

# RESI CORPORATION

21F, #218, Section 1, Wen-Xin Road, Taichung City, Taiwan 40865  
 E-mail: [service@resi.com.tw](mailto:service@resi.com.tw) <http://www.resi.com.tw>

## SPLIT TUBE FURNACES to 1200 degrees Celsius



The RESI tube furnaces can be used for either horizontal or vertical operation. Using a variety of accessories, these professional tube furnaces can be optimally laid out for your process. By using different available gas supply packages, operations can be performed under a protective gas atmosphere, vacuum, or even with flammable gasses.

### RESI-1200R Tube Furnace

- Maximum operation temperature: 1200 °C
- Casing made of sheets of textured stainless steel (non-rusting design)
- Temp max 1200 °C: Wear-free thermocouple
- PID control integrates with SCR.
- Available in horizontal or vertical designs
- Hinged design for simple insertion of the working tube
- Switching and control unit separate from furnace in own wall or standing cabinet
- Standard working tube
- Optional working tube made of ceramic C 530, SUS-310S or special metal alloy are available.

### Additional Equipment

- Cascade controller with temperature measurement in the working tube and in the oven chamber behind the tube
- Working tubes designed for process requirements
- Different gas supply packages for protective gas and vacuum operation
- 3-zone control for optimization of temperature distribution
- Burst protector for heating elements and/or as support surface for the load
- Stand for vertical operation
- Alternative working tubes

The RESI-1200 tube furnace line can be custom-fit to your needs with a variety of extras, starting with various working tubes of different materials to protective gas or vacuum operation. For optimum temperature distribution, all RESI-1200 tube furnaces are also available as three-zone tube furnaces with modern PLC controls. The heat loss at the ends of the tube is compensated using this three-zoned control, and results a longer uniform zone.

### Model Number Identification: RESI – 1200R - NAA/NBB – NT – NC – NV – NN

#### NAA/NBB – Base Model Number

Model	80/16	80/32	80/66	120/160	120/300	120/500
Temp Max	1200°C					
Tube OD (mm)	80			120		
Heated Length (mm)	300	500	750	500	750	1000
Uniform Temp zone (mm)	100	170	250	170	250	330
Tube Length (mm)	650	850	1100	850	1100	1350
Capacity (L)	16	32	66	160	300	500
Power (kW)	3.6	6.0	9.3	7.8	12.6	12.6

\*\*larger models available on request

#### NT-Tube Material

530	Ceramic 530
310	SUS-310S
AL	Alloy specified by customer

#### NC-Control Options

0	Single loop control with SCR
1	PLC Control with MMIC touch panel & SCR
2	PLC Control with PC based MMIC

#### NV-Power supply

220	220V
380	380V, 3 Phases
440	440V, 3 phases

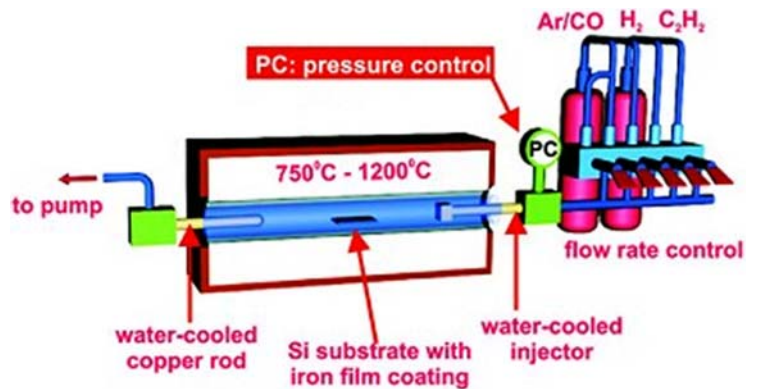
#### NN – Number of heating sections

1	Single section
3	Three section for better uniform temperature

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## SPLIT TUBE FURNACES to 1500 degrees Celsius



The RESI high temperature tube furnaces can be used for either horizontal or vertical operation. Using a variety of accessories, these professional tube furnaces can be optimally laid out for your process. By using different available gas supply packages, operations can be performed under a protective gas atmosphere, vacuum, or even with flammable gasses.

### RESI-1500R Tube Furnace

- Maximum operation temperature: 1500 °C
- Casing made of sheets of textured stainless steel (non-rusting design)
- Temp max 1500 °C: Wear-free thermocouple
- PID control integrates with SCR.
- Available in horizontal or vertical designs
- Hinged design for simple insertion of the working tube
- Switching and control unit separate from furnace in own wall or standing cabinet
- Standard working tube
- Optional working tube made of ceramic C 530 or special metal alloy are available.

### Additional Equipment

- Cascade controller with temperature measurement in the working tube and in the oven chamber behind the tube
- Working tubes designed for process requirements
- Different gas supply packages for protective gas and vacuum operation
- 3-zone control for optimization of temperature distribution
- Burst protector for heating elements and/or as support surface for the load
- Stand for vertical operation
- Alternative working tubes

The RESI-1500 tube furnace line can be custom-fit to your needs with a variety of extras, starting with various working tubes of different materials to protective gas or vacuum operation. For optimum temperature distribution, all RESI-1200 tube furnaces are also available as three-zone tube furnaces with modern PLC controls. The heat loss at the ends of the tube is compensated using this three-zoned control, and results a longer uniform zone.

### Model Number Identification: RESI – 1500R - NAA/NBB – NT – NC – NV – NN

#### NAA/NBB – Base Model Number

Model	80/16	80/32	80/66	120/160	120/300	120/500
Temp Max	1500°C					
Tube OD (mm)	80			120		
Heated Length (mm)	300	500	750	500	750	1000
Uniform Temp zone (mm)	100	170	250	170	250	330
Tube Length (mm)	650	850	1100	850	1100	1350
Capacity (L)	16	32	66	160	300	500
Power (kW)	5	9.3	12.6	12.6	15	15

\*\*larger models available on request

#### NT-Tube Material

530	Ceramic 530
AL	Alloy specified by customer

#### NC-Control Options

0	Single loop control with SCR
1	PLC Control with MMIC touch panel & SCR
2	PLC Control with PC based MMIC

#### NV-Power supply

220	220V
380	380V, 3 Phases
440	440V, 3 phases

#### NN – Number of heating sections

1	Single section
3	Three section for better uniform temperature

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## Furnaces to 1700, 1800 degrees Celsius

RESI offers high temperature Molybdenum Disilicide (MoSi<sub>2</sub>) heated chamber furnaces for continuous operation up to 1650 °C for models RESI-1700C and 1750 °C for models RESI-1800C. High temperature chamber furnaces are ideal for general laboratory, high temperature sintering & ceramic research

### RESI-1700C / RESI-1800C Chamber Furnace

- Heating is provided by high quality Molybdenum Disilicide (MoSi<sub>2</sub>) elements positioned vertically down both sides of the chamber, giving maximum temperature uniformity and rapid heat up times.
- Fully insulated door pivots vertically and keeps the 'hot face' door insulation away from the operator when accessing the chamber.
- Door is fully interlocked by using a safety cut off switch, which isolates power to the elements when accessing the chamber.
- Fitted with a choice of single loop controller or MMIC digital programmer.
- Ultra 'high grade' insulation materials are used, incorporating a double skin design to ensure low outer surface temperatures.
- Casing is finished with a hard wearing powder coating process.



- Fitted as standard with independent over-temperature protection via a digital alarm, giving protection to both the furnace or furnace contents at any temperature.
- PID control integrates with SCR.

The RESI-1700C / RESI-1800C Chamber Furnace line can be custom-fit to your needs with a variety of extras.

### Model Number Identification: RESI – NNNNC - NAA/NBB – NT – NC – NV – NN

#### NNNC – Base model code

Model Code		1700C			1800C		
Chamber Size (m/m)	H	140	165	200	140	165	200
	W	135	165	200	135	165	200
	D	200	270	350	200	270	350
External Size (m/m)	H	820	870	950	820	870	950
	W	570	570	640	570	570	640
	D	770	815	890	880	915	950
Volume (Litres)		3.8	7.2	14	3.8	7.2	14
Maximum Temperature		1700°C			1800°C		
Maximum Continuous Working Temperature		1650°C			1750°C		
Temperature Sensor		Type B			Type R		
Max Power (kW)		5.5	6.6	9.0	5.5	7.6	11.5
Holding Power (kW)		2.2	2.6	3.6	2.2	3.0	4.6
Power Control		Solid State Relay + SCR					
Over temperature Protection		Independent, Customer Programmable					
Insulation Materials		Graded Fiber Board					

#### NT-Tube Material

530	Ceramic 530
AL	Alloy specified by customer

#### NC-Control Options

0	Single loop control with SCR
1	PLC Control with MMIC touch panel & SCR
2	PLC Control with PC based MMIC

#### NV-Power supply

220	220V
380	380V, 3 Phases
440	440V, 3 phases

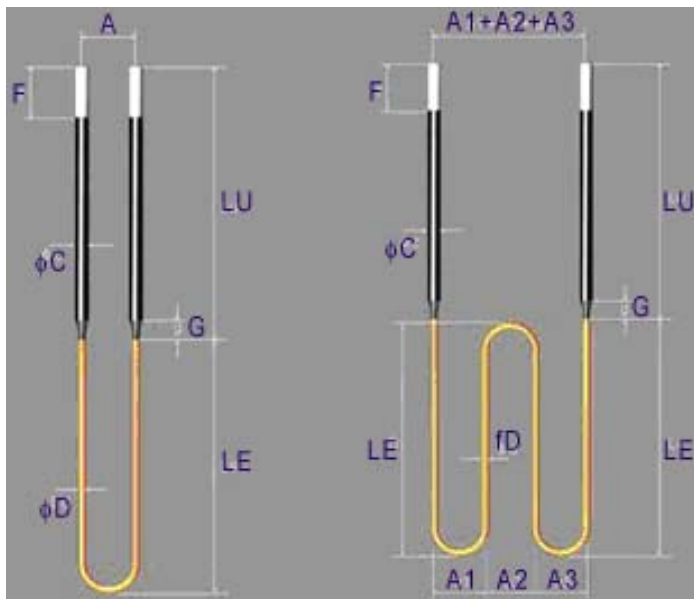
#### NN – Number of heating sections

1	Single section
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## Molybdenum Disilicide (MoSi2) element



**Order Identification: RESI – MoSi2 – NT - MNNNN – D/C – LE – LU – A**

### NT-Shape Code

U	U-type heating element
L	Linear type heating element

### MNNNN - Material Code

M1700	Heating element for 1700 degree Celsius
M1800	Heating element for 1800 degree Celsius



### D/C – LE – LU – A : Heating element specification

- D: Diameter of heating element
- C: Diameter of cold ends
- LE: Length of heating element
- LU: Length of cold ends
- A: Pitch
- F: Length of connection portion
- G: Length of transition zone

Specifications	M1700					M1800					
	D/C (mm)	3/6	4/9	6/12	9/18	12/24	3/6	4/9	6/12	9/18	12/24
LE Max, (mm)	350	450	1400	1400	1700	350	450	1400	1400	1700	
LU Max, (mm)	300	450	1000	1000	1000	300	450	1000	1000	1000	
A (mm)	25	25	40/50	60	80	25	25	40/50	60	80	
F (mm)	25	25	45	75	100	25	25	45	75	100	
G (mm)	15	15	25	30	40	15	15	25	30	40	