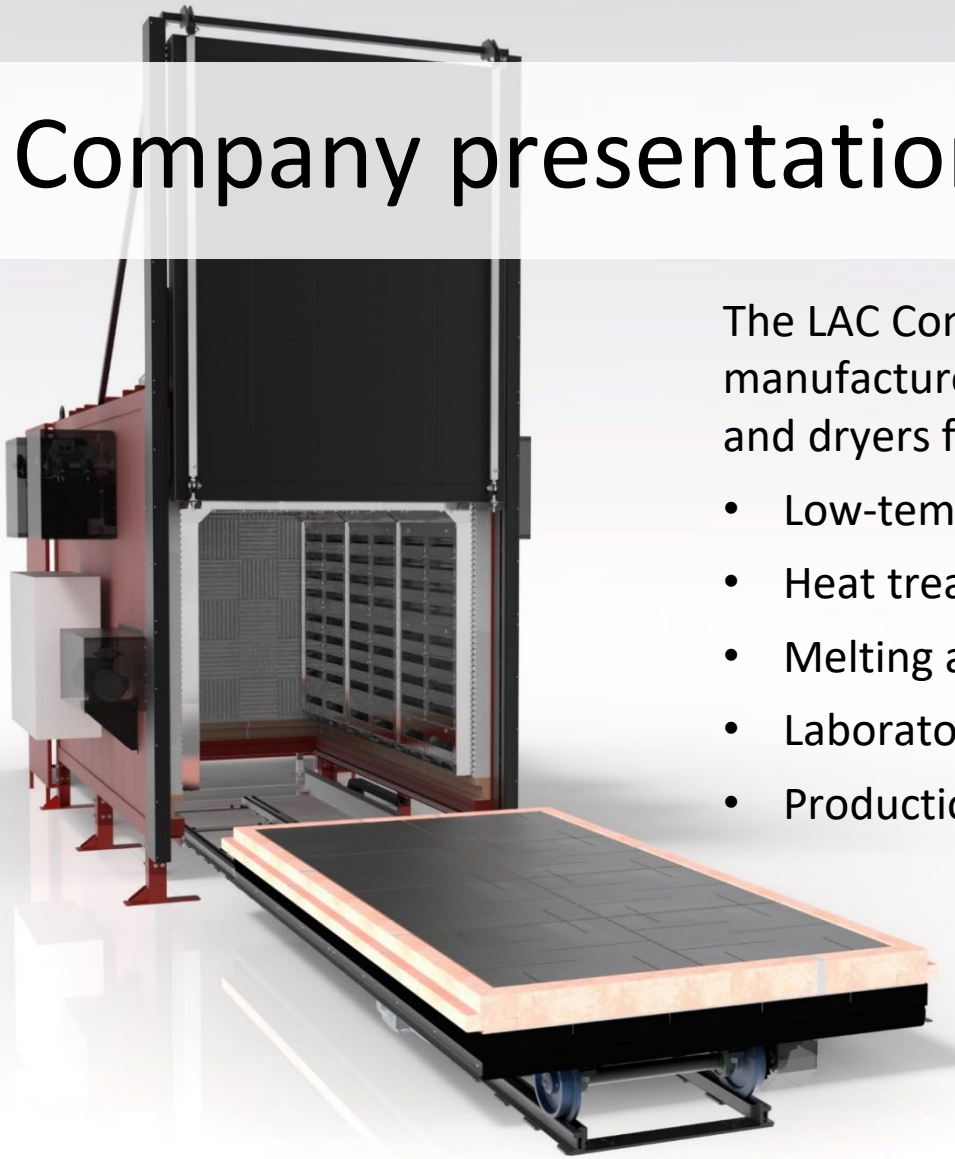
LAC

ART OF HEATING

Company presentation



The LAC Company has been 30 years successful manufacturer and marketer of industrial furnaces and dryers for many technology use for example:

- Low-temperature applications
- Heat treatment and chemical-heat treatment
- Melting and holding of alloys
- Laboratory technologies
- Production of glass and ceramics

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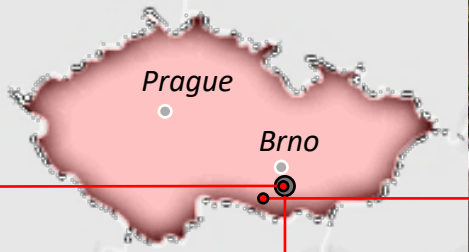
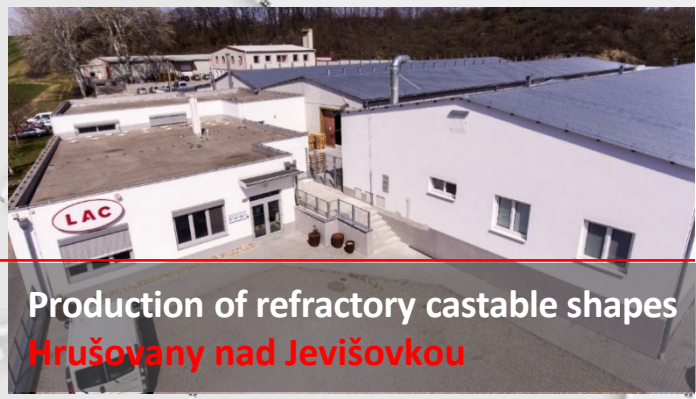
„LAC is a purely Czech company that has grown its way from a 10x10 m garage up to manufacturing area of 25,000 m².“

Production of furnaces and dryers
Židlochovice



LAC Headquarters
Židlochovice



Production of refractory castable shapes
Hrušovany nad Jevišovkou

Developement, design and manufacture in the Czech Republic with two production plants.

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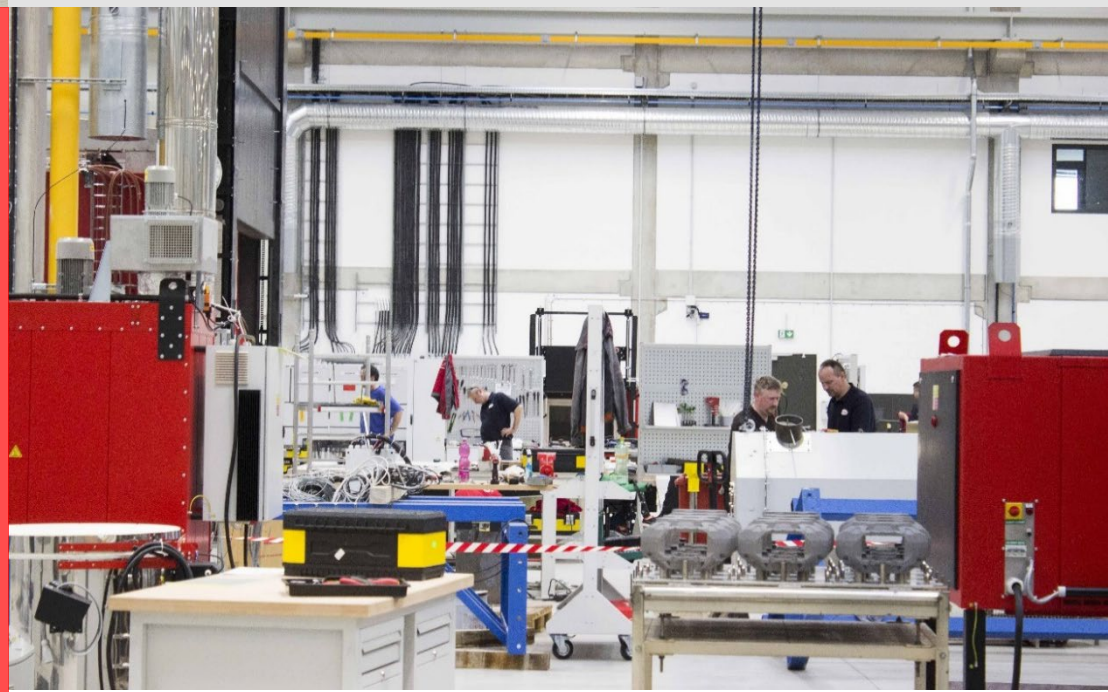
LAC, s.r.o.
Topolová 933
667 01 Židlochovice
Czech Republic

Production of furnaces and dryers Židlochovice

The new production hall enables us to improve production effectivity and produce even better products for our customers.

- Since our founding we have developed and produced **20,000 furnaces and dryers**
- **52 production series of standard furnaces** and specialize in custom production
- **25 000 m² for production**, storage and administration
- in which we supply products



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Product portfolio

- Low-temperature applications
- Heat treatment
- Furnaces for foundries – melting and holding
- Laboratory furnaces and dryers
- Ceramic and fusing furnaces
- Custom-made furnaces

Services and technologies

- Own development office and service department, furnace testing center
- Measuring, testing, and thermographic analysis according to AMS, CQI-9, DIN and ISO
- Furnaces and dryers that meet e.g. certification NADCAP

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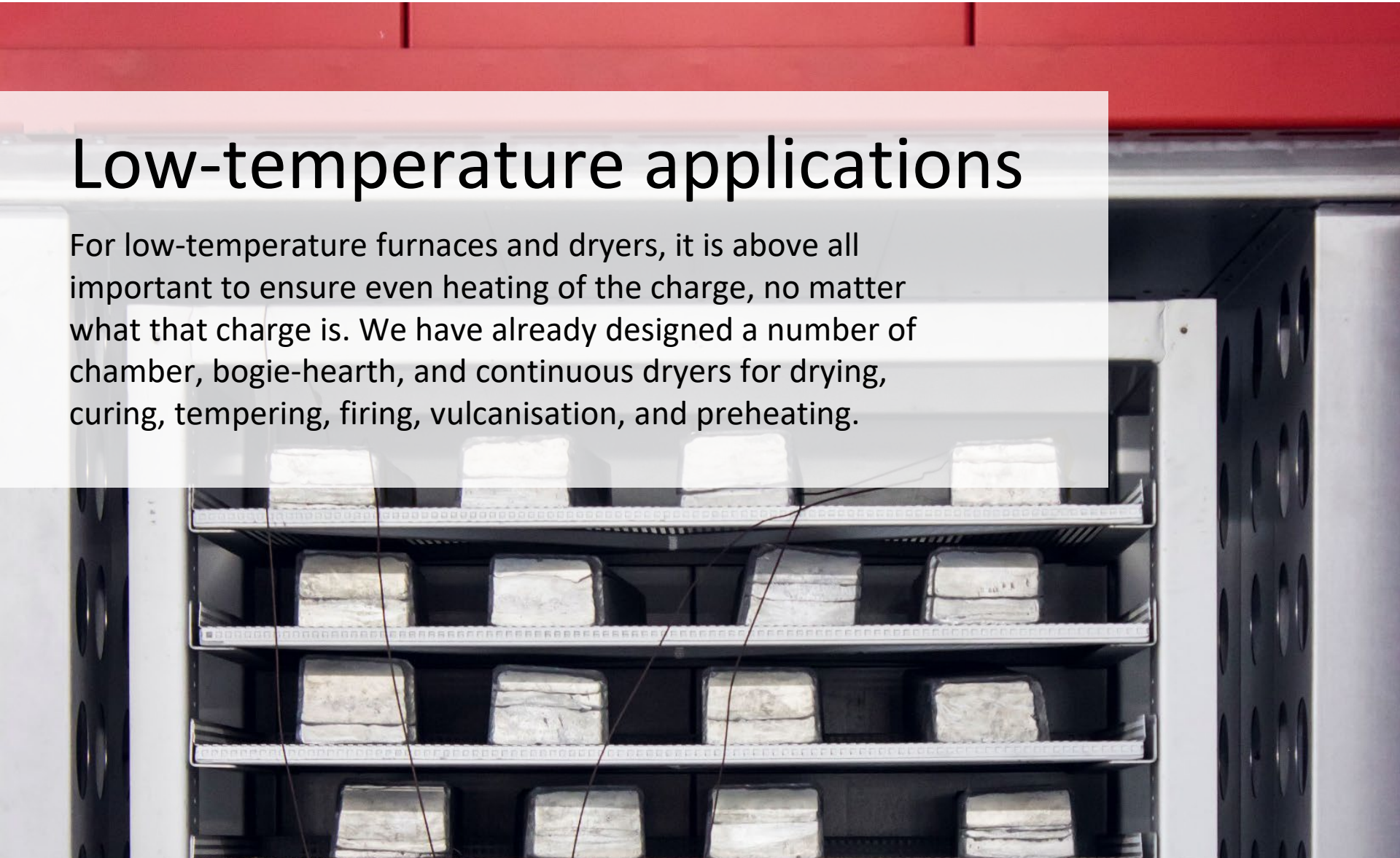
Low-temperature applications

For low-temperature furnaces and dryers, it is above all important to ensure even heating of the charge, no matter what that charge is. We have already designed a number of chamber, bogie-hearth, and continuous dryers for drying, curing, tempering, firing, vulcanisation, and preheating.



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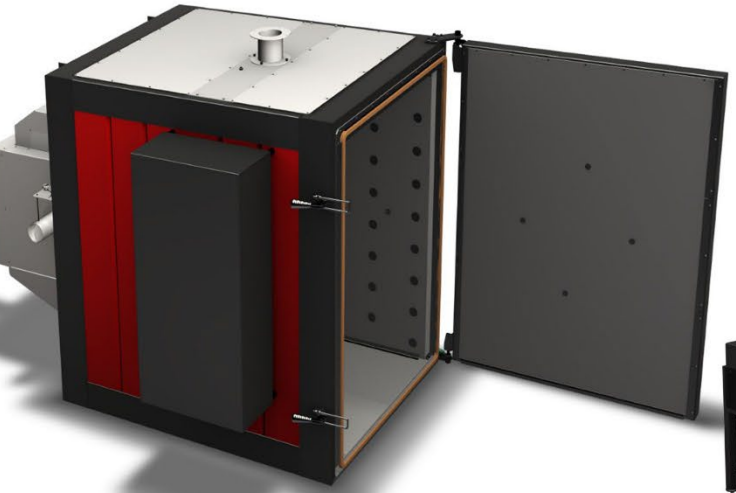
Low-temperature applications



Chamber dryers

Continuous furnaces

Low-temperature furnaces

Paternoster furnaces

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Standardised furnaces and dryers

You can easily order these furnaces and dryers directly in the product details. We usually deliver the products within a few weeks, if no modifications are required.

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S chamber dryer

The S dryers are designed primarily for drying, vulcanising, preheating, and curing a variety of materials. These dryers' stainless steel muffles ensure a long service life for these facilities, as they are very chemically and mechanically resistant.

Thanks to the horizontal internal atmosphere circulation, S dryers also boast an even temperature distribution.

Temperature: **70 °C - 300 °C**

Volume: **60 l - 400 l**

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SV Mk.II chamber dryer

Chamber dryers are suitable for a wide range of production processes (drying, hardening, preheating, vulcanisation, artificial ageing of aluminium, etc.). They are characterised by the very precise distribution of temperatures in the furnace.

A wide range of custom modifications, very short delivery period and quick supply of spare parts are indisputable benefits.

Temperature: **70 °C - 300 °C**

Volume: **650 l - 8 000 l**

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SVK bogie-hearth chamber dryer

We have designed SVK bogie-hearth chamber dryers and low-temperature furnaces for convenient loading of bulky and heavy charges. They excel in the long service life of their chambers, which are resistant to corrosion and mechanical stress.

They are useful not only for drying, tempering, and artificial ageing, but also for heat treatment of a variety of materials in the plastics, rubber, automobile, electrical, and foundry industries.

Temperature: **70 °C - 400 °C**

Volume: **1 000 l - 30 000 l**

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SV 2400 heat shrink wrap chamber dryer

Device designed for the process of **shrinking packaging film** (e.g. PE film, LDPE, POF, PVC), which is pulled in the form of a bag over packaged goods placed on a standard EURO pallet.

During this short hot-air heat process with a temperature of 100-135 °C, perfect shrinkage of the packaging film is ensured and at the same time the material adheres to the pallet.

Temperature: **up to 135 °C**

Volume: **2 400 l**

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Custom-made furnaces

The manufacturing program also accommodates the individual requirements of the customer through the design and manufacture of atypical furnaces tailor-made to meet customer specifications.

We supply to:

- Automotive industry
- Aerospace industry
- Chemical industry
- Defense industry
- Foundry industry

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Chamber and bogie-hearth furnaces

Wide portfolio of furnaces and furnace lines suitable for batch heat treatment and for example interoperation heat treatment.

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S 512/02
chamber furnace
equiped with
rotavator

Application for
Grob Germany.

Drying and curing electric motor parts

Furnace for heat treatment of electric motor parts.

Working temperature 200 °C

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S 175/02
chamber furnace equiped with rotavator

SV 1001/25
chamber dryer

Application for Grob Germany.

Drying and curing electric motor parts

Line consists of furnace equiped with rotavator and several dryers for further heat treatment.

Working temperature 200 °C

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SV 11300/25
chamber furnace

Application to
KIRCHHOFF Automotive
Hungary.

Tempering steel parts

Max. temperature
250 °C

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SV 6000/30
chamber furnace

Application to
MAHLE
Slovakia.

Curing of surface

Furnace for curing of polymer coating on engine parts.

Max temperature 300 °C

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KNCHP 34500/03
gas heated chamber furnace

Application to Ronal Czech Republic.

Preheating molds

Max temperature
300 °C

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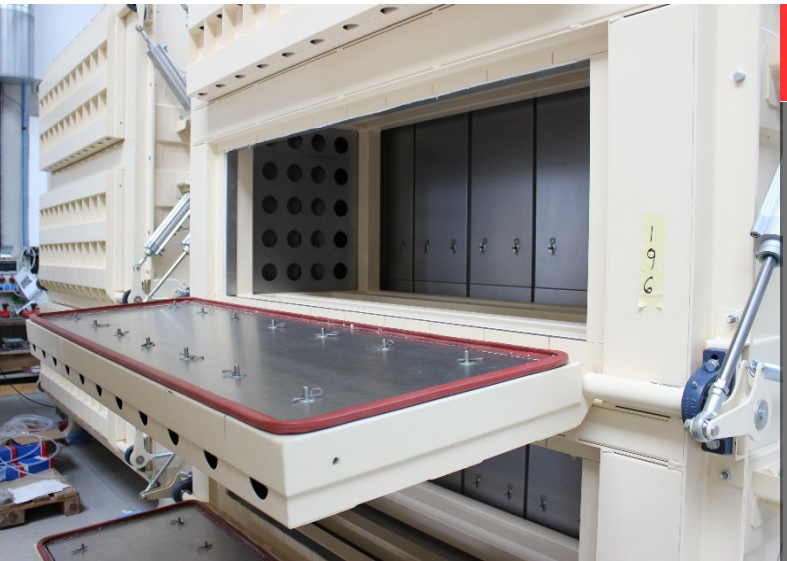
SV 3700/02 chamber dryer

The line consists of three chamber dryers and one cooling chambre. Include fully automatic door operation and cooperation with a loading robot.

Application to Hedrich Germany.



Preheating, gelling and hardening

Three heat treatment processes available:

- preheating to 90 °C
- gelling at 90 °C
- hardening at 120 °C

Heat treatment of electrotechnical components.

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SV 3300/25 atyp chamber dryer for **heat treatment** in rubber industry.

Max. temperature: **250 °C**

Application to
Gumárny Zubří
Czech Republic.

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SV 16800/20 and **SV 4200/20**
chamber dryer sfor **heat treatment**
of acrylate and polycarbonate sheets.

Max. temperature: **200 °C**

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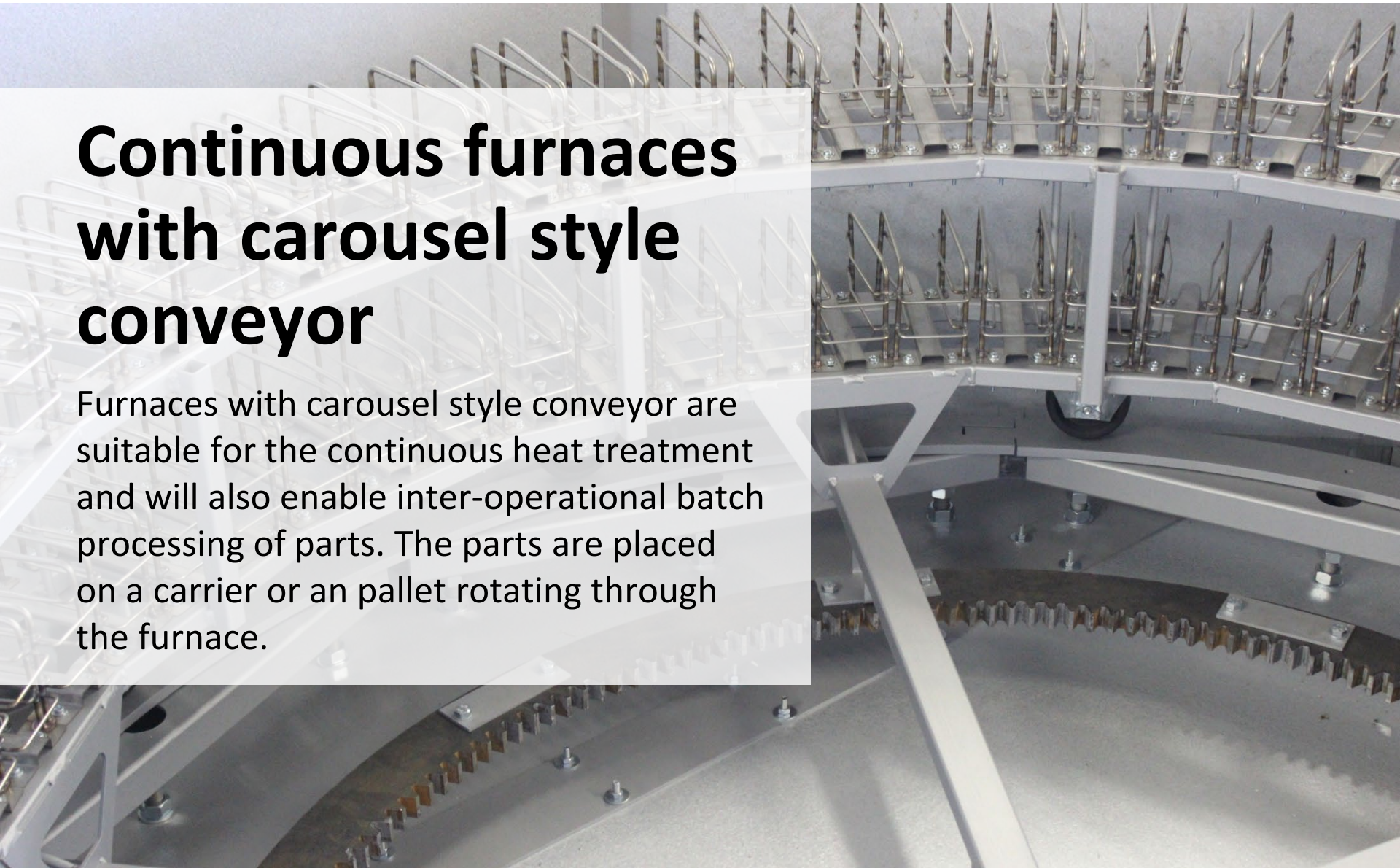

Continuous furnaces with carousel style conveyor

Furnaces with carousel style conveyor are suitable for the continuous heat treatment and will also enable inter-operational batch processing of parts. The parts are placed on a carrier or an pallet rotating through the furnace.

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SV 700/10
furnace with carousel style conveyor

Application to MAPRO Czech Republic.

Hardening of thermal paste

Hardering of thermal grease paste on printed circuit boards.

Working temperature: 120 – 220 °C

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SV 1800/15
furnace with carousel style conveyor

Application to
Continental Automotive Czech.

Preheating components

Preheating of printed circuit boards with housing.

Working temperature
85 – 120 °C

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Continuous furnaces with paternoster style conveyor

The furnace chain conveyer is designed as paternoster style and requires significantly less space, compared to standard continuous furnaces.

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SV 4200/35
paternoster style furnace

Application to
JULI Motorenwerk
Czech Republic.

Tempering stators

Working temperature
350 °C

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SV 45400/01
paternoster style furnace

Application to
KPB Intra
Czech Republic.

Curing transformers

Max. temperature
100 °C

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SV 25200/15

paternoster style furnace

Application to Varroc Lighting Systems Czech Republic.

Annealing of plastic parts

Max. temperature
150 °C

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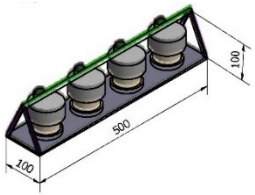
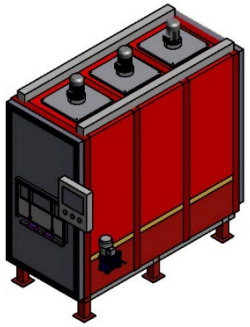


SV 5200/15 paternoster style furnace with horizontal chain conveyor

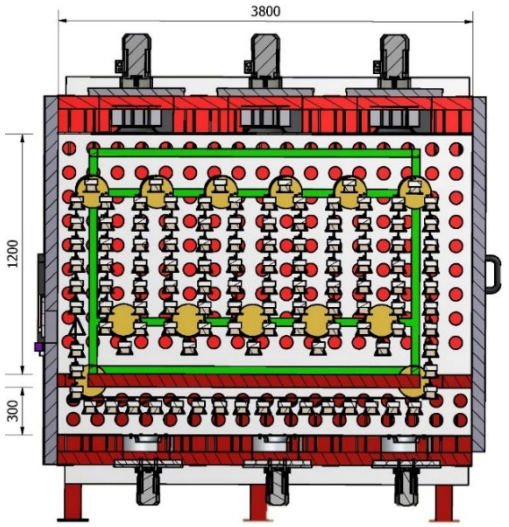


Application to Continental Automotive Czech.

Hardening of thermal grease

Silicone thermal grease hardening on parts.

Working temperature: 60 – 150 °C



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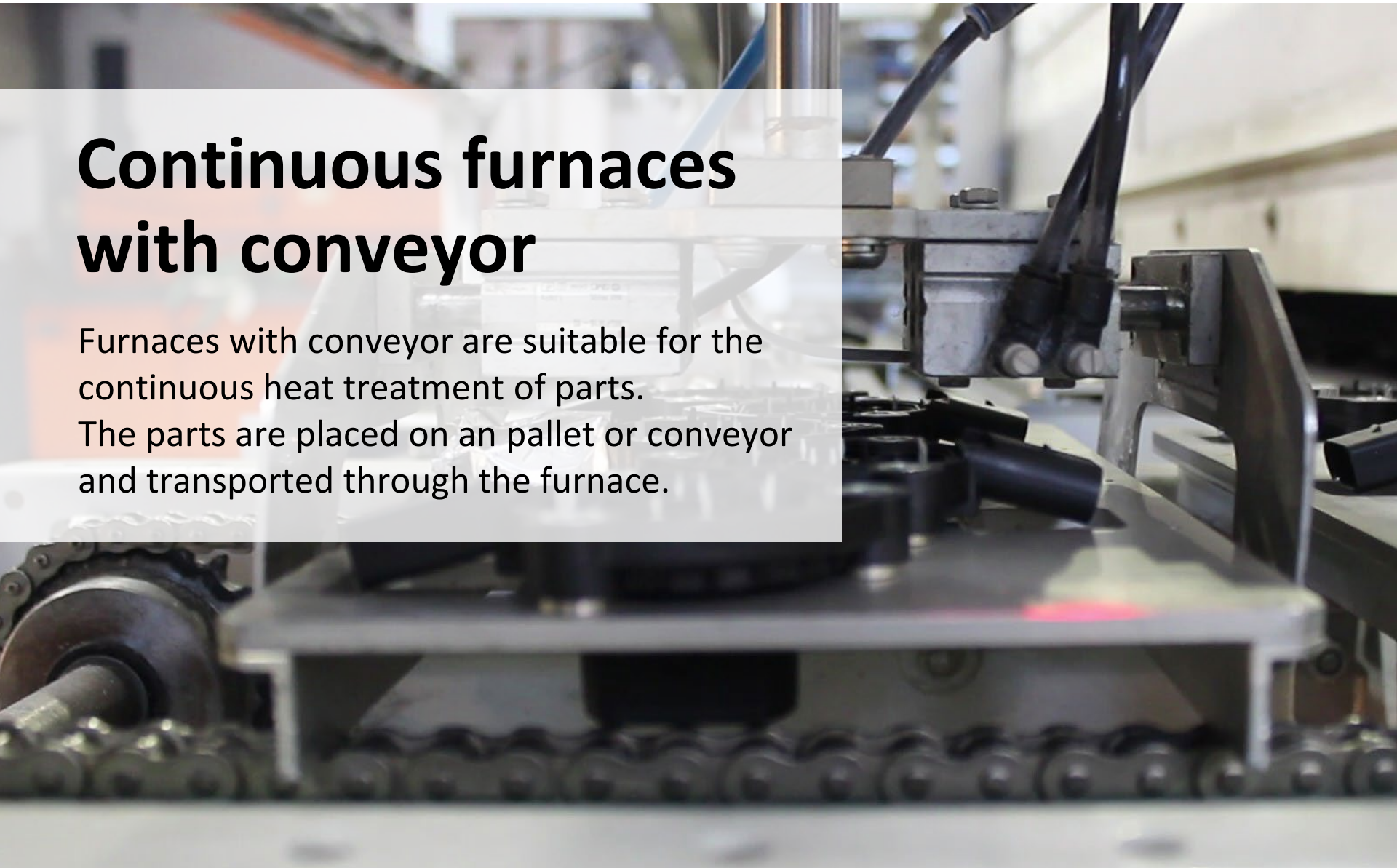

Continuous furnaces with conveyor

Furnaces with conveyor are suitable for the continuous heat treatment of parts.
The parts are placed on an pallet or conveyor and transported through the furnace.

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SP 1410/25
continuous furnace
with pallet conveyor

Application to
Kollmorgen
Corporation
USA.

Curing of glue

Cure the glue on the magnetic parts of the rotors.

Working temperature 120 – 220 °C

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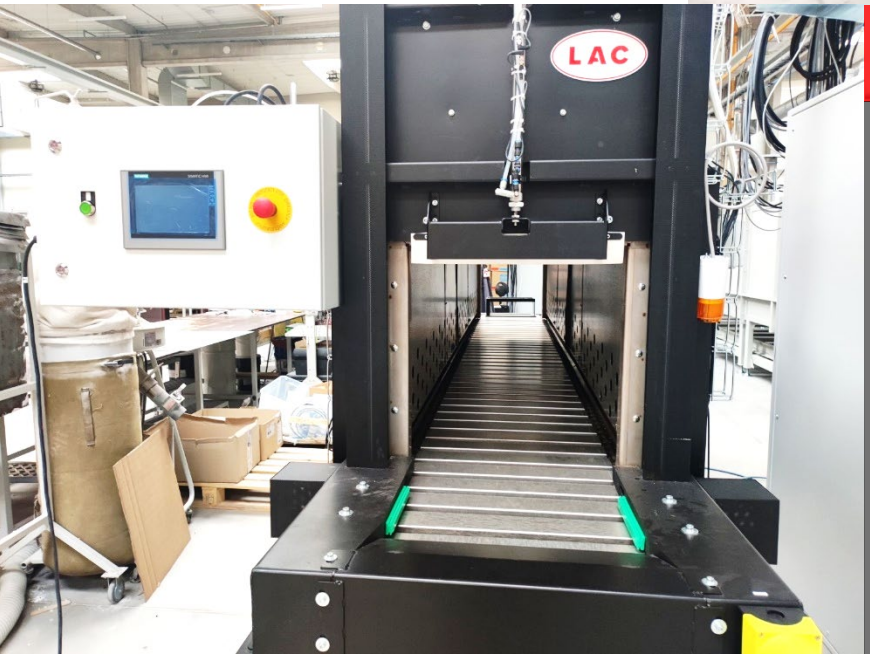
SP 900/25
continuous furnace
with pallet conveyor

Application to
Kollmorgen
Czech Republic.



Curing of glue

Cure the glue on the magnetic parts of the rotors.

Working temperature
120 – 220 °C

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SPP 2250/25
gasheated continuous furnace with pallet conveyor

Application to Federal Mogul Germany.

Drying and curing of surface layer on metal parts

Working temperature
110 – 200 °C

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SP 2200/25
continuous furnace

Application to
Federal Mogul China.

Graphitizating of surface layer

Graphitizating of surface layer on automobile engine parts.

Working temperature
250 °C

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SP 3400/15
continuous furnace

Application to
AGC Group Czech Republic.

Preheating of glass parts

Automobile glass preheating.

Working temperature: 150 °C

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SP 13400/02
preheating furnace
SP 4500/02
pre-hardening furnace
SP 26730/02
curing furnace

Application to
ABB Czech Republic.

Preheating and curing of transformers

Production line for preheating and curing of transformers.

Working temperature
40 – 180 °C

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Rubber industry

The modification for the rubber industry requires that the furnace or dryer need to be supplemented with an additional equipment in order to ensure sufficient flue gas extraction from the furnace space.

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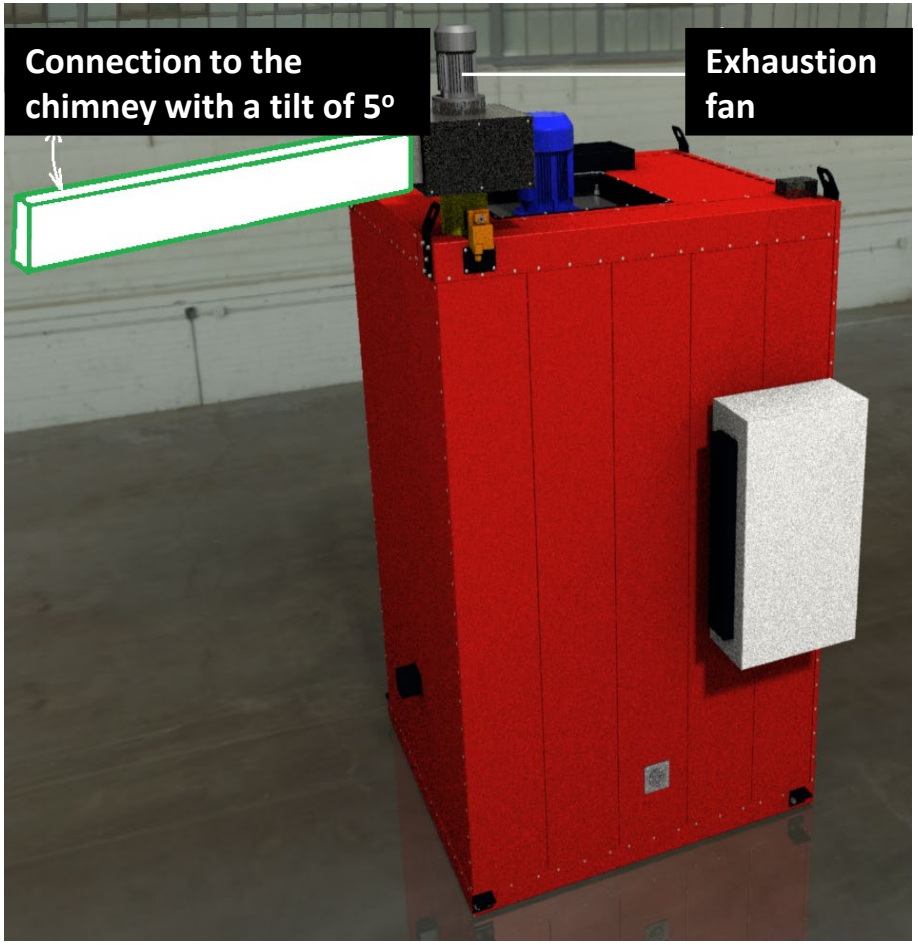
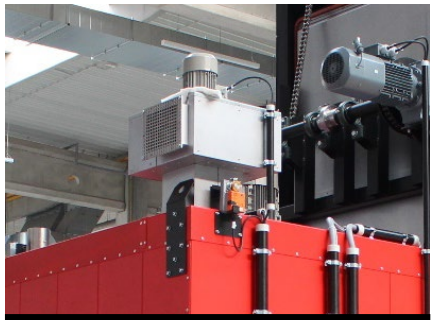
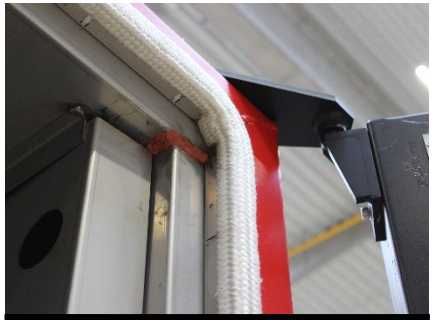
SV Mk.II chamber dryer

Modification for the rubber industry

- maximum temperature is 250 °C
- muffle (chamber) sealing
- exhaust fan
- exhausted air quantity 500-1000 m^3/h on the basis of furnace capacity, there is a slight vacuum in the chamber
- fan exhaust with tilt away from the fan for draining condensate
- automatic ventilation flap
- automatic suction flap
- Ht205 or Ht200 controller
- software Ht Monit for data archiving




Exhaust fan


Muffle sealing

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SV 2250/25 Mk.II chamber dryer for **heat treatment** of rubber seals.

Working temperature: **250 °C**

Modification for rubber industry

- exhaust fan
- automatic ventilation flap
- muffle sealing
- software Ht Monit for data archiving
- temperature field to meet DIN 17052-01-ΔT 6 °C standard
- bushing + ball valve for nitrogen supply (use in case of emergency)

Application to
WOCO Czech Republic.

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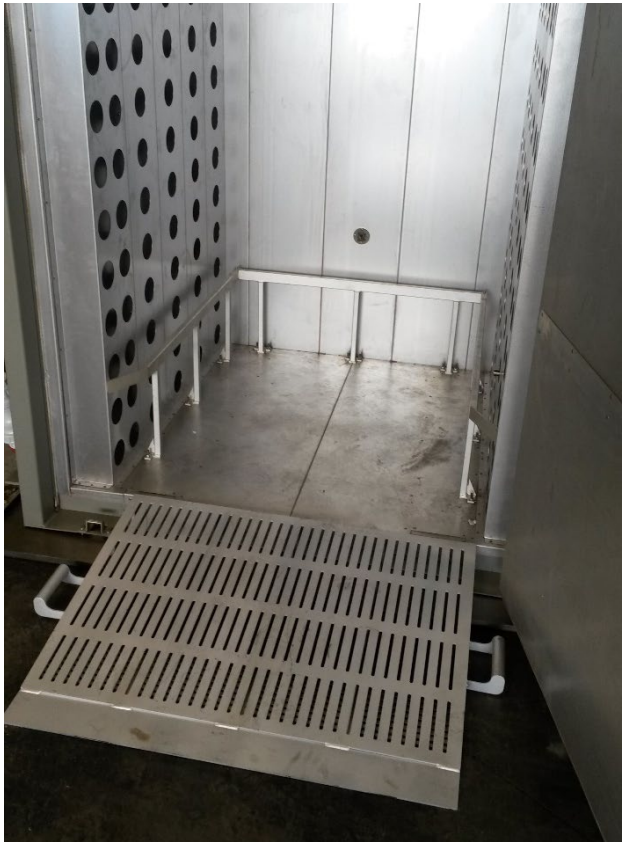
SV 2250/25 Mk.II chamber dryer for **heat treatment** of rubber seals.

Working temperature: **250 °C**



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References

Selected references of low-temperature furnaces

Customer	Field	Furnace type	Country
RUBENA	rubber seals	**SV 3300/25 Mk.II chamber dryer**	**Czech Republic**
Varroc Lighting Systems	automotive lighting	**SV 30500/15 paternoster furnace**	**Czech Republic**
Kollmorgen Corporation	electric motors	**SP 1410/25 continuous dryer**	**USA**
Gumárny Zubří	rubber parts for automotive	**SV 3300/25 chamber dryer**	**Czech Republic**
Bonatrans Group	train wheels	**SVK 14500/03 bogie-hearth chamber furnace**	**Czech Republic**
KYB Manufacturing	automotive	**SP 3960/30 continuous dryer**	**Czech Republic**
AGC Glass Europe	automotive glass	**SP 3400/15 continuous dryer**	**Czech Republic**
WOCO	Industrial seals - automotive	**3x SV 2250/25 Mk.II chamber dryer**	**Czech Republic**
Federal Mogul Wiesbaden	automotive	**SPP 2250/25 continuous furnace**	**Germany**
SICO RUBENA	Industrial seals	**SV 9200/30 Mk.II chamber dryer**	**Czech Republic**

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References

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Continental

Sico Rubena

WOCO

Varroc EXCELLENCE

JULA

KOLLMORGEN
Because Motion Matters™

AGC

ABB

FEDERAL MOGUL