Dental Furnaces

- Sintering furnaces for Zirkonia
- Chamber Furnaces for Dental Ceramic Compounds
- Furnaces for CAD / CAM - Systems
- Pre-heating Furnaces
- Muffle Furnaces
- Model Casting
- Accessories

DATAHORNOS

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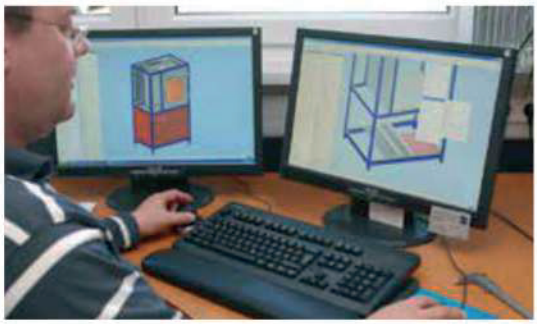

Experts in Furnaces

THERMCONCEPT develops, designs and manufactures furnaces and systems for a broad range of production and research applications and fields. Many in our workforce also have decades of experience in dental furnace engineering. The expertise we have amassed is deployed on a day-to-day basis in order to plan and realise your ideal furnace solution.

Engineering

Our highly-skilled development engineers and designers, hardware and software professionals, technicians and mechanics create cost-efficient and reliable furnace solutions. Direct contact with users enables us to design furnaces that are practical to use. Our aim is to deliver crucial technical and financial benefits.

Fast and flexible

Many applications can be achieved with our extensive range of standard furnaces. The advantages for you are proven, fully-developed models, excellent value for money and quick delivery times. Of course, we also supply customised furnaces specially designed to meet your specific application. In close consultation with you, we develop a furnace system which meets your challenging tasks both reliably and economically.

Global Sales and Service Network

THERMCONCEPT furnaces and systems are proven in daily use at satisfied customers in many countries worldwide. Our international distribution network ensures that our customers receive individual support, rapid responses and expert local service.

THERMCONCEPT *powerd by innovation*

Furnaces and industrial heat treatment systems made by THERMCONCEPT are synonymous for

- top quality
- proven technology
- practical and service-friendly design
- customer-specific and application-based solutions
- maximum thermal efficiency and value for money
- eco-friendly materials
- professional service.

THERMCONCEPT is your partner for high-performance furnaces and systems for wide-ranging and challenging applications in production and research.

Contents

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Sintering furnaces for Zirkonia

T max 1500 °C and 1600 °C

- High grade heating elements made of Molybdenum-Disilicide ($MoSi_2$) mounted in two sides
- High temperature uniformity
- Compact bench top furnace with user-friendly parallel-guided door moving up-wards
- Double-walled housing with rear-ventilation to ensure low outer-casing temperatures
- Insulation made of high grade aluminium oxide fibre with low thermal mass for very fast heating and cooling
- Door collar made of strong fire bricks
- Low power rating
- Heating elements controlled by thyristors for very precise temperature control, wear-free and noiseless
- Exhaust pipe in the furnace ceiling
- 2nd loading level for furnaces up to 1500 °C

Accessories:

- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Control and documentation software
- Protective gas connection
- Manual or automatic gassing systems
- Further accessories see page 11

Fast heating cycles for typical Zirkonia processes
Ideal for individual CAD/CAM-systems

2nd loading level for furnaces up to 1500 °C

Technical Data

Model	T max [°C]	Inner dimensions [mm] Width x Depth x Height	Volume [l]	Outer dimensions [mm] Width x Depth x Height	Power [kW]	Voltage [V]	Weight [kg]
HTL 01/15	1500	120 x 90 x 120	1	520 x 470 x 680	1,6	230 V 1/N	75
HTL 01/16	1600	120 x 90 x 120	1	520 x 470 x 680	1,6	230 V 1/N	75

Sintering furnaces for Zirkonia

T max. 1600 °C, 1750 °C and 1800 °C

- High grade heating elements made of Molybdenum-Disilicide ($MoSi_2$) mounted in two sides
- High temperature uniformity
- Compact bench top furnace with user-friendly parallel-guided door moving up-wards
- Chamber volume from 2 to 20 litres
- Double-walled housing with rear-ventilation to ensure low outer-casing temperatures
- Insulation made of high grade aluminium oxide fibre with low thermal mass for very fast heating and cooling
- Low power rating
- Heating elements controlled by thyristors for very precise temperature control, wear-free and noiseless
- Exhaust pipe in the furnace ceiling

Accessories:

- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Control and documentation software
- Protective gas connection
- Manual or automatic gassing systems
- Further accessories see page 11

Fast heating cycles for typical Zirkonia processes
Ideal for individual CAD/CAM-systems

Technical Data

Model	T max [°C]	Inner dimensions [mm] Width x Depth x Height	Volume [l]	Outer dimensions [mm] Width x Depth x Height	Power [kW]	Voltage [V]	Weight [kg]
HTL 02/16	1600	110 x 120 x 150	2	740 x 440 x 630	1,5	230 V 1/N	76
HTL 04/16	1600	150 x 150 x 150	4	740 x 440 x 630	3	230 V 1/N	83
HTL 10/16	1600	200 x 250 x 200	10	790 x 540 x 680	4	400 V 2/N	97
HTL 16/16	1600	200 x 300 x 260	16	830 x 580 x 740	8	400V 3/N	160
HTL 20/16	1600	250 x 320 x 260	20	900 x 600 x 740	8	400V 3/N	190
HTL 02/17	1750	110 x 120 x 150	2	740 x 440 x 630	1,5	230 V 1/N	76
HTL 04/17	1750	150 x 150 x 150	4	740 x 440 x 630	3	230 V 1/N	83
HTL 10/17	1750	200 x 250 x 200	10	790 x 540 x 680	4	400 V 2/N	97
HTL 16/17	1750	200 x 300 x 260	16	830 x 580 x 740	8	400V 3/N	160
HTL 20/17	1750	250 x 320 x 260	20	900 x 600 x 740	8	400V 3/N	190
HTL 02/18	1800	110 x 120 x 150	2	740 x 440 x 630	1,5	230 V 1/N	76
HTL 04/18	1800	150 x 150 x 150	4	740 x 440 x 630	3	230 V 1/N	83
HTL 10/18	1800	200 x 250 x 200	10	790 x 540 x 680	4	400 V 2/N	97
HTL 16/18	1800	200 x 300 x 260	16	830 x 580 x 740	8	400V 3/N	160
HTL 20/18	1800	250 x 320 x 260	20	900 x 600 x 740	8	400V 3/N	190

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Sintering furnaces for Zirkonia

T max. 1400 °C, 1500 °C and 1600 °C

- Powerful SiC-rod heating elements mounted in two sides providing very fast heating cycles
- Excellent temperature uniformity inside the furnace chamber
- Double-walled housing with rear ventilation to ensure low outer-casing temperatures
- Compact bench top furnace with user-friendly parallel-guided door moving up-wards
- Insulation made of high grade aluminium oxide fibre with low thermal mass for very fast heating and cooling
- Door collar made of strong fire bricks
- Wear-resistant fire brick insulation in the furnace bottom
- Delivery includes ceramic bottom plate
- Heating elements controlled by solid-state-relays for very precise temperature control, wear-free and noiseless
- Exhaust pipe in the furnace ceiling

Accessories:

- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Control and documentation software
- Protective gas connection
- Manual or automatic gassing systems
- Further accessories see page 11

Fast heating cycles for typical Zirkonia processes
Ideal for individual CAD/CAM-systems

Technical Data

Model	T max [°C]	Inner dimensions [mm] Width x Depth x Height	Volume [l]	Outer dimensions [mm] Width x Depth x Height	Power [kW]	Voltage [V]
KLC 05/14	1400	150 x 250 x 140	6	540 x 580 x 650	3,0	230 V 1/N
KLC 10/14	1400	200 x 250 x 180	9	560 x 670 x 720	4,0	400 V 2/N
KLC 15/14	1400	220 x 310 x 220	15	600 x 750 x 770	9,0	400 V 3/N
KLC 30/14	1400	280 x 480 x 280	33	600 x 750 x 770	12,0	400 V 3/N
KLC 05/15	1500	150 x 250 x 140	6	560 x 670 x 720	3,5	400 V 3/N
KLC 10/15	1500	200 x 250 x 180	9	560 x 670 x 720	5,2	400 V 3/N
KLC 15/15	1500	220 x 300 x 220	15	600 x 750 x 770	9,0	400 V 3/N
KLC 30/15	1500	280 x 440 x 280	30	600 x 750 x 770	12,0	400 V 3/N
KLC 05/16	1600	150 x 240 x 140	6	550 x 580 x 650	4,9	400 V 3/N
KLC 10/16	1600	210 x 240 x 180	9	560 x 670 x 720	5,8	400 V 3/N
KLC 15/16	1600	220 x 310 x 210	15	600 x 750 x 770	10,0	400 V 3/N
KLC 30/16	1600	250 x 460 x 260	28	600 x 750 x 770	12,5	400 V 3/N

Chamber Furnaces for Dental Ceramic Compounds

T max. 1100 °C, 1200 °C and 1300 °C

- High grade heating wire in both sides providing fast heating
- Very high temperature uniformity inside the furnace chamber
- Double-walled housing with rear-ventilation to ensure low outer-casing temperatures
- Parallel-guided door moving up-wards with hot insulation surface to the rear, away from the operator
- Insulation made of high grade ceramic fibre with low thermal mass
- Door collar made of strong fire bricks
- Wear-resistant fire brick insulation in the furnace bottom
- Delivery includes ceramic bottom plate
- Heating elements on ceramic supporting tubes, mounted in front of the insulation for free heat radiation
- Heating elements controlled by solid-state-relays for very precise temperature control, wear-free and noiseless
- Exhaust pipe in the furnace rear (KLS 45/.. in the ceiling)

Accessories:

- Exhaust vent with fan
- Exhaust vent with fan and catalyser
- Quartz glass protection tubes covering heating wire
- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Control and documentation software
- Protective gas connection
- Manual or automatic gassing systems
- Further accessories see page 11

Technical Data

Model	T max [°C]	Inner dimensions [mm] Width x Depth x Height	Volume [l]	Outer dimensions [mm] Width x Depth x Height	Power [kW]	Voltage [V]
KLS 05/11	1100	210 x 200 x 150	6	550 x 580 x 650	2,0	230 V 1/N
KLS 10/11	1100	200 x 250 x 200	10	560 x 670 x 720	3,0	230 V 1/N
KLS 15/11	1100	220 x 300 x 230	15	560 x 670 x 720	3,6 *	400 V 2/N
KLS 30/11	1100	280 x 380 x 280	30	590 x 700 x 790	4,0	400 V 2/N
KLS 45/11	1100	300 x 500 x 300	45	660 x 720 x 770	6,0	400 V 3/N
KLS 05/12	1200	180 x 200 x 140	5	550 x 580 x 650	2,0	230 V 1/N
KLS 10/12	1200	200 x 250 x 200	10	560 x 670 x 720	3,6 *	400 V 2/N
KLS 15/12	1200	220 x 300 x 230	15	560 x 670 x 720	3,6 *	400 V 2/N
KLS 30/12	1200	280 x 350 x 280	27	590 x 700 x 790	4,5	400 V 3/N
KLS 45/12	1200	300 x 500 x 300	45	660 x 720 x 770	6,0	400 V 3/N
KLS 05/13	1300	200 x 250 x 140	7	550 x 580 x 650	2,5	230 V 1/N
KLS 10/13	1300	200 x 250 x 180	9	560 x 670 x 720	3,6 *	400 V 2/N
KLS 15/13	1300	230 x 300 x 230	16	560 x 670 x 720	3,6 *	400 V 2/N
KLS 30/13	1300	270 x 350 x 270	26	590 x 700 x 790	6,0	400 V 3/N
KLS 45/13	1300	300 x 500 x 300	45	660 x 720 x 770	6,0	400 V 3/N

* Upon request without additional charges also available with 4,0 kW for 400 V connecting voltage

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Muffle furnaces for pre-heating

T max. 1100 °C and 1200 °C

- Universal muffle-furnaces e.g. for pre-heating of casting muffles
- Compact design for minimum space requirements
- Stainless steel casing, long service life, extremely resistant
- Resistant fibre module as inner chamber, high mechanical durability, short heating cycles, low power consumption
- Door collar made of strong fire bricks to protect insulation against mechanical damages
- High-quality heating elements, long service life
- Heating wire embedded in ceramic plates with good protection against damages, service-friendly and cost-effective
- Heating elements controlled by solid state relays for very precise temperature control, wear-free and noiseless
- Exhaust pipe in the rear wall

Accessories:

- Exhaust vent with fan
- Exhaust vent with fan and catalyser
- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Further accessories see page 11

Technical Data

Model	T max [°C]	Inner dimensions [mm] Width x Depth x Height	Volume [l]	Outer dimensions [mm] Width x Depth x Height	Power [kW]	Voltage [V]	Weight [kg]
KL 03/11	1100	180 x 140 x 100	3	380 x 400 x 440	1,2	230 V 1/N	20
KL 05/11	1100	230 x 170 x 130	5	430 x 430 x 470	2,4	230 V 1/N	35
KL 09/11	1100	230 x 240 x 170	9	430 x 500 x 505	3,0	230 V 1/N	45
KL 15/11	1100	250 x 340 x 170	15	450 x 600 x 505	3,5	230 V 1/N	50
KL 03/12	1200	180 x 140 x 100	3	380 x 400 x 440	1,2	230 V 1/N	20
KL 05/12	1200	230 x 170 x 130	5	430 x 430 x 470	2,4	230 V 1/N	35
KL 09/12	1200	230 x 240 x 170	9	430 x 500 x 505	3,0	230 V 1/N	45
KL 15/12	1200	250 x 340 x 170	15	450 x 600 x 505	3,5	230 V 1/N	50

Compact muffle furnaces for pre-heating

T max. 1000 °C and 1100 °C

- Compact muffle furnace with outstanding price-performance ratio
- User-friendly swing door
- Insulation completely made of high grade ceramic fibre with low thermal mass for fast heating cycles
- Heating elements wound around outside of ceramic muffle, heating from all sides
- Heating elements controlled by solid state relays for very precise temperature control, wear-free and noiseless
- Exhaust pipe in the rear wall

Accessories:

- Exhaust vent
- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Further accessories see page 11

KLS 03/10

Chamber furnaces with ceramic muffle

T max 1150 °C

- Chamber furnaces with integrated ceramic muffle, high mechanical and chemical resistance, especially recommended for applications with aggressive waste gases
- Double-walled housing with rear-ventilation to ensure low outer casing temperatures
- Parallel-guided door moving up-wards with hot insulation surface to the rear, away from operator, collar made of fire bricks to ensure high wear resistance
- Heating elements wound around outside the ceramic muffle, heating from four sides, high temperature uniformity inside the chamber
- Heating elements controlled by solid state relays for very precise temperature control, wear-free and noiseless
- Exhaust pipe in the rear wall

Accessories:

- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Control and documentation software
- Protective gas connection
- Manual or automatic gassing systems
- Further accessories see page 11

KLS 07/11/M

Technical Data

Model	T max [°C]	Inner dimensions [mm] Width x Depth x Height	Volume [l]	Outer dimensions [mm] Width x Depth x Height	Power [kW]	Voltage [V]	Weight [kg]
KLS 03/10	1000	140 x 200 x 110	3	320 x 350 x 410	1,5	230 V 1/N	20
KLS 02/11	1100	100 x 140 x 100	2	320 x 350 x 410	1,5	230 V 1/N	20
KLS 07/11/M	1150	210 x 280 x 110	7	550 x 580 x 650	2,7	230 V 1/N	20

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High temperature chamber furnace up to 1800 °C

High temperature hood furnace up to 1800 °C

Chamber furnace up to 1400 °C for de-binding and sintering in one process, with catalytic waste gas purification system

Production furnaces for dental ceramics

T max. 900 °C - 1800 °C

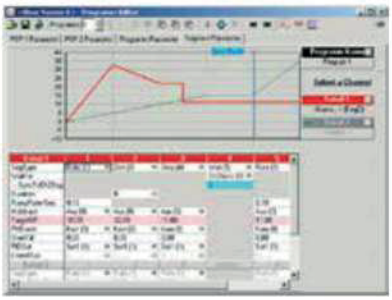
THERMCONCEPT manufactures electrically heated and gas-fired furnaces for a temperature range up to 1800 °C for de-binding, firing and sintering of high-performance materials. Beside a wide range of standard furnaces also tailor-made solution can be realized. Catalytic and thermal waste gas purification systems complete the scope of supply.

- Broad range of standard furnaces with a chamber volume of 16 - 2000 l
- The scope of supply consists of chamber furnaces, bogie hearth furnaces and hood furnaces for firing, pre-sintering and sintering as well as combi-furnaces for de-binding and sintering in one process
- Hood furnaces also available with shuttle table systems (turntable and dual-table-systems) for semi- or fully automatic operation
- Delivery of customised furnaces exactly adapted to the individual, requested application
- All furnaces are characterized by a high grade of precision and operating comfort
- Double-walled housing with rear-ventilation to ensure low outer casing temperatures
- Insulation made of high-grade refractory materials
- State-of-the-art control units, with heating elements control by thyristors, for very precise furnace control, wear-free and noiseless
- Extensive range of accessories and extras like cooling systems, multi-zone control units, waste gas purification systems, etc.
- For further details and information, please ask for our detailed catalogue "Furnaces for Ceramics, Glass, Solar Cells,..."

Gas-fired chamber furnace for de-binding and sintering in one process, with thermal waste gas purification system

Process control and documentation

State-of-the-art control technology is fitted as standard in THERMCONCEPT furnaces. Microprocessor controllers ensure precise furnace regulation of both simple and complex processes. The program controllers are extremely user-friendly. The wide range of standard controllers matches the various types of furnaces and covers most customer requirements. If required, control units can be individually adapted to customers needs



THERMCONCEPT software for control and documentation:

THERMCONCEPT supplies a range of software packages for programming, controlling, visualising and documenting temperature-related processes:

- Management of several furnaces simultaneously
- Furnace regulation from a central PC
- Detecting the temperature-time profile in accordance with DIN ISO 9000 ff.
- Documentation of batch data

Furnace accessories

Exhaust systems

Exhaust vent to remove emerging waste gases from the furnace chamber, mounted at the rear side, suitable for connection to a local chimney.

Exhaust vent with fan, to remove larger volumes of emerging waste gases and to speed up waste gas stream. Mounted on the rear side and controlled by extra function of controller.

Exhaust vent with catalytic converter, to split organic parts of the emerging waste gases to CO_2 and water steam, smells will be minimised. Mounted on the rear side and controlled by extra function of controller.

Probe saggar, crucibles and trays

Stackable probe saggar, crucibles and trays made of ceramic, available in different sizes and materials

Collecting pans and plates

Collecting pans and plates made of ceramic and steel, to protect furnace bottom.

- Ceramic charging rack up to 1750 °C
- Ceramic bottom plate up to 1300 °C
- Ceramic collecting pans up to 1300 °C
- Steel collecting pans up to 1100 °C

Laboratory tongs and heat-resistant gloves

Charging tongs and heat-resistant gloves for easy loading a hot furnace.

Heat-resistant gloves for short-term contact temperatures of 600/900 °C.

Charging tongs with length of 300 and 500 mm.

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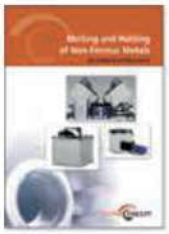
The product range at glance

Brochure:
Ceramic, Glass, Solar Cells,...

Brochure:
Research and laboratory

Brochure:
Thermal Process Technology

Brochure:
Hardening, Tempering, Quenching



Brochure:
Melting and Holding of Non-Ferrous Metals

Ceramic, Glass, Solar Cells ...

THERMCONCEPT furnaces are used for many different applications e.g. for technical ceramics, semi-conductor production, photo voltaics, bio-ceramics etc. We supply also furnaces for de-binding, sintering and thermal analysis. Our chamber-, bogie hearth-, elevator- and hood furnaces are either electrically heated or gas fired. All furnaces can be completed with catalytic converters or thermal afterburners.

Research and laboratory

Furnaces for research and laboratory applications can be supplied for temperatures between 30 °C and 1800 °C. Our range includes muffle furnaces, tube furnaces, drying cabinets, elevator furnaces and high temperature furnaces.

Heat treatment of metals and plastics

We supply electrically heated and gas-heated industrial furnaces and systems for many different types of heat treatment. Our furnaces and systems are used for annealing, hardening, tempering, heat treatment, ageing, preheating, drying and age hardening of metals and plastics.

Annealing, hardening, tempering

Here you will find furnaces, systems and accessories for a wide range of heat treatment applications in the metalworking industry, for example in toolmaking. Virtually all the key requirements for heat treatment can be met with our proven range of products.

Foundry

The foundry range includes electrically heated and fuel-fired melting and holding furnaces for light and heavy metals, designed as bale-out furnaces or as tilting furnaces. We also supply furnaces for many different types of heat treatment in foundries.

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