



# CATALOG

## FURNACES FOR CERAMICS AND GLASS



ART OF  
HEATING



ART OF  
HEATING



# COMPANY PROFILE

LAC, s.r.o. has been a successful manufacturer and seller of industrial furnaces, dryers and refractory castable shapes for three decades. It operates both on domestic and foreign markets. Since its foundation in 1992, the company has developed into a leading global manufacturer and has delivered as many as 20,000 furnaces and dryers. The products are used in many technological processes of heat treatment, especially:

- heat treatment of ferrous and non-ferrous metals
- alloy technologies for non-ferrous metals
- heat treatment and chemical- heat treatment metal processing
- low-temperature applications
- laboratory technologies
- production of industrial and hobby ceramics



The LAC manufacturing program includes the manufacture of a complete standard range of furnace and dryer lines, and also accommodates the individual requirements of the customer through the design and manufacture of customized furnaces tailor-made to meet customer specifications. The LAC development and design office works in tandem with a team of service technicians to ensure quality service to customers and pave the way for future company growth. Progress in technological development is proven by orders for the automotive, aerospace and defense industries that meet the demanding standards of AMS 2750 E, NADCAP, CQI-9. In 2018, the construction of new LAC complex in Židlochovice worth CZK 220 million was completed. Investments in the form of a new furnace and dryer production hall and office space allow us to streamline the production process and produce even higher quality products for our customers.

A significant part of the LAC business is the manufacture of refractory castable shapes, the bulk of which are used in the manufacture of industrial furnaces. Refractory castable shapes are also used by metallurgy companies and manufacturers of boilers for burning wood, pellets, and biomass. The investments in the extension of the premises for production of refractory castable shapes at Hrušovany nad Jevišovkou have reached a total of CZK 67 million.

The company also supplies heating elements, refractory and insulation materials, regulating elements, and reconstruction of furnaces, heating systems and switchboards to its customers.



6 custom projects  
per month



Almost 20,000 furnaces  
manufactured



We deliver to 35 countries  
worldwide



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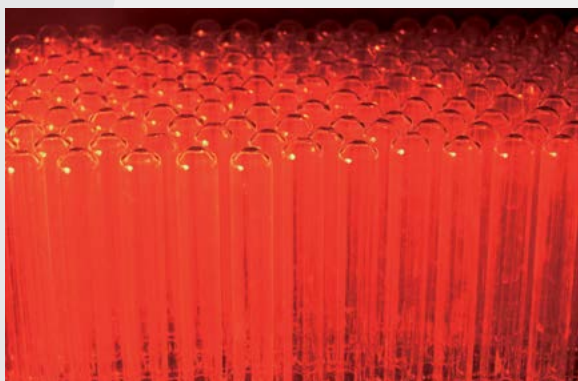
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# FURNACES FOR CERAMICS AND GLASS

In ceramic and glass segment LAC company produces more than 200 furnaces per year.



We know that you appreciate simple operation, easy service and long service life for ceramic furnaces. The strengths we place the most emphasis on. And we are glad that our equipment for firing ceramics and fusing or melting glass make art enthusiasts, children in schools or even artists in art workshops happy. They also work reliably in large plants and operations.

[www.lac.cz](http://www.lac.cz)

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# M top loading circular furnace

up to 1280/1340 °C

This circular furnace has been a proven choice for years, for both "hobby" ceramics and professional ceramicists who require top loading. Thanks to the well-designed construction and temperature regulation method in the furnace chamber, the heat is distributed evenly, enhancing firing quality and improving longer furnace life. Additionally, the lid's design with gas struts enables safe and stable handling. The use of top-quality insulation materials reduces electricity consumption. The furnace's shell is made of glossy stainless steel sheet.

M 200

Furnace ventilation preventing condensation of vapours during firing

Upper loading of batch and stable lid opening with a gas strut

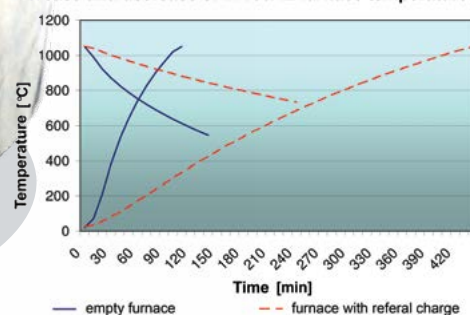
Heating coils inserted into the horizontal grooves in the side walls

Well-designed construction that significantly affects the price

Top-quality insulation materials  
(low energy consumption, smooth run-up)

Uniform rise to temperature  
throughout the entire furnace volume

Increase and decrease of M 100/12 furnace temperatures



## STANDARD FURNACE EQUIPMENT:

- Ht40AL programmable temperature controller with high accuracy (1 programme: 2x run-up, 2x dwell)
- Adjustable-height stand
- Wheels (2 pcs)
- "S" type thermocouple
- Solid state relay (smooth and noise-free operation, minimal interference with surrounding equipment)
- Limit switch of the furnace lid for safe opening
- Ventilation chimney preventing condensation of vapours during firing



Simple operation  
and installation



Selected furnaces in stock  
for immediate collection



Shipment from  
3 weeks



Warranty  
36 months



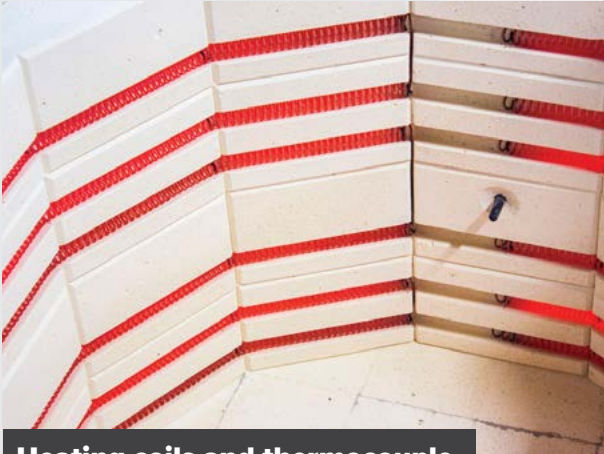
Instant  
technical support



## RECOMMENDED ACCESSORIES AT AN ADDITIONAL COST:

- HtCeramic controller (20 programmes with 15 steps each)
- Interlayer plates to protect the furnace bottom or build floors
- Interlayer spacing columns to build floors

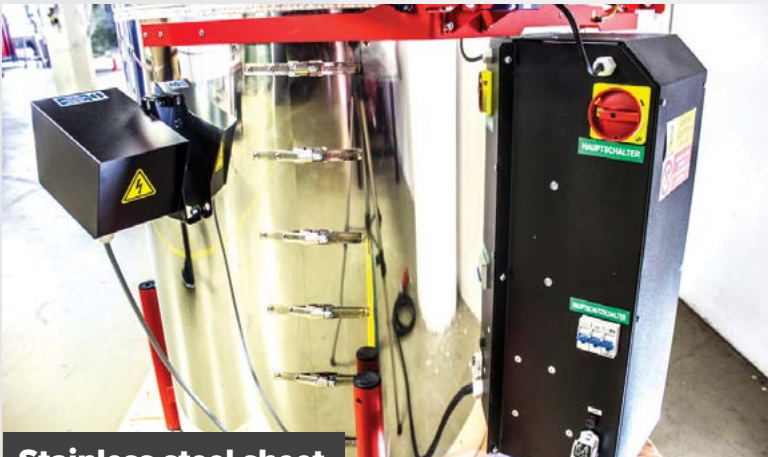
After consulting, we offer also other possibilities of modification of your equipment according to your requirements.



Heating coils and thermocouple



Lid with a gas struts



Stainless steel sheet



Ht40AL controller

We make these furnaces also in the MGF 30 version as lid heated fusing furnaces for maximum temperature of 900 °C. This furnace is suitable especially for all „hobby“ production of bended and sintered glass, also for fusing glass treatment.

Type	Tmax**	Recommended operating temperature range	Volume	External dimensions (øD×h)*	Internal dimensions (øD×h)	Heating power	Approx. consumption at start up on 1050 °C	Weight	Voltage	Protection	Height, including stand
	°C	°C	l	mm	mm	kW	kWh	kg	V	A	mm
M 30/12	1280	700-1200	30	550×495	350×340	3,5	7	58	230	16/1	640, 800
M 45/12	1280	700-1200	45	615×495	410×340	3,5	11	75	230	16/1	640, 800
M 60/12	1280	700-1200	60	615×610	410×455	5,5	11	90	400	16/3	760, 920
M 100/12	1280	700-1200	100	725×610	525×455	7,5	13	100	400	16/3	760, 920
M 125/12	1280	700-1200	140	820×610	620×455	8,5	15	114	400	16/3	760, 920
M 200/12	1280	700-1200	200	820×840	620×685	11,0	23	150	400	20/3	990, 1150
M 30/13	1340	700-1250	30	550×495	350×340	3,5	7	58	230	16/1	640, 800
M 45/13	1340	700-1250	45	615×495	410×340	4,0	11	75	400	16/3	640, 800
M 60/13	1340	700-1250	60	615×610	410×455	5,5	11	90	400	16/3	760, 920
M 100/13	1340	700-1250	100	725×610	525×455	7,5	13	100	400	16/3	760, 920
M 125/13	1340	700-1250	140	820×610	620×455	8,5	15	114	400	16/3	760, 920
M 200/13	1340	700-1250	200	820×840	620×685	11,0	23	150	400	20/3	990, 1150
MGF 30/09	900	700-900	30	615×420	410×265	3,0	7	65	230	16/1	990, 1150

\* Dimensions of the cylindrical furnace body including lid

\*\* Tmax is the maximum temperature which can be attained by the furnace, but is not suitable for long-term operation.

# KE front loading chamber furnace

up to 1280 °C

A more economical version of chamber furnace designed for firing both decorative and industrial ceramics, heat treatment of glass and firing of decorations. The KE furnace can make your work easier. This furnace's shape and design ensure perfect temperature distribution and the option of quick run-up to the required temperature. The furnace's shell is made of glossy stainless steel sheet.

Simple construction that significantly affects the price

Top-quality insulation materials (low energy consumption, smooth run-up)

Air-cooled shell made from a glossy stainless steel sheet



KE 250

Perfect temperature distribution thanks to the layout of the heating spirals

## STANDARD FURNACE EQUIPMENT:

- Ht40AL programmable temperature controller with high accuracy (1 programme: 2x run-up, 2x dwell)
- Heating from three sides (furnace side and floor) or five sides depending on type
- "S" type thermocouple
- Solid state relay (smooth and noise-free operation, minimal interference with surrounding equipment)
- Slide valve for controlling air intake
- Ventilation chimney preventing condensation of vapours during firing
- Limit switch for safe opening of the furnace doors
- Manually-operated door opening to the left



Simple operation and installation



Selected furnaces in stock for immediate collection



Shipment from 6 weeks



Warranty 24 months



Instant technical support



## RECOMMENDED ACCESSORIES AT AN ADDITIONAL COST:

- HtCeramic controller (20 programmes with 15 steps each)
- Furnace stand
- Furnace adapter for drying of charge before its placement in the furnace
- Interlayer plates to protect the furnace bottom or build floors
- Interlayer spacing columns to build floors
- HtMonit EV set (include software + interface)
- Optimisation of the temperature field for compliance with DIN 17052-1  $\Delta T$  20 °C

After consulting, we offer also other possibilities of modification of your equipment according to your requirements.



**KE 250/12**



**KE 125 including stand**

Type	Tmax**	Recommended operating temperature range	Number of heating sides	Volume	External dimensions (w×h×d)*	Internal dimensions (w×h×d)	Heating power	Weight	Voltage	Protection	Max. load capacity of bottom
	°C	°C		l	mm	mm	kW	kg	V	A	kg
KE 125/12	1280	700-1200	3 or 5	125	910×910×1040	500×500×500	9	180	400	16/3	80
KE 250/12	1280	700-1200	3 or 5	275	1060×1060×1190	650×650×650	14	260	400	25/3	120
KE 500/12	1280	700-1200	3 or 5	504	1110×1220×1450	700×800×900	19	390	400	32/3	300

\* With regulator and door closing mechanism disassembled. The stand height for all types is 540 mm.

\*\* Tmax is the maximum temperature which can be attained by the furnace, but is not suitable for long-term operation.

# K front loading chamber furnace

up to 1340/1400 °C

Do you need to burn a larger amount of decorative or industrial ceramics? The K furnace is ideal for use in the ceramics industry. It can burn a large number of pieces, saving you time and money. This furnace's shape and design ensure perfect temperature distribution and the option of quick run-up to the required temperature.



**K 200**

## STANDARD FURNACE EQUIPMENT:

- HtCeramic controller (20 programmes with 15 steps each)
- Heating from five sides, including the bottom
- "S" type thermocouple
- Solid state relay (smooth and noise-free operation, minimal interference with surrounding equipment)
- Slide valve for controlling air intake at the bottom of the furnace
- Flue for K 50 – K 300, manually controlled ventilation flap for K 500 – K 2000
- Limit switch for safe opening of the furnace doors
- Manually-operated door opening to the left
- SiC plate at bottom of furnace
- Stand for models K 50 through K 300
- Heating spirals made from Kanthal APM and Alsint ceramic tubes (only for temperatures of 1400 °C)



Simple operation  
and installation



Atypical  
modifications



Shipment from  
8 weeks



Warranty 24  
months



Instant  
technical support

## RECOMMENDED ACCESSORIES AT AN ADDITIONAL COST:

- Ht205 controller (30 programmes with 15 steps each)
- Automatic ventilation flap (only with the Ht205 controller), manually controlled ventilation flap (for K 50 – K 300)
- HtMonit EV set (include interface + software), RS-485 interface, LAN interface (only with the Ht205 controller)
- Digital temperature recorder
- Optimisation of the temperature field for compliance with DIN 17052-1  $\Delta T$  20 °C
- Additional custom components such as uncontrolled or controlled forced overpressure cooling, multi zone heating system (K 500 – K 2000), door opening (electrohydraulic)

After consulting, we offer also other possibilities of modification of your equipment according to your requirements.



**K 2000**



**K 700 with door opening (electrohydraulic)**

Type	Tmax**	Recommended operating temperature range	Volume	External dimensions* (w×h×d)	Internal dimensions (w×h×d)	Heating power	Weight	Voltage	Protection	Max. load capacity of bottom
	°C	°C	l	mm	mm	kW	kg	V	A	kg
K 50/13	1300	700-1250	50	910×1405×1070	350×350×400	5,5	125	400	16/3	50
K 70/13	1300	700-1250	80	910×1465×1070	350×450×450	7,5	165	400	16/3	50
K 120/13	1340	700-1300	120	1010×1535×1140	450×530×500	10,5	260	400	16/3	80
K 150/13	1340	700-1300	150	1010×1620×1160	450×600×530	15	320	400	25/3	80
K 200/13	1340	700-1300	200	1060×1800×1185	500×750×530	20	360	400	40/3	120
K 250/13	1340	700-1300	230	1090×1800×1230	520×800×550	23	420	400	40/3	120
K 300/13	1340	700-1300	310	1105×1820×1340	560×800×710	27	480	400	63/3	200
K 500/13	1340	700-1300	490	1460×1825×1460	650×1000×750	40	770	400	80/3	300
K 700/13	1340	700-1300	730	1550×1925×1610	750×1100×900	60	990	400	100/3	400
K 1000/13	1340	700-1300	1000	1570×2120×1775	800×1263×1000	75	2300	400	125/3	500
K 1500/13	1340	700-1300	1540	1800×2300×2050	950×1350×1200	110	2950	400	200/3	800
K 2000/13	1340	700-1300	2100	2150×2500×2450	1000×1500×1400	130	3300	400	250/3	1000
K 120/14	1400	700-1350	120	1010×1535×1140	450×530×500	10,5	230	400	16/3	80
K 150/14	1400	700-1350	150	1010×1620×1160	450×600×530	15	280	400	25/3	80
K 200/14	1400	700-1350	200	1060×1800×1185	500×750×530	20	310	400	40/3	120
K 250/14	1400	700-1350	230	1090×1800×1230	520×800×550	23	360	400	40/3	120
K 300/14	1400	700-1350	310	1105×1820×1340	560×800×710	27	420	400	63/3	200
K 500/14	1400	700-1350	490	1460×1825×1460	650×1000×750	40	700	400	80/3	300
K 700/14	1400	700-1350	730	1550×1925×1610	750×1100×900	60	920	400	100/3	400
K 1000/14	1400	700-1350	1000	1570×2120×1775	800×1263×1000	75	1550	400	125/3	500
K 1500/14	1400	700-1350	1540	1800×2300×2050	950×1350×1200	110	2600	400	200/3	800
K 2000/14	1400	700-1350	2100	2150×2500×2450	1000×1500×1400	130	2900	400	250/3	1000

\* For the furnaces exterior dimension, the height is given including the stand (K 50 – K 300). The stand's height is 615 mm. The stated width includes the controller 160 mm (K 50 – K 300) and the switchboard 250 mm (K 500 – K 2000).

\*\* Tmax is the maximum temperature which can be attained by the furnace, but is not suitable for long-term operation.



# VKK bogie-hearth chamber furnace

up to 1280/1340 °C

This VKK bogie-hearth furnace is designed for all professional ceramists, production plants, firing of ceramics, earthenware, glasses, porcelain or decorating. Location of heating elements ensures excellently equal temperature distribution inside the furnace. The use of top insulating materials reduces energy consumption.

## STANDARD FURNACE EQUIPMENT:

- Ht205 controller (30 programmes with 15 steps each)
- Resistance heating from five sides (meanders on four sides and spirals in the bogie)
- Limit unit
- "S" type thermocouple
- Solid state relay (smooth and noise-free operation, minimal interference with surrounding equipment)
- Manually operated ventilation flap
- Manually driven furnace bogie
- Rails 2,5 times the floor depth of the furnace
- Hand-operated left-hand door mounted on "C" hinge
- Switchboard on the side of the furnace (VKK 1000 – VKK 3000), larger models have free-standing switchboard

Perfect sealing door

Resistance heating on all walls including the door

Top-quality insulation materials (low energy consumption, smooth run-up)

Heated bogie with covered heat spirals

Even temperature distribution in the internal space

**VKK 1500**



Simple operation and installation



Atypical modifications



Shipment from 10 weeks



Warranty 24 months



Instant technical support

## RECOMMENDED ACCESSORIES AT AN ADDITIONAL COST:

- Ht200 controller (30 programs with 25 steps each, USB interface)
- Automatic ventilation flap
- HtMonit EV set (include interface + software)
- RS-485 or LAN interface
- Digital temperature recorder
- Optimisation of the temperature field for compliance with DIN 17052-1  $\Delta T$  20 °C
- Electric bogie drive
- Rails embedded in the floor
- Door opening (electrohydraulic)
- Additional custom components such as uncontrolled or controlled forced overpressure cooling, flue gases combustion chamber, gas heating, second bogie and second doors

After consulting, we offer also other possibilities of modification of your equipment according to your requirements.



**Bogie**



**Hand-operated left-hand door**

Type	Tmax**	Recommended operating temperature range	Volume	External dimensions (w×h×d)	Internal dimensions (w×h×d)	Heating power	Weight	Voltage	Protection*	Max. load capacity of bogie
	°C	°C	l	mm	mm	kW	kg	V	A	kg
VKK 1000/12	1280	700-1200	1290	2250x2000x2350	1100x900x1300	45	1500	400	80/3	2 000
VKK 1500/12	1280	700-1200	1650	2250x2100x2550	1100x1000x1500	70	1800	400	125/3	3 500
VKK 2000/12	1280	700-1200	2200	2250x2100x3100	1100x1000x2000	95	2200	400	160/3	3 500
VKK 3000/12	1280	700-1200	3030	2400x2200x3600	1100x1100x2500	130	2500	400	250/3	4 500
VKK 5000/12	1280	700-1200	7140	2500x2700x4400	1400x1500x3400	160	3200	400	400/3	5 000
VKK 7000/12	1280	700-1200	9660	2500x2700x5800	1400x1500x4600	195	4000	400	400/3	8 000
VKK 1000/13	1340	700-1250	1290	2250x2000x2350	1100x900x1300	65	1500	400	125/3	2 000
VKK 1500/13	1340	700-1250	1650	2250x2100x2550	1100x1000x1500	95	1800	400	160/3	3 500
VKK 2000/13	1340	700-1250	2200	2250x2100x3100	1100x1000x2000	115	2200	400	200/3	3 500
VKK 3000/13	1340	700-1250	3030	2400x2200x3600	1100x1100x2500	160	2500	400	400/3	4 500
VKK 5000/13	1340	700-1250	7140	2500x2700x4400	1400x1500x3400	200	3200	400	400/3	5 000
VKK 7000/13	1340	700-1250	9660	2500x2700x5800	1400x1500x4600	265	4000	400	630/3	8 000

\* Circuit breakers with possibility of switching the current adjustment are used for currents exceeding 160 A.

\*\* Tmax is the maximum temperature which can be attained by the furnace, but is not suitable for long-term operation.

# L front loading chamber furnace

up to 1200 °C

Universal furnace suitable for artists, ceramic workshops and professional potters. The L furnace is suitable for firing small enamel and ceramics products, firing decors on glass and porcelain, glass sintering and for all types of firing and glaze tests, where the emphasis is on the accuracy of temperature distribution, its controlled rise and fall, or controlled cooling.



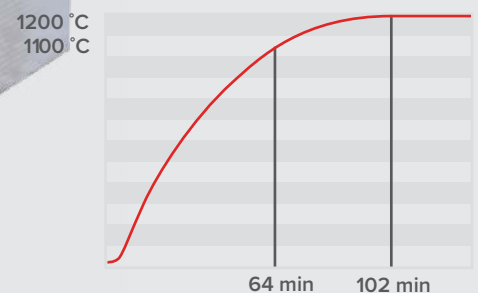
Even temperature distribution in the internal space

Silent operation

Universal usage and simple installation

Rapid rise to temperature

Time need to reach Tmax



L 03

## STANDARD FURNACE EQUIPMENT:

- Ht40AL programmable temperature controller with high accuracy (1 programme: 2x run-up, 2x dwell)
- Resistance heating elements built into ceramic panels in the floor and ceiling of the furnace
- "S" type thermocouple
- Solid state relay (smooth and noise-free operation, minimal interference with surrounding equipment)
- Ventilation chimney preventing condensation of vapours during firing
- Limit switch for safe opening of the furnace doors
- Manually-operated door opening downwards
- Desktop design



Simple operation and installation



Selected furnaces in stock for immediate collection



Shipment from 3 weeks



Warranty 24 months



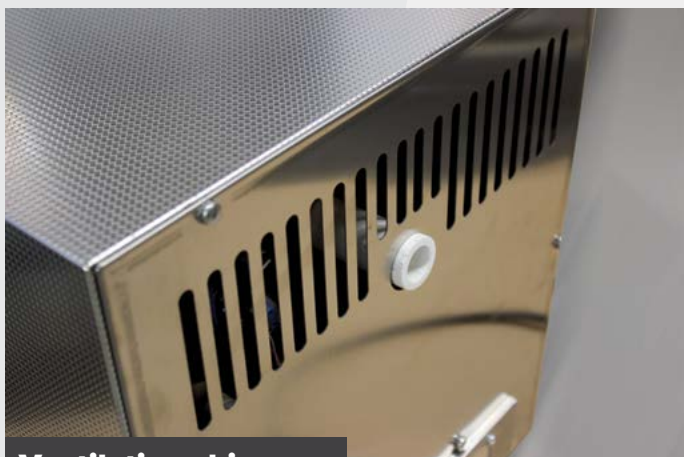
Instant technical support



## RECOMMENDED ACCESSORIES AT AN ADDITIONAL COST:

- Ht205 controller (30 programmes with 15 steps each)
- Injector with exhaust fan and draft diverter for fume extraction (only with the Ht205 controller)
- Protective atmosphere inlet (manually or automatically controlled gas supply)
- Protective floor plate
- HtMonit EV set (include software + interface)
- RS-485 or LAN interface (only with the Ht205 controller)

After consulting, we offer also other possibilities of modification of your equipment according to your requirements.



Ventilation chimney



Furnace chamber and thermocouple



L 03 with Ht40AL controller

Type	Tmax*	Recommended operating temperature range	Volume	External dimensions (w×h×d)	Internal dimensions (w×h×d)	Heating power	Weight	Voltage	Protection	Max. load capacity of bottom
	°C	°C	l	mm	mm	kW	kg	V	A	kg
L 03/12	1280	1100	3	380×440×400	180×100×140	1,2	20	230	16/1	4
L 05/12	1280	1100	5	430×470×430	230×130×170	2,4	26	230	16/1	6
L 09/12	1280	1100	9	430×505×500	230×170×240	3,0	30	230	16/1	6
L 15/12	1280	1100	15	450×505×600	250×170×340	3,5	40	230	16/1	6

\* Tmax is the maximum temperature which can be attained by the furnace, but is not suitable for long-term operation.

## Firing aids and accessories

There are various firing aids available which serves for better utilisation of the internal furnace space.

### INTERLAYER PLATES AND DISTANCE POLES

Particularly interlayer plates are used to protect the furnace bottom or as interlayer plates for firing on multiple floors (cordierite-mullite material). Distance poles are used to build the floors. We can supply these aids in various standardized sizes but also in dimensions on request. Interlaying crosses are intended for specific charge position.



## Measurement and control

Ceramic furnaces LAC, they are fitted with the following types of quality PID controllers:

Ht200 or Ht205, HtCeramic, Ht40A or Ht40AL. These types of controllers are microprocessor controlled devices that meet all requirements to control the temperature and security of electrothermal equipment. At the request of the customer, some types of furnaces can be fitted with Bentrup regulators.



Type	Ht200 / Ht205		HtCeramic	Ht40A / Ht40AL	
Designation	Programmable PID controller designed for industrial applications.		Programmable PID controller designed for ceramic applications.	Simple programmable PID controller.	
	Program Ht200: <ul style="list-style-type: none"><li>• 30 programs</li><li>• 25 steps in program</li></ul>	Program Ht205: <ul style="list-style-type: none"><li>• 30 programs</li><li>• 15 steps in program</li></ul>	Program HtCeramic: <ul style="list-style-type: none"><li>• 20 programs</li><li>• 15 steps in program</li></ul>	Program Ht40A: <ul style="list-style-type: none"><li>• 1x rise, 1x hold</li></ul>	Program Ht40AL: <ul style="list-style-type: none"><li>• 2x rise, 2x hold</li></ul>
Measuring inputs	1 input: <ul style="list-style-type: none"><li>• temperature (Thermocouples + Pt100)</li><li>• process (voltage, current)</li></ul>		1 input: <ul style="list-style-type: none"><li>• temperature (Thermocouples + Pt100)</li><li>• process (voltage, current)</li></ul>	1 input: <ul style="list-style-type: none"><li>• temperature (Thermocouples + Pt100)</li><li>• process (voltage, current)</li></ul>	
	Accuracy 0,1 %		Accuracy 0,1 %	Accuracy 0,1 %	
Digital inputs	2 digital inputs		No	No	
Outputs	7 outputs: <ul style="list-style-type: none"><li>• 2 controlling</li><li>• 1 alarm</li><li>• 4 auxiliary</li></ul>		3 outputs: <ul style="list-style-type: none"><li>• controlling</li><li>• controlling/auxiliary</li><li>• alarm</li></ul>	3 outputs: <ul style="list-style-type: none"><li>• controlling</li><li>• auxiliary</li><li>• alarm</li></ul>	
	• PID heating control • PID cooling control • 2pos. heating control • 2pos. cooling control • 3pos. step control		• PID heating control • PID cooling control • 2pos. heating control • 2pos. cooling control	• PID heating control • 2pos. heating control	
Autotunning	Yes		Yes	Yes	
Communication line	2 communication lines (MODBUS™ RTU protocol): <ul style="list-style-type: none"><li>• 2x EIA-485</li><li>• LAN interface</li></ul>		1 communication line (MODBUS™ RTU protocol): <ul style="list-style-type: none"><li>• RS-232</li><li>• EIA-485</li></ul>	1 communication line (MODBUS™ RTU protocol): <ul style="list-style-type: none"><li>• RS-232</li><li>• EIA-485</li></ul>	
USB	Yes		No	No	
Datalogger	• for measured values (10000 Ht200 / 500 Ht205 records) • for events (5000 Ht200 / 200 Ht205 records) • ambient temperatures		• 500 records (date, time, measured and setting value, program)	No	
Monitored by HtMonit EV set	Yes		Yes	Yes	
	The set contains the program, communication interface for communication with PC. The universal program is designed for monitoring and keeping records of technological processes. It is possible to measure values from up to 4 devices fitted usually with a Ht series controller (meter).				

## Description of accessories and explanation of terms

### COOLING

#### Ventilation chimney

Ventilation of the inner furnace space, airflow cannot be controlled. A seal made of insulating material can be supplied.

#### Manually-controlled ventilation flap

Ventilation; the flap is opened or closed manually.

#### Automatic ventilation flap

Ventilation of the furnace inner space, flap opening or closing is controlled by the controller. The automatic ventilation flap can only be used in combination with the Ht205 controller.

#### Forced cooling

Active cooling of the charge. Cool air is blown by the fan through the valve at the bottom of the furnace and then travels through the automatic ventilation flap into the furnace chamber. The furnace controller starts the fan and opens the flap according to the furnace cooling speed programmed. The forced cooling system can only be used in combination with the Ht200/Ht205 controller.

### CALIBRATION

#### Optimization of the temperature field to fulfill DIN 17052-01

Adjustment of the internal airflow, or adjustment of the furnace heating system according to the information detected by furnace measuring equipment. These adjustments provide optimization of temperature distribution in the furnace; alternatively the furnace can be fine-tuned for a specific charge. Treatment is carried out at one temperature in the usable space of the furnace. Including the measurement report.

### ELECTRO

#### Solid state relay – SSR

Switch devices which contain no moving parts that can make noise or that can be worn out by frequent switching are used to control furnace operations.

#### Ammeters for checking heating elements condition

Ammeters monitor incoming current to check the status of heating elements. Three ammeters are usually connected (according to the number of connected phases), An ammeter can be connected to each heating element separately for an additional surcharge.

#### Heating spirals from Kanthal APM material

The use of Kanthal APM material provides longer lifetime of heating elements in comparison with standard production design.

#### Alsint pipes

The carriers of heating spirals (pipes) from Alsint material that is resistant to higher temperatures. They are suitable especially for furnaces that are on a long-term basis operating at temperatures over 1200 °C.

#### Digital temperature recorder

It serves for displaying and recording of measured values (usually temperatures in furnace). The transfer of data from the recorder takes place through Ethernet or RS-485 interface. The data from the recorder can be copied onto the data storage units (SD card, USB flash disk).

#### Standards EIA-485 or Ethernet

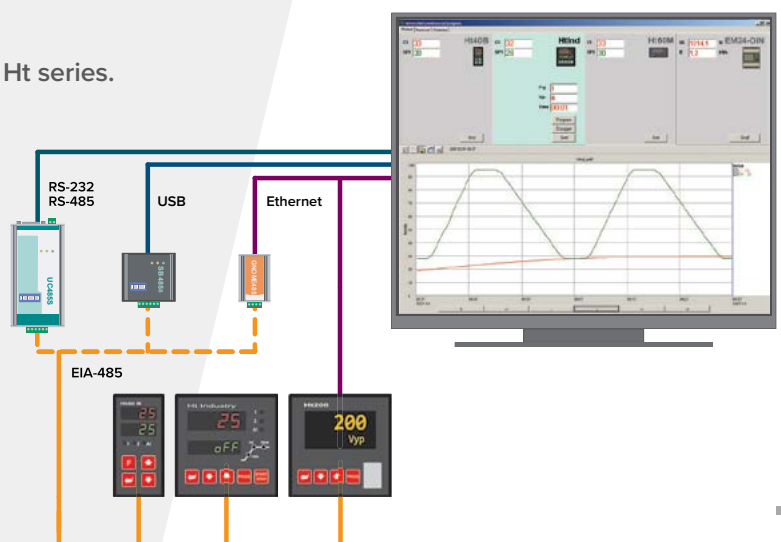
Standards EIA-485 serve as a communication link between a PC and controller device. EIA-485 can connect up to 30 devices. Contains a connector (interface) RS-485 led out to an accessible location on the furnace. Ethernet standardize local area networks (LAN) between a PC and controller device. Contains a connector (interface) led out to an accessible location on the furnace.

#### Monitoring software HtMonit

This program is designed for monitoring devices of Ht series.

The program allows:

- monitoring connected devices
- insert data into the database
- display measured data in the graph
- search in the graph and print graphs and tables
- program Ht200/Ht205 controller profiles
- start or end programs





# PRODUCTION PLANTS



## PRODUCTION PLANT: INDUSTRIAL FURNACES AND DRYERS

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## PRODUCTION PLANT: REFRACTORY CASTABLE SHAPES

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Czech Republic

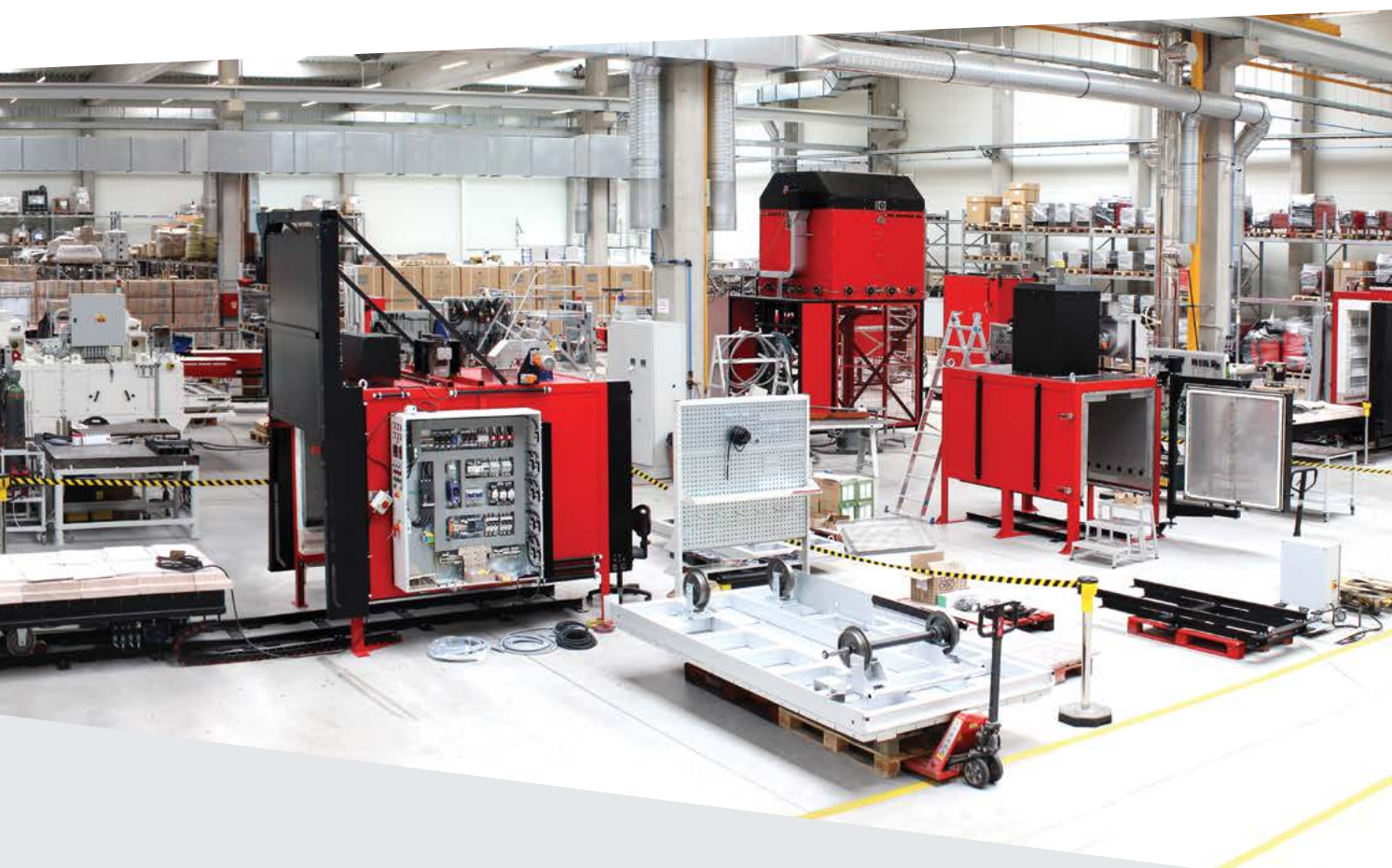
phone: +420 515 238 211

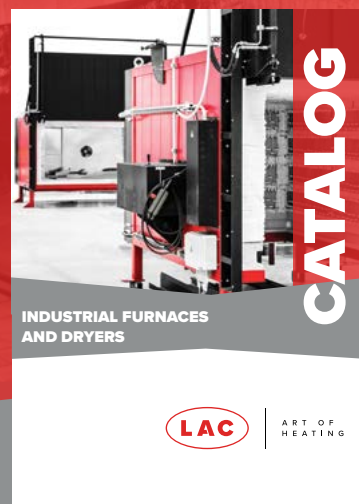
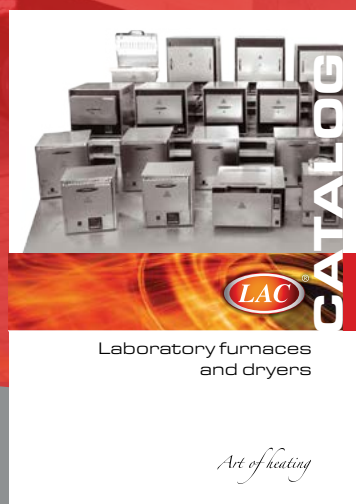
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