

High-Temperature Tube Furnaces for Horizontal or Vertical Operation up to 1800 °C

The high-temperature tube furnaces are available in either horizontal (type RHTH) or vertical (type RHTV) designs. High-quality insulation materials made of vacuum-formed fiber plates enable energy-saving operation due to low heat storage and heat conductivity. By using different gas supply systems, operations can be performed under non-flammable or flammable protective or reactive gases or under vacuum.



Tube furnace RHTV 50/150/17 with stand and gas supply system 2

Standard Equipment

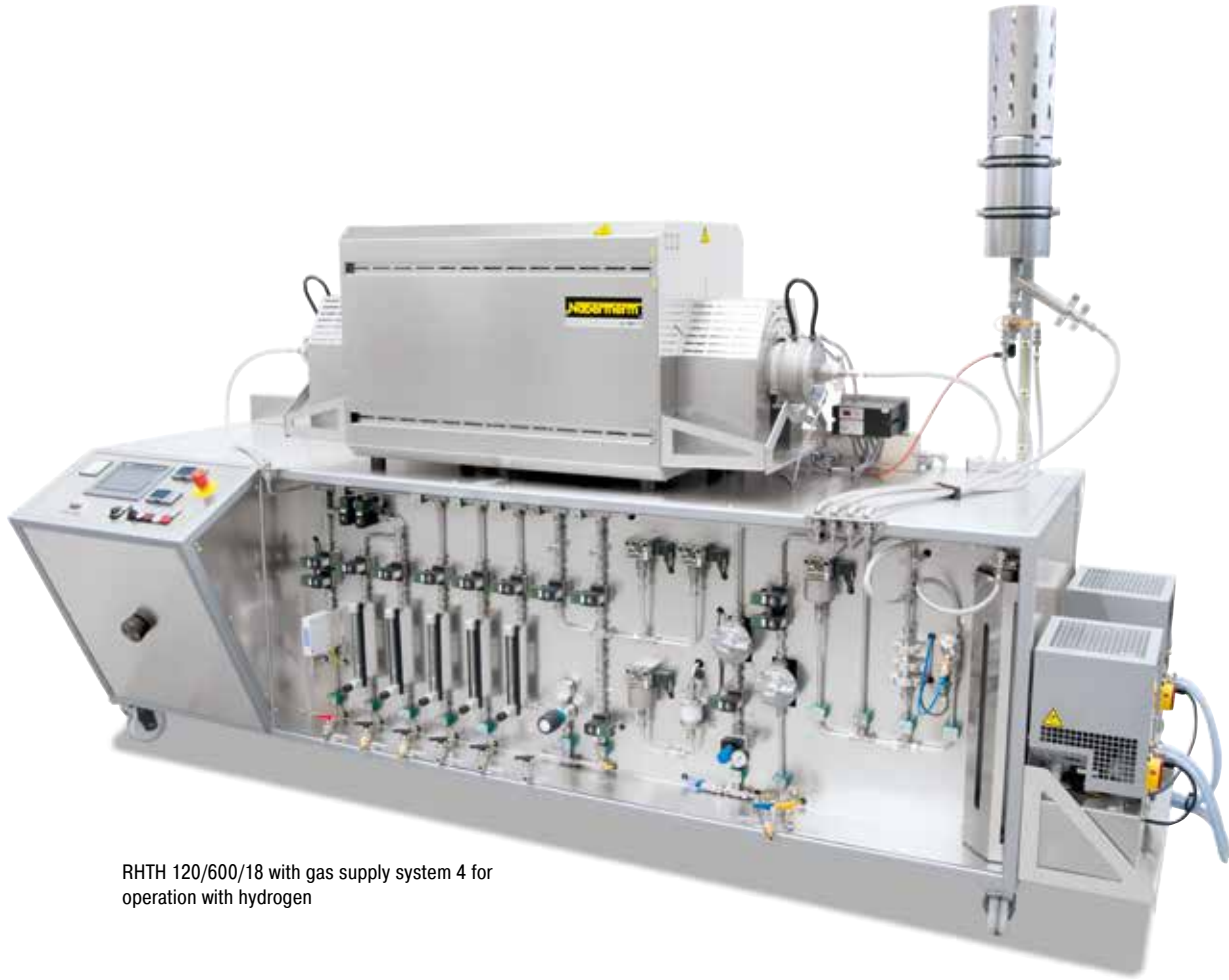
- Tmax 1600 °C, 1700 °C, or 1800 °C
- Single-zoned design
- Insulation with vacuum-formed ceramic fiber plates
- Tube furnaces RHTV with frame for vertical operation
- Type B thermocouple
- Ceramic working tube C 799 including two fiber plugs for operation under air see page 56
- Hanging and easy to change MoSi₂ heating elements
- Power unit with low-voltage transformer and thyristor
- 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 and with selectable maximum temperature gradient as tube protection
- Switchgear and control unit separate from furnace in separate floor standing cabinet
- Controller P470 (50 programs with each 40 segments), alternative controllers see page 75

Additional Equipment

- Charge control with temperature measurement in the working tube see page 62
- Three-zone control for optimization of temperature uniformity (only horizontal tube furnaces RHTH) see page 62
- Alternative working tubes see page 56
- Gas supply system 2 for non-flammable protective or reactive gas operation see page 58
- Gas supply packages 3 or 4 for hydrogen operation see page 60
- Vacuum package to evacuate the working tube see page 61



RHTH 80/300/18 tube furnace with water-cooled flanges and charge control



RHTH 120/600/18 with gas supply system 4 for operation with hydrogen

Model Horizontal design	Tmax ¹	Outer dimensions ³ in mm			Max. outer tube Ø in mm	Heated length in mm	Length constant temperature ¹ +/- 5 K in mm		Tube length in mm	Connected load in kW	Electrical connection [*]	Weight in kg
	in °C	W ²	D	H			single zoned	three zoned				
RHTH 50/150/..	1600 or	470	480	640	50	150	50	70	380	5.4	3-phase ⁴	70
RHTH 80/300/..	1700 or	620	550	640	80	300	100	150	530	9.0	3-phase ⁴	90
RHTH 120/600/..	1800	920	550	640	120	600	200	300	830	14.4	3-phase ⁴	110

Model Vertical design	Tmax ¹	Outer dimensions ³ in mm			Max. outer tube Ø in mm	Heated length in mm	Length constant temperature ¹ +/- 5 K in mm		Tube length in mm	Connected load in kW	Electrical connection [*]	Weight in kg
	in °C	W	D	H ²			single zoned	three zoned				
RHTV 50/150/..	1600 or	500	650	510	50	150	30		380	5.4	3-phase ⁴	70
RHTV 80/300/..	1700 or	580	650	660	80	300	80		530	10.3	3-phase ⁴	90
RHTV 120/600/..	1800	580	650	960	120	600	170		830	19.0	3-phase ⁴	110

¹Values outside the tube. Difference to temperature inside the tube up to + 50 K

²Without tube

³External dimensions vary when furnace is equipped with additional equipment. Dimensions on request.

⁴Heating only between two phases

*Please see page 75 for more information about supply voltage



Tube furnace RHTH 120/600/17



Sintering under hydrogen in a tube furnace of RHTH product line



Example of over-temperature limiter