

## Ashing Furnaces up to 1100 °C

Ashing furnace LV .. /11 is designed especially for ashing processes to 1050 °C in the laboratory. Applications include determining loss on ignition, ashing food and plastics for subsequent substance analysis. A special fresh-air and exhaust air system ensures that the air is replaced 6 times per minute so that there is always sufficient oxygen for the ashing process. Incoming air passes the furnace heating and is pre-heated to ensure good temperature uniformity.



Ashing furnace LV 3/11

### Standard Equipment

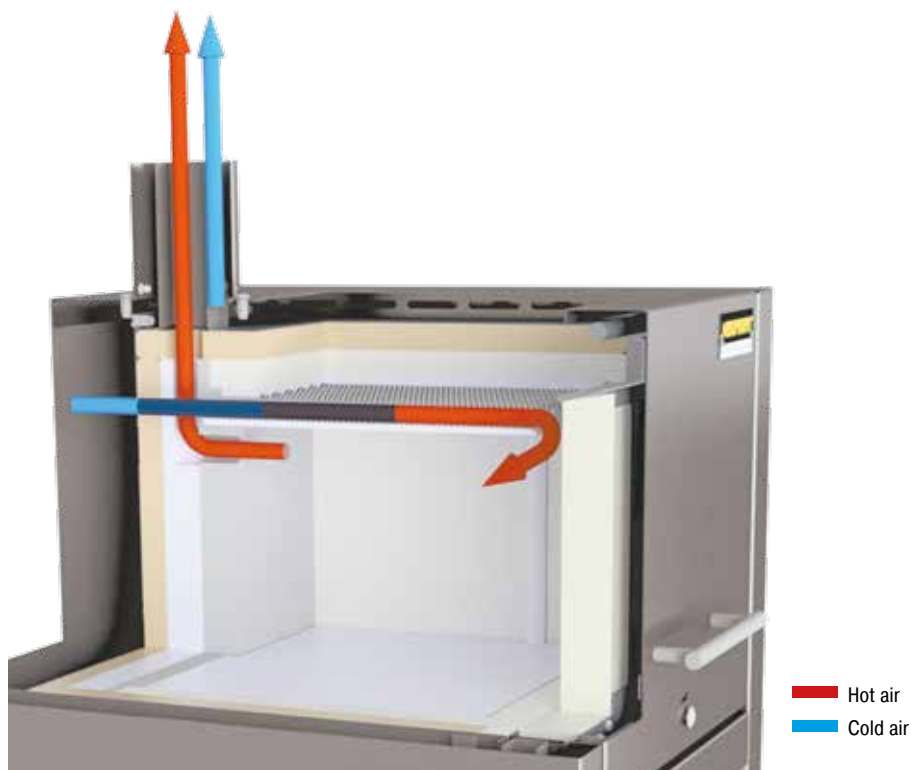
- Tmax 1100 °C
- Heating from two sides
- Ceramic heating plates with integral heating element which is safeguarded, and easy to replace
- Air exchange of more than 6 times per minute
- Good temperature uniformity due to preheating of incoming air, temperature uniformity according to DIN 17052-1 to  $\pm 10$  °C in the defined empty work area (from 550 °C) see page 71
- Suitable for many standardized ashing processes according to ISO, ASTM, EN, and DIN
- Optional flap door (LV) which can be used as work platform or lift door (LVT) with hot surface facing away from the operator
- Controller B510 (5 programs with each 4 segments), alternative controllers see page 78



Ashing furnace LVT 5/11

### Additional Equipment

- Over-temperature limiter with adjustable cutout temperature as temperature limiter to protect the oven and load
- Port for thermocouple in the rear wall or in the furnace door
- Charging rack with closed or perforated trays for loading the furnace in two levels incl. holder for inserting/removing the trays up to a max. temperature of 800°C and a max. loading weight of 2 kg for the LV(T) 9/11 respectively 3 kg for the LV(T) 15/11
- Please see page 25 for more accessories



Air inlet and exhaust flow principle in ashing furnaces

Model	Tmax in °C <sup>1</sup>	Inner dimensions in mm			Volume in l	Outer dimensions <sup>2</sup> in mm			Max. weight of hydrocarbons in g	Max. evapora- tion rate g/min	Connected load in kW	Electrical connection*	Weight in kg	Heating time in min <sup>4</sup>
		w	d	h		W	D	H <sup>3</sup>						
Flap door														
LV 3/11	1100	160	140	100	3	385	360	735	5	0.1	1.2	1-phase	20	45
LV 5/11	1100	200	170	130	5	385	420	790	10	0.2	2.4	1-phase	35	55
LV 9/11	1100	230	240	170	9	415	485	845	15	0.3	3.0	1-phase	45	70
LV 15/11	1100	230	340	170	15	415	585	845	25	0.3	3.5	1-phase	55	80

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		w	d	h		W	D	H <sup>3</sup>						
Lift door														
LVT 3/11	1100	160	140	100	3	385	360	735	5	0.1	1.2	1-phase	20	45
LVT 5/11	1100	200	170	130	5	385	420	790	10	0.2	2.4	1-phase	35	55
LVT 9/11	1100	230	240	170	9	415	485	845	15	0.3	3.0	1-phase	45	70
LVT 15/11	1100	230	340	170	15	415	585	845	25	0.3	3.5	1-phase	55	80

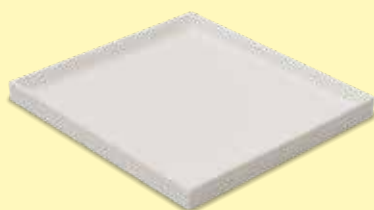
<sup>1</sup>Recommended working temperature for processes with longer dwell times is 1000 °C

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

<sup>3</sup>Including exhaust tube (Ø 80 mm)

<sup>4</sup>Approx. heating time of the empty and closed furnace up to Tmax - 100 K (connected to 230 V 1 N/PE)

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



Ceramic collecting pan



Ashing furnace LV 5/11 with port for thermocouple in the rear wall of furnace



Charging trolley to load the furnace in different levels (for further information see page 20)

# Ashing Furnaces with Integrated Exhaust Gas Cleaning up to 1100 °C

The ashing furnace L .. /11 BO is specially designed for processes in which larger sample quantities have to be incinerated. Fields of application are e.g. the ashing of food, thermal cleaning of injection molding tools or the determination of annealing loss. Another application is the debinding of ceramic products, e.g. after additive production.

The ashing furnaces have a passive safety system and integrated exhaust gas post combustion. An exhaust gas fan extracts flue gases from the furnace and simultaneously supplies fresh air to the furnace atmosphere with the result that sufficient oxygen is always available for the incineration process. The incoming air is guided behind the furnace heating and preheated to ensure good temperature uniformity. Exhaust gases are led from the furnace chamber to the integrated post combustion system, where they are postburned and catalytically cleaned. Directly after the incineration process (up to max. 600 °C) a subsequent process up to max. 1100 °C can take place.

## Standard Equipment

- Tmax 600 °C for the incineration process
- Tmax 1100 °C for the subsequent process
- Three-side heating (both sides and bottom)
- Ceramic heating plates with embedded heating wire
- Steel collecting pan protects the bottom insulation
- Spring-assisted closing of the furnace door (flap door) with mechanical locking against unintentional opening
- Thermal/catalytic post combustion, integrated in the exhaust channel, up to 600 °C in function
- Temperature control of post combustion can be set up to 850 °C
- Monitored exhaust air
- Inlet-air preheated through the bottom heating plate
- Over-temperature limiter with adjustable cutout temperature as temperature limiter to protect the oven and load
- Controller C550 (10 programs with each 20 segments), alternative controllers see page 78



Ashing furnace L 40/11 BO

Model	Tmax in °C <sup>1</sup>	Inner dimensions in mm			Volume in l	Outer dimensions <sup>2</sup> in mm			Max. weight of hydrocarbons in g	Max. evaporation rate g/min	Connected load in kW	Electrical connection*	Weight in kg
		w	d	h		W	D	H <sup>3</sup>					
L 9/11 BO	1100	230	240	170	9	415	575	750	75	1.0	7.0	3-phase	60
L 24/11 BO	1100	280	340	250	24	490	675	800	150	2.0	9.0	3-phase	90
L 40/11 BO	1100	320	490	250	40	530	825	800	200	2.1	11.5	3-phase	110

<sup>1</sup>Recommended working temperature for processes with longer dwell times is 1000 °C

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

<sup>3</sup>Including exhaust tube (Ø 80 mm)

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



Ashing furnace L 9/11 BO



Schematic presentation of air circulation in ashing furnace L 24/11 BO



Steel collecting pan protects the bottom insulation