



### Tube Furnaces 1-zone and 3-zone design

T max 1200 °C

- Wide range of 17 standard furnaces
- Tube diameter 20 mm to 105 mm
- Heated length 250 mm to 900 mm
- Integrated ceramic tube with 2 fibre plugs included
- Use of separate work tube possible, e.g. to operate with different atmospheres
- Integrated safety grid for low surface temperatures on the tube module
- Sophisticated casing partly made of stainless steel
- Insulation made of high grade ceramic fibre with low thermal mass
- Powerful heating and fast heating times
- Heating elements controlled by solid state relays for very precise temperature control, wear-free and noiseless
- Switchgear and control unit integrated in the furnace housing underneath the tube module for comfortable operation of the controller

#### Accessories:

- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- 3-zone design for high temperature uniformity
- Further accessories see page 29

Technical Data: 1-zone models

Model	T max [°C]	Outer dimensions [mm] Width x Depth x Height	Tube-Ø Inner [mm]	Heated length [mm]	Tube length [mm]	Power [kW]	Voltage [V]	Weight [kg]
ROS 20/250/12	1200	350 x 345 x 495	20	250	500	1,0	230 V 1/N	14
ROS 20/400/12	1200	450 x 345 x 495	20	400	600	1,3	230 V 1/N	18
ROS 38/250/12	1200	350 x 345 x 495	38	250	500	1,3	230 V 1/N	21
ROS 38/450/12	1200	500 x 345 x 495	38	450	600	1,8	230 V 1/N	22
ROS 50/250/12	1200	350 x 345 x 495	50	250	450	1,3	230 V 1/N	23
ROS 50/450/12	1200	500 x 345 x 495	50	450	650	1,5	230 V 1/N	24
ROS 75/600/12	1200	650 x 400 x 635	75	600	800	3,5	230 V 1/N	32
ROS 75/800/12	1200	850 x 400 x 635	75	800	1000	3,5	230 V 1/N	37
ROS 105/500/12	1200	550 x 400 x 675	105	500	750	2,4	230 V 1/N	31
ROS 105/750/12	1200	800 x 400 x 675	105	750	1000	3,5	230 V 1/N	36
ROS 105/900/12	1200	950 x 400 x 675	105	900	1200	3,5	230 V 1/N	41

### Tube Furnaces Designs

#### Standard design: Horizontal operation

Tube module fixed on furnace housing.  
Switchgear and control unit integrated in the base

#### Optional: Vertical operation

Tube module fixed on solid base frame.  
Switchgear and control unit mounted in a separate cabinet.

#### Optional: Universal operation

Tube module fixed on solid base frame with adjustable inclination angle. Switchgear and control unit mounted in a separate cabinet



Technical Data: 3-zone models

Model	T max [°C]	Outer dimensions [mm] Width x Depth x Height	Tube-Ø Inner [mm]	Heated length [mm]	Tube length [mm]	Power [kW]	Voltage [V]	Weight [kg]
ROS 38/500/12-3	1200	650 x 400 x 510	38	500	800	2,0	230 V 1/N	25
ROS 50/500/12-3	1200	650 x 400 x 510	50	500	800	2,2	230 V 1/N	26
ROS 50/750/12-3	1200	800 x 400 x 510	50	750	900	3,5	230 V 1/N	35
ROS 75/750/12-3	1200	800 x 400 x 600	75	750	900	3,7	400 V 3/N	40
ROS 105/750/12-3	1200	800 x 400 x 600	105	750	1000	3,9	400 V 3/N	41
ROS 105/900/12-3	1200	950 x 400 x 600	105	900	1200	4,0	400 V 3/N	43



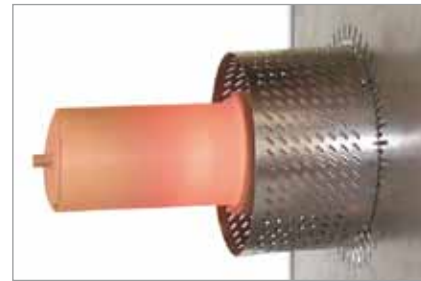
### Modular Tube Furnaces

T max 1100 °C and 1300 °C

- Tube diameter up to 200 mm
- Heated length 400 and 500 mm and individually expandable
- Suitable for a wide range of work tubes made of different materials (glass, ceramic, metal) with different diameters
- Heating elements embedded in high grade vacuum-formed fibre insulation, for excellent temperature uniformity
- Powerful heating and fast heating cycles
- Heating elements controlled by solid state relay (1100 °C) and thyristors (1300 °C) for very precise temperature control, wear-free and noiseless
- Switchgear and control unit integrated in the furnace housing underneath the tube module for comfortable operation of the controller

#### Accessories:

- 3-zone design for high temperature uniformity
- With solid base frame also suitable for vertical operation
- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Further accessories see page 29



#### Technical Data: 1-zone models

Model	T max [°C]	Outer dimensions [mm] Width x Depth x Height	Tube-Ø [mm]	Heated length [mm]	Power [kW]	Voltage [V]	Weight [kg]
ROM 70/500/11	1100	620 x 500 x 620	70	500	2,4	230 V 1/N	30
ROM 100/500/11	1100	620 x 500 x 620	100	500	2,7	230 V 1/N	32
ROM 150/500/11	1100	620 x 670 x 550	150	500	3,5	230 V 1/N	41
ROM 200/500/11	1100	620 x 670 x 550	200	500	3,5	230 V 1/N	44
ROM 70/400/13	1300	520 x 500 x 900	70	400	2,0	400 V 3/N	110
ROM 100/400/13	1300	520 x 500 x 900	100	400	3,0	400 V 3/N	110
ROM 150/400/13	1300	520 x 500 x 900	150	400	4,5	400 V 3/N	120
ROM 200/400/13	1300	520 x 600 x 1000	200	400	6,0	400 V 3/N	130

### Split Tube Furnaces

T max 1100 °C, 1500 °C

- Tube diameter up to 300 mm
- Heated length from 200 mm up to 500 mm and individually expandable
- Split design allows to insert tubes with large flanges
- Due to flexible insulation plugs on both ends, the furnace can be easily adapted to different tube diameters
- Heating elements embedded in high grade vacuum-formed fibre insulation, for excellent temperature uniformity
- Powerful heating and fast heating cycles
- Accelerate cooling of furnace and tube by opening hinged casing
- Heating elements controlled by solid state relays for very precise temperature control, wear-free and noiseless
- Switchgear and control unit integrated in the furnace housing underneath the tube module for comfortable operation of the controller

#### Accessories:

- 3-zone design for high temperature uniformity
- With solid base frame also suitable for vertical operation
- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Further accessories see page 29



#### Technical Data:

Model	T max [°C]	Tube-Ø [mm]	Heated length [mm]	Power [kW]	Voltage [V]
ROK 70/250/11	1100	70	250	1,6	230 V 1/N
ROK 70/500/11	1100	70	500	2,4	230 V 1/N
ROK 100/250/11	1100	100	250	2,4	230 V 1/N
ROK 100/500/11	1100	100	500	3,0	230 V 1/N
ROK 150/250/11	1100	150	250	3,0	230 V 1/N
ROK 150/500/11	1100	150	500	3,5	230 V 1/N
ROK 200/250/11	1100	200	250	3,0	230 V 1/N
ROK 200/500/11	1100	200	500	3,5	230 V 1/N
ROK 250/400/11	1100	250	400	6,0	400 V 3/N
ROK 300/400/11	1100	300	400	9,0	400 V 3/N
ROK 45/200/15	1500	45	200	1,5	230 V 1/N
ROK 45/400/15	1500	45	400	2,5	230 V 1/N
ROK 95/200/15	1500	95	200	3,4	230 V 1/N
ROK 95/400/15	1500	145	400	5,0	400 V 3/N
ROK 145/200/15	1500	145	200	6,0	400 V 3/N
ROK 145/200/15	1500	195	400	7,0	400 V 3/N
ROK 195/200/15	1500	195	200	7,0	400 V 3/N





### High Temperature Tube Furnaces with SiC-rod heating

T max 1400 °C, 1500 °C and 1600 °C

- Tube diameter 20 mm to 105 mm
- Heated length 180 mm to 610 mm
- Process tubs can be easily changed
- Integrated safety grid for low surface temperature on tube module
- Insulation made of high grade ceramic fibre with low thermal mass
- Powerful SiC-rod heating elements, mounted parallel to the tube, fast heating
- Heating elements controlled by solid state relays for very precise temperature control, wear-free and noiseless
- Switchgear and control unit integrated in the furnace housing underneath the tube module for comfortable operation of the controller

#### Accessories:

- Solid base frame for vertical operation
- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Tubes for operation with water-cooled flanges
- Special accessories for operation under inert gas or vacuum
- Further accessories see page 29

#### Technical Data:

Model	T max [°C]	Outer dimensions [mm] Width x Depth x Height	Tube-Ø Inner [mm]	Heated length [mm]	Tube length [mm]	Power [kW]	Voltage [V]	Weight [kg]
ROC 20/180/14	1400	600 x 350 x 520	20	180	600	3,5	400 V 3/N	35
ROC 38/180/14	1400	600 x 400 x 675	38	180	750	3,5	400 V 3/N	37
ROC 50/180/14	1400	600 x 400 x 675	50	180	750	3,5	400 V 3/N	40
ROC 20/250/14	1400	665 x 350 x 520	20	250	600	3,5	400 V 3/N	35
ROC 38/250/14	1400	665 x 400 x 675	38	250	800	3,6	400 V 3/N	39
ROC 50/250/14	1400	665 x 400 x 675	50	250	800	3,6	400 V 3/N	42
ROC 50/450/14	1400	850 x 400 x 745	50	450	1000	4,0	400 V 3/N	51
ROC 75/450/14	1400	850 x 400 x 745	75	450	1000	5,5	400 V 3/N	58
ROC 105/450/14	1400	850 x 400 x 785	105	450	1000	7,0	400 V 3/N	64
ROC 50/610/14	1400	1150 x 400 x 745	50	610	1300	4,5	400 V 3/N	51
ROC 75/610/14	1400	1150 x 400 x 745	75	610	1300	6,5	400 V 3/N	63
ROC 38/180/15	1500	600 x 400 x 675	38	180	750	3,5	400 V 3/N	48
ROC 50/180/15	1500	600 x 400 x 675	50	180	750	3,5	400 V 3/N	51
ROC 50/250/15	1500	665 x 400 x 675	50	250	800	3,6	400 V 3/N	51
ROC 50/450/15	1500	850 x 400 x 745	50	450	1000	4,0	400 V 3/N	53
ROC 75/450/15	1500	850 x 400 x 745	75	450	1000	5,5	400 V 3/N	63
ROC 50/610/15	1500	1150 x 400 x 745	50	610	1300	4,5	400 V 3/N	56
ROC 75/610/15	1500	1150 x 400 x 745	75	610	1300	6,5	400 V 3/N	68
ROC 38/250/16	1600	665 x 350 x 520	38	250	600	3,5	400 V 3/N	48
ROC 50/250/16	1600	665 x 400 x 675	50	250	800	4,0	400 V 3/N	48
ROC 50/450/16	1600	850 x 400 x 745	50	450	1000	5,5	400 V 3/N	55
ROC 75/450/16	1600	850 x 400 x 745	75	450	1000	6,5	400 V 3/N	63
ROC 50/610/16	1600	1150 x 400 x 745	50	610	1300	6,0	400 V 3/N	58

### High Temperature Tube Furnaces with MoSi<sub>2</sub> heating elements

T max 1700 °C and 1800 °C

- Tube diameter from 38 mm to 75 mm
- Heated length from 200 mm to 400 mm
- Delivery with tube made of aluminium oxide C 799 and 2 fibre plugs
- Double-walled housing with rear-ventilation to ensure very low outer-casing temperatures
- Insulation made of high grade vacuum formed aluminium oxide fibre with low thermal mass for very fast heating and cooling cycles
- Powerful Molybdenum-Disilicide heating elements, mounted on 2 sides parallel to the tube, fast heating
- Heating elements controlled by thyristors for very precise temperature control, wear-free and noiseless
- Switchgear and control unit integrated in the furnace housing underneath the tube module for comfortable operation of the controller, for vertically operated furnaces switchgear in a sep. cabinet

#### Accessories:

- 3-zone design for high temperature uniformity
- Solid base frame for vertical operation
- Adjustable temperature limiter to protect furnace and charge acc. EN 60519-2
- Different working tubs made of glass, ceramics, metal for various applications are available
- Gas-tight, water-cooled flanges for operation under inert gas or vacuum
- Further accessories see page 29

#### Technical Data:

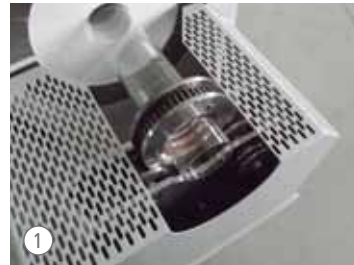
Model	T max [°C]	Outer dimensions [mm] Width x Depth x Height	Tube-Ø Inner [mm]	Heated length [mm]	Tube length [mm]	Power [kW]	Voltage [V]
ROHT 38/200/17	1700	460 x 460 x 750	38	200	800	3,6	400 V 3/N
ROHT 50/200/17	1700	460 x 460 x 750	50	200	800	3,6	400 V 3/N
ROHT 75/200/17	1700	460 x 460 x 750	75	200	800	3,6	400 V 3/N
ROHT 38/300/17	1700	560 x 460 x 750	38	300	900	3,6	400 V 3/N
ROHT 50/300/17	1700	560 x 460 x 750	50	300	900	5,4	400 V 3/N
ROHT 75/300/17	1700	560 x 460 x 750	75	300	900	5,4	400 V 3/N
ROHT 38/400/17	1700	660 x 460 x 750	38	400	1000	6,7	400 V 3/N
ROHT 50/400/17	1700	660 x 460 x 750	50	400	1000	6,7	400 V 3/N
ROHT 75/400/17	1700	660 x 460 x 750	75	400	1000	6,7	400 V 3/N
ROHT 38/200/18	1800	460 x 460 x 750	38	200	800	3,6	400 V 3/N
ROHT 50/200/18	1800	460 x 460 x 750	50	200	800	3,6	400 V 3/N
ROHT 75/200/18	1800	460 x 460 x 750	75	200	800	3,6	400 V 3/N
ROHT 38/300/18	1800	560 x 460 x 750	38	300	900	5,4	400 V 3/N
ROHT 50/300/18	1800	560 x 460 x 750	50	300	900	5,4	400 V 3/N
ROHT 75/300/18	1800	560 x 460 x 750	75	300	900	5,4	400 V 3/N
ROHT 38/400/18	1800	660 x 460 x 750	38	400	1000	6,7	400 V 3/N
ROHT 50/400/18	1800	660 x 460 x 750	50	400	1000	6,7	400 V 3/N
ROHT 75/400/18	1800	660 x 460 x 750	75	400	1000	6,7	400 V 3/N





### Special Tube Furnaces

- ① Horizontal rotating tube furnace with electric drive, splittable for easy access to change tube or reactor. Upon request with base or trolley and with adjustable inclination.



- ② Tube furnaces used for production of ceramic powder in protective gas atmosphere. The work tube is equipped with gas-tight, water cooled flanges made of stainless steel. Including gas control station for four furnaces.



- ③ Splittable tube furnace with base, adjustable inclination, for continuous drying, sintering and calcination processes. Furnaces can be individually adapted to customer own tubes, reactors and processes.

- ④ Vertical tube furnace with fixed bottom structure, for easy access to the inner chamber both vertical heating moduls are horizontally moveable. Especially designed for individual test equipment and high temperature uniformity. Modifications to meet individual requirements can be realized.

### Tube Furnace-Accessories

#### Working Tubes

Tubes made of different materials and various diameters are available for different applications and operating temperatures.



#### Plugs

Fibre plugs for all tube diameters and temperatures available, optional also with protective gas connection.



#### Flanges

Gas-tight flanges made of stainless steel, with and without water cooling, for protective gas atmosphere or vacuum can be supplied.



#### Gassing systems

For different furnace types we can supply manual or automatic gassing systems for non-flammable gases or for vacuum operation.



#### Water cooling

Inner furnace casing with water-cooler coils and additional external cooling unit.

