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# TENCAN

## Product Brochure



### SINTERING SERIES

## Muffle furnace

**TC-12N/14S/17M/18H**

Muffle furnace, mullite fiber chamber: low thermal conductivity, high strength, insulation, energy saving.

<https://www.labballmill.com/products/sintering-series/muffle-furnace.html>

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## Product Overview

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## Product Introduction

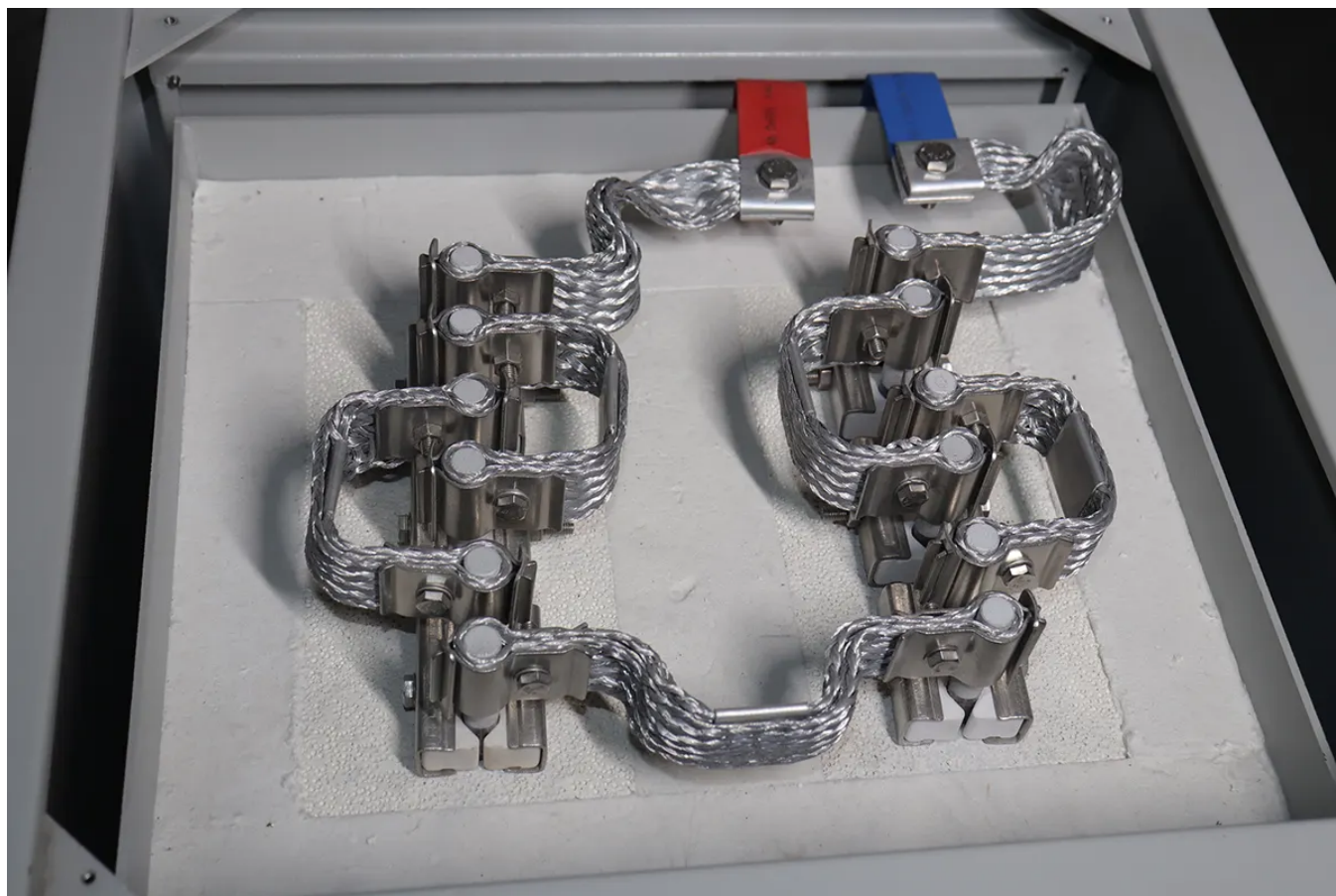
Muffle Furnace, also known as box-type resistance furnace or high-temperature furnace, is a closed heat treatment equipment heated by electric heating elements. Its core feature is an independent heating chamber (muffle chamber), which enables materials to complete heating, sintering, ashing or heat treatment processes in a controlled environment, avoiding direct contact with heating elements and preventing product contamination. From materials research in the laboratory to heat treatment production in the industrial field, the muffle furnace has become an essential equipment in materials science, chemical analysis, ceramic processing, metal heat treatment and other fields with its precise temperature control, uniform temperature distribution and reliable safety.

The box-type furnace uses a polycrystalline mullite fiber furnace, which has low thermal

conductivity, high strength, and excellent thermal insulation and energy-saving effects. The furnace roof is a reinforced composite structure, which will not collapse after long-term use. This series of box furnaces are special equipment developed for sintering, melting and analyzing metal, non-metal and other compound materials in laboratories of universities, scientific research institutes and industrial and mining enterprises.







## Technical parameters

### 1200°C box furnace technical parameters

| model      | Maximum temperature (°C) | Working temperature (°C) | Inner dimensions (width*height*depth)mm | Volume (L) | Power (kW) | Number of phases | Thermocouple type |
|------------|--------------------------|--------------------------|-----------------------------------------|------------|------------|------------------|-------------------|
| TC-12N-1   | 1200                     | 1100                     | 100*100*100                             | 1          | 0.8        | 1                | K type            |
| TC-12N-3   | 1200                     | 1100                     | 150*150*150                             | 3          | 2.5        | 1                | K type            |
| TC-12N-8   | 1200                     | 1100                     | 200*200*200                             | 8          | 5          | 1                | K type            |
| TC-12N-12  | 1200                     | 1100                     | 200*200*300                             | 12         | 6          | 1                | K type            |
| TC-12N-36  | 1200                     | 1100                     | 300*300*400                             | 36         | 10         | 3                | K type            |
| TC-12N-64  | 1200                     | 1100                     | 400*400*400                             | 64         | 16         | 3                | K type            |
| TC-12N-125 | 1200                     | 1100                     | 500*500*500                             | 125        | 25         | 3                | K type            |
| TC-12N-216 | 1200                     | 1100                     | 600*600*600                             | 216        | 36         | 3                | K type            |
| TC-12N-512 | 1200                     | 1100                     | 800*800*800                             | 512        | 64         | 3                | K type            |
| TC-12N-729 | 1200                     | 1100                     | 900*900*900                             | 729        | 80         | 3                | K type            |

### 1400°C box furnace technical parameters

| model      | Maximum temperature(°C) | Operating temperature(°C) | Inner dimensions (width*height*depth) mm | Volume(L) | Power(kW) | Number of phases | Thermocouple type |
|------------|-------------------------|---------------------------|------------------------------------------|-----------|-----------|------------------|-------------------|
| TC-14S-1   | 1400                    | 1300                      | 100*100*100                              | 1         | 1         | 1                | S type            |
| TC-14S-3   | 1400                    | 1300                      | 150*150*150                              | 3         | 3         | 1                | S type            |
| TC-14S-8   | 1400                    | 1300                      | 200*200*200                              | 8         | 5         | 1                | S type            |
| TC-14S-12  | 1400                    | 1300                      | 200*200*300                              | 12        | 7         | 1                | S type            |
| TC-14S-36  | 1400                    | 1300                      | 300*300*400                              | 36        | 11        | 3                | S type            |
| TC-14S-64  | 1400                    | 1300                      | 400*400*400                              | 64        | 18        | 3                | S type            |
| TC-14S-125 | 1400                    | 1300                      | 500*500*500                              | 125       | 27        | 3                | S type            |
| TC-14S-216 | 1400                    | 1300                      | 600*600*600                              | 216       | 40        | 3                | S type            |
| TC-14S-512 | 1400                    | 1300                      | 800*800*800                              | 512       | 70        | 3                | S type            |
| TC-14S-729 | 1400                    | 1300                      | 900*900*900                              | 729       | 88        | 3                | S type            |

### 1700°C box furnace technical parameters

| model      | Maximum temperature(°C) | Operating temperature(°C) | Inner dimensions (width*height*depth) mm | Volume(L) | Power(kW) | Number of phases | Thermocouple type |
|------------|-------------------------|---------------------------|------------------------------------------|-----------|-----------|------------------|-------------------|
| TC-17M-1   | 1700                    | 1600                      | 100*100*100                              | 1         | 1         | 1                | Type B            |
| TC-17M-3   | 1700                    | 1600                      | 150*150*150                              | 3         | 4         | 1                | Type B            |
| TC-17M-8   | 1700                    | 1600                      | 200*200*200                              | 8         | 7         | 1                | Type B            |
| TC-17M-12  | 1700                    | 1600                      | 200*200*300                              | 12        | 8         | 1                | Type B            |
| TC-17M-36  | 1700                    | 1600                      | 300*300*400                              | 36        | 12        | 3                | Type B            |
| TC-17M-64  | 1700                    | 1600                      | 400*400*400                              | 64        | 20        | 3                | Type B            |
| TC-17M-125 | 1700                    | 1600                      | 500*500*500                              | 125       | 30        | 3                | Type B            |
| TC-17M-216 | 1700                    | 1600                      | 600*600*600                              | 216       | 45        | 3                | Type B            |
| TC-17M-512 | 1700                    | 1600                      | 800*800*800                              | 512       | 80        | 3                | Type B            |
| TC-17M-729 | 1700                    | 1600                      | 900*900*900                              | 729       | 96        | 3                | Type B            |

## 1800°C box furnace technical parameters

| model       | Maximum temperature(°C) | Operating temperature(°C) | Inner dimensions (width*height*depth) mm | Volume(L) | Power(kW) | Number of phases | Thermocouple type |
|-------------|-------------------------|---------------------------|------------------------------------------|-----------|-----------|------------------|-------------------|
| TC-18HM-1   | 1800                    | 1700                      | 100*100*100                              | 1         | 2         | 1                | Type B            |
| TC-18HM-3   | 1800                    | 1700                      | 150*150*150                              | 3         | 6         | 1                | Type B            |
| TC-18HM-8   | 1800                    | 1700                      | 200*200*200                              | 8         | 8         | 1                | Type B            |
| TC-18HM-12  | 1800                    | 1700                      | 200*200*300                              | 12        | 9         | 1                | Type B            |
| TC-18HM-36  | 1800                    | 1700                      | 300*300*400                              | 36        | 15        | 3                | Type B            |
| TC-18HM-64  | 1800                    | 1700                      | 400*400*400                              | 64        | 25        | 3                | Type B            |
| TC-18HM-125 | 1800                    | 1700                      | 500*500*500                              | 125       | 35        | 3                | Type B            |
| TC-18HM-216 | 1800                    | 1700                      | 600*600*600                              | 216       | 50        | 3                | Type B            |

Note: The above is a standard parameter list. If you have special size requirements, please contact us for customization services.

## Product Features

- Maximum temperature RT~1800°C.
  - Capacity 1~1000L.
  - Heating elements: HRE iron-chromium-aluminum resistance wire, U-shaped silicon carbon rod, U-shaped silicon molybdenum rod, etc.
- Both top and side doors can be customized to keep the operator away from heat sources.
- Intelligent 50-segment programmable automatic control.
  - With over-temperature alarm function.
  - Double-layer air-cooling structure, cooling fan can ensure that the shell temperature is below 60 degrees.

## Accessories & Customization

### Standard accessories:

Furnace door fire blocking bricks  
high temperature gloves  
Crucible tongs  
manual  
Additional heating elements (Models 1400 and 1700)

### Optional accessories:

HD touch screen  
exhaust hole  
observation hole  
multi-layer kiln furniture  
corundum crucible  
Communication software, etc.

## Accessories & Customization

### Accessories

Grinding jars, heating elements, sample holders, control modules and other matching accessories can be selected according to the product configuration.

### Customization

For voltage, capacity, chamber size, process temperature or application requirements, please contact TENCAN for a suitable configuration.