

# High-Temperature Furnaces with SiC Rod Heating up to 1600 °C



High-temperature furnace LHTC 08/16



High-temperature furnace LHTCT 01/16



Furnace chamber with high-quality fiber materials and SiC heating rods on both sides of the furnace

These powerful laboratory muffle furnaces are available for temperatures up to 1400 °C, 1500 °C, 1550 °C or 1600 °C. The durability of the SiC rods in periodic use, in combination with their high heating speed, make these high-temperature furnaces to all-rounders in the laboratory. Heating times of 40 minutes to 1400 °C can be achieved, depending on the furnace model and the conditions of use.

- Tmax 1400 °C, 1500 °C, 1550 °C or 1600 °C
- Working temperature 1500 °C (for high-temperature furnaces LHTC ../16), increased wear and tear must be expected in case of working at higher temperatures
- Dual shell housing made of textured stainless steel sheets with additional fan cooling for low surface temperature
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Optional flap door (LHTC) which can be used as work platform or lift door (LHTCT) with hot surface facing away from the operator (High-temperature furnace LHTCT 01/16 only with lift door)
- Switching system with solid-state-relays, power tuned to the SiC rods
- Easy replacement of heating rods
- Adjustable air inlet opening, exhaust air opening in the roof
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72



Saggars with top lid

### Additional equipment

- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Square saggar for charging of up to three layers see page 14
- Lid for top saggar
- Manual or automatic gas supply system
- Process control and documentation via VCD software package for monitoring, documentation and control see page 75



Over-temperature limiter

| Model         | Tmax °C | Inner dimensions in mm |     |     | Volume in l | Outer dimensions <sup>4</sup> in mm |     |                | Connected load kW | Electrical connection* | Weight in kg | Minutes to Tmax <sup>3</sup> |
|---------------|---------|------------------------|-----|-----|-------------|-------------------------------------|-----|----------------|-------------------|------------------------|--------------|------------------------------|
|               |         | w                      | d   | h   |             | W                                   | D   | H <sup>2</sup> |                   |                        |              |                              |
| LHTC(T) 03/14 | 1400    | 120                    | 210 | 120 | 3.0         | 415                                 | 545 | 490            | 9.0               | 3-phase <sup>1</sup>   | 30           | 40                           |
| LHTC(T) 08/14 | 1400    | 170                    | 290 | 170 | 8.0         | 490                                 | 625 | 540            | 13.0              | 3-phase                | 40           | 40                           |
| LHTC(T) 03/15 | 1500    | 120                    | 210 | 120 | 3.0         | 415                                 | 545 | 490            | 9.0               | 3-phase <sup>1</sup>   | 30           | 50                           |
| LHTC(T) 08/15 | 1500    | 170                    | 290 | 170 | 8.0         | 490                                 | 625 | 540            | 13.0              | 3-phase                | 40           | 50                           |
| LHTCT 01/16   | 1550    | 110                    | 120 | 120 | 1.5         | 340                                 | 300 | 460            | 3.5               | 1-phase                | 18           | 40                           |
| LHTC(T) 03/16 | 1600    | 120                    | 210 | 120 | 3.0         | 415                                 | 545 | 490            | 9.0               | 3-phase <sup>1</sup>   | 30           | 60                           |
| LHTC(T) 08/16 | 1600    | 170                    | 290 | 170 | 8.0         | 490                                 | 625 | 540            | 13.0              | 3-phase                | 40           | 60                           |

<sup>1</sup>Heating only between two phases

<sup>2</sup>Plus maximum 240 mm for models LHTCT when open

<sup>4</sup>External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

\*Please see page 73 for more information about supply voltage

<sup>3</sup>If connected at 230 V 1/N/PE resp. 400 V 3/N/PE

## High-Temperature Furnaces with MoSi<sub>2</sub> Heating Elements up to 1800 °C



High-temperature furnace  
LHT 01/17 D

Designed as tabletop models, these compact high-temperature furnaces have a variety of advantages. The first-class workmanship using high-quality materials, combined with ease of operation, make these furnaces all-rounders in research and the laboratory. These high-temperature furnaces are also perfectly suited for the sintering of technical ceramics, such as zirconium oxide dental bridges.

- Tmax 1600 °C, 1750 °C, or 1800 °C
- High-quality molybdenum disilicide heating elements
- Dual shell housing made of textured stainless steel sheets with additional fan cooling for low surface temperature
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Compact design with lift door, opening upwards
- Adjustable air inlet
- Exhaust air opening in the roof
- Type B thermocouple
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72

### Additional equipment

- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Square saggars for charging of up to three layers see page 14
- Protective gas connection to purge with non-flammable protective or reaction gases
- Manual or automatic gas supply system
- Process control and documentation via VCD software package for monitoring, documentation and control see page 75



High-temperature furnace LHT 03/17 D



Saggars with top lid

| Model       | Tmax °C | Inner dimensions in mm |     |     | Volume in l | Outer dimensions <sup>4</sup> in mm |     |                | Connected load kW | Electrical connection <sup>1</sup> | Weight in kg | Minutes to Tmax <sup>2</sup> |
|-------------|---------|------------------------|-----|-----|-------------|-------------------------------------|-----|----------------|-------------------|------------------------------------|--------------|------------------------------|
|             |         | w                      | d   | h   |             | W                                   | D   | H <sup>3</sup> |                   |                                    |              |                              |
| LHT 02/16   | 1600    | 90                     | 150 | 150 | 2           | 470                                 | 630 | 760+260        | 3.0               | 1-phase                            | 75           | 30                           |
| LHT 04/16   | 1600    | 150                    | 150 | 150 | 4           | 470                                 | 630 | 760+260        | 5.2               | 3-phase <sup>1</sup>               | 85           | 25                           |
| LHT 08/16   | 1600    | 150                    | 300 | 150 | 8           | 470                                 | 810 | 760+260        | 8.0               | 3-phase <sup>1</sup>               | 100          | 25                           |
| LHT 01/17 D | 1650    | 110                    | 120 | 120 | 1           | 385                                 | 425 | 525+195        | 2.2               | 1-phase                            | 28           | 10                           |
| LHT 03/17 D | 1650    | 135                    | 155 | 200 | 4           | 470                                 | 630 | 760+260        | 3.0               | 1-phase                            | 75           | 60                           |
| LHT 02/17   | 1750    | 90                     | 150 | 150 | 2           | 470                                 | 630 | 760+260        | 3.0               | 1-phase                            | 75           | 60                           |
| LHT 04/17   | 1750    | 150                    | 150 | 150 | 4           | 470                                 | 630 | 760+260        | 5.2               | 3-phase <sup>1</sup>               | 85           | 40                           |
| LHT 08/17   | 1750    | 150                    | 300 | 150 | 8           | 470                                 | 810 | 760+260        | 8.0               | 3-phase <sup>1</sup>               | 100          | 40                           |
| LHT 02/18   | 1800    | 90                     | 150 | 150 | 2           | 470                                 | 630 | 760+260        | 3.6               | 1-phase                            | 75           | 75                           |
| LHT 04/18   | 1800    | 150                    | 150 | 150 | 4           | 470                                 | 630 | 760+260        | 5.2               | 3-phase <sup>1</sup>               | 85           | 60                           |
| LHT 08/18   | 1800    | 150                    | 300 | 150 | 8           | 470                                 | 810 | 760+260        | 9.0               | 3-phase <sup>1</sup>               | 100          | 60                           |

<sup>1</sup>Heating only between two phases

<sup>2</sup>If connected at 230 V 1/N/PE resp. 400 V 3/N/PE

<sup>\*</sup>Please see page 73 for more information about supply voltage

<sup>3</sup>Including opened lift door

<sup>4</sup>External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.



Over-temperature limiter

## High-Temperature Bottom Loading Furnaces up to 1700 °C



High-temperature furnace LHT 02/17 LB with a set of saggars



LHT 16/17 LB



Electrically driven lift-bottom

The motor-driven lifting table significantly simplifies the charging of the high-temperature furnaces LHT/LB. The heating all around the cylindrical furnace chamber provides for an optimal temperature uniformity. For the tabletop models LHT 01/17 LB and LHT 02/17 LB the charge can be placed in charge saggars made of technical ceramics. Up to three charge saggars can be stacked on top of each other resulting in a high productivity. Due to its volume the high-temperature furnace LHT 16/17 LB can also be used for applications in production.

- Tmax 1650 °C, 1700 °C (LHT 16/17 LB)
- High-quality heating elements made of molybdenum disilicide offer best possible protection against chemical interaction between charge and heating elements
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Outstanding temperature uniformity due to all-round furnace chamber heating
- Furnace chamber with a volume of 1, 2 or 16 liters, table with large floor space
- Precise, motorized toothed belt drive of the table with button operation
- Appealing, dual shell stainless steel housing
- Exhaust air vent in the roof
- Type S thermocouple
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72



Saggars

**Additional equipment**

- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Stackable saggars for loading in up to two or three levels, depending on model, see page 14
- Protective gas connection to purge with non-flammable protective or reaction gases
- Manual or automatic gas supply system
- Adjustable air inlet through the floor
- Process control and documentation via VCD software package for monitoring, documentation and control see page 75

| Model        | Tmax °C | Inner dimensions in mm |     |     | Volume in l | Outer dimensions <sup>1</sup> in mm |      |      | Connected load kW | Electrical connection* | Weight in kg |
|--------------|---------|------------------------|-----|-----|-------------|-------------------------------------|------|------|-------------------|------------------------|--------------|
|              |         | w                      | d   | h   |             | W                                   | D    | H    |                   |                        |              |
| LHT 01/17 LB | 1650    | 145                    | 180 | 100 | 1           | 350                                 | 590  | 680  | 2.2               | 1-phase                | 40           |
| LHT 02/17 LB | 1650    | 185                    | 180 | 185 | 2           | 390                                 | 590  | 765  | 3.4               | 1-phase                | 50           |
| LHT 16/17 LB | 1700    | Ø 260                  |     | 260 | 16          | 650                                 | 1250 | 1980 | 12.0              | 3-phase                | 410          |

<sup>1</sup>External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

\*Please see page 73 for more information about supply voltage

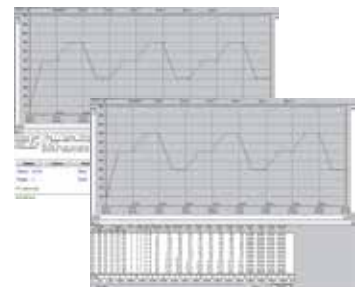
## High-Temperature Furnaces with Scale for Determination of Combustion Loss and Thermogravimetric Analysis (TGA)



High-temperature furnace LHT 04/16 SW with scale for measuring weight reduction during annealing and with gas supply system

These high-temperature furnaces were specially developed to determine combustion loss during annealing and for thermogravimetric analysis (TGA) in the lab. The complete system consists of the high-temperature furnace for 1600 °C or 1750 °C, a table frame, precision scale with feedthroughs into the furnace and powerful software for recording both the temperature curve and the weight loss over time.

- Defined application within the constraints of the operating instructions
- Technical description of the furnaces: see models LHT 04/16 and LHT 04/17 see page 21
- Description of the weighing system: see models L 9/... SW see page 13
- Process control and documentation for temperature and combustion loss via VCD software package for monitoring, documentation and control see page 75



Software for documentation of the temperature curve and combustion loss using a PC

| Model        | Tmax °C | Inner dimensions in mm |     |     | Volume in l | Outer dimensions <sup>3</sup> in mm |     |     | Connected load kW | Electrical connection* | Weight in kg | Minutes to Tmax <sup>2</sup> |
|--------------|---------|------------------------|-----|-----|-------------|-------------------------------------|-----|-----|-------------------|------------------------|--------------|------------------------------|
|              |         | w                      | d   | h   |             | W                                   | D   | H   |                   |                        |              |                              |
| LHT 04/16 SW | 1600    | 150                    | 150 | 150 | 4           | 655                                 | 370 | 890 | 5.0               | 3-phase <sup>1</sup>   | 85           | 25                           |
| LHT 04/17 SW | 1750    | 150                    | 150 | 150 | 4           | 655                                 | 370 | 890 | 5.0               | 3-phase <sup>1</sup>   | 85           | 40                           |

<sup>1</sup>Heating only between two phases

\*Please see page 73 for more information about supply voltage

<sup>2</sup>If connected at 230 V 1/N/PE resp. 400 V 3/N/PE

<sup>3</sup>External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

## High-Temperature Furnaces with Molybdenum Disilicide Heating Elements with Fiber Insulation up to 1800 °C



High-temperature furnace HT 16/18 with gas supply system



High-temperature furnace HT 160/17 with gas supply system



Reinforced floor as protection for bottom insulation for high-temperature furnace HT 16/16 and higher



Inner process top hat with gas injection through the furnace bottom protects the furnace chamber against contamination and/or prevents chemical interaction between the charge and heating elements

Due to their solid construction and compact stand-alone design, these high-temperature furnaces are perfect for processes in the laboratory where the highest precision is needed. Outstanding temperature uniformity and practical details set unbeatable quality benchmarks. For configuration for your processes, these furnaces can be extended with extras from our extensive option list.

- Tmax 1600 °C, 1750 °C, or 1800 °C
- Recommended working temperature 1750 °C (for models HT ../18), increased wear and tear must be expected in case of working at higher temperatures
- Dual shell housing with fan cooling for low shell temperatures
- Heating from both sides via molybdenum disilicide heating elements
- High-quality fiber insulation backed by special insulation
- Side insulation constructed with tongue and groove blocks provides for low heat loss to the outside
- Long-life roof insulation with special suspension
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Chain-guided parallel swivel door for defined opening and closing of the door
- Two-door design (front/back) for high-temperature furnaces > HT 276/..
- Labyrinth sealing ensures the least possible temperature loss in the door area
- Reinforced floor as protection for bottom insulation as standard from models HT 16/16 upwards
- Vapor vent in the furnace roof
- Heating elements switched via thyristors
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72

## Additional equipment

- Uncontrolled or controlled cooling system with frequency-controlled cooling fan and motor-driven exhaust air flap
- Furnace in DB design featuring fresh air preheating, exhaust gas ventilation and an extensive safety package for debinding and sintering in one process, i. e. without transferring the material from the debinding furnace to the sintering furnace
- Stainless steel exhaust gas top hats
- Special heating elements for zirconia sintering provide for longer service life with respect to chemical interaction between charge and heating elements
- Protective gas connection to purge with non-flammable protective or reaction gases
- Manual or automatic gas supply system
- Inner process box to improve the gas tightness and to protect the furnace chamber against contamination
- Lift door
- Motorized exhaust air flap, switchable via the program
- Thermal or catalytic exhaust cleaning systems see page 70
- Process control and documentation via VCD software package or Nabertherm Control Center (NCC) for monitoring, documentation and control see page 75



High-temperature furnace HT 64/16S with pneumatically driven and parallel lift door

| Model     | Tmax<br>°C | Inner dimensions in mm |      |     | Volume<br>in l | Outer dimensions <sup>2</sup> in mm |      |      | Connected<br>load kW | Electrical<br>connection* | Weight<br>in kg |
|-----------|------------|------------------------|------|-----|----------------|-------------------------------------|------|------|----------------------|---------------------------|-----------------|
|           |            | w                      | d    | h   |                | W                                   | D    | H    |                      |                           |                 |
| HT 04/16  | 1600       | 150                    | 150  | 150 | 4              | 730                                 | 490  | 1400 | 5.2                  | 3-phase <sup>1</sup>      | 150             |
| HT 08/16  | 1600       | 150                    | 300  | 150 | 8              | 730                                 | 640  | 1400 | 8.0                  | 3-phase <sup>1</sup>      | 200             |
| HT 16/16  | 1600       | 200                    | 300  | 260 | 16             | 810                                 | 700  | 1500 | 12.0                 | 3-phase <sup>1</sup>      | 270             |
| HT 40/16  | 1600       | 300                    | 350  | 350 | 40             | 1000                                | 800  | 1620 | 12.0                 | 3-phase                   | 380             |
| HT 64/16  | 1600       | 400                    | 400  | 400 | 64             | 1130                                | 900  | 1670 | 18.0                 | 3-phase                   | 550             |
| HT 128/16 | 1600       | 400                    | 800  | 400 | 128            | 1130                                | 1290 | 1670 | 26.0                 | 3-phase                   | 750             |
| HT 160/16 | 1600       | 500                    | 550  | 550 | 160            | 1250                                | 1050 | 1900 | 21.0                 | 3-phase                   | 800             |
| HT 276/16 | 1600       | 500                    | 1000 | 550 | 276            | 1300                                | 1600 | 1900 | 36.0                 | 3-phase                   | 1100            |
| HT 450/16 | 1600       | 500                    | 1150 | 780 | 450            | 1350                                | 1740 | 2120 | 64.0                 | 3-phase                   | 1500            |
| HT 04/17  | 1750       | 150                    | 150  | 150 | 4              | 730                                 | 490  | 1400 | 5.2                  | 3-phase <sup>1</sup>      | 150             |
| HT 08/17  | 1750       | 150                    | 300  | 150 | 8              | 730                                 | 640  | 1400 | 8.0                  | 3-phase <sup>1</sup>      | 200             |
| HT 16/17  | 1750       | 200                    | 300  | 260 | 16             | 810                                 | 700  | 1500 | 12.0                 | 3-phase <sup>1</sup>      | 270             |
| HT 40/17  | 1750       | 300                    | 350  | 350 | 40             | 1000                                | 800  | 1620 | 12.0                 | 3-phase                   | 380             |
| HT 64/17  | 1750       | 400                    | 400  | 400 | 64             | 1130                                | 900  | 1670 | 18.0                 | 3-phase                   | 550             |
| HT 128/17 | 1750       | 400                    | 800  | 400 | 128            | 1130                                | 1290 | 1670 | 26.0                 | 3-phase                   | 750             |
| HT 160/17 | 1750       | 500                    | 550  | 550 | 160            | 1250                                | 1050 | 1900 | 21.0                 | 3-phase                   | 800             |
| HT 276/17 | 1750       | 500                    | 1000 | 550 | 276            | 1300                                | 1600 | 1900 | 36.0                 | 3-phase                   | 1100            |
| HT 450/17 | 1750       | 500                    | 1150 | 780 | 450            | 1350                                | 1740 | 2120 | 64.0                 | 3-phase                   | 1500            |
| HT 04/18  | 1800       | 150                    | 150  | 150 | 4              | 730                                 | 490  | 1400 | 5.2                  | 3-phase <sup>1</sup>      | 150             |
| HT 08/18  | 1800       | 150                    | 300  | 150 | 8              | 730                                 | 640  | 1400 | 8.0                  | 3-phase <sup>1</sup>      | 200             |
| HT 16/18  | 1800       | 200                    | 300  | 260 | 16             | 810                                 | 700  | 1500 | 12.0                 | 3-phase <sup>1</sup>      | 270             |
| HT 40/18  | 1800       | 300                    | 350  | 350 | 40             | 1000                                | 800  | 1620 | 12.0                 | 3-phase                   | 380             |
| HT 64/18  | 1800       | 400                    | 400  | 400 | 64             | 1130                                | 900  | 1670 | 18.0                 | 3-phase                   | 550             |
| HT 128/18 | 1800       | 400                    | 800  | 400 | 128            | 1130                                | 1290 | 1670 | 26.0                 | 3-phase                   | 750             |
| HT 160/18 | 1800       | 500                    | 550  | 550 | 160            | 1250                                | 1050 | 1900 | 21.0                 | 3-phase                   | 800             |
| HT 276/18 | 1800       | 500                    | 1000 | 550 | 276            | 1300                                | 1600 | 1900 | 42.0                 | 3-phase                   | 1100            |
| HT 450/18 | 1800       | 500                    | 1150 | 780 | 450            | 1350                                | 1740 | 2120 | 64.0                 | 3-phase                   | 1500            |

<sup>1</sup>Heating only between two phases

\*Please see page 73 for more information about supply voltage

<sup>2</sup>External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.



Two-door design for high-temperature furnaces > HT 276/..



## High-Temperature Furnaces with SiC Rod Heating up to 1550 °C



The high-temperature furnaces HTC 16/16 - HTC 450/16 are heated by vertically hung SiC rods, which makes them especially suitable for sintering processes up to a maximum operating temperature of 1550 °C. For some processes, e.g. for sintering zirconium oxide, the absence of interactivity between the charge and the SiC rods, these models are more suitable than the alternatives heated with molybdenum disilicide elements. The basic construction of these furnaces make them comparable with the already familiar models in the HT product line and they can be upgraded with the same additional equipment.

- Tmax 1550 °C
- Dual shell housing with fan cooling for low shell temperatures
- Heating from both sides via vertically mounted SiC rods
- High-quality fiber insulation backed by special insulation
- Side insulation constructed with tongue and groove blocks provides for low heat loss to the outside
- Long-life roof insulation with special suspension
- Only fiber materials are used which are not classified as carcinogenic according to TRGS 905, class 1 or 2
- Chain-guided parallel swivel door for defined opening and closing of the door without destroying the insulation

High-temperature furnace HTC 40/16



Vertically mounted SiC rods and optional perforated air inlet tubes of the debinding system in a high-temperature furnace

- Two-door design (front/back) for high-temperature furnaces > HTC 276/..
- Labyrinth sealing ensures the least possible temperature loss in the door area
- Reinforced floor as protection for bottom insulation
- Exhaust air opening in the furnace roof
- Heating elements switched via SCR's
- Over-temperature limiter with adjustable cutout temperature for thermal protection class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load
- Defined application within the constraints of the operating instructions
- NTLLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72

Additional equipment like HT models see page 25



Exhaust air flap and charge thermocouple including a stand as additional equipment

| Model      | Tmax °C | Inner dimensions in mm |      |     | Volume in l | Outer dimensions <sup>2</sup> in mm |      |      | Connected load kW | Electrical connection* | Weight in kg |
|------------|---------|------------------------|------|-----|-------------|-------------------------------------|------|------|-------------------|------------------------|--------------|
|            |         | w                      | d    | h   |             | W                                   | D    | H    |                   |                        |              |
| HTC 16/16  | 1550    | 200                    | 300  | 260 | 16          | 810                                 | 700  | 1500 | 12.0              | 3-phase <sup>1</sup>   | 270          |
| HTC 40/16  | 1550    | 300                    | 350  | 350 | 40          | 1000                                | 800  | 1620 | 12.0              | 3-phase                | 380          |
| HTC 64/16  | 1550    | 400                    | 400  | 400 | 64          | 1130                                | 900  | 1670 | 18.0              | 3-phase                | 550          |
| HTC 128/16 | 1550    | 400                    | 800  | 400 | 128         | 1130                                | 1290 | 1670 | 26.0              | 3-phase                | 750          |
| HTC 160/16 | 1550    | 500                    | 550  | 550 | 160         | 1250                                | 1050 | 1900 | 21.0              | 3-phase                | 800          |
| HTC 276/16 | 1550    | 500                    | 1000 | 550 | 276         | 1300                                | 1600 | 1900 | 36.0              | 3-phase                | 1100         |
| HTC 450/16 | 1550    | 500                    | 1150 | 780 | 450         | 1350                                | 1740 | 2120 | 64.0              | 3-phase                | 1500         |

<sup>1</sup>Heating only between two phases

\*Please see page 73 for more information about supply voltage

<sup>2</sup>External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

## High Temperature Furnaces with Molybdenum Disilicide Heating Elements with Refractory Brick Insulation up to 1700 °C



High-temperature furnace HFL 16/17 DB50



High-temperature furnace HFL 160/17

The high-temperature furnaces HFL 16/16 HFL 160/17 are characterized by their lining with robust light refractory bricks. This version is recommended for processes producing aggressive gases or acids, such as under glass melting.

Standard equipment like high-temperature furnaces HT, except:

- Tmax 1600 °C or 1700 °C
- Robust refractory brick insulation and special backing insulation
- Furnace floor made of lightweight refractory bricks accommodates high charge weights
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controls description see page 72



Protection grid in front of heating elements prevent against mechanical damages

Additional equipment like HT models see page 25

| Model      | Tmax °C | Inner dimensions in mm |     |     | Volume in l | Outer dimensions <sup>2</sup> in mm |      |      | Connected load kW | Electrical connection* | Weight in kg |
|------------|---------|------------------------|-----|-----|-------------|-------------------------------------|------|------|-------------------|------------------------|--------------|
|            |         | w                      | d   | h   |             | W                                   | D    | H    |                   |                        |              |
| HFL 16/16  | 1600    | 200                    | 300 | 260 | 16          | 1000                                | 890  | 1620 | 12                | 3-phase <sup>1</sup>   | 500          |
| HFL 40/16  | 1600    | 300                    | 350 | 350 | 40          | 1130                                | 915  | 1890 | 12                | 3-phase                | 660          |
| HFL 64/16  | 1600    | 400                    | 400 | 400 | 64          | 1230                                | 980  | 1940 | 18                | 3-phase                | 880          |
| HFL 160/16 | 1600    | 500                    | 550 | 550 | 160         | 1400                                | 1250 | 2100 | 21                | 3-phase                | 1140         |
| HFL 16/17  | 1700    | 200                    | 300 | 260 | 16          | 1000                                | 890  | 1620 | 12                | 3-phase <sup>1</sup>   | 530          |
| HFL 40/17  | 1700    | 300                    | 350 | 350 | 40          | 1130                                | 915  | 1890 | 12                | 3-phase                | 690          |
| HFL 64/17  | 1700    | 400                    | 400 | 400 | 64          | 1230                                | 980  | 1940 | 18                | 3-phase                | 920          |
| HFL 160/17 | 1700    | 500                    | 550 | 550 | 160         | 1400                                | 1250 | 2100 | 21                | 3-phase                | 1190         |

<sup>1</sup>Heating only between two phases

\*Please see page 73 for more information about supply voltage

<sup>2</sup>External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.



Gas supply system for non-flammable protective or reaction gases