 1/12	1200	90	115	110	1	290	280	430	1.5	1-phase	10	25
L 3/12	1200	160	140	100	3	385	330	405	1.2	1-phase	20	75
L 5/12	1200	200	170	130	5	385	390	460	2.4	1-phase	30	75
L 9/12	1200	230	240	170	9	415	455	515	3.0	1-phase	35	90
L 15/12	1200	230	340	170	15	415	555	515	3.5	1-phase	40	110
L 24/12	1200	280	340	250	24	490	555	580	4.5	3-phase	55	110
L 40/12	1200	320	490	250	40	530	705	580	6.0	3-phase	65	110



Gas supply system for non-flammable protective or reactive gas with shutoff valve and flow meter with regulator valve, optionally with magnetic valve

Model Lift door	Tmax °C	Inner dimensions in mm			Volume in l	Outer dimensions ³ in mm			Connected load kW	Electrical connection*	Weight in kg	Minutes to Tmax ²
		w	d	h		W	D	H ¹				
LT 3/11	1100	160	140	100	3	385	330	405+155	1.2	1-phase	20	60
LT 5/11	1100	200	170	130	5	385	390	460+205	2.4	1-phase	30	60
LT 9/11	1100	230	240	170	9	415	455	515+240	3.0	1-phase	35	75
LT 15/11	1100	230	340	170	15	415	555	515+240	3.5	1-phase	40	95
LT 24/11	1100	280	340	250	24	490	555	580+320	4.5	3-phase	55	95
LT 40/11	1100	320	490	250	40	530	705	580+320	6.0	3-phase	65	95
LT 3/12	1200	160	140	100	3	385	330	405+155	1.2	1-phase	20	75
LT 5/12	1200	200	170	130	5	385	390	460+205	2.4	1-phase	30	75
LT 9/12	1200	230	240	170	9	415	455	515+240	3.0	1-phase	35	90
LT 15/12	1200	230	340	170	15	415	555	515+240	3.5	1-phase	40	110
LT 24/12	1200	280	340	250	24	490	555	580+320	4.5	3-phase	55	110
LT 40/12	1200	320	490	250	40	530	705	580+320	6.0	3-phase	65	110

¹Including opened lift door

*Please see page 73 for more information about supply voltage

²If connected at 230 V 1/N/PE resp. 400 V 3/N/PE

³External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.



Adjustable air inlet integrated in the door

Muffle Furnaces Basic Models



Muffle furnace LE 1/11



Muffle furnace LE 6/11

With their unbeatable price/performance ratio, 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.

- Tmax 1100 °C, working temperature 1050 °C
- Heating from two sides from heating elements in quartz glass tubes
- Maintenance-friendly replacement of heating elements and insulation
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Housing made of sheets of textured stainless steel
- Dual shell housing for low external temperatures and high stability
- Flap door which can also be used as a work platform
- Exhaust air outlet in rear wall
- Solid state relays provide for low-noise operation
- Compact dimensions and light weight
- Controller mounted under the door to save space
- Defined application within the constraints of the operating instructions
- Controls description see page 72

Additional equipment

- Chimney, chimney with fan or catalytic converter (not for L 1)
- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Protective gas connection to purge with non-flammable protective or reaction gases
- Manual gas supply system
- Observation hole in the door
- Please see page 14 for more accessories



Over-temperature limiter

Model	Tmax °C	Inner dimensions in mm			Volume in l	Outer dimensions ² in mm			Connected load kW	Electrical connection*	Weight in kg	Minutes to Tmax ¹
		w	d	h		W	D	H				
LE 1/11	1100	90	115	110	1	290	280	430	1.5	1-phase	10	10
LE 2/11	1100	110	180	110	2	330	385	430	1.8	1-phase	10	25
LE 6/11	1100	170	200	170	6	390	435	490	1.8	1-phase	18	35
LE 14/11	1100	220	300	220	14	440	535	540	2.9	1-phase	25	40

¹If connected at 230 V 1/N/PE resp. 400 V 3/N/PE

²Please see page 73 for more information about supply voltage

³External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

Muffle Furnaces with Brick Insulation and Flap Door or Lift Door



Muffle furnace LT 5/13



Muffle furnace L 9/13

Heating elements on support tubes radiating freely into the furnace chamber provide for particularly short heating times for these muffle furnaces. Thanks to their robust lightweight refractory brick insulation, they can reach a maximum working temperature of 1300 °C. These muffle furnaces thus represent an interesting alternative to the familiar L(T) 3/11 models, when you need particularly short heating times or a higher application temperature.

- Tmax 1300 °C
- Heating from two sides
- Heating elements on support tubes ensure free heat radiation and a long service life
- Multi-layer insulation with robust lightweight refractory bricks in the furnace chamber
- Housing made of sheets of textured stainless steel
- Dual shell housing for low external temperatures and stability
- Optional flap door (L) which can be used as work platform or lift door (LT) with hot surface facing away from the operator
- Adjustable air inlet in the furnace door
- Exhaust air outlet in rear wall of furnace
- Solid state relays provide for low-noise operation
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72



Furnace lining with high-quality lightweight refractory brick insulation

Additional equipment

- Chimney, chimney with fan or catalytic converter
- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Protective gas connection to purge with non-flammable protective or reaction gases
- Manual or automatic gas supply system
- Observation hole in the door
- Please see page 14 for more accessories
- Process control and documentation via VCD software package for monitoring, documentation and control see page 75



Over-temperature limiter

Model	Tmax °C	Inner dimensions in mm			Volume in l	Outer dimensions ³ in mm			Connected load kW	Electrical connection*	Weight in kg	Minutes to Tmax ²
		w	d	h		W	D	H ¹				
L, LT 5/13	1300	200	170	130	5	490	450	580+320	2.4	1-phase	42	45
L, LT 9/13	1300	230	240	170	9	530	525	630+350	3.0	1-phase	60	50
L, LT 15/13	1300	260	340	170	15	530	625	630+350	3.5	1-phase	70	60

¹Including opened lift door (LT models)

*Please see page 73 for more information about supply voltage

²If connected at 230 V 1/N/PE resp. 400 V 3/N/PE

³External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

Muffle Furnaces up to 1400 °C



Muffle furnace L 9/14



Muffle furnace L 15/14

These models stand out for their excellent workmanship, advanced and attractive design, and high level of reliability. Heating elements on support tubes radiating freely into the furnace chamber provide for particularly short heating times and a maximum temperature of 1400 °C. These muffle furnaces are a good alternative to the familiar L(T) .. /11 series when higher application temperatures are needed.



Over-temperature limiter

- Tmax 1400 °C
- Heating from two sides
- Heating elements on support tubes ensure free heat radiation and a long service life
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Dual shell housing for low external temperatures and high stability
- Adjustable air inlet integrated in door
- Exhaust air outlet in rear wall of furnace
- Solid state relays provide for low-noise operation
- Defined application within the constraints of the operating instructions
- NTLLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72

Additional equipment

- Chimney, chimney with fan or catalytic converter
- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Protective gas connection to purge with non-flammable protective or reaction gases (not available in combination with chimney, chimney with fan or catalytic converter)
- Manual or automatic gas supply system
- Please see page 14 for more accessories
- Process control and documentation via VCD software package for monitoring, documentation and control see page 75



Gas supply system for non-flammable protective or reactive gas with shutoff valve and flow meter with regulator valve, optionally with magnetic valve

Model	Tmax °C ²	Inner dimensions in mm			Volume in l	Outer dimensions ⁴ in mm			Connected load kW	Electrical connection*	Weight in kg	Minutes to Tmax ³
		w	d	h		W	D	H ¹				
L, LT 5/14	1400	200	170	130	5	490	450	580+320	2.5	1-phase	38	55
L, LT 9/14	1400	230	240	170	9	530	525	630+350	3.0	1-phase	55	60
L, LT 15/14	1400	260	340	170	15	530	625	360+350	3.5	1-phase	65	70

¹Including opened lift door

^{*}Please see page 73 for more information about supply voltage

²Recommended working temperature for processes with longer dwell times is 1300 °C

³If connected at 230 V 1/N/PE resp. 400 V 3/N/PE

⁴External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

Muffle Furnaces with Embedded Heating Elements in the Ceramic Muffle



L 9/11/SKM

We particularly recommend the muffle furnace L 9/11/SKM if your application involves aggressive substances. The furnace has a ceramic muffle with embedded heating from four sides. The muffle furnace thus combines a very good temperature uniformity with excellent protection of the heating elements from aggressive atmospheres. Another aspect is the smooth, nearly particle free muffle (furnace door made of fiber insulation), an important quality feature for some ashing processes.

- Tmax 1100 °C
- Muffle heated from four sides
- Furnace chamber with embedded ceramic muffle, high resistance to aggressive gasses and vapours
- Dual shell housing made of sheets of textured stainless steel
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Optional flap door (L) which can be used as work platform or lift door (LT) with hot surface facing away from the operator
- Adjustable working air inlet in the door
- Exhaust air outlet in rear wall of furnace
- Solid state relays provide for lownoise operation
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72

Additional equipment

- Chimney, chimney with fan or catalytic converter
- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Protective gas connection to purge with non-flammable protective or reaction gases
- Manual or automation gas supply system
- Observation hole in the door
- Please see page 14 for more accessories
- Process control and documentation via VCD software package for monitoring, documentation and control see page 75



Gas supply system for non-flammable protective or reactive gas with shutoff valve and flow meter with regulator valve, optionally with magnetic valve



Muffle heated from four sides

Model	Tmax °C	Inner dimensions in mm			Volume in l	Outer dimensions ³ in mm			Connected load kW	Electrical connection*	Weight in kg	Minutes to Tmax ²
		w	d	h		W	D	H				
L 9/11/SKM	1100	230	240	170	9	490	505	580	3.4	1-phase	50	90
LT 9/11/SKM	1100	230	240	170	9	490	505	580+320 ¹	3.4	1-phase	50	90

¹Including opened lift door

*Please see page 73 for more information about supply voltage

²If connected at 230 V 1/N/PE resp. 400 V 3/N/PE

³External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.



Over-temperature limiter