

## Rotary hearth furnaces for processes with continuous movement up to 1300 °C

The rotary tube furnaces of the RSRC series are particularly suitable for processes in which continuously running batch material is heated short-time. These rotary furnaces can be used very flexibly for various purposes. The rotary tube furnace is slightly inclined and brought to the target temperature. The material is then fed continuously at the top of the pipe. It passes through the heated zone of the tube and falls out of the pipe at the lower end. The time of the heat treatment depends on the angle of inclination, the speed of rotation and the length of the working tube, as well as from the flow properties of the batch material. Equipped with the optionally available closed feeding system, the rotary tube furnace can also be used for processes in a defined atmosphere or in a vacuum. Depending on the process, batch and required maximum temperature, work tubes made of different materials are used.



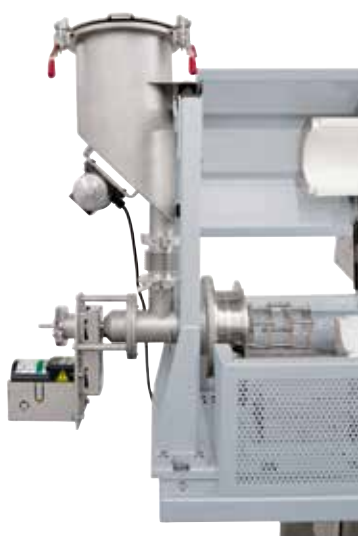
Rotary tube furnace RSRC 120750/13

### Standard Equipment

- Tmax 1100 °C
  - Working tube made of quartz glass open at both sides
  - Thermocouple type N
- Tmax 1300 °C
  - Open ceramic tube C 530
  - Thermocouple type S
- Heating elements on support tubes provide for free radiation see page 62
- Adjustable drive of approx. 0.5-20 rpm
- Digital display unit for the tilting angle of the rotary tube furnace
- Split-type furnace housing (opening temperature < 180 °C) provide for easy tube change
- Compact system, rotary tube furnace positioned on a base frame with
  - Manual spindle drive with crank to set the tilting angle
  - Switchgear and controls integrated
  - Castors
- Controller B400 (5 programs with each 4 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 see page 62
- Alternative work tubes for different process requirements see page 56
- Quartz glass batch reactors (Tmax 1100 °C)
- Higher temperatures up to 1500 °C available on request
- Vibrating channel on the rotary tube for convenient material supply, suitable for processes in air
- Powder discharge tube for easy material discharge, suitable for processes in air
- Feeding system for the continuous delivery of 5 liters of material under a defined atmosphere or vacuum, consisting of:
  - Stainless steel funnel incl. electric vibration unit to optimize the material feeding into the working tube
  - Electrically driven screw-conveyor at the inlet of the working tube with 10, 20 or 40 mm pitch and adjustable speed between 0.25 and 20 rpm
  - Collecting bottle made of laboratory glass at the outlet of the working tube
- Gas supply package 26 for operation under non-flammable protective or reaction gases (only in connection with the feeding system) see page 59
- Gas supply packages 3 or 4 for hydrogen applications (only in connection with feeding system) see page 60
- Vacuum package for evacuating the working pipe, depending on the pump used up to 10<sup>-2</sup> mbar see page 61



Vibration unit at the charging funnel for improved powder supply



Rotary tube furnace RSRC 80/500/11 with feeding system and gas supply system 26 for processes under protective gas

Model	Tmax <sup>1</sup> in °C	Outer dimensions <sup>2</sup> in mm			Max. outer tube Ø in mm	Heated length in mm	Length constant		Tube length in mm	Connected load in kW	Electrical connection*	Weight in kg
		W	D	H			Temperature <sup>1</sup> +/- 5 K in mm single zoned	three zoned				
RSRC 80/500/11	1100	2505	1045	1655	80	500	170	250	1540	3.7	1-phase	555
RSRC 80/750/11	1100	2755	1045	1655	80	750	250	375	1790	4.9	3-phase <sup>3</sup>	570
RSRC 120/500/11	1100	2505	1045	1715	110	500	170	250	1540	5.1	3-phase <sup>3</sup>	585
RSRC 120/750/11	1100	2755	1045	1715	110	750	250	375	1790	6.6	3-phase <sup>4</sup>	600
RSRC 120/1000/11	1100	3005	1045	1715	110	1000	330	500	2040	9.3	3-phase <sup>4</sup>	605
RSRC 80/500/13	1300	2505	1045	1655	80	500	170	250	1540	6.3	3-phase <sup>4</sup>	555
RSRC 80/750/13	1300	2755	1045	1655	80	750	250	375	1790	9.6	3-phase <sup>4</sup>	570
RSRC 120/500/13	1300	2505	1045	1715	110	500	170	250	1540	8.1	3-phase <sup>4</sup>	585
RSRC 120/750/13	1300	2755	1045	1715	110	750	250	375	1790	12.9	3-phase <sup>4</sup>	600
RSRC 120/1000/13	1300	3005	1045	1715	110	1000	330	500	2040	12.9	3-phase <sup>4</sup>	605

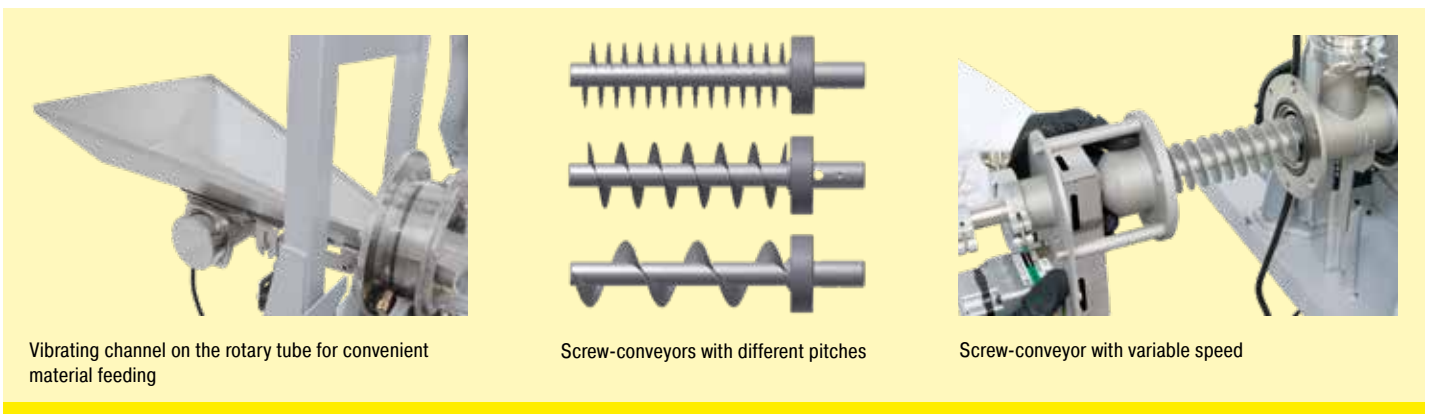
<sup>1</sup>Values outside the tube. Difference to temperature inside the tube up to + 50 K

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

<sup>3</sup>Heating only between phase 1 and neutral

<sup>4</sup>Heating only between two phases

\*Please see page 75 for more information about supply voltage



Vibrating channel on the rotary tube for convenient material feeding

Screw-conveyors with different pitches

Screw-conveyor with variable speed