

## Rotary Tube Furnaces for Batch Operation up to 1100 °C

The rotary tube furnaces of the RSRB series are suited for batch operation. The rotation of the working tube ensures that the charge is in motion. Due to the shape of the quartz reactor with the tapered pipe ends the batch is kept in the rotary tube furnace and can be heat-treated an arbitrarily long time period time. A controlled heating to the temperature profiles is also possible.



Rotary tube furnace RSRB 80/500/11 as tabletop version for batch operation

### Standard Equipment

- Tmax 1100 °C
- Single-zoned design
- Thermocouple type N
- Heating elements on support tubes provide for free radiation see page 62
- Tube furnace designed as table-top model with quartz glass reactor which opens on both sides, tapered ends
- Reactor is removed for emptying out of the rotary tube furnace. Beltless drive and hinged furnace housing (opening temperature < 180 °C) provide for very easy removal through
- Adjustable drive of approx. 1-40 rpm
- Controller B410 (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
- Reactor open on both sides, made of quartz glass with knobs for better mixing of the charge in the tube
- Gas supply package 25 for operation under non-flammable protective or reaction gases with a gas-tight rotating outlet see page 59
- Gas supply packages 3 or 4 for hydrogen operation see page 60
- Vacuum package for evacuating the working tube, depending on the pump used up to 10<sup>-2</sup> mbar see page 61
- Left/right tilting device for easier loading and unloading of the work tube
  - For filling, the furnace is tilted to the right to convey the batch into the furnace. After the heat treatment, the furnace is swiveled to the opposite side for emptying, in order to convey the product out of the reactor again. It is not necessary to remove the reactor.
  - Mixing reactor made of quartz glass with integrated blade for better mixing of the batch, closed on one side, large opening on the opposite side
- Rotary tube furnace assembled on base with integrated switchgear and controller, incl. transport casters



Rotary tube furnace RSRB 120/500/11 S with tilting mechanism to the left/ to the right



RSRB 170/1000/11 H<sub>2</sub> with gas supply package 4 for hydrogen application

Model	Tmax <sup>1</sup> in °C	Outer dimensions <sup>2</sup> in mm (Table-top model)			Max. outer tube Ø in mm	Ø Terminal end in mm	Heated length in mm	Length constant Temperature <sup>1</sup> +/- 5 K in mm		Tube length in mm	Connected load in kW	Electrical connection <sup>*</sup>	Weight in kg
		W	D	H				single zoned	three zoned				
RSRB 80/500/11	1100	1145	475	390	76	28	500	170	250	1140	3.7	1-phase	100
RSRB 80/750/11	1100	1395	475	390	76	28	750	250	375	1390	4.9	3-phase <sup>3</sup>	115
RSRB 120/500/11	1100	1145	525	440	106	28	500	170	250	1140	5.1	3-phase <sup>3</sup>	105
RSRB 120/750/11	1100	1395	525	440	106	28	750	250	375	1390	6.6	3-phase <sup>4</sup>	120
RSRB 120/1000/11	1100	1645	525	440	106	28	1000	330	500	1640	9.3	3-phase <sup>4</sup>	125

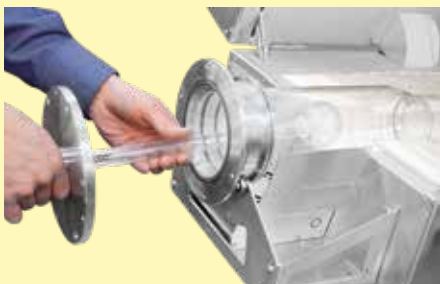
<sup>1</sup>Values outside the tube. Difference to temperature inside the tube up to + 50 K

<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

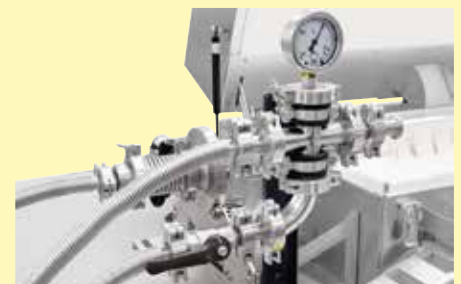
\*Please see page 75 for more information about supply voltage



Gas tight closing plug for tubes made of quartz glass closed at one side as additional equipment



Gas tight rotating union with gas cooler and charge thermocouple



Connection set for vacuum operation