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Product Brochure



SINTERING SERIES

Muffle furnace

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

Muffle furnace with polycrystalline mullite fiber chamber for low thermal conductivity, high strength, and excellent insulation. Ideal for high-temperature heat treatment and sintering applications.

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



Product Overview

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Product Introduction

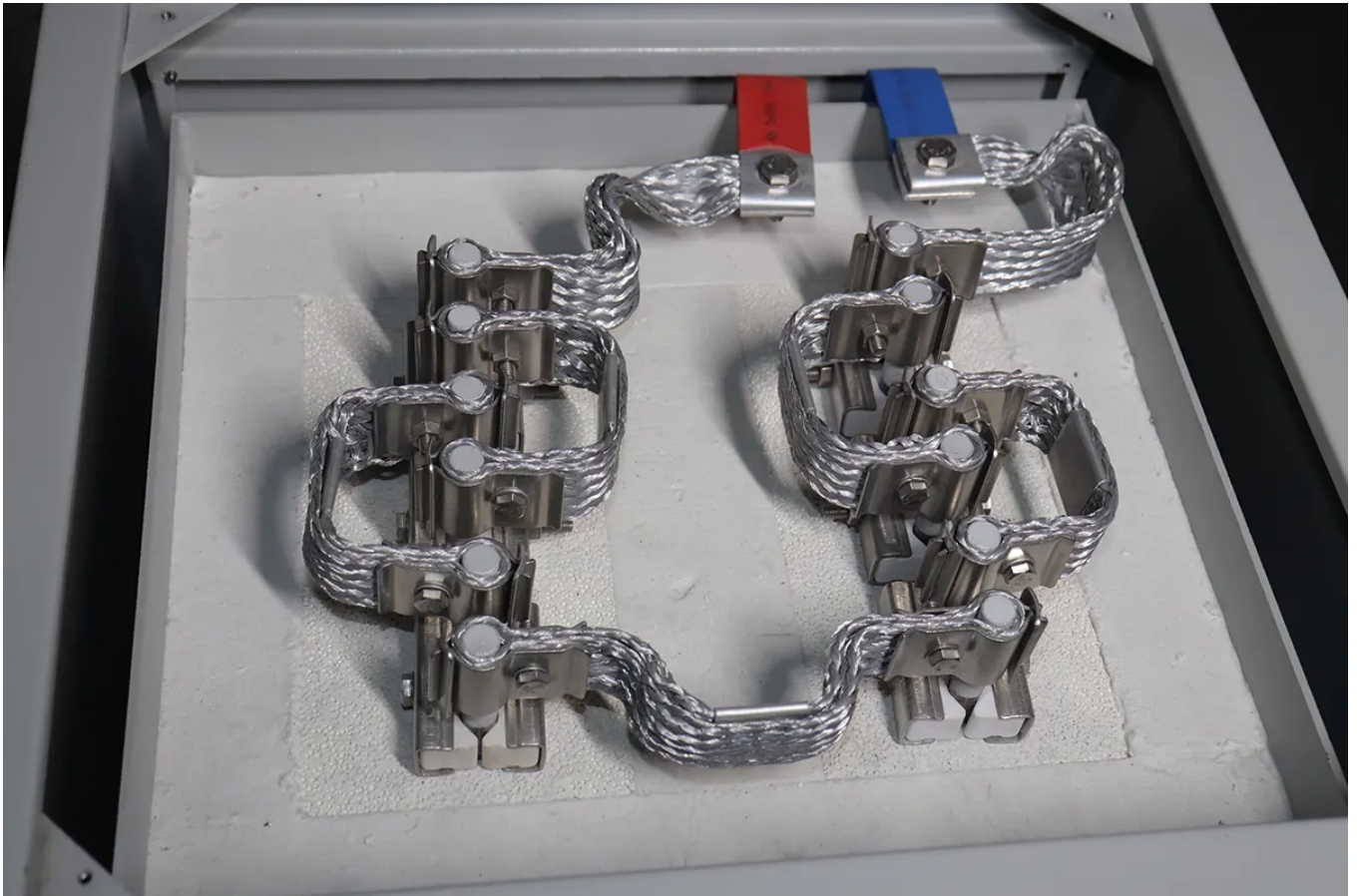
Muffle Furnace, also known as box-type resistance furnace or high-temperature furnace, is a closed heat treatment equipment heated by electric heating elements. Its core feature is an independent heating chamber (muffle chamber), which enables materials to complete heating, sintering, ashing or heat 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.