

# Комбинированные высокотемпературные печи с верхним колпаком до 1800 °С для удаления связующего и спекания в одном процессе DV

## Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: [nme@nt-rt.ru](mailto:nme@nt-rt.ru) || сайт: <http://nabertherm.nt-rt.ru/>

# Combi-High-Temperature Top Hat Furnaces or Bottom Loading Furnaces with Molybdenum Disilicide Heating Elements up to 1800 °C for Debinding and Sintering in One Process

The combi high-temperature top hat and bottom loading furnaces are designed for debinding and sintering in one process with sintering temperatures up to 1750 °C. Equipped with a passive safety system, all functions relevant for debinding processes are monitored to ensure safe operation of the furnace. Also as part of the safety package, the furnace atmosphere is diluted with fresh air to prevent forming of a combustible atmosphere by the exhaust gases evaporating from the charge during debinding.

In the basic design, the DB100 debinding package is available for the top hat and bottom loading furnaces. With this debinding package, preheated fresh air is blown in and the furnace is operated with overpressure during the debinding phase.

The DB200 debinding package is recommended as a solution for production. With this safety system, the furnace has a fresh air preheater and the preheated air is blown into the furnace through perforated air inlet tubes. During debinding, the exhaust gases are discharged from the furnace via a separate outlet with exhaust gas fan. The volume flows of fresh air and exhaust gas are controlled so that a slight negative pressure is always maintained in the furnace chamber during debinding.



High-temperature top hat furnace HT 1700/17 LT DB200-5, for debinding and sintering ceramic powders

## Standard Design

Like high-temperature top hat and bottom loading furnaces HT .. LB/LT (see page 40), however:

- Motor-driven exhaust air flap in the furnace roof
- Stainless steel exhaust hood as interface to the customer's extraction system (DB200 option: separate removal of exhaust gases during debinding)
- HiProSystems H1700, including Siemens PLC control system and 7" touchpanel as operating interface see page 84

## Debinding Package DB100

- Basic model for safe debinding with small amounts of binder
- Fresh air fan and fresh air preheater
- Exhaust gas and exhaust air discharged via one outlet with a motor-driven flap in an exhaust hood
- Performance of the debinding package customized to the process requirements
- For more details about the DB100 debinding package see page 9



High-temperature top hat furnace HT 2600/16 LT DB200 for production



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

## Debinding Package DB200

- Professional solution for large amounts of binder and changing debinding processes in everyday production
- Fresh air fan, fresh air preheater and monitoring of fresh air and exhaust gas flow rates
- Separate discharge of exhaust gases during debinding and exhaust air during cooling via separate outlets with motor-driven flaps
- Extendable with catalytic or thermal post combustion for a single furnace or alternating operation with two furnaces see page 12
- Performance of the debinding package customized to the process requirements
- For more details about the DB200 debinding package see page 9



High-temperature top hat furnace HT 400/17 LT DB200-4 with roller doors for automatic table exchange

## Additional Equipment

- With debinding package DB200: Thermal and catalytic exhaust air treatment see page 12
- Redundant thermocouples to increase process reliability
- Calibration interfaces for the measuring section
- Interchangeable table options:
  - Manual or automatic interchangeable table system with one or two tables
  - Multiple table system for loading with a forklift truck
- Thermocouple exchange device for temperature measurement via thermocouple types B and S with automatic removal device for more exact control during debinding (for models from HT 160/..)



Safety zone protected with roller doors and safety barrier



Heat from all sides and between the stack to optimize temperature uniformity



Table with drive and sensor grips for precise movement with no effort

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эл.почта: [nme@nt-rt.ru](mailto:nme@nt-rt.ru) || сайт: <http://nabertherm.nt-rt.ru/>