

# Hinged Tube Furnaces for Horizontal or Vertical Operation up to 1300 °C Gas Atmosphere or Vacuum



RS 80/500/11 with gas supply system 1



RS 80/750/13 with stand as additional equipment for vertical operation

## RS 80/300/11 - RS 170/1000/13

The tube furnaces of the product line RS can be used for horizontal as well as for vertical operation. The hinged design makes it easy to change the working tube. It allows the different working tubes (e.g. working tubes made of different materials) to be comfortably taken out and put in.

Using the wide range of accessories these profi tube furnaces can be optimally configured for your process. By upgrading the furnaces with different gas supply systems the operation in a protective gas atmosphere, under vacuum or under flammable protective or reactive gases is possible. Besides convenient standard controllers for process control modern PLC control systems are also available.



Gas supply system for non-flammable protective or reactive gas with shutoff valve and flow meter with regulator valve, piped and ready to connect

- Tmax 1100 °C or 1300 °C
- Housing made of sheets of textured stainless steel
- Tmax 1100 °C: Type K thermocouple
- Tmax 1300 °C: Type S thermocouple
- Frame for vertical operation, which can also be retrofitted as additional equipment
- Hinged design for simple insertion of the working tube

| Model          | Tmax<br>°C <sup>5</sup> | Outer dimensions <sup>3</sup> in mm |     |     | Max. outer<br>tube Ø<br>/mm | Heated<br>length mm | Length constant<br>temperature ΔT 10 K<br>in mm | Tube length<br>in mm | Connected<br>load kW | Electrical<br>connection* | Weight<br>in kg |
|----------------|-------------------------|-------------------------------------|-----|-----|-----------------------------|---------------------|---|----------------------|----------------------|---------------------------|-----------------|
|                |                         | W <sup>2</sup>                      | D   | H   |                             |                     |   |                      |                      |                           |                 |
| RS 80/300/11   | 1100                    | 555                                 | 475 | 390 | 80                          | 300                 | 100   | 650                  | 1.8                  | 1-phase                   | 80              |
| RS 80/500/11   | 1100                    | 755                                 | 475 | 390 | 80                          | 500                 | 170   | 850                  | 3.4                  | 1-phase                   | 90              |
| RS 80/750/11   | 1100                    | 1005                                | 475 | 390 | 80                          | 750                 | 250   | 1100                 | 4.6                  | 3-phase <sup>4</sup>      | 105             |
| RS 120/500/11  | 1100                    | 755                                 | 525 | 440 | 120                         | 500                 | 170   | 850                  | 4.8                  | 3-phase <sup>4</sup>      | 95              |
| RS 120/750/11  | 1100                    | 1005                                | 525 | 440 | 120                         | 750                 | 250   | 1100                 | 6.3                  | 3-phase <sup>1</sup>      | 110             |
| RS 120/1000/11 | 1100                    | 1255                                | 525 | 440 | 120                         | 1000                | 330   | 1350                 | 9.0                  | 3-phase <sup>1</sup>      | 125             |
| RS 170/750/11  | 1100                    | 1005                                | 575 | 490 | 170                         | 750                 | 250   | 1100                 | 7.0 <sup>7</sup>     | 3-phase <sup>1</sup>      | 115             |
| RS 170/1000/11 | 1100                    | 1255                                | 575 | 490 | 170                         | 1000                | 330   | 1350                 | 9.0 <sup>7</sup>     | 3-phase <sup>1</sup>      | 130             |
| RS 80/300/13   | 1300                    | 555                                 | 475 | 390 | 80                          | 300                 | 100   | 650                  | 3.6                  | 1-phase                   | 80              |
| RS 80/500/13   | 1300                    | 755                                 | 475 | 390 | 80                          | 500                 | 170   | 850                  | 6.0                  | 3-phase <sup>1</sup>      | 90              |
| RS 80/750/13   | 1300                    | 1005                                | 475 | 390 | 80                          | 750                 | 250   | 1100                 | 9.3                  | 3-phase <sup>1</sup>      | 105             |
| RS 120/500/13  | 1300                    | 755                                 | 525 | 440 | 120                         | 500                 | 170   | 850                  | 7.8                  | 3-phase <sup>1</sup>      | 95              |
| RS 120/750/13  | 1300                    | 1005                                | 525 | 440 | 120                         | 750                 | 250   | 1100                 | 12.6                 | 3-phase <sup>1</sup>      | 110             |
| RS 120/1000/13 | 1300                    | 1255                                | 525 | 440 | 120                         | 1000                | 330   | 1350                 | 12.6                 | 3-phase <sup>1</sup>      | 125             |
| RS 170/750/13  | 1300                    | 1005                                | 575 | 490 | 170                         | 750                 | 250   | 1100                 | 12.6                 | 3-phase <sup>1</sup>      | 115             |
| RS 170/1000/13 | 1300                    | 1255                                | 575 | 490 | 170                         | 1000                | 330   | 1350                 | 12.6                 | 3-phase <sup>1</sup>      | 130             |

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

<sup>2</sup>Without tube

<sup>3</sup>Outer dimensions for vertical operation upon request

<sup>4</sup>Heating only between phase 1 and neutral  
<sup>5</sup>Tmax. is reached outside the tube. Realistic working temperature inside the tube is approx. 50 °C lower.

<sup>7</sup>Only valid for single-zone version

\*Please see page 60 for more information about supply voltage



- Working tube made of ceramic C 530 for operation in air included in scope of delivery
- Switchgear and control unit separate from furnace in own wall or standing cabinet
- Standard working tube see chart on page 43
- Controls description see page 60

RS 120/1000/13S with gas tight tube, charge control and check valve at gas outlet

#### Additional equipment

- Charge control with temperature measurement in the working tube and in the furnace chamber outside the tube see page 46
- Display of inner tube temperature with additional thermocouple
- Different gas supply systems (page 44) for non-flammable or flammable protective or reactive gases and vacuum operation
- Three-zone control for optimization of temperature uniformity
- Check valve at gas outlet avoids intrusion of false air
- Ceramic half pipe for heating elements and/or as support surface for the load
- Optical temperature measurement for the use as continuously working furnace
- Stand for vertical operation
- Base frame with integrated switchgear and controller
- Alternative working tubes designed for process requirements see chart on page 43
- Please see page 44 for more additional equipment



Quartz glass and flanges for protective gas operation as optional equipment



Optical temperature measurement for the use as continuously working furnace

RS 120/750/13 with gas supply system 4, hydrogen applications