linn High Therm

SAVE ENERGY!

ELECTRICALLY HEATED SYSTEMS PROTECT THE ENVIRONMENT








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INDUSTRIAL FURNACES - LABORATORY FURNACES

German Top Technology for Production, Research and Development

Linn High Therm was founded in 1969 by Horst Linn. Since then the product range has been continuously extended from induction heated precision fine casting systems, high temperature furnaces, industrial and heat treatment furnaces up to microwave and crystal growing systems. From the very beginning, Linn has only used the most advanced and most energy saving insulation materials. Today, Linn produces at three locations and exports to more than 50 countries - export share is up to 70 %.

Production Range

- Special furnaces for research and development of new materials and composite materials in medical technology, aviation, aerospace and nuclear industries. Top applications in the field of sintering of new materials and heat treatment of stents.
- Microwave chamber and continuous belt furnaces for sterilizing, drying, curing of structural components and for applications in food processing (fast cooking of rice).
- Standard laboratory and high temperature furnaces up to 2800 °C for operation in air, vacuum, protective gas atmosphere and overpressure up to 200 bar for ceramic sintering, hard- and refractory metals, metal-ceramic-brazing, graphitization and silication.
- Rotary tube, belt, roller and pusher-type furnaces, even under protective gas atmosphere for continuous heating processes such as heat treatment of calcium phosphate, recycling etc.
- Air circulation furnaces, ashing furnaces and drying furnaces.
- Induction-centrifugal casting machines for precision fine casting up to 3 kg. Aluminium- and magnesium alloys, precious metals, steels, Ti and γ-TiAl, super- alloys, shape memory metals.
- Induction heated remelting and fusion furnaces for sample preparation of metallic and oxidic materials for spectroscopy in metallurgical and chemical laboratories for quality control and materials research (XRF/RFA, Emission, AAS, ICP, X-Emission).
- High frequency generators- and medium frequency inverters with power range between 1,5 and 400 kW for brazing, melting, forging, hardening, and plasma processes.

Step-controlled Continuous Drying Furnace
for drying and cooling of coated aluminium pistons.
Capacity at 10 sec step: 360 pcs/h.
Unit volume: 82 transport trays.
126 kW, 250 °C.

High Pressure Furnaces
for sintering of silicon nitride, hard-metals, ceramics under atmospheric pressure up to 100 bar.
Graphite heaters and insulation.
Tmax 2300 °C, chamber volume 1,5 l.
Operation under argon and nitrogen, vacuum. Hydrogen up to 5 %.

High Temperature Furnaces
for universal heat treatment in air, protective gas and vacuum. Heating elements depending on temperature and atmosphere: Kanthal-Super, Molybdenum, Tungsten or Graphite. Insulation made of high quality ceramic fibre, graphite felt, porous aluminum oxide refractory bricks, or coldwall. Thus a high degree of energy savings and very short heat up and cooling times are achieved. 4 - 52,5 l. 1900 °C (2300 °C).

Overhead Furnaces
for annealing of aluminium-wire under partial vacuum with nitrogen atmosphere. Two hinged, vertically tiltable cooling devices as well as handling and transfer equipment.
Dimensions of annealing bells (dia x h) 1,2 x 2 m, 360 kW, 600 °C.

Medium Frequency Inverter
for heating of electrically conductive materials. For hardening, annealing, soldering and brazing, welding, glueing, forging, melting, preheating and heating of susceptors.
Due to high reactive power it is very suitable for heating of highly conductive (Al, Cu, Ag, etc.) and non-magnetic metals.
MF-output power up to 400 kW, nominal working frequency range from 2 up to 100 kHz.
Complete production line for induction heating. Controlled by Simatic S7, which allows easy integration into existing production processes.

Inert / Protective Gas Chamber Furnaces
with heat resistant gas-tight retort for sintering, brazing, heat treatment. Wide range of options such as gas feeding device, burn-off device, safety package, cooling / condensate trap in gas outlet, vacuum operation, gas circulation.
Tmax 1200 °C. 10 - 2000 l, 15 - 180 kW.

High Pressure Furnaces "Corundum-Star" and "Rubi-Star"
for heat treatment of gemstones under increased oxygen pressure up to 6 bar (25/50 - 100 bar). Sintering of hard-metals and ceramics.
Tmax 1820 °C, chamber volume 3 - 10 l.
Operation under air, under neutral atmosphere at reduced temperature.
Hydrogen up to 5 %.

Rotary Tube Furnaces
for heat treatment of granulated or powder materials at continuously high quality under air or nitrogen, argon or hydrogen atmosphere in batch operation (appr. 50 kg), gas tight.
Heated length up to 5 m, 3-zone controller, Tmax 1000 °C, heating power 52 kW, inside-dia of insert tube 500 mm, adjustment of rotation speed, manual lifting device 0-10°. Protective gas purged, heated feeding tank (120 l, 400 °C) with isolation valve. Protective gas purged, water cooled collecting tank (120 l) with isolation valve.