

# Which Furnace for Which Process?



Combi bogie hearth furnace  
W 1500/14 DB200-3 with thermal post  
combustion. lift door and bogie on rails

## Debinding in Air up to 850 °C

The debinding of technical ceramics is a demanding process due to the hydrocarbons released, which subject to the corresponding concentration can cause a formation of an ignitable mixture inside the furnace. Nabertherm offers customized furnaces with passive and active safety packages depending on the process and the amount of binder, which enable safe operation of the furnace.

## Debinding and Sintering in Air

Debinding and subsequent sintering of technical ceramics is recommended if the charge does not allow for a transfer from a debinding furnace into a sintering furnace. Nabertherm offers furnaces with passive or active safety packages for debinding tailored to the process and amount of binder, enabling safe operation of the furnace. Depending on the product line, the sintering process can be continued directly after debinding with a maximum furnace chamber temperature of up to 1800 °C.



High-temperature bottom loading furnace  
HT 166/17 LB DB200-3 with catalytic post  
combustion system

## Sintering in Air

Nabertherm offers a wide range of furnace solutions for sintering, firing, calcining or tempering in the laboratory and production. The furnace can be individually adapted to the process requirements with additional equipment such as multi-zone control to optimize temperature uniformity or a controlled cooling system to shorten the process.

## Thermal Cleaning, Ashing

Processes such as ashing of food, thermal cleaning of injection molding tools or determination of ignition loss require furnace systems with a passive safety package to ensure a constant surplus of air for the incineration process. Depending on the charge weight, Nabertherm offers solutions that can be used for applications in the laboratory right through to processes with large amounts of organics or high evaporation rates.



Bottom loading furnace  
HF 450/10 LB DB200-2

## Dewaxing

For casting with lost models, furnaces solutions are required designed for safely removing the modeling material from the mold and the subsequent firing of the mold. Nabertherm offers different furnace solutions designed according to the demands for these applications.

## Electroceramics

The debinding and sintering of multilayer ceramics (e. g. LTCC) requires furnace solutions that combine fast process cycles with precise temperature control and at the same time optimal temperature uniformity. Nabertherm offers solutions for batch processes and continuous processes. The technical design of the furnaces is tailored to the required throughput and the process requirements for heat treatment, such as the process temperature and the required cycle times.

Furnace group	Model	Debinding in air up to 850 °C	Debinding and sintering in air up to 1400 °C	Debinding and sintering in air up to 1800 °C	Calcination, tempering	Sintering in air up to 1400 °C	Sintering in air up to 1800 °C	Thermal cleaning, ashing	Dewaxing	Debinding and sintering of multilayer ceramics	Research and development
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\*Tmax 1500 °C